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INTERVENTO

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

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

LOTTO **3053/PN_1**

PROGETTO ESECUTIVO

TAV.	OGGETTO	DATA
TAB_14	TABULATI DI CALCOLO CIVICO 53 STATO DI PROGETTO	Settembre 2022
SCALA		N. DISEGNO

VERSIONE	DESCRIZIONE	DATA	REDATTO	VERIFICATO		APPROVATO
00	PRIMA EMISSIONE	Settembre 2022	F. DALMONTE	N. LEONE		N. LEONE
01						
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TABULATI DI CALCOLO
CIVICO 53
STATO DI PROGETTO

Sommario

1 Risultati numerici

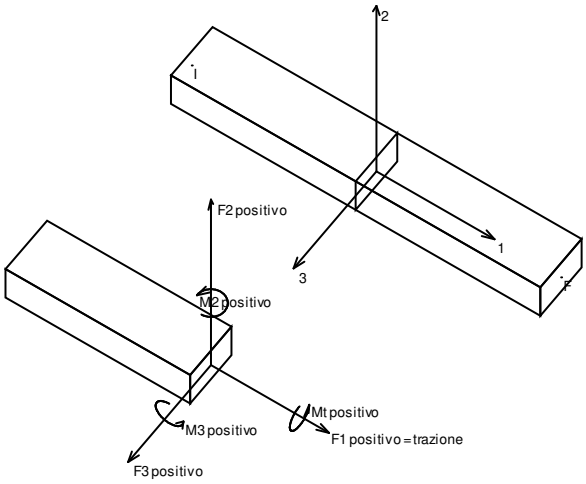
1.1 Sollecitazioni

1.1.1 Sollecitazioni aste

1.1.1.1 Convenzioni di segno aste

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

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



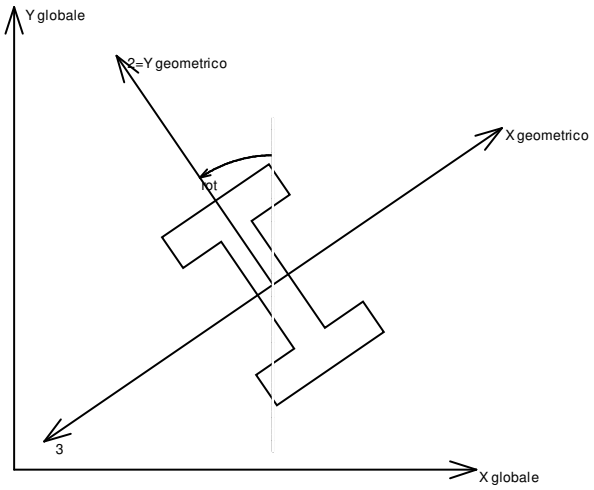
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando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

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

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

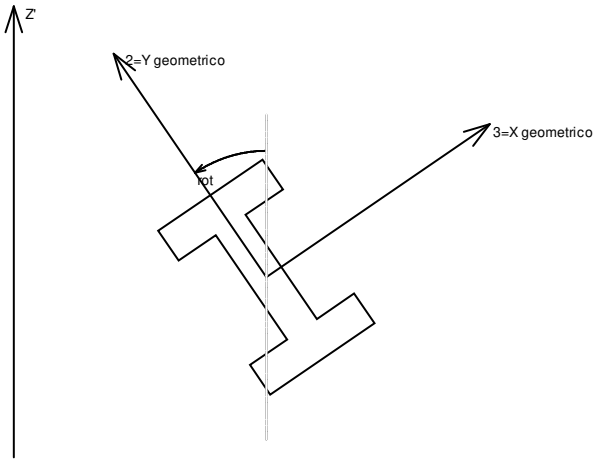
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



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

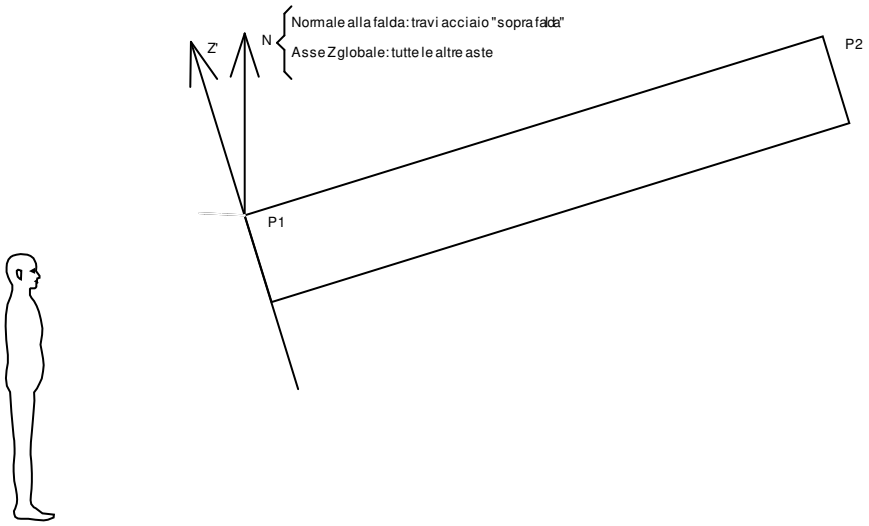
Sistema locale aste non verticali



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

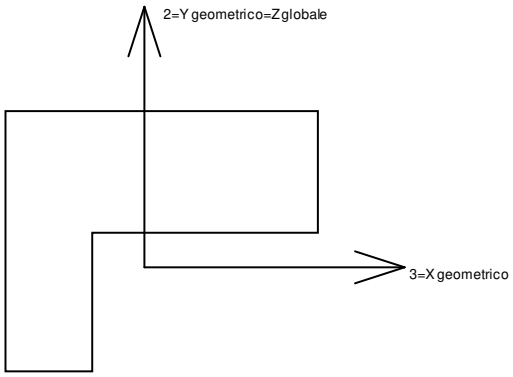
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



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

1.1.1.2 Sollecitazioni estreme aste

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

Sollecitazioni con sforzo normale (N) minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
348	SLV FO 13	1	-6.52	-2.88	-1.95	-40534	657	-6118	-1.98	-1356.96	-5265.39
347	SLV FO 13	1	-6.52	-2.48	-1.95	-34885	-646	-5542	-1.31	-590.64	-4359.48
327	SLV FO 11	31	-6.02	0.74	-1.95	-34524	-6065	-2959	7.73	1532.53	-741.73
311	SLV FO 6	31	-18.1	-2.93	-1.95	-33018	13097	-26496	418.32	3427.13	9452.91
483	SLV FO 12	1	-10.18	6.23	-1.95	-32618	-17518	-5341	1016.73	-669.63	7815.39

Sollecitazioni con sforzo normale (N) massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
337	SLV FO 15	1	-6.02	-2.88	-1.95	20552	5363	-6873	-3.6	-1382.53	-2274.52
462	SLV FO 5	31	-24.35	-0.07	-1.95	16958	8216	2166	563.65	-26.91	-1765.83
208	SLV X	31	-18.2	-3.28	-1.95	16735	-451	-4051	-5.11	-1980.7	939.08
461	SLV FO 5	31	-24.35	0.34	-1.95	16228	11476	2055	495.21	-866.77	1412.47
463	SLV FO 5	31	-24.35	-0.47	-1.95	16208	5668	2261	603.24	485.58	-4014.82

Sollecitazioni con momento M2 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
314	SLV FO 6	31	-17.06	-2.93	-1.95	-23097	-1759	-24960	66.89	-19896.69	3002.72
285	SLV FO 12	1	-5.41	6.58	-1.95	-6121	-11765	28963	-29.22	-15140.06	-8553.88
315	SLV FO 6	1	-17.06	-2.93	-1.95	-5475	5971	5512	-200.57	-13792.94	2941.16
771	SLV FO 13	1	-6.52	-2.93	-1.95	-29991	12561	27590	-298.79	-11489.74	10280.89
313	SLV FO 6	31	-17.4	-2.93	-1.95	-22639	2862	-25476	229.51	-11003.79	3600.02

Sollecitazioni con momento M2 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
774	SLV FO 9	31	-7.72	-2.93	-1.95	-21755	25	22363	36.6	14839.81	2383.44
287	SLV FO 11	31	-5.41	5.53	-1.95	-5037	-28695	28852	812.86	14660.51	12719.86
311	SLV FO 2	1	-18.45	-2.93	-1.95	-29245	13426	-26054	126.7	13292.34	10880.35
768	SLV FO 15	1	-13.11	-0.26	-1.95	-11180	-1434	-5555	-4.09	12648.46	-239.47
574	SLV FO 7	1	-11.36	1.14	-1.95	-12932	13862	-6691	-76.78	11797.4	10017.33

Sollecitazioni con momento M3 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
538	SLV FO 8	1	-14.81	1.39	-1.95	-11931	-24368	-11587	-36.96	4614.31	-14594.41
325	SLV FO 5	21	-14.11	-1.32	-1.95	7545	2	-2075	-8.49	-2018.44	-14376.04
496	SLV FO 11	31	-0.47	4.86	-1.95	-791	986	3326	-1016.97	-2850.81	-13656.58
605	SLU 83	31	-13.76	0.89	-1.95	5694	11524	-1989	-96.56	-606.06	-13350.37
326	SLV FO 5	1	-14.11	-1.81	-1.95	8496	-4698	-2082	-18.95	-3038.6	-13262.15

Sollecitazioni con momento M3 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
516	SLU 83	1	-0.47	1.14	-1.95	-3256	29913	-734	-454.32	3444.83	22751.65
505	SLV FO 14	31	-0.47	1.14	-1.95	-6074	-28689	-3512	338.51	137.28	22427.17
186	SLV FO 5	31	-18.45	-2.93	-1.95	-30233	-30100	8369	-463.27	9596.55	20575.82
484	SLV FO 12	1	-9.78	6.23	-1.95	-27632	28507	2489	-455.18	1111.15	19070.83
349	SLV FO 10	1	-6.02	-2.93	-1.95	-28412	26525	-7100	1217.2	6303.92	18825.61

1.1.2 Sollecitazioni gusci

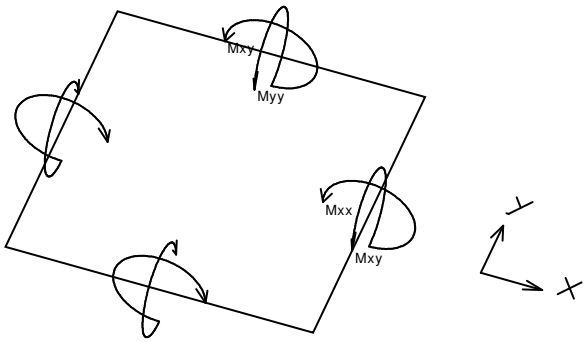
1.1.2.1 Convenzioni di segno gusci

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

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

Convenzione di segno per gusci non verticali

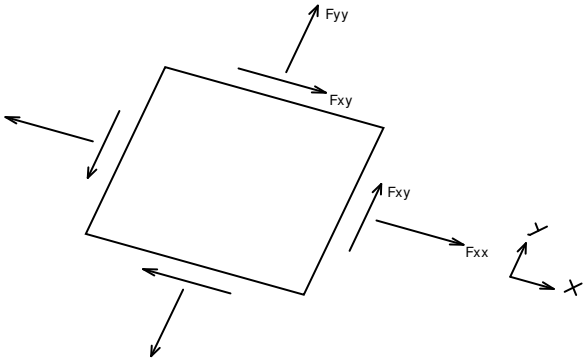
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione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



Si definiscono:

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

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



Si definiscono:

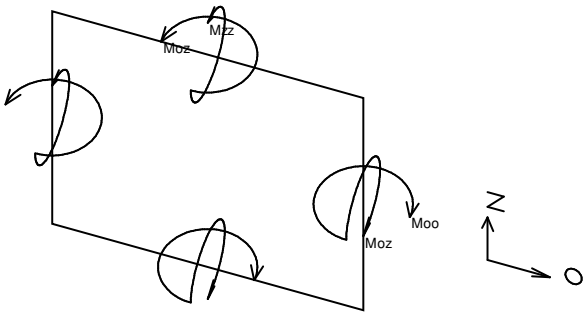
- Fxx: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette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

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

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

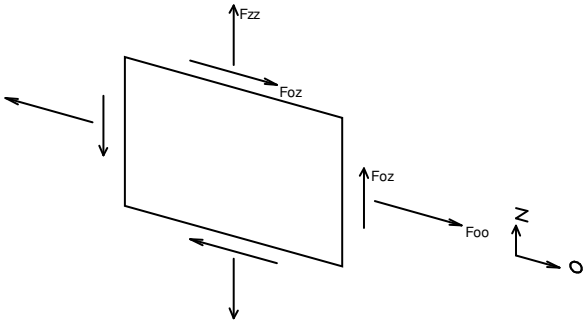
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.2.2 Sollecitazioni estreme gusci

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

Sollecitazioni con momento M11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10839	SLV FO 9	149	-53508	10330	50797	-22955	4346	20782	133924	-125896
9922	SLV FO 10	207	-19054	-4402	4378	9171	1005	-19616	-100296	1989
9913	SLV FO 10	251	-15527	-3678	4543	-587	7024	-10792	-62346	3223
9895	SLV FO 10	324	-14983	-3168	-7437	-15080	-1226	1775	-83892	-65849
10803	SLV Y	322	-13365	79	-1744	-8826	-3917	12012	-27743	21204

Sollecitazioni con momento M11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10803	SLV FO 5	322	36262	-218	3845	-5583	4689	-16065	61653	-50687
10839	SLV Y	149	24299	-4707	-24069	8986	1017	10852	-59087	60854
10795	SLV FO 6	311	19590	355	11740	-196996	-62316	-102790	34175	70956
10802	SLU 84	320	18390	-2763	5155	-291	-686	-6576	24846	-74945
9922	SLV FO 10	150	18354	-3907	8995	6274	-3519	-6352	-100797	15424

Sollecitazioni con momento M22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10839	SLV Y	149	24299	-4707	-24069	8986	1017	10852	-59087	60854
10802	SLU 84	319	2803	-3651	-18125	902	-1338	-6299	-14612	-68161
9898	SLV FO 10	356	-1838	-1937	-17771	2097	2773	-8784	-1800	-42042
9897	SLV FO 10	355	-1546	-3391	-17585	573	2301	-9387	-3792	-58685
10799	SLV FO 9	316	-1356	-3508	-16858	7233	-824	-10681	-6715	-19456

Sollecitazioni con momento M22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
10839	SLV FO 9	149	-53508	10330	50797	-22955	4346	20782	133924	-125896
9895	SLV FO 10	326	8134	-4643	21173	-6293	-677	115	38377	-57738
10795	SLU 83	311	18542	2643	18699	-108693	-36691	-52226	30023	112508
9903	SLU 83	330	13871	-1869	14573	-86164	24280	-43262	20553	-86858
10796	SLU 83	313	13815	170	10498	-21199	-11579	-47129	31602	57932

Sollecitazioni con sforzo F11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
1351	SLV FO 12	4085	46	-37	31	-344976	194255	-228710	4907	-2716
10795	SLV FO 6	277	10188	-1869	1891	-225349	-68696	-15479	32964	6537
10867	SLV FO 7	3804	8	4	9	-174229	109274	-211685	-5	54
9903	SLV FO 13	272	5707	451	141	-164443	42427	-5484	15371	1309
1345	SLV FO 12	3423	-63	-134	-71	-118057	-68055	-203638	471	-351

Sollecitazioni con sforzo F11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
1351	SLV FO 5	4085	-46	41	-39	179697	-99910	132028	-4893	1330
7793	SLV FO 7	139	-629	65	-902	168094	46003	41257	-4362	1664
10867	SLV FO 7	4464	-1	5	-6	105117	-50144	127502	-5	54
10795	SLV Y	277	-2231	1781	-1923	97540	33511	8309	-13935	-11742
3913	SLV FO 5	4034	-362	-38	-83	82775	53399	-17680	2105	-558

Sollecitazioni con sforzo F22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
1351	SLV FO 12	4085	46	-37	31	-344976	194255	-228710	4907	-2716
10867	SLV FO 7	3804	8	4	9	-174229	109274	-211685	-5	54
1345	SLV FO 12	3423	-63	-134	-71	-118057	-68055	-203638	471	-351
25	SLV FO 5	290	71	112	281	-56869	43043	-193679	162	660
17800	SLU 83	674	-21	51	-86	6853	71804	-182313	476	211

Sollecitazioni con sforzo F22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
1345	SLV FO 12	3559	38	43	-20	7965	15989	161342	471	-351
10495	SLV FO 3	12740	-14	0	-3	28471	-37	134143	-30	15
1351	SLV FO 5	4085	-46	41	-39	179697	-99910	132028	-4893	1330
10867	SLV FO 7	4464	-1	5	-6	105117	-50144	127502	-5	54
10432	SLV FO 2	11783	-15	0	5	15097	30	99950	15	6

1.1.2.3 Sollecitazioni estreme gusci non verticali

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

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

Sollecitazioni con momento Mxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10839	SLV Y	149	-24213	3901	24442	10886	-985	8953	59864	60090
10802	SLU 84	319	-18695	1038	3373	-6515	436	1118	-69426	6282
10799	SLV FO 9	316	-17455	1639	-758	-10632	-1249	7184	-20100	4427
9898	SLV FO 10	356	-17239	3457	-2371	-9221	-1656	2534	-41662	5920
9897	SLV FO 10	355	-16809	4832	-2322	-9729	-1329	915	-58069	9289

Sollecitazioni con momento Mxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10839	SLV FO 9	149	51112	-8590	-53822	20915	-3617	-23087	-123653	-135998
9895	SLV FO 10	326	21687	3821	7621	173	284	-6352	-59956	-34810
10795	SLU 83	311	18996	-2618	18245	-56532	39634	-104386	114021	-23637
9903	SLU 83	330	14754	1825	13690	-45732	-26256	-83694	-87757	-16288
10796	SLU 83	313	10674	-762	13640	-50453	6069	-17875	62780	-20333

Sollecitazioni con momento Myy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10839	SLV FO 9	149	51112	-8590	-53822	20915	-3617	-23087	-123653	-135998
9922	SLV FO 10	207	4525	3990	-19201	-19643	-501	9197	3743	100246
9913	SLV FO 10	251	4676	3291	-15660	-11057	-6824	-322	4414	62273
9895	SLV FO 10	324	-7081	2688	-15338	1862	198	-15166	-60647	87726
10803	SLV Y	322	-1792	750	-13317	11347	5362	-8161	19168	29187

Sollecitazioni con momento Myy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10803	SLV FO 5	322	3979	-2094	36128	-15343	-5388	-6304	-46153	-65117
10839	SLV Y	149	-24213	3901	24442	10886	-985	8953	59864	60090
10795	SLV FO 6	311	11805	-795	19525	-110099	67219	-189687	72769	-30123
10802	SLU 84	320	4686	1097	18859	-6649	-86	-218	-71400	-33707
9922	SLV FO 10	150	9134	4068	18215	-6225	3738	6147	17185	100511

Sollecitazioni con sforzo Fxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10795	SLV FO 6	311	11805	-795	19525	-110099	67219	-189687	72769	-30123
10796	SLV FO 6	313	4718	48	13281	-93042	17914	-23343	38038	-21698
9903	SLV FO 9	330	8974	346	14898	-84706	-42536	-141694	-55029	-22185
9902	SLV FO 9	328	4777	-119	10764	-73982	-17464	-20039	-42039	-16091
17052	SLV FO 9	4967	107	16	-1	-67750	-33835	-53709	-966	-137

Sollecitazioni con sforzo Fxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10839	SLV FO 15	149	17504	-2031	-24276	61343	-10993	-5271	-35642	-67597
10795	SLV Y	311	1434	-976	-6605	54583	-29739	84603	7763	13292
17052	SLV FO 13	4252	-100	-25	-26	47772	22960	33588	-819	-116
10796	SLV Y	313	2614	-584	-3737	44968	-10890	5379	7215	7664
9903	SLV Y	330	1288	873	-5276	39669	16803	56922	-6794	10501

Sollecitazioni con sforzo Fyy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
10795	SLV FO 6	277	1707	1391	10372	-23873	80065	-216955	8383	-32544
11120	SLV FO 5	4019	27	-13	-14	-9133	-11459	-212694	78	219
11051	SLV FO 10	3834	16	0	-11	-19077	16970	-171728	-101	122
9903	SLV FO 13	272	110	-178	5737	-10000	-49976	-159927	557	-15417
9417	SLV FO 7	615	-1645	2077	-11363	10818	20382	-145541	14736	-40164

Sollecitazioni con sforzo Fyy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
11120	SLV FO 5	4127	34	9	-13	-32635	19196	180750	-31	300
11051	SLV FO 10	4126	64	-22	3	-17395	-21935	134101	220	27
10795	SLV Y	277	-1724	-1752	-2430	12362	-38318	93487	-12509	13251
17053	SLV FO 9	4967	94	-46	173	-7317	-17270	70497	-746	337
9903	SLV Y	272	-1466	1487	-1082	5542	24189	57380	10326	10646

1.1.2.4 Sollecitazioni estreme gusci verticali

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

Sollecitazioni con momento Moo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
426	SLV FO 6	4040	-3704	-2568	-1070	-47893	-36229	-27083	430702	-41615
7809	SLV FO 6	506	-2953	480	-3632	-46086	8109	-54872	-14157	10037
9421	SLV FO 7	641	-2207	-1486	7683	31284	20788	-1127	-9544	-20500
9416	SLV FO 7	115	-1212	372	-2592	-51	7641	-6359	6075	-17989
7789	SLV FO 11	511	-1105	130	-88	-7199	1044	-5213	-2164	498

Sollecitazioni con momento Moo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
7809	SLV FO 11	506	1789	-321	-1085	-6809	-4056	-1391	4293	-184
426	SLV Y	4040	1738	1193	507	29976	17412	15293	-204375	21903
9413	SLV FO 11	138	1242	203	860	-1773	-5741	45481	-2722	11817
9408	SLV FO 11	138	1196	377	400	8868	4690	24070	-4060	122
1080	SLV FO 12	3813	1126	-81	982	-2189	-27891	-167110	-4138	6488

Sollecitazioni con momento Mzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
426	SLV FO 10	4039	-1400	-2830	-5478	-27214	-15779	-51683	429911	-732072
7809	SLV FO 6	506	-2953	480	-3632	-46086	8109	-54872	-14157	10037
9413	SLV FO 11	685	-322	-154	-3474	-57695	12808	49733	3636	11756
9966	SLV FO 9	2898	-932	-234	-3249	2443	16399	-11659	-5006	-21359
9409	SLV Y	506	-262	-23	-2894	-12828	-5949	12791	-1430	7427

Sollecitazioni con momento Mzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9409	SLV FO 6	506	904	-484	9330	37690	32738	-11937	4491	-24730
9421	SLV FO 7	641	-2207	-1486	7683	31284	20788	-1127	-9544	-20500
9425	SLV FO 7	641	57	1223	7118	72262	-80541	3519	-2267	-15781
9416	SLV FO 7	137	429	225	4031	165	3914	5631	-1899	-17917
9966	SLV FO 9	3300	362	77	3618	-1027	16709	-12727	-150	-21278

Sollecitazioni con sforzo Foo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
1351	SLV FO 12	4085	46	-37	31	-344976	194255	-228710	4907	-2716
10867	SLV FO 7	3804	-8	4	-9	-174229	-109274	-211685	-5	-54
1345	SLV FO 12	3423	-63	-134	-71	-118057	-68055	-203638	471	-351
1206	SLV FO 9	422	-14	-8	2	-97161	-44262	-14158	11	34
1476	SLV FO 12	4085	28	-22	-15	-92991	107334	-13503	366	-8

Sollecitazioni con sforzo Foo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
1351	SLV FO 5	4085	-46	41	-39	179697	-99910	132028	-4893	1330
10867	SLV FO 7	4464	1	5	6	105117	50144	127502	-5	-54
3913	SLV FO 5	4034	362	-38	83	82775	-53399	-17680	2105	558
9425	SLV FO 12	641	-51	1114	6728	75198	-73765	5585	-1807	-14884
1345	SLV FO 5	3423	41	83	48	74279	42477	146288	-290	317

Sollecitazioni con sforzo Fzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
1351	SLV FO 12	4085	46	-37	31	-344976	194255	-228710	4907	-2716
10867	SLV FO 7	3804	-8	4	-9	-174229	-109274	-211685	-5	-54
1345	SLV FO 12	3423	-63	-134	-71	-118057	-68055	-203638	471	-351
25	SLV FO 5	290	-71	112	-281	-56869	-43043	-193679	162	-660
17800	SLU 83	674	21	51	86	6853	-71804	-182313	476	-211

Sollecitazioni con sforzo Fzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
7793	SLV FO 7	139	902	-65	629	41257	46003	168094	-1664	4362
1345	SLV FO 12	3559	38	43	-20	7965	15989	161342	471	-351
10495	SLV FO 3	12740	-14	0	-3	28471	-37	134143	-30	15
1351	SLV FO 5	4085	-46	41	-39	179697	-99910	132028	-4893	1330
10867	SLV FO 7	4464	1	5	6	105117	50144	127502	-5	-54

1.1.3 Sollecitazioni gusci armati

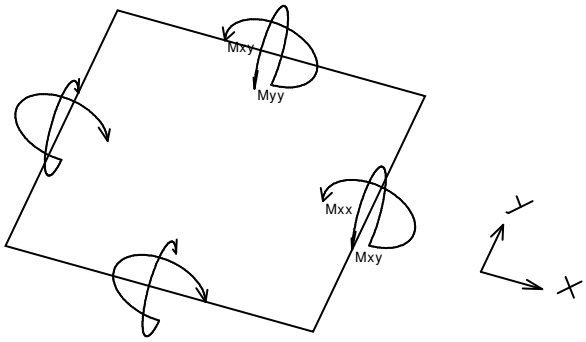
1.1.3.1 Convenzioni di segno gusci

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

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

Convenzione di segno per gusci non verticali

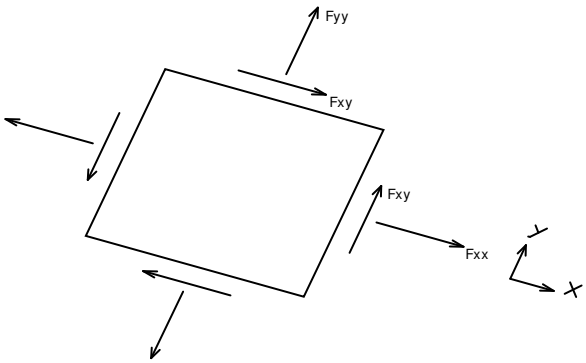
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione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



Si definiscono:

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

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



Si definiscono:

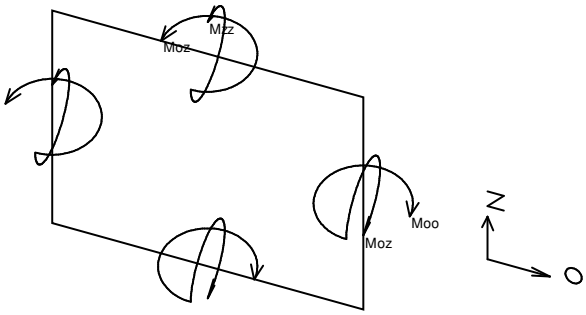
- Fxx: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Fyy: sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette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

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

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

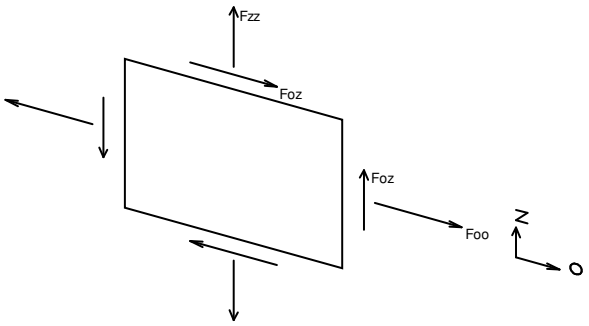
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.4 Sollecitazioni gusci muratura

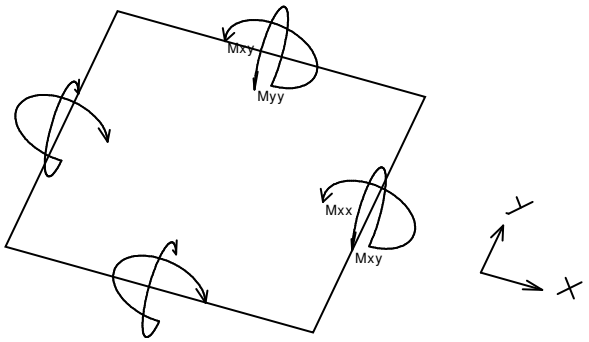
1.1.4.1 Convenzioni di segno gusci muratura

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

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

Convenzione di segno per gusci non verticali

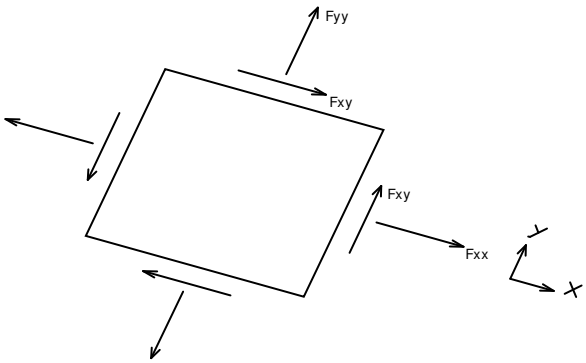
Il sistema di riferimento nel quale sono espressi i parametri di sollecitazione è così definito: origine appartenente al piano dell'elemento, asse x e y contenuti nel piano dell'elemento e terzo asse (z) ortogonale al piano dell'elemento a formare una terna destrogira. In particolare l'asse x ha proiezione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



Si definiscono:

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

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

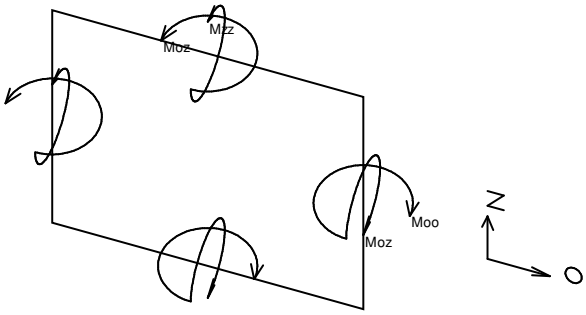


Si definiscono:

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

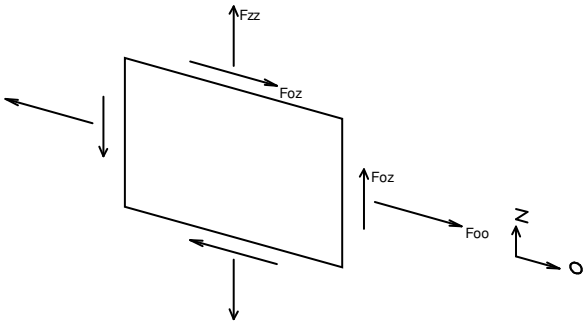
Convenzione di segno per gusci verticali

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



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

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



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

in trazione l'elemento);

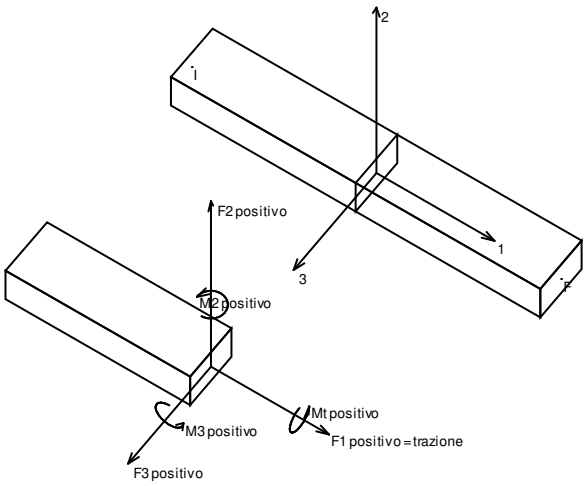
- Foo: sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- Foz: sforzo tagliante distribuito [Forza/Lunghezza] applicato sui bordi (verso positivo indicato dalla freccia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

1.1.5 Sollecitazioni aste in muratura

1.1.5.1 Convenzioni di segno aste

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

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



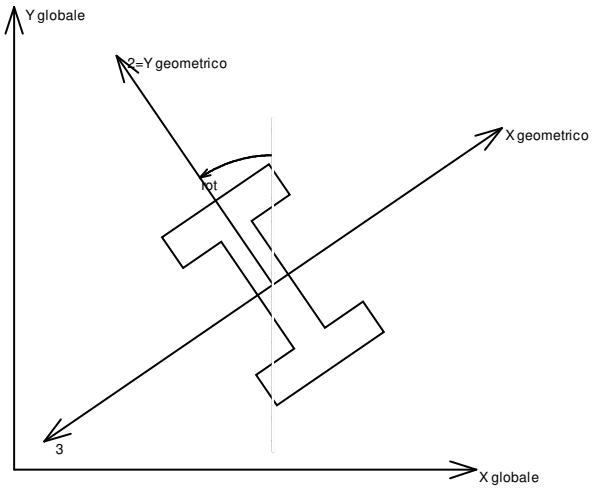
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando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

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

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

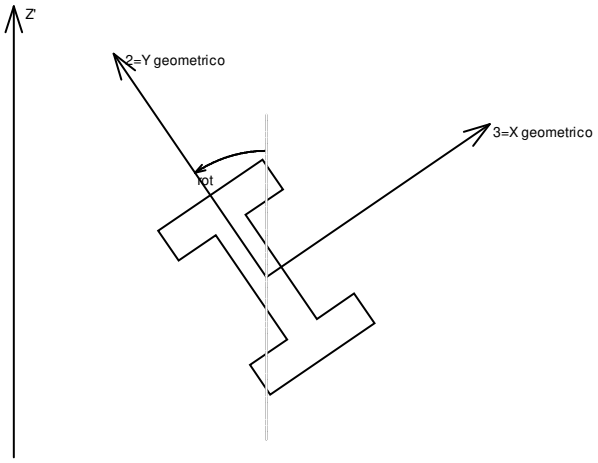
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



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

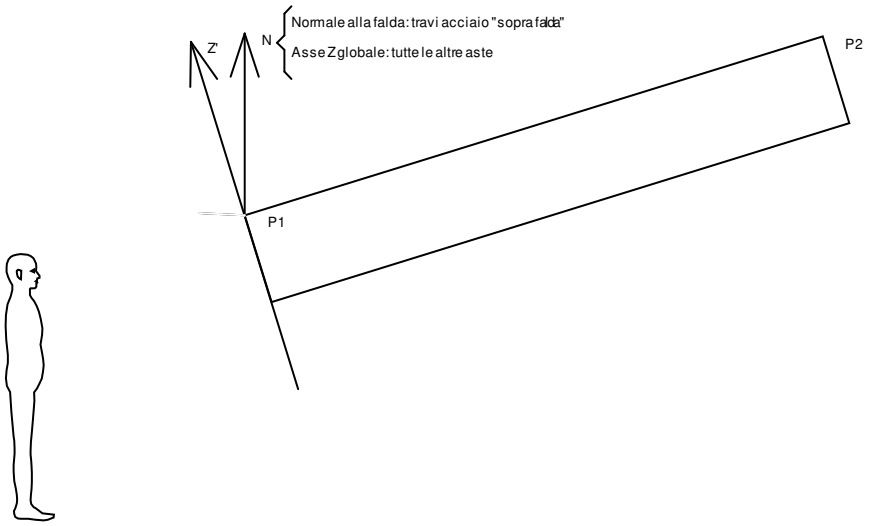
Sistema locale aste non verticali



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

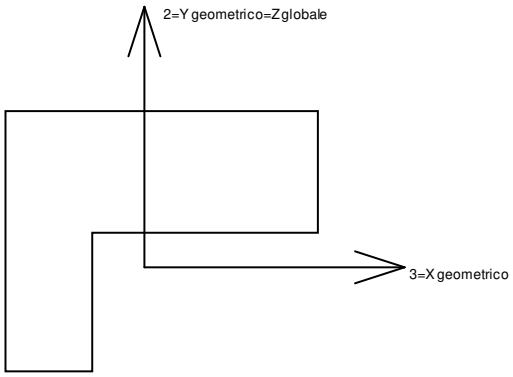
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



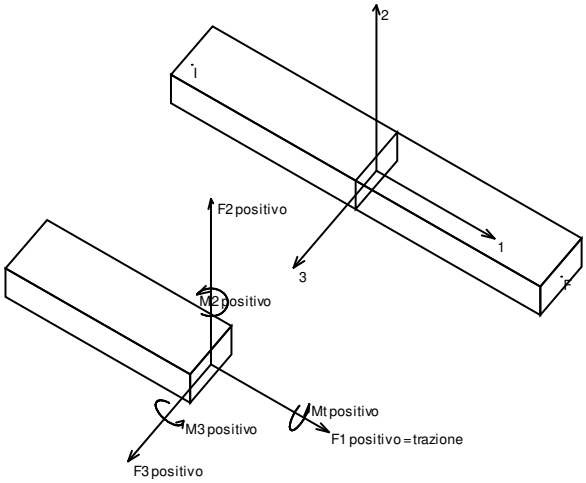
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli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

1.1.6 Sollecitazioni aste in muratura FRCM

1.1.6.1 Convenzioni di segno aste

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

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



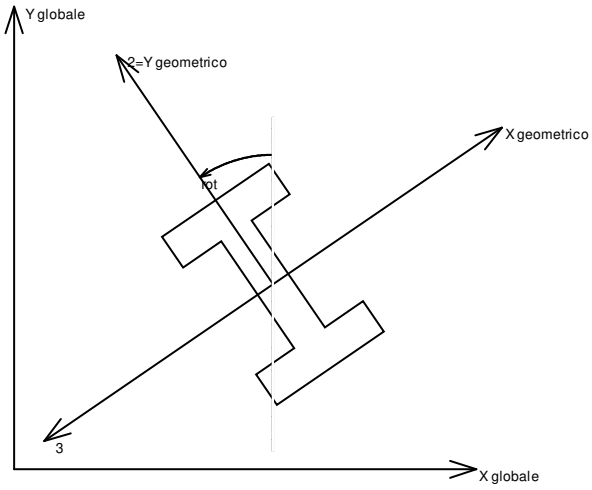
La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:
presa un'asta con nodo iniziale i e nodo finale f, asse 1 che va da i a f, assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando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

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

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

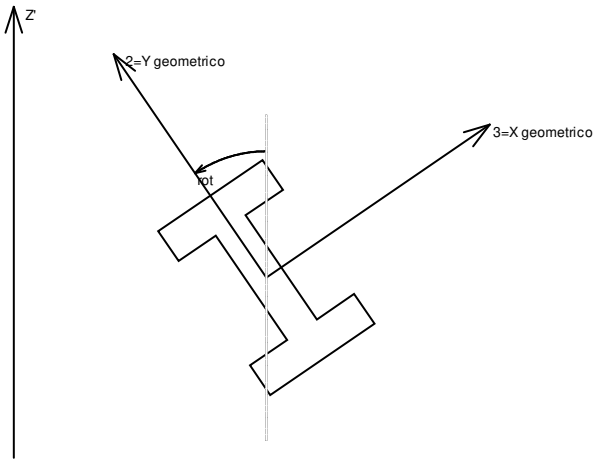
Nel seguito si indica con 1, 2 e 3 il sistema locale dell'asta che non sempre coincide con gli assi principali della sezione. Si ricorda che per assi principali si intendono gli assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



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

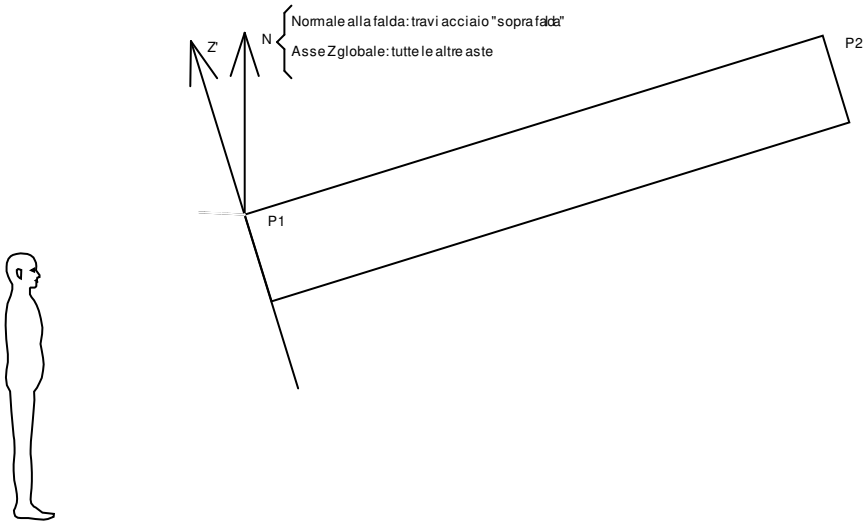
Sistema locale aste non verticali



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

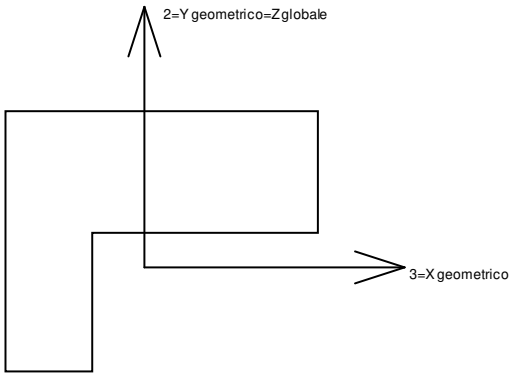
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



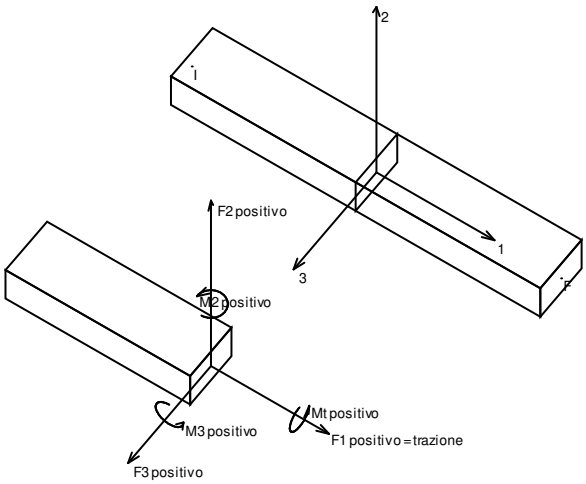
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. . Si sottolinea il fatto che gli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

1.1.7 Sollecitazioni aste in muratura armata

1.1.7.1 Convenzioni di segno aste

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

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



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

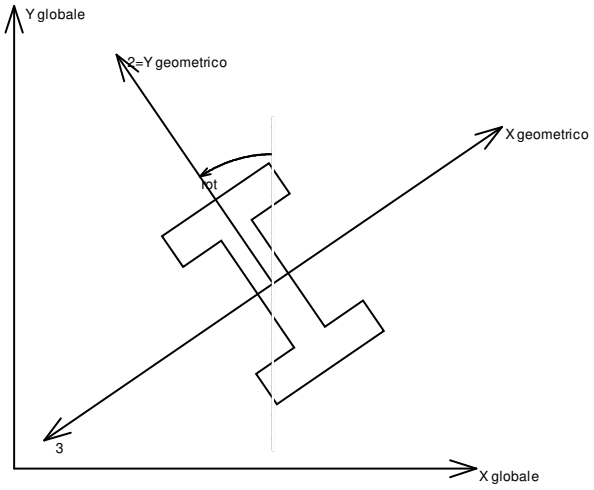
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

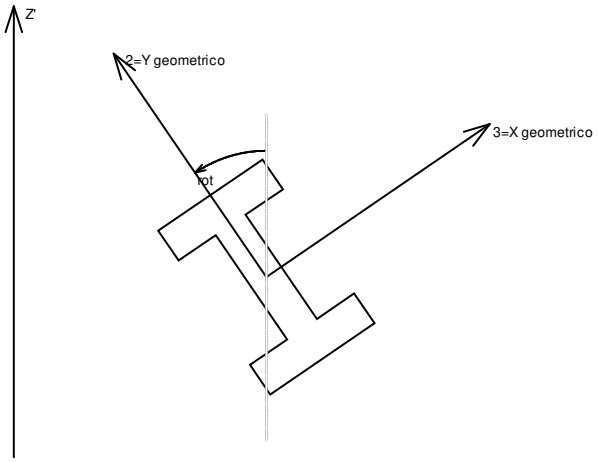
assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

Sistema locale aste verticali



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

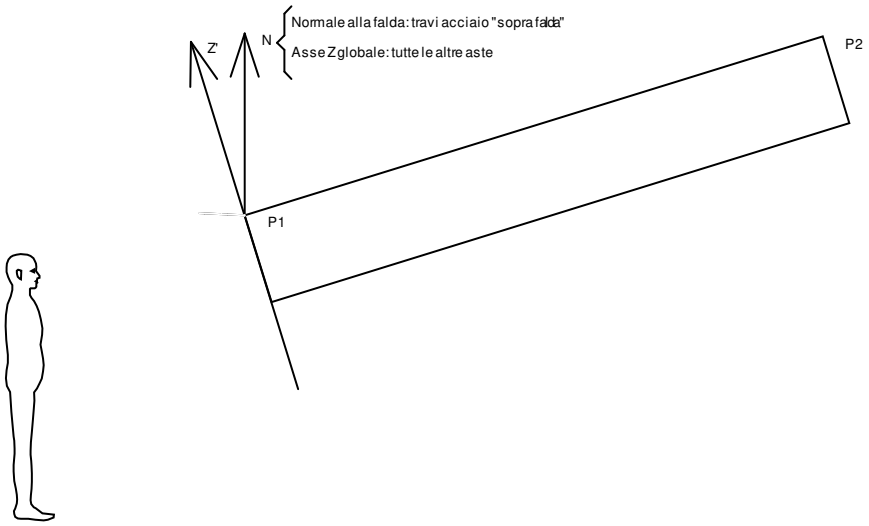
Sistema locale aste non verticali



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

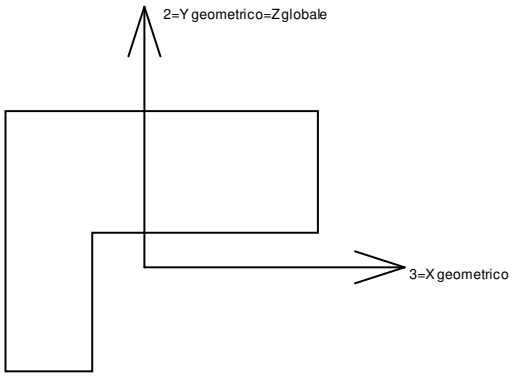
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



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

1.2 Reazioni nodali

1.2.1 Reazioni nodali estreme

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

Reazioni Fx minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
852	SLV FO 16	-3126	-1131	17321	729.98	801.39	229.11
1093	SLV FO 16	-3075	-759	18018	-5839.8	-1303.74	-1133.81
672	SLV FO 16	-2823	-1108	19921	1781.9	-318.53	221.1
464	SLV FO 13	-2712	809	12938	-183.91	-44.53	25.34
1008	SLV FO 16	-2708	-966	15371	-4016.09	-22.71	-710.2

Reazioni Fx massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
852	SLV FO 1	3297	1548	17577	514.18	746.66	-260.58
1093	SLV FO 1	2856	1096	11037	-3707.4	-776.9	1082.59
702	SLV FO 1	2840	1022	15588	2163	2840.28	-596.27
672	SLV FO 1	2640	1366	19104	1813.23	-100.26	-239.37
675	SLV FO 2	2361	996	15933	-2671.94	340.16	401.65

Reazioni Fy minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
852	SLV FO 12	-1000	-3851	21515	1306.44	969.88	216.72
672	SLV FO 12	-985	-3586	21197	1996.27	-301.71	-2.36
702	SLV FO 11	-476	-3543	21017	3343.1	3978.53	725.5
675	SLV FO 12	-946	-3505	19008	-3154.85	295.13	-135.03
464	SLV FO 12	-595	-2801	5922	621.93	-3.41	37.15

Reazioni Fy massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
852	SLV FO 5	1170	4267	13383	-62.28	578.18	-248.2
672	SLV FO 5	802	3844	17827	1598.85	-117.08	-15.91
702	SLV FO 6	1104	3655	17149	2198.56	2989.33	-818.44
675	SLV FO 5	702	3442	14841	-2576.76	349.23	45.2
1093	SLV FO 5	999	2944	-465	-119.16	-15.22	565.84

Reazioni Fz minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
320	SLV Y	266	-2176	-9172	-2927.56	739.36	-254.64
306	SLV Y	242	-1454	-7419	-1517.04	-38.9	-47.34
324	SLV Y	-112	-1497	-6920	-611.25	-1319.72	278.19
335	SLV Y	-128	-1041	-5278	-879.79	-11.26	23.4
171	SLV Y	-15	-725	-5217	-1551.11	-0.97	5.2

Reazioni Fz massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLV FO 8	382	-2578	30225	-9657.73	-2096.39	-52.28
672	SLU 83	-119	184	29113	2683.05	-311.96	-14.51
1008	SLV FO 8	-78	-2482	28595	-7362.76	-22.74	-12.37
702	SLU 83	447	85	28324	4115.86	5171.56	-66.79
852	SLU 83	130	299	25990	921.16	1151.8	-22.61

1.2.2 Reazioni nodali in combinazioni di carico

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

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLU 1	12	-9	329	0	0	0
11	SLU 2	12	-9	332	0	0	0
11	SLU 3	12	-9	336	0	0	0
11	SLU 4	12	-9	337	0	0	0
11	SLU 5	12	-8	336	0	0	0
11	SLU 6	12	-9	340	0	0	0
11	SLU 7	12	-8	341	0	0	0
11	SLU 8	12	-9	337	0	0	0
11	SLU 9	12	-8	339	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLU 10	13	-9	375	0	0	0
11	SLU 11	13	-10	379	0	0	0
11	SLU 12	13	-9	381	0	0	0
11	SLU 13	13	-9	379	0	0	0
11	SLU 14	13	-10	383	0	0	0
11	SLU 15	13	-9	385	0	0	0
11	SLU 16	13	-10	381	0	0	0
11	SLU 17	13	-9	382	0	0	0
11	SLU 18	13	-10	391	0	0	0
11	SLU 19	13	-10	393	0	0	0
11	SLU 20	13	-10	395	0	0	0
11	SLU 21	13	-10	397	0	0	0
11	SLU 22	13	-9	376	0	0	0
11	SLU 23	13	-8	379	0	0	0
11	SLU 24	14	-9	383	0	0	0
11	SLU 25	14	-8	384	0	0	0
11	SLU 26	13	-8	383	0	0	0
11	SLU 27	14	-9	387	0	0	0
11	SLU 28	14	-8	388	0	0	0
11	SLU 29	13	-9	384	0	0	0
11	SLU 30	13	-8	386	0	0	0
11	SLU 31	14	-9	422	0	0	0
11	SLU 32	14	-10	426	0	0	0
11	SLU 33	14	-9	428	0	0	0
11	SLU 34	14	-9	426	0	0	0
11	SLU 35	14	-9	430	0	0	0
11	SLU 36	14	-9	432	0	0	0
11	SLU 37	14	-9	428	0	0	0
11	SLU 38	14	-9	429	0	0	0
11	SLU 39	15	-10	438	0	0	0
11	SLU 40	15	-10	440	0	0	0
11	SLU 41	15	-10	442	0	0	0
11	SLU 42	15	-10	444	0	0	0
11	SLU 43	15	-12	412	0	0	0
11	SLU 44	15	-11	414	0	0	0
11	SLU 45	15	-12	418	0	0	0
11	SLU 46	15	-11	420	0	0	0
11	SLU 47	15	-11	418	0	0	0
11	SLU 48	15	-12	422	0	0	0
11	SLU 49	15	-11	424	0	0	0
11	SLU 50	15	-12	420	0	0	0
11	SLU 51	15	-11	421	0	0	0
11	SLU 52	16	-12	458	0	0	0
11	SLU 53	16	-13	462	0	0	0
11	SLU 54	16	-12	463	0	0	0
11	SLU 55	16	-12	462	0	0	0
11	SLU 56	16	-12	466	0	0	0
11	SLU 57	16	-12	467	0	0	0
11	SLU 58	16	-12	463	0	0	0
11	SLU 59	16	-12	465	0	0	0
11	SLU 60	16	-13	474	0	0	0
11	SLU 61	16	-13	475	0	0	0
11	SLU 62	16	-13	478	0	0	0
11	SLU 63	16	-12	479	0	0	0
11	SLU 64	17	-12	459	0	0	0
11	SLU 65	17	-11	462	0	0	0
11	SLU 66	17	-12	465	0	0	0
11	SLU 67	17	-11	467	0	0	0
11	SLU 68	17	-11	466	0	0	0
11	SLU 69	17	-11	469	0	0	0
11	SLU 70	17	-11	471	0	0	0
11	SLU 71	17	-11	467	0	0	0
11	SLU 72	17	-11	468	0	0	0
11	SLU 73	17	-12	505	0	0	0
11	SLU 74	18	-12	509	0	0	0
11	SLU 75	18	-12	510	0	0	0
11	SLU 76	17	-12	509	0	0	0
11	SLU 77	18	-12	513	0	0	0
11	SLU 78	18	-12	514	0	0	0
11	SLU 79	17	-12	510	0	0	0
11	SLU 80	17	-12	512	0	0	0
11	SLU 81	18	-13	521	0	0	0
11	SLU 82	18	-13	522	0	0	0
11	SLU 83	18	-13	525	0	0	0
11	SLU 84	18	-12	526	0	0	0
11	SLE RA 1	13	-9	343	0	0	0
11	SLE RA 2	13	-9	344	0	0	0
11	SLE RA 3	13	-9	347	0	0	0
11	SLE RA 4	13	-9	348	0	0	0
11	SLE RA 5	13	-9	347	0	0	0
11	SLE RA 6	13	-9	350	0	0	0
11	SLE RA 7	13	-9	351	0	0	0
11	SLE RA 8	13	-9	348	0	0	0
11	SLE RA 9	13	-9	349	0	0	0
11	SLE RA 10	13	-9	373	0	0	0
11	SLE RA 11	13	-9	376	0	0	0
11	SLE RA 12	13	-9	377	0	0	0
11	SLE RA 13	13	-9	376	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLE RA 14	13	-9	379	0	0	0
11	SLE RA 15	13	-9	380	0	0	0
11	SLE RA 16	13	-9	377	0	0	0
11	SLE RA 17	13	-9	378	0	0	0
11	SLE RA 18	13	-10	384	0	0	0
11	SLE RA 19	13	-10	385	0	0	0
11	SLE RA 20	13	-10	387	0	0	0
11	SLE RA 21	13	-9	388	0	0	0
11	SLE FR 1	13	-9	343	0	0	0
11	SLE FR 2	13	-9	343	0	0	0
11	SLE FR 3	13	-9	344	0	0	0
11	SLE FR 4	13	-9	355	0	0	0
11	SLE FR 5	13	-9	356	0	0	0
11	SLE FR 6	13	-9	363	0	0	0
11	SLE QP 1	13	-9	343	0	0	0
11	SLE QP 2	13	-9	355	0	0	0
11	SLD 1	28	-5	384	0	0	0
11	SLD 2	30	-5	385	0	0	0
11	SLD 3	28	-11	341	0	0	0
11	SLD 4	30	-11	343	0	0	0
11	SLD 5	16	1	428	0	0	0
11	SLD 6	18	1	429	0	0	0
11	SLD 7	18	-19	286	0	0	0
11	SLD 8	19	-18	287	0	0	0
11	SLD 9	6	0	423	0	0	0
11	SLD 10	8	0	424	0	0	0
11	SLD 11	8	-19	281	0	0	0
11	SLD 12	9	-19	282	0	0	0
11	SLD 13	-5	-8	367	0	0	0
11	SLD 14	-3	-8	369	0	0	0
11	SLD 15	-4	-13	325	0	0	0
11	SLD 16	-2	-13	326	0	0	0
11	SLV 1	36	-3	403	0	0	0
11	SLV 2	40	-2	405	0	0	0
11	SLV 3	37	-12	331	0	0	0
11	SLV 4	40	-12	333	0	0	0
11	SLV 5	18	7	478	0	0	0
11	SLV 6	20	8	480	0	0	0
11	SLV 7	21	-25	238	0	0	0
11	SLV 8	23	-25	240	0	0	0
11	SLV 9	3	6	471	0	0	0
11	SLV 10	5	6	472	0	0	0
11	SLV 11	5	-26	230	0	0	0
11	SLV 12	8	-26	232	0	0	0
11	SLV 13	-15	-6	377	0	0	0
11	SLV 14	-12	-6	379	0	0	0
11	SLV 15	-14	-16	305	0	0	0
11	SLV 16	-11	-16	307	0	0	0
11	SLV FO 1	39	-2	408	0	0	0
11	SLV FO 2	42	-2	410	0	0	0
11	SLV FO 3	39	-13	329	0	0	0
11	SLV FO 4	43	-12	331	0	0	0
11	SLV FO 5	18	9	491	0	0	0
11	SLV FO 6	21	9	492	0	0	0
11	SLV FO 7	21	-27	226	0	0	0
11	SLV FO 8	24	-27	228	0	0	0
11	SLV FO 9	2	8	482	0	0	0
11	SLV FO 10	4	8	484	0	0	0
11	SLV FO 11	5	-28	218	0	0	0
11	SLV FO 12	7	-28	219	0	0	0
11	SLV FO 13	-18	-6	379	0	0	0
11	SLV FO 14	-14	-6	381	0	0	0
11	SLV FO 15	-17	-17	300	0	0	0
11	SLV FO 16	-13	-17	302	0	0	0
12	SLU 1	20	-14	544	0	0	0
12	SLU 2	20	-13	548	0	0	0
12	SLU 3	20	-13	554	0	0	0
12	SLU 4	20	-13	557	0	0	0
12	SLU 5	20	-12	554	0	0	0
12	SLU 6	20	-13	561	0	0	0
12	SLU 7	20	-13	563	0	0	0
12	SLU 8	20	-13	557	0	0	0
12	SLU 9	20	-13	559	0	0	0
12	SLU 10	21	-14	619	0	0	0
12	SLU 11	21	-15	625	0	0	0
12	SLU 12	21	-14	628	0	0	0
12	SLU 13	21	-14	626	0	0	0
12	SLU 14	21	-14	632	0	0	0
12	SLU 15	21	-14	634	0	0	0
12	SLU 16	21	-14	628	0	0	0
12	SLU 17	21	-14	630	0	0	0
12	SLU 18	21	-15	645	0	0	0
12	SLU 19	21	-15	648	0	0	0
12	SLU 20	22	-15	652	0	0	0
12	SLU 21	21	-14	654	0	0	0
12	SLU 22	22	-13	621	0	0	0
12	SLU 23	22	-12	626	0	0	0
12	SLU 24	22	-13	632	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLU 25	22	-12	634	0	0	0
12	SLU 26	22	-12	632	0	0	0
12	SLU 27	22	-13	638	0	0	0
12	SLU 28	22	-12	641	0	0	0
12	SLU 29	22	-13	634	0	0	0
12	SLU 30	22	-12	637	0	0	0
12	SLU 31	23	-14	697	0	0	0
12	SLU 32	23	-14	703	0	0	0
12	SLU 33	23	-14	705	0	0	0
12	SLU 34	23	-13	703	0	0	0
12	SLU 35	23	-14	709	0	0	0
12	SLU 36	23	-13	712	0	0	0
12	SLU 37	23	-14	705	0	0	0
12	SLU 38	23	-13	708	0	0	0
12	SLU 39	24	-15	723	0	0	0
12	SLU 40	24	-14	725	0	0	0
12	SLU 41	24	-15	729	0	0	0
12	SLU 42	24	-14	732	0	0	0
12	SLU 43	25	-18	680	0	0	0
12	SLU 44	25	-17	685	0	0	0
12	SLU 45	25	-18	691	0	0	0
12	SLU 46	25	-17	693	0	0	0
12	SLU 47	25	-17	691	0	0	0
12	SLU 48	25	-17	697	0	0	0
12	SLU 49	25	-17	700	0	0	0
12	SLU 50	25	-17	693	0	0	0
12	SLU 51	25	-17	696	0	0	0
12	SLU 52	26	-18	756	0	0	0
12	SLU 53	26	-19	762	0	0	0
12	SLU 54	26	-18	764	0	0	0
12	SLU 55	26	-18	762	0	0	0
12	SLU 56	26	-18	768	0	0	0
12	SLU 57	26	-18	771	0	0	0
12	SLU 58	26	-18	764	0	0	0
12	SLU 59	26	-18	767	0	0	0
12	SLU 60	27	-20	782	0	0	0
12	SLU 61	27	-19	784	0	0	0
12	SLU 62	27	-19	788	0	0	0
12	SLU 63	27	-19	791	0	0	0
12	SLU 64	27	-18	758	0	0	0
12	SLU 65	27	-17	762	0	0	0
12	SLU 66	27	-17	768	0	0	0
12	SLU 67	27	-17	771	0	0	0
12	SLU 68	27	-16	769	0	0	0
12	SLU 69	27	-17	775	0	0	0
12	SLU 70	27	-16	777	0	0	0
12	SLU 71	27	-17	771	0	0	0
12	SLU 72	27	-16	773	0	0	0
12	SLU 73	28	-18	833	0	0	0
12	SLU 74	28	-18	839	0	0	0
12	SLU 75	28	-18	842	0	0	0
12	SLU 76	28	-17	840	0	0	0
12	SLU 77	28	-18	846	0	0	0
12	SLU 78	28	-18	848	0	0	0
12	SLU 79	28	-18	842	0	0	0
12	SLU 80	28	-18	844	0	0	0
12	SLU 81	29	-19	859	0	0	0
12	SLU 82	29	-19	862	0	0	0
12	SLU 83	29	-19	866	0	0	0
12	SLU 84	29	-18	868	0	0	0
12	SLE RA 1	20	-14	566	0	0	0
12	SLE RA 2	20	-13	569	0	0	0
12	SLE RA 3	20	-13	573	0	0	0
12	SLE RA 4	20	-13	575	0	0	0
12	SLE RA 5	20	-13	573	0	0	0
12	SLE RA 6	20	-13	577	0	0	0
12	SLE RA 7	20	-13	579	0	0	0
12	SLE RA 8	20	-13	575	0	0	0
12	SLE RA 9	20	-13	576	0	0	0
12	SLE RA 10	21	-14	616	0	0	0
12	SLE RA 11	21	-14	620	0	0	0
12	SLE RA 12	21	-14	622	0	0	0
12	SLE RA 13	21	-14	620	0	0	0
12	SLE RA 14	21	-14	625	0	0	0
12	SLE RA 15	21	-14	626	0	0	0
12	SLE RA 16	21	-14	622	0	0	0
12	SLE RA 17	21	-14	624	0	0	0
12	SLE RA 18	22	-15	634	0	0	0
12	SLE RA 19	21	-14	635	0	0	0
12	SLE RA 20	22	-14	638	0	0	0
12	SLE RA 21	21	-14	640	0	0	0
12	SLE FR 1	20	-14	566	0	0	0
12	SLE FR 2	20	-13	566	0	0	0
12	SLE FR 3	20	-14	568	0	0	0
12	SLE FR 4	21	-14	587	0	0	0
12	SLE FR 5	21	-14	588	0	0	0
12	SLE FR 6	21	-14	600	0	0	0
12	SLE QP 1	20	-14	566	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLE QP 2	21	-14	586	0	0	0
12	SLD 1	45	-8	625	0	0	0
12	SLD 2	49	-7	627	0	0	0
12	SLD 3	46	-17	556	0	0	0
12	SLD 4	49	-16	558	0	0	0
12	SLD 5	26	1	702	0	0	0
12	SLD 6	28	2	703	0	0	0
12	SLD 7	29	-28	472	0	0	0
12	SLD 8	31	-28	473	0	0	0
12	SLD 9	10	0	699	0	0	0
12	SLD 10	13	1	700	0	0	0
12	SLD 11	13	-29	469	0	0	0
12	SLD 12	15	-29	470	0	0	0
12	SLD 13	-8	-12	614	0	0	0
12	SLD 14	-4	-11	616	0	0	0
12	SLD 15	-7	-20	545	0	0	0
12	SLD 16	-4	-20	547	0	0	0
12	SLV 1	59	-4	652	0	0	0
12	SLV 2	64	-3	655	0	0	0
12	SLV 3	60	-19	535	0	0	0
12	SLV 4	66	-18	538	0	0	0
12	SLV 5	29	12	782	0	0	0
12	SLV 6	33	12	784	0	0	0
12	SLV 7	33	-39	393	0	0	0
12	SLV 8	37	-38	395	0	0	0
12	SLV 9	4	10	777	0	0	0
12	SLV 10	8	11	779	0	0	0
12	SLV 11	9	-40	388	0	0	0
12	SLV 12	12	-39	390	0	0	0
12	SLV 13	-24	-10	635	0	0	0
12	SLV 14	-19	-8	637	0	0	0
12	SLV 15	-23	-25	518	0	0	0
12	SLV 16	-17	-23	521	0	0	0
12	SLV FO 1	63	-3	658	0	0	0
12	SLV FO 2	69	-2	661	0	0	0
12	SLV FO 3	64	-20	530	0	0	0
12	SLV FO 4	70	-19	533	0	0	0
12	SLV FO 5	30	14	802	0	0	0
12	SLV FO 6	34	15	804	0	0	0
12	SLV FO 7	35	-41	374	0	0	0
12	SLV FO 8	39	-40	376	0	0	0
12	SLV FO 9	2	12	796	0	0	0
12	SLV FO 10	7	13	798	0	0	0
12	SLV FO 11	7	-43	369	0	0	0
12	SLV FO 12	11	-42	371	0	0	0
12	SLV FO 13	-29	-9	639	0	0	0
12	SLV FO 14	-23	-8	642	0	0	0
12	SLV FO 15	-27	-26	511	0	0	0
12	SLV FO 16	-21	-24	514	0	0	0
13	SLU 1	15	-10	421	0	0	0
13	SLU 2	15	-9	425	0	0	0
13	SLU 3	15	-10	429	0	0	0
13	SLU 4	15	-9	431	0	0	0
13	SLU 5	15	-9	430	0	0	0
13	SLU 6	15	-10	434	0	0	0
13	SLU 7	15	-9	436	0	0	0
13	SLU 8	15	-10	431	0	0	0
13	SLU 9	15	-9	433	0	0	0
13	SLU 10	16	-10	479	0	0	0
13	SLU 11	16	-11	484	0	0	0
13	SLU 12	16	-10	486	0	0	0
13	SLU 13	16	-10	484	0	0	0
13	SLU 14	16	-10	489	0	0	0
13	SLU 15	16	-10	491	0	0	0
13	SLU 16	16	-10	486	0	0	0
13	SLU 17	16	-10	488	0	0	0
13	SLU 18	16	-11	499	0	0	0
13	SLU 19	16	-11	501	0	0	0
13	SLU 20	16	-11	504	0	0	0
13	SLU 21	16	-11	506	0	0	0
13	SLU 22	17	-10	481	0	0	0
13	SLU 23	17	-9	484	0	0	0
13	SLU 24	17	-9	489	0	0	0
13	SLU 25	17	-9	491	0	0	0
13	SLU 26	17	-9	489	0	0	0
13	SLU 27	17	-9	494	0	0	0
13	SLU 28	17	-9	496	0	0	0
13	SLU 29	17	-9	491	0	0	0
13	SLU 30	17	-9	493	0	0	0
13	SLU 31	18	-10	539	0	0	0
13	SLU 32	18	-10	544	0	0	0
13	SLU 33	18	-10	546	0	0	0
13	SLU 34	18	-10	544	0	0	0
13	SLU 35	18	-10	549	0	0	0
13	SLU 36	18	-10	551	0	0	0
13	SLU 37	18	-10	546	0	0	0
13	SLU 38	18	-10	548	0	0	0
13	SLU 39	18	-11	559	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLU 40	18	-10	561	0	0	0
13	SLU 41	18	-11	564	0	0	0
13	SLU 42	18	-10	566	0	0	0
13	SLU 43	19	-13	527	0	0	0
13	SLU 44	19	-12	530	0	0	0
13	SLU 45	19	-13	535	0	0	0
13	SLU 46	19	-12	537	0	0	0
13	SLU 47	19	-12	535	0	0	0
13	SLU 48	19	-13	540	0	0	0
13	SLU 49	19	-12	542	0	0	0
13	SLU 50	19	-13	537	0	0	0
13	SLU 51	19	-12	539	0	0	0
13	SLU 52	20	-13	585	0	0	0
13	SLU 53	20	-14	590	0	0	0
13	SLU 54	20	-13	592	0	0	0
13	SLU 55	20	-13	590	0	0	0
13	SLU 56	20	-13	595	0	0	0
13	SLU 57	20	-13	597	0	0	0
13	SLU 58	20	-13	592	0	0	0
13	SLU 59	20	-13	594	0	0	0
13	SLU 60	20	-14	605	0	0	0
13	SLU 61	20	-14	607	0	0	0
13	SLU 62	20	-14	610	0	0	0
13	SLU 63	20	-14	612	0	0	0
13	SLU 64	21	-13	587	0	0	0
13	SLU 65	21	-12	590	0	0	0
13	SLU 66	21	-13	595	0	0	0
13	SLU 67	21	-12	597	0	0	0
13	SLU 68	21	-12	595	0	0	0
13	SLU 69	21	-12	600	0	0	0
13	SLU 70	21	-12	602	0	0	0
13	SLU 71	21	-12	597	0	0	0
13	SLU 72	21	-12	599	0	0	0
13	SLU 73	22	-13	645	0	0	0
13	SLU 74	22	-13	650	0	0	0
13	SLU 75	22	-13	652	0	0	0
13	SLU 76	22	-13	650	0	0	0
13	SLU 77	22	-13	655	0	0	0
13	SLU 78	22	-13	657	0	0	0
13	SLU 79	22	-13	652	0	0	0
13	SLU 80	22	-13	654	0	0	0
13	SLU 81	22	-14	665	0	0	0
13	SLU 82	22	-14	667	0	0	0
13	SLU 83	22	-14	670	0	0	0
13	SLU 84	22	-13	672	0	0	0
13	SLE RA 1	16	-10	438	0	0	0
13	SLE RA 2	16	-9	441	0	0	0
13	SLE RA 3	16	-10	444	0	0	0
13	SLE RA 4	16	-9	445	0	0	0
13	SLE RA 5	16	-9	444	0	0	0
13	SLE RA 6	16	-10	447	0	0	0
13	SLE RA 7	16	-9	448	0	0	0
13	SLE RA 8	16	-10	445	0	0	0
13	SLE RA 9	16	-9	446	0	0	0
13	SLE RA 10	16	-10	477	0	0	0
13	SLE RA 11	16	-10	480	0	0	0
13	SLE RA 12	16	-10	482	0	0	0
13	SLE RA 13	16	-10	480	0	0	0
13	SLE RA 14	16	-10	484	0	0	0
13	SLE RA 15	16	-10	485	0	0	0
13	SLE RA 16	16	-10	482	0	0	0
13	SLE RA 17	16	-10	483	0	0	0
13	SLE RA 18	16	-11	491	0	0	0
13	SLE RA 19	16	-10	492	0	0	0
13	SLE RA 20	16	-11	494	0	0	0
13	SLE RA 21	16	-10	495	0	0	0
13	SLE FR 1	16	-10	438	0	0	0
13	SLE FR 2	16	-10	439	0	0	0
13	SLE FR 3	16	-10	440	0	0	0
13	SLE FR 4	16	-10	454	0	0	0
13	SLE FR 5	16	-10	455	0	0	0
13	SLE FR 6	16	-10	464	0	0	0
13	SLE QP 1	16	-10	438	0	0	0
13	SLE QP 2	16	-10	454	0	0	0
13	SLD 1	35	-6	477	0	0	0
13	SLD 2	37	-5	478	0	0	0
13	SLD 3	35	-13	424	0	0	0
13	SLD 4	38	-12	425	0	0	0
13	SLD 5	20	1	541	0	0	0
13	SLD 6	22	1	541	0	0	0
13	SLD 7	22	-21	365	0	0	0
13	SLD 8	24	-20	366	0	0	0
13	SLD 9	8	0	542	0	0	0
13	SLD 10	10	1	543	0	0	0
13	SLD 11	10	-22	367	0	0	0
13	SLD 12	12	-21	367	0	0	0
13	SLD 13	-6	-9	483	0	0	0
13	SLD 14	-3	-8	484	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLD 15	-6	-15	430	0	0	0
13	SLD 16	-3	-14	431	0	0	0
13	SLV 1	45	-3	493	0	0	0
13	SLV 2	49	-2	495	0	0	0
13	SLV 3	46	-15	404	0	0	0
13	SLV 4	50	-13	406	0	0	0
13	SLV 5	22	9	600	0	0	0
13	SLV 6	25	10	602	0	0	0
13	SLV 7	26	-29	304	0	0	0
13	SLV 8	29	-28	305	0	0	0
13	SLV 9	3	7	603	0	0	0
13	SLV 10	6	8	605	0	0	0
13	SLV 11	7	-30	306	0	0	0
13	SLV 12	9	-29	308	0	0	0
13	SLV 13	-19	-7	502	0	0	0
13	SLV 14	-14	-6	504	0	0	0
13	SLV 15	-18	-18	413	0	0	0
13	SLV 16	-13	-17	415	0	0	0
13	SLV FO 1	48	-3	497	0	0	0
13	SLV FO 2	53	-1	499	0	0	0
13	SLV FO 3	49	-15	399	0	0	0
13	SLV FO 4	54	-13	401	0	0	0
13	SLV FO 5	23	10	615	0	0	0
13	SLV FO 6	26	12	616	0	0	0
13	SLV FO 7	27	-31	289	0	0	0
13	SLV FO 8	30	-29	290	0	0	0
13	SLV FO 9	2	9	618	0	0	0
13	SLV FO 10	5	10	620	0	0	0
13	SLV FO 11	6	-32	292	0	0	0
13	SLV FO 12	9	-31	293	0	0	0
13	SLV FO 13	-22	-7	507	0	0	0
13	SLV FO 14	-17	-5	509	0	0	0
13	SLV FO 15	-21	-19	409	0	0	0
13	SLV FO 16	-16	-17	411	0	0	0
14	SLU 1	15	-9	425	0	0	0
14	SLU 2	15	-9	428	0	0	0
14	SLU 3	15	-9	433	0	0	0
14	SLU 4	15	-9	435	0	0	0
14	SLU 5	15	-9	433	0	0	0
14	SLU 6	15	-9	438	0	0	0
14	SLU 7	15	-9	440	0	0	0
14	SLU 8	15	-9	435	0	0	0
14	SLU 9	15	-9	437	0	0	0
14	SLU 10	16	-10	483	0	0	0
14	SLU 11	16	-10	488	0	0	0
14	SLU 12	16	-10	490	0	0	0
14	SLU 13	16	-9	488	0	0	0
14	SLU 14	16	-10	493	0	0	0
14	SLU 15	16	-9	495	0	0	0
14	SLU 16	16	-10	490	0	0	0
14	SLU 17	16	-9	492	0	0	0
14	SLU 18	16	-11	503	0	0	0
14	SLU 19	16	-10	505	0	0	0
14	SLU 20	16	-10	508	0	0	0
14	SLU 21	16	-10	510	0	0	0
14	SLU 22	17	-9	485	0	0	0
14	SLU 23	17	-8	489	0	0	0
14	SLU 24	17	-9	494	0	0	0
14	SLU 25	17	-8	495	0	0	0
14	SLU 26	17	-8	494	0	0	0
14	SLU 27	17	-9	498	0	0	0
14	SLU 28	17	-8	500	0	0	0
14	SLU 29	17	-9	495	0	0	0
14	SLU 30	17	-8	497	0	0	0
14	SLU 31	18	-9	543	0	0	0
14	SLU 32	18	-10	548	0	0	0
14	SLU 33	18	-9	550	0	0	0
14	SLU 34	18	-9	548	0	0	0
14	SLU 35	18	-9	553	0	0	0
14	SLU 36	18	-9	555	0	0	0
14	SLU 37	18	-9	550	0	0	0
14	SLU 38	18	-9	552	0	0	0
14	SLU 39	18	-10	564	0	0	0
14	SLU 40	18	-10	566	0	0	0
14	SLU 41	18	-10	569	0	0	0
14	SLU 42	18	-10	571	0	0	0
14	SLU 43	19	-12	532	0	0	0
14	SLU 44	19	-12	535	0	0	0
14	SLU 45	19	-12	540	0	0	0
14	SLU 46	19	-12	542	0	0	0
14	SLU 47	19	-11	540	0	0	0
14	SLU 48	19	-12	545	0	0	0
14	SLU 49	19	-11	547	0	0	0
14	SLU 50	19	-12	542	0	0	0
14	SLU 51	19	-12	544	0	0	0
14	SLU 52	20	-12	590	0	0	0
14	SLU 53	20	-13	595	0	0	0
14	SLU 54	20	-13	597	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
14	SLU 55	20	-12	595	0	0	0
14	SLU 56	20	-13	600	0	0	0
14	SLU 57	20	-12	602	0	0	0
14	SLU 58	20	-13	597	0	0	0
14	SLU 59	20	-12	599	0	0	0
14	SLU 60	20	-13	610	0	0	0
14	SLU 61	20	-13	612	0	0	0
14	SLU 62	20	-13	615	0	0	0
14	SLU 63	20	-13	617	0	0	0
14	SLU 64	21	-12	592	0	0	0
14	SLU 65	21	-11	596	0	0	0
14	SLU 66	21	-12	600	0	0	0
14	SLU 67	21	-11	602	0	0	0
14	SLU 68	21	-11	600	0	0	0
14	SLU 69	21	-12	605	0	0	0
14	SLU 70	21	-11	607	0	0	0
14	SLU 71	21	-12	602	0	0	0
14	SLU 72	21	-11	604	0	0	0
14	SLU 73	22	-12	650	0	0	0
14	SLU 74	22	-13	655	0	0	0
14	SLU 75	22	-12	657	0	0	0
14	SLU 76	22	-12	655	0	0	0
14	SLU 77	22	-12	660	0	0	0
14	SLU 78	22	-12	662	0	0	0
14	SLU 79	22	-12	657	0	0	0
14	SLU 80	22	-12	659	0	0	0
14	SLU 81	22	-13	671	0	0	0
14	SLU 82	22	-13	673	0	0	0
14	SLU 83	22	-13	676	0	0	0
14	SLU 84	22	-13	677	0	0	0
14	SLE RA 1	16	-9	442	0	0	0
14	SLE RA 2	16	-9	444	0	0	0
14	SLE RA 3	16	-9	448	0	0	0
14	SLE RA 4	16	-9	449	0	0	0
14	SLE RA 5	16	-9	448	0	0	0
14	SLE RA 6	16	-9	451	0	0	0
14	SLE RA 7	16	-9	452	0	0	0
14	SLE RA 8	16	-9	449	0	0	0
14	SLE RA 9	16	-9	450	0	0	0
14	SLE RA 10	16	-9	481	0	0	0
14	SLE RA 11	16	-10	484	0	0	0
14	SLE RA 12	16	-9	486	0	0	0
14	SLE RA 13	16	-9	484	0	0	0
14	SLE RA 14	16	-10	488	0	0	0
14	SLE RA 15	16	-9	489	0	0	0
14	SLE RA 16	16	-10	485	0	0	0
14	SLE RA 17	16	-9	487	0	0	0
14	SLE RA 18	16	-10	495	0	0	0
14	SLE RA 19	16	-10	496	0	0	0
14	SLE RA 20	16	-10	498	0	0	0
14	SLE RA 21	16	-10	499	0	0	0
14	SLE FR 1	16	-9	442	0	0	0
14	SLE FR 2	16	-9	443	0	0	0
14	SLE FR 3	16	-9	444	0	0	0
14	SLE FR 4	16	-9	458	0	0	0
14	SLE FR 5	16	-10	459	0	0	0
14	SLE FR 6	16	-10	468	0	0	0
14	SLE QP 1	16	-9	442	0	0	0
14	SLE QP 2	16	-10	458	0	0	0
14	SLD 1	35	-6	478	0	0	0
14	SLD 2	37	-5	478	0	0	0
14	SLD 3	35	-12	425	0	0	0
14	SLD 4	38	-11	426	0	0	0
14	SLD 5	20	1	543	0	0	0
14	SLD 6	22	2	544	0	0	0
14	SLD 7	22	-20	369	0	0	0
14	SLD 8	24	-19	369	0	0	0
14	SLD 9	8	0	547	0	0	0
14	SLD 10	10	1	547	0	0	0
14	SLD 11	10	-21	372	0	0	0
14	SLD 12	12	-20	373	0	0	0
14	SLD 13	-6	-8	490	0	0	0
14	SLD 14	-3	-7	491	0	0	0
14	SLD 15	-6	-14	438	0	0	0
14	SLD 16	-3	-13	438	0	0	0
14	SLV 1	45	-4	492	0	0	0
14	SLV 2	49	-1	493	0	0	0
14	SLV 3	46	-14	403	0	0	0
14	SLV 4	50	-12	405	0	0	0
14	SLV 5	22	8	602	0	0	0
14	SLV 6	25	10	603	0	0	0
14	SLV 7	26	-28	307	0	0	0
14	SLV 8	29	-26	308	0	0	0
14	SLV 9	3	7	608	0	0	0
14	SLV 10	6	9	609	0	0	0
14	SLV 11	7	-29	313	0	0	0
14	SLV 12	9	-27	314	0	0	0
14	SLV 13	-19	-7	511	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
14	SLV 14	-14	-5	513	0	0	0
14	SLV 15	-18	-18	423	0	0	0
14	SLV 16	-13	-16	424	0	0	0
14	SLV FO 1	48	-3	495	0	0	0
14	SLV FO 2	53	-1	497	0	0	0
14	SLV FO 3	49	-15	398	0	0	0
14	SLV FO 4	54	-13	400	0	0	0
14	SLV FO 5	23	10	616	0	0	0
14	SLV FO 6	26	12	617	0	0	0
14	SLV FO 7	27	-30	292	0	0	0
14	SLV FO 8	30	-28	293	0	0	0
14	SLV FO 9	2	9	623	0	0	0
14	SLV FO 10	5	10	624	0	0	0
14	SLV FO 11	6	-31	299	0	0	0
14	SLV FO 12	9	-29	300	0	0	0
14	SLV FO 13	-22	-7	516	0	0	0
14	SLV FO 14	-17	-4	518	0	0	0
14	SLV FO 15	-21	-18	419	0	0	0
14	SLV FO 16	-16	-16	421	0	0	0
15	SLU 1	15	-9	429	0	0	0
15	SLU 2	15	-8	432	0	0	0
15	SLU 3	15	-9	437	0	0	0
15	SLU 4	15	-8	439	0	0	0
15	SLU 5	15	-8	437	0	0	0
15	SLU 6	15	-8	442	0	0	0
15	SLU 7	15	-8	444	0	0	0
15	SLU 8	15	-8	439	0	0	0
15	SLU 9	15	-8	440	0	0	0
15	SLU 10	16	-9	487	0	0	0
15	SLU 11	16	-9	492	0	0	0
15	SLU 12	16	-9	494	0	0	0
15	SLU 13	16	-9	492	0	0	0
15	SLU 14	16	-9	497	0	0	0
15	SLU 15	16	-9	499	0	0	0
15	SLU 16	16	-9	493	0	0	0
15	SLU 17	16	-9	495	0	0	0
15	SLU 18	16	-10	507	0	0	0
15	SLU 19	16	-10	509	0	0	0
15	SLU 20	16	-10	512	0	0	0
15	SLU 21	16	-9	514	0	0	0
15	SLU 22	17	-9	489	0	0	0
15	SLU 23	17	-8	492	0	0	0
15	SLU 24	17	-8	497	0	0	0
15	SLU 25	17	-8	499	0	0	0
15	SLU 26	17	-8	497	0	0	0
15	SLU 27	17	-8	502	0	0	0
15	SLU 28	17	-8	504	0	0	0
15	SLU 29	17	-8	499	0	0	0
15	SLU 30	17	-8	501	0	0	0
15	SLU 31	18	-9	547	0	0	0
15	SLU 32	18	-9	552	0	0	0
15	SLU 33	18	-9	554	0	0	0
15	SLU 34	18	-8	552	0	0	0
15	SLU 35	18	-9	557	0	0	0
15	SLU 36	18	-8	559	0	0	0
15	SLU 37	18	-9	554	0	0	0
15	SLU 38	18	-8	556	0	0	0
15	SLU 39	18	-10	568	0	0	0
15	SLU 40	18	-9	570	0	0	0
15	SLU 41	18	-9	573	0	0	0
15	SLU 42	18	-9	575	0	0	0
15	SLU 43	19	-12	536	0	0	0
15	SLU 44	19	-11	540	0	0	0
15	SLU 45	19	-11	545	0	0	0
15	SLU 46	19	-11	546	0	0	0
15	SLU 47	19	-11	545	0	0	0
15	SLU 48	19	-11	549	0	0	0
15	SLU 49	19	-11	551	0	0	0
15	SLU 50	19	-11	546	0	0	0
15	SLU 51	19	-11	548	0	0	0
15	SLU 52	20	-12	595	0	0	0
15	SLU 53	20	-12	599	0	0	0
15	SLU 54	20	-12	601	0	0	0
15	SLU 55	20	-12	600	0	0	0
15	SLU 56	20	-12	604	0	0	0
15	SLU 57	20	-12	606	0	0	0
15	SLU 58	20	-12	601	0	0	0
15	SLU 59	20	-12	603	0	0	0
15	SLU 60	20	-13	615	0	0	0
15	SLU 61	20	-12	617	0	0	0
15	SLU 62	20	-13	620	0	0	0
15	SLU 63	20	-12	622	0	0	0
15	SLU 64	21	-11	597	0	0	0
15	SLU 65	21	-11	600	0	0	0
15	SLU 66	21	-11	605	0	0	0
15	SLU 67	21	-11	607	0	0	0
15	SLU 68	21	-10	605	0	0	0
15	SLU 69	21	-11	610	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLU 70	21	-10	612	0	0	0
15	SLU 71	21	-11	607	0	0	0
15	SLU 72	21	-10	609	0	0	0
15	SLU 73	22	-11	655	0	0	0
15	SLU 74	22	-12	660	0	0	0
15	SLU 75	22	-11	662	0	0	0
15	SLU 76	22	-11	660	0	0	0
15	SLU 77	22	-12	665	0	0	0
15	SLU 78	22	-11	667	0	0	0
15	SLU 79	22	-12	662	0	0	0
15	SLU 80	22	-11	664	0	0	0
15	SLU 81	22	-12	676	0	0	0
15	SLU 82	22	-12	677	0	0	0
15	SLU 83	22	-12	680	0	0	0
15	SLU 84	22	-12	682	0	0	0
15	SLE RA 1	16	-9	446	0	0	0
15	SLE RA 2	16	-8	448	0	0	0
15	SLE RA 3	16	-9	451	0	0	0
15	SLE RA 4	16	-8	453	0	0	0
15	SLE RA 5	16	-8	451	0	0	0
15	SLE RA 6	16	-8	455	0	0	0
15	SLE RA 7	16	-8	456	0	0	0
15	SLE RA 8	16	-8	453	0	0	0
15	SLE RA 9	16	-8	454	0	0	0
15	SLE RA 10	16	-9	485	0	0	0
15	SLE RA 11	16	-9	488	0	0	0
15	SLE RA 12	16	-9	489	0	0	0
15	SLE RA 13	16	-9	488	0	0	0
15	SLE RA 14	16	-9	491	0	0	0
15	SLE RA 15	16	-9	493	0	0	0
15	SLE RA 16	16	-9	489	0	0	0
15	SLE RA 17	16	-9	490	0	0	0
15	SLE RA 18	16	-9	498	0	0	0
15	SLE RA 19	16	-9	500	0	0	0
15	SLE RA 20	16	-9	502	0	0	0
15	SLE RA 21	16	-9	503	0	0	0
15	SLE FR 1	16	-9	446	0	0	0
15	SLE FR 2	16	-9	446	0	0	0
15	SLE FR 3	16	-9	447	0	0	0
15	SLE FR 4	16	-9	462	0	0	0
15	SLE FR 5	16	-9	463	0	0	0
15	SLE FR 6	16	-9	472	0	0	0
15	SLE QP 1	16	-9	446	0	0	0
15	SLE QP 2	16	-9	462	0	0	0
15	SLD 1	34	-6	477	0	0	0
15	SLD 2	37	-4	478	0	0	0
15	SLD 3	35	-12	425	0	0	0
15	SLD 4	38	-10	426	0	0	0
15	SLD 5	20	1	545	0	0	0
15	SLD 6	22	2	545	0	0	0
15	SLD 7	22	-19	372	0	0	0
15	SLD 8	24	-18	372	0	0	0
15	SLD 9	8	0	551	0	0	0
15	SLD 10	10	1	551	0	0	0
15	SLD 11	10	-20	378	0	0	0
15	SLD 12	12	-19	379	0	0	0
15	SLD 13	-6	-8	498	0	0	0
15	SLD 14	-3	-6	498	0	0	0
15	SLD 15	-6	-14	446	0	0	0
15	SLD 16	-3	-12	446	0	0	0
15	SLV 1	45	-4	489	0	0	0
15	SLV 2	49	-1	490	0	0	0
15	SLV 3	46	-14	401	0	0	0
15	SLV 4	50	-11	402	0	0	0
15	SLV 5	22	8	603	0	0	0
15	SLV 6	25	10	603	0	0	0
15	SLV 7	26	-27	310	0	0	0
15	SLV 8	29	-25	311	0	0	0
15	SLV 9	3	7	612	0	0	0
15	SLV 10	6	9	613	0	0	0
15	SLV 11	7	-28	320	0	0	0
15	SLV 12	9	-26	321	0	0	0
15	SLV 13	-19	-7	521	0	0	0
15	SLV 14	-14	-4	522	0	0	0
15	SLV 15	-18	-17	433	0	0	0
15	SLV 16	-13	-14	434	0	0	0
15	SLV FO 1	48	-3	492	0	0	0
15	SLV FO 2	53	0	493	0	0	0
15	SLV FO 3	49	-15	395	0	0	0
15	SLV FO 4	54	-12	396	0	0	0
15	SLV FO 5	23	10	617	0	0	0
15	SLV FO 6	26	12	617	0	0	0
15	SLV FO 7	27	-29	295	0	0	0
15	SLV FO 8	30	-27	296	0	0	0
15	SLV FO 9	2	9	627	0	0	0
15	SLV FO 10	5	11	628	0	0	0
15	SLV FO 11	6	-30	306	0	0	0
15	SLV FO 12	9	-28	307	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLV FO 13	-22	-6	527	0	0	0
15	SLV FO 14	-17	-3	528	0	0	0
15	SLV FO 15	-21	-18	431	0	0	0
15	SLV FO 16	-16	-15	432	0	0	0
16	SLU 1	15	-8	432	0	0	0
16	SLU 2	15	-8	435	0	0	0
16	SLU 3	15	-8	440	0	0	0
16	SLU 4	15	-8	442	0	0	0
16	SLU 5	15	-7	440	0	0	0
16	SLU 6	15	-8	445	0	0	0
16	SLU 7	15	-7	447	0	0	0
16	SLU 8	15	-8	442	0	0	0
16	SLU 9	15	-8	444	0	0	0
16	SLU 10	16	-8	490	0	0	0
16	SLU 11	16	-9	495	0	0	0
16	SLU 12	16	-8	497	0	0	0
16	SLU 13	16	-8	495	0	0	0
16	SLU 14	16	-9	500	0	0	0
16	SLU 15	16	-8	502	0	0	0
16	SLU 16	16	-9	497	0	0	0
16	SLU 17	16	-8	499	0	0	0
16	SLU 18	16	-9	510	0	0	0
16	SLU 19	16	-9	512	0	0	0
16	SLU 20	16	-9	515	0	0	0
16	SLU 21	16	-9	517	0	0	0
16	SLU 22	17	-8	493	0	0	0
16	SLU 23	17	-7	496	0	0	0
16	SLU 24	17	-8	501	0	0	0
16	SLU 25	17	-7	503	0	0	0
16	SLU 26	17	-7	501	0	0	0
16	SLU 27	17	-7	506	0	0	0
16	SLU 28	17	-7	508	0	0	0
16	SLU 29	17	-8	503	0	0	0
16	SLU 30	17	-7	504	0	0	0
16	SLU 31	18	-8	551	0	0	0
16	SLU 32	18	-8	556	0	0	0
16	SLU 33	18	-8	558	0	0	0
16	SLU 34	18	-8	556	0	0	0
16	SLU 35	18	-8	561	0	0	0
16	SLU 36	18	-8	563	0	0	0
16	SLU 37	18	-8	558	0	0	0
16	SLU 38	18	-8	559	0	0	0
16	SLU 39	18	-9	571	0	0	0
16	SLU 40	18	-9	573	0	0	0
16	SLU 41	18	-9	576	0	0	0
16	SLU 42	18	-8	578	0	0	0
16	SLU 43	19	-11	541	0	0	0
16	SLU 44	19	-10	544	0	0	0
16	SLU 45	19	-11	549	0	0	0
16	SLU 46	19	-10	551	0	0	0
16	SLU 47	19	-10	549	0	0	0
16	SLU 48	19	-11	554	0	0	0
16	SLU 49	19	-10	555	0	0	0
16	SLU 50	19	-11	550	0	0	0
16	SLU 51	19	-10	552	0	0	0
16	SLU 52	20	-11	599	0	0	0
16	SLU 53	20	-11	604	0	0	0
16	SLU 54	20	-11	606	0	0	0
16	SLU 55	20	-11	604	0	0	0
16	SLU 56	20	-11	609	0	0	0
16	SLU 57	20	-11	610	0	0	0
16	SLU 58	20	-11	605	0	0	0
16	SLU 59	20	-11	607	0	0	0
16	SLU 60	20	-12	619	0	0	0
16	SLU 61	20	-12	621	0	0	0
16	SLU 62	20	-12	624	0	0	0
16	SLU 63	20	-11	626	0	0	0
16	SLU 64	21	-11	601	0	0	0
16	SLU 65	21	-10	605	0	0	0
16	SLU 66	21	-10	610	0	0	0
16	SLU 67	21	-10	611	0	0	0
16	SLU 68	21	-10	610	0	0	0
16	SLU 69	21	-10	614	0	0	0
16	SLU 70	21	-10	616	0	0	0
16	SLU 71	21	-10	611	0	0	0
16	SLU 72	21	-10	613	0	0	0
16	SLU 73	22	-11	660	0	0	0
16	SLU 74	22	-11	665	0	0	0
16	SLU 75	22	-11	666	0	0	0
16	SLU 76	22	-10	664	0	0	0
16	SLU 77	22	-11	669	0	0	0
16	SLU 78	22	-10	671	0	0	0
16	SLU 79	22	-11	666	0	0	0
16	SLU 80	22	-10	668	0	0	0
16	SLU 81	22	-12	680	0	0	0
16	SLU 82	22	-11	682	0	0	0
16	SLU 83	22	-11	685	0	0	0
16	SLU 84	22	-11	687	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
16	SLE RA 1	16	-8	449	0	0	0
16	SLE RA 2	16	-8	451	0	0	0
16	SLE RA 3	16	-8	455	0	0	0
16	SLE RA 4	16	-8	456	0	0	0
16	SLE RA 5	16	-8	455	0	0	0
16	SLE RA 6	16	-8	458	0	0	0
16	SLE RA 7	16	-8	459	0	0	0
16	SLE RA 8	16	-8	456	0	0	0
16	SLE RA 9	16	-8	457	0	0	0
16	SLE RA 10	16	-8	488	0	0	0
16	SLE RA 11	16	-9	491	0	0	0
16	SLE RA 12	16	-8	493	0	0	0
16	SLE RA 13	16	-8	491	0	0	0
16	SLE RA 14	16	-8	495	0	0	0
16	SLE RA 15	16	-8	496	0	0	0
16	SLE RA 16	16	-8	492	0	0	0
16	SLE RA 17	16	-8	494	0	0	0
16	SLE RA 18	16	-9	502	0	0	0
16	SLE RA 19	16	-9	503	0	0	0
16	SLE RA 20	16	-9	505	0	0	0
16	SLE RA 21	16	-8	506	0	0	0
16	SLE FR 1	16	-8	449	0	0	0
16	SLE FR 2	16	-8	450	0	0	0
16	SLE FR 3	16	-8	451	0	0	0
16	SLE FR 4	16	-8	465	0	0	0
16	SLE FR 5	16	-8	466	0	0	0
16	SLE FR 6	16	-9	475	0	0	0
16	SLE QP 1	16	-8	449	0	0	0
16	SLE QP 2	16	-8	465	0	0	0
16	SLD 1	34	-6	476	0	0	0
16	SLD 2	37	-4	476	0	0	0
16	SLD 3	35	-12	425	0	0	0
16	SLD 4	38	-10	425	0	0	0
16	SLD 5	20	1	546	0	0	0
16	SLD 6	22	2	546	0	0	0
16	SLD 7	22	-19	375	0	0	0
16	SLD 8	24	-17	375	0	0	0
16	SLD 9	8	1	555	0	0	0
16	SLD 10	10	2	555	0	0	0
16	SLD 11	10	-19	384	0	0	0
16	SLD 12	12	-18	384	0	0	0
16	SLD 13	-6	-7	505	0	0	0
16	SLD 14	-4	-5	505	0	0	0
16	SLD 15	-6	-13	454	0	0	0
16	SLD 16	-3	-11	454	0	0	0
16	SLV 1	45	-4	485	0	0	0
16	SLV 2	49	-1	486	0	0	0
16	SLV 3	46	-14	399	0	0	0
16	SLV 4	50	-11	399	0	0	0
16	SLV 5	22	8	603	0	0	0
16	SLV 6	25	10	603	0	0	0
16	SLV 7	26	-26	313	0	0	0
16	SLV 8	29	-24	314	0	0	0
16	SLV 9	3	7	616	0	0	0
16	SLV 10	6	9	617	0	0	0
16	SLV 11	7	-27	327	0	0	0
16	SLV 12	9	-25	327	0	0	0
16	SLV 13	-19	-6	531	0	0	0
16	SLV 14	-14	-3	531	0	0	0
16	SLV 15	-18	-16	444	0	0	0
16	SLV 16	-13	-13	445	0	0	0
16	SLV FO 1	48	-3	487	0	0	0
16	SLV FO 2	53	0	488	0	0	0
16	SLV FO 3	49	-14	392	0	0	0
16	SLV FO 4	54	-11	393	0	0	0
16	SLV FO 5	23	9	616	0	0	0
16	SLV FO 6	26	12	617	0	0	0
16	SLV FO 7	27	-28	298	0	0	0
16	SLV FO 8	30	-25	299	0	0	0
16	SLV FO 9	2	8	631	0	0	0
16	SLV FO 10	5	11	632	0	0	0
16	SLV FO 11	6	-29	313	0	0	0
16	SLV FO 12	9	-26	314	0	0	0
16	SLV FO 13	-22	-6	537	0	0	0
16	SLV FO 14	-18	-3	538	0	0	0
16	SLV FO 15	-21	-17	442	0	0	0
16	SLV FO 16	-16	-14	443	0	0	0
17	SLU 1	20	-10	566	0	0	0
17	SLU 2	20	-9	570	0	0	0
17	SLU 3	20	-10	577	0	0	0
17	SLU 4	20	-9	579	0	0	0
17	SLU 5	20	-9	577	0	0	0
17	SLU 6	20	-10	583	0	0	0
17	SLU 7	20	-9	586	0	0	0
17	SLU 8	20	-10	579	0	0	0
17	SLU 9	20	-9	582	0	0	0
17	SLU 10	21	-10	642	0	0	0
17	SLU 11	21	-11	649	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLU 12	21	-10	651	0	0	0
17	SLU 13	21	-10	648	0	0	0
17	SLU 14	21	-10	655	0	0	0
17	SLU 15	21	-10	657	0	0	0
17	SLU 16	21	-10	651	0	0	0
17	SLU 17	21	-10	653	0	0	0
17	SLU 18	21	-11	669	0	0	0
17	SLU 19	21	-11	671	0	0	0
17	SLU 20	21	-11	675	0	0	0
17	SLU 21	21	-11	678	0	0	0
17	SLU 22	22	-10	646	0	0	0
17	SLU 23	22	-9	650	0	0	0
17	SLU 24	22	-9	657	0	0	0
17	SLU 25	22	-9	659	0	0	0
17	SLU 26	22	-9	656	0	0	0
17	SLU 27	22	-9	663	0	0	0
17	SLU 28	22	-9	665	0	0	0
17	SLU 29	22	-9	659	0	0	0
17	SLU 30	22	-9	661	0	0	0
17	SLU 31	23	-10	722	0	0	0
17	SLU 32	23	-10	728	0	0	0
17	SLU 33	23	-10	731	0	0	0
17	SLU 34	23	-9	728	0	0	0
17	SLU 35	23	-10	735	0	0	0
17	SLU 36	23	-9	737	0	0	0
17	SLU 37	23	-10	730	0	0	0
17	SLU 38	23	-9	733	0	0	0
17	SLU 39	23	-11	748	0	0	0
17	SLU 40	23	-10	751	0	0	0
17	SLU 41	23	-11	755	0	0	0
17	SLU 42	23	-10	757	0	0	0
17	SLU 43	25	-13	709	0	0	0
17	SLU 44	25	-13	713	0	0	0
17	SLU 45	25	-13	720	0	0	0
17	SLU 46	25	-13	722	0	0	0
17	SLU 47	25	-12	719	0	0	0
17	SLU 48	25	-13	726	0	0	0
17	SLU 49	25	-12	728	0	0	0
17	SLU 50	25	-13	722	0	0	0
17	SLU 51	25	-12	724	0	0	0
17	SLU 52	26	-13	785	0	0	0
17	SLU 53	26	-14	791	0	0	0
17	SLU 54	26	-13	794	0	0	0
17	SLU 55	26	-13	791	0	0	0
17	SLU 56	26	-14	798	0	0	0
17	SLU 57	26	-13	800	0	0	0
17	SLU 58	26	-14	793	0	0	0
17	SLU 59	26	-13	796	0	0	0
17	SLU 60	27	-15	811	0	0	0
17	SLU 61	27	-14	814	0	0	0
17	SLU 62	27	-14	818	0	0	0
17	SLU 63	27	-14	820	0	0	0
17	SLU 64	27	-13	789	0	0	0
17	SLU 65	27	-12	793	0	0	0
17	SLU 66	27	-13	799	0	0	0
17	SLU 67	27	-12	802	0	0	0
17	SLU 68	27	-12	799	0	0	0
17	SLU 69	27	-12	806	0	0	0
17	SLU 70	27	-12	808	0	0	0
17	SLU 71	27	-12	801	0	0	0
17	SLU 72	27	-12	804	0	0	0
17	SLU 73	28	-13	864	0	0	0
17	SLU 74	28	-13	871	0	0	0
17	SLU 75	28	-13	873	0	0	0
17	SLU 76	28	-13	871	0	0	0
17	SLU 77	28	-13	877	0	0	0
17	SLU 78	28	-13	880	0	0	0
17	SLU 79	28	-13	873	0	0	0
17	SLU 80	28	-13	875	0	0	0
17	SLU 81	29	-14	891	0	0	0
17	SLU 82	29	-14	893	0	0	0
17	SLU 83	29	-14	897	0	0	0
17	SLU 84	29	-13	900	0	0	0
17	SLE RA 1	20	-10	589	0	0	0
17	SLE RA 2	20	-9	592	0	0	0
17	SLE RA 3	20	-10	596	0	0	0
17	SLE RA 4	20	-9	598	0	0	0
17	SLE RA 5	20	-9	596	0	0	0
17	SLE RA 6	20	-10	600	0	0	0
17	SLE RA 7	20	-9	602	0	0	0
17	SLE RA 8	20	-10	598	0	0	0
17	SLE RA 9	20	-9	599	0	0	0
17	SLE RA 10	21	-10	640	0	0	0
17	SLE RA 11	21	-10	644	0	0	0
17	SLE RA 12	21	-10	646	0	0	0
17	SLE RA 13	21	-10	644	0	0	0
17	SLE RA 14	21	-10	648	0	0	0
17	SLE RA 15	21	-10	650	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLE RA 16	21	-10	645	0	0	0
17	SLE RA 17	21	-10	647	0	0	0
17	SLE RA 18	21	-11	657	0	0	0
17	SLE RA 19	21	-10	659	0	0	0
17	SLE RA 20	21	-11	662	0	0	0
17	SLE RA 21	21	-10	663	0	0	0
17	SLE FR 1	20	-10	589	0	0	0
17	SLE FR 2	20	-10	590	0	0	0
17	SLE FR 3	20	-10	591	0	0	0
17	SLE FR 4	21	-10	610	0	0	0
17	SLE FR 5	21	-10	611	0	0	0
17	SLE FR 6	21	-10	623	0	0	0
17	SLE QP 1	20	-10	589	0	0	0
17	SLE QP 2	21	-10	610	0	0	0
17	SLD 1	45	-7	618	0	0	0
17	SLD 2	48	-4	619	0	0	0
17	SLD 3	46	-15	552	0	0	0
17	SLD 4	49	-12	552	0	0	0
17	SLD 5	26	1	713	0	0	0
17	SLD 6	28	3	713	0	0	0
17	SLD 7	29	-23	492	0	0	0
17	SLD 8	31	-21	492	0	0	0
17	SLD 9	10	1	727	0	0	0
17	SLD 10	12	3	728	0	0	0
17	SLD 11	13	-24	506	0	0	0
17	SLD 12	15	-22	506	0	0	0
17	SLD 13	-8	-9	667	0	0	0
17	SLD 14	-5	-6	667	0	0	0
17	SLD 15	-7	-16	601	0	0	0
17	SLD 16	-4	-13	601	0	0	0
17	SLV 1	59	-5	627	0	0	0
17	SLV 2	64	0	628	0	0	0
17	SLV 3	60	-17	515	0	0	0
17	SLV 4	66	-13	516	0	0	0
17	SLV 5	29	10	785	0	0	0
17	SLV 6	33	13	785	0	0	0
17	SLV 7	33	-33	411	0	0	0
17	SLV 8	37	-29	412	0	0	0
17	SLV 9	4	9	808	0	0	0
17	SLV 10	8	12	808	0	0	0
17	SLV 11	9	-33	434	0	0	0
17	SLV 12	12	-30	434	0	0	0
17	SLV 13	-24	-8	703	0	0	0
17	SLV 14	-19	-3	704	0	0	0
17	SLV 15	-23	-21	591	0	0	0
17	SLV 16	-18	-16	592	0	0	0
17	SLV FO 1	62	-4	629	0	0	0
17	SLV FO 2	69	1	630	0	0	0
17	SLV FO 3	64	-18	506	0	0	0
17	SLV FO 4	70	-13	506	0	0	0
17	SLV FO 5	30	12	802	0	0	0
17	SLV FO 6	34	15	803	0	0	0
17	SLV FO 7	35	-35	391	0	0	0
17	SLV FO 8	39	-31	392	0	0	0
17	SLV FO 9	2	11	827	0	0	0
17	SLV FO 10	6	14	828	0	0	0
17	SLV FO 11	7	-36	416	0	0	0
17	SLV FO 12	11	-32	417	0	0	0
17	SLV FO 13	-29	-8	713	0	0	0
17	SLV FO 14	-23	-2	714	0	0	0
17	SLV FO 15	-27	-22	590	0	0	0
17	SLV FO 16	-21	-16	590	0	0	0
18	SLU 1	12	-6	352	0	0	0
18	SLU 2	12	-5	354	0	0	0
18	SLU 3	12	-5	358	0	0	0
18	SLU 4	12	-5	360	0	0	0
18	SLU 5	12	-5	358	0	0	0
18	SLU 6	12	-5	362	0	0	0
18	SLU 7	12	-5	363	0	0	0
18	SLU 8	12	-5	359	0	0	0
18	SLU 9	12	-5	361	0	0	0
18	SLU 10	13	-6	398	0	0	0
18	SLU 11	13	-6	402	0	0	0
18	SLU 12	13	-6	404	0	0	0
18	SLU 13	13	-5	402	0	0	0
18	SLU 14	13	-6	406	0	0	0
18	SLU 15	13	-5	407	0	0	0
18	SLU 16	13	-6	403	0	0	0
18	SLU 17	13	-5	405	0	0	0
18	SLU 18	13	-6	414	0	0	0
18	SLU 19	13	-6	416	0	0	0
18	SLU 20	13	-6	418	0	0	0
18	SLU 21	13	-6	420	0	0	0
18	SLU 22	13	-5	401	0	0	0
18	SLU 23	13	-5	403	0	0	0
18	SLU 24	13	-5	407	0	0	0
18	SLU 25	13	-5	409	0	0	0
18	SLU 26	13	-5	407	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
18	SLU 27	13	-5	411	0	0	0
18	SLU 28	13	-5	413	0	0	0
18	SLU 29	13	-5	408	0	0	0
18	SLU 30	13	-5	410	0	0	0
18	SLU 31	14	-5	447	0	0	0
18	SLU 32	14	-5	451	0	0	0
18	SLU 33	14	-5	453	0	0	0
18	SLU 34	14	-5	451	0	0	0
18	SLU 35	14	-5	455	0	0	0
18	SLU 36	14	-5	457	0	0	0
18	SLU 37	14	-5	452	0	0	0
18	SLU 38	14	-5	454	0	0	0
18	SLU 39	14	-6	464	0	0	0
18	SLU 40	14	-6	465	0	0	0
18	SLU 41	14	-6	467	0	0	0
18	SLU 42	14	-5	469	0	0	0
18	SLU 43	15	-7	440	0	0	0
18	SLU 44	15	-7	443	0	0	0
18	SLU 45	15	-7	447	0	0	0
18	SLU 46	15	-7	448	0	0	0
18	SLU 47	15	-7	447	0	0	0
18	SLU 48	15	-7	451	0	0	0
18	SLU 49	15	-7	452	0	0	0
18	SLU 50	15	-7	448	0	0	0
18	SLU 51	15	-7	449	0	0	0
18	SLU 52	16	-7	487	0	0	0
18	SLU 53	16	-8	491	0	0	0
18	SLU 54	16	-7	492	0	0	0
18	SLU 55	16	-7	491	0	0	0
18	SLU 56	16	-7	495	0	0	0
18	SLU 57	16	-7	496	0	0	0
18	SLU 58	16	-8	492	0	0	0
18	SLU 59	16	-7	493	0	0	0
18	SLU 60	16	-8	503	0	0	0
18	SLU 61	16	-8	505	0	0	0
18	SLU 62	16	-8	507	0	0	0
18	SLU 63	16	-8	508	0	0	0
18	SLU 64	17	-7	489	0	0	0
18	SLU 65	17	-7	492	0	0	0
18	SLU 66	17	-7	496	0	0	0
18	SLU 67	17	-7	497	0	0	0
18	SLU 68	17	-6	496	0	0	0
18	SLU 69	17	-7	500	0	0	0
18	SLU 70	17	-6	501	0	0	0
18	SLU 71	17	-7	497	0	0	0
18	SLU 72	17	-6	499	0	0	0
18	SLU 73	17	-7	536	0	0	0
18	SLU 74	17	-7	540	0	0	0
18	SLU 75	17	-7	541	0	0	0
18	SLU 76	17	-7	540	0	0	0
18	SLU 77	17	-7	544	0	0	0
18	SLU 78	17	-7	545	0	0	0
18	SLU 79	17	-7	541	0	0	0
18	SLU 80	17	-7	543	0	0	0
18	SLU 81	18	-8	552	0	0	0
18	SLU 82	18	-7	554	0	0	0
18	SLU 83	18	-8	556	0	0	0
18	SLU 84	18	-7	558	0	0	0
18	SLE RA 1	12	-5	366	0	0	0
18	SLE RA 2	12	-5	367	0	0	0
18	SLE RA 3	12	-5	370	0	0	0
18	SLE RA 4	12	-5	371	0	0	0
18	SLE RA 5	12	-5	370	0	0	0
18	SLE RA 6	13	-5	373	0	0	0
18	SLE RA 7	12	-5	374	0	0	0
18	SLE RA 8	12	-5	371	0	0	0
18	SLE RA 9	12	-5	372	0	0	0
18	SLE RA 10	13	-5	397	0	0	0
18	SLE RA 11	13	-6	399	0	0	0
18	SLE RA 12	13	-5	400	0	0	0
18	SLE RA 13	13	-5	399	0	0	0
18	SLE RA 14	13	-6	402	0	0	0
18	SLE RA 15	13	-5	403	0	0	0
18	SLE RA 16	13	-6	400	0	0	0
18	SLE RA 17	13	-5	401	0	0	0
18	SLE RA 18	13	-6	408	0	0	0
18	SLE RA 19	13	-6	409	0	0	0
18	SLE RA 20	13	-6	410	0	0	0
18	SLE RA 21	13	-6	411	0	0	0
18	SLE FR 1	12	-5	366	0	0	0
18	SLE FR 2	12	-5	366	0	0	0
18	SLE FR 3	12	-5	367	0	0	0
18	SLE FR 4	13	-6	379	0	0	0
18	SLE FR 5	13	-6	379	0	0	0
18	SLE FR 6	13	-6	387	0	0	0
18	SLE QP 1	12	-5	366	0	0	0
18	SLE QP 2	13	-6	378	0	0	0
18	SLD 1	28	-5	378	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
18	SLD 2	30	-3	378	0	0	0
18	SLD 3	28	-9	338	0	0	0
18	SLD 4	30	-7	338	0	0	0
18	SLD 5	16	1	439	0	0	0
18	SLD 6	17	2	439	0	0	0
18	SLD 7	18	-14	305	0	0	0
18	SLD 8	19	-12	305	0	0	0
18	SLD 9	6	1	452	0	0	0
18	SLD 10	8	2	452	0	0	0
18	SLD 11	8	-13	317	0	0	0
18	SLD 12	9	-12	317	0	0	0
18	SLD 13	-5	-4	419	0	0	0
18	SLD 14	-3	-2	419	0	0	0
18	SLD 15	-5	-8	378	0	0	0
18	SLD 16	-2	-6	378	0	0	0
18	SLV 1	36	-5	380	0	0	0
18	SLV 2	40	-1	380	0	0	0
18	SLV 3	37	-12	312	0	0	0
18	SLV 4	40	-8	312	0	0	0
18	SLV 5	18	5	482	0	0	0
18	SLV 6	20	8	482	0	0	0
18	SLV 7	21	-19	255	0	0	0
18	SLV 8	23	-17	255	0	0	0
18	SLV 9	2	6	501	0	0	0
18	SLV 10	5	8	501	0	0	0
18	SLV 11	5	-19	274	0	0	0
18	SLV 12	8	-16	274	0	0	0
18	SLV 13	-15	-3	444	0	0	0
18	SLV 14	-12	1	444	0	0	0
18	SLV 15	-14	-10	376	0	0	0
18	SLV 16	-11	-7	376	0	0	0
18	SLV FO 1	38	-5	381	0	0	0
18	SLV FO 2	42	-1	381	0	0	0
18	SLV FO 3	39	-13	306	0	0	0
18	SLV FO 4	43	-9	306	0	0	0
18	SLV FO 5	18	6	493	0	0	0
18	SLV FO 6	21	9	493	0	0	0
18	SLV FO 7	21	-21	243	0	0	0
18	SLV FO 8	24	-18	243	0	0	0
18	SLV FO 9	1	7	514	0	0	0
18	SLV FO 10	4	9	514	0	0	0
18	SLV FO 11	4	-20	264	0	0	0
18	SLV FO 12	7	-17	264	0	0	0
18	SLV FO 13	-18	-3	451	0	0	0
18	SLV FO 14	-14	1	451	0	0	0
18	SLV FO 15	-17	-11	376	0	0	0
18	SLV FO 16	-13	-7	376	0	0	0
19	SLU 1	24	-19	674	0	0	0
19	SLU 2	24	-18	678	0	0	0
19	SLU 3	24	-18	688	0	0	0
19	SLU 4	24	-18	690	0	0	0
19	SLU 5	24	-17	687	0	0	0
19	SLU 6	24	-18	696	0	0	0
19	SLU 7	24	-17	699	0	0	0
19	SLU 8	24	-18	691	0	0	0
19	SLU 9	24	-17	694	0	0	0
19	SLU 10	25	-19	768	0	0	0
19	SLU 11	26	-20	777	0	0	0
19	SLU 12	26	-19	779	0	0	0
19	SLU 13	25	-19	776	0	0	0
19	SLU 14	26	-20	786	0	0	0
19	SLU 15	26	-19	788	0	0	0
19	SLU 16	25	-20	780	0	0	0
19	SLU 17	25	-19	783	0	0	0
19	SLU 18	26	-21	802	0	0	0
19	SLU 19	26	-20	804	0	0	0
19	SLU 20	26	-21	810	0	0	0
19	SLU 21	26	-20	813	0	0	0
19	SLU 22	26	-19	772	0	0	0
19	SLU 23	26	-17	776	0	0	0
19	SLU 24	27	-18	786	0	0	0
19	SLU 25	27	-17	788	0	0	0
19	SLU 26	26	-17	785	0	0	0
19	SLU 27	27	-18	794	0	0	0
19	SLU 28	27	-17	797	0	0	0
19	SLU 29	26	-18	789	0	0	0
19	SLU 30	26	-17	792	0	0	0
19	SLU 31	28	-19	866	0	0	0
19	SLU 32	28	-20	875	0	0	0
19	SLU 33	28	-19	878	0	0	0
19	SLU 34	28	-18	874	0	0	0
19	SLU 35	28	-19	884	0	0	0
19	SLU 36	28	-19	886	0	0	0
19	SLU 37	28	-19	879	0	0	0
19	SLU 38	28	-19	881	0	0	0
19	SLU 39	29	-21	900	0	0	0
19	SLU 40	29	-20	902	0	0	0
19	SLU 41	29	-20	908	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
19	SLU 42	29	-20	911	0	0	0
19	SLU 43	30	-25	843	0	0	0
19	SLU 44	30	-23	847	0	0	0
19	SLU 45	30	-24	856	0	0	0
19	SLU 46	30	-23	859	0	0	0
19	SLU 47	30	-23	855	0	0	0
19	SLU 48	30	-24	865	0	0	0
19	SLU 49	30	-23	867	0	0	0
19	SLU 50	30	-24	860	0	0	0
19	SLU 51	30	-23	862	0	0	0
19	SLU 52	32	-25	936	0	0	0
19	SLU 53	32	-26	946	0	0	0
19	SLU 54	32	-25	948	0	0	0
19	SLU 55	32	-25	945	0	0	0
19	SLU 56	32	-25	954	0	0	0
19	SLU 57	32	-25	957	0	0	0
19	SLU 58	32	-25	949	0	0	0
19	SLU 59	32	-25	952	0	0	0
19	SLU 60	32	-27	970	0	0	0
19	SLU 61	32	-26	973	0	0	0
19	SLU 62	32	-26	979	0	0	0
19	SLU 63	32	-26	981	0	0	0
19	SLU 64	33	-24	941	0	0	0
19	SLU 65	33	-23	945	0	0	0
19	SLU 66	33	-24	954	0	0	0
19	SLU 67	33	-23	957	0	0	0
19	SLU 68	33	-23	954	0	0	0
19	SLU 69	33	-23	963	0	0	0
19	SLU 70	33	-23	965	0	0	0
19	SLU 71	33	-23	958	0	0	0
19	SLU 72	33	-23	960	0	0	0
19	SLU 73	34	-25	1034	0	0	0
19	SLU 74	34	-25	1044	0	0	0
19	SLU 75	34	-25	1046	0	0	0
19	SLU 76	34	-24	1043	0	0	0
19	SLU 77	34	-25	1052	0	0	0
19	SLU 78	34	-24	1055	0	0	0
19	SLU 79	34	-25	1047	0	0	0
19	SLU 80	34	-24	1050	0	0	0
19	SLU 81	35	-27	1068	0	0	0
19	SLU 82	35	-26	1071	0	0	0
19	SLU 83	35	-26	1077	0	0	0
19	SLU 84	35	-25	1079	0	0	0
19	SLE RA 1	25	-19	702	0	0	0
19	SLE RA 2	25	-18	705	0	0	0
19	SLE RA 3	25	-18	711	0	0	0
19	SLE RA 4	25	-18	713	0	0	0
19	SLE RA 5	25	-18	711	0	0	0
19	SLE RA 6	25	-18	717	0	0	0
19	SLE RA 7	25	-18	719	0	0	0
19	SLE RA 8	25	-18	714	0	0	0
19	SLE RA 9	25	-18	715	0	0	0
19	SLE RA 10	26	-19	764	0	0	0
19	SLE RA 11	26	-20	771	0	0	0
19	SLE RA 12	26	-19	772	0	0	0
19	SLE RA 13	26	-19	770	0	0	0
19	SLE RA 14	26	-19	776	0	0	0
19	SLE RA 15	26	-19	778	0	0	0
19	SLE RA 16	26	-19	773	0	0	0
19	SLE RA 17	26	-19	775	0	0	0
19	SLE RA 18	26	-20	787	0	0	0
19	SLE RA 19	26	-20	789	0	0	0
19	SLE RA 20	26	-20	793	0	0	0
19	SLE RA 21	26	-19	795	0	0	0
19	SLE FR 1	25	-19	702	0	0	0
19	SLE FR 2	25	-19	703	0	0	0
19	SLE FR 3	25	-19	704	0	0	0
19	SLE FR 4	25	-19	728	0	0	0
19	SLE FR 5	25	-19	730	0	0	0
19	SLE FR 6	25	-19	745	0	0	0
19	SLE QP 1	25	-19	702	0	0	0
19	SLE QP 2	25	-19	728	0	0	0
19	SLD 1	57	-11	780	0	0	0
19	SLD 2	61	-11	782	0	0	0
19	SLD 3	57	-23	709	0	0	0
19	SLD 4	61	-22	711	0	0	0
19	SLD 5	33	1	850	0	0	0
19	SLD 6	35	1	851	0	0	0
19	SLD 7	35	-38	615	0	0	0
19	SLD 8	37	-38	616	0	0	0
19	SLD 9	13	0	839	0	0	0
19	SLD 10	15	0	840	0	0	0
19	SLD 11	15	-40	604	0	0	0
19	SLD 12	17	-40	606	0	0	0
19	SLD 13	-11	-16	744	0	0	0
19	SLD 14	-7	-16	746	0	0	0
19	SLD 15	-11	-28	673	0	0	0
19	SLD 16	-7	-28	676	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
19	SLV 1	75	-5	813	0	0	0
19	SLV 2	81	-5	817	0	0	0
19	SLV 3	76	-25	694	0	0	0
19	SLV 4	82	-25	698	0	0	0
19	SLV 5	37	15	933	0	0	0
19	SLV 6	41	16	936	0	0	0
19	SLV 7	41	-52	536	0	0	0
19	SLV 8	44	-51	539	0	0	0
19	SLV 9	5	13	916	0	0	0
19	SLV 10	9	13	919	0	0	0
19	SLV 11	9	-54	520	0	0	0
19	SLV 12	13	-54	522	0	0	0
19	SLV 13	-32	-13	757	0	0	0
19	SLV 14	-26	-13	761	0	0	0
19	SLV 15	-31	-33	638	0	0	0
19	SLV 16	-25	-33	642	0	0	0
19	SLV FO 1	80	-4	822	0	0	0
19	SLV FO 2	86	-4	826	0	0	0
19	SLV FO 3	81	-26	691	0	0	0
19	SLV FO 4	87	-26	695	0	0	0
19	SLV FO 5	39	19	954	0	0	0
19	SLV FO 6	43	19	956	0	0	0
19	SLV FO 7	42	-55	517	0	0	0
19	SLV FO 8	46	-55	520	0	0	0
19	SLV FO 9	4	16	935	0	0	0
19	SLV FO 10	8	16	938	0	0	0
19	SLV FO 11	7	-58	499	0	0	0
19	SLV FO 12	11	-57	501	0	0	0
19	SLV FO 13	-37	-13	760	0	0	0
19	SLV FO 14	-31	-12	764	0	0	0
19	SLV FO 15	-36	-35	629	0	0	0
19	SLV FO 16	-30	-34	633	0	0	0
20	SLU 1	39	-28	1118	0	0	0
20	SLU 2	39	-26	1125	0	0	0
20	SLU 3	39	-28	1141	0	0	0
20	SLU 4	39	-27	1145	0	0	0
20	SLU 5	39	-26	1139	0	0	0
20	SLU 6	39	-27	1155	0	0	0
20	SLU 7	39	-26	1159	0	0	0
20	SLU 8	39	-27	1146	0	0	0
20	SLU 9	39	-26	1150	0	0	0
20	SLU 10	41	-29	1272	0	0	0
20	SLU 11	42	-30	1287	0	0	0
20	SLU 12	42	-29	1292	0	0	0
20	SLU 13	41	-28	1286	0	0	0
20	SLU 14	42	-29	1301	0	0	0
20	SLU 15	42	-28	1306	0	0	0
20	SLU 16	41	-29	1293	0	0	0
20	SLU 17	41	-28	1297	0	0	0
20	SLU 18	42	-32	1328	0	0	0
20	SLU 19	42	-31	1332	0	0	0
20	SLU 20	42	-31	1342	0	0	0
20	SLU 21	42	-30	1346	0	0	0
20	SLU 22	43	-28	1280	0	0	0
20	SLU 23	43	-26	1287	0	0	0
20	SLU 24	43	-27	1303	0	0	0
20	SLU 25	43	-26	1307	0	0	0
20	SLU 26	43	-25	1301	0	0	0
20	SLU 27	43	-26	1317	0	0	0
20	SLU 28	43	-25	1321	0	0	0
20	SLU 29	43	-26	1308	0	0	0
20	SLU 30	43	-25	1312	0	0	0
20	SLU 31	46	-28	1434	0	0	0
20	SLU 32	46	-29	1450	0	0	0
20	SLU 33	46	-28	1454	0	0	0
20	SLU 34	46	-27	1448	0	0	0
20	SLU 35	46	-29	1463	0	0	0
20	SLU 36	46	-28	1468	0	0	0
20	SLU 37	46	-29	1455	0	0	0
20	SLU 38	46	-28	1459	0	0	0
20	SLU 39	47	-31	1490	0	0	0
20	SLU 40	47	-30	1494	0	0	0
20	SLU 41	47	-30	1504	0	0	0
20	SLU 42	47	-29	1508	0	0	0
20	SLU 43	49	-37	1398	0	0	0
20	SLU 44	49	-35	1405	0	0	0
20	SLU 45	49	-36	1421	0	0	0
20	SLU 46	49	-35	1425	0	0	0
20	SLU 47	49	-34	1419	0	0	0
20	SLU 48	49	-36	1435	0	0	0
20	SLU 49	49	-35	1439	0	0	0
20	SLU 50	49	-36	1426	0	0	0
20	SLU 51	49	-35	1430	0	0	0
20	SLU 52	51	-37	1552	0	0	0
20	SLU 53	52	-39	1567	0	0	0
20	SLU 54	52	-38	1572	0	0	0
20	SLU 55	52	-37	1566	0	0	0
20	SLU 56	52	-38	1581	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
20	SLU 57	52	-37	1586	0	0	0
20	SLU 58	52	-38	1573	0	0	0
20	SLU 59	52	-37	1577	0	0	0
20	SLU 60	53	-40	1608	0	0	0
20	SLU 61	53	-39	1612	0	0	0
20	SLU 62	53	-40	1622	0	0	0
20	SLU 63	53	-39	1626	0	0	0
20	SLU 64	53	-36	1560	0	0	0
20	SLU 65	53	-34	1567	0	0	0
20	SLU 66	54	-36	1583	0	0	0
20	SLU 67	54	-35	1587	0	0	0
20	SLU 68	53	-34	1581	0	0	0
20	SLU 69	54	-35	1597	0	0	0
20	SLU 70	54	-34	1601	0	0	0
20	SLU 71	53	-35	1588	0	0	0
20	SLU 72	53	-34	1592	0	0	0
20	SLU 73	56	-37	1714	0	0	0
20	SLU 74	56	-38	1729	0	0	0
20	SLU 75	56	-37	1734	0	0	0
20	SLU 76	56	-36	1728	0	0	0
20	SLU 77	56	-37	1743	0	0	0
20	SLU 78	56	-36	1748	0	0	0
20	SLU 79	56	-37	1735	0	0	0
20	SLU 80	56	-36	1739	0	0	0
20	SLU 81	57	-40	1770	0	0	0
20	SLU 82	57	-39	1774	0	0	0
20	SLU 83	57	-39	1784	0	0	0
20	SLU 84	57	-38	1788	0	0	0
20	SLE RA 1	40	-28	1165	0	0	0
20	SLE RA 2	40	-27	1169	0	0	0
20	SLE RA 3	40	-28	1180	0	0	0
20	SLE RA 4	40	-27	1182	0	0	0
20	SLE RA 5	40	-26	1179	0	0	0
20	SLE RA 6	40	-27	1189	0	0	0
20	SLE RA 7	40	-27	1192	0	0	0
20	SLE RA 8	40	-27	1183	0	0	0
20	SLE RA 9	40	-27	1186	0	0	0
20	SLE RA 10	42	-28	1267	0	0	0
20	SLE RA 11	42	-29	1277	0	0	0
20	SLE RA 12	42	-29	1280	0	0	0
20	SLE RA 13	42	-28	1276	0	0	0
20	SLE RA 14	42	-29	1287	0	0	0
20	SLE RA 15	42	-28	1289	0	0	0
20	SLE RA 16	42	-29	1281	0	0	0
20	SLE RA 17	42	-28	1284	0	0	0
20	SLE RA 18	42	-30	1305	0	0	0
20	SLE RA 19	42	-30	1307	0	0	0
20	SLE RA 20	42	-30	1314	0	0	0
20	SLE RA 21	42	-29	1317	0	0	0
20	SLE FR 1	40	-28	1165	0	0	0
20	SLE FR 2	40	-28	1166	0	0	0
20	SLE FR 3	40	-28	1168	0	0	0
20	SLE FR 4	41	-29	1208	0	0	0
20	SLE FR 5	41	-29	1210	0	0	0
20	SLE FR 6	41	-29	1235	0	0	0
20	SLE QP 1	40	-28	1165	0	0	0
20	SLE QP 2	41	-29	1207	0	0	0
20	SLD 1	93	-17	1274	0	0	0
20	SLD 2	99	-15	1278	0	0	0
20	SLD 3	93	-35	1160	0	0	0
20	SLD 4	100	-34	1163	0	0	0
20	SLD 5	54	2	1400	0	0	0
20	SLD 6	58	3	1403	0	0	0
20	SLD 7	57	-59	1018	0	0	0
20	SLD 8	61	-58	1020	0	0	0
20	SLD 9	21	0	1393	0	0	0
20	SLD 10	25	1	1395	0	0	0
20	SLD 11	24	-61	1011	0	0	0
20	SLD 12	28	-60	1013	0	0	0
20	SLD 13	-18	-24	1251	0	0	0
20	SLD 14	-12	-22	1254	0	0	0
20	SLD 15	-17	-42	1136	0	0	0
20	SLD 16	-11	-41	1139	0	0	0
20	SLV 1	122	-9	1320	0	0	0
20	SLV 2	132	-6	1325	0	0	0
20	SLV 3	123	-40	1126	0	0	0
20	SLV 4	133	-37	1131	0	0	0
20	SLV 5	61	24	1534	0	0	0
20	SLV 6	67	26	1537	0	0	0
20	SLV 7	66	-80	887	0	0	0
20	SLV 8	73	-78	891	0	0	0
20	SLV 9	9	20	1523	0	0	0
20	SLV 10	15	22	1526	0	0	0
20	SLV 11	14	-83	876	0	0	0
20	SLV 12	21	-81	879	0	0	0
20	SLV 13	-52	-20	1282	0	0	0
20	SLV 14	-42	-17	1287	0	0	0
20	SLV 15	-50	-51	1088	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
20	SLV 16	-40	-49	1093	0	0	0
20	SLV FO 1	130	-7	1331	0	0	0
20	SLV FO 2	141	-4	1337	0	0	0
20	SLV FO 3	132	-41	1118	0	0	0
20	SLV FO 4	142	-38	1123	0	0	0
20	SLV FO 5	63	29	1567	0	0	0
20	SLV FO 6	70	31	1570	0	0	0
20	SLV FO 7	69	-85	855	0	0	0
20	SLV FO 8	76	-83	859	0	0	0
20	SLV FO 9	6	25	1554	0	0	0
20	SLV FO 10	13	27	1558	0	0	0
20	SLV FO 11	11	-89	843	0	0	0
20	SLV FO 12	19	-87	847	0	0	0
20	SLV FO 13	-61	-19	1290	0	0	0
20	SLV FO 14	-50	-16	1295	0	0	0
20	SLV FO 15	-59	-54	1077	0	0	0
20	SLV FO 16	-48	-51	1082	0	0	0
20	CRTFP Uy+	0	0	0	0	0	0
20	CRTFP Uy-	0	0	0	0	0	0
21	SLU 1	30	-21	865	0	0	0
21	SLU 2	30	-19	870	0	0	0
21	SLU 3	30	-20	882	0	0	0
21	SLU 4	30	-19	885	0	0	0
21	SLU 5	30	-19	881	0	0	0
21	SLU 6	30	-20	893	0	0	0
21	SLU 7	30	-19	896	0	0	0
21	SLU 8	30	-20	886	0	0	0
21	SLU 9	30	-19	889	0	0	0
21	SLU 10	32	-21	983	0	0	0
21	SLU 11	32	-22	995	0	0	0
21	SLU 12	32	-21	998	0	0	0
21	SLU 13	32	-20	993	0	0	0
21	SLU 14	32	-21	1005	0	0	0
21	SLU 15	32	-20	1008	0	0	0
21	SLU 16	32	-21	999	0	0	0
21	SLU 17	32	-20	1002	0	0	0
21	SLU 18	32	-23	1026	0	0	0
21	SLU 19	32	-22	1029	0	0	0
21	SLU 20	32	-23	1037	0	0	0
21	SLU 21	32	-22	1040	0	0	0
21	SLU 22	33	-20	990	0	0	0
21	SLU 23	33	-19	995	0	0	0
21	SLU 24	33	-20	1007	0	0	0
21	SLU 25	33	-19	1010	0	0	0
21	SLU 26	33	-18	1006	0	0	0
21	SLU 27	33	-19	1017	0	0	0
21	SLU 28	33	-18	1021	0	0	0
21	SLU 29	33	-19	1011	0	0	0
21	SLU 30	33	-18	1014	0	0	0
21	SLU 31	35	-20	1108	0	0	0
21	SLU 32	35	-21	1120	0	0	0
21	SLU 33	35	-20	1123	0	0	0
21	SLU 34	35	-20	1118	0	0	0
21	SLU 35	35	-21	1130	0	0	0
21	SLU 36	35	-20	1133	0	0	0
21	SLU 37	35	-21	1124	0	0	0
21	SLU 38	35	-20	1127	0	0	0
21	SLU 39	36	-22	1151	0	0	0
21	SLU 40	36	-22	1154	0	0	0
21	SLU 41	36	-22	1161	0	0	0
21	SLU 42	36	-21	1165	0	0	0
21	SLU 43	38	-27	1081	0	0	0
21	SLU 44	38	-26	1087	0	0	0
21	SLU 45	38	-26	1098	0	0	0
21	SLU 46	38	-26	1102	0	0	0
21	SLU 47	38	-25	1097	0	0	0
21	SLU 48	38	-26	1109	0	0	0
21	SLU 49	38	-25	1112	0	0	0
21	SLU 50	38	-26	1103	0	0	0
21	SLU 51	38	-25	1106	0	0	0
21	SLU 52	39	-27	1199	0	0	0
21	SLU 53	40	-28	1211	0	0	0
21	SLU 54	40	-27	1214	0	0	0
21	SLU 55	39	-27	1210	0	0	0
21	SLU 56	40	-28	1222	0	0	0
21	SLU 57	40	-27	1225	0	0	0
21	SLU 58	39	-28	1215	0	0	0
21	SLU 59	39	-27	1219	0	0	0
21	SLU 60	40	-29	1243	0	0	0
21	SLU 61	40	-29	1246	0	0	0
21	SLU 62	40	-29	1253	0	0	0
21	SLU 63	40	-28	1256	0	0	0
21	SLU 64	41	-26	1206	0	0	0
21	SLU 65	41	-25	1212	0	0	0
21	SLU 66	41	-26	1223	0	0	0
21	SLU 67	41	-25	1227	0	0	0
21	SLU 68	41	-24	1222	0	0	0
21	SLU 69	41	-25	1234	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLU 70	41	-25	1237	0	0	0
21	SLU 71	41	-25	1228	0	0	0
21	SLU 72	41	-25	1231	0	0	0
21	SLU 73	43	-27	1324	0	0	0
21	SLU 74	43	-28	1336	0	0	0
21	SLU 75	43	-27	1339	0	0	0
21	SLU 76	43	-26	1335	0	0	0
21	SLU 77	43	-27	1347	0	0	0
21	SLU 78	43	-26	1350	0	0	0
21	SLU 79	43	-27	1340	0	0	0
21	SLU 80	43	-26	1344	0	0	0
21	SLU 81	43	-29	1367	0	0	0
21	SLU 82	43	-28	1371	0	0	0
21	SLU 83	44	-28	1378	0	0	0
21	SLU 84	44	-27	1381	0	0	0
21	SLE RA 1	31	-20	900	0	0	0
21	SLE RA 2	31	-19	904	0	0	0
21	SLE RA 3	31	-20	912	0	0	0
21	SLE RA 4	31	-20	914	0	0	0
21	SLE RA 5	31	-19	911	0	0	0
21	SLE RA 6	31	-20	919	0	0	0
21	SLE RA 7	31	-19	921	0	0	0
21	SLE RA 8	31	-20	915	0	0	0
21	SLE RA 9	31	-19	917	0	0	0
21	SLE RA 10	32	-21	979	0	0	0
21	SLE RA 11	32	-21	987	0	0	0
21	SLE RA 12	32	-21	989	0	0	0
21	SLE RA 13	32	-20	986	0	0	0
21	SLE RA 14	32	-21	994	0	0	0
21	SLE RA 15	32	-20	996	0	0	0
21	SLE RA 16	32	-21	990	0	0	0
21	SLE RA 17	32	-20	992	0	0	0
21	SLE RA 18	32	-22	1008	0	0	0
21	SLE RA 19	32	-21	1010	0	0	0
21	SLE RA 20	32	-22	1015	0	0	0
21	SLE RA 21	32	-21	1017	0	0	0
21	SLE FR 1	31	-20	900	0	0	0
21	SLE FR 2	31	-20	901	0	0	0
21	SLE FR 3	31	-20	903	0	0	0
21	SLE FR 4	31	-21	933	0	0	0
21	SLE FR 5	31	-21	936	0	0	0
21	SLE FR 6	32	-21	954	0	0	0
21	SLE QP 1	31	-20	900	0	0	0
21	SLE QP 2	31	-21	933	0	0	0
21	SLD 1	71	-13	970	0	0	0
21	SLD 2	76	-11	972	0	0	0
21	SLD 3	72	-26	883	0	0	0
21	SLD 4	76	-24	885	0	0	0
21	SLD 5	41	2	1076	0	0	0
21	SLD 6	44	3	1078	0	0	0
21	SLD 7	44	-43	785	0	0	0
21	SLD 8	47	-42	786	0	0	0
21	SLD 9	16	0	1080	0	0	0
21	SLD 10	19	2	1081	0	0	0
21	SLD 11	18	-45	788	0	0	0
21	SLD 12	21	-44	789	0	0	0
21	SLD 13	-14	-18	981	0	0	0
21	SLD 14	-9	-16	983	0	0	0
21	SLD 15	-13	-31	893	0	0	0
21	SLD 16	-8	-29	895	0	0	0
21	SLV 1	93	-7	997	0	0	0
21	SLV 2	101	-4	1000	0	0	0
21	SLV 3	95	-30	849	0	0	0
21	SLV 4	102	-27	852	0	0	0
21	SLV 5	47	18	1176	0	0	0
21	SLV 6	52	20	1178	0	0	0
21	SLV 7	51	-59	682	0	0	0
21	SLV 8	56	-57	685	0	0	0
21	SLV 9	7	15	1181	0	0	0
21	SLV 10	12	17	1183	0	0	0
21	SLV 11	11	-62	688	0	0	0
21	SLV 12	16	-59	690	0	0	0
21	SLV 13	-40	-15	1014	0	0	0
21	SLV 14	-32	-12	1017	0	0	0
21	SLV 15	-38	-38	866	0	0	0
21	SLV 16	-31	-35	869	0	0	0
21	SLV FO 1	100	-6	1003	0	0	0
21	SLV FO 2	108	-2	1006	0	0	0
21	SLV FO 3	101	-31	840	0	0	0
21	SLV FO 4	109	-28	844	0	0	0
21	SLV FO 5	48	21	1200	0	0	0
21	SLV FO 6	54	24	1202	0	0	0
21	SLV FO 7	53	-63	657	0	0	0
21	SLV FO 8	58	-61	660	0	0	0
21	SLV FO 9	4	19	1206	0	0	0
21	SLV FO 10	10	21	1208	0	0	0
21	SLV FO 11	9	-66	663	0	0	0
21	SLV FO 12	14	-63	665	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLV FO 13	-47	-14	1022	0	0	0
21	SLV FO 14	-38	-11	1025	0	0	0
21	SLV FO 15	-45	-40	859	0	0	0
21	SLV FO 16	-37	-36	863	0	0	0
21	CRTFP Uy+	0	0	0	0	0	0
21	CRTFP Uy-	0	0	0	0	0	0
22	SLU 1	30	-20	874	0	0	0
22	SLU 2	30	-18	879	0	0	0
22	SLU 3	30	-19	891	0	0	0
22	SLU 4	30	-18	894	0	0	0
22	SLU 5	30	-18	890	0	0	0
22	SLU 6	30	-19	901	0	0	0
22	SLU 7	30	-18	905	0	0	0
22	SLU 8	30	-19	895	0	0	0
22	SLU 9	30	-18	898	0	0	0
22	SLU 10	32	-20	992	0	0	0
22	SLU 11	32	-21	1004	0	0	0
22	SLU 12	32	-20	1007	0	0	0
22	SLU 13	32	-19	1003	0	0	0
22	SLU 14	32	-20	1015	0	0	0
22	SLU 15	32	-19	1018	0	0	0
22	SLU 16	32	-20	1008	0	0	0
22	SLU 17	32	-19	1011	0	0	0
22	SLU 18	32	-22	1035	0	0	0
22	SLU 19	32	-21	1039	0	0	0
22	SLU 20	32	-21	1046	0	0	0
22	SLU 21	32	-20	1049	0	0	0
22	SLU 22	33	-19	999	0	0	0
22	SLU 23	33	-17	1005	0	0	0
22	SLU 24	33	-18	1017	0	0	0
22	SLU 25	33	-17	1020	0	0	0
22	SLU 26	33	-17	1015	0	0	0
22	SLU 27	33	-18	1027	0	0	0
22	SLU 28	33	-17	1030	0	0	0
22	SLU 29	33	-18	1021	0	0	0
22	SLU 30	33	-17	1024	0	0	0
22	SLU 31	35	-19	1118	0	0	0
22	SLU 32	35	-20	1130	0	0	0
22	SLU 33	35	-19	1133	0	0	0
22	SLU 34	35	-19	1129	0	0	0
22	SLU 35	35	-19	1141	0	0	0
22	SLU 36	35	-19	1144	0	0	0
22	SLU 37	35	-20	1134	0	0	0
22	SLU 38	35	-19	1137	0	0	0
22	SLU 39	36	-21	1161	0	0	0
22	SLU 40	36	-20	1164	0	0	0
22	SLU 41	36	-21	1172	0	0	0
22	SLU 42	36	-20	1175	0	0	0
22	SLU 43	38	-26	1093	0	0	0
22	SLU 44	38	-24	1098	0	0	0
22	SLU 45	38	-25	1110	0	0	0
22	SLU 46	38	-24	1113	0	0	0
22	SLU 47	38	-24	1109	0	0	0
22	SLU 48	38	-25	1120	0	0	0
22	SLU 49	38	-24	1124	0	0	0
22	SLU 50	38	-25	1114	0	0	0
22	SLU 51	38	-24	1117	0	0	0
22	SLU 52	39	-26	1211	0	0	0
22	SLU 53	40	-27	1223	0	0	0
22	SLU 54	40	-26	1226	0	0	0
22	SLU 55	39	-25	1222	0	0	0
22	SLU 56	40	-26	1234	0	0	0
22	SLU 57	40	-25	1237	0	0	0
22	SLU 58	39	-26	1227	0	0	0
22	SLU 59	39	-25	1230	0	0	0
22	SLU 60	40	-28	1254	0	0	0
22	SLU 61	40	-27	1258	0	0	0
22	SLU 62	40	-27	1265	0	0	0
22	SLU 63	40	-27	1268	0	0	0
22	SLU 64	41	-25	1218	0	0	0
22	SLU 65	41	-24	1224	0	0	0
22	SLU 66	41	-24	1236	0	0	0
22	SLU 67	41	-24	1239	0	0	0
22	SLU 68	41	-23	1234	0	0	0
22	SLU 69	41	-24	1246	0	0	0
22	SLU 70	41	-23	1249	0	0	0
22	SLU 71	41	-24	1240	0	0	0
22	SLU 72	41	-23	1243	0	0	0
22	SLU 73	43	-25	1337	0	0	0
22	SLU 74	43	-26	1349	0	0	0
22	SLU 75	43	-25	1352	0	0	0
22	SLU 76	43	-25	1348	0	0	0
22	SLU 77	43	-26	1359	0	0	0
22	SLU 78	43	-25	1363	0	0	0
22	SLU 79	43	-26	1353	0	0	0
22	SLU 80	43	-25	1356	0	0	0
22	SLU 81	43	-27	1380	0	0	0
22	SLU 82	43	-26	1383	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLU 83	43	-27	1391	0	0	0
22	SLU 84	43	-26	1394	0	0	0
22	SLE RA 1	31	-19	910	0	0	0
22	SLE RA 2	31	-18	913	0	0	0
22	SLE RA 3	31	-19	921	0	0	0
22	SLE RA 4	31	-18	923	0	0	0
22	SLE RA 5	31	-18	920	0	0	0
22	SLE RA 6	31	-19	928	0	0	0
22	SLE RA 7	31	-18	930	0	0	0
22	SLE RA 8	31	-19	924	0	0	0
22	SLE RA 9	31	-18	926	0	0	0
22	SLE RA 10	32	-19	989	0	0	0
22	SLE RA 11	32	-20	997	0	0	0
22	SLE RA 12	32	-20	999	0	0	0
22	SLE RA 13	32	-19	996	0	0	0
22	SLE RA 14	32	-20	1004	0	0	0
22	SLE RA 15	32	-19	1006	0	0	0
22	SLE RA 16	32	-20	999	0	0	0
22	SLE RA 17	32	-19	1001	0	0	0
22	SLE RA 18	32	-21	1017	0	0	0
22	SLE RA 19	32	-20	1020	0	0	0
22	SLE RA 20	32	-21	1025	0	0	0
22	SLE RA 21	32	-20	1027	0	0	0
22	SLE FR 1	31	-19	910	0	0	0
22	SLE FR 2	31	-19	910	0	0	0
22	SLE FR 3	31	-19	912	0	0	0
22	SLE FR 4	31	-20	943	0	0	0
22	SLE FR 5	31	-20	945	0	0	0
22	SLE FR 6	32	-20	964	0	0	0
22	SLE QP 1	31	-19	910	0	0	0
22	SLE QP 2	31	-20	942	0	0	0
22	SLD 1	71	-12	973	0	0	0
22	SLD 2	76	-10	975	0	0	0
22	SLD 3	72	-26	886	0	0	0
22	SLD 4	76	-23	888	0	0	0
22	SLD 5	41	2	1083	0	0	0
22	SLD 6	44	4	1084	0	0	0
22	SLD 7	44	-42	793	0	0	0
22	SLD 8	47	-40	794	0	0	0
22	SLD 9	16	1	1090	0	0	0
22	SLD 10	19	2	1091	0	0	0
22	SLD 11	18	-43	800	0	0	0
22	SLD 12	21	-41	801	0	0	0
22	SLD 13	-14	-17	996	0	0	0
22	SLD 14	-9	-14	998	0	0	0
22	SLD 15	-13	-30	909	0	0	0
22	SLD 16	-9	-27	911	0	0	0
22	SLV 1	93	-7	996	0	0	0
22	SLV 2	101	-3	999	0	0	0
22	SLV 3	95	-30	849	0	0	0
22	SLV 4	102	-25	852	0	0	0
22	SLV 5	47	17	1181	0	0	0
22	SLV 6	52	20	1183	0	0	0
22	SLV 7	51	-58	690	0	0	0
22	SLV 8	56	-55	692	0	0	0
22	SLV 9	7	15	1192	0	0	0
22	SLV 10	12	18	1194	0	0	0
22	SLV 11	11	-60	701	0	0	0
22	SLV 12	16	-57	703	0	0	0
22	SLV 13	-40	-14	1032	0	0	0
22	SLV 14	-32	-10	1035	0	0	0
22	SLV 15	-38	-37	885	0	0	0
22	SLV 16	-31	-32	888	0	0	0
22	SLV FO 1	100	-6	1002	0	0	0
22	SLV FO 2	108	-1	1005	0	0	0
22	SLV FO 3	101	-31	840	0	0	0
22	SLV FO 4	109	-26	843	0	0	0
22	SLV FO 5	48	21	1205	0	0	0
22	SLV FO 6	54	24	1207	0	0	0
22	SLV FO 7	53	-61	665	0	0	0
22	SLV FO 8	58	-58	667	0	0	0
22	SLV FO 9	4	19	1217	0	0	0
22	SLV FO 10	10	22	1219	0	0	0
22	SLV FO 11	9	-64	677	0	0	0
22	SLV FO 12	14	-60	679	0	0	0
22	SLV FO 13	-47	-14	1041	0	0	0
22	SLV FO 14	-39	-9	1044	0	0	0
22	SLV FO 15	-45	-38	879	0	0	0
22	SLV FO 16	-37	-34	882	0	0	0
22	CRTFP Uy+	0	0	0	0	0	0
22	CRTFP Uy-	0	0	0	0	0	0
23	SLU 1	30	-18	881	0	0	0
23	SLU 2	30	-17	886	0	0	0
23	SLU 3	30	-18	898	0	0	0
23	SLU 4	30	-17	901	0	0	0
23	SLU 5	30	-17	897	0	0	0
23	SLU 6	30	-17	909	0	0	0
23	SLU 7	30	-17	912	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLU 8	30	-17	902	0	0	0
23	SLU 9	30	-17	905	0	0	0
23	SLU 10	32	-19	999	0	0	0
23	SLU 11	32	-19	1011	0	0	0
23	SLU 12	32	-19	1015	0	0	0
23	SLU 13	32	-18	1010	0	0	0
23	SLU 14	32	-19	1022	0	0	0
23	SLU 15	32	-18	1025	0	0	0
23	SLU 16	32	-19	1015	0	0	0
23	SLU 17	32	-18	1019	0	0	0
23	SLU 18	32	-21	1043	0	0	0
23	SLU 19	32	-20	1046	0	0	0
23	SLU 20	32	-20	1053	0	0	0
23	SLU 21	32	-19	1057	0	0	0
23	SLU 22	33	-18	1007	0	0	0
23	SLU 23	33	-16	1012	0	0	0
23	SLU 24	33	-17	1024	0	0	0
23	SLU 25	33	-16	1028	0	0	0
23	SLU 26	33	-16	1023	0	0	0
23	SLU 27	33	-17	1035	0	0	0
23	SLU 28	33	-16	1038	0	0	0
23	SLU 29	33	-17	1028	0	0	0
23	SLU 30	33	-16	1032	0	0	0
23	SLU 31	35	-18	1126	0	0	0
23	SLU 32	35	-19	1138	0	0	0
23	SLU 33	35	-18	1141	0	0	0
23	SLU 34	35	-17	1136	0	0	0
23	SLU 35	35	-18	1148	0	0	0
23	SLU 36	35	-17	1152	0	0	0
23	SLU 37	35	-18	1142	0	0	0
23	SLU 38	35	-17	1145	0	0	0
23	SLU 39	36	-20	1169	0	0	0
23	SLU 40	36	-19	1172	0	0	0
23	SLU 41	36	-19	1180	0	0	0
23	SLU 42	36	-19	1183	0	0	0
23	SLU 43	38	-24	1102	0	0	0
23	SLU 44	38	-23	1107	0	0	0
23	SLU 45	38	-24	1119	0	0	0
23	SLU 46	38	-23	1122	0	0	0
23	SLU 47	38	-22	1117	0	0	0
23	SLU 48	38	-23	1129	0	0	0
23	SLU 49	38	-22	1133	0	0	0
23	SLU 50	38	-23	1123	0	0	0
23	SLU 51	38	-22	1126	0	0	0
23	SLU 52	39	-24	1220	0	0	0
23	SLU 53	40	-25	1232	0	0	0
23	SLU 54	40	-24	1235	0	0	0
23	SLU 55	39	-24	1231	0	0	0
23	SLU 56	40	-25	1243	0	0	0
23	SLU 57	40	-24	1246	0	0	0
23	SLU 58	39	-25	1236	0	0	0
23	SLU 59	39	-24	1239	0	0	0
23	SLU 60	40	-26	1264	0	0	0
23	SLU 61	40	-25	1267	0	0	0
23	SLU 62	40	-26	1274	0	0	0
23	SLU 63	40	-25	1277	0	0	0
23	SLU 64	41	-23	1228	0	0	0
23	SLU 65	41	-22	1233	0	0	0
23	SLU 66	41	-23	1245	0	0	0
23	SLU 67	41	-22	1248	0	0	0
23	SLU 68	41	-22	1244	0	0	0
23	SLU 69	41	-22	1256	0	0	0
23	SLU 70	41	-22	1259	0	0	0
23	SLU 71	41	-22	1249	0	0	0
23	SLU 72	41	-22	1252	0	0	0
23	SLU 73	43	-24	1347	0	0	0
23	SLU 74	43	-24	1359	0	0	0
23	SLU 75	43	-24	1362	0	0	0
23	SLU 76	43	-23	1357	0	0	0
23	SLU 77	43	-24	1369	0	0	0
23	SLU 78	43	-23	1372	0	0	0
23	SLU 79	43	-24	1363	0	0	0
23	SLU 80	43	-23	1366	0	0	0
23	SLU 81	43	-26	1390	0	0	0
23	SLU 82	43	-25	1393	0	0	0
23	SLU 83	43	-25	1401	0	0	0
23	SLU 84	43	-24	1404	0	0	0
23	SLE RA 1	31	-18	917	0	0	0
23	SLE RA 2	31	-17	920	0	0	0
23	SLE RA 3	31	-18	928	0	0	0
23	SLE RA 4	31	-17	930	0	0	0
23	SLE RA 5	31	-17	927	0	0	0
23	SLE RA 6	31	-18	935	0	0	0
23	SLE RA 7	31	-17	938	0	0	0
23	SLE RA 8	31	-18	931	0	0	0
23	SLE RA 9	31	-17	933	0	0	0
23	SLE RA 10	32	-18	996	0	0	0
23	SLE RA 11	32	-19	1004	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLE RA 12	32	-18	1006	0	0	0
23	SLE RA 13	32	-18	1003	0	0	0
23	SLE RA 14	32	-19	1011	0	0	0
23	SLE RA 15	32	-18	1013	0	0	0
23	SLE RA 16	32	-19	1007	0	0	0
23	SLE RA 17	32	-18	1009	0	0	0
23	SLE RA 18	32	-20	1025	0	0	0
23	SLE RA 19	32	-19	1027	0	0	0
23	SLE RA 20	32	-19	1032	0	0	0
23	SLE RA 21	32	-19	1034	0	0	0
23	SLE FR 1	31	-18	917	0	0	0
23	SLE FR 2	31	-18	918	0	0	0
23	SLE FR 3	31	-18	920	0	0	0
23	SLE FR 4	31	-18	950	0	0	0
23	SLE FR 5	31	-18	952	0	0	0
23	SLE FR 6	32	-19	971	0	0	0
23	SLE QP 1	31	-18	917	0	0	0
23	SLE QP 2	31	-19	949	0	0	0
23	SLD 1	71	-12	972	0	0	0
23	SLD 2	76	-9	973	0	0	0
23	SLD 3	72	-25	886	0	0	0
23	SLD 4	76	-21	887	0	0	0
23	SLD 5	41	2	1087	0	0	0
23	SLD 6	44	4	1088	0	0	0
23	SLD 7	44	-40	799	0	0	0
23	SLD 8	47	-38	800	0	0	0
23	SLD 9	16	1	1099	0	0	0
23	SLD 10	19	3	1100	0	0	0
23	SLD 11	18	-41	811	0	0	0
23	SLD 12	21	-39	812	0	0	0
23	SLD 13	-14	-16	1012	0	0	0
23	SLD 14	-9	-12	1013	0	0	0
23	SLD 15	-13	-29	925	0	0	0
23	SLD 16	-9	-25	927	0	0	0
23	SLV 1	93	-7	990	0	0	0
23	SLV 2	101	-2	992	0	0	0
23	SLV 3	95	-29	844	0	0	0
23	SLV 4	102	-24	846	0	0	0
23	SLV 5	47	17	1183	0	0	0
23	SLV 6	52	20	1184	0	0	0
23	SLV 7	51	-56	696	0	0	0
23	SLV 8	56	-52	697	0	0	0
23	SLV 9	7	15	1201	0	0	0
23	SLV 10	12	18	1203	0	0	0
23	SLV 11	11	-57	715	0	0	0
23	SLV 12	16	-54	716	0	0	0
23	SLV 13	-40	-14	1052	0	0	0
23	SLV 14	-32	-8	1054	0	0	0
23	SLV 15	-39	-35	906	0	0	0
23	SLV 16	-31	-30	908	0	0	0
23	SLV FO 1	100	-6	994	0	0	0
23	SLV FO 2	108	0	997	0	0	0
23	SLV FO 3	101	-30	834	0	0	0
23	SLV FO 4	109	-24	836	0	0	0
23	SLV FO 5	48	20	1206	0	0	0
23	SLV FO 6	54	24	1208	0	0	0
23	SLV FO 7	53	-59	671	0	0	0
23	SLV FO 8	58	-55	672	0	0	0
23	SLV FO 9	4	18	1227	0	0	0
23	SLV FO 10	10	22	1228	0	0	0
23	SLV FO 11	9	-61	691	0	0	0
23	SLV FO 12	14	-57	693	0	0	0
23	SLV FO 13	-47	-13	1063	0	0	0
23	SLV FO 14	-39	-7	1065	0	0	0
23	SLV FO 15	-45	-37	902	0	0	0
23	SLV FO 16	-37	-31	904	0	0	0
23	CRTFP Uy+	0	0	0	0	0	0
23	CRTFP Uy-	0	0	0	0	0	0
24	SLU 1	30	-17	885	0	0	0
24	SLU 2	30	-16	891	0	0	0
24	SLU 3	30	-17	903	0	0	0
24	SLU 4	30	-16	906	0	0	0
24	SLU 5	30	-15	901	0	0	0
24	SLU 6	30	-16	913	0	0	0
24	SLU 7	30	-15	916	0	0	0
24	SLU 8	30	-16	906	0	0	0
24	SLU 9	30	-15	910	0	0	0
24	SLU 10	31	-17	1004	0	0	0
24	SLU 11	32	-18	1016	0	0	0
24	SLU 12	32	-17	1019	0	0	0
24	SLU 13	31	-17	1014	0	0	0
24	SLU 14	32	-18	1026	0	0	0
24	SLU 15	32	-17	1029	0	0	0
24	SLU 16	31	-18	1020	0	0	0
24	SLU 17	31	-17	1023	0	0	0
24	SLU 18	32	-19	1047	0	0	0
24	SLU 19	32	-18	1050	0	0	0
24	SLU 20	32	-19	1058	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
24	SLU 21	32	-18	1061	0	0	0
24	SLU 22	33	-16	1012	0	0	0
24	SLU 23	33	-15	1017	0	0	0
24	SLU 24	33	-16	1029	0	0	0
24	SLU 25	33	-15	1032	0	0	0
24	SLU 26	33	-15	1028	0	0	0
24	SLU 27	33	-15	1040	0	0	0
24	SLU 28	33	-15	1043	0	0	0
24	SLU 29	33	-15	1033	0	0	0
24	SLU 30	33	-15	1036	0	0	0
24	SLU 31	35	-16	1131	0	0	0
24	SLU 32	35	-17	1143	0	0	0
24	SLU 33	35	-17	1146	0	0	0
24	SLU 34	35	-16	1141	0	0	0
24	SLU 35	35	-17	1153	0	0	0
24	SLU 36	35	-16	1156	0	0	0
24	SLU 37	35	-17	1146	0	0	0
24	SLU 38	35	-16	1150	0	0	0
24	SLU 39	35	-18	1174	0	0	0
24	SLU 40	35	-18	1177	0	0	0
24	SLU 41	35	-18	1184	0	0	0
24	SLU 42	35	-17	1188	0	0	0
24	SLU 43	37	-23	1108	0	0	0
24	SLU 44	37	-21	1113	0	0	0
24	SLU 45	38	-22	1125	0	0	0
24	SLU 46	38	-21	1128	0	0	0
24	SLU 47	37	-21	1123	0	0	0
24	SLU 48	38	-22	1135	0	0	0
24	SLU 49	38	-21	1138	0	0	0
24	SLU 50	37	-22	1129	0	0	0
24	SLU 51	37	-21	1132	0	0	0
24	SLU 52	39	-23	1226	0	0	0
24	SLU 53	39	-24	1238	0	0	0
24	SLU 54	39	-23	1241	0	0	0
24	SLU 55	39	-22	1237	0	0	0
24	SLU 56	39	-23	1249	0	0	0
24	SLU 57	39	-22	1252	0	0	0
24	SLU 58	39	-23	1242	0	0	0
24	SLU 59	39	-22	1245	0	0	0
24	SLU 60	40	-25	1269	0	0	0
24	SLU 61	40	-24	1273	0	0	0
24	SLU 62	40	-24	1280	0	0	0
24	SLU 63	40	-23	1283	0	0	0
24	SLU 64	41	-22	1234	0	0	0
24	SLU 65	41	-21	1239	0	0	0
24	SLU 66	41	-21	1251	0	0	0
24	SLU 67	41	-21	1255	0	0	0
24	SLU 68	41	-20	1250	0	0	0
24	SLU 69	41	-21	1262	0	0	0
24	SLU 70	41	-20	1265	0	0	0
24	SLU 71	41	-21	1255	0	0	0
24	SLU 72	41	-20	1258	0	0	0
24	SLU 73	42	-22	1353	0	0	0
24	SLU 74	43	-23	1365	0	0	0
24	SLU 75	43	-22	1368	0	0	0
24	SLU 76	42	-21	1363	0	0	0
24	SLU 77	43	-22	1375	0	0	0
24	SLU 78	43	-21	1378	0	0	0
24	SLU 79	42	-22	1369	0	0	0
24	SLU 80	42	-22	1372	0	0	0
24	SLU 81	43	-24	1396	0	0	0
24	SLU 82	43	-23	1399	0	0	0
24	SLU 83	43	-23	1407	0	0	0
24	SLU 84	43	-23	1410	0	0	0
24	SLE RA 1	30	-17	922	0	0	0
24	SLE RA 2	30	-16	925	0	0	0
24	SLE RA 3	31	-17	933	0	0	0
24	SLE RA 4	31	-16	935	0	0	0
24	SLE RA 5	30	-16	932	0	0	0
24	SLE RA 6	31	-16	940	0	0	0
24	SLE RA 7	31	-16	942	0	0	0
24	SLE RA 8	31	-16	936	0	0	0
24	SLE RA 9	31	-16	938	0	0	0
24	SLE RA 10	32	-17	1001	0	0	0
24	SLE RA 11	32	-18	1009	0	0	0
24	SLE RA 12	32	-17	1011	0	0	0
24	SLE RA 13	32	-17	1008	0	0	0
24	SLE RA 14	32	-17	1016	0	0	0
24	SLE RA 15	32	-17	1018	0	0	0
24	SLE RA 16	32	-17	1011	0	0	0
24	SLE RA 17	32	-17	1013	0	0	0
24	SLE RA 18	32	-18	1030	0	0	0
24	SLE RA 19	32	-18	1032	0	0	0
24	SLE RA 20	32	-18	1037	0	0	0
24	SLE RA 21	32	-17	1039	0	0	0
24	SLE FR 1	30	-17	922	0	0	0
24	SLE FR 2	30	-17	922	0	0	0
24	SLE FR 3	30	-17	924	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
24	SLE FR 4	31	-17	955	0	0	0
24	SLE FR 5	31	-17	957	0	0	0
24	SLE FR 6	31	-18	976	0	0	0
24	SLE QP 1	30	-17	922	0	0	0
24	SLE QP 2	31	-17	954	0	0	0
24	SLD 1	71	-12	968	0	0	0
24	SLD 2	75	-8	969	0	0	0
24	SLD 3	71	-24	882	0	0	0
24	SLD 4	76	-20	883	0	0	0
24	SLD 5	41	2	1088	0	0	0
24	SLD 6	44	5	1088	0	0	0
24	SLD 7	43	-39	803	0	0	0
24	SLD 8	46	-36	803	0	0	0
24	SLD 9	16	1	1105	0	0	0
24	SLD 10	19	4	1105	0	0	0
24	SLD 11	18	-40	820	0	0	0
24	SLD 12	21	-37	820	0	0	0
24	SLD 13	-14	-15	1025	0	0	0
24	SLD 14	-9	-11	1026	0	0	0
24	SLD 15	-13	-27	939	0	0	0
24	SLD 16	-9	-23	940	0	0	0
24	SLV 1	93	-7	981	0	0	0
24	SLV 2	101	-1	982	0	0	0
24	SLV 3	94	-28	837	0	0	0
24	SLV 4	102	-22	838	0	0	0
24	SLV 5	46	16	1181	0	0	0
24	SLV 6	51	20	1182	0	0	0
24	SLV 7	51	-53	699	0	0	0
24	SLV 8	55	-49	700	0	0	0
24	SLV 9	7	14	1208	0	0	0
24	SLV 10	12	19	1208	0	0	0
24	SLV 11	11	-55	726	0	0	0
24	SLV 12	16	-51	727	0	0	0
24	SLV 13	-40	-13	1070	0	0	0
24	SLV 14	-32	-7	1071	0	0	0
24	SLV 15	-38	-34	926	0	0	0
24	SLV 16	-31	-27	927	0	0	0
24	SLV FO 1	99	-6	984	0	0	0
24	SLV FO 2	107	1	985	0	0	0
24	SLV FO 3	101	-29	825	0	0	0
24	SLV FO 4	109	-22	826	0	0	0
24	SLV FO 5	48	19	1203	0	0	0
24	SLV FO 6	53	24	1205	0	0	0
24	SLV FO 7	52	-57	674	0	0	0
24	SLV FO 8	58	-52	675	0	0	0
24	SLV FO 9	4	18	1233	0	0	0
24	SLV FO 10	10	22	1234	0	0	0
24	SLV FO 11	9	-59	703	0	0	0
24	SLV FO 12	14	-54	705	0	0	0
24	SLV FO 13	-47	-12	1082	0	0	0
24	SLV FO 14	-39	-5	1083	0	0	0
24	SLV FO 15	-45	-35	923	0	0	0
24	SLV FO 16	-37	-28	924	0	0	0
24	CRTFP Uy+	0	0	0	0	0	0
24	CRTFP Uy-	0	0	0	0	0	0
25	SLU 1	38	-21	1162	0	0	0
25	SLU 2	38	-19	1168	0	0	0
25	SLU 3	39	-20	1184	0	0	0
25	SLU 4	39	-19	1188	0	0	0
25	SLU 5	39	-19	1182	0	0	0
25	SLU 6	39	-20	1198	0	0	0
25	SLU 7	39	-19	1202	0	0	0
25	SLU 8	39	-20	1189	0	0	0
25	SLU 9	39	-19	1193	0	0	0
25	SLU 10	41	-21	1316	0	0	0
25	SLU 11	41	-22	1332	0	0	0
25	SLU 12	41	-21	1336	0	0	0
25	SLU 13	41	-20	1330	0	0	0
25	SLU 14	41	-21	1345	0	0	0
25	SLU 15	41	-20	1349	0	0	0
25	SLU 16	41	-22	1337	0	0	0
25	SLU 17	41	-20	1341	0	0	0
25	SLU 18	42	-23	1373	0	0	0
25	SLU 19	42	-22	1377	0	0	0
25	SLU 20	42	-23	1386	0	0	0
25	SLU 21	42	-22	1390	0	0	0
25	SLU 22	43	-20	1327	0	0	0
25	SLU 23	43	-18	1334	0	0	0
25	SLU 24	43	-19	1350	0	0	0
25	SLU 25	43	-18	1354	0	0	0
25	SLU 26	43	-18	1348	0	0	0
25	SLU 27	43	-19	1363	0	0	0
25	SLU 28	43	-18	1367	0	0	0
25	SLU 29	43	-19	1355	0	0	0
25	SLU 30	43	-18	1359	0	0	0
25	SLU 31	45	-20	1482	0	0	0
25	SLU 32	45	-21	1497	0	0	0
25	SLU 33	45	-20	1502	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
25	SLU 34	45	-19	1495	0	0	0
25	SLU 35	45	-20	1511	0	0	0
25	SLU 36	45	-19	1515	0	0	0
25	SLU 37	45	-20	1502	0	0	0
25	SLU 38	45	-19	1506	0	0	0
25	SLU 39	46	-22	1538	0	0	0
25	SLU 40	46	-21	1542	0	0	0
25	SLU 41	46	-22	1552	0	0	0
25	SLU 42	46	-21	1556	0	0	0
25	SLU 43	49	-28	1453	0	0	0
25	SLU 44	49	-26	1460	0	0	0
25	SLU 45	49	-27	1476	0	0	0
25	SLU 46	49	-26	1480	0	0	0
25	SLU 47	49	-25	1474	0	0	0
25	SLU 48	49	-26	1489	0	0	0
25	SLU 49	49	-25	1493	0	0	0
25	SLU 50	49	-26	1481	0	0	0
25	SLU 51	49	-25	1485	0	0	0
25	SLU 52	51	-28	1608	0	0	0
25	SLU 53	51	-29	1623	0	0	0
25	SLU 54	51	-28	1627	0	0	0
25	SLU 55	51	-27	1621	0	0	0
25	SLU 56	51	-28	1637	0	0	0
25	SLU 57	51	-27	1641	0	0	0
25	SLU 58	51	-28	1628	0	0	0
25	SLU 59	51	-27	1632	0	0	0
25	SLU 60	52	-30	1664	0	0	0
25	SLU 61	52	-29	1668	0	0	0
25	SLU 62	52	-30	1678	0	0	0
25	SLU 63	52	-29	1682	0	0	0
25	SLU 64	53	-27	1619	0	0	0
25	SLU 65	53	-25	1626	0	0	0
25	SLU 66	53	-26	1641	0	0	0
25	SLU 67	53	-25	1645	0	0	0
25	SLU 68	53	-24	1639	0	0	0
25	SLU 69	53	-25	1655	0	0	0
25	SLU 70	53	-24	1659	0	0	0
25	SLU 71	53	-25	1646	0	0	0
25	SLU 72	53	-24	1650	0	0	0
25	SLU 73	55	-27	1774	0	0	0
25	SLU 74	55	-28	1789	0	0	0
25	SLU 75	55	-27	1793	0	0	0
25	SLU 76	55	-26	1787	0	0	0
25	SLU 77	56	-27	1803	0	0	0
25	SLU 78	56	-26	1807	0	0	0
25	SLU 79	55	-27	1794	0	0	0
25	SLU 80	55	-26	1798	0	0	0
25	SLU 81	56	-29	1830	0	0	0
25	SLU 82	56	-28	1834	0	0	0
25	SLU 83	56	-28	1844	0	0	0
25	SLU 84	56	-27	1848	0	0	0
25	SLE RA 1	40	-21	1209	0	0	0
25	SLE RA 2	40	-20	1214	0	0	0
25	SLE RA 3	40	-20	1224	0	0	0
25	SLE RA 4	40	-20	1227	0	0	0
25	SLE RA 5	40	-19	1223	0	0	0
25	SLE RA 6	40	-20	1233	0	0	0
25	SLE RA 7	40	-19	1236	0	0	0
25	SLE RA 8	40	-20	1227	0	0	0
25	SLE RA 9	40	-19	1230	0	0	0
25	SLE RA 10	41	-21	1312	0	0	0
25	SLE RA 11	41	-21	1322	0	0	0
25	SLE RA 12	41	-21	1325	0	0	0
25	SLE RA 13	41	-20	1321	0	0	0
25	SLE RA 14	42	-21	1332	0	0	0
25	SLE RA 15	42	-20	1334	0	0	0
25	SLE RA 16	41	-21	1326	0	0	0
25	SLE RA 17	41	-20	1328	0	0	0
25	SLE RA 18	42	-22	1350	0	0	0
25	SLE RA 19	42	-22	1352	0	0	0
25	SLE RA 20	42	-22	1359	0	0	0
25	SLE RA 21	42	-21	1361	0	0	0
25	SLE FR 1	40	-21	1209	0	0	0
25	SLE FR 2	40	-20	1210	0	0	0
25	SLE FR 3	40	-21	1213	0	0	0
25	SLE FR 4	40	-21	1252	0	0	0
25	SLE FR 5	40	-21	1255	0	0	0
25	SLE FR 6	41	-21	1279	0	0	0
25	SLE QP 1	40	-21	1209	0	0	0
25	SLE QP 2	40	-21	1251	0	0	0
25	SLD 1	92	-15	1258	0	0	0
25	SLD 2	98	-8	1258	0	0	0
25	SLD 3	93	-30	1147	0	0	0
25	SLD 4	99	-24	1148	0	0	0
25	SLD 5	53	3	1420	0	0	0
25	SLD 6	57	7	1421	0	0	0
25	SLD 7	57	-48	1052	0	0	0
25	SLD 8	60	-44	1053	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
25	SLD 9	20	2	1450	0	0	0
25	SLD 10	24	6	1450	0	0	0
25	SLD 11	23	-49	1082	0	0	0
25	SLD 12	27	-45	1082	0	0	0
25	SLD 13	-18	-19	1355	0	0	0
25	SLD 14	-12	-12	1355	0	0	0
25	SLD 15	-17	-34	1244	0	0	0
25	SLD 16	-11	-28	1245	0	0	0
25	SLV 1	121	-10	1268	0	0	0
25	SLV 2	131	0	1269	0	0	0
25	SLV 3	123	-36	1082	0	0	0
25	SLV 4	133	-26	1083	0	0	0
25	SLV 5	60	20	1539	0	0	0
25	SLV 6	67	27	1540	0	0	0
25	SLV 7	66	-67	917	0	0	0
25	SLV 8	72	-60	918	0	0	0
25	SLV 9	8	18	1584	0	0	0
25	SLV 10	15	25	1585	0	0	0
25	SLV 11	14	-69	963	0	0	0
25	SLV 12	20	-62	963	0	0	0
25	SLV 13	-52	-16	1420	0	0	0
25	SLV 14	-42	-7	1421	0	0	0
25	SLV 15	-50	-42	1233	0	0	0
25	SLV 16	-41	-33	1234	0	0	0
25	SLV FO 1	129	-8	1270	0	0	0
25	SLV FO 2	140	2	1271	0	0	0
25	SLV FO 3	131	-37	1065	0	0	0
25	SLV FO 4	142	-27	1066	0	0	0
25	SLV FO 5	62	24	1568	0	0	0
25	SLV FO 6	70	31	1569	0	0	0
25	SLV FO 7	68	-72	884	0	0	0
25	SLV FO 8	75	-64	885	0	0	0
25	SLV FO 9	5	22	1618	0	0	0
25	SLV FO 10	12	29	1619	0	0	0
25	SLV FO 11	11	-74	934	0	0	0
25	SLV FO 12	18	-67	935	0	0	0
25	SLV FO 13	-61	-16	1436	0	0	0
25	SLV FO 14	-50	-5	1438	0	0	0
25	SLV FO 15	-59	-45	1231	0	0	0
25	SLV FO 16	-49	-34	1232	0	0	0
25	CRTFP Uy+	0	0	0	0	0	0
25	CRTFP Uy-	0	0	0	0	0	0
26	SLU 1	24	-12	722	0	0	0
26	SLU 2	24	-11	726	0	0	0
26	SLU 3	24	-11	736	0	0	0
26	SLU 4	24	-11	738	0	0	0
26	SLU 5	24	-10	734	0	0	0
26	SLU 6	24	-11	744	0	0	0
26	SLU 7	24	-10	746	0	0	0
26	SLU 8	24	-11	739	0	0	0
26	SLU 9	24	-10	741	0	0	0
26	SLU 10	25	-12	817	0	0	0
26	SLU 11	25	-12	827	0	0	0
26	SLU 12	25	-12	829	0	0	0
26	SLU 13	25	-11	825	0	0	0
26	SLU 14	25	-12	835	0	0	0
26	SLU 15	25	-11	837	0	0	0
26	SLU 16	25	-12	829	0	0	0
26	SLU 17	25	-11	832	0	0	0
26	SLU 18	26	-13	852	0	0	0
26	SLU 19	26	-12	854	0	0	0
26	SLU 20	26	-13	860	0	0	0
26	SLU 21	26	-12	863	0	0	0
26	SLU 22	26	-11	824	0	0	0
26	SLU 23	26	-10	829	0	0	0
26	SLU 24	27	-10	838	0	0	0
26	SLU 25	27	-10	841	0	0	0
26	SLU 26	26	-9	837	0	0	0
26	SLU 27	27	-10	847	0	0	0
26	SLU 28	27	-9	849	0	0	0
26	SLU 29	26	-10	841	0	0	0
26	SLU 30	26	-9	844	0	0	0
26	SLU 31	28	-11	919	0	0	0
26	SLU 32	28	-11	929	0	0	0
26	SLU 33	28	-11	932	0	0	0
26	SLU 34	28	-10	928	0	0	0
26	SLU 35	28	-11	937	0	0	0
26	SLU 36	28	-10	940	0	0	0
26	SLU 37	28	-11	932	0	0	0
26	SLU 38	28	-10	934	0	0	0
26	SLU 39	28	-12	954	0	0	0
26	SLU 40	28	-12	957	0	0	0
26	SLU 41	28	-12	963	0	0	0
26	SLU 42	28	-11	965	0	0	0
26	SLU 43	30	-15	903	0	0	0
26	SLU 44	30	-14	908	0	0	0
26	SLU 45	30	-15	917	0	0	0
26	SLU 46	30	-14	920	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
26	SLU 47	30	-14	916	0	0	0
26	SLU 48	30	-15	925	0	0	0
26	SLU 49	30	-14	928	0	0	0
26	SLU 50	30	-15	920	0	0	0
26	SLU 51	30	-14	923	0	0	0
26	SLU 52	32	-15	998	0	0	0
26	SLU 53	32	-16	1008	0	0	0
26	SLU 54	32	-15	1010	0	0	0
26	SLU 55	32	-15	1007	0	0	0
26	SLU 56	32	-16	1016	0	0	0
26	SLU 57	32	-15	1019	0	0	0
26	SLU 58	32	-16	1011	0	0	0
26	SLU 59	32	-15	1013	0	0	0
26	SLU 60	32	-17	1033	0	0	0
26	SLU 61	32	-16	1036	0	0	0
26	SLU 62	32	-16	1042	0	0	0
26	SLU 63	32	-16	1044	0	0	0
26	SLU 64	33	-15	1006	0	0	0
26	SLU 65	33	-14	1010	0	0	0
26	SLU 66	33	-14	1020	0	0	0
26	SLU 67	33	-14	1022	0	0	0
26	SLU 68	33	-13	1018	0	0	0
26	SLU 69	33	-14	1028	0	0	0
26	SLU 70	33	-13	1030	0	0	0
26	SLU 71	33	-14	1023	0	0	0
26	SLU 72	33	-13	1025	0	0	0
26	SLU 73	34	-14	1101	0	0	0
26	SLU 74	34	-15	1111	0	0	0
26	SLU 75	34	-14	1113	0	0	0
26	SLU 76	34	-14	1109	0	0	0
26	SLU 77	34	-15	1119	0	0	0
26	SLU 78	34	-14	1121	0	0	0
26	SLU 79	34	-15	1113	0	0	0
26	SLU 80	34	-14	1116	0	0	0
26	SLU 81	35	-16	1136	0	0	0
26	SLU 82	35	-15	1138	0	0	0
26	SLU 83	35	-16	1144	0	0	0
26	SLU 84	35	-15	1146	0	0	0
26	SLE RA 1	25	-11	751	0	0	0
26	SLE RA 2	25	-11	754	0	0	0
26	SLE RA 3	25	-11	760	0	0	0
26	SLE RA 4	25	-11	762	0	0	0
26	SLE RA 5	25	-10	760	0	0	0
26	SLE RA 6	25	-11	766	0	0	0
26	SLE RA 7	25	-10	768	0	0	0
26	SLE RA 8	25	-11	762	0	0	0
26	SLE RA 9	25	-10	764	0	0	0
26	SLE RA 10	26	-11	815	0	0	0
26	SLE RA 11	26	-12	821	0	0	0
26	SLE RA 12	26	-11	823	0	0	0
26	SLE RA 13	26	-11	820	0	0	0
26	SLE RA 14	26	-11	827	0	0	0
26	SLE RA 15	26	-11	828	0	0	0
26	SLE RA 16	26	-12	823	0	0	0
26	SLE RA 17	26	-11	825	0	0	0
26	SLE RA 18	26	-12	838	0	0	0
26	SLE RA 19	26	-12	839	0	0	0
26	SLE RA 20	26	-12	843	0	0	0
26	SLE RA 21	26	-12	845	0	0	0
26	SLE FR 1	25	-11	751	0	0	0
26	SLE FR 2	25	-11	752	0	0	0
26	SLE FR 3	25	-11	753	0	0	0
26	SLE FR 4	25	-11	778	0	0	0
26	SLE FR 5	25	-12	779	0	0	0
26	SLE FR 6	25	-12	795	0	0	0
26	SLE QP 1	25	-11	751	0	0	0
26	SLE QP 2	25	-12	777	0	0	0
26	SLD 1	57	-11	770	0	0	0
26	SLD 2	61	-6	770	0	0	0
26	SLD 3	57	-20	703	0	0	0
26	SLD 4	61	-15	703	0	0	0
26	SLD 5	33	1	877	0	0	0
26	SLD 6	35	4	877	0	0	0
26	SLD 7	35	-28	653	0	0	0
26	SLD 8	37	-25	653	0	0	0
26	SLD 9	13	2	901	0	0	0
26	SLD 10	15	5	902	0	0	0
26	SLD 11	14	-28	677	0	0	0
26	SLD 12	17	-25	677	0	0	0
26	SLD 13	-11	-8	852	0	0	0
26	SLD 14	-8	-4	852	0	0	0
26	SLD 15	-11	-17	785	0	0	0
26	SLD 16	-7	-13	785	0	0	0
26	SLV 1	75	-10	770	0	0	0
26	SLV 2	81	-2	770	0	0	0
26	SLV 3	76	-25	656	0	0	0
26	SLV 4	82	-17	657	0	0	0
26	SLV 5	37	11	947	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
26	SLV 6	41	16	947	0	0	0
26	SLV 7	41	-40	569	0	0	0
26	SLV 8	45	-35	569	0	0	0
26	SLV 9	5	12	986	0	0	0
26	SLV 10	9	17	986	0	0	0
26	SLV 11	9	-39	607	0	0	0
26	SLV 12	13	-34	607	0	0	0
26	SLV 13	-32	-6	898	0	0	0
26	SLV 14	-26	2	898	0	0	0
26	SLV 15	-31	-21	784	0	0	0
26	SLV 16	-25	-14	784	0	0	0
26	SLV FO 1	80	-9	769	0	0	0
26	SLV FO 2	86	-1	769	0	0	0
26	SLV FO 3	81	-26	644	0	0	0
26	SLV FO 4	87	-18	644	0	0	0
26	SLV FO 5	39	13	964	0	0	0
26	SLV FO 6	43	18	964	0	0	0
26	SLV FO 7	42	-43	548	0	0	0
26	SLV FO 8	47	-37	548	0	0	0
26	SLV FO 9	3	14	1006	0	0	0
26	SLV FO 10	8	20	1007	0	0	0
26	SLV FO 11	7	-42	590	0	0	0
26	SLV FO 12	11	-36	590	0	0	0
26	SLV FO 13	-38	-5	910	0	0	0
26	SLV FO 14	-31	3	910	0	0	0
26	SLV FO 15	-37	-22	785	0	0	0
26	SLV FO 16	-30	-14	785	0	0	0
27	SLU 1	38	-29	1143	0	0	0
27	SLU 2	38	-27	1148	0	0	0
27	SLU 3	38	-29	1166	0	0	0
27	SLU 4	38	-27	1169	0	0	0
27	SLU 5	38	-27	1162	0	0	0
27	SLU 6	38	-28	1181	0	0	0
27	SLU 7	38	-27	1184	0	0	0
27	SLU 8	38	-28	1172	0	0	0
27	SLU 9	38	-27	1175	0	0	0
27	SLU 10	40	-30	1298	0	0	0
27	SLU 11	41	-31	1317	0	0	0
27	SLU 12	41	-30	1320	0	0	0
27	SLU 13	40	-29	1313	0	0	0
27	SLU 14	41	-30	1332	0	0	0
27	SLU 15	41	-29	1335	0	0	0
27	SLU 16	40	-30	1323	0	0	0
27	SLU 17	40	-29	1326	0	0	0
27	SLU 18	41	-33	1358	0	0	0
27	SLU 19	41	-32	1361	0	0	0
27	SLU 20	41	-32	1373	0	0	0
27	SLU 21	41	-31	1376	0	0	0
27	SLU 22	42	-29	1311	0	0	0
27	SLU 23	42	-27	1316	0	0	0
27	SLU 24	42	-28	1334	0	0	0
27	SLU 25	42	-27	1337	0	0	0
27	SLU 26	42	-26	1331	0	0	0
27	SLU 27	42	-27	1349	0	0	0
27	SLU 28	42	-26	1352	0	0	0
27	SLU 29	42	-27	1340	0	0	0
27	SLU 30	42	-26	1343	0	0	0
27	SLU 31	44	-29	1466	0	0	0
27	SLU 32	45	-30	1485	0	0	0
27	SLU 33	45	-29	1488	0	0	0
27	SLU 34	44	-28	1481	0	0	0
27	SLU 35	45	-30	1500	0	0	0
27	SLU 36	45	-28	1503	0	0	0
27	SLU 37	44	-30	1491	0	0	0
27	SLU 38	44	-28	1494	0	0	0
27	SLU 39	45	-32	1526	0	0	0
27	SLU 40	45	-31	1529	0	0	0
27	SLU 41	45	-31	1541	0	0	0
27	SLU 42	45	-30	1544	0	0	0
27	SLU 43	48	-38	1428	0	0	0
27	SLU 44	48	-36	1433	0	0	0
27	SLU 45	48	-38	1451	0	0	0
27	SLU 46	48	-36	1454	0	0	0
27	SLU 47	48	-36	1448	0	0	0
27	SLU 48	48	-37	1466	0	0	0
27	SLU 49	48	-36	1469	0	0	0
27	SLU 50	48	-37	1457	0	0	0
27	SLU 51	48	-36	1460	0	0	0
27	SLU 52	50	-39	1583	0	0	0
27	SLU 53	50	-40	1602	0	0	0
27	SLU 54	50	-39	1605	0	0	0
27	SLU 55	50	-38	1598	0	0	0
27	SLU 56	50	-39	1617	0	0	0
27	SLU 57	50	-38	1620	0	0	0
27	SLU 58	50	-39	1608	0	0	0
27	SLU 59	50	-38	1611	0	0	0
27	SLU 60	51	-42	1643	0	0	0
27	SLU 61	51	-41	1646	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
27	SLU 62	51	-41	1658	0	0	0
27	SLU 63	51	-40	1661	0	0	0
27	SLU 64	52	-38	1596	0	0	0
27	SLU 65	52	-36	1601	0	0	0
27	SLU 66	52	-37	1619	0	0	0
27	SLU 67	52	-36	1622	0	0	0
27	SLU 68	52	-35	1616	0	0	0
27	SLU 69	52	-36	1634	0	0	0
27	SLU 70	52	-35	1637	0	0	0
27	SLU 71	52	-36	1626	0	0	0
27	SLU 72	52	-35	1629	0	0	0
27	SLU 73	54	-38	1752	0	0	0
27	SLU 74	55	-39	1770	0	0	0
27	SLU 75	55	-38	1773	0	0	0
27	SLU 76	54	-37	1766	0	0	0
27	SLU 77	55	-39	1785	0	0	0
27	SLU 78	55	-37	1788	0	0	0
27	SLU 79	54	-39	1776	0	0	0
27	SLU 80	54	-37	1779	0	0	0
27	SLU 81	55	-41	1811	0	0	0
27	SLU 82	55	-40	1814	0	0	0
27	SLU 83	55	-40	1826	0	0	0
27	SLU 84	55	-39	1829	0	0	0
27	SLE RA 1	39	-29	1191	0	0	0
27	SLE RA 2	39	-28	1194	0	0	0
27	SLE RA 3	39	-29	1206	0	0	0
27	SLE RA 4	39	-28	1208	0	0	0
27	SLE RA 5	39	-27	1204	0	0	0
27	SLE RA 6	39	-28	1216	0	0	0
27	SLE RA 7	39	-27	1218	0	0	0
27	SLE RA 8	39	-28	1210	0	0	0
27	SLE RA 9	39	-27	1212	0	0	0
27	SLE RA 10	41	-29	1294	0	0	0
27	SLE RA 11	41	-30	1307	0	0	0
27	SLE RA 12	41	-29	1309	0	0	0
27	SLE RA 13	41	-29	1304	0	0	0
27	SLE RA 14	41	-30	1317	0	0	0
27	SLE RA 15	41	-29	1319	0	0	0
27	SLE RA 16	41	-30	1311	0	0	0
27	SLE RA 17	41	-29	1313	0	0	0
27	SLE RA 18	41	-31	1334	0	0	0
27	SLE RA 19	41	-31	1336	0	0	0
27	SLE RA 20	41	-31	1344	0	0	0
27	SLE RA 21	41	-30	1346	0	0	0
27	SLE FR 1	39	-29	1191	0	0	0
27	SLE FR 2	39	-29	1191	0	0	0
27	SLE FR 3	39	-29	1195	0	0	0
27	SLE FR 4	40	-29	1234	0	0	0
27	SLE FR 5	40	-30	1238	0	0	0
27	SLE FR 6	40	-30	1262	0	0	0
27	SLE QP 1	39	-29	1191	0	0	0
27	SLE QP 2	40	-30	1234	0	0	0
27	SLD 1	94	-18	1289	0	0	0
27	SLD 2	99	-16	1292	0	0	0
27	SLD 3	95	-36	1202	0	0	0
27	SLD 4	100	-35	1205	0	0	0
27	SLD 5	54	2	1382	0	0	0
27	SLD 6	58	3	1383	0	0	0
27	SLD 7	56	-61	1092	0	0	0
27	SLD 8	59	-59	1094	0	0	0
27	SLD 9	20	0	1374	0	0	0
27	SLD 10	23	1	1376	0	0	0
27	SLD 11	22	-63	1084	0	0	0
27	SLD 12	25	-62	1086	0	0	0
27	SLD 13	-21	-25	1263	0	0	0
27	SLD 14	-16	-23	1266	0	0	0
27	SLD 15	-20	-44	1176	0	0	0
27	SLD 16	-15	-42	1179	0	0	0
27	SLV 1	125	-9	1326	0	0	0
27	SLV 2	133	-7	1330	0	0	0
27	SLV 3	126	-41	1179	0	0	0
27	SLV 4	134	-39	1183	0	0	0
27	SLV 5	63	24	1483	0	0	0
27	SLV 6	68	26	1486	0	0	0
27	SLV 7	66	-82	994	0	0	0
27	SLV 8	71	-80	996	0	0	0
27	SLV 9	9	21	1471	0	0	0
27	SLV 10	14	23	1474	0	0	0
27	SLV 11	11	-86	981	0	0	0
27	SLV 12	17	-84	984	0	0	0
27	SLV 13	-55	-21	1285	0	0	0
27	SLV 14	-47	-18	1289	0	0	0
27	SLV 15	-54	-53	1138	0	0	0
27	SLV 16	-46	-50	1142	0	0	0
27	SLV FO 1	134	-7	1335	0	0	0
27	SLV FO 2	143	-4	1339	0	0	0
27	SLV FO 3	135	-43	1173	0	0	0
27	SLV FO 4	144	-39	1178	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
27	SLV FO 5	65	30	1508	0	0	0
27	SLV FO 6	71	32	1511	0	0	0
27	SLV FO 7	68	-88	970	0	0	0
27	SLV FO 8	74	-86	973	0	0	0
27	SLV FO 9	5	26	1495	0	0	0
27	SLV FO 10	11	28	1498	0	0	0
27	SLV FO 11	9	-91	956	0	0	0
27	SLV FO 12	15	-89	959	0	0	0
27	SLV FO 13	-64	-20	1290	0	0	0
27	SLV FO 14	-56	-17	1294	0	0	0
27	SLV FO 15	-63	-55	1128	0	0	0
27	SLV FO 16	-55	-52	1133	0	0	0
27	CRTFP Uy+	0	0	0	0	0	0
27	CRTFP Uy-	0	0	0	0	0	0
28	SLU 1	38	-22	1186	0	0	0
28	SLU 2	38	-20	1191	0	0	0
28	SLU 3	38	-21	1210	0	0	0
28	SLU 4	38	-20	1213	0	0	0
28	SLU 5	38	-19	1206	0	0	0
28	SLU 6	38	-20	1224	0	0	0
28	SLU 7	38	-19	1227	0	0	0
28	SLU 8	38	-20	1215	0	0	0
28	SLU 9	38	-19	1218	0	0	0
28	SLU 10	40	-22	1343	0	0	0
28	SLU 11	40	-23	1361	0	0	0
28	SLU 12	40	-22	1364	0	0	0
28	SLU 13	40	-21	1357	0	0	0
28	SLU 14	40	-22	1376	0	0	0
28	SLU 15	40	-21	1379	0	0	0
28	SLU 16	40	-22	1367	0	0	0
28	SLU 17	40	-21	1370	0	0	0
28	SLU 18	41	-24	1403	0	0	0
28	SLU 19	41	-23	1406	0	0	0
28	SLU 20	41	-24	1417	0	0	0
28	SLU 21	41	-23	1420	0	0	0
28	SLU 22	42	-21	1358	0	0	0
28	SLU 23	42	-19	1363	0	0	0
28	SLU 24	42	-20	1382	0	0	0
28	SLU 25	42	-19	1385	0	0	0
28	SLU 26	42	-18	1378	0	0	0
28	SLU 27	42	-19	1396	0	0	0
28	SLU 28	42	-18	1399	0	0	0
28	SLU 29	42	-19	1387	0	0	0
28	SLU 30	42	-18	1390	0	0	0
28	SLU 31	44	-21	1515	0	0	0
28	SLU 32	44	-22	1533	0	0	0
28	SLU 33	45	-21	1536	0	0	0
28	SLU 34	44	-20	1529	0	0	0
28	SLU 35	45	-21	1548	0	0	0
28	SLU 36	45	-20	1551	0	0	0
28	SLU 37	44	-21	1539	0	0	0
28	SLU 38	44	-20	1542	0	0	0
28	SLU 39	45	-23	1575	0	0	0
28	SLU 40	45	-22	1578	0	0	0
28	SLU 41	45	-22	1589	0	0	0
28	SLU 42	45	-21	1592	0	0	0
28	SLU 43	47	-29	1483	0	0	0
28	SLU 44	48	-27	1488	0	0	0
28	SLU 45	48	-28	1507	0	0	0
28	SLU 46	48	-27	1510	0	0	0
28	SLU 47	48	-26	1503	0	0	0
28	SLU 48	48	-27	1521	0	0	0
28	SLU 49	48	-26	1524	0	0	0
28	SLU 50	48	-27	1512	0	0	0
28	SLU 51	48	-26	1515	0	0	0
28	SLU 52	50	-29	1640	0	0	0
28	SLU 53	50	-30	1658	0	0	0
28	SLU 54	50	-29	1661	0	0	0
28	SLU 55	50	-28	1654	0	0	0
28	SLU 56	50	-29	1673	0	0	0
28	SLU 57	50	-28	1676	0	0	0
28	SLU 58	50	-29	1664	0	0	0
28	SLU 59	50	-28	1667	0	0	0
28	SLU 60	51	-31	1700	0	0	0
28	SLU 61	51	-30	1703	0	0	0
28	SLU 62	51	-31	1714	0	0	0
28	SLU 63	51	-29	1717	0	0	0
28	SLU 64	52	-27	1655	0	0	0
28	SLU 65	52	-26	1660	0	0	0
28	SLU 66	52	-27	1679	0	0	0
28	SLU 67	52	-26	1682	0	0	0
28	SLU 68	52	-25	1675	0	0	0
28	SLU 69	52	-26	1693	0	0	0
28	SLU 70	52	-25	1696	0	0	0
28	SLU 71	52	-26	1684	0	0	0
28	SLU 72	52	-25	1687	0	0	0
28	SLU 73	54	-27	1812	0	0	0
28	SLU 74	54	-29	1830	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
28	SLU 75	54	-27	1833	0	0	0
28	SLU 76	54	-27	1826	0	0	0
28	SLU 77	54	-28	1845	0	0	0
28	SLU 78	54	-27	1848	0	0	0
28	SLU 79	54	-28	1836	0	0	0
28	SLU 80	54	-27	1839	0	0	0
28	SLU 81	55	-30	1872	0	0	0
28	SLU 82	55	-29	1875	0	0	0
28	SLU 83	55	-29	1886	0	0	0
28	SLU 84	55	-28	1889	0	0	0
28	SLE RA 1	39	-21	1235	0	0	0
28	SLE RA 2	39	-20	1239	0	0	0
28	SLE RA 3	39	-21	1251	0	0	0
28	SLE RA 4	39	-20	1253	0	0	0
28	SLE RA 5	39	-20	1248	0	0	0
28	SLE RA 6	39	-20	1261	0	0	0
28	SLE RA 7	39	-20	1263	0	0	0
28	SLE RA 8	39	-21	1255	0	0	0
28	SLE RA 9	39	-20	1257	0	0	0
28	SLE RA 10	40	-21	1340	0	0	0
28	SLE RA 11	41	-22	1352	0	0	0
28	SLE RA 12	41	-21	1354	0	0	0
28	SLE RA 13	40	-21	1349	0	0	0
28	SLE RA 14	41	-22	1362	0	0	0
28	SLE RA 15	41	-21	1364	0	0	0
28	SLE RA 16	40	-22	1356	0	0	0
28	SLE RA 17	40	-21	1358	0	0	0
28	SLE RA 18	41	-23	1380	0	0	0
28	SLE RA 19	41	-22	1382	0	0	0
28	SLE RA 20	41	-23	1389	0	0	0
28	SLE RA 21	41	-22	1391	0	0	0
28	SLE FR 1	39	-21	1235	0	0	0
28	SLE FR 2	39	-21	1236	0	0	0
28	SLE FR 3	39	-21	1239	0	0	0
28	SLE FR 4	40	-22	1279	0	0	0
28	SLE FR 5	39	-22	1283	0	0	0
28	SLE FR 6	40	-22	1308	0	0	0
28	SLE QP 1	39	-21	1235	0	0	0
28	SLE QP 2	39	-22	1279	0	0	0
28	SLD 1	94	-15	1273	0	0	0
28	SLD 2	99	-9	1274	0	0	0
28	SLD 3	95	-31	1188	0	0	0
28	SLD 4	100	-25	1189	0	0	0
28	SLD 5	54	3	1405	0	0	0
28	SLD 6	57	7	1406	0	0	0
28	SLD 7	56	-50	1123	0	0	0
28	SLD 8	59	-46	1123	0	0	0
28	SLD 9	20	2	1434	0	0	0
28	SLD 10	23	6	1434	0	0	0
28	SLD 11	22	-51	1151	0	0	0
28	SLD 12	25	-47	1152	0	0	0
28	SLD 13	-21	-19	1368	0	0	0
28	SLD 14	-16	-13	1369	0	0	0
28	SLD 15	-20	-35	1283	0	0	0
28	SLD 16	-15	-29	1284	0	0	0
28	SLV 1	125	-10	1276	0	0	0
28	SLV 2	133	0	1277	0	0	0
28	SLV 3	126	-37	1132	0	0	0
28	SLV 4	134	-27	1133	0	0	0
28	SLV 5	62	21	1495	0	0	0
28	SLV 6	68	28	1496	0	0	0
28	SLV 7	65	-69	1017	0	0	0
28	SLV 8	71	-62	1018	0	0	0
28	SLV 9	8	19	1539	0	0	0
28	SLV 10	14	25	1540	0	0	0
28	SLV 11	11	-71	1062	0	0	0
28	SLV 12	17	-64	1062	0	0	0
28	SLV 13	-55	-17	1424	0	0	0
28	SLV 14	-47	-7	1425	0	0	0
28	SLV 15	-54	-44	1281	0	0	0
28	SLV 16	-46	-34	1282	0	0	0
28	SLV FO 1	134	-9	1275	0	0	0
28	SLV FO 2	142	2	1277	0	0	0
28	SLV FO 3	135	-38	1118	0	0	0
28	SLV FO 4	143	-27	1119	0	0	0
28	SLV FO 5	65	25	1516	0	0	0
28	SLV FO 6	70	32	1517	0	0	0
28	SLV FO 7	68	-74	991	0	0	0
28	SLV FO 8	74	-66	992	0	0	0
28	SLV FO 9	5	23	1565	0	0	0
28	SLV FO 10	11	30	1566	0	0	0
28	SLV FO 11	9	-76	1040	0	0	0
28	SLV FO 12	14	-69	1041	0	0	0
28	SLV FO 13	-64	-16	1438	0	0	0
28	SLV FO 14	-56	-5	1440	0	0	0
28	SLV FO 15	-63	-46	1281	0	0	0
28	SLV FO 16	-55	-35	1282	0	0	0
28	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
28	CRTFP Uy-	0	0	0	0	0	0
29	SLU 1	23	-19	692	0	0	0
29	SLU 2	23	-18	695	0	0	0
29	SLU 3	23	-19	706	0	0	0
29	SLU 4	24	-18	708	0	0	0
29	SLU 5	23	-18	704	0	0	0
29	SLU 6	24	-19	715	0	0	0
29	SLU 7	24	-18	717	0	0	0
29	SLU 8	23	-19	710	0	0	0
29	SLU 9	23	-18	712	0	0	0
29	SLU 10	25	-20	787	0	0	0
29	SLU 11	25	-21	798	0	0	0
29	SLU 12	25	-20	800	0	0	0
29	SLU 13	25	-19	796	0	0	0
29	SLU 14	25	-20	807	0	0	0
29	SLU 15	25	-19	809	0	0	0
29	SLU 16	25	-20	802	0	0	0
29	SLU 17	25	-19	804	0	0	0
29	SLU 18	25	-22	823	0	0	0
29	SLU 19	25	-21	825	0	0	0
29	SLU 20	25	-21	832	0	0	0
29	SLU 21	25	-21	834	0	0	0
29	SLU 22	26	-19	794	0	0	0
29	SLU 23	26	-18	797	0	0	0
29	SLU 24	26	-19	808	0	0	0
29	SLU 25	26	-18	810	0	0	0
29	SLU 26	26	-17	806	0	0	0
29	SLU 27	26	-18	817	0	0	0
29	SLU 28	26	-18	819	0	0	0
29	SLU 29	26	-18	812	0	0	0
29	SLU 30	26	-18	814	0	0	0
29	SLU 31	27	-19	889	0	0	0
29	SLU 32	28	-20	900	0	0	0
29	SLU 33	28	-20	902	0	0	0
29	SLU 34	27	-19	898	0	0	0
29	SLU 35	28	-20	909	0	0	0
29	SLU 36	28	-19	911	0	0	0
29	SLU 37	27	-20	904	0	0	0
29	SLU 38	27	-19	906	0	0	0
29	SLU 39	28	-21	925	0	0	0
29	SLU 40	28	-21	927	0	0	0
29	SLU 41	28	-21	934	0	0	0
29	SLU 42	28	-20	936	0	0	0
29	SLU 43	29	-25	864	0	0	0
29	SLU 44	29	-24	867	0	0	0
29	SLU 45	30	-25	878	0	0	0
29	SLU 46	30	-24	880	0	0	0
29	SLU 47	29	-24	876	0	0	0
29	SLU 48	30	-25	888	0	0	0
29	SLU 49	30	-24	889	0	0	0
29	SLU 50	29	-25	882	0	0	0
29	SLU 51	29	-24	884	0	0	0
29	SLU 52	31	-26	959	0	0	0
29	SLU 53	31	-27	970	0	0	0
29	SLU 54	31	-26	972	0	0	0
29	SLU 55	31	-25	968	0	0	0
29	SLU 56	31	-26	980	0	0	0
29	SLU 57	31	-25	981	0	0	0
29	SLU 58	31	-26	974	0	0	0
29	SLU 59	31	-25	976	0	0	0
29	SLU 60	31	-28	996	0	0	0
29	SLU 61	31	-27	997	0	0	0
29	SLU 62	31	-27	1005	0	0	0
29	SLU 63	31	-27	1006	0	0	0
29	SLU 64	32	-25	966	0	0	0
29	SLU 65	32	-24	969	0	0	0
29	SLU 66	32	-25	981	0	0	0
29	SLU 67	32	-24	982	0	0	0
29	SLU 68	32	-23	978	0	0	0
29	SLU 69	32	-24	990	0	0	0
29	SLU 70	32	-23	992	0	0	0
29	SLU 71	32	-24	984	0	0	0
29	SLU 72	32	-23	986	0	0	0
29	SLU 73	33	-25	1061	0	0	0
29	SLU 74	34	-26	1073	0	0	0
29	SLU 75	34	-25	1074	0	0	0
29	SLU 76	33	-25	1070	0	0	0
29	SLU 77	34	-26	1082	0	0	0
29	SLU 78	34	-25	1084	0	0	0
29	SLU 79	33	-26	1077	0	0	0
29	SLU 80	33	-25	1078	0	0	0
29	SLU 81	34	-27	1098	0	0	0
29	SLU 82	34	-27	1100	0	0	0
29	SLU 83	34	-27	1107	0	0	0
29	SLU 84	34	-26	1109	0	0	0
29	SLE RA 1	24	-19	721	0	0	0
29	SLE RA 2	24	-18	723	0	0	0
29	SLE RA 3	24	-19	730	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
29	SLE RA 4	24	-19	732	0	0	0
29	SLE RA 5	24	-18	729	0	0	0
29	SLE RA 6	24	-19	736	0	0	0
29	SLE RA 7	24	-18	738	0	0	0
29	SLE RA 8	24	-19	733	0	0	0
29	SLE RA 9	24	-18	734	0	0	0
29	SLE RA 10	25	-20	784	0	0	0
29	SLE RA 11	25	-20	792	0	0	0
29	SLE RA 12	25	-20	793	0	0	0
29	SLE RA 13	25	-19	790	0	0	0
29	SLE RA 14	25	-20	798	0	0	0
29	SLE RA 15	25	-19	799	0	0	0
29	SLE RA 16	25	-20	794	0	0	0
29	SLE RA 17	25	-19	796	0	0	0
29	SLE RA 18	25	-21	808	0	0	0
29	SLE RA 19	25	-20	810	0	0	0
29	SLE RA 20	25	-21	815	0	0	0
29	SLE RA 21	25	-20	816	0	0	0
29	SLE FR 1	24	-19	721	0	0	0
29	SLE FR 2	24	-19	721	0	0	0
29	SLE FR 3	24	-19	723	0	0	0
29	SLE FR 4	24	-20	747	0	0	0
29	SLE FR 5	24	-20	750	0	0	0
29	SLE FR 6	25	-20	765	0	0	0
29	SLE QP 1	24	-19	721	0	0	0
29	SLE QP 2	24	-20	747	0	0	0
29	SLD 1	58	-11	792	0	0	0
29	SLD 2	61	-11	794	0	0	0
29	SLD 3	58	-23	739	0	0	0
29	SLD 4	62	-23	741	0	0	0
29	SLD 5	34	1	841	0	0	0
29	SLD 6	35	1	842	0	0	0
29	SLD 7	35	-39	663	0	0	0
29	SLD 8	37	-39	665	0	0	0
29	SLD 9	12	0	829	0	0	0
29	SLD 10	14	0	831	0	0	0
29	SLD 11	13	-41	652	0	0	0
29	SLD 12	15	-41	653	0	0	0
29	SLD 13	-13	-16	754	0	0	0
29	SLD 14	-10	-16	756	0	0	0
29	SLD 15	-12	-29	700	0	0	0
29	SLD 16	-9	-28	702	0	0	0
29	SLV 1	77	-5	820	0	0	0
29	SLV 2	82	-5	824	0	0	0
29	SLV 3	78	-26	730	0	0	0
29	SLV 4	83	-26	733	0	0	0
29	SLV 5	39	16	905	0	0	0
29	SLV 6	42	16	907	0	0	0
29	SLV 7	40	-53	605	0	0	0
29	SLV 8	44	-53	607	0	0	0
29	SLV 9	5	13	887	0	0	0
29	SLV 10	8	14	889	0	0	0
29	SLV 11	7	-56	587	0	0	0
29	SLV 12	10	-56	589	0	0	0
29	SLV 13	-34	-14	761	0	0	0
29	SLV 14	-29	-13	764	0	0	0
29	SLV 15	-33	-35	671	0	0	0
29	SLV 16	-28	-34	674	0	0	0
29	SLV FO 1	82	-4	828	0	0	0
29	SLV FO 2	88	-4	831	0	0	0
29	SLV FO 3	83	-27	729	0	0	0
29	SLV FO 4	88	-26	732	0	0	0
29	SLV FO 5	40	20	921	0	0	0
29	SLV FO 6	44	20	923	0	0	0
29	SLV FO 7	42	-57	591	0	0	0
29	SLV FO 8	46	-56	593	0	0	0
29	SLV FO 9	3	17	901	0	0	0
29	SLV FO 10	7	17	903	0	0	0
29	SLV FO 11	5	-59	571	0	0	0
29	SLV FO 12	9	-59	573	0	0	0
29	SLV FO 13	-40	-13	762	0	0	0
29	SLV FO 14	-34	-13	766	0	0	0
29	SLV FO 15	-39	-36	663	0	0	0
29	SLV FO 16	-34	-36	666	0	0	0
30	SLU 1	29	-21	885	0	0	0
30	SLU 2	29	-20	889	0	0	0
30	SLU 3	29	-21	903	0	0	0
30	SLU 4	29	-20	905	0	0	0
30	SLU 5	29	-19	900	0	0	0
30	SLU 6	29	-20	914	0	0	0
30	SLU 7	29	-19	916	0	0	0
30	SLU 8	29	-20	907	0	0	0
30	SLU 9	29	-19	910	0	0	0
30	SLU 10	31	-22	1004	0	0	0
30	SLU 11	31	-23	1019	0	0	0
30	SLU 12	31	-22	1021	0	0	0
30	SLU 13	31	-21	1016	0	0	0
30	SLU 14	31	-22	1030	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLU 15	31	-21	1032	0	0	0
30	SLU 16	31	-22	1023	0	0	0
30	SLU 17	31	-21	1026	0	0	0
30	SLU 18	32	-24	1050	0	0	0
30	SLU 19	32	-23	1053	0	0	0
30	SLU 20	32	-23	1062	0	0	0
30	SLU 21	32	-22	1064	0	0	0
30	SLU 22	32	-21	1014	0	0	0
30	SLU 23	32	-19	1018	0	0	0
30	SLU 24	33	-20	1033	0	0	0
30	SLU 25	33	-19	1035	0	0	0
30	SLU 26	32	-19	1030	0	0	0
30	SLU 27	33	-20	1044	0	0	0
30	SLU 28	33	-19	1046	0	0	0
30	SLU 29	32	-20	1037	0	0	0
30	SLU 30	32	-19	1040	0	0	0
30	SLU 31	34	-21	1134	0	0	0
30	SLU 32	34	-22	1149	0	0	0
30	SLU 33	34	-21	1151	0	0	0
30	SLU 34	34	-20	1146	0	0	0
30	SLU 35	34	-21	1160	0	0	0
30	SLU 36	34	-21	1162	0	0	0
30	SLU 37	34	-21	1153	0	0	0
30	SLU 38	34	-21	1155	0	0	0
30	SLU 39	35	-23	1180	0	0	0
30	SLU 40	35	-22	1182	0	0	0
30	SLU 41	35	-23	1192	0	0	0
30	SLU 42	35	-22	1194	0	0	0
30	SLU 43	37	-28	1106	0	0	0
30	SLU 44	37	-26	1109	0	0	0
30	SLU 45	37	-27	1124	0	0	0
30	SLU 46	37	-26	1126	0	0	0
30	SLU 47	37	-26	1121	0	0	0
30	SLU 48	37	-27	1135	0	0	0
30	SLU 49	37	-26	1137	0	0	0
30	SLU 50	37	-27	1128	0	0	0
30	SLU 51	37	-26	1131	0	0	0
30	SLU 52	38	-28	1225	0	0	0
30	SLU 53	39	-29	1240	0	0	0
30	SLU 54	39	-28	1242	0	0	0
30	SLU 55	38	-28	1237	0	0	0
30	SLU 56	39	-29	1251	0	0	0
30	SLU 57	39	-28	1253	0	0	0
30	SLU 58	38	-29	1244	0	0	0
30	SLU 59	39	-28	1247	0	0	0
30	SLU 60	39	-30	1271	0	0	0
30	SLU 61	39	-29	1274	0	0	0
30	SLU 62	39	-30	1283	0	0	0
30	SLU 63	39	-29	1285	0	0	0
30	SLU 64	40	-27	1235	0	0	0
30	SLU 65	40	-26	1239	0	0	0
30	SLU 66	40	-27	1253	0	0	0
30	SLU 67	40	-26	1256	0	0	0
30	SLU 68	40	-25	1251	0	0	0
30	SLU 69	40	-26	1265	0	0	0
30	SLU 70	40	-25	1267	0	0	0
30	SLU 71	40	-26	1258	0	0	0
30	SLU 72	40	-25	1260	0	0	0
30	SLU 73	42	-28	1355	0	0	0
30	SLU 74	42	-29	1369	0	0	0
30	SLU 75	42	-28	1372	0	0	0
30	SLU 76	42	-27	1367	0	0	0
30	SLU 77	42	-28	1381	0	0	0
30	SLU 78	42	-27	1383	0	0	0
30	SLU 79	42	-28	1374	0	0	0
30	SLU 80	42	-27	1376	0	0	0
30	SLU 81	42	-30	1401	0	0	0
30	SLU 82	42	-29	1403	0	0	0
30	SLU 83	42	-29	1412	0	0	0
30	SLU 84	42	-28	1415	0	0	0
30	SLE RA 1	30	-21	922	0	0	0
30	SLE RA 2	30	-20	924	0	0	0
30	SLE RA 3	30	-21	934	0	0	0
30	SLE RA 4	30	-20	935	0	0	0
30	SLE RA 5	30	-20	932	0	0	0
30	SLE RA 6	30	-20	941	0	0	0
30	SLE RA 7	30	-20	943	0	0	0
30	SLE RA 8	30	-20	937	0	0	0
30	SLE RA 9	30	-20	938	0	0	0
30	SLE RA 10	31	-21	1002	0	0	0
30	SLE RA 11	31	-22	1011	0	0	0
30	SLE RA 12	31	-21	1013	0	0	0
30	SLE RA 13	31	-21	1009	0	0	0
30	SLE RA 14	31	-22	1019	0	0	0
30	SLE RA 15	31	-21	1020	0	0	0
30	SLE RA 16	31	-22	1014	0	0	0
30	SLE RA 17	31	-21	1016	0	0	0
30	SLE RA 18	32	-23	1032	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLE RA 19	32	-22	1034	0	0	0
30	SLE RA 20	32	-22	1040	0	0	0
30	SLE RA 21	32	-22	1041	0	0	0
30	SLE FR 1	30	-21	922	0	0	0
30	SLE FR 2	30	-21	922	0	0	0
30	SLE FR 3	30	-21	925	0	0	0
30	SLE FR 4	30	-21	955	0	0	0
30	SLE FR 5	30	-21	958	0	0	0
30	SLE FR 6	31	-22	977	0	0	0
30	SLE QP 1	30	-21	922	0	0	0
30	SLE QP 2	30	-22	955	0	0	0
30	SLD 1	73	-13	982	0	0	0
30	SLD 2	76	-11	984	0	0	0
30	SLD 3	73	-27	916	0	0	0
30	SLD 4	77	-25	918	0	0	0
30	SLD 5	42	2	1063	0	0	0
30	SLD 6	44	3	1065	0	0	0
30	SLD 7	43	-45	842	0	0	0
30	SLD 8	46	-44	843	0	0	0
30	SLD 9	15	0	1066	0	0	0
30	SLD 10	18	2	1068	0	0	0
30	SLD 11	17	-46	845	0	0	0
30	SLD 12	19	-45	846	0	0	0
30	SLD 13	-16	-18	992	0	0	0
30	SLD 14	-12	-16	994	0	0	0
30	SLD 15	-15	-32	926	0	0	0
30	SLD 16	-12	-30	927	0	0	0
30	SLV 1	96	-7	1002	0	0	0
30	SLV 2	102	-4	1005	0	0	0
30	SLV 3	97	-31	890	0	0	0
30	SLV 4	103	-28	892	0	0	0
30	SLV 5	48	18	1139	0	0	0
30	SLV 6	52	20	1140	0	0	0
30	SLV 7	50	-61	765	0	0	0
30	SLV 8	54	-59	767	0	0	0
30	SLV 9	7	16	1143	0	0	0
30	SLV 10	11	18	1145	0	0	0
30	SLV 11	9	-64	769	0	0	0
30	SLV 12	13	-61	771	0	0	0
30	SLV 13	-42	-15	1017	0	0	0
30	SLV 14	-36	-12	1020	0	0	0
30	SLV 15	-41	-39	905	0	0	0
30	SLV 16	-35	-36	908	0	0	0
30	SLV FO 1	103	-6	1006	0	0	0
30	SLV FO 2	110	-2	1010	0	0	0
30	SLV FO 3	104	-32	883	0	0	0
30	SLV FO 4	110	-29	886	0	0	0
30	SLV FO 5	50	22	1157	0	0	0
30	SLV FO 6	54	25	1159	0	0	0
30	SLV FO 7	52	-65	746	0	0	0
30	SLV FO 8	57	-63	748	0	0	0
30	SLV FO 9	4	20	1162	0	0	0
30	SLV FO 10	9	22	1164	0	0	0
30	SLV FO 11	7	-68	751	0	0	0
30	SLV FO 12	11	-65	753	0	0	0
30	SLV FO 13	-49	-15	1024	0	0	0
30	SLV FO 14	-43	-11	1027	0	0	0
30	SLV FO 15	-49	-41	900	0	0	0
30	SLV FO 16	-42	-37	903	0	0	0
31	SLU 1	29	-20	893	0	0	0
31	SLU 2	29	-19	897	0	0	0
31	SLU 3	29	-20	911	0	0	0
31	SLU 4	29	-19	914	0	0	0
31	SLU 5	29	-18	909	0	0	0
31	SLU 6	29	-19	923	0	0	0
31	SLU 7	29	-18	925	0	0	0
31	SLU 8	29	-19	916	0	0	0
31	SLU 9	29	-18	918	0	0	0
31	SLU 10	31	-20	1014	0	0	0
31	SLU 11	31	-21	1028	0	0	0
31	SLU 12	31	-20	1030	0	0	0
31	SLU 13	31	-20	1025	0	0	0
31	SLU 14	31	-21	1039	0	0	0
31	SLU 15	31	-20	1041	0	0	0
31	SLU 16	31	-21	1032	0	0	0
31	SLU 17	31	-20	1035	0	0	0
31	SLU 18	32	-23	1060	0	0	0
31	SLU 19	32	-22	1062	0	0	0
31	SLU 20	32	-22	1071	0	0	0
31	SLU 21	32	-21	1073	0	0	0
31	SLU 22	32	-19	1024	0	0	0
31	SLU 23	32	-18	1028	0	0	0
31	SLU 24	33	-19	1042	0	0	0
31	SLU 25	33	-18	1044	0	0	0
31	SLU 26	32	-18	1039	0	0	0
31	SLU 27	33	-18	1053	0	0	0
31	SLU 28	33	-18	1056	0	0	0
31	SLU 29	32	-19	1047	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLU 30	32	-18	1049	0	0	0
31	SLU 31	34	-20	1144	0	0	0
31	SLU 32	34	-21	1159	0	0	0
31	SLU 33	34	-20	1161	0	0	0
31	SLU 34	34	-19	1156	0	0	0
31	SLU 35	34	-20	1170	0	0	0
31	SLU 36	34	-19	1172	0	0	0
31	SLU 37	34	-20	1163	0	0	0
31	SLU 38	34	-19	1165	0	0	0
31	SLU 39	35	-22	1190	0	0	0
31	SLU 40	35	-21	1193	0	0	0
31	SLU 41	35	-21	1202	0	0	0
31	SLU 42	35	-20	1204	0	0	0
31	SLU 43	37	-26	1117	0	0	0
31	SLU 44	37	-25	1120	0	0	0
31	SLU 45	37	-26	1135	0	0	0
31	SLU 46	37	-25	1137	0	0	0
31	SLU 47	37	-24	1132	0	0	0
31	SLU 48	37	-25	1146	0	0	0
31	SLU 49	37	-25	1148	0	0	0
31	SLU 50	37	-25	1139	0	0	0
31	SLU 51	37	-25	1142	0	0	0
31	SLU 52	39	-27	1237	0	0	0
31	SLU 53	39	-28	1251	0	0	0
31	SLU 54	39	-27	1253	0	0	0
31	SLU 55	39	-26	1248	0	0	0
31	SLU 56	39	-27	1262	0	0	0
31	SLU 57	39	-26	1265	0	0	0
31	SLU 58	39	-27	1256	0	0	0
31	SLU 59	39	-26	1258	0	0	0
31	SLU 60	39	-29	1283	0	0	0
31	SLU 61	39	-28	1285	0	0	0
31	SLU 62	39	-28	1294	0	0	0
31	SLU 63	39	-27	1296	0	0	0
31	SLU 64	40	-26	1247	0	0	0
31	SLU 65	40	-24	1251	0	0	0
31	SLU 66	40	-25	1265	0	0	0
31	SLU 67	40	-24	1268	0	0	0
31	SLU 68	40	-24	1262	0	0	0
31	SLU 69	40	-25	1277	0	0	0
31	SLU 70	40	-24	1279	0	0	0
31	SLU 71	40	-25	1270	0	0	0
31	SLU 72	40	-24	1272	0	0	0
31	SLU 73	42	-26	1367	0	0	0
31	SLU 74	42	-27	1382	0	0	0
31	SLU 75	42	-26	1384	0	0	0
31	SLU 76	42	-25	1379	0	0	0
31	SLU 77	42	-26	1393	0	0	0
31	SLU 78	42	-26	1395	0	0	0
31	SLU 79	42	-26	1386	0	0	0
31	SLU 80	42	-26	1389	0	0	0
31	SLU 81	43	-28	1413	0	0	0
31	SLU 82	43	-27	1416	0	0	0
31	SLU 83	43	-28	1425	0	0	0
31	SLU 84	43	-27	1427	0	0	0
31	SLE RA 1	30	-20	931	0	0	0
31	SLE RA 2	30	-19	933	0	0	0
31	SLE RA 3	30	-20	943	0	0	0
31	SLE RA 4	30	-19	944	0	0	0
31	SLE RA 5	30	-19	941	0	0	0
31	SLE RA 6	30	-19	950	0	0	0
31	SLE RA 7	30	-19	952	0	0	0
31	SLE RA 8	30	-19	946	0	0	0
31	SLE RA 9	30	-19	947	0	0	0
31	SLE RA 10	31	-20	1011	0	0	0
31	SLE RA 11	31	-21	1020	0	0	0
31	SLE RA 12	31	-20	1022	0	0	0
31	SLE RA 13	31	-20	1018	0	0	0
31	SLE RA 14	31	-20	1028	0	0	0
31	SLE RA 15	31	-20	1029	0	0	0
31	SLE RA 16	31	-20	1023	0	0	0
31	SLE RA 17	31	-20	1025	0	0	0
31	SLE RA 18	32	-22	1041	0	0	0
31	SLE RA 19	32	-21	1043	0	0	0
31	SLE RA 20	32	-21	1049	0	0	0
31	SLE RA 21	32	-21	1051	0	0	0
31	SLE FR 1	30	-20	931	0	0	0
31	SLE FR 2	30	-20	931	0	0	0
31	SLE FR 3	30	-20	934	0	0	0
31	SLE FR 4	31	-20	964	0	0	0
31	SLE FR 5	31	-20	967	0	0	0
31	SLE FR 6	31	-21	986	0	0	0
31	SLE QP 1	30	-20	931	0	0	0
31	SLE QP 2	31	-20	964	0	0	0
31	SLD 1	73	-13	986	0	0	0
31	SLD 2	77	-10	987	0	0	0
31	SLD 3	73	-26	920	0	0	0
31	SLD 4	77	-24	921	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLD 5	42	2	1071	0	0	0
31	SLD 6	44	4	1072	0	0	0
31	SLD 7	43	-43	850	0	0	0
31	SLD 8	46	-42	851	0	0	0
31	SLD 9	15	1	1077	0	0	0
31	SLD 10	18	2	1078	0	0	0
31	SLD 11	17	-45	856	0	0	0
31	SLD 12	19	-43	857	0	0	0
31	SLD 13	-16	-17	1007	0	0	0
31	SLD 14	-12	-14	1008	0	0	0
31	SLD 15	-16	-31	941	0	0	0
31	SLD 16	-12	-28	942	0	0	0
31	SLV 1	97	-8	1002	0	0	0
31	SLV 2	103	-3	1005	0	0	0
31	SLV 3	97	-31	890	0	0	0
31	SLV 4	103	-26	893	0	0	0
31	SLV 5	48	18	1145	0	0	0
31	SLV 6	52	21	1146	0	0	0
31	SLV 7	50	-59	772	0	0	0
31	SLV 8	55	-56	773	0	0	0
31	SLV 9	7	16	1155	0	0	0
31	SLV 10	11	19	1156	0	0	0
31	SLV 11	9	-62	782	0	0	0
31	SLV 12	13	-59	783	0	0	0
31	SLV 13	-42	-15	1035	0	0	0
31	SLV 14	-36	-10	1038	0	0	0
31	SLV 15	-42	-38	923	0	0	0
31	SLV 16	-36	-33	926	0	0	0
31	SLV FO 1	103	-6	1006	0	0	0
31	SLV FO 2	110	-1	1009	0	0	0
31	SLV FO 3	104	-32	883	0	0	0
31	SLV FO 4	111	-27	885	0	0	0
31	SLV FO 5	50	22	1163	0	0	0
31	SLV FO 6	54	25	1164	0	0	0
31	SLV FO 7	52	-63	752	0	0	0
31	SLV FO 8	57	-60	754	0	0	0
31	SLV FO 9	4	19	1174	0	0	0
31	SLV FO 10	9	22	1175	0	0	0
31	SLV FO 11	7	-66	763	0	0	0
31	SLV FO 12	11	-62	765	0	0	0
31	SLV FO 13	-50	-14	1042	0	0	0
31	SLV FO 14	-43	-9	1045	0	0	0
31	SLV FO 15	-49	-40	919	0	0	0
31	SLV FO 16	-42	-35	922	0	0	0
32	SLU 1	29	-19	900	0	0	0
32	SLU 2	29	-18	904	0	0	0
32	SLU 3	29	-18	919	0	0	0
32	SLU 4	29	-18	921	0	0	0
32	SLU 5	29	-17	916	0	0	0
32	SLU 6	29	-18	930	0	0	0
32	SLU 7	29	-17	932	0	0	0
32	SLU 8	29	-18	923	0	0	0
32	SLU 9	29	-17	925	0	0	0
32	SLU 10	31	-19	1021	0	0	0
32	SLU 11	31	-20	1035	0	0	0
32	SLU 12	31	-19	1037	0	0	0
32	SLU 13	31	-19	1032	0	0	0
32	SLU 14	31	-20	1046	0	0	0
32	SLU 15	31	-19	1049	0	0	0
32	SLU 16	31	-20	1040	0	0	0
32	SLU 17	31	-19	1042	0	0	0
32	SLU 18	32	-21	1067	0	0	0
32	SLU 19	32	-20	1069	0	0	0
32	SLU 20	32	-21	1078	0	0	0
32	SLU 21	32	-20	1081	0	0	0
32	SLU 22	32	-18	1032	0	0	0
32	SLU 23	32	-17	1036	0	0	0
32	SLU 24	33	-18	1050	0	0	0
32	SLU 25	33	-17	1052	0	0	0
32	SLU 26	32	-16	1047	0	0	0
32	SLU 27	33	-17	1061	0	0	0
32	SLU 28	33	-16	1063	0	0	0
32	SLU 29	32	-17	1054	0	0	0
32	SLU 30	32	-16	1057	0	0	0
32	SLU 31	34	-18	1152	0	0	0
32	SLU 32	34	-19	1166	0	0	0
32	SLU 33	34	-18	1169	0	0	0
32	SLU 34	34	-18	1163	0	0	0
32	SLU 35	34	-19	1178	0	0	0
32	SLU 36	34	-18	1180	0	0	0
32	SLU 37	34	-19	1171	0	0	0
32	SLU 38	34	-18	1173	0	0	0
32	SLU 39	35	-20	1198	0	0	0
32	SLU 40	35	-20	1201	0	0	0
32	SLU 41	35	-20	1210	0	0	0
32	SLU 42	35	-19	1212	0	0	0
32	SLU 43	37	-25	1125	0	0	0
32	SLU 44	37	-24	1129	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLU 45	37	-24	1144	0	0	0
32	SLU 46	37	-24	1146	0	0	0
32	SLU 47	37	-23	1141	0	0	0
32	SLU 48	37	-24	1155	0	0	0
32	SLU 49	37	-23	1157	0	0	0
32	SLU 50	37	-24	1148	0	0	0
32	SLU 51	37	-23	1150	0	0	0
32	SLU 52	38	-25	1246	0	0	0
32	SLU 53	39	-26	1260	0	0	0
32	SLU 54	39	-25	1263	0	0	0
32	SLU 55	39	-25	1257	0	0	0
32	SLU 56	39	-26	1272	0	0	0
32	SLU 57	39	-25	1274	0	0	0
32	SLU 58	38	-26	1265	0	0	0
32	SLU 59	39	-25	1267	0	0	0
32	SLU 60	39	-27	1292	0	0	0
32	SLU 61	39	-26	1294	0	0	0
32	SLU 62	39	-27	1303	0	0	0
32	SLU 63	39	-26	1306	0	0	0
32	SLU 64	40	-24	1257	0	0	0
32	SLU 65	40	-23	1261	0	0	0
32	SLU 66	40	-24	1275	0	0	0
32	SLU 67	40	-23	1277	0	0	0
32	SLU 68	40	-22	1272	0	0	0
32	SLU 69	40	-23	1286	0	0	0
32	SLU 70	40	-22	1289	0	0	0
32	SLU 71	40	-23	1279	0	0	0
32	SLU 72	40	-22	1282	0	0	0
32	SLU 73	42	-24	1377	0	0	0
32	SLU 74	42	-25	1392	0	0	0
32	SLU 75	42	-24	1394	0	0	0
32	SLU 76	42	-24	1389	0	0	0
32	SLU 77	42	-25	1403	0	0	0
32	SLU 78	42	-24	1405	0	0	0
32	SLU 79	42	-25	1396	0	0	0
32	SLU 80	42	-24	1398	0	0	0
32	SLU 81	42	-26	1423	0	0	0
32	SLU 82	42	-26	1426	0	0	0
32	SLU 83	42	-26	1435	0	0	0
32	SLU 84	43	-25	1437	0	0	0
32	SLE RA 1	30	-19	938	0	0	0
32	SLE RA 2	30	-18	940	0	0	0
32	SLE RA 3	30	-18	950	0	0	0
32	SLE RA 4	30	-18	952	0	0	0
32	SLE RA 5	30	-18	948	0	0	0
32	SLE RA 6	30	-18	958	0	0	0
32	SLE RA 7	30	-18	959	0	0	0
32	SLE RA 8	30	-18	953	0	0	0
32	SLE RA 9	30	-18	955	0	0	0
32	SLE RA 10	31	-19	1018	0	0	0
32	SLE RA 11	31	-19	1028	0	0	0
32	SLE RA 12	31	-19	1029	0	0	0
32	SLE RA 13	31	-19	1026	0	0	0
32	SLE RA 14	31	-19	1035	0	0	0
32	SLE RA 15	31	-19	1037	0	0	0
32	SLE RA 16	31	-19	1031	0	0	0
32	SLE RA 17	31	-19	1032	0	0	0
32	SLE RA 18	32	-20	1049	0	0	0
32	SLE RA 19	32	-20	1050	0	0	0
32	SLE RA 20	32	-20	1056	0	0	0
32	SLE RA 21	32	-19	1058	0	0	0
32	SLE FR 1	30	-19	938	0	0	0
32	SLE FR 2	30	-19	938	0	0	0
32	SLE FR 3	30	-19	941	0	0	0
32	SLE FR 4	30	-19	972	0	0	0
32	SLE FR 5	30	-19	974	0	0	0
32	SLE FR 6	31	-20	993	0	0	0
32	SLE QP 1	30	-19	938	0	0	0
32	SLE QP 2	30	-19	971	0	0	0
32	SLD 1	73	-12	985	0	0	0
32	SLD 2	77	-9	986	0	0	0
32	SLD 3	73	-26	919	0	0	0
32	SLD 4	77	-22	920	0	0	0
32	SLD 5	42	2	1075	0	0	0
32	SLD 6	44	4	1076	0	0	0
32	SLD 7	43	-42	855	0	0	0
32	SLD 8	46	-39	856	0	0	0
32	SLD 9	15	1	1086	0	0	0
32	SLD 10	18	3	1087	0	0	0
32	SLD 11	17	-43	867	0	0	0
32	SLD 12	19	-41	867	0	0	0
32	SLD 13	-16	-16	1023	0	0	0
32	SLD 14	-12	-13	1024	0	0	0
32	SLD 15	-16	-30	957	0	0	0
32	SLD 16	-12	-26	958	0	0	0
32	SLV 1	97	-8	996	0	0	0
32	SLV 2	103	-2	998	0	0	0
32	SLV 3	97	-30	885	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLV 4	103	-25	887	0	0	0
32	SLV 5	48	17	1147	0	0	0
32	SLV 6	52	21	1149	0	0	0
32	SLV 7	50	-57	776	0	0	0
32	SLV 8	54	-54	777	0	0	0
32	SLV 9	6	15	1165	0	0	0
32	SLV 10	11	19	1166	0	0	0
32	SLV 11	9	-59	794	0	0	0
32	SLV 12	13	-56	795	0	0	0
32	SLV 13	-42	-14	1056	0	0	0
32	SLV 14	-36	-8	1057	0	0	0
32	SLV 15	-42	-36	944	0	0	0
32	SLV 16	-36	-31	946	0	0	0
32	SLV FO 1	103	-7	999	0	0	0
32	SLV FO 2	110	0	1001	0	0	0
32	SLV FO 3	104	-31	876	0	0	0
32	SLV FO 4	111	-25	878	0	0	0
32	SLV FO 5	50	21	1165	0	0	0
32	SLV FO 6	54	25	1166	0	0	0
32	SLV FO 7	52	-61	757	0	0	0
32	SLV FO 8	57	-57	758	0	0	0
32	SLV FO 9	4	19	1184	0	0	0
32	SLV FO 10	9	23	1186	0	0	0
32	SLV FO 11	7	-63	776	0	0	0
32	SLV FO 12	11	-59	778	0	0	0
32	SLV FO 13	-50	-13	1064	0	0	0
32	SLV FO 14	-43	-7	1066	0	0	0
32	SLV FO 15	-49	-38	942	0	0	0
32	SLV FO 16	-42	-32	944	0	0	0
33	SLU 1	29	-18	905	0	0	0
33	SLU 2	29	-16	909	0	0	0
33	SLU 3	29	-17	923	0	0	0
33	SLU 4	29	-16	926	0	0	0
33	SLU 5	29	-16	920	0	0	0
33	SLU 6	29	-17	935	0	0	0
33	SLU 7	29	-16	937	0	0	0
33	SLU 8	29	-17	928	0	0	0
33	SLU 9	29	-16	930	0	0	0
33	SLU 10	31	-18	1025	0	0	0
33	SLU 11	31	-19	1040	0	0	0
33	SLU 12	31	-18	1042	0	0	0
33	SLU 13	31	-17	1037	0	0	0
33	SLU 14	31	-18	1051	0	0	0
33	SLU 15	31	-17	1053	0	0	0
33	SLU 16	31	-18	1044	0	0	0
33	SLU 17	31	-17	1046	0	0	0
33	SLU 18	31	-20	1072	0	0	0
33	SLU 19	32	-19	1074	0	0	0
33	SLU 20	32	-19	1083	0	0	0
33	SLU 21	32	-19	1085	0	0	0
33	SLU 22	32	-17	1037	0	0	0
33	SLU 23	32	-16	1041	0	0	0
33	SLU 24	32	-16	1055	0	0	0
33	SLU 25	32	-16	1057	0	0	0
33	SLU 26	32	-15	1052	0	0	0
33	SLU 27	32	-16	1066	0	0	0
33	SLU 28	33	-15	1068	0	0	0
33	SLU 29	32	-16	1059	0	0	0
33	SLU 30	32	-15	1062	0	0	0
33	SLU 31	34	-17	1157	0	0	0
33	SLU 32	34	-18	1171	0	0	0
33	SLU 33	34	-17	1174	0	0	0
33	SLU 34	34	-17	1168	0	0	0
33	SLU 35	34	-17	1183	0	0	0
33	SLU 36	34	-17	1185	0	0	0
33	SLU 37	34	-17	1176	0	0	0
33	SLU 38	34	-17	1178	0	0	0
33	SLU 39	35	-19	1203	0	0	0
33	SLU 40	35	-18	1205	0	0	0
33	SLU 41	35	-19	1214	0	0	0
33	SLU 42	35	-18	1217	0	0	0
33	SLU 43	37	-23	1132	0	0	0
33	SLU 44	37	-22	1135	0	0	0
33	SLU 45	37	-23	1150	0	0	0
33	SLU 46	37	-22	1152	0	0	0
33	SLU 47	37	-22	1147	0	0	0
33	SLU 48	37	-22	1161	0	0	0
33	SLU 49	37	-22	1163	0	0	0
33	SLU 50	37	-22	1154	0	0	0
33	SLU 51	37	-22	1156	0	0	0
33	SLU 52	38	-24	1252	0	0	0
33	SLU 53	39	-24	1266	0	0	0
33	SLU 54	39	-24	1268	0	0	0
33	SLU 55	38	-23	1263	0	0	0
33	SLU 56	39	-24	1277	0	0	0
33	SLU 57	39	-23	1280	0	0	0
33	SLU 58	38	-24	1271	0	0	0
33	SLU 59	38	-23	1273	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLU 60	39	-26	1298	0	0	0
33	SLU 61	39	-25	1300	0	0	0
33	SLU 62	39	-25	1309	0	0	0
33	SLU 63	39	-24	1312	0	0	0
33	SLU 64	40	-23	1263	0	0	0
33	SLU 65	40	-21	1267	0	0	0
33	SLU 66	40	-22	1281	0	0	0
33	SLU 67	40	-21	1284	0	0	0
33	SLU 68	40	-21	1278	0	0	0
33	SLU 69	40	-22	1293	0	0	0
33	SLU 70	40	-21	1295	0	0	0
33	SLU 71	40	-22	1286	0	0	0
33	SLU 72	40	-21	1288	0	0	0
33	SLU 73	42	-23	1384	0	0	0
33	SLU 74	42	-24	1398	0	0	0
33	SLU 75	42	-23	1400	0	0	0
33	SLU 76	42	-22	1395	0	0	0
33	SLU 77	42	-23	1409	0	0	0
33	SLU 78	42	-22	1411	0	0	0
33	SLU 79	42	-23	1402	0	0	0
33	SLU 80	42	-22	1404	0	0	0
33	SLU 81	42	-25	1430	0	0	0
33	SLU 82	42	-24	1432	0	0	0
33	SLU 83	42	-24	1441	0	0	0
33	SLU 84	42	-23	1443	0	0	0
33	SLE RA 1	30	-18	943	0	0	0
33	SLE RA 2	30	-17	945	0	0	0
33	SLE RA 3	30	-17	955	0	0	0
33	SLE RA 4	30	-17	956	0	0	0
33	SLE RA 5	30	-16	953	0	0	0
33	SLE RA 6	30	-17	962	0	0	0
33	SLE RA 7	30	-16	964	0	0	0
33	SLE RA 8	30	-17	958	0	0	0
33	SLE RA 9	30	-16	959	0	0	0
33	SLE RA 10	31	-18	1023	0	0	0
33	SLE RA 11	31	-18	1033	0	0	0
33	SLE RA 12	31	-18	1034	0	0	0
33	SLE RA 13	31	-17	1030	0	0	0
33	SLE RA 14	31	-18	1040	0	0	0
33	SLE RA 15	31	-17	1042	0	0	0
33	SLE RA 16	31	-18	1035	0	0	0
33	SLE RA 17	31	-17	1037	0	0	0
33	SLE RA 18	32	-19	1054	0	0	0
33	SLE RA 19	32	-18	1055	0	0	0
33	SLE RA 20	32	-19	1061	0	0	0
33	SLE RA 21	32	-18	1063	0	0	0
33	SLE FR 1	30	-18	943	0	0	0
33	SLE FR 2	30	-17	943	0	0	0
33	SLE FR 3	30	-17	946	0	0	0
33	SLE FR 4	30	-18	977	0	0	0
33	SLE FR 5	30	-18	979	0	0	0
33	SLE FR 6	31	-18	998	0	0	0
33	SLE QP 1	30	-18	943	0	0	0
33	SLE QP 2	30	-18	976	0	0	0
33	SLD 1	72	-12	981	0	0	0
33	SLD 2	76	-8	981	0	0	0
33	SLD 3	73	-25	915	0	0	0
33	SLD 4	77	-20	916	0	0	0
33	SLD 5	42	2	1076	0	0	0
33	SLD 6	44	5	1077	0	0	0
33	SLD 7	43	-40	859	0	0	0
33	SLD 8	46	-37	859	0	0	0
33	SLD 9	15	1	1093	0	0	0
33	SLD 10	18	4	1094	0	0	0
33	SLD 11	17	-41	875	0	0	0
33	SLD 12	19	-38	876	0	0	0
33	SLD 13	-16	-16	1036	0	0	0
33	SLD 14	-12	-11	1037	0	0	0
33	SLD 15	-16	-28	971	0	0	0
33	SLD 16	-12	-24	971	0	0	0
33	SLV 1	96	-8	987	0	0	0
33	SLV 2	102	-1	989	0	0	0
33	SLV 3	97	-29	877	0	0	0
33	SLV 4	103	-23	878	0	0	0
33	SLV 5	48	17	1147	0	0	0
33	SLV 6	52	21	1148	0	0	0
33	SLV 7	50	-55	779	0	0	0
33	SLV 8	54	-51	779	0	0	0
33	SLV 9	6	15	1173	0	0	0
33	SLV 10	11	19	1174	0	0	0
33	SLV 11	9	-57	804	0	0	0
33	SLV 12	13	-53	805	0	0	0
33	SLV 13	-42	-13	1074	0	0	0
33	SLV 14	-36	-7	1075	0	0	0
33	SLV 15	-42	-35	963	0	0	0
33	SLV 16	-35	-28	965	0	0	0
33	SLV FO 1	103	-7	988	0	0	0
33	SLV FO 2	109	1	990	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLV FO 3	104	-30	867	0	0	0
33	SLV FO 4	110	-23	869	0	0	0
33	SLV FO 5	50	20	1164	0	0	0
33	SLV FO 6	54	25	1165	0	0	0
33	SLV FO 7	52	-59	759	0	0	0
33	SLV FO 8	57	-54	760	0	0	0
33	SLV FO 9	4	18	1192	0	0	0
33	SLV FO 10	9	23	1193	0	0	0
33	SLV FO 11	7	-61	787	0	0	0
33	SLV FO 12	11	-56	788	0	0	0
33	SLV FO 13	-49	-13	1084	0	0	0
33	SLV FO 14	-43	-6	1085	0	0	0
33	SLV FO 15	-49	-37	962	0	0	0
33	SLV FO 16	-42	-29	964	0	0	0
34	SLU 1	23	-12	739	0	0	0
34	SLU 2	23	-11	742	0	0	0
34	SLU 3	23	-12	754	0	0	0
34	SLU 4	24	-11	755	0	0	0
34	SLU 5	23	-11	751	0	0	0
34	SLU 6	24	-11	763	0	0	0
34	SLU 7	24	-11	764	0	0	0
34	SLU 8	23	-11	757	0	0	0
34	SLU 9	23	-11	759	0	0	0
34	SLU 10	25	-12	836	0	0	0
34	SLU 11	25	-13	847	0	0	0
34	SLU 12	25	-12	849	0	0	0
34	SLU 13	25	-12	845	0	0	0
34	SLU 14	25	-12	856	0	0	0
34	SLU 15	25	-12	858	0	0	0
34	SLU 16	25	-12	851	0	0	0
34	SLU 17	25	-12	852	0	0	0
34	SLU 18	25	-13	873	0	0	0
34	SLU 19	25	-13	875	0	0	0
34	SLU 20	25	-13	882	0	0	0
34	SLU 21	25	-12	884	0	0	0
34	SLU 22	26	-11	846	0	0	0
34	SLU 23	26	-10	849	0	0	0
34	SLU 24	26	-11	860	0	0	0
34	SLU 25	26	-10	862	0	0	0
34	SLU 26	26	-10	858	0	0	0
34	SLU 27	26	-10	869	0	0	0
34	SLU 28	26	-10	871	0	0	0
34	SLU 29	26	-10	864	0	0	0
34	SLU 30	26	-10	865	0	0	0
34	SLU 31	27	-11	942	0	0	0
34	SLU 32	28	-12	954	0	0	0
34	SLU 33	28	-11	956	0	0	0
34	SLU 34	27	-11	951	0	0	0
34	SLU 35	28	-11	963	0	0	0
34	SLU 36	28	-11	965	0	0	0
34	SLU 37	27	-11	957	0	0	0
34	SLU 38	27	-11	959	0	0	0
34	SLU 39	28	-13	979	0	0	0
34	SLU 40	28	-12	981	0	0	0
34	SLU 41	28	-12	988	0	0	0
34	SLU 42	28	-12	990	0	0	0
34	SLU 43	29	-16	924	0	0	0
34	SLU 44	29	-15	927	0	0	0
34	SLU 45	30	-15	939	0	0	0
34	SLU 46	30	-15	941	0	0	0
34	SLU 47	29	-14	936	0	0	0
34	SLU 48	30	-15	948	0	0	0
34	SLU 49	30	-14	950	0	0	0
34	SLU 50	29	-15	942	0	0	0
34	SLU 51	29	-14	944	0	0	0
34	SLU 52	31	-16	1021	0	0	0
34	SLU 53	31	-16	1032	0	0	0
34	SLU 54	31	-16	1034	0	0	0
34	SLU 55	31	-15	1030	0	0	0
34	SLU 56	31	-16	1041	0	0	0
34	SLU 57	31	-15	1043	0	0	0
34	SLU 58	31	-16	1036	0	0	0
34	SLU 59	31	-15	1037	0	0	0
34	SLU 60	31	-17	1058	0	0	0
34	SLU 61	31	-17	1060	0	0	0
34	SLU 62	31	-17	1067	0	0	0
34	SLU 63	31	-16	1069	0	0	0
34	SLU 64	32	-15	1031	0	0	0
34	SLU 65	32	-14	1034	0	0	0
34	SLU 66	32	-15	1045	0	0	0
34	SLU 67	32	-14	1047	0	0	0
34	SLU 68	32	-14	1043	0	0	0
34	SLU 69	32	-14	1054	0	0	0
34	SLU 70	32	-14	1056	0	0	0
34	SLU 71	32	-14	1049	0	0	0
34	SLU 72	32	-14	1051	0	0	0
34	SLU 73	33	-15	1128	0	0	0
34	SLU 74	34	-16	1139	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
34	SLU 75	34	-15	1141	0	0	0
34	SLU 76	33	-15	1136	0	0	0
34	SLU 77	34	-15	1148	0	0	0
34	SLU 78	34	-15	1150	0	0	0
34	SLU 79	33	-15	1142	0	0	0
34	SLU 80	33	-15	1144	0	0	0
34	SLU 81	34	-16	1165	0	0	0
34	SLU 82	34	-16	1166	0	0	0
34	SLU 83	34	-16	1173	0	0	0
34	SLU 84	34	-15	1175	0	0	0
34	SLE RA 1	24	-12	770	0	0	0
34	SLE RA 2	24	-11	772	0	0	0
34	SLE RA 3	24	-11	779	0	0	0
34	SLE RA 4	24	-11	780	0	0	0
34	SLE RA 5	24	-11	778	0	0	0
34	SLE RA 6	24	-11	785	0	0	0
34	SLE RA 7	24	-11	786	0	0	0
34	SLE RA 8	24	-11	781	0	0	0
34	SLE RA 9	24	-11	783	0	0	0
34	SLE RA 10	25	-12	834	0	0	0
34	SLE RA 11	25	-12	842	0	0	0
34	SLE RA 12	25	-12	843	0	0	0
34	SLE RA 13	25	-11	840	0	0	0
34	SLE RA 14	25	-12	848	0	0	0
34	SLE RA 15	25	-11	849	0	0	0
34	SLE RA 16	25	-12	844	0	0	0
34	SLE RA 17	25	-11	845	0	0	0
34	SLE RA 18	25	-13	859	0	0	0
34	SLE RA 19	25	-12	860	0	0	0
34	SLE RA 20	25	-12	865	0	0	0
34	SLE RA 21	25	-12	866	0	0	0
34	SLE FR 1	24	-12	770	0	0	0
34	SLE FR 2	24	-12	770	0	0	0
34	SLE FR 3	24	-12	772	0	0	0
34	SLE FR 4	24	-12	797	0	0	0
34	SLE FR 5	24	-12	799	0	0	0
34	SLE FR 6	25	-12	814	0	0	0
34	SLE QP 1	24	-12	770	0	0	0
34	SLE QP 2	24	-12	796	0	0	0
34	SLD 1	58	-11	781	0	0	0
34	SLD 2	61	-6	781	0	0	0
34	SLD 3	59	-20	730	0	0	0
34	SLD 4	62	-15	730	0	0	0
34	SLD 5	34	1	870	0	0	0
34	SLD 6	36	4	870	0	0	0
34	SLD 7	35	-29	698	0	0	0
34	SLD 8	37	-26	698	0	0	0
34	SLD 9	12	2	895	0	0	0
34	SLD 10	14	5	895	0	0	0
34	SLD 11	13	-29	722	0	0	0
34	SLD 12	15	-25	722	0	0	0
34	SLD 13	-13	-9	863	0	0	0
34	SLD 14	-10	-4	863	0	0	0
34	SLD 15	-12	-18	811	0	0	0
34	SLD 16	-9	-13	811	0	0	0
34	SLV 1	77	-10	776	0	0	0
34	SLV 2	82	-2	776	0	0	0
34	SLV 3	78	-26	689	0	0	0
34	SLV 4	83	-18	689	0	0	0
34	SLV 5	39	11	923	0	0	0
34	SLV 6	42	16	923	0	0	0
34	SLV 7	40	-41	631	0	0	0
34	SLV 8	44	-36	632	0	0	0
34	SLV 9	5	12	961	0	0	0
34	SLV 10	8	17	961	0	0	0
34	SLV 11	7	-40	670	0	0	0
34	SLV 12	10	-35	670	0	0	0
34	SLV 13	-34	-6	903	0	0	0
34	SLV 14	-29	2	904	0	0	0
34	SLV 15	-33	-22	816	0	0	0
34	SLV 16	-29	-14	816	0	0	0
34	SLV FO 1	83	-10	774	0	0	0
34	SLV FO 2	88	-1	774	0	0	0
34	SLV FO 3	83	-27	678	0	0	0
34	SLV FO 4	89	-19	678	0	0	0
34	SLV FO 5	40	13	935	0	0	0
34	SLV FO 6	44	19	936	0	0	0
34	SLV FO 7	42	-44	615	0	0	0
34	SLV FO 8	46	-39	615	0	0	0
34	SLV FO 9	3	15	977	0	0	0
34	SLV FO 10	7	20	978	0	0	0
34	SLV FO 11	5	-43	657	0	0	0
34	SLV FO 12	9	-37	657	0	0	0
34	SLV FO 13	-40	-5	914	0	0	0
34	SLV FO 14	-34	3	914	0	0	0
34	SLV FO 15	-39	-23	818	0	0	0
34	SLV FO 16	-34	-14	818	0	0	0
35	SLU 1	36	-29	1133	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
35	SLU 2	36	-27	1136	0	0	0
35	SLU 3	36	-29	1157	0	0	0
35	SLU 4	36	-27	1159	0	0	0
35	SLU 5	36	-27	1151	0	0	0
35	SLU 6	36	-28	1172	0	0	0
35	SLU 7	36	-27	1174	0	0	0
35	SLU 8	36	-28	1164	0	0	0
35	SLU 9	36	-27	1165	0	0	0
35	SLU 10	38	-30	1286	0	0	0
35	SLU 11	38	-31	1307	0	0	0
35	SLU 12	38	-30	1309	0	0	0
35	SLU 13	38	-29	1301	0	0	0
35	SLU 14	38	-30	1322	0	0	0
35	SLU 15	38	-29	1324	0	0	0
35	SLU 16	38	-30	1314	0	0	0
35	SLU 17	38	-29	1315	0	0	0
35	SLU 18	39	-33	1347	0	0	0
35	SLU 19	39	-31	1349	0	0	0
35	SLU 20	39	-32	1363	0	0	0
35	SLU 21	39	-31	1364	0	0	0
35	SLU 22	40	-29	1302	0	0	0
35	SLU 23	40	-27	1305	0	0	0
35	SLU 24	40	-28	1326	0	0	0
35	SLU 25	40	-27	1328	0	0	0
35	SLU 26	40	-26	1320	0	0	0
35	SLU 27	40	-27	1342	0	0	0
35	SLU 28	40	-26	1343	0	0	0
35	SLU 29	40	-27	1333	0	0	0
35	SLU 30	40	-26	1335	0	0	0
35	SLU 31	42	-29	1455	0	0	0
35	SLU 32	42	-30	1476	0	0	0
35	SLU 33	42	-29	1478	0	0	0
35	SLU 34	42	-28	1471	0	0	0
35	SLU 35	42	-30	1492	0	0	0
35	SLU 36	42	-28	1493	0	0	0
35	SLU 37	42	-30	1483	0	0	0
35	SLU 38	42	-28	1485	0	0	0
35	SLU 39	43	-32	1517	0	0	0
35	SLU 40	43	-31	1518	0	0	0
35	SLU 41	43	-31	1532	0	0	0
35	SLU 42	43	-30	1534	0	0	0
35	SLU 43	45	-38	1415	0	0	0
35	SLU 44	45	-36	1418	0	0	0
35	SLU 45	45	-38	1439	0	0	0
35	SLU 46	45	-36	1441	0	0	0
35	SLU 47	45	-36	1433	0	0	0
35	SLU 48	45	-37	1454	0	0	0
35	SLU 49	45	-36	1456	0	0	0
35	SLU 50	45	-37	1445	0	0	0
35	SLU 51	45	-36	1447	0	0	0
35	SLU 52	47	-39	1568	0	0	0
35	SLU 53	48	-40	1589	0	0	0
35	SLU 54	48	-39	1591	0	0	0
35	SLU 55	47	-38	1583	0	0	0
35	SLU 56	48	-39	1604	0	0	0
35	SLU 57	48	-38	1606	0	0	0
35	SLU 58	47	-39	1596	0	0	0
35	SLU 59	47	-38	1597	0	0	0
35	SLU 60	48	-42	1629	0	0	0
35	SLU 61	48	-40	1631	0	0	0
35	SLU 62	48	-41	1645	0	0	0
35	SLU 63	48	-40	1646	0	0	0
35	SLU 64	49	-38	1584	0	0	0
35	SLU 65	49	-36	1587	0	0	0
35	SLU 66	49	-37	1608	0	0	0
35	SLU 67	50	-36	1610	0	0	0
35	SLU 68	49	-35	1602	0	0	0
35	SLU 69	50	-36	1623	0	0	0
35	SLU 70	50	-35	1625	0	0	0
35	SLU 71	49	-36	1615	0	0	0
35	SLU 72	49	-35	1616	0	0	0
35	SLU 73	51	-38	1737	0	0	0
35	SLU 74	52	-39	1758	0	0	0
35	SLU 75	52	-38	1760	0	0	0
35	SLU 76	51	-37	1752	0	0	0
35	SLU 77	52	-39	1774	0	0	0
35	SLU 78	52	-37	1775	0	0	0
35	SLU 79	51	-39	1765	0	0	0
35	SLU 80	51	-37	1767	0	0	0
35	SLU 81	52	-41	1798	0	0	0
35	SLU 82	52	-40	1800	0	0	0
35	SLU 83	52	-40	1814	0	0	0
35	SLU 84	52	-39	1816	0	0	0
35	SLE RA 1	37	-29	1181	0	0	0
35	SLE RA 2	37	-28	1183	0	0	0
35	SLE RA 3	37	-29	1197	0	0	0
35	SLE RA 4	37	-28	1199	0	0	0
35	SLE RA 5	37	-27	1193	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
35	SLE RA 6	37	-28	1208	0	0	0
35	SLE RA 7	37	-27	1209	0	0	0
35	SLE RA 8	37	-28	1202	0	0	0
35	SLE RA 9	37	-27	1203	0	0	0
35	SLE RA 10	38	-29	1283	0	0	0
35	SLE RA 11	39	-30	1297	0	0	0
35	SLE RA 12	39	-29	1299	0	0	0
35	SLE RA 13	38	-29	1294	0	0	0
35	SLE RA 14	39	-30	1308	0	0	0
35	SLE RA 15	39	-29	1309	0	0	0
35	SLE RA 16	38	-30	1302	0	0	0
35	SLE RA 17	38	-29	1303	0	0	0
35	SLE RA 18	39	-31	1324	0	0	0
35	SLE RA 19	39	-31	1325	0	0	0
35	SLE RA 20	39	-31	1334	0	0	0
35	SLE RA 21	39	-30	1336	0	0	0
35	SLE FR 1	37	-29	1181	0	0	0
35	SLE FR 2	37	-29	1182	0	0	0
35	SLE FR 3	37	-29	1185	0	0	0
35	SLE FR 4	38	-29	1225	0	0	0
35	SLE FR 5	38	-30	1228	0	0	0
35	SLE FR 6	38	-30	1253	0	0	0
35	SLE QP 1	37	-29	1181	0	0	0
35	SLE QP 2	37	-30	1224	0	0	0
35	SLD 1	94	-18	1265	0	0	0
35	SLD 2	98	-16	1267	0	0	0
35	SLD 3	93	-36	1209	0	0	0
35	SLD 4	97	-35	1211	0	0	0
35	SLD 5	56	2	1320	0	0	0
35	SLD 6	58	3	1321	0	0	0
35	SLD 7	52	-61	1135	0	0	0
35	SLD 8	54	-59	1137	0	0	0
35	SLD 9	21	0	1312	0	0	0
35	SLD 10	23	1	1313	0	0	0
35	SLD 11	17	-63	1127	0	0	0
35	SLD 12	19	-62	1128	0	0	0
35	SLD 13	-22	-25	1237	0	0	0
35	SLD 14	-18	-23	1239	0	0	0
35	SLD 15	-23	-44	1182	0	0	0
35	SLD 16	-19	-42	1184	0	0	0
35	SLV 1	127	-9	1291	0	0	0
35	SLV 2	132	-6	1295	0	0	0
35	SLV 3	125	-41	1198	0	0	0
35	SLV 4	130	-39	1201	0	0	0
35	SLV 5	66	24	1386	0	0	0
35	SLV 6	70	26	1388	0	0	0
35	SLV 7	60	-82	1074	0	0	0
35	SLV 8	64	-80	1076	0	0	0
35	SLV 9	11	21	1373	0	0	0
35	SLV 10	15	23	1375	0	0	0
35	SLV 11	5	-86	1060	0	0	0
35	SLV 12	9	-84	1063	0	0	0
35	SLV 13	-55	-21	1247	0	0	0
35	SLV 14	-50	-18	1251	0	0	0
35	SLV 15	-57	-53	1154	0	0	0
35	SLV 16	-52	-50	1157	0	0	0
35	SLV FO 1	135	-7	1298	0	0	0
35	SLV FO 2	142	-4	1302	0	0	0
35	SLV FO 3	133	-43	1195	0	0	0
35	SLV FO 4	140	-39	1199	0	0	0
35	SLV FO 5	69	30	1402	0	0	0
35	SLV FO 6	73	32	1404	0	0	0
35	SLV FO 7	62	-88	1058	0	0	0
35	SLV FO 8	66	-86	1061	0	0	0
35	SLV FO 9	9	26	1387	0	0	0
35	SLV FO 10	13	28	1390	0	0	0
35	SLV FO 11	2	-92	1044	0	0	0
35	SLV FO 12	6	-89	1047	0	0	0
35	SLV FO 13	-65	-20	1250	0	0	0
35	SLV FO 14	-58	-17	1254	0	0	0
35	SLV FO 15	-67	-55	1147	0	0	0
35	SLV FO 16	-60	-52	1151	0	0	0
36	SLU 1	36	-22	1174	0	0	0
36	SLU 2	36	-20	1177	0	0	0
36	SLU 3	36	-21	1198	0	0	0
36	SLU 4	36	-20	1200	0	0	0
36	SLU 5	36	-19	1192	0	0	0
36	SLU 6	36	-20	1213	0	0	0
36	SLU 7	36	-19	1215	0	0	0
36	SLU 8	36	-21	1204	0	0	0
36	SLU 9	36	-19	1206	0	0	0
36	SLU 10	38	-22	1328	0	0	0
36	SLU 11	38	-23	1349	0	0	0
36	SLU 12	38	-22	1351	0	0	0
36	SLU 13	38	-21	1343	0	0	0
36	SLU 14	38	-22	1364	0	0	0
36	SLU 15	38	-21	1366	0	0	0
36	SLU 16	38	-22	1355	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
36	SLU 17	38	-21	1357	0	0	0
36	SLU 18	39	-24	1390	0	0	0
36	SLU 19	39	-23	1392	0	0	0
36	SLU 20	39	-24	1405	0	0	0
36	SLU 21	39	-23	1407	0	0	0
36	SLU 22	40	-21	1347	0	0	0
36	SLU 23	40	-19	1350	0	0	0
36	SLU 24	40	-20	1371	0	0	0
36	SLU 25	40	-19	1373	0	0	0
36	SLU 26	40	-18	1365	0	0	0
36	SLU 27	40	-19	1386	0	0	0
36	SLU 28	40	-18	1388	0	0	0
36	SLU 29	40	-19	1377	0	0	0
36	SLU 30	40	-18	1379	0	0	0
36	SLU 31	42	-21	1501	0	0	0
36	SLU 32	42	-22	1522	0	0	0
36	SLU 33	42	-21	1524	0	0	0
36	SLU 34	42	-20	1516	0	0	0
36	SLU 35	42	-21	1537	0	0	0
36	SLU 36	42	-20	1539	0	0	0
36	SLU 37	42	-21	1528	0	0	0
36	SLU 38	42	-20	1530	0	0	0
36	SLU 39	43	-23	1563	0	0	0
36	SLU 40	43	-22	1565	0	0	0
36	SLU 41	43	-23	1578	0	0	0
36	SLU 42	43	-21	1580	0	0	0
36	SLU 43	45	-29	1467	0	0	0
36	SLU 44	45	-27	1470	0	0	0
36	SLU 45	45	-28	1491	0	0	0
36	SLU 46	45	-27	1493	0	0	0
36	SLU 47	45	-26	1485	0	0	0
36	SLU 48	45	-27	1506	0	0	0
36	SLU 49	45	-26	1508	0	0	0
36	SLU 50	45	-27	1497	0	0	0
36	SLU 51	45	-26	1499	0	0	0
36	SLU 52	47	-29	1621	0	0	0
36	SLU 53	47	-30	1642	0	0	0
36	SLU 54	47	-29	1644	0	0	0
36	SLU 55	47	-28	1636	0	0	0
36	SLU 56	47	-29	1657	0	0	0
36	SLU 57	48	-28	1659	0	0	0
36	SLU 58	47	-29	1648	0	0	0
36	SLU 59	47	-28	1650	0	0	0
36	SLU 60	48	-31	1683	0	0	0
36	SLU 61	48	-30	1685	0	0	0
36	SLU 62	48	-31	1698	0	0	0
36	SLU 63	48	-30	1700	0	0	0
36	SLU 64	49	-28	1640	0	0	0
36	SLU 65	49	-26	1643	0	0	0
36	SLU 66	49	-27	1664	0	0	0
36	SLU 67	49	-26	1666	0	0	0
36	SLU 68	49	-25	1658	0	0	0
36	SLU 69	49	-26	1679	0	0	0
36	SLU 70	49	-25	1681	0	0	0
36	SLU 71	49	-26	1670	0	0	0
36	SLU 72	49	-25	1672	0	0	0
36	SLU 73	51	-28	1794	0	0	0
36	SLU 74	51	-29	1815	0	0	0
36	SLU 75	52	-28	1817	0	0	0
36	SLU 76	51	-27	1809	0	0	0
36	SLU 77	52	-28	1830	0	0	0
36	SLU 78	52	-27	1832	0	0	0
36	SLU 79	51	-28	1821	0	0	0
36	SLU 80	51	-27	1823	0	0	0
36	SLU 81	52	-30	1856	0	0	0
36	SLU 82	52	-29	1858	0	0	0
36	SLU 83	52	-29	1871	0	0	0
36	SLU 84	52	-28	1873	0	0	0
36	SLE RA 1	37	-21	1224	0	0	0
36	SLE RA 2	37	-20	1226	0	0	0
36	SLE RA 3	37	-21	1240	0	0	0
36	SLE RA 4	37	-20	1241	0	0	0
36	SLE RA 5	37	-20	1236	0	0	0
36	SLE RA 6	37	-21	1250	0	0	0
36	SLE RA 7	37	-20	1251	0	0	0
36	SLE RA 8	37	-21	1244	0	0	0
36	SLE RA 9	37	-20	1245	0	0	0
36	SLE RA 10	38	-21	1326	0	0	0
36	SLE RA 11	38	-22	1340	0	0	0
36	SLE RA 12	38	-21	1342	0	0	0
36	SLE RA 13	38	-21	1336	0	0	0
36	SLE RA 14	38	-22	1350	0	0	0
36	SLE RA 15	39	-21	1352	0	0	0
36	SLE RA 16	38	-22	1344	0	0	0
36	SLE RA 17	38	-21	1346	0	0	0
36	SLE RA 18	39	-23	1367	0	0	0
36	SLE RA 19	39	-22	1369	0	0	0
36	SLE RA 20	39	-23	1377	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
36	SLE RA 21	39	-22	1379	0	0	0
36	SLE FR 1	37	-21	1224	0	0	0
36	SLE FR 2	37	-21	1224	0	0	0
36	SLE FR 3	37	-21	1228	0	0	0
36	SLE FR 4	37	-22	1267	0	0	0
36	SLE FR 5	37	-22	1271	0	0	0
36	SLE FR 6	38	-22	1295	0	0	0
36	SLE QP 1	37	-21	1224	0	0	0
36	SLE QP 2	37	-22	1267	0	0	0
36	SLD 1	94	-15	1249	0	0	0
36	SLD 2	98	-9	1250	0	0	0
36	SLD 3	93	-31	1193	0	0	0
36	SLD 4	97	-25	1194	0	0	0
36	SLD 5	55	3	1346	0	0	0
36	SLD 6	58	7	1347	0	0	0
36	SLD 7	52	-50	1160	0	0	0
36	SLD 8	54	-46	1160	0	0	0
36	SLD 9	21	2	1373	0	0	0
36	SLD 10	23	6	1374	0	0	0
36	SLD 11	17	-51	1187	0	0	0
36	SLD 12	19	-47	1187	0	0	0
36	SLD 13	-22	-19	1339	0	0	0
36	SLD 14	-18	-13	1340	0	0	0
36	SLD 15	-23	-35	1283	0	0	0
36	SLD 16	-19	-29	1284	0	0	0
36	SLV 1	126	-10	1243	0	0	0
36	SLV 2	132	0	1244	0	0	0
36	SLV 3	124	-37	1148	0	0	0
36	SLV 4	130	-27	1150	0	0	0
36	SLV 5	66	21	1403	0	0	0
36	SLV 6	70	28	1404	0	0	0
36	SLV 7	59	-69	1088	0	0	0
36	SLV 8	63	-63	1088	0	0	0
36	SLV 9	11	19	1445	0	0	0
36	SLV 10	15	25	1446	0	0	0
36	SLV 11	5	-71	1130	0	0	0
36	SLV 12	9	-65	1131	0	0	0
36	SLV 13	-55	-17	1384	0	0	0
36	SLV 14	-50	-7	1385	0	0	0
36	SLV 15	-57	-44	1289	0	0	0
36	SLV 16	-51	-34	1290	0	0	0
36	SLV FO 1	135	-9	1241	0	0	0
36	SLV FO 2	141	2	1242	0	0	0
36	SLV FO 3	133	-39	1137	0	0	0
36	SLV FO 4	139	-28	1138	0	0	0
36	SLV FO 5	69	25	1416	0	0	0
36	SLV FO 6	73	32	1417	0	0	0
36	SLV FO 7	62	-74	1070	0	0	0
36	SLV FO 8	66	-67	1071	0	0	0
36	SLV FO 9	9	23	1463	0	0	0
36	SLV FO 10	13	30	1464	0	0	0
36	SLV FO 11	2	-76	1116	0	0	0
36	SLV FO 12	6	-69	1117	0	0	0
36	SLV FO 13	-65	-16	1395	0	0	0
36	SLV FO 14	-58	-5	1397	0	0	0
36	SLV FO 15	-67	-46	1291	0	0	0
36	SLV FO 16	-60	-35	1293	0	0	0
37	SLU 1	22	-19	687	0	0	0
37	SLU 2	22	-18	688	0	0	0
37	SLU 3	22	-19	701	0	0	0
37	SLU 4	22	-18	702	0	0	0
37	SLU 5	22	-18	698	0	0	0
37	SLU 6	22	-19	711	0	0	0
37	SLU 7	22	-18	712	0	0	0
37	SLU 8	22	-19	706	0	0	0
37	SLU 9	22	-18	707	0	0	0
37	SLU 10	23	-20	780	0	0	0
37	SLU 11	24	-21	793	0	0	0
37	SLU 12	24	-20	794	0	0	0
37	SLU 13	23	-19	790	0	0	0
37	SLU 14	24	-20	803	0	0	0
37	SLU 15	24	-19	804	0	0	0
37	SLU 16	23	-20	797	0	0	0
37	SLU 17	23	-19	798	0	0	0
37	SLU 18	24	-22	818	0	0	0
37	SLU 19	24	-21	819	0	0	0
37	SLU 20	24	-21	827	0	0	0
37	SLU 21	24	-21	828	0	0	0
37	SLU 22	24	-19	790	0	0	0
37	SLU 23	25	-18	791	0	0	0
37	SLU 24	25	-19	804	0	0	0
37	SLU 25	25	-18	805	0	0	0
37	SLU 26	25	-17	801	0	0	0
37	SLU 27	25	-18	814	0	0	0
37	SLU 28	25	-17	815	0	0	0
37	SLU 29	25	-18	809	0	0	0
37	SLU 30	25	-17	810	0	0	0
37	SLU 31	26	-19	883	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
37	SLU 32	26	-20	896	0	0	0
37	SLU 33	26	-19	897	0	0	0
37	SLU 34	26	-19	893	0	0	0
37	SLU 35	26	-20	906	0	0	0
37	SLU 36	26	-19	907	0	0	0
37	SLU 37	26	-20	900	0	0	0
37	SLU 38	26	-19	901	0	0	0
37	SLU 39	26	-21	921	0	0	0
37	SLU 40	26	-21	922	0	0	0
37	SLU 41	26	-21	930	0	0	0
37	SLU 42	26	-20	931	0	0	0
37	SLU 43	28	-25	857	0	0	0
37	SLU 44	28	-24	859	0	0	0
37	SLU 45	28	-25	872	0	0	0
37	SLU 46	28	-24	873	0	0	0
37	SLU 47	28	-24	868	0	0	0
37	SLU 48	28	-25	882	0	0	0
37	SLU 49	28	-24	883	0	0	0
37	SLU 50	28	-25	876	0	0	0
37	SLU 51	28	-24	877	0	0	0
37	SLU 52	29	-26	951	0	0	0
37	SLU 53	29	-27	964	0	0	0
37	SLU 54	29	-26	965	0	0	0
37	SLU 55	29	-25	960	0	0	0
37	SLU 56	29	-26	973	0	0	0
37	SLU 57	29	-25	974	0	0	0
37	SLU 58	29	-26	968	0	0	0
37	SLU 59	29	-25	969	0	0	0
37	SLU 60	30	-28	988	0	0	0
37	SLU 61	30	-27	989	0	0	0
37	SLU 62	30	-27	998	0	0	0
37	SLU 63	30	-26	999	0	0	0
37	SLU 64	30	-25	960	0	0	0
37	SLU 65	30	-24	962	0	0	0
37	SLU 66	30	-25	975	0	0	0
37	SLU 67	30	-24	976	0	0	0
37	SLU 68	30	-23	972	0	0	0
37	SLU 69	30	-24	985	0	0	0
37	SLU 70	31	-23	986	0	0	0
37	SLU 71	30	-24	979	0	0	0
37	SLU 72	30	-23	980	0	0	0
37	SLU 73	32	-25	1054	0	0	0
37	SLU 74	32	-26	1067	0	0	0
37	SLU 75	32	-25	1068	0	0	0
37	SLU 76	32	-25	1063	0	0	0
37	SLU 77	32	-26	1076	0	0	0
37	SLU 78	32	-25	1077	0	0	0
37	SLU 79	32	-26	1071	0	0	0
37	SLU 80	32	-25	1072	0	0	0
37	SLU 81	32	-27	1092	0	0	0
37	SLU 82	32	-27	1093	0	0	0
37	SLU 83	32	-27	1101	0	0	0
37	SLU 84	32	-26	1102	0	0	0
37	SLE RA 1	23	-19	716	0	0	0
37	SLE RA 2	23	-18	717	0	0	0
37	SLE RA 3	23	-19	726	0	0	0
37	SLE RA 4	23	-19	727	0	0	0
37	SLE RA 5	23	-18	724	0	0	0
37	SLE RA 6	23	-19	732	0	0	0
37	SLE RA 7	23	-18	733	0	0	0
37	SLE RA 8	23	-19	729	0	0	0
37	SLE RA 9	23	-18	729	0	0	0
37	SLE RA 10	24	-20	778	0	0	0
37	SLE RA 11	24	-20	787	0	0	0
37	SLE RA 12	24	-20	788	0	0	0
37	SLE RA 13	24	-19	785	0	0	0
37	SLE RA 14	24	-20	793	0	0	0
37	SLE RA 15	24	-19	794	0	0	0
37	SLE RA 16	24	-20	790	0	0	0
37	SLE RA 17	24	-19	791	0	0	0
37	SLE RA 18	24	-21	804	0	0	0
37	SLE RA 19	24	-20	804	0	0	0
37	SLE RA 20	24	-21	810	0	0	0
37	SLE RA 21	24	-20	811	0	0	0
37	SLE FR 1	23	-19	716	0	0	0
37	SLE FR 2	23	-19	716	0	0	0
37	SLE FR 3	23	-19	719	0	0	0
37	SLE FR 4	23	-20	743	0	0	0
37	SLE FR 5	23	-20	745	0	0	0
37	SLE FR 6	23	-20	760	0	0	0
37	SLE QP 1	23	-19	716	0	0	0
37	SLE QP 2	23	-20	742	0	0	0
37	SLD 1	58	-11	778	0	0	0
37	SLD 2	60	-11	780	0	0	0
37	SLD 3	57	-23	744	0	0	0
37	SLD 4	60	-23	746	0	0	0
37	SLD 5	34	1	804	0	0	0
37	SLD 6	36	1	805	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
37	SLD 7	32	-39	692	0	0	0
37	SLD 8	33	-39	693	0	0	0
37	SLD 9	13	0	792	0	0	0
37	SLD 10	14	0	793	0	0	0
37	SLD 11	10	-41	680	0	0	0
37	SLD 12	12	-41	681	0	0	0
37	SLD 13	-13	-16	739	0	0	0
37	SLD 14	-11	-16	740	0	0	0
37	SLD 15	-14	-29	705	0	0	0
37	SLD 16	-12	-28	707	0	0	0
37	SLV 1	78	-5	800	0	0	0
37	SLV 2	81	-5	803	0	0	0
37	SLV 3	77	-26	744	0	0	0
37	SLV 4	80	-26	746	0	0	0
37	SLV 5	41	16	845	0	0	0
37	SLV 6	43	16	847	0	0	0
37	SLV 7	37	-53	656	0	0	0
37	SLV 8	39	-53	658	0	0	0
37	SLV 9	7	13	827	0	0	0
37	SLV 10	9	14	828	0	0	0
37	SLV 11	3	-56	638	0	0	0
37	SLV 12	5	-56	640	0	0	0
37	SLV 13	-34	-14	739	0	0	0
37	SLV 14	-31	-13	741	0	0	0
37	SLV 15	-35	-35	682	0	0	0
37	SLV 16	-32	-34	684	0	0	0
37	SLV FO 1	83	-4	806	0	0	0
37	SLV FO 2	87	-4	809	0	0	0
37	SLV FO 3	82	-27	744	0	0	0
37	SLV FO 4	86	-26	746	0	0	0
37	SLV FO 5	42	20	855	0	0	0
37	SLV FO 6	45	20	857	0	0	0
37	SLV FO 7	38	-57	648	0	0	0
37	SLV FO 8	41	-56	650	0	0	0
37	SLV FO 9	5	17	835	0	0	0
37	SLV FO 10	8	17	837	0	0	0
37	SLV FO 11	1	-59	627	0	0	0
37	SLV FO 12	4	-59	629	0	0	0
37	SLV FO 13	-40	-13	738	0	0	0
37	SLV FO 14	-36	-13	741	0	0	0
37	SLV FO 15	-41	-36	676	0	0	0
37	SLV FO 16	-37	-36	679	0	0	0
38	SLU 1	27	-21	876	0	0	0
38	SLU 2	27	-20	878	0	0	0
38	SLU 3	28	-21	894	0	0	0
38	SLU 4	28	-20	896	0	0	0
38	SLU 5	28	-19	890	0	0	0
38	SLU 6	28	-20	906	0	0	0
38	SLU 7	28	-19	908	0	0	0
38	SLU 8	27	-20	899	0	0	0
38	SLU 9	28	-19	901	0	0	0
38	SLU 10	29	-22	994	0	0	0
38	SLU 11	29	-23	1010	0	0	0
38	SLU 12	29	-22	1011	0	0	0
38	SLU 13	29	-21	1005	0	0	0
38	SLU 14	29	-22	1022	0	0	0
38	SLU 15	29	-21	1023	0	0	0
38	SLU 16	29	-22	1015	0	0	0
38	SLU 17	29	-21	1016	0	0	0
38	SLU 18	30	-24	1041	0	0	0
38	SLU 19	30	-23	1042	0	0	0
38	SLU 20	30	-23	1053	0	0	0
38	SLU 21	30	-22	1054	0	0	0
38	SLU 22	31	-21	1007	0	0	0
38	SLU 23	31	-19	1009	0	0	0
38	SLU 24	31	-20	1025	0	0	0
38	SLU 25	31	-19	1026	0	0	0
38	SLU 26	31	-19	1020	0	0	0
38	SLU 27	31	-20	1037	0	0	0
38	SLU 28	31	-19	1038	0	0	0
38	SLU 29	31	-20	1030	0	0	0
38	SLU 30	31	-19	1031	0	0	0
38	SLU 31	32	-21	1124	0	0	0
38	SLU 32	32	-22	1140	0	0	0
38	SLU 33	33	-21	1142	0	0	0
38	SLU 34	32	-20	1136	0	0	0
38	SLU 35	33	-21	1152	0	0	0
38	SLU 36	33	-21	1153	0	0	0
38	SLU 37	32	-21	1145	0	0	0
38	SLU 38	32	-21	1147	0	0	0
38	SLU 39	33	-23	1171	0	0	0
38	SLU 40	33	-22	1173	0	0	0
38	SLU 41	33	-23	1183	0	0	0
38	SLU 42	33	-22	1184	0	0	0
38	SLU 43	35	-28	1094	0	0	0
38	SLU 44	35	-26	1096	0	0	0
38	SLU 45	35	-27	1112	0	0	0
38	SLU 46	35	-26	1114	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLU 47	35	-26	1108	0	0	0
38	SLU 48	35	-27	1124	0	0	0
38	SLU 49	35	-26	1126	0	0	0
38	SLU 50	35	-27	1117	0	0	0
38	SLU 51	35	-26	1119	0	0	0
38	SLU 52	36	-28	1212	0	0	0
38	SLU 53	36	-29	1228	0	0	0
38	SLU 54	37	-28	1229	0	0	0
38	SLU 55	36	-28	1223	0	0	0
38	SLU 56	36	-29	1240	0	0	0
38	SLU 57	37	-28	1241	0	0	0
38	SLU 58	36	-29	1233	0	0	0
38	SLU 59	36	-28	1234	0	0	0
38	SLU 60	37	-30	1259	0	0	0
38	SLU 61	37	-30	1260	0	0	0
38	SLU 62	37	-30	1271	0	0	0
38	SLU 63	37	-29	1272	0	0	0
38	SLU 64	38	-27	1225	0	0	0
38	SLU 65	38	-26	1227	0	0	0
38	SLU 66	38	-27	1243	0	0	0
38	SLU 67	38	-26	1244	0	0	0
38	SLU 68	38	-25	1239	0	0	0
38	SLU 69	38	-26	1255	0	0	0
38	SLU 70	38	-25	1256	0	0	0
38	SLU 71	38	-26	1248	0	0	0
38	SLU 72	38	-25	1249	0	0	0
38	SLU 73	39	-28	1342	0	0	0
38	SLU 74	40	-29	1358	0	0	0
38	SLU 75	40	-28	1360	0	0	0
38	SLU 76	39	-27	1354	0	0	0
38	SLU 77	40	-28	1370	0	0	0
38	SLU 78	40	-27	1372	0	0	0
38	SLU 79	39	-28	1363	0	0	0
38	SLU 80	39	-27	1365	0	0	0
38	SLU 81	40	-30	1389	0	0	0
38	SLU 82	40	-29	1391	0	0	0
38	SLU 83	40	-29	1401	0	0	0
38	SLU 84	40	-28	1402	0	0	0
38	SLE RA 1	28	-21	913	0	0	0
38	SLE RA 2	28	-20	915	0	0	0
38	SLE RA 3	28	-21	926	0	0	0
38	SLE RA 4	29	-20	926	0	0	0
38	SLE RA 5	28	-20	923	0	0	0
38	SLE RA 6	28	-20	933	0	0	0
38	SLE RA 7	29	-20	934	0	0	0
38	SLE RA 8	28	-20	929	0	0	0
38	SLE RA 9	28	-20	930	0	0	0
38	SLE RA 10	29	-21	992	0	0	0
38	SLE RA 11	30	-22	1003	0	0	0
38	SLE RA 12	30	-21	1003	0	0	0
38	SLE RA 13	29	-21	999	0	0	0
38	SLE RA 14	30	-22	1010	0	0	0
38	SLE RA 15	30	-21	1011	0	0	0
38	SLE RA 16	29	-22	1006	0	0	0
38	SLE RA 17	29	-21	1007	0	0	0
38	SLE RA 18	30	-23	1023	0	0	0
38	SLE RA 19	30	-22	1024	0	0	0
38	SLE RA 20	30	-22	1031	0	0	0
38	SLE RA 21	30	-22	1032	0	0	0
38	SLE FR 1	28	-21	913	0	0	0
38	SLE FR 2	28	-21	914	0	0	0
38	SLE FR 3	28	-21	916	0	0	0
38	SLE FR 4	29	-21	947	0	0	0
38	SLE FR 5	29	-21	949	0	0	0
38	SLE FR 6	29	-22	968	0	0	0
38	SLE QP 1	28	-21	913	0	0	0
38	SLE QP 2	29	-22	946	0	0	0
38	SLD 1	72	-13	962	0	0	0
38	SLD 2	75	-11	964	0	0	0
38	SLD 3	72	-27	920	0	0	0
38	SLD 4	74	-25	921	0	0	0
38	SLD 5	43	2	1015	0	0	0
38	SLD 6	45	3	1016	0	0	0
38	SLD 7	40	-45	874	0	0	0
38	SLD 8	42	-44	875	0	0	0
38	SLD 9	16	0	1017	0	0	0
38	SLD 10	18	2	1018	0	0	0
38	SLD 11	13	-46	877	0	0	0
38	SLD 12	15	-45	878	0	0	0
38	SLD 13	-17	-18	971	0	0	0
38	SLD 14	-14	-16	972	0	0	0
38	SLD 15	-18	-32	929	0	0	0
38	SLD 16	-15	-30	930	0	0	0
38	SLV 1	97	-7	973	0	0	0
38	SLV 2	102	-4	976	0	0	0
38	SLV 3	96	-31	902	0	0	0
38	SLV 4	100	-28	904	0	0	0
38	SLV 5	51	18	1062	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLV 6	54	20	1064	0	0	0
38	SLV 7	46	-61	825	0	0	0
38	SLV 8	49	-59	826	0	0	0
38	SLV 9	9	16	1066	0	0	0
38	SLV 10	12	18	1068	0	0	0
38	SLV 11	4	-64	829	0	0	0
38	SLV 12	7	-61	830	0	0	0
38	SLV 13	-43	-15	988	0	0	0
38	SLV 14	-38	-12	990	0	0	0
38	SLV 15	-44	-39	917	0	0	0
38	SLV 16	-40	-36	919	0	0	0
38	SLV FO 1	104	-6	976	0	0	0
38	SLV FO 2	109	-2	979	0	0	0
38	SLV FO 3	102	-32	898	0	0	0
38	SLV FO 4	107	-29	900	0	0	0
38	SLV FO 5	53	22	1074	0	0	0
38	SLV FO 6	56	25	1075	0	0	0
38	SLV FO 7	47	-65	812	0	0	0
38	SLV FO 8	51	-63	814	0	0	0
38	SLV FO 9	7	20	1078	0	0	0
38	SLV FO 10	10	22	1080	0	0	0
38	SLV FO 11	1	-68	817	0	0	0
38	SLV FO 12	5	-65	819	0	0	0
38	SLV FO 13	-50	-15	992	0	0	0
38	SLV FO 14	-45	-11	995	0	0	0
38	SLV FO 15	-51	-41	914	0	0	0
38	SLV FO 16	-47	-37	916	0	0	0
39	SLU 1	27	-20	884	0	0	0
39	SLU 2	28	-19	886	0	0	0
39	SLU 3	28	-20	902	0	0	0
39	SLU 4	28	-19	904	0	0	0
39	SLU 5	28	-18	898	0	0	0
39	SLU 6	28	-19	914	0	0	0
39	SLU 7	28	-18	915	0	0	0
39	SLU 8	28	-19	907	0	0	0
39	SLU 9	28	-18	909	0	0	0
39	SLU 10	29	-20	1002	0	0	0
39	SLU 11	29	-21	1018	0	0	0
39	SLU 12	29	-20	1019	0	0	0
39	SLU 13	29	-20	1013	0	0	0
39	SLU 14	29	-21	1030	0	0	0
39	SLU 15	29	-20	1031	0	0	0
39	SLU 16	29	-21	1023	0	0	0
39	SLU 17	29	-20	1024	0	0	0
39	SLU 18	30	-23	1049	0	0	0
39	SLU 19	30	-22	1050	0	0	0
39	SLU 20	30	-22	1061	0	0	0
39	SLU 21	30	-21	1062	0	0	0
39	SLU 22	31	-20	1015	0	0	0
39	SLU 23	31	-18	1017	0	0	0
39	SLU 24	31	-19	1034	0	0	0
39	SLU 25	31	-18	1035	0	0	0
39	SLU 26	31	-18	1029	0	0	0
39	SLU 27	31	-18	1045	0	0	0
39	SLU 28	31	-18	1047	0	0	0
39	SLU 29	31	-19	1039	0	0	0
39	SLU 30	31	-18	1040	0	0	0
39	SLU 31	32	-20	1133	0	0	0
39	SLU 32	33	-21	1149	0	0	0
39	SLU 33	33	-20	1151	0	0	0
39	SLU 34	32	-19	1145	0	0	0
39	SLU 35	33	-20	1161	0	0	0
39	SLU 36	33	-19	1162	0	0	0
39	SLU 37	32	-20	1154	0	0	0
39	SLU 38	32	-19	1156	0	0	0
39	SLU 39	33	-22	1180	0	0	0
39	SLU 40	33	-21	1182	0	0	0
39	SLU 41	33	-21	1192	0	0	0
39	SLU 42	33	-21	1193	0	0	0
39	SLU 43	35	-26	1104	0	0	0
39	SLU 44	35	-25	1106	0	0	0
39	SLU 45	35	-26	1122	0	0	0
39	SLU 46	35	-25	1124	0	0	0
39	SLU 47	35	-25	1118	0	0	0
39	SLU 48	35	-25	1134	0	0	0
39	SLU 49	35	-25	1135	0	0	0
39	SLU 50	35	-25	1127	0	0	0
39	SLU 51	35	-25	1129	0	0	0
39	SLU 52	36	-27	1222	0	0	0
39	SLU 53	37	-28	1238	0	0	0
39	SLU 54	37	-27	1239	0	0	0
39	SLU 55	36	-26	1234	0	0	0
39	SLU 56	37	-27	1250	0	0	0
39	SLU 57	37	-26	1251	0	0	0
39	SLU 58	36	-27	1243	0	0	0
39	SLU 59	36	-26	1244	0	0	0
39	SLU 60	37	-29	1269	0	0	0
39	SLU 61	37	-28	1270	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
39	SLU 62	37	-28	1281	0	0	0
39	SLU 63	37	-27	1282	0	0	0
39	SLU 64	38	-26	1235	0	0	0
39	SLU 65	38	-24	1237	0	0	0
39	SLU 66	38	-25	1254	0	0	0
39	SLU 67	38	-24	1255	0	0	0
39	SLU 68	38	-24	1249	0	0	0
39	SLU 69	38	-25	1265	0	0	0
39	SLU 70	38	-24	1267	0	0	0
39	SLU 71	38	-25	1259	0	0	0
39	SLU 72	38	-24	1260	0	0	0
39	SLU 73	40	-26	1353	0	0	0
39	SLU 74	40	-27	1369	0	0	0
39	SLU 75	40	-26	1371	0	0	0
39	SLU 76	40	-25	1365	0	0	0
39	SLU 77	40	-26	1381	0	0	0
39	SLU 78	40	-26	1383	0	0	0
39	SLU 79	39	-26	1374	0	0	0
39	SLU 80	40	-26	1376	0	0	0
39	SLU 81	40	-28	1401	0	0	0
39	SLU 82	40	-27	1402	0	0	0
39	SLU 83	40	-28	1412	0	0	0
39	SLU 84	40	-27	1414	0	0	0
39	SLE RA 1	28	-20	921	0	0	0
39	SLE RA 2	28	-19	923	0	0	0
39	SLE RA 3	29	-20	934	0	0	0
39	SLE RA 4	29	-19	935	0	0	0
39	SLE RA 5	28	-19	931	0	0	0
39	SLE RA 6	29	-19	941	0	0	0
39	SLE RA 7	29	-19	942	0	0	0
39	SLE RA 8	28	-19	937	0	0	0
39	SLE RA 9	28	-19	938	0	0	0
39	SLE RA 10	30	-20	1000	0	0	0
39	SLE RA 11	30	-21	1011	0	0	0
39	SLE RA 12	30	-20	1012	0	0	0
39	SLE RA 13	30	-20	1008	0	0	0
39	SLE RA 14	30	-20	1019	0	0	0
39	SLE RA 15	30	-20	1020	0	0	0
39	SLE RA 16	30	-20	1014	0	0	0
39	SLE RA 17	30	-20	1015	0	0	0
39	SLE RA 18	30	-22	1031	0	0	0
39	SLE RA 19	30	-21	1032	0	0	0
39	SLE RA 20	30	-21	1039	0	0	0
39	SLE RA 21	30	-21	1040	0	0	0
39	SLE FR 1	28	-20	921	0	0	0
39	SLE FR 2	28	-20	922	0	0	0
39	SLE FR 3	28	-20	924	0	0	0
39	SLE FR 4	29	-20	955	0	0	0
39	SLE FR 5	29	-20	957	0	0	0
39	SLE FR 6	29	-21	976	0	0	0
39	SLE QP 1	28	-20	921	0	0	0
39	SLE QP 2	29	-20	954	0	0	0
39	SLD 1	73	-13	966	0	0	0
39	SLD 2	75	-10	967	0	0	0
39	SLD 3	72	-26	923	0	0	0
39	SLD 4	75	-24	925	0	0	0
39	SLD 5	43	2	1022	0	0	0
39	SLD 6	45	4	1023	0	0	0
39	SLD 7	40	-43	881	0	0	0
39	SLD 8	42	-42	881	0	0	0
39	SLD 9	16	1	1027	0	0	0
39	SLD 10	18	2	1028	0	0	0
39	SLD 11	13	-45	886	0	0	0
39	SLD 12	15	-43	887	0	0	0
39	SLD 13	-17	-17	984	0	0	0
39	SLD 14	-14	-14	985	0	0	0
39	SLD 15	-18	-31	942	0	0	0
39	SLD 16	-15	-28	943	0	0	0
39	SLV 1	97	-8	975	0	0	0
39	SLV 2	102	-3	977	0	0	0
39	SLV 3	96	-31	903	0	0	0
39	SLV 4	100	-26	905	0	0	0
39	SLV 5	51	18	1069	0	0	0
39	SLV 6	54	21	1070	0	0	0
39	SLV 7	46	-60	830	0	0	0
39	SLV 8	49	-57	831	0	0	0
39	SLV 9	9	16	1077	0	0	0
39	SLV 10	12	19	1079	0	0	0
39	SLV 11	4	-62	839	0	0	0
39	SLV 12	7	-59	840	0	0	0
39	SLV 13	-43	-15	1003	0	0	0
39	SLV 14	-38	-10	1005	0	0	0
39	SLV 15	-44	-38	932	0	0	0
39	SLV 16	-40	-33	934	0	0	0
39	SLV FO 1	104	-6	977	0	0	0
39	SLV FO 2	109	-1	979	0	0	0
39	SLV FO 3	103	-32	898	0	0	0
39	SLV FO 4	108	-27	900	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
39	SLV FO 5	53	22	1080	0	0	0
39	SLV FO 6	56	25	1082	0	0	0
39	SLV FO 7	48	-63	818	0	0	0
39	SLV FO 8	51	-60	819	0	0	0
39	SLV FO 9	7	19	1090	0	0	0
39	SLV FO 10	10	22	1091	0	0	0
39	SLV FO 11	1	-66	827	0	0	0
39	SLV FO 12	5	-62	829	0	0	0
39	SLV FO 13	-50	-14	1008	0	0	0
39	SLV FO 14	-45	-9	1011	0	0	0
39	SLV FO 15	-52	-40	930	0	0	0
39	SLV FO 16	-47	-35	932	0	0	0
40	SLU 1	27	-19	890	0	0	0
40	SLU 2	28	-18	893	0	0	0
40	SLU 3	28	-19	909	0	0	0
40	SLU 4	28	-18	910	0	0	0
40	SLU 5	28	-17	904	0	0	0
40	SLU 6	28	-18	921	0	0	0
40	SLU 7	28	-17	922	0	0	0
40	SLU 8	28	-18	914	0	0	0
40	SLU 9	28	-17	915	0	0	0
40	SLU 10	29	-19	1009	0	0	0
40	SLU 11	29	-20	1025	0	0	0
40	SLU 12	29	-19	1026	0	0	0
40	SLU 13	29	-19	1020	0	0	0
40	SLU 14	29	-20	1037	0	0	0
40	SLU 15	29	-19	1038	0	0	0
40	SLU 16	29	-20	1030	0	0	0
40	SLU 17	29	-19	1031	0	0	0
40	SLU 18	30	-21	1056	0	0	0
40	SLU 19	30	-20	1057	0	0	0
40	SLU 20	30	-21	1068	0	0	0
40	SLU 21	30	-20	1069	0	0	0
40	SLU 22	31	-18	1022	0	0	0
40	SLU 23	31	-17	1025	0	0	0
40	SLU 24	31	-18	1041	0	0	0
40	SLU 25	31	-17	1042	0	0	0
40	SLU 26	31	-16	1036	0	0	0
40	SLU 27	31	-17	1053	0	0	0
40	SLU 28	31	-16	1054	0	0	0
40	SLU 29	31	-17	1046	0	0	0
40	SLU 30	31	-16	1047	0	0	0
40	SLU 31	32	-18	1141	0	0	0
40	SLU 32	33	-19	1157	0	0	0
40	SLU 33	33	-18	1158	0	0	0
40	SLU 34	32	-18	1152	0	0	0
40	SLU 35	33	-19	1169	0	0	0
40	SLU 36	33	-18	1170	0	0	0
40	SLU 37	32	-19	1162	0	0	0
40	SLU 38	32	-18	1163	0	0	0
40	SLU 39	33	-21	1188	0	0	0
40	SLU 40	33	-20	1189	0	0	0
40	SLU 41	33	-20	1200	0	0	0
40	SLU 42	33	-19	1201	0	0	0
40	SLU 43	35	-25	1112	0	0	0
40	SLU 44	35	-24	1115	0	0	0
40	SLU 45	35	-24	1131	0	0	0
40	SLU 46	35	-24	1132	0	0	0
40	SLU 47	35	-23	1126	0	0	0
40	SLU 48	35	-24	1143	0	0	0
40	SLU 49	35	-23	1144	0	0	0
40	SLU 50	35	-24	1136	0	0	0
40	SLU 51	35	-23	1137	0	0	0
40	SLU 52	36	-25	1231	0	0	0
40	SLU 53	37	-26	1247	0	0	0
40	SLU 54	37	-25	1248	0	0	0
40	SLU 55	36	-25	1242	0	0	0
40	SLU 56	37	-26	1258	0	0	0
40	SLU 57	37	-25	1260	0	0	0
40	SLU 58	36	-26	1252	0	0	0
40	SLU 59	36	-25	1253	0	0	0
40	SLU 60	37	-27	1278	0	0	0
40	SLU 61	37	-26	1279	0	0	0
40	SLU 62	37	-27	1290	0	0	0
40	SLU 63	37	-26	1291	0	0	0
40	SLU 64	38	-24	1244	0	0	0
40	SLU 65	38	-23	1247	0	0	0
40	SLU 66	38	-24	1263	0	0	0
40	SLU 67	38	-23	1264	0	0	0
40	SLU 68	38	-22	1258	0	0	0
40	SLU 69	38	-23	1275	0	0	0
40	SLU 70	38	-22	1276	0	0	0
40	SLU 71	38	-23	1268	0	0	0
40	SLU 72	38	-22	1269	0	0	0
40	SLU 73	40	-24	1363	0	0	0
40	SLU 74	40	-25	1379	0	0	0
40	SLU 75	40	-24	1380	0	0	0
40	SLU 76	40	-24	1374	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
40	SLU 77	40	-25	1390	0	0	0
40	SLU 78	40	-24	1392	0	0	0
40	SLU 79	39	-25	1384	0	0	0
40	SLU 80	40	-24	1385	0	0	0
40	SLU 81	40	-26	1410	0	0	0
40	SLU 82	40	-26	1411	0	0	0
40	SLU 83	40	-26	1422	0	0	0
40	SLU 84	40	-25	1423	0	0	0
40	SLE RA 1	28	-19	928	0	0	0
40	SLE RA 2	28	-18	930	0	0	0
40	SLE RA 3	29	-18	941	0	0	0
40	SLE RA 4	29	-18	941	0	0	0
40	SLE RA 5	28	-18	937	0	0	0
40	SLE RA 6	29	-18	948	0	0	0
40	SLE RA 7	29	-18	949	0	0	0
40	SLE RA 8	28	-18	944	0	0	0
40	SLE RA 9	28	-18	945	0	0	0
40	SLE RA 10	30	-19	1007	0	0	0
40	SLE RA 11	30	-20	1018	0	0	0
40	SLE RA 12	30	-19	1019	0	0	0
40	SLE RA 13	30	-19	1015	0	0	0
40	SLE RA 14	30	-19	1026	0	0	0
40	SLE RA 15	30	-19	1027	0	0	0
40	SLE RA 16	29	-19	1021	0	0	0
40	SLE RA 17	30	-19	1022	0	0	0
40	SLE RA 18	30	-20	1039	0	0	0
40	SLE RA 19	30	-20	1039	0	0	0
40	SLE RA 20	30	-20	1046	0	0	0
40	SLE RA 21	30	-19	1047	0	0	0
40	SLE FR 1	28	-19	928	0	0	0
40	SLE FR 2	28	-19	928	0	0	0
40	SLE FR 3	28	-19	931	0	0	0
40	SLE FR 4	29	-19	962	0	0	0
40	SLE FR 5	29	-19	964	0	0	0
40	SLE FR 6	29	-20	983	0	0	0
40	SLE QP 1	28	-19	928	0	0	0
40	SLE QP 2	29	-19	961	0	0	0
40	SLD 1	73	-13	965	0	0	0
40	SLD 2	75	-9	966	0	0	0
40	SLD 3	72	-26	922	0	0	0
40	SLD 4	74	-22	923	0	0	0
40	SLD 5	43	2	1027	0	0	0
40	SLD 6	45	4	1027	0	0	0
40	SLD 7	40	-42	885	0	0	0
40	SLD 8	42	-39	886	0	0	0
40	SLD 9	16	1	1037	0	0	0
40	SLD 10	18	3	1038	0	0	0
40	SLD 11	13	-43	895	0	0	0
40	SLD 12	15	-41	896	0	0	0
40	SLD 13	-17	-16	999	0	0	0
40	SLD 14	-14	-13	1000	0	0	0
40	SLD 15	-18	-30	957	0	0	0
40	SLD 16	-15	-26	958	0	0	0
40	SLV 1	97	-8	969	0	0	0
40	SLV 2	102	-2	971	0	0	0
40	SLV 3	96	-30	897	0	0	0
40	SLV 4	100	-25	899	0	0	0
40	SLV 5	51	17	1072	0	0	0
40	SLV 6	54	21	1073	0	0	0
40	SLV 7	46	-58	833	0	0	0
40	SLV 8	49	-54	834	0	0	0
40	SLV 9	9	15	1089	0	0	0
40	SLV 10	12	19	1090	0	0	0
40	SLV 11	4	-59	849	0	0	0
40	SLV 12	7	-56	850	0	0	0
40	SLV 13	-43	-14	1023	0	0	0
40	SLV 14	-38	-8	1025	0	0	0
40	SLV 15	-44	-36	952	0	0	0
40	SLV 16	-40	-31	953	0	0	0
40	SLV FO 1	104	-7	970	0	0	0
40	SLV FO 2	109	0	972	0	0	0
40	SLV FO 3	103	-31	891	0	0	0
40	SLV FO 4	108	-25	893	0	0	0
40	SLV FO 5	53	21	1083	0	0	0
40	SLV FO 6	56	25	1085	0	0	0
40	SLV FO 7	48	-61	820	0	0	0
40	SLV FO 8	51	-57	821	0	0	0
40	SLV FO 9	7	19	1101	0	0	0
40	SLV FO 10	10	23	1102	0	0	0
40	SLV FO 11	1	-63	838	0	0	0
40	SLV FO 12	5	-59	839	0	0	0
40	SLV FO 13	-50	-13	1030	0	0	0
40	SLV FO 14	-45	-7	1031	0	0	0
40	SLV FO 15	-52	-38	951	0	0	0
40	SLV FO 16	-47	-32	952	0	0	0
41	SLU 1	27	-18	895	0	0	0
41	SLU 2	27	-16	898	0	0	0
41	SLU 3	28	-17	914	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
41	SLU 4	28	-16	915	0	0	0
41	SLU 5	27	-16	909	0	0	0
41	SLU 6	28	-17	926	0	0	0
41	SLU 7	28	-16	927	0	0	0
41	SLU 8	27	-17	919	0	0	0
41	SLU 9	27	-16	920	0	0	0
41	SLU 10	29	-18	1014	0	0	0
41	SLU 11	29	-19	1030	0	0	0
41	SLU 12	29	-18	1031	0	0	0
41	SLU 13	29	-17	1025	0	0	0
41	SLU 14	29	-18	1041	0	0	0
41	SLU 15	29	-17	1043	0	0	0
41	SLU 16	29	-18	1035	0	0	0
41	SLU 17	29	-18	1036	0	0	0
41	SLU 18	30	-20	1061	0	0	0
41	SLU 19	30	-19	1062	0	0	0
41	SLU 20	30	-19	1073	0	0	0
41	SLU 21	30	-19	1074	0	0	0
41	SLU 22	30	-17	1028	0	0	0
41	SLU 23	31	-16	1030	0	0	0
41	SLU 24	31	-16	1046	0	0	0
41	SLU 25	31	-16	1048	0	0	0
41	SLU 26	31	-15	1042	0	0	0
41	SLU 27	31	-16	1058	0	0	0
41	SLU 28	31	-15	1059	0	0	0
41	SLU 29	31	-16	1051	0	0	0
41	SLU 30	31	-15	1052	0	0	0
41	SLU 31	32	-17	1146	0	0	0
41	SLU 32	32	-18	1162	0	0	0
41	SLU 33	32	-17	1164	0	0	0
41	SLU 34	32	-17	1158	0	0	0
41	SLU 35	32	-17	1174	0	0	0
41	SLU 36	33	-17	1175	0	0	0
41	SLU 37	32	-18	1167	0	0	0
41	SLU 38	32	-17	1168	0	0	0
41	SLU 39	33	-19	1193	0	0	0
41	SLU 40	33	-18	1195	0	0	0
41	SLU 41	33	-19	1205	0	0	0
41	SLU 42	33	-18	1206	0	0	0
41	SLU 43	34	-23	1119	0	0	0
41	SLU 44	35	-22	1121	0	0	0
41	SLU 45	35	-23	1137	0	0	0
41	SLU 46	35	-22	1139	0	0	0
41	SLU 47	35	-22	1133	0	0	0
41	SLU 48	35	-22	1149	0	0	0
41	SLU 49	35	-22	1150	0	0	0
41	SLU 50	35	-23	1142	0	0	0
41	SLU 51	35	-22	1143	0	0	0
41	SLU 52	36	-24	1237	0	0	0
41	SLU 53	36	-24	1253	0	0	0
41	SLU 54	36	-24	1254	0	0	0
41	SLU 55	36	-23	1248	0	0	0
41	SLU 56	36	-24	1265	0	0	0
41	SLU 57	37	-23	1266	0	0	0
41	SLU 58	36	-24	1258	0	0	0
41	SLU 59	36	-23	1259	0	0	0
41	SLU 60	37	-26	1284	0	0	0
41	SLU 61	37	-25	1286	0	0	0
41	SLU 62	37	-25	1296	0	0	0
41	SLU 63	37	-24	1297	0	0	0
41	SLU 64	38	-23	1251	0	0	0
41	SLU 65	38	-21	1253	0	0	0
41	SLU 66	38	-22	1270	0	0	0
41	SLU 67	38	-21	1271	0	0	0
41	SLU 68	38	-21	1265	0	0	0
41	SLU 69	38	-22	1281	0	0	0
41	SLU 70	38	-21	1283	0	0	0
41	SLU 71	38	-22	1274	0	0	0
41	SLU 72	38	-21	1276	0	0	0
41	SLU 73	39	-23	1369	0	0	0
41	SLU 74	40	-24	1385	0	0	0
41	SLU 75	40	-23	1387	0	0	0
41	SLU 76	39	-22	1381	0	0	0
41	SLU 77	40	-23	1397	0	0	0
41	SLU 78	40	-22	1398	0	0	0
41	SLU 79	39	-23	1390	0	0	0
41	SLU 80	39	-22	1392	0	0	0
41	SLU 81	40	-25	1417	0	0	0
41	SLU 82	40	-24	1418	0	0	0
41	SLU 83	40	-24	1428	0	0	0
41	SLU 84	40	-23	1430	0	0	0
41	SLE RA 1	28	-18	933	0	0	0
41	SLE RA 2	28	-17	935	0	0	0
41	SLE RA 3	28	-17	946	0	0	0
41	SLE RA 4	28	-17	947	0	0	0
41	SLE RA 5	28	-16	943	0	0	0
41	SLE RA 6	28	-17	953	0	0	0
41	SLE RA 7	28	-16	954	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
41	SLE RA 8	28	-17	949	0	0	0
41	SLE RA 9	28	-16	950	0	0	0
41	SLE RA 10	29	-18	1012	0	0	0
41	SLE RA 11	30	-18	1023	0	0	0
41	SLE RA 12	30	-18	1024	0	0	0
41	SLE RA 13	29	-17	1020	0	0	0
41	SLE RA 14	30	-18	1031	0	0	0
41	SLE RA 15	30	-17	1032	0	0	0
41	SLE RA 16	29	-18	1026	0	0	0
41	SLE RA 17	29	-17	1027	0	0	0
41	SLE RA 18	30	-19	1044	0	0	0
41	SLE RA 19	30	-18	1045	0	0	0
41	SLE RA 20	30	-19	1051	0	0	0
41	SLE RA 21	30	-18	1052	0	0	0
41	SLE FR 1	28	-18	933	0	0	0
41	SLE FR 2	28	-17	934	0	0	0
41	SLE FR 3	28	-17	936	0	0	0
41	SLE FR 4	29	-18	967	0	0	0
41	SLE FR 5	29	-18	969	0	0	0
41	SLE FR 6	29	-18	988	0	0	0
41	SLE QP 1	28	-18	933	0	0	0
41	SLE QP 2	29	-18	966	0	0	0
41	SLD 1	72	-12	961	0	0	0
41	SLD 2	75	-8	962	0	0	0
41	SLD 3	71	-25	919	0	0	0
41	SLD 4	74	-21	920	0	0	0
41	SLD 5	43	2	1029	0	0	0
41	SLD 6	44	5	1030	0	0	0
41	SLD 7	40	-40	887	0	0	0
41	SLD 8	42	-37	888	0	0	0
41	SLD 9	16	1	1045	0	0	0
41	SLD 10	18	4	1045	0	0	0
41	SLD 11	13	-41	903	0	0	0
41	SLD 12	15	-38	904	0	0	0
41	SLD 13	-17	-16	1013	0	0	0
41	SLD 14	-14	-11	1014	0	0	0
41	SLD 15	-18	-28	971	0	0	0
41	SLD 16	-15	-24	971	0	0	0
41	SLV 1	97	-8	961	0	0	0
41	SLV 2	102	-1	963	0	0	0
41	SLV 3	96	-29	889	0	0	0
41	SLV 4	100	-23	891	0	0	0
41	SLV 5	51	17	1073	0	0	0
41	SLV 6	54	21	1074	0	0	0
41	SLV 7	46	-55	834	0	0	0
41	SLV 8	49	-51	835	0	0	0
41	SLV 9	9	15	1098	0	0	0
41	SLV 10	12	19	1099	0	0	0
41	SLV 11	4	-57	858	0	0	0
41	SLV 12	7	-53	859	0	0	0
41	SLV 13	-43	-13	1042	0	0	0
41	SLV 14	-38	-7	1043	0	0	0
41	SLV 15	-44	-35	970	0	0	0
41	SLV 16	-40	-28	971	0	0	0
41	SLV FO 1	104	-7	961	0	0	0
41	SLV FO 2	109	1	962	0	0	0
41	SLV FO 3	102	-30	882	0	0	0
41	SLV FO 4	107	-23	883	0	0	0
41	SLV FO 5	53	20	1084	0	0	0
41	SLV FO 6	56	25	1085	0	0	0
41	SLV FO 7	47	-59	821	0	0	0
41	SLV FO 8	51	-54	822	0	0	0
41	SLV FO 9	7	18	1111	0	0	0
41	SLV FO 10	10	23	1112	0	0	0
41	SLV FO 11	1	-61	848	0	0	0
41	SLV FO 12	5	-56	848	0	0	0
41	SLV FO 13	-50	-13	1050	0	0	0
41	SLV FO 14	-45	-6	1051	0	0	0
41	SLV FO 15	-51	-37	971	0	0	0
41	SLV FO 16	-46	-29	972	0	0	0
42	SLU 1	22	-12	732	0	0	0
42	SLU 2	22	-11	734	0	0	0
42	SLU 3	22	-12	747	0	0	0
42	SLU 4	22	-11	748	0	0	0
42	SLU 5	22	-11	743	0	0	0
42	SLU 6	22	-11	756	0	0	0
42	SLU 7	22	-11	757	0	0	0
42	SLU 8	22	-11	750	0	0	0
42	SLU 9	22	-11	751	0	0	0
42	SLU 10	23	-12	827	0	0	0
42	SLU 11	24	-13	840	0	0	0
42	SLU 12	24	-12	841	0	0	0
42	SLU 13	23	-12	836	0	0	0
42	SLU 14	24	-12	849	0	0	0
42	SLU 15	24	-12	850	0	0	0
42	SLU 16	23	-12	844	0	0	0
42	SLU 17	23	-12	845	0	0	0
42	SLU 18	24	-13	865	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
42	SLU 19	24	-13	866	0	0	0
42	SLU 20	24	-13	874	0	0	0
42	SLU 21	24	-12	875	0	0	0
42	SLU 22	25	-11	839	0	0	0
42	SLU 23	25	-10	841	0	0	0
42	SLU 24	25	-11	854	0	0	0
42	SLU 25	25	-10	855	0	0	0
42	SLU 26	25	-10	850	0	0	0
42	SLU 27	25	-10	863	0	0	0
42	SLU 28	25	-10	865	0	0	0
42	SLU 29	25	-10	858	0	0	0
42	SLU 30	25	-10	859	0	0	0
42	SLU 31	26	-11	934	0	0	0
42	SLU 32	26	-12	947	0	0	0
42	SLU 33	26	-11	949	0	0	0
42	SLU 34	26	-11	944	0	0	0
42	SLU 35	26	-11	957	0	0	0
42	SLU 36	26	-11	958	0	0	0
42	SLU 37	26	-11	951	0	0	0
42	SLU 38	26	-11	952	0	0	0
42	SLU 39	26	-13	972	0	0	0
42	SLU 40	26	-12	974	0	0	0
42	SLU 41	26	-12	982	0	0	0
42	SLU 42	27	-12	983	0	0	0
42	SLU 43	28	-16	914	0	0	0
42	SLU 44	28	-15	916	0	0	0
42	SLU 45	28	-15	929	0	0	0
42	SLU 46	28	-15	931	0	0	0
42	SLU 47	28	-14	926	0	0	0
42	SLU 48	28	-15	939	0	0	0
42	SLU 49	28	-14	940	0	0	0
42	SLU 50	28	-15	933	0	0	0
42	SLU 51	28	-14	934	0	0	0
42	SLU 52	29	-16	1010	0	0	0
42	SLU 53	29	-16	1023	0	0	0
42	SLU 54	29	-16	1024	0	0	0
42	SLU 55	29	-15	1019	0	0	0
42	SLU 56	29	-16	1032	0	0	0
42	SLU 57	29	-15	1033	0	0	0
42	SLU 58	29	-16	1026	0	0	0
42	SLU 59	29	-15	1027	0	0	0
42	SLU 60	30	-17	1048	0	0	0
42	SLU 61	30	-17	1049	0	0	0
42	SLU 62	30	-17	1057	0	0	0
42	SLU 63	30	-16	1058	0	0	0
42	SLU 64	30	-15	1022	0	0	0
42	SLU 65	30	-14	1024	0	0	0
42	SLU 66	30	-15	1037	0	0	0
42	SLU 67	31	-14	1038	0	0	0
42	SLU 68	30	-14	1033	0	0	0
42	SLU 69	30	-14	1046	0	0	0
42	SLU 70	31	-14	1047	0	0	0
42	SLU 71	30	-14	1040	0	0	0
42	SLU 72	30	-14	1042	0	0	0
42	SLU 73	32	-15	1117	0	0	0
42	SLU 74	32	-16	1130	0	0	0
42	SLU 75	32	-15	1131	0	0	0
42	SLU 76	32	-15	1126	0	0	0
42	SLU 77	32	-15	1139	0	0	0
42	SLU 78	32	-15	1141	0	0	0
42	SLU 79	32	-15	1134	0	0	0
42	SLU 80	32	-15	1135	0	0	0
42	SLU 81	32	-16	1155	0	0	0
42	SLU 82	32	-16	1156	0	0	0
42	SLU 83	32	-16	1164	0	0	0
42	SLU 84	32	-15	1166	0	0	0
42	SLE RA 1	23	-12	762	0	0	0
42	SLE RA 2	23	-11	764	0	0	0
42	SLE RA 3	23	-11	772	0	0	0
42	SLE RA 4	23	-11	773	0	0	0
42	SLE RA 5	23	-11	770	0	0	0
42	SLE RA 6	23	-11	779	0	0	0
42	SLE RA 7	23	-11	779	0	0	0
42	SLE RA 8	23	-11	775	0	0	0
42	SLE RA 9	23	-11	776	0	0	0
42	SLE RA 10	24	-12	826	0	0	0
42	SLE RA 11	24	-12	835	0	0	0
42	SLE RA 12	24	-12	835	0	0	0
42	SLE RA 13	24	-11	832	0	0	0
42	SLE RA 14	24	-12	841	0	0	0
42	SLE RA 15	24	-11	842	0	0	0
42	SLE RA 16	24	-12	837	0	0	0
42	SLE RA 17	24	-11	838	0	0	0
42	SLE RA 18	24	-13	851	0	0	0
42	SLE RA 19	24	-12	852	0	0	0
42	SLE RA 20	24	-12	857	0	0	0
42	SLE RA 21	24	-12	858	0	0	0
42	SLE FR 1	23	-12	762	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
42	SLE FR 2	23	-12	763	0	0	0
42	SLE FR 3	23	-12	765	0	0	0
42	SLE FR 4	23	-12	789	0	0	0
42	SLE FR 5	23	-12	792	0	0	0
42	SLE FR 6	23	-12	807	0	0	0
42	SLE QP 1	23	-12	762	0	0	0
42	SLE QP 2	23	-12	789	0	0	0
42	SLD 1	58	-11	767	0	0	0
42	SLD 2	60	-6	767	0	0	0
42	SLD 3	57	-20	733	0	0	0
42	SLD 4	60	-15	733	0	0	0
42	SLD 5	34	1	834	0	0	0
42	SLD 6	36	4	834	0	0	0
42	SLD 7	32	-29	720	0	0	0
42	SLD 8	33	-26	720	0	0	0
42	SLD 9	13	2	858	0	0	0
42	SLD 10	14	5	858	0	0	0
42	SLD 11	10	-29	744	0	0	0
42	SLD 12	12	-25	744	0	0	0
42	SLD 13	-14	-9	845	0	0	0
42	SLD 14	-11	-4	845	0	0	0
42	SLD 15	-14	-18	811	0	0	0
42	SLD 16	-12	-13	811	0	0	0
42	SLV 1	78	-10	757	0	0	0
42	SLV 2	82	-2	757	0	0	0
42	SLV 3	77	-26	699	0	0	0
42	SLV 4	80	-18	699	0	0	0
42	SLV 5	41	11	867	0	0	0
42	SLV 6	43	16	867	0	0	0
42	SLV 7	37	-41	674	0	0	0
42	SLV 8	39	-36	675	0	0	0
42	SLV 9	7	12	904	0	0	0
42	SLV 10	9	17	904	0	0	0
42	SLV 11	3	-40	711	0	0	0
42	SLV 12	5	-35	711	0	0	0
42	SLV 13	-34	-6	879	0	0	0
42	SLV 14	-31	2	879	0	0	0
42	SLV 15	-35	-22	821	0	0	0
42	SLV 16	-32	-14	821	0	0	0
42	SLV FO 1	84	-10	754	0	0	0
42	SLV FO 2	87	-1	754	0	0	0
42	SLV FO 3	82	-27	690	0	0	0
42	SLV FO 4	86	-19	690	0	0	0
42	SLV FO 5	42	13	875	0	0	0
42	SLV FO 6	45	19	875	0	0	0
42	SLV FO 7	38	-44	663	0	0	0
42	SLV FO 8	41	-39	663	0	0	0
42	SLV FO 9	5	15	915	0	0	0
42	SLV FO 10	8	20	915	0	0	0
42	SLV FO 11	1	-43	703	0	0	0
42	SLV FO 12	4	-37	703	0	0	0
42	SLV FO 13	-40	-5	888	0	0	0
42	SLV FO 14	-36	3	888	0	0	0
42	SLV FO 15	-41	-23	824	0	0	0
42	SLV FO 16	-37	-14	825	0	0	0
44	SLU 1	34	-29	1124	0	0	0
44	SLU 2	34	-27	1125	0	0	0
44	SLU 3	34	-29	1149	0	0	0
44	SLU 4	34	-27	1149	0	0	0
44	SLU 5	34	-27	1141	0	0	0
44	SLU 6	34	-28	1165	0	0	0
44	SLU 7	34	-27	1165	0	0	0
44	SLU 8	34	-28	1156	0	0	0
44	SLU 9	34	-27	1156	0	0	0
44	SLU 10	36	-30	1275	0	0	0
44	SLU 11	36	-31	1298	0	0	0
44	SLU 12	36	-30	1299	0	0	0
44	SLU 13	36	-29	1290	0	0	0
44	SLU 14	36	-30	1314	0	0	0
44	SLU 15	36	-29	1315	0	0	0
44	SLU 16	36	-30	1306	0	0	0
44	SLU 17	36	-29	1306	0	0	0
44	SLU 18	37	-33	1338	0	0	0
44	SLU 19	37	-31	1338	0	0	0
44	SLU 20	37	-32	1354	0	0	0
44	SLU 21	37	-31	1354	0	0	0
44	SLU 22	38	-29	1295	0	0	0
44	SLU 23	38	-26	1296	0	0	0
44	SLU 24	38	-28	1319	0	0	0
44	SLU 25	38	-27	1320	0	0	0
44	SLU 26	38	-26	1311	0	0	0
44	SLU 27	38	-27	1335	0	0	0
44	SLU 28	38	-26	1336	0	0	0
44	SLU 29	38	-27	1327	0	0	0
44	SLU 30	38	-26	1327	0	0	0
44	SLU 31	40	-29	1445	0	0	0
44	SLU 32	40	-30	1469	0	0	0
44	SLU 33	40	-29	1470	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
44	SLU 34	40	-28	1461	0	0	0
44	SLU 35	40	-30	1485	0	0	0
44	SLU 36	40	-28	1485	0	0	0
44	SLU 37	40	-30	1476	0	0	0
44	SLU 38	40	-28	1477	0	0	0
44	SLU 39	41	-32	1509	0	0	0
44	SLU 40	41	-31	1509	0	0	0
44	SLU 41	41	-31	1524	0	0	0
44	SLU 42	41	-30	1525	0	0	0
44	SLU 43	42	-38	1403	0	0	0
44	SLU 44	43	-36	1404	0	0	0
44	SLU 45	43	-38	1428	0	0	0
44	SLU 46	43	-36	1428	0	0	0
44	SLU 47	43	-36	1420	0	0	0
44	SLU 48	43	-37	1443	0	0	0
44	SLU 49	43	-36	1444	0	0	0
44	SLU 50	42	-37	1435	0	0	0
44	SLU 51	43	-36	1435	0	0	0
44	SLU 52	45	-39	1553	0	0	0
44	SLU 53	45	-40	1577	0	0	0
44	SLU 54	45	-39	1578	0	0	0
44	SLU 55	45	-38	1569	0	0	0
44	SLU 56	45	-39	1593	0	0	0
44	SLU 57	45	-38	1594	0	0	0
44	SLU 58	45	-39	1584	0	0	0
44	SLU 59	45	-38	1585	0	0	0
44	SLU 60	45	-42	1617	0	0	0
44	SLU 61	45	-40	1617	0	0	0
44	SLU 62	45	-41	1633	0	0	0
44	SLU 63	45	-40	1633	0	0	0
44	SLU 64	46	-38	1574	0	0	0
44	SLU 65	47	-35	1574	0	0	0
44	SLU 66	47	-37	1598	0	0	0
44	SLU 67	47	-36	1599	0	0	0
44	SLU 68	47	-35	1590	0	0	0
44	SLU 69	47	-36	1614	0	0	0
44	SLU 70	47	-35	1615	0	0	0
44	SLU 71	46	-36	1605	0	0	0
44	SLU 72	47	-35	1606	0	0	0
44	SLU 73	49	-38	1724	0	0	0
44	SLU 74	49	-39	1748	0	0	0
44	SLU 75	49	-38	1748	0	0	0
44	SLU 76	49	-37	1740	0	0	0
44	SLU 77	49	-39	1764	0	0	0
44	SLU 78	49	-37	1764	0	0	0
44	SLU 79	49	-39	1755	0	0	0
44	SLU 80	49	-37	1755	0	0	0
44	SLU 81	49	-41	1787	0	0	0
44	SLU 82	49	-40	1788	0	0	0
44	SLU 83	49	-40	1803	0	0	0
44	SLU 84	49	-39	1804	0	0	0
44	SLE RA 1	35	-29	1173	0	0	0
44	SLE RA 2	35	-28	1173	0	0	0
44	SLE RA 3	35	-29	1189	0	0	0
44	SLE RA 4	35	-28	1190	0	0	0
44	SLE RA 5	35	-27	1184	0	0	0
44	SLE RA 6	35	-28	1200	0	0	0
44	SLE RA 7	35	-27	1200	0	0	0
44	SLE RA 8	35	-28	1194	0	0	0
44	SLE RA 9	35	-27	1194	0	0	0
44	SLE RA 10	36	-29	1273	0	0	0
44	SLE RA 11	36	-30	1289	0	0	0
44	SLE RA 12	36	-29	1289	0	0	0
44	SLE RA 13	36	-29	1284	0	0	0
44	SLE RA 14	36	-30	1300	0	0	0
44	SLE RA 15	36	-29	1300	0	0	0
44	SLE RA 16	36	-30	1294	0	0	0
44	SLE RA 17	36	-29	1294	0	0	0
44	SLE RA 18	37	-31	1315	0	0	0
44	SLE RA 19	37	-30	1316	0	0	0
44	SLE RA 20	37	-31	1326	0	0	0
44	SLE RA 21	37	-30	1326	0	0	0
44	SLE FR 1	35	-29	1173	0	0	0
44	SLE FR 2	35	-29	1173	0	0	0
44	SLE FR 3	35	-29	1177	0	0	0
44	SLE FR 4	35	-29	1216	0	0	0
44	SLE FR 5	35	-30	1220	0	0	0
44	SLE FR 6	36	-30	1244	0	0	0
44	SLE QP 1	35	-29	1173	0	0	0
44	SLE QP 2	35	-30	1216	0	0	0
44	SLD 1	94	-17	1242	0	0	0
44	SLD 2	96	-16	1244	0	0	0
44	SLD 3	92	-36	1218	0	0	0
44	SLD 4	94	-35	1220	0	0	0
44	SLD 5	55	2	1260	0	0	0
44	SLD 6	57	3	1261	0	0	0
44	SLD 7	49	-61	1180	0	0	0
44	SLD 8	50	-59	1181	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
44	SLD 9	20	0	1251	0	0	0
44	SLD 10	22	1	1252	0	0	0
44	SLD 11	14	-63	1171	0	0	0
44	SLD 12	15	-62	1172	0	0	0
44	SLD 13	-24	-25	1212	0	0	0
44	SLD 14	-21	-23	1213	0	0	0
44	SLD 15	-25	-44	1188	0	0	0
44	SLD 16	-23	-42	1189	0	0	0
44	SLV 1	127	-9	1259	0	0	0
44	SLV 2	131	-6	1261	0	0	0
44	SLV 3	124	-41	1218	0	0	0
44	SLV 4	127	-38	1220	0	0	0
44	SLV 5	67	25	1290	0	0	0
44	SLV 6	70	27	1292	0	0	0
44	SLV 7	56	-82	1154	0	0	0
44	SLV 8	59	-81	1156	0	0	0
44	SLV 9	12	21	1276	0	0	0
44	SLV 10	15	23	1277	0	0	0
44	SLV 11	1	-86	1140	0	0	0
44	SLV 12	3	-84	1142	0	0	0
44	SLV 13	-57	-21	1211	0	0	0
44	SLV 14	-53	-18	1214	0	0	0
44	SLV 15	-60	-53	1170	0	0	0
44	SLV 16	-56	-50	1173	0	0	0
44	SLV FO 1	136	-7	1263	0	0	0
44	SLV FO 2	140	-4	1266	0	0	0
44	SLV FO 3	132	-43	1218	0	0	0
44	SLV FO 4	137	-39	1221	0	0	0
44	SLV FO 5	70	30	1297	0	0	0
44	SLV FO 6	73	32	1299	0	0	0
44	SLV FO 7	58	-88	1148	0	0	0
44	SLV FO 8	61	-86	1150	0	0	0
44	SLV FO 9	10	26	1282	0	0	0
44	SLV FO 10	13	28	1283	0	0	0
44	SLV FO 11	-3	-92	1132	0	0	0
44	SLV FO 12	0	-89	1134	0	0	0
44	SLV FO 13	-66	-20	1210	0	0	0
44	SLV FO 14	-62	-17	1213	0	0	0
44	SLV FO 15	-70	-55	1166	0	0	0
44	SLV FO 16	-65	-52	1168	0	0	0
45	SLU 1	34	-22	1163	0	0	0
45	SLU 2	34	-20	1164	0	0	0
45	SLU 3	34	-21	1187	0	0	0
45	SLU 4	34	-20	1188	0	0	0
45	SLU 5	34	-19	1179	0	0	0
45	SLU 6	34	-20	1203	0	0	0
45	SLU 7	34	-19	1204	0	0	0
45	SLU 8	34	-21	1194	0	0	0
45	SLU 9	34	-19	1195	0	0	0
45	SLU 10	36	-22	1314	0	0	0
45	SLU 11	36	-23	1338	0	0	0
45	SLU 12	36	-22	1339	0	0	0
45	SLU 13	36	-21	1330	0	0	0
45	SLU 14	36	-22	1354	0	0	0
45	SLU 15	36	-21	1354	0	0	0
45	SLU 16	36	-22	1345	0	0	0
45	SLU 17	36	-21	1345	0	0	0
45	SLU 18	36	-24	1378	0	0	0
45	SLU 19	37	-23	1379	0	0	0
45	SLU 20	36	-24	1393	0	0	0
45	SLU 21	37	-23	1394	0	0	0
45	SLU 22	37	-21	1337	0	0	0
45	SLU 23	38	-19	1338	0	0	0
45	SLU 24	38	-20	1362	0	0	0
45	SLU 25	38	-19	1362	0	0	0
45	SLU 26	38	-18	1354	0	0	0
45	SLU 27	38	-19	1377	0	0	0
45	SLU 28	38	-18	1378	0	0	0
45	SLU 29	38	-19	1368	0	0	0
45	SLU 30	38	-18	1369	0	0	0
45	SLU 31	40	-21	1489	0	0	0
45	SLU 32	40	-22	1512	0	0	0
45	SLU 33	40	-21	1513	0	0	0
45	SLU 34	40	-20	1504	0	0	0
45	SLU 35	40	-21	1528	0	0	0
45	SLU 36	40	-20	1529	0	0	0
45	SLU 37	40	-21	1519	0	0	0
45	SLU 38	40	-20	1520	0	0	0
45	SLU 39	40	-23	1552	0	0	0
45	SLU 40	40	-22	1553	0	0	0
45	SLU 41	40	-22	1568	0	0	0
45	SLU 42	41	-21	1568	0	0	0
45	SLU 43	42	-29	1452	0	0	0
45	SLU 44	42	-27	1453	0	0	0
45	SLU 45	43	-28	1476	0	0	0
45	SLU 46	43	-27	1477	0	0	0
45	SLU 47	42	-26	1469	0	0	0
45	SLU 48	43	-27	1492	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
45	SLU 49	43	-26	1493	0	0	0
45	SLU 50	42	-27	1483	0	0	0
45	SLU 51	42	-26	1484	0	0	0
45	SLU 52	44	-29	1603	0	0	0
45	SLU 53	45	-30	1627	0	0	0
45	SLU 54	45	-29	1628	0	0	0
45	SLU 55	44	-28	1619	0	0	0
45	SLU 56	45	-29	1643	0	0	0
45	SLU 57	45	-28	1643	0	0	0
45	SLU 58	44	-29	1634	0	0	0
45	SLU 59	44	-28	1634	0	0	0
45	SLU 60	45	-31	1667	0	0	0
45	SLU 61	45	-30	1668	0	0	0
45	SLU 62	45	-31	1682	0	0	0
45	SLU 63	45	-30	1683	0	0	0
45	SLU 64	46	-28	1626	0	0	0
45	SLU 65	46	-26	1627	0	0	0
45	SLU 66	47	-27	1651	0	0	0
45	SLU 67	47	-26	1651	0	0	0
45	SLU 68	46	-25	1643	0	0	0
45	SLU 69	47	-26	1666	0	0	0
45	SLU 70	47	-25	1667	0	0	0
45	SLU 71	46	-26	1657	0	0	0
45	SLU 72	46	-25	1658	0	0	0
45	SLU 73	48	-28	1778	0	0	0
45	SLU 74	49	-29	1801	0	0	0
45	SLU 75	49	-28	1802	0	0	0
45	SLU 76	48	-27	1793	0	0	0
45	SLU 77	49	-28	1817	0	0	0
45	SLU 78	49	-27	1818	0	0	0
45	SLU 79	48	-28	1808	0	0	0
45	SLU 80	48	-27	1809	0	0	0
45	SLU 81	49	-30	1841	0	0	0
45	SLU 82	49	-29	1842	0	0	0
45	SLU 83	49	-29	1857	0	0	0
45	SLU 84	49	-28	1857	0	0	0
45	SLE RA 1	35	-21	1212	0	0	0
45	SLE RA 2	35	-20	1213	0	0	0
45	SLE RA 3	35	-21	1229	0	0	0
45	SLE RA 4	35	-20	1229	0	0	0
45	SLE RA 5	35	-20	1224	0	0	0
45	SLE RA 6	35	-21	1239	0	0	0
45	SLE RA 7	35	-20	1240	0	0	0
45	SLE RA 8	35	-21	1233	0	0	0
45	SLE RA 9	35	-20	1234	0	0	0
45	SLE RA 10	36	-21	1314	0	0	0
45	SLE RA 11	36	-22	1329	0	0	0
45	SLE RA 12	36	-21	1330	0	0	0
45	SLE RA 13	36	-21	1324	0	0	0
45	SLE RA 14	36	-22	1340	0	0	0
45	SLE RA 15	36	-21	1340	0	0	0
45	SLE RA 16	36	-22	1334	0	0	0
45	SLE RA 17	36	-21	1334	0	0	0
45	SLE RA 18	37	-23	1356	0	0	0
45	SLE RA 19	37	-22	1356	0	0	0
45	SLE RA 20	37	-23	1366	0	0	0
45	SLE RA 21	37	-22	1367	0	0	0
45	SLE FR 1	35	-21	1212	0	0	0
45	SLE FR 2	35	-21	1213	0	0	0
45	SLE FR 3	35	-21	1217	0	0	0
45	SLE FR 4	35	-22	1256	0	0	0
45	SLE FR 5	35	-22	1260	0	0	0
45	SLE FR 6	36	-22	1284	0	0	0
45	SLE QP 1	35	-21	1212	0	0	0
45	SLE QP 2	35	-22	1255	0	0	0
45	SLD 1	93	-15	1226	0	0	0
45	SLD 2	96	-9	1227	0	0	0
45	SLD 3	92	-31	1199	0	0	0
45	SLD 4	94	-25	1200	0	0	0
45	SLD 5	55	3	1288	0	0	0
45	SLD 6	57	7	1288	0	0	0
45	SLD 7	49	-50	1197	0	0	0
45	SLD 8	50	-46	1198	0	0	0
45	SLD 9	20	2	1313	0	0	0
45	SLD 10	22	6	1314	0	0	0
45	SLD 11	14	-51	1223	0	0	0
45	SLD 12	15	-47	1223	0	0	0
45	SLD 13	-24	-19	1311	0	0	0
45	SLD 14	-21	-13	1312	0	0	0
45	SLD 15	-25	-35	1284	0	0	0
45	SLD 16	-23	-29	1285	0	0	0
45	SLV 1	127	-10	1211	0	0	0
45	SLV 2	130	0	1213	0	0	0
45	SLV 3	123	-37	1165	0	0	0
45	SLV 4	127	-27	1167	0	0	0
45	SLV 5	67	21	1312	0	0	0
45	SLV 6	70	28	1313	0	0	0
45	SLV 7	56	-69	1158	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
45	SLV 8	58	-63	1159	0	0	0
45	SLV 9	12	19	1352	0	0	0
45	SLV 10	15	26	1353	0	0	0
45	SLV 11	1	-71	1198	0	0	0
45	SLV 12	3	-65	1199	0	0	0
45	SLV 13	-57	-17	1344	0	0	0
45	SLV 14	-53	-7	1346	0	0	0
45	SLV 15	-60	-44	1298	0	0	0
45	SLV 16	-56	-34	1300	0	0	0
45	SLV FO 1	136	-9	1207	0	0	0
45	SLV FO 2	140	2	1209	0	0	0
45	SLV FO 3	132	-39	1156	0	0	0
45	SLV FO 4	136	-28	1158	0	0	0
45	SLV FO 5	70	25	1317	0	0	0
45	SLV FO 6	73	33	1318	0	0	0
45	SLV FO 7	58	-74	1149	0	0	0
45	SLV FO 8	61	-67	1150	0	0	0
45	SLV FO 9	10	23	1361	0	0	0
45	SLV FO 10	12	30	1362	0	0	0
45	SLV FO 11	-3	-76	1193	0	0	0
45	SLV FO 12	0	-69	1194	0	0	0
45	SLV FO 13	-66	-16	1353	0	0	0
45	SLV FO 14	-62	-5	1355	0	0	0
45	SLV FO 15	-70	-46	1302	0	0	0
45	SLV FO 16	-65	-35	1304	0	0	0
46	SLU 1	21	-19	682	0	0	0
46	SLU 2	21	-18	682	0	0	0
46	SLU 3	21	-19	697	0	0	0
46	SLU 4	21	-18	697	0	0	0
46	SLU 5	21	-18	692	0	0	0
46	SLU 6	21	-19	707	0	0	0
46	SLU 7	21	-18	707	0	0	0
46	SLU 8	21	-19	701	0	0	0
46	SLU 9	21	-18	702	0	0	0
46	SLU 10	22	-20	774	0	0	0
46	SLU 11	22	-21	788	0	0	0
46	SLU 12	22	-20	789	0	0	0
46	SLU 13	22	-19	783	0	0	0
46	SLU 14	22	-20	798	0	0	0
46	SLU 15	22	-19	798	0	0	0
46	SLU 16	22	-20	793	0	0	0
46	SLU 17	22	-19	793	0	0	0
46	SLU 18	22	-22	813	0	0	0
46	SLU 19	23	-21	813	0	0	0
46	SLU 20	23	-21	822	0	0	0
46	SLU 21	23	-20	823	0	0	0
46	SLU 22	23	-19	786	0	0	0
46	SLU 23	23	-18	786	0	0	0
46	SLU 24	23	-19	801	0	0	0
46	SLU 25	23	-18	801	0	0	0
46	SLU 26	23	-17	796	0	0	0
46	SLU 27	23	-18	811	0	0	0
46	SLU 28	23	-17	811	0	0	0
46	SLU 29	23	-18	805	0	0	0
46	SLU 30	23	-17	805	0	0	0
46	SLU 31	25	-19	878	0	0	0
46	SLU 32	25	-20	892	0	0	0
46	SLU 33	25	-19	893	0	0	0
46	SLU 34	25	-19	887	0	0	0
46	SLU 35	25	-20	902	0	0	0
46	SLU 36	25	-19	902	0	0	0
46	SLU 37	24	-20	897	0	0	0
46	SLU 38	25	-19	897	0	0	0
46	SLU 39	25	-21	916	0	0	0
46	SLU 40	25	-21	917	0	0	0
46	SLU 41	25	-21	926	0	0	0
46	SLU 42	25	-20	926	0	0	0
46	SLU 43	26	-25	851	0	0	0
46	SLU 44	26	-24	851	0	0	0
46	SLU 45	26	-25	866	0	0	0
46	SLU 46	26	-24	866	0	0	0
46	SLU 47	26	-24	861	0	0	0
46	SLU 48	26	-24	876	0	0	0
46	SLU 49	26	-24	876	0	0	0
46	SLU 50	26	-24	870	0	0	0
46	SLU 51	26	-24	870	0	0	0
46	SLU 52	27	-26	943	0	0	0
46	SLU 53	28	-26	957	0	0	0
46	SLU 54	28	-26	958	0	0	0
46	SLU 55	27	-25	952	0	0	0
46	SLU 56	28	-26	967	0	0	0
46	SLU 57	28	-25	967	0	0	0
46	SLU 58	27	-26	962	0	0	0
46	SLU 59	27	-25	962	0	0	0
46	SLU 60	28	-28	981	0	0	0
46	SLU 61	28	-27	982	0	0	0
46	SLU 62	28	-27	991	0	0	0
46	SLU 63	28	-26	991	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
46	SLU 64	29	-25	955	0	0	0
46	SLU 65	29	-24	955	0	0	0
46	SLU 66	29	-25	970	0	0	0
46	SLU 67	29	-24	970	0	0	0
46	SLU 68	29	-23	965	0	0	0
46	SLU 69	29	-24	979	0	0	0
46	SLU 70	29	-23	980	0	0	0
46	SLU 71	29	-24	974	0	0	0
46	SLU 72	29	-23	974	0	0	0
46	SLU 73	30	-25	1046	0	0	0
46	SLU 74	30	-26	1061	0	0	0
46	SLU 75	30	-25	1061	0	0	0
46	SLU 76	30	-25	1056	0	0	0
46	SLU 77	30	-26	1071	0	0	0
46	SLU 78	30	-25	1071	0	0	0
46	SLU 79	30	-26	1066	0	0	0
46	SLU 80	30	-25	1066	0	0	0
46	SLU 81	30	-27	1085	0	0	0
46	SLU 82	30	-26	1086	0	0	0
46	SLU 83	30	-27	1095	0	0	0
46	SLU 84	30	-26	1095	0	0	0
46	SLE RA 1	21	-19	711	0	0	0
46	SLE RA 2	21	-18	712	0	0	0
46	SLE RA 3	22	-19	722	0	0	0
46	SLE RA 4	22	-18	722	0	0	0
46	SLE RA 5	22	-18	718	0	0	0
46	SLE RA 6	22	-19	728	0	0	0
46	SLE RA 7	22	-18	728	0	0	0
46	SLE RA 8	21	-19	724	0	0	0
46	SLE RA 9	21	-18	725	0	0	0
46	SLE RA 10	22	-19	773	0	0	0
46	SLE RA 11	22	-20	783	0	0	0
46	SLE RA 12	22	-20	783	0	0	0
46	SLE RA 13	22	-19	779	0	0	0
46	SLE RA 14	22	-20	789	0	0	0
46	SLE RA 15	22	-19	789	0	0	0
46	SLE RA 16	22	-20	786	0	0	0
46	SLE RA 17	22	-19	786	0	0	0
46	SLE RA 18	23	-21	799	0	0	0
46	SLE RA 19	23	-20	799	0	0	0
46	SLE RA 20	23	-21	805	0	0	0
46	SLE RA 21	23	-20	805	0	0	0
46	SLE FR 1	21	-19	711	0	0	0
46	SLE FR 2	21	-19	712	0	0	0
46	SLE FR 3	21	-19	714	0	0	0
46	SLE FR 4	22	-20	738	0	0	0
46	SLE FR 5	22	-20	740	0	0	0
46	SLE FR 6	22	-20	755	0	0	0
46	SLE QP 1	21	-19	711	0	0	0
46	SLE QP 2	22	-20	738	0	0	0
46	SLD 1	58	-11	764	0	0	0
46	SLD 2	59	-11	766	0	0	0
46	SLD 3	57	-23	751	0	0	0
46	SLD 4	58	-23	752	0	0	0
46	SLD 5	34	1	766	0	0	0
46	SLD 6	35	1	767	0	0	0
46	SLD 7	30	-39	720	0	0	0
46	SLD 8	31	-39	721	0	0	0
46	SLD 9	12	0	754	0	0	0
46	SLD 10	13	0	755	0	0	0
46	SLD 11	8	-41	708	0	0	0
46	SLD 12	9	-41	709	0	0	0
46	SLD 13	-15	-16	723	0	0	0
46	SLD 14	-13	-16	725	0	0	0
46	SLD 15	-16	-29	710	0	0	0
46	SLD 16	-14	-28	711	0	0	0
46	SLV 1	78	-5	780	0	0	0
46	SLV 2	81	-5	782	0	0	0
46	SLV 3	76	-26	757	0	0	0
46	SLV 4	78	-26	759	0	0	0
46	SLV 5	41	16	786	0	0	0
46	SLV 6	43	16	787	0	0	0
46	SLV 7	34	-53	708	0	0	0
46	SLV 8	36	-53	709	0	0	0
46	SLV 9	7	14	766	0	0	0
46	SLV 10	9	14	768	0	0	0
46	SLV 11	0	-56	688	0	0	0
46	SLV 12	2	-56	690	0	0	0
46	SLV 13	-35	-14	716	0	0	0
46	SLV 14	-33	-13	718	0	0	0
46	SLV 15	-37	-35	693	0	0	0
46	SLV 16	-35	-34	695	0	0	0
46	SLV FO 1	84	-4	785	0	0	0
46	SLV FO 2	86	-3	787	0	0	0
46	SLV FO 3	82	-27	759	0	0	0
46	SLV FO 4	84	-26	761	0	0	0
46	SLV FO 5	43	20	790	0	0	0
46	SLV FO 6	45	20	792	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
46	SLV FO 7	36	-57	705	0	0	0
46	SLV FO 8	37	-56	706	0	0	0
46	SLV FO 9	6	17	769	0	0	0
46	SLV FO 10	8	17	771	0	0	0
46	SLV FO 11	-2	-59	683	0	0	0
46	SLV FO 12	0	-59	685	0	0	0
46	SLV FO 13	-41	-13	714	0	0	0
46	SLV FO 14	-38	-13	716	0	0	0
46	SLV FO 15	-43	-36	688	0	0	0
46	SLV FO 16	-40	-36	691	0	0	0
47	SLU 1	26	-21	869	0	0	0
47	SLU 2	26	-20	869	0	0	0
47	SLU 3	26	-21	888	0	0	0
47	SLU 4	26	-20	888	0	0	0
47	SLU 5	26	-19	881	0	0	0
47	SLU 6	26	-20	900	0	0	0
47	SLU 7	26	-19	900	0	0	0
47	SLU 8	26	-20	893	0	0	0
47	SLU 9	26	-19	893	0	0	0
47	SLU 10	27	-22	984	0	0	0
47	SLU 11	28	-23	1003	0	0	0
47	SLU 12	28	-22	1003	0	0	0
47	SLU 13	28	-21	997	0	0	0
47	SLU 14	28	-22	1015	0	0	0
47	SLU 15	28	-21	1015	0	0	0
47	SLU 16	27	-22	1008	0	0	0
47	SLU 17	28	-21	1008	0	0	0
47	SLU 18	28	-24	1033	0	0	0
47	SLU 19	28	-23	1033	0	0	0
47	SLU 20	28	-23	1045	0	0	0
47	SLU 21	28	-22	1046	0	0	0
47	SLU 22	29	-21	1000	0	0	0
47	SLU 23	29	-19	1001	0	0	0
47	SLU 24	29	-20	1019	0	0	0
47	SLU 25	29	-19	1020	0	0	0
47	SLU 26	29	-19	1013	0	0	0
47	SLU 27	29	-20	1031	0	0	0
47	SLU 28	29	-19	1032	0	0	0
47	SLU 29	29	-20	1025	0	0	0
47	SLU 30	29	-19	1025	0	0	0
47	SLU 31	31	-21	1116	0	0	0
47	SLU 32	31	-22	1134	0	0	0
47	SLU 33	31	-21	1135	0	0	0
47	SLU 34	31	-20	1128	0	0	0
47	SLU 35	31	-21	1146	0	0	0
47	SLU 36	31	-21	1147	0	0	0
47	SLU 37	30	-21	1140	0	0	0
47	SLU 38	31	-21	1140	0	0	0
47	SLU 39	31	-23	1165	0	0	0
47	SLU 40	31	-22	1165	0	0	0
47	SLU 41	31	-23	1177	0	0	0
47	SLU 42	31	-22	1177	0	0	0
47	SLU 43	32	-28	1084	0	0	0
47	SLU 44	33	-26	1085	0	0	0
47	SLU 45	33	-27	1103	0	0	0
47	SLU 46	33	-26	1104	0	0	0
47	SLU 47	33	-26	1097	0	0	0
47	SLU 48	33	-27	1115	0	0	0
47	SLU 49	33	-26	1116	0	0	0
47	SLU 50	33	-27	1109	0	0	0
47	SLU 51	33	-26	1109	0	0	0
47	SLU 52	34	-28	1200	0	0	0
47	SLU 53	34	-29	1218	0	0	0
47	SLU 54	34	-28	1219	0	0	0
47	SLU 55	34	-28	1212	0	0	0
47	SLU 56	34	-29	1230	0	0	0
47	SLU 57	34	-28	1231	0	0	0
47	SLU 58	34	-29	1224	0	0	0
47	SLU 59	34	-28	1224	0	0	0
47	SLU 60	35	-30	1249	0	0	0
47	SLU 61	35	-30	1249	0	0	0
47	SLU 62	35	-30	1261	0	0	0
47	SLU 63	35	-29	1261	0	0	0
47	SLU 64	36	-27	1216	0	0	0
47	SLU 65	36	-26	1216	0	0	0
47	SLU 66	36	-27	1235	0	0	0
47	SLU 67	36	-26	1235	0	0	0
47	SLU 68	36	-25	1229	0	0	0
47	SLU 69	36	-26	1247	0	0	0
47	SLU 70	36	-25	1247	0	0	0
47	SLU 71	36	-26	1240	0	0	0
47	SLU 72	36	-25	1240	0	0	0
47	SLU 73	37	-28	1331	0	0	0
47	SLU 74	37	-29	1350	0	0	0
47	SLU 75	37	-28	1350	0	0	0
47	SLU 76	37	-27	1344	0	0	0
47	SLU 77	37	-28	1362	0	0	0
47	SLU 78	37	-27	1362	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
47	SLU 79	37	-28	1355	0	0	0
47	SLU 80	37	-27	1356	0	0	0
47	SLU 81	38	-30	1380	0	0	0
47	SLU 82	38	-29	1381	0	0	0
47	SLU 83	38	-29	1392	0	0	0
47	SLU 84	38	-28	1393	0	0	0
47	SLE RA 1	27	-21	906	0	0	0
47	SLE RA 2	27	-20	907	0	0	0
47	SLE RA 3	27	-21	919	0	0	0
47	SLE RA 4	27	-20	919	0	0	0
47	SLE RA 5	27	-20	915	0	0	0
47	SLE RA 6	27	-20	927	0	0	0
47	SLE RA 7	27	-20	927	0	0	0
47	SLE RA 8	27	-20	923	0	0	0
47	SLE RA 9	27	-20	923	0	0	0
47	SLE RA 10	28	-21	983	0	0	0
47	SLE RA 11	28	-22	996	0	0	0
47	SLE RA 12	28	-21	996	0	0	0
47	SLE RA 13	28	-21	992	0	0	0
47	SLE RA 14	28	-22	1004	0	0	0
47	SLE RA 15	28	-21	1004	0	0	0
47	SLE RA 16	28	-22	999	0	0	0
47	SLE RA 17	28	-21	999	0	0	0
47	SLE RA 18	28	-23	1016	0	0	0
47	SLE RA 19	28	-22	1016	0	0	0
47	SLE RA 20	28	-22	1024	0	0	0
47	SLE RA 21	28	-22	1024	0	0	0
47	SLE FR 1	27	-21	906	0	0	0
47	SLE FR 2	27	-21	906	0	0	0
47	SLE FR 3	27	-21	910	0	0	0
47	SLE FR 4	27	-21	939	0	0	0
47	SLE FR 5	27	-21	942	0	0	0
47	SLE FR 6	27	-22	961	0	0	0
47	SLE QP 1	27	-21	906	0	0	0
47	SLE QP 2	27	-22	939	0	0	0
47	SLD 1	72	-13	943	0	0	0
47	SLD 2	74	-11	944	0	0	0
47	SLD 3	70	-27	925	0	0	0
47	SLD 4	72	-25	926	0	0	0
47	SLD 5	43	2	968	0	0	0
47	SLD 6	44	3	968	0	0	0
47	SLD 7	37	-45	907	0	0	0
47	SLD 8	39	-44	908	0	0	0
47	SLD 9	16	0	970	0	0	0
47	SLD 10	17	2	971	0	0	0
47	SLD 11	10	-46	910	0	0	0
47	SLD 12	12	-45	911	0	0	0
47	SLD 13	-18	-18	952	0	0	0
47	SLD 14	-16	-16	953	0	0	0
47	SLD 15	-20	-32	934	0	0	0
47	SLD 16	-18	-30	935	0	0	0
47	SLV 1	98	-7	946	0	0	0
47	SLV 2	100	-4	948	0	0	0
47	SLV 3	95	-31	916	0	0	0
47	SLV 4	98	-28	917	0	0	0
47	SLV 5	52	18	988	0	0	0
47	SLV 6	54	21	989	0	0	0
47	SLV 7	43	-61	885	0	0	0
47	SLV 8	45	-59	886	0	0	0
47	SLV 9	9	16	992	0	0	0
47	SLV 10	11	18	993	0	0	0
47	SLV 11	1	-64	890	0	0	0
47	SLV 12	3	-62	891	0	0	0
47	SLV 13	-44	-15	961	0	0	0
47	SLV 14	-41	-12	963	0	0	0
47	SLV 15	-46	-39	930	0	0	0
47	SLV 16	-43	-36	932	0	0	0
47	SLV FO 1	105	-6	947	0	0	0
47	SLV FO 2	108	-2	949	0	0	0
47	SLV FO 3	102	-32	913	0	0	0
47	SLV FO 4	105	-29	915	0	0	0
47	SLV FO 5	54	22	992	0	0	0
47	SLV FO 6	56	25	994	0	0	0
47	SLV FO 7	45	-65	880	0	0	0
47	SLV FO 8	47	-63	881	0	0	0
47	SLV FO 9	7	20	997	0	0	0
47	SLV FO 10	10	22	999	0	0	0
47	SLV FO 11	-2	-68	885	0	0	0
47	SLV FO 12	0	-66	886	0	0	0
47	SLV FO 13	-51	-15	963	0	0	0
47	SLV FO 14	-48	-11	965	0	0	0
47	SLV FO 15	-54	-41	930	0	0	0
47	SLV FO 16	-50	-37	931	0	0	0
48	SLU 1	26	-20	876	0	0	0
48	SLU 2	26	-19	877	0	0	0
48	SLU 3	26	-20	895	0	0	0
48	SLU 4	26	-19	896	0	0	0
48	SLU 5	26	-18	889	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLU 6	26	-19	907	0	0	0
48	SLU 7	26	-18	908	0	0	0
48	SLU 8	26	-19	900	0	0	0
48	SLU 9	26	-18	901	0	0	0
48	SLU 10	28	-20	992	0	0	0
48	SLU 11	28	-21	1011	0	0	0
48	SLU 12	28	-20	1011	0	0	0
48	SLU 13	28	-20	1004	0	0	0
48	SLU 14	28	-21	1023	0	0	0
48	SLU 15	28	-20	1023	0	0	0
48	SLU 16	27	-21	1016	0	0	0
48	SLU 17	28	-20	1016	0	0	0
48	SLU 18	28	-23	1041	0	0	0
48	SLU 19	28	-22	1041	0	0	0
48	SLU 20	28	-22	1053	0	0	0
48	SLU 21	28	-21	1054	0	0	0
48	SLU 22	29	-20	1009	0	0	0
48	SLU 23	29	-18	1009	0	0	0
48	SLU 24	29	-19	1028	0	0	0
48	SLU 25	29	-18	1028	0	0	0
48	SLU 26	29	-18	1021	0	0	0
48	SLU 27	29	-19	1040	0	0	0
48	SLU 28	29	-18	1040	0	0	0
48	SLU 29	29	-19	1033	0	0	0
48	SLU 30	29	-18	1033	0	0	0
48	SLU 31	31	-20	1125	0	0	0
48	SLU 32	31	-21	1143	0	0	0
48	SLU 33	31	-20	1143	0	0	0
48	SLU 34	31	-19	1137	0	0	0
48	SLU 35	31	-20	1155	0	0	0
48	SLU 36	31	-19	1156	0	0	0
48	SLU 37	31	-20	1148	0	0	0
48	SLU 38	31	-19	1149	0	0	0
48	SLU 39	31	-22	1173	0	0	0
48	SLU 40	31	-21	1174	0	0	0
48	SLU 41	31	-21	1186	0	0	0
48	SLU 42	31	-21	1186	0	0	0
48	SLU 43	33	-27	1094	0	0	0
48	SLU 44	33	-25	1094	0	0	0
48	SLU 45	33	-26	1113	0	0	0
48	SLU 46	33	-25	1113	0	0	0
48	SLU 47	33	-25	1107	0	0	0
48	SLU 48	33	-25	1125	0	0	0
48	SLU 49	33	-25	1125	0	0	0
48	SLU 50	33	-26	1118	0	0	0
48	SLU 51	33	-25	1118	0	0	0
48	SLU 52	34	-27	1210	0	0	0
48	SLU 53	34	-28	1228	0	0	0
48	SLU 54	34	-27	1228	0	0	0
48	SLU 55	34	-26	1222	0	0	0
48	SLU 56	34	-27	1240	0	0	0
48	SLU 57	34	-26	1241	0	0	0
48	SLU 58	34	-27	1233	0	0	0
48	SLU 59	34	-26	1234	0	0	0
48	SLU 60	35	-29	1259	0	0	0
48	SLU 61	35	-28	1259	0	0	0
48	SLU 62	35	-28	1271	0	0	0
48	SLU 63	35	-28	1271	0	0	0
48	SLU 64	36	-26	1226	0	0	0
48	SLU 65	36	-24	1227	0	0	0
48	SLU 66	36	-25	1245	0	0	0
48	SLU 67	36	-24	1245	0	0	0
48	SLU 68	36	-24	1239	0	0	0
48	SLU 69	36	-25	1257	0	0	0
48	SLU 70	36	-24	1258	0	0	0
48	SLU 71	36	-25	1250	0	0	0
48	SLU 72	36	-24	1251	0	0	0
48	SLU 73	37	-26	1342	0	0	0
48	SLU 74	37	-27	1360	0	0	0
48	SLU 75	38	-26	1361	0	0	0
48	SLU 76	37	-26	1354	0	0	0
48	SLU 77	37	-26	1373	0	0	0
48	SLU 78	38	-26	1373	0	0	0
48	SLU 79	37	-27	1366	0	0	0
48	SLU 80	37	-26	1366	0	0	0
48	SLU 81	38	-28	1391	0	0	0
48	SLU 82	38	-27	1391	0	0	0
48	SLU 83	38	-28	1403	0	0	0
48	SLU 84	38	-27	1403	0	0	0
48	SLE RA 1	27	-20	914	0	0	0
48	SLE RA 2	27	-19	915	0	0	0
48	SLE RA 3	27	-20	927	0	0	0
48	SLE RA 4	27	-19	927	0	0	0
48	SLE RA 5	27	-19	923	0	0	0
48	SLE RA 6	27	-19	935	0	0	0
48	SLE RA 7	27	-19	935	0	0	0
48	SLE RA 8	27	-19	930	0	0	0
48	SLE RA 9	27	-19	930	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLE RA 10	28	-20	991	0	0	0
48	SLE RA 11	28	-21	1004	0	0	0
48	SLE RA 12	28	-20	1004	0	0	0
48	SLE RA 13	28	-20	1000	0	0	0
48	SLE RA 14	28	-20	1012	0	0	0
48	SLE RA 15	28	-20	1012	0	0	0
48	SLE RA 16	28	-20	1007	0	0	0
48	SLE RA 17	28	-20	1007	0	0	0
48	SLE RA 18	28	-22	1024	0	0	0
48	SLE RA 19	28	-21	1024	0	0	0
48	SLE RA 20	28	-21	1032	0	0	0
48	SLE RA 21	28	-21	1032	0	0	0
48	SLE FR 1	27	-20	914	0	0	0
48	SLE FR 2	27	-20	914	0	0	0
48	SLE FR 3	27	-20	917	0	0	0
48	SLE FR 4	27	-20	947	0	0	0
48	SLE FR 5	27	-20	950	0	0	0
48	SLE FR 6	27	-21	969	0	0	0
48	SLE QP 1	27	-20	914	0	0	0
48	SLE QP 2	27	-21	947	0	0	0
48	SLD 1	72	-13	948	0	0	0
48	SLD 2	74	-10	949	0	0	0
48	SLD 3	71	-26	930	0	0	0
48	SLD 4	72	-24	931	0	0	0
48	SLD 5	43	2	976	0	0	0
48	SLD 6	44	4	976	0	0	0
48	SLD 7	38	-43	913	0	0	0
48	SLD 8	39	-42	914	0	0	0
48	SLD 9	16	1	980	0	0	0
48	SLD 10	17	2	981	0	0	0
48	SLD 11	10	-45	918	0	0	0
48	SLD 12	12	-43	918	0	0	0
48	SLD 13	-18	-17	963	0	0	0
48	SLD 14	-16	-15	964	0	0	0
48	SLD 15	-20	-31	945	0	0	0
48	SLD 16	-18	-28	946	0	0	0
48	SLV 1	98	-8	950	0	0	0
48	SLV 2	101	-3	952	0	0	0
48	SLV 3	95	-31	918	0	0	0
48	SLV 4	98	-26	920	0	0	0
48	SLV 5	52	18	996	0	0	0
48	SLV 6	54	21	997	0	0	0
48	SLV 7	43	-60	890	0	0	0
48	SLV 8	45	-57	891	0	0	0
48	SLV 9	9	16	1003	0	0	0
48	SLV 10	11	19	1004	0	0	0
48	SLV 11	1	-62	897	0	0	0
48	SLV 12	3	-59	898	0	0	0
48	SLV 13	-44	-15	974	0	0	0
48	SLV 14	-41	-10	976	0	0	0
48	SLV 15	-46	-38	942	0	0	0
48	SLV 16	-43	-33	944	0	0	0
48	SLV FO 1	105	-6	950	0	0	0
48	SLV FO 2	108	-1	952	0	0	0
48	SLV FO 3	102	-32	916	0	0	0
48	SLV FO 4	105	-27	917	0	0	0
48	SLV FO 5	54	22	1000	0	0	0
48	SLV FO 6	56	25	1002	0	0	0
48	SLV FO 7	45	-63	885	0	0	0
48	SLV FO 8	47	-60	886	0	0	0
48	SLV FO 9	7	19	1008	0	0	0
48	SLV FO 10	10	22	1010	0	0	0
48	SLV FO 11	-2	-66	892	0	0	0
48	SLV FO 12	0	-63	894	0	0	0
48	SLV FO 13	-51	-14	977	0	0	0
48	SLV FO 14	-48	-9	978	0	0	0
48	SLV FO 15	-54	-40	942	0	0	0
48	SLV FO 16	-51	-35	944	0	0	0
49	SLU 1	26	-19	883	0	0	0
49	SLU 2	26	-18	883	0	0	0
49	SLU 3	26	-19	902	0	0	0
49	SLU 4	26	-18	902	0	0	0
49	SLU 5	26	-17	895	0	0	0
49	SLU 6	26	-18	914	0	0	0
49	SLU 7	26	-17	914	0	0	0
49	SLU 8	26	-18	907	0	0	0
49	SLU 9	26	-17	907	0	0	0
49	SLU 10	28	-19	999	0	0	0
49	SLU 11	28	-20	1017	0	0	0
49	SLU 12	28	-19	1018	0	0	0
49	SLU 13	28	-19	1011	0	0	0
49	SLU 14	28	-20	1029	0	0	0
49	SLU 15	28	-19	1030	0	0	0
49	SLU 16	27	-20	1022	0	0	0
49	SLU 17	28	-19	1023	0	0	0
49	SLU 18	28	-21	1048	0	0	0
49	SLU 19	28	-20	1048	0	0	0
49	SLU 20	28	-21	1060	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
49	SLU 21	28	-20	1060	0	0	0
49	SLU 22	29	-18	1016	0	0	0
49	SLU 23	29	-17	1016	0	0	0
49	SLU 24	29	-18	1035	0	0	0
49	SLU 25	29	-17	1035	0	0	0
49	SLU 26	29	-16	1028	0	0	0
49	SLU 27	29	-17	1047	0	0	0
49	SLU 28	29	-16	1047	0	0	0
49	SLU 29	29	-17	1040	0	0	0
49	SLU 30	29	-16	1040	0	0	0
49	SLU 31	31	-18	1132	0	0	0
49	SLU 32	31	-19	1150	0	0	0
49	SLU 33	31	-19	1151	0	0	0
49	SLU 34	31	-18	1144	0	0	0
49	SLU 35	31	-19	1162	0	0	0
49	SLU 36	31	-18	1163	0	0	0
49	SLU 37	31	-19	1155	0	0	0
49	SLU 38	31	-18	1156	0	0	0
49	SLU 39	31	-21	1181	0	0	0
49	SLU 40	31	-20	1181	0	0	0
49	SLU 41	31	-20	1193	0	0	0
49	SLU 42	31	-19	1193	0	0	0
49	SLU 43	33	-25	1102	0	0	0
49	SLU 44	33	-24	1102	0	0	0
49	SLU 45	33	-25	1121	0	0	0
49	SLU 46	33	-24	1121	0	0	0
49	SLU 47	33	-23	1115	0	0	0
49	SLU 48	33	-24	1133	0	0	0
49	SLU 49	33	-23	1133	0	0	0
49	SLU 50	33	-24	1126	0	0	0
49	SLU 51	33	-23	1126	0	0	0
49	SLU 52	34	-25	1218	0	0	0
49	SLU 53	34	-26	1236	0	0	0
49	SLU 54	34	-25	1237	0	0	0
49	SLU 55	34	-25	1230	0	0	0
49	SLU 56	34	-26	1248	0	0	0
49	SLU 57	34	-25	1249	0	0	0
49	SLU 58	34	-26	1241	0	0	0
49	SLU 59	34	-25	1242	0	0	0
49	SLU 60	35	-27	1267	0	0	0
49	SLU 61	35	-26	1267	0	0	0
49	SLU 62	35	-27	1279	0	0	0
49	SLU 63	35	-26	1279	0	0	0
49	SLU 64	36	-24	1235	0	0	0
49	SLU 65	36	-23	1235	0	0	0
49	SLU 66	36	-24	1254	0	0	0
49	SLU 67	36	-23	1254	0	0	0
49	SLU 68	36	-22	1248	0	0	0
49	SLU 69	36	-23	1266	0	0	0
49	SLU 70	36	-22	1266	0	0	0
49	SLU 71	36	-23	1259	0	0	0
49	SLU 72	36	-22	1259	0	0	0
49	SLU 73	37	-24	1351	0	0	0
49	SLU 74	37	-25	1369	0	0	0
49	SLU 75	37	-24	1370	0	0	0
49	SLU 76	37	-24	1363	0	0	0
49	SLU 77	37	-25	1381	0	0	0
49	SLU 78	38	-24	1382	0	0	0
49	SLU 79	37	-25	1374	0	0	0
49	SLU 80	37	-24	1375	0	0	0
49	SLU 81	38	-27	1400	0	0	0
49	SLU 82	38	-26	1400	0	0	0
49	SLU 83	38	-26	1412	0	0	0
49	SLU 84	38	-25	1412	0	0	0
49	SLE RA 1	27	-19	921	0	0	0
49	SLE RA 2	27	-18	921	0	0	0
49	SLE RA 3	27	-19	933	0	0	0
49	SLE RA 4	27	-18	934	0	0	0
49	SLE RA 5	27	-18	929	0	0	0
49	SLE RA 6	27	-18	941	0	0	0
49	SLE RA 7	27	-18	942	0	0	0
49	SLE RA 8	27	-18	937	0	0	0
49	SLE RA 9	27	-18	937	0	0	0
49	SLE RA 10	28	-19	998	0	0	0
49	SLE RA 11	28	-20	1010	0	0	0
49	SLE RA 12	28	-19	1011	0	0	0
49	SLE RA 13	28	-19	1006	0	0	0
49	SLE RA 14	28	-19	1018	0	0	0
49	SLE RA 15	28	-19	1019	0	0	0
49	SLE RA 16	28	-19	1014	0	0	0
49	SLE RA 17	28	-19	1014	0	0	0
49	SLE RA 18	28	-20	1031	0	0	0
49	SLE RA 19	28	-20	1031	0	0	0
49	SLE RA 20	28	-20	1039	0	0	0
49	SLE RA 21	28	-19	1039	0	0	0
49	SLE FR 1	27	-19	921	0	0	0
49	SLE FR 2	27	-19	921	0	0	0
49	SLE FR 3	27	-19	924	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
49	SLE FR 4	27	-19	954	0	0	0
49	SLE FR 5	27	-19	957	0	0	0
49	SLE FR 6	27	-20	976	0	0	0
49	SLE QP 1	27	-19	921	0	0	0
49	SLE QP 2	27	-19	954	0	0	0
49	SLD 1	72	-13	947	0	0	0
49	SLD 2	74	-9	948	0	0	0
49	SLD 3	71	-26	928	0	0	0
49	SLD 4	72	-22	929	0	0	0
49	SLD 5	43	2	981	0	0	0
49	SLD 6	44	4	981	0	0	0
49	SLD 7	38	-42	917	0	0	0
49	SLD 8	39	-40	917	0	0	0
49	SLD 9	16	1	990	0	0	0
49	SLD 10	17	3	991	0	0	0
49	SLD 11	10	-43	926	0	0	0
49	SLD 12	12	-41	926	0	0	0
49	SLD 13	-18	-16	978	0	0	0
49	SLD 14	-16	-13	979	0	0	0
49	SLD 15	-20	-30	959	0	0	0
49	SLD 16	-18	-26	960	0	0	0
49	SLV 1	98	-8	945	0	0	0
49	SLV 2	101	-2	946	0	0	0
49	SLV 3	95	-30	912	0	0	0
49	SLV 4	98	-25	914	0	0	0
49	SLV 5	52	17	1000	0	0	0
49	SLV 6	54	21	1001	0	0	0
49	SLV 7	43	-58	892	0	0	0
49	SLV 8	45	-54	892	0	0	0
49	SLV 9	9	15	1015	0	0	0
49	SLV 10	11	19	1016	0	0	0
49	SLV 11	1	-59	906	0	0	0
49	SLV 12	3	-56	907	0	0	0
49	SLV 13	-44	-14	993	0	0	0
49	SLV 14	-41	-9	995	0	0	0
49	SLV 15	-46	-36	961	0	0	0
49	SLV 16	-43	-31	962	0	0	0
49	SLV FO 1	105	-7	944	0	0	0
49	SLV FO 2	108	0	945	0	0	0
49	SLV FO 3	102	-31	908	0	0	0
49	SLV FO 4	105	-25	910	0	0	0
49	SLV FO 5	54	21	1005	0	0	0
49	SLV FO 6	56	25	1006	0	0	0
49	SLV FO 7	45	-61	885	0	0	0
49	SLV FO 8	47	-57	886	0	0	0
49	SLV FO 9	7	19	1021	0	0	0
49	SLV FO 10	10	23	1022	0	0	0
49	SLV FO 11	-2	-63	901	0	0	0
49	SLV FO 12	0	-59	902	0	0	0
49	SLV FO 13	-51	-14	997	0	0	0
49	SLV FO 14	-48	-7	999	0	0	0
49	SLV FO 15	-54	-38	962	0	0	0
49	SLV FO 16	-51	-32	963	0	0	0
50	SLU 1	26	-18	887	0	0	0
50	SLU 2	26	-16	888	0	0	0
50	SLU 3	26	-17	906	0	0	0
50	SLU 4	26	-17	906	0	0	0
50	SLU 5	26	-16	900	0	0	0
50	SLU 6	26	-17	918	0	0	0
50	SLU 7	26	-16	919	0	0	0
50	SLU 8	26	-17	911	0	0	0
50	SLU 9	26	-16	912	0	0	0
50	SLU 10	27	-18	1003	0	0	0
50	SLU 11	28	-19	1022	0	0	0
50	SLU 12	28	-18	1022	0	0	0
50	SLU 13	27	-17	1015	0	0	0
50	SLU 14	28	-18	1034	0	0	0
50	SLU 15	28	-17	1034	0	0	0
50	SLU 16	27	-18	1027	0	0	0
50	SLU 17	27	-18	1027	0	0	0
50	SLU 18	28	-20	1052	0	0	0
50	SLU 19	28	-19	1053	0	0	0
50	SLU 20	28	-19	1064	0	0	0
50	SLU 21	28	-19	1065	0	0	0
50	SLU 22	29	-17	1020	0	0	0
50	SLU 23	29	-16	1021	0	0	0
50	SLU 24	29	-17	1039	0	0	0
50	SLU 25	29	-16	1040	0	0	0
50	SLU 26	29	-15	1033	0	0	0
50	SLU 27	29	-16	1051	0	0	0
50	SLU 28	29	-15	1052	0	0	0
50	SLU 29	29	-16	1044	0	0	0
50	SLU 30	29	-15	1045	0	0	0
50	SLU 31	30	-17	1137	0	0	0
50	SLU 32	31	-18	1155	0	0	0
50	SLU 33	31	-17	1155	0	0	0
50	SLU 34	31	-17	1149	0	0	0
50	SLU 35	31	-18	1167	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLU 36	31	-17	1167	0	0	0
50	SLU 37	30	-18	1160	0	0	0
50	SLU 38	31	-17	1160	0	0	0
50	SLU 39	31	-19	1185	0	0	0
50	SLU 40	31	-18	1186	0	0	0
50	SLU 41	31	-19	1197	0	0	0
50	SLU 42	31	-18	1198	0	0	0
50	SLU 43	32	-24	1107	0	0	0
50	SLU 44	33	-22	1108	0	0	0
50	SLU 45	33	-23	1126	0	0	0
50	SLU 46	33	-22	1127	0	0	0
50	SLU 47	33	-22	1120	0	0	0
50	SLU 48	33	-23	1138	0	0	0
50	SLU 49	33	-22	1139	0	0	0
50	SLU 50	33	-23	1131	0	0	0
50	SLU 51	33	-22	1132	0	0	0
50	SLU 52	34	-24	1224	0	0	0
50	SLU 53	34	-24	1242	0	0	0
50	SLU 54	34	-24	1242	0	0	0
50	SLU 55	34	-23	1236	0	0	0
50	SLU 56	34	-24	1254	0	0	0
50	SLU 57	34	-23	1254	0	0	0
50	SLU 58	34	-24	1247	0	0	0
50	SLU 59	34	-23	1247	0	0	0
50	SLU 60	35	-26	1272	0	0	0
50	SLU 61	35	-25	1273	0	0	0
50	SLU 62	35	-25	1284	0	0	0
50	SLU 63	35	-24	1285	0	0	0
50	SLU 64	35	-23	1241	0	0	0
50	SLU 65	36	-21	1242	0	0	0
50	SLU 66	36	-22	1260	0	0	0
50	SLU 67	36	-21	1260	0	0	0
50	SLU 68	36	-21	1254	0	0	0
50	SLU 69	36	-22	1272	0	0	0
50	SLU 70	36	-21	1272	0	0	0
50	SLU 71	36	-22	1265	0	0	0
50	SLU 72	36	-21	1265	0	0	0
50	SLU 73	37	-23	1357	0	0	0
50	SLU 74	37	-24	1375	0	0	0
50	SLU 75	37	-23	1376	0	0	0
50	SLU 76	37	-22	1369	0	0	0
50	SLU 77	37	-23	1387	0	0	0
50	SLU 78	37	-22	1388	0	0	0
50	SLU 79	37	-23	1380	0	0	0
50	SLU 80	37	-22	1381	0	0	0
50	SLU 81	38	-25	1406	0	0	0
50	SLU 82	38	-24	1406	0	0	0
50	SLU 83	38	-24	1418	0	0	0
50	SLU 84	38	-23	1418	0	0	0
50	SLE RA 1	27	-18	925	0	0	0
50	SLE RA 2	27	-17	926	0	0	0
50	SLE RA 3	27	-17	938	0	0	0
50	SLE RA 4	27	-17	938	0	0	0
50	SLE RA 5	27	-16	934	0	0	0
50	SLE RA 6	27	-17	946	0	0	0
50	SLE RA 7	27	-16	946	0	0	0
50	SLE RA 8	27	-17	941	0	0	0
50	SLE RA 9	27	-16	941	0	0	0
50	SLE RA 10	28	-18	1003	0	0	0
50	SLE RA 11	28	-18	1015	0	0	0
50	SLE RA 12	28	-18	1015	0	0	0
50	SLE RA 13	28	-17	1011	0	0	0
50	SLE RA 14	28	-18	1023	0	0	0
50	SLE RA 15	28	-17	1023	0	0	0
50	SLE RA 16	28	-18	1018	0	0	0
50	SLE RA 17	28	-17	1019	0	0	0
50	SLE RA 18	28	-19	1035	0	0	0
50	SLE RA 19	28	-18	1035	0	0	0
50	SLE RA 20	28	-19	1043	0	0	0
50	SLE RA 21	28	-18	1043	0	0	0
50	SLE FR 1	27	-18	925	0	0	0
50	SLE FR 2	27	-17	925	0	0	0
50	SLE FR 3	27	-18	928	0	0	0
50	SLE FR 4	27	-18	958	0	0	0
50	SLE FR 5	27	-18	961	0	0	0
50	SLE FR 6	27	-18	980	0	0	0
50	SLE QP 1	27	-18	925	0	0	0
50	SLE QP 2	27	-18	958	0	0	0
50	SLD 1	72	-12	944	0	0	0
50	SLD 2	74	-8	944	0	0	0
50	SLD 3	70	-25	924	0	0	0
50	SLD 4	72	-21	925	0	0	0
50	SLD 5	42	2	984	0	0	0
50	SLD 6	44	5	984	0	0	0
50	SLD 7	37	-40	918	0	0	0
50	SLD 8	39	-37	918	0	0	0
50	SLD 9	15	1	998	0	0	0
50	SLD 10	17	4	998	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLD 11	10	-41	932	0	0	0
50	SLD 12	12	-38	933	0	0	0
50	SLD 13	-18	-16	992	0	0	0
50	SLD 14	-16	-11	992	0	0	0
50	SLD 15	-20	-28	972	0	0	0
50	SLD 16	-18	-24	973	0	0	0
50	SLV 1	97	-8	937	0	0	0
50	SLV 2	100	-1	938	0	0	0
50	SLV 3	95	-29	903	0	0	0
50	SLV 4	98	-23	905	0	0	0
50	SLV 5	52	17	1002	0	0	0
50	SLV 6	53	21	1003	0	0	0
50	SLV 7	43	-55	891	0	0	0
50	SLV 8	45	-51	892	0	0	0
50	SLV 9	9	15	1025	0	0	0
50	SLV 10	11	19	1025	0	0	0
50	SLV 11	1	-57	913	0	0	0
50	SLV 12	3	-53	914	0	0	0
50	SLV 13	-44	-13	1012	0	0	0
50	SLV 14	-41	-7	1013	0	0	0
50	SLV 15	-46	-35	978	0	0	0
50	SLV 16	-43	-28	980	0	0	0
50	SLV FO 1	104	-7	935	0	0	0
50	SLV FO 2	108	1	936	0	0	0
50	SLV FO 3	102	-30	898	0	0	0
50	SLV FO 4	105	-23	899	0	0	0
50	SLV FO 5	54	20	1007	0	0	0
50	SLV FO 6	56	25	1007	0	0	0
50	SLV FO 7	44	-59	884	0	0	0
50	SLV FO 8	47	-54	885	0	0	0
50	SLV FO 9	7	18	1031	0	0	0
50	SLV FO 10	10	23	1032	0	0	0
50	SLV FO 11	-2	-61	909	0	0	0
50	SLV FO 12	0	-56	910	0	0	0
50	SLV FO 13	-51	-13	1017	0	0	0
50	SLV FO 14	-48	-6	1018	0	0	0
50	SLV FO 15	-54	-37	980	0	0	0
50	SLV FO 16	-50	-29	982	0	0	0
51	SLU 1	21	-12	724	0	0	0
51	SLU 2	21	-11	725	0	0	0
51	SLU 3	21	-12	740	0	0	0
51	SLU 4	21	-11	740	0	0	0
51	SLU 5	21	-11	735	0	0	0
51	SLU 6	21	-11	749	0	0	0
51	SLU 7	21	-11	750	0	0	0
51	SLU 8	21	-11	744	0	0	0
51	SLU 9	21	-11	744	0	0	0
51	SLU 10	22	-12	818	0	0	0
51	SLU 11	22	-13	833	0	0	0
51	SLU 12	22	-12	833	0	0	0
51	SLU 13	22	-12	828	0	0	0
51	SLU 14	22	-12	842	0	0	0
51	SLU 15	22	-12	843	0	0	0
51	SLU 16	22	-12	837	0	0	0
51	SLU 17	22	-12	837	0	0	0
51	SLU 18	22	-13	857	0	0	0
51	SLU 19	23	-13	858	0	0	0
51	SLU 20	22	-13	867	0	0	0
51	SLU 21	23	-12	867	0	0	0
51	SLU 22	23	-11	833	0	0	0
51	SLU 23	23	-10	833	0	0	0
51	SLU 24	23	-11	848	0	0	0
51	SLU 25	23	-10	848	0	0	0
51	SLU 26	23	-10	843	0	0	0
51	SLU 27	23	-10	857	0	0	0
51	SLU 28	23	-10	858	0	0	0
51	SLU 29	23	-10	852	0	0	0
51	SLU 30	23	-10	852	0	0	0
51	SLU 31	24	-11	926	0	0	0
51	SLU 32	25	-12	941	0	0	0
51	SLU 33	25	-11	941	0	0	0
51	SLU 34	25	-11	936	0	0	0
51	SLU 35	25	-11	950	0	0	0
51	SLU 36	25	-11	951	0	0	0
51	SLU 37	24	-11	945	0	0	0
51	SLU 38	25	-11	945	0	0	0
51	SLU 39	25	-13	965	0	0	0
51	SLU 40	25	-12	966	0	0	0
51	SLU 41	25	-12	975	0	0	0
51	SLU 42	25	-12	976	0	0	0
51	SLU 43	26	-16	905	0	0	0
51	SLU 44	26	-15	905	0	0	0
51	SLU 45	26	-15	920	0	0	0
51	SLU 46	26	-15	920	0	0	0
51	SLU 47	26	-14	915	0	0	0
51	SLU 48	26	-15	930	0	0	0
51	SLU 49	26	-14	930	0	0	0
51	SLU 50	26	-15	924	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLU 51	26	-14	924	0	0	0
51	SLU 52	27	-16	998	0	0	0
51	SLU 53	27	-16	1013	0	0	0
51	SLU 54	28	-16	1013	0	0	0
51	SLU 55	27	-15	1008	0	0	0
51	SLU 56	28	-16	1023	0	0	0
51	SLU 57	28	-15	1023	0	0	0
51	SLU 58	27	-16	1017	0	0	0
51	SLU 59	27	-15	1017	0	0	0
51	SLU 60	28	-17	1038	0	0	0
51	SLU 61	28	-17	1038	0	0	0
51	SLU 62	28	-17	1047	0	0	0
51	SLU 63	28	-16	1048	0	0	0
51	SLU 64	28	-15	1013	0	0	0
51	SLU 65	29	-14	1014	0	0	0
51	SLU 66	29	-15	1028	0	0	0
51	SLU 67	29	-14	1029	0	0	0
51	SLU 68	29	-14	1023	0	0	0
51	SLU 69	29	-14	1038	0	0	0
51	SLU 70	29	-14	1038	0	0	0
51	SLU 71	29	-14	1032	0	0	0
51	SLU 72	29	-14	1033	0	0	0
51	SLU 73	30	-15	1107	0	0	0
51	SLU 74	30	-16	1121	0	0	0
51	SLU 75	30	-15	1122	0	0	0
51	SLU 76	30	-15	1116	0	0	0
51	SLU 77	30	-15	1131	0	0	0
51	SLU 78	30	-15	1131	0	0	0
51	SLU 79	30	-15	1125	0	0	0
51	SLU 80	30	-15	1126	0	0	0
51	SLU 81	30	-16	1146	0	0	0
51	SLU 82	30	-16	1146	0	0	0
51	SLU 83	30	-16	1155	0	0	0
51	SLU 84	30	-15	1156	0	0	0
51	SLE RA 1	21	-12	755	0	0	0
51	SLE RA 2	21	-11	756	0	0	0
51	SLE RA 3	22	-11	766	0	0	0
51	SLE RA 4	22	-11	766	0	0	0
51	SLE RA 5	21	-11	762	0	0	0
51	SLE RA 6	22	-11	772	0	0	0
51	SLE RA 7	22	-11	772	0	0	0
51	SLE RA 8	21	-11	768	0	0	0
51	SLE RA 9	21	-11	768	0	0	0
51	SLE RA 10	22	-12	818	0	0	0
51	SLE RA 11	22	-12	828	0	0	0
51	SLE RA 12	22	-12	828	0	0	0
51	SLE RA 13	22	-11	824	0	0	0
51	SLE RA 14	22	-12	834	0	0	0
51	SLE RA 15	22	-11	834	0	0	0
51	SLE RA 16	22	-12	830	0	0	0
51	SLE RA 17	22	-11	830	0	0	0
51	SLE RA 18	23	-13	844	0	0	0
51	SLE RA 19	23	-12	844	0	0	0
51	SLE RA 20	23	-12	850	0	0	0
51	SLE RA 21	23	-12	851	0	0	0
51	SLE FR 1	21	-12	755	0	0	0
51	SLE FR 2	21	-12	755	0	0	0
51	SLE FR 3	21	-12	758	0	0	0
51	SLE FR 4	22	-12	782	0	0	0
51	SLE FR 5	22	-12	784	0	0	0
51	SLE FR 6	22	-12	800	0	0	0
51	SLE QP 1	21	-12	755	0	0	0
51	SLE QP 2	22	-12	782	0	0	0
51	SLD 1	58	-11	753	0	0	0
51	SLD 2	59	-6	753	0	0	0
51	SLD 3	57	-20	736	0	0	0
51	SLD 4	58	-15	736	0	0	0
51	SLD 5	34	1	798	0	0	0
51	SLD 6	35	5	799	0	0	0
51	SLD 7	30	-29	743	0	0	0
51	SLD 8	31	-26	743	0	0	0
51	SLD 9	12	2	821	0	0	0
51	SLD 10	13	5	821	0	0	0
51	SLD 11	8	-29	765	0	0	0
51	SLD 12	9	-25	765	0	0	0
51	SLD 13	-15	-9	827	0	0	0
51	SLD 14	-13	-4	828	0	0	0
51	SLD 15	-16	-18	811	0	0	0
51	SLD 16	-14	-13	811	0	0	0
51	SLV 1	78	-10	737	0	0	0
51	SLV 2	81	-2	738	0	0	0
51	SLV 3	76	-26	709	0	0	0
51	SLV 4	79	-18	710	0	0	0
51	SLV 5	41	11	811	0	0	0
51	SLV 6	43	16	812	0	0	0
51	SLV 7	34	-41	717	0	0	0
51	SLV 8	36	-36	718	0	0	0
51	SLV 9	7	12	846	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLV 10	9	17	847	0	0	0
51	SLV 11	0	-40	752	0	0	0
51	SLV 12	2	-35	753	0	0	0
51	SLV 13	-35	-6	854	0	0	0
51	SLV 14	-33	2	855	0	0	0
51	SLV 15	-37	-22	826	0	0	0
51	SLV 16	-35	-14	826	0	0	0
51	SLV FO 1	84	-10	733	0	0	0
51	SLV FO 2	87	-1	734	0	0	0
51	SLV FO 3	82	-27	702	0	0	0
51	SLV FO 4	84	-19	702	0	0	0
51	SLV FO 5	43	13	814	0	0	0
51	SLV FO 6	45	19	815	0	0	0
51	SLV FO 7	36	-44	711	0	0	0
51	SLV FO 8	37	-39	711	0	0	0
51	SLV FO 9	6	15	853	0	0	0
51	SLV FO 10	8	20	853	0	0	0
51	SLV FO 11	-2	-43	749	0	0	0
51	SLV FO 12	0	-37	750	0	0	0
51	SLV FO 13	-41	-5	861	0	0	0
51	SLV FO 14	-38	3	862	0	0	0
51	SLV FO 15	-43	-23	830	0	0	0
51	SLV FO 16	-41	-14	831	0	0	0
52	SLU 1	32	-29	1117	0	0	0
52	SLU 2	32	-27	1116	0	0	0
52	SLU 3	32	-28	1142	0	0	0
52	SLU 4	32	-27	1141	0	0	0
52	SLU 5	32	-26	1132	0	0	0
52	SLU 6	32	-28	1158	0	0	0
52	SLU 7	32	-27	1158	0	0	0
52	SLU 8	32	-28	1150	0	0	0
52	SLU 9	32	-27	1149	0	0	0
52	SLU 10	34	-30	1265	0	0	0
52	SLU 11	34	-31	1291	0	0	0
52	SLU 12	34	-30	1291	0	0	0
52	SLU 13	34	-29	1281	0	0	0
52	SLU 14	34	-30	1308	0	0	0
52	SLU 15	34	-29	1307	0	0	0
52	SLU 16	34	-30	1299	0	0	0
52	SLU 17	34	-29	1298	0	0	0
52	SLU 18	34	-33	1330	0	0	0
52	SLU 19	35	-31	1330	0	0	0
52	SLU 20	34	-32	1347	0	0	0
52	SLU 21	35	-31	1346	0	0	0
52	SLU 22	36	-28	1289	0	0	0
52	SLU 23	36	-26	1288	0	0	0
52	SLU 24	36	-28	1314	0	0	0
52	SLU 25	36	-27	1314	0	0	0
52	SLU 26	36	-26	1304	0	0	0
52	SLU 27	36	-27	1331	0	0	0
52	SLU 28	36	-26	1330	0	0	0
52	SLU 29	36	-27	1322	0	0	0
52	SLU 30	36	-26	1321	0	0	0
52	SLU 31	38	-29	1437	0	0	0
52	SLU 32	38	-30	1464	0	0	0
52	SLU 33	38	-29	1463	0	0	0
52	SLU 34	38	-28	1454	0	0	0
52	SLU 35	38	-30	1480	0	0	0
52	SLU 36	38	-28	1479	0	0	0
52	SLU 37	38	-30	1471	0	0	0
52	SLU 38	38	-28	1470	0	0	0
52	SLU 39	38	-32	1503	0	0	0
52	SLU 40	38	-31	1502	0	0	0
52	SLU 41	38	-31	1519	0	0	0
52	SLU 42	38	-30	1518	0	0	0
52	SLU 43	40	-38	1393	0	0	0
52	SLU 44	40	-36	1392	0	0	0
52	SLU 45	40	-37	1418	0	0	0
52	SLU 46	40	-36	1417	0	0	0
52	SLU 47	40	-35	1408	0	0	0
52	SLU 48	40	-37	1434	0	0	0
52	SLU 49	40	-36	1434	0	0	0
52	SLU 50	40	-37	1426	0	0	0
52	SLU 51	40	-36	1425	0	0	0
52	SLU 52	42	-39	1541	0	0	0
52	SLU 53	42	-40	1567	0	0	0
52	SLU 54	42	-39	1567	0	0	0
52	SLU 55	42	-38	1557	0	0	0
52	SLU 56	42	-39	1584	0	0	0
52	SLU 57	42	-38	1583	0	0	0
52	SLU 58	42	-39	1575	0	0	0
52	SLU 59	42	-38	1574	0	0	0
52	SLU 60	42	-42	1606	0	0	0
52	SLU 61	43	-40	1605	0	0	0
52	SLU 62	43	-41	1623	0	0	0
52	SLU 63	43	-40	1622	0	0	0
52	SLU 64	44	-37	1565	0	0	0
52	SLU 65	44	-35	1564	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
52	SLU 66	44	-37	1590	0	0	0
52	SLU 67	44	-36	1590	0	0	0
52	SLU 68	44	-35	1580	0	0	0
52	SLU 69	44	-36	1607	0	0	0
52	SLU 70	44	-35	1606	0	0	0
52	SLU 71	44	-36	1598	0	0	0
52	SLU 72	44	-35	1597	0	0	0
52	SLU 73	46	-38	1713	0	0	0
52	SLU 74	46	-39	1740	0	0	0
52	SLU 75	46	-38	1739	0	0	0
52	SLU 76	46	-37	1730	0	0	0
52	SLU 77	46	-39	1756	0	0	0
52	SLU 78	46	-37	1755	0	0	0
52	SLU 79	46	-39	1747	0	0	0
52	SLU 80	46	-37	1746	0	0	0
52	SLU 81	46	-41	1779	0	0	0
52	SLU 82	47	-40	1778	0	0	0
52	SLU 83	46	-40	1795	0	0	0
52	SLU 84	47	-39	1794	0	0	0
52	SLE RA 1	33	-29	1166	0	0	0
52	SLE RA 2	33	-28	1165	0	0	0
52	SLE RA 3	33	-29	1183	0	0	0
52	SLE RA 4	33	-28	1182	0	0	0
52	SLE RA 5	33	-27	1176	0	0	0
52	SLE RA 6	33	-28	1194	0	0	0
52	SLE RA 7	33	-27	1193	0	0	0
52	SLE RA 8	33	-28	1188	0	0	0
52	SLE RA 9	33	-27	1187	0	0	0
52	SLE RA 10	34	-29	1265	0	0	0
52	SLE RA 11	34	-30	1282	0	0	0
52	SLE RA 12	34	-29	1282	0	0	0
52	SLE RA 13	34	-29	1276	0	0	0
52	SLE RA 14	34	-30	1293	0	0	0
52	SLE RA 15	34	-29	1293	0	0	0
52	SLE RA 16	34	-30	1287	0	0	0
52	SLE RA 17	34	-29	1287	0	0	0
52	SLE RA 18	35	-31	1308	0	0	0
52	SLE RA 19	35	-30	1308	0	0	0
52	SLE RA 20	35	-31	1319	0	0	0
52	SLE RA 21	35	-30	1319	0	0	0
52	SLE FR 1	33	-29	1166	0	0	0
52	SLE FR 2	33	-29	1166	0	0	0
52	SLE FR 3	33	-29	1170	0	0	0
52	SLE FR 4	33	-29	1209	0	0	0
52	SLE FR 5	33	-29	1213	0	0	0
52	SLE FR 6	34	-30	1237	0	0	0
52	SLE QP 1	33	-29	1166	0	0	0
52	SLE QP 2	33	-30	1209	0	0	0
52	SLD 1	93	-17	1221	0	0	0
52	SLD 2	95	-16	1222	0	0	0
52	SLD 3	91	-36	1229	0	0	0
52	SLD 4	92	-34	1230	0	0	0
52	SLD 5	55	2	1199	0	0	0
52	SLD 6	56	4	1200	0	0	0
52	SLD 7	46	-61	1228	0	0	0
52	SLD 8	47	-59	1228	0	0	0
52	SLD 9	20	0	1189	0	0	0
52	SLD 10	21	1	1190	0	0	0
52	SLD 11	10	-63	1218	0	0	0
52	SLD 12	11	-62	1218	0	0	0
52	SLD 13	-25	-25	1187	0	0	0
52	SLD 14	-24	-23	1188	0	0	0
52	SLD 15	-28	-44	1196	0	0	0
52	SLD 16	-27	-42	1197	0	0	0
52	SLV 1	128	-9	1227	0	0	0
52	SLV 2	129	-6	1229	0	0	0
52	SLV 3	123	-41	1242	0	0	0
52	SLV 4	125	-38	1243	0	0	0
52	SLV 5	69	25	1192	0	0	0
52	SLV 6	70	27	1193	0	0	0
52	SLV 7	53	-83	1240	0	0	0
52	SLV 8	54	-81	1241	0	0	0
52	SLV 9	13	21	1176	0	0	0
52	SLV 10	14	23	1177	0	0	0
52	SLV 11	-3	-86	1224	0	0	0
52	SLV 12	-2	-84	1225	0	0	0
52	SLV 13	-58	-21	1174	0	0	0
52	SLV 14	-56	-18	1176	0	0	0
52	SLV 15	-63	-53	1189	0	0	0
52	SLV 16	-61	-50	1190	0	0	0
52	SLV FO 1	137	-7	1229	0	0	0
52	SLV FO 2	139	-4	1231	0	0	0
52	SLV FO 3	132	-42	1245	0	0	0
52	SLV FO 4	134	-39	1247	0	0	0
52	SLV FO 5	72	30	1190	0	0	0
52	SLV FO 6	73	32	1192	0	0	0
52	SLV FO 7	54	-88	1243	0	0	0
52	SLV FO 8	56	-86	1245	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
52	SLV FO 9	11	26	1173	0	0	0
52	SLV FO 10	12	29	1174	0	0	0
52	SLV FO 11	-7	-92	1226	0	0	0
52	SLV FO 12	-6	-90	1227	0	0	0
52	SLV FO 13	-67	-20	1171	0	0	0
52	SLV FO 14	-65	-17	1173	0	0	0
52	SLV FO 15	-72	-55	1187	0	0	0
52	SLV FO 16	-71	-52	1188	0	0	0
53	SLU 1	31	-22	1153	0	0	0
53	SLU 2	32	-20	1152	0	0	0
53	SLU 3	32	-21	1178	0	0	0
53	SLU 4	32	-20	1178	0	0	0
53	SLU 5	32	-19	1168	0	0	0
53	SLU 6	32	-20	1194	0	0	0
53	SLU 7	32	-19	1194	0	0	0
53	SLU 8	32	-21	1185	0	0	0
53	SLU 9	32	-19	1185	0	0	0
53	SLU 10	34	-22	1302	0	0	0
53	SLU 11	34	-23	1328	0	0	0
53	SLU 12	34	-22	1328	0	0	0
53	SLU 13	34	-21	1319	0	0	0
53	SLU 14	34	-22	1345	0	0	0
53	SLU 15	34	-21	1344	0	0	0
53	SLU 16	33	-22	1335	0	0	0
53	SLU 17	34	-21	1335	0	0	0
53	SLU 18	34	-24	1367	0	0	0
53	SLU 19	34	-23	1367	0	0	0
53	SLU 20	34	-24	1384	0	0	0
53	SLU 21	34	-23	1383	0	0	0
53	SLU 22	35	-21	1329	0	0	0
53	SLU 23	35	-19	1328	0	0	0
53	SLU 24	36	-20	1354	0	0	0
53	SLU 25	36	-19	1353	0	0	0
53	SLU 26	36	-18	1344	0	0	0
53	SLU 27	36	-19	1370	0	0	0
53	SLU 28	36	-18	1370	0	0	0
53	SLU 29	35	-19	1361	0	0	0
53	SLU 30	36	-18	1360	0	0	0
53	SLU 31	37	-21	1478	0	0	0
53	SLU 32	37	-22	1504	0	0	0
53	SLU 33	38	-21	1504	0	0	0
53	SLU 34	37	-20	1494	0	0	0
53	SLU 35	38	-21	1520	0	0	0
53	SLU 36	38	-20	1520	0	0	0
53	SLU 37	37	-21	1511	0	0	0
53	SLU 38	37	-20	1511	0	0	0
53	SLU 39	38	-23	1543	0	0	0
53	SLU 40	38	-22	1543	0	0	0
53	SLU 41	38	-22	1559	0	0	0
53	SLU 42	38	-21	1559	0	0	0
53	SLU 43	39	-29	1438	0	0	0
53	SLU 44	40	-27	1438	0	0	0
53	SLU 45	40	-28	1464	0	0	0
53	SLU 46	40	-27	1463	0	0	0
53	SLU 47	40	-26	1454	0	0	0
53	SLU 48	40	-27	1480	0	0	0
53	SLU 49	40	-26	1479	0	0	0
53	SLU 50	40	-27	1471	0	0	0
53	SLU 51	40	-26	1470	0	0	0
53	SLU 52	42	-29	1588	0	0	0
53	SLU 53	42	-30	1614	0	0	0
53	SLU 54	42	-29	1613	0	0	0
53	SLU 55	42	-28	1604	0	0	0
53	SLU 56	42	-29	1630	0	0	0
53	SLU 57	42	-28	1630	0	0	0
53	SLU 58	41	-29	1621	0	0	0
53	SLU 59	42	-28	1621	0	0	0
53	SLU 60	42	-31	1653	0	0	0
53	SLU 61	42	-30	1653	0	0	0
53	SLU 62	42	-31	1669	0	0	0
53	SLU 63	42	-30	1669	0	0	0
53	SLU 64	43	-27	1614	0	0	0
53	SLU 65	44	-26	1613	0	0	0
53	SLU 66	44	-27	1639	0	0	0
53	SLU 67	44	-26	1639	0	0	0
53	SLU 68	44	-25	1630	0	0	0
53	SLU 69	44	-26	1656	0	0	0
53	SLU 70	44	-25	1655	0	0	0
53	SLU 71	43	-26	1646	0	0	0
53	SLU 72	44	-25	1646	0	0	0
53	SLU 73	45	-27	1764	0	0	0
53	SLU 74	46	-29	1790	0	0	0
53	SLU 75	46	-28	1789	0	0	0
53	SLU 76	46	-27	1780	0	0	0
53	SLU 77	46	-28	1806	0	0	0
53	SLU 78	46	-27	1806	0	0	0
53	SLU 79	45	-28	1797	0	0	0
53	SLU 80	45	-27	1796	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
53	SLU 81	46	-30	1829	0	0	0
53	SLU 82	46	-29	1828	0	0	0
53	SLU 83	46	-29	1845	0	0	0
53	SLU 84	46	-28	1845	0	0	0
53	SLE RA 1	32	-21	1203	0	0	0
53	SLE RA 2	33	-20	1202	0	0	0
53	SLE RA 3	33	-21	1220	0	0	0
53	SLE RA 4	33	-20	1220	0	0	0
53	SLE RA 5	33	-20	1213	0	0	0
53	SLE RA 6	33	-21	1231	0	0	0
53	SLE RA 7	33	-20	1230	0	0	0
53	SLE RA 8	33	-21	1225	0	0	0
53	SLE RA 9	33	-20	1224	0	0	0
53	SLE RA 10	34	-21	1303	0	0	0
53	SLE RA 11	34	-22	1320	0	0	0
53	SLE RA 12	34	-21	1320	0	0	0
53	SLE RA 13	34	-21	1313	0	0	0
53	SLE RA 14	34	-22	1331	0	0	0
53	SLE RA 15	34	-21	1331	0	0	0
53	SLE RA 16	34	-22	1325	0	0	0
53	SLE RA 17	34	-21	1324	0	0	0
53	SLE RA 18	34	-23	1346	0	0	0
53	SLE RA 19	34	-22	1346	0	0	0
53	SLE RA 20	34	-23	1357	0	0	0
53	SLE RA 21	34	-22	1357	0	0	0
53	SLE FR 1	32	-21	1203	0	0	0
53	SLE FR 2	33	-21	1203	0	0	0
53	SLE FR 3	32	-21	1207	0	0	0
53	SLE FR 4	33	-22	1246	0	0	0
53	SLE FR 5	33	-22	1250	0	0	0
53	SLE FR 6	33	-22	1275	0	0	0
53	SLE QP 1	32	-21	1203	0	0	0
53	SLE QP 2	33	-22	1246	0	0	0
53	SLD 1	93	-15	1204	0	0	0
53	SLD 2	94	-9	1205	0	0	0
53	SLD 3	90	-31	1207	0	0	0
53	SLD 4	91	-25	1208	0	0	0
53	SLD 5	55	3	1229	0	0	0
53	SLD 6	56	7	1230	0	0	0
53	SLD 7	46	-50	1238	0	0	0
53	SLD 8	46	-46	1238	0	0	0
53	SLD 9	20	2	1253	0	0	0
53	SLD 10	20	6	1254	0	0	0
53	SLD 11	10	-51	1262	0	0	0
53	SLD 12	11	-47	1262	0	0	0
53	SLD 13	-25	-19	1284	0	0	0
53	SLD 14	-24	-13	1285	0	0	0
53	SLD 15	-28	-35	1287	0	0	0
53	SLD 16	-27	-29	1288	0	0	0
53	SLV 1	127	-10	1181	0	0	0
53	SLV 2	129	0	1182	0	0	0
53	SLV 3	122	-37	1185	0	0	0
53	SLV 4	124	-27	1186	0	0	0
53	SLV 5	68	21	1220	0	0	0
53	SLV 6	69	28	1221	0	0	0
53	SLV 7	52	-69	1234	0	0	0
53	SLV 8	53	-63	1235	0	0	0
53	SLV 9	13	19	1257	0	0	0
53	SLV 10	14	26	1258	0	0	0
53	SLV 11	-3	-71	1271	0	0	0
53	SLV 12	-2	-65	1272	0	0	0
53	SLV 13	-58	-17	1306	0	0	0
53	SLV 14	-56	-7	1307	0	0	0
53	SLV 15	-63	-44	1310	0	0	0
53	SLV 16	-61	-34	1311	0	0	0
53	SLV FO 1	137	-9	1174	0	0	0
53	SLV FO 2	138	2	1176	0	0	0
53	SLV FO 3	131	-39	1179	0	0	0
53	SLV FO 4	133	-28	1180	0	0	0
53	SLV FO 5	72	25	1217	0	0	0
53	SLV FO 6	73	33	1218	0	0	0
53	SLV FO 7	54	-74	1233	0	0	0
53	SLV FO 8	55	-67	1234	0	0	0
53	SLV FO 9	11	23	1258	0	0	0
53	SLV FO 10	12	30	1259	0	0	0
53	SLV FO 11	-7	-76	1274	0	0	0
53	SLV FO 12	-6	-69	1275	0	0	0
53	SLV FO 13	-67	-16	1312	0	0	0
53	SLV FO 14	-65	-5	1313	0	0	0
53	SLV FO 15	-72	-46	1316	0	0	0
53	SLV FO 16	-71	-35	1318	0	0	0
54	SLU 1	19	-19	677	0	0	0
54	SLU 2	20	-18	676	0	0	0
54	SLU 3	20	-19	693	0	0	0
54	SLU 4	20	-18	692	0	0	0
54	SLU 5	20	-18	686	0	0	0
54	SLU 6	20	-19	703	0	0	0
54	SLU 7	20	-18	702	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
54	SLU 8	20	-19	697	0	0	0
54	SLU 9	20	-18	697	0	0	0
54	SLU 10	21	-20	768	0	0	0
54	SLU 11	21	-21	784	0	0	0
54	SLU 12	21	-20	783	0	0	0
54	SLU 13	21	-19	778	0	0	0
54	SLU 14	21	-20	794	0	0	0
54	SLU 15	21	-19	794	0	0	0
54	SLU 16	21	-20	789	0	0	0
54	SLU 17	21	-19	788	0	0	0
54	SLU 18	21	-22	808	0	0	0
54	SLU 19	21	-21	807	0	0	0
54	SLU 20	21	-21	818	0	0	0
54	SLU 21	21	-20	817	0	0	0
54	SLU 22	22	-19	782	0	0	0
54	SLU 23	22	-18	781	0	0	0
54	SLU 24	22	-19	798	0	0	0
54	SLU 25	22	-18	797	0	0	0
54	SLU 26	22	-17	791	0	0	0
54	SLU 27	22	-18	808	0	0	0
54	SLU 28	22	-17	807	0	0	0
54	SLU 29	22	-18	802	0	0	0
54	SLU 30	22	-17	802	0	0	0
54	SLU 31	23	-19	872	0	0	0
54	SLU 32	23	-20	889	0	0	0
54	SLU 33	23	-19	888	0	0	0
54	SLU 34	23	-19	883	0	0	0
54	SLU 35	23	-20	899	0	0	0
54	SLU 36	23	-19	898	0	0	0
54	SLU 37	23	-20	894	0	0	0
54	SLU 38	23	-19	893	0	0	0
54	SLU 39	23	-21	913	0	0	0
54	SLU 40	24	-21	912	0	0	0
54	SLU 41	24	-21	923	0	0	0
54	SLU 42	24	-20	922	0	0	0
54	SLU 43	24	-25	844	0	0	0
54	SLU 44	25	-24	843	0	0	0
54	SLU 45	25	-25	860	0	0	0
54	SLU 46	25	-24	859	0	0	0
54	SLU 47	25	-24	854	0	0	0
54	SLU 48	25	-24	870	0	0	0
54	SLU 49	25	-24	869	0	0	0
54	SLU 50	25	-24	865	0	0	0
54	SLU 51	25	-24	864	0	0	0
54	SLU 52	26	-26	935	0	0	0
54	SLU 53	26	-26	951	0	0	0
54	SLU 54	26	-26	951	0	0	0
54	SLU 55	26	-25	945	0	0	0
54	SLU 56	26	-26	961	0	0	0
54	SLU 57	26	-25	961	0	0	0
54	SLU 58	26	-26	956	0	0	0
54	SLU 59	26	-25	955	0	0	0
54	SLU 60	26	-28	975	0	0	0
54	SLU 61	26	-27	974	0	0	0
54	SLU 62	26	-27	985	0	0	0
54	SLU 63	26	-26	984	0	0	0
54	SLU 64	27	-25	949	0	0	0
54	SLU 65	27	-24	948	0	0	0
54	SLU 66	27	-25	965	0	0	0
54	SLU 67	27	-24	964	0	0	0
54	SLU 68	27	-23	958	0	0	0
54	SLU 69	27	-24	975	0	0	0
54	SLU 70	27	-23	974	0	0	0
54	SLU 71	27	-24	969	0	0	0
54	SLU 72	27	-23	969	0	0	0
54	SLU 73	28	-25	1040	0	0	0
54	SLU 74	28	-26	1056	0	0	0
54	SLU 75	28	-25	1056	0	0	0
54	SLU 76	28	-25	1050	0	0	0
54	SLU 77	28	-26	1066	0	0	0
54	SLU 78	28	-25	1066	0	0	0
54	SLU 79	28	-26	1061	0	0	0
54	SLU 80	28	-25	1060	0	0	0
54	SLU 81	28	-27	1080	0	0	0
54	SLU 82	29	-26	1079	0	0	0
54	SLU 83	29	-27	1090	0	0	0
54	SLU 84	29	-26	1089	0	0	0
54	SLE RA 1	20	-19	707	0	0	0
54	SLE RA 2	20	-18	707	0	0	0
54	SLE RA 3	20	-19	717	0	0	0
54	SLE RA 4	20	-18	717	0	0	0
54	SLE RA 5	20	-18	713	0	0	0
54	SLE RA 6	20	-19	724	0	0	0
54	SLE RA 7	20	-18	724	0	0	0
54	SLE RA 8	20	-19	721	0	0	0
54	SLE RA 9	20	-18	720	0	0	0
54	SLE RA 10	21	-19	767	0	0	0
54	SLE RA 11	21	-20	778	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
54	SLE RA 12	21	-20	778	0	0	0
54	SLE RA 13	21	-19	774	0	0	0
54	SLE RA 14	21	-20	785	0	0	0
54	SLE RA 15	21	-19	785	0	0	0
54	SLE RA 16	21	-20	782	0	0	0
54	SLE RA 17	21	-19	781	0	0	0
54	SLE RA 18	21	-21	794	0	0	0
54	SLE RA 19	21	-20	794	0	0	0
54	SLE RA 20	21	-21	801	0	0	0
54	SLE RA 21	21	-20	801	0	0	0
54	SLE FR 1	20	-19	707	0	0	0
54	SLE FR 2	20	-19	707	0	0	0
54	SLE FR 3	20	-19	710	0	0	0
54	SLE FR 4	20	-20	733	0	0	0
54	SLE FR 5	20	-20	736	0	0	0
54	SLE FR 6	21	-20	751	0	0	0
54	SLE QP 1	20	-19	707	0	0	0
54	SLE QP 2	20	-20	733	0	0	0
54	SLD 1	57	-11	751	0	0	0
54	SLD 2	58	-11	752	0	0	0
54	SLD 3	56	-23	758	0	0	0
54	SLD 4	56	-23	759	0	0	0
54	SLD 5	34	1	728	0	0	0
54	SLD 6	35	2	729	0	0	0
54	SLD 7	28	-39	751	0	0	0
54	SLD 8	29	-39	751	0	0	0
54	SLD 9	12	0	715	0	0	0
54	SLD 10	13	0	716	0	0	0
54	SLD 11	6	-41	738	0	0	0
54	SLD 12	7	-41	739	0	0	0
54	SLD 13	-16	-16	708	0	0	0
54	SLD 14	-15	-16	709	0	0	0
54	SLD 15	-17	-29	715	0	0	0
54	SLD 16	-17	-28	716	0	0	0
54	SLV 1	79	-5	760	0	0	0
54	SLV 2	80	-5	762	0	0	0
54	SLV 3	76	-26	772	0	0	0
54	SLV 4	77	-26	773	0	0	0
54	SLV 5	42	16	724	0	0	0
54	SLV 6	43	16	724	0	0	0
54	SLV 7	32	-53	762	0	0	0
54	SLV 8	33	-53	763	0	0	0
54	SLV 9	8	14	704	0	0	0
54	SLV 10	9	14	704	0	0	0
54	SLV 11	-2	-56	742	0	0	0
54	SLV 12	-1	-56	743	0	0	0
54	SLV 13	-36	-14	693	0	0	0
54	SLV 14	-35	-13	695	0	0	0
54	SLV 15	-39	-35	705	0	0	0
54	SLV 16	-38	-34	706	0	0	0
54	SLV FO 1	84	-4	763	0	0	0
54	SLV FO 2	86	-3	765	0	0	0
54	SLV FO 3	81	-27	776	0	0	0
54	SLV FO 4	82	-26	777	0	0	0
54	SLV FO 5	44	20	723	0	0	0
54	SLV FO 6	45	20	724	0	0	0
54	SLV FO 7	33	-57	765	0	0	0
54	SLV FO 8	34	-56	766	0	0	0
54	SLV FO 9	7	17	701	0	0	0
54	SLV FO 10	7	17	701	0	0	0
54	SLV FO 11	-4	-59	743	0	0	0
54	SLV FO 12	-4	-59	744	0	0	0
54	SLV FO 13	-41	-13	689	0	0	0
54	SLV FO 14	-40	-13	691	0	0	0
54	SLV FO 15	-45	-36	702	0	0	0
54	SLV FO 16	-44	-36	703	0	0	0
55	SLU 1	24	-21	863	0	0	0
55	SLU 2	24	-20	862	0	0	0
55	SLU 3	25	-21	883	0	0	0
55	SLU 4	25	-20	882	0	0	0
55	SLU 5	25	-19	875	0	0	0
55	SLU 6	25	-20	895	0	0	0
55	SLU 7	25	-19	895	0	0	0
55	SLU 8	24	-20	888	0	0	0
55	SLU 9	24	-19	888	0	0	0
55	SLU 10	26	-22	977	0	0	0
55	SLU 11	26	-23	998	0	0	0
55	SLU 12	26	-22	997	0	0	0
55	SLU 13	26	-21	990	0	0	0
55	SLU 14	26	-22	1010	0	0	0
55	SLU 15	26	-21	1010	0	0	0
55	SLU 16	26	-22	1003	0	0	0
55	SLU 17	26	-21	1003	0	0	0
55	SLU 18	26	-24	1028	0	0	0
55	SLU 19	26	-23	1027	0	0	0
55	SLU 20	26	-23	1040	0	0	0
55	SLU 21	26	-22	1039	0	0	0
55	SLU 22	27	-21	996	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLU 23	27	-19	995	0	0	0
55	SLU 24	27	-20	1016	0	0	0
55	SLU 25	28	-19	1015	0	0	0
55	SLU 26	27	-19	1008	0	0	0
55	SLU 27	28	-20	1028	0	0	0
55	SLU 28	28	-19	1028	0	0	0
55	SLU 29	27	-20	1021	0	0	0
55	SLU 30	27	-19	1021	0	0	0
55	SLU 31	29	-21	1110	0	0	0
55	SLU 32	29	-22	1131	0	0	0
55	SLU 33	29	-21	1130	0	0	0
55	SLU 34	29	-20	1123	0	0	0
55	SLU 35	29	-21	1143	0	0	0
55	SLU 36	29	-21	1143	0	0	0
55	SLU 37	29	-21	1136	0	0	0
55	SLU 38	29	-21	1136	0	0	0
55	SLU 39	29	-23	1160	0	0	0
55	SLU 40	29	-22	1160	0	0	0
55	SLU 41	29	-23	1173	0	0	0
55	SLU 42	29	-22	1172	0	0	0
55	SLU 43	30	-28	1077	0	0	0
55	SLU 44	31	-26	1076	0	0	0
55	SLU 45	31	-27	1096	0	0	0
55	SLU 46	31	-26	1096	0	0	0
55	SLU 47	31	-26	1088	0	0	0
55	SLU 48	31	-27	1109	0	0	0
55	SLU 49	31	-26	1108	0	0	0
55	SLU 50	31	-27	1102	0	0	0
55	SLU 51	31	-26	1101	0	0	0
55	SLU 52	32	-28	1191	0	0	0
55	SLU 53	32	-29	1211	0	0	0
55	SLU 54	32	-28	1210	0	0	0
55	SLU 55	32	-28	1203	0	0	0
55	SLU 56	32	-29	1224	0	0	0
55	SLU 57	32	-28	1223	0	0	0
55	SLU 58	32	-29	1217	0	0	0
55	SLU 59	32	-28	1216	0	0	0
55	SLU 60	33	-30	1241	0	0	0
55	SLU 61	33	-30	1240	0	0	0
55	SLU 62	33	-30	1253	0	0	0
55	SLU 63	33	-29	1253	0	0	0
55	SLU 64	33	-27	1210	0	0	0
55	SLU 65	34	-26	1209	0	0	0
55	SLU 66	34	-27	1229	0	0	0
55	SLU 67	34	-26	1228	0	0	0
55	SLU 68	34	-25	1221	0	0	0
55	SLU 69	34	-26	1242	0	0	0
55	SLU 70	34	-25	1241	0	0	0
55	SLU 71	34	-26	1235	0	0	0
55	SLU 72	34	-25	1234	0	0	0
55	SLU 73	35	-28	1324	0	0	0
55	SLU 74	35	-29	1344	0	0	0
55	SLU 75	35	-28	1343	0	0	0
55	SLU 76	35	-27	1336	0	0	0
55	SLU 77	35	-28	1357	0	0	0
55	SLU 78	35	-27	1356	0	0	0
55	SLU 79	35	-28	1350	0	0	0
55	SLU 80	35	-27	1349	0	0	0
55	SLU 81	35	-30	1374	0	0	0
55	SLU 82	36	-29	1373	0	0	0
55	SLU 83	36	-29	1386	0	0	0
55	SLU 84	36	-28	1386	0	0	0
55	SLE RA 1	25	-21	901	0	0	0
55	SLE RA 2	25	-20	901	0	0	0
55	SLE RA 3	25	-21	914	0	0	0
55	SLE RA 4	25	-20	914	0	0	0
55	SLE RA 5	25	-20	909	0	0	0
55	SLE RA 6	25	-20	923	0	0	0
55	SLE RA 7	25	-20	922	0	0	0
55	SLE RA 8	25	-20	918	0	0	0
55	SLE RA 9	25	-20	918	0	0	0
55	SLE RA 10	26	-21	977	0	0	0
55	SLE RA 11	26	-22	991	0	0	0
55	SLE RA 12	26	-21	990	0	0	0
55	SLE RA 13	26	-21	986	0	0	0
55	SLE RA 14	26	-22	999	0	0	0
55	SLE RA 15	26	-21	999	0	0	0
55	SLE RA 16	26	-22	995	0	0	0
55	SLE RA 17	26	-21	994	0	0	0
55	SLE RA 18	26	-23	1011	0	0	0
55	SLE RA 19	27	-22	1010	0	0	0
55	SLE RA 20	26	-22	1019	0	0	0
55	SLE RA 21	27	-22	1019	0	0	0
55	SLE FR 1	25	-21	901	0	0	0
55	SLE FR 2	25	-21	901	0	0	0
55	SLE FR 3	25	-21	905	0	0	0
55	SLE FR 4	26	-21	934	0	0	0
55	SLE FR 5	25	-22	937	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLE FR 6	26	-22	956	0	0	0
55	SLE QP 1	25	-21	901	0	0	0
55	SLE QP 2	25	-22	934	0	0	0
55	SLD 1	72	-13	936	0	0	0
55	SLD 2	73	-11	937	0	0	0
55	SLD 3	69	-27	942	0	0	0
55	SLD 4	70	-25	943	0	0	0
55	SLD 5	43	2	924	0	0	0
55	SLD 6	43	3	925	0	0	0
55	SLD 7	35	-45	946	0	0	0
55	SLD 8	36	-44	947	0	0	0
55	SLD 9	15	0	921	0	0	0
55	SLD 10	16	2	922	0	0	0
55	SLD 11	8	-47	943	0	0	0
55	SLD 12	8	-45	944	0	0	0
55	SLD 13	-19	-18	925	0	0	0
55	SLD 14	-19	-16	926	0	0	0
55	SLD 15	-22	-32	932	0	0	0
55	SLD 16	-21	-30	932	0	0	0
55	SLV 1	98	-7	937	0	0	0
55	SLV 2	99	-4	938	0	0	0
55	SLV 3	94	-31	948	0	0	0
55	SLV 4	96	-28	949	0	0	0
55	SLV 5	53	18	918	0	0	0
55	SLV 6	54	21	919	0	0	0
55	SLV 7	40	-61	955	0	0	0
55	SLV 8	41	-59	956	0	0	0
55	SLV 9	10	16	913	0	0	0
55	SLV 10	11	18	913	0	0	0
55	SLV 11	-3	-64	950	0	0	0
55	SLV 12	-2	-62	950	0	0	0
55	SLV 13	-45	-15	919	0	0	0
55	SLV 14	-43	-12	920	0	0	0
55	SLV 15	-48	-39	930	0	0	0
55	SLV 16	-47	-36	932	0	0	0
55	SLV FO 1	105	-6	937	0	0	0
55	SLV FO 2	107	-2	938	0	0	0
55	SLV FO 3	101	-32	949	0	0	0
55	SLV FO 4	103	-29	951	0	0	0
55	SLV FO 5	55	22	916	0	0	0
55	SLV FO 6	56	25	917	0	0	0
55	SLV FO 7	42	-65	957	0	0	0
55	SLV FO 8	43	-63	958	0	0	0
55	SLV FO 9	8	20	910	0	0	0
55	SLV FO 10	9	22	911	0	0	0
55	SLV FO 11	-5	-68	951	0	0	0
55	SLV FO 12	-4	-66	952	0	0	0
55	SLV FO 13	-52	-15	918	0	0	0
55	SLV FO 14	-50	-11	919	0	0	0
55	SLV FO 15	-56	-41	930	0	0	0
55	SLV FO 16	-54	-37	931	0	0	0
56	SLU 1	24	-20	871	0	0	0
56	SLU 2	24	-19	870	0	0	0
56	SLU 3	25	-20	890	0	0	0
56	SLU 4	25	-19	890	0	0	0
56	SLU 5	25	-18	883	0	0	0
56	SLU 6	25	-19	903	0	0	0
56	SLU 7	25	-18	903	0	0	0
56	SLU 8	24	-19	896	0	0	0
56	SLU 9	25	-18	896	0	0	0
56	SLU 10	26	-20	985	0	0	0
56	SLU 11	26	-21	1006	0	0	0
56	SLU 12	26	-21	1005	0	0	0
56	SLU 13	26	-20	998	0	0	0
56	SLU 14	26	-21	1018	0	0	0
56	SLU 15	26	-20	1018	0	0	0
56	SLU 16	26	-21	1012	0	0	0
56	SLU 17	26	-20	1011	0	0	0
56	SLU 18	26	-23	1036	0	0	0
56	SLU 19	26	-22	1035	0	0	0
56	SLU 20	26	-22	1048	0	0	0
56	SLU 21	26	-21	1048	0	0	0
56	SLU 22	27	-20	1005	0	0	0
56	SLU 23	27	-18	1004	0	0	0
56	SLU 24	28	-19	1024	0	0	0
56	SLU 25	28	-18	1024	0	0	0
56	SLU 26	28	-18	1017	0	0	0
56	SLU 27	28	-19	1037	0	0	0
56	SLU 28	28	-18	1036	0	0	0
56	SLU 29	27	-19	1030	0	0	0
56	SLU 30	27	-18	1029	0	0	0
56	SLU 31	29	-20	1119	0	0	0
56	SLU 32	29	-21	1140	0	0	0
56	SLU 33	29	-20	1139	0	0	0
56	SLU 34	29	-19	1132	0	0	0
56	SLU 35	29	-20	1152	0	0	0
56	SLU 36	29	-19	1152	0	0	0
56	SLU 37	29	-20	1145	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLU 38	29	-19	1145	0	0	0
56	SLU 39	29	-22	1170	0	0	0
56	SLU 40	29	-21	1169	0	0	0
56	SLU 41	29	-21	1182	0	0	0
56	SLU 42	29	-21	1182	0	0	0
56	SLU 43	30	-27	1086	0	0	0
56	SLU 44	31	-25	1085	0	0	0
56	SLU 45	31	-26	1106	0	0	0
56	SLU 46	31	-25	1105	0	0	0
56	SLU 47	31	-25	1098	0	0	0
56	SLU 48	31	-26	1118	0	0	0
56	SLU 49	31	-25	1118	0	0	0
56	SLU 50	31	-26	1112	0	0	0
56	SLU 51	31	-25	1111	0	0	0
56	SLU 52	32	-27	1201	0	0	0
56	SLU 53	32	-28	1221	0	0	0
56	SLU 54	32	-27	1221	0	0	0
56	SLU 55	32	-26	1213	0	0	0
56	SLU 56	32	-27	1234	0	0	0
56	SLU 57	32	-26	1233	0	0	0
56	SLU 58	32	-27	1227	0	0	0
56	SLU 59	32	-26	1226	0	0	0
56	SLU 60	33	-29	1251	0	0	0
56	SLU 61	33	-28	1251	0	0	0
56	SLU 62	33	-28	1264	0	0	0
56	SLU 63	33	-28	1263	0	0	0
56	SLU 64	33	-26	1220	0	0	0
56	SLU 65	34	-24	1219	0	0	0
56	SLU 66	34	-25	1240	0	0	0
56	SLU 67	34	-24	1239	0	0	0
56	SLU 68	34	-24	1232	0	0	0
56	SLU 69	34	-25	1252	0	0	0
56	SLU 70	34	-24	1252	0	0	0
56	SLU 71	34	-25	1245	0	0	0
56	SLU 72	34	-24	1245	0	0	0
56	SLU 73	35	-26	1335	0	0	0
56	SLU 74	35	-27	1355	0	0	0
56	SLU 75	35	-26	1355	0	0	0
56	SLU 76	35	-26	1347	0	0	0
56	SLU 77	35	-27	1368	0	0	0
56	SLU 78	35	-26	1367	0	0	0
56	SLU 79	35	-27	1361	0	0	0
56	SLU 80	35	-26	1360	0	0	0
56	SLU 81	36	-28	1385	0	0	0
56	SLU 82	36	-27	1385	0	0	0
56	SLU 83	36	-28	1398	0	0	0
56	SLU 84	36	-27	1397	0	0	0
56	SLE RA 1	25	-20	909	0	0	0
56	SLE RA 2	25	-19	909	0	0	0
56	SLE RA 3	25	-20	922	0	0	0
56	SLE RA 4	25	-19	922	0	0	0
56	SLE RA 5	25	-19	917	0	0	0
56	SLE RA 6	25	-19	931	0	0	0
56	SLE RA 7	25	-19	930	0	0	0
56	SLE RA 8	25	-19	926	0	0	0
56	SLE RA 9	25	-19	926	0	0	0
56	SLE RA 10	26	-20	986	0	0	0
56	SLE RA 11	26	-21	999	0	0	0
56	SLE RA 12	26	-20	999	0	0	0
56	SLE RA 13	26	-20	994	0	0	0
56	SLE RA 14	26	-20	1008	0	0	0
56	SLE RA 15	26	-20	1007	0	0	0
56	SLE RA 16	26	-21	1003	0	0	0
56	SLE RA 17	26	-20	1003	0	0	0
56	SLE RA 18	26	-22	1019	0	0	0
56	SLE RA 19	27	-21	1019	0	0	0
56	SLE RA 20	26	-21	1027	0	0	0
56	SLE RA 21	27	-21	1027	0	0	0
56	SLE FR 1	25	-20	909	0	0	0
56	SLE FR 2	25	-20	909	0	0	0
56	SLE FR 3	25	-20	913	0	0	0
56	SLE FR 4	26	-20	942	0	0	0
56	SLE FR 5	26	-20	946	0	0	0
56	SLE FR 6	26	-21	964	0	0	0
56	SLE QP 1	25	-20	909	0	0	0
56	SLE QP 2	25	-21	942	0	0	0
56	SLD 1	72	-13	933	0	0	0
56	SLD 2	73	-10	934	0	0	0
56	SLD 3	70	-27	939	0	0	0
56	SLD 4	70	-24	939	0	0	0
56	SLD 5	43	2	931	0	0	0
56	SLD 6	43	4	931	0	0	0
56	SLD 7	35	-43	950	0	0	0
56	SLD 8	36	-42	950	0	0	0
56	SLD 9	15	1	934	0	0	0
56	SLD 10	16	2	935	0	0	0
56	SLD 11	8	-45	953	0	0	0
56	SLD 12	8	-43	954	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLD 13	-19	-17	945	0	0	0
56	SLD 14	-19	-15	946	0	0	0
56	SLD 15	-22	-31	951	0	0	0
56	SLD 16	-21	-28	951	0	0	0
56	SLV 1	98	-8	927	0	0	0
56	SLV 2	100	-3	929	0	0	0
56	SLV 3	94	-31	937	0	0	0
56	SLV 4	96	-26	938	0	0	0
56	SLV 5	53	18	923	0	0	0
56	SLV 6	54	21	924	0	0	0
56	SLV 7	40	-60	955	0	0	0
56	SLV 8	41	-57	956	0	0	0
56	SLV 9	10	16	929	0	0	0
56	SLV 10	11	19	930	0	0	0
56	SLV 11	-3	-62	961	0	0	0
56	SLV 12	-2	-59	961	0	0	0
56	SLV 13	-45	-15	946	0	0	0
56	SLV 14	-43	-10	948	0	0	0
56	SLV 15	-49	-38	956	0	0	0
56	SLV 16	-47	-33	957	0	0	0
56	SLV FO 1	105	-6	926	0	0	0
56	SLV FO 2	107	-1	927	0	0	0
56	SLV FO 3	101	-32	936	0	0	0
56	SLV FO 4	103	-27	938	0	0	0
56	SLV FO 5	56	22	921	0	0	0
56	SLV FO 6	56	25	922	0	0	0
56	SLV FO 7	42	-64	956	0	0	0
56	SLV FO 8	43	-60	957	0	0	0
56	SLV FO 9	8	19	927	0	0	0
56	SLV FO 10	9	22	928	0	0	0
56	SLV FO 11	-5	-66	962	0	0	0
56	SLV FO 12	-5	-63	963	0	0	0
56	SLV FO 13	-52	-14	947	0	0	0
56	SLV FO 14	-50	-9	948	0	0	0
56	SLV FO 15	-56	-40	957	0	0	0
56	SLV FO 16	-54	-35	959	0	0	0
57	SLU 1	24	-19	877	0	0	0
57	SLU 2	24	-18	876	0	0	0
57	SLU 3	24	-19	896	0	0	0
57	SLU 4	25	-18	896	0	0	0
57	SLU 5	24	-17	889	0	0	0
57	SLU 6	25	-18	909	0	0	0
57	SLU 7	25	-17	908	0	0	0
57	SLU 8	24	-18	902	0	0	0
57	SLU 9	24	-17	901	0	0	0
57	SLU 10	26	-19	992	0	0	0
57	SLU 11	26	-20	1012	0	0	0
57	SLU 12	26	-19	1011	0	0	0
57	SLU 13	26	-19	1004	0	0	0
57	SLU 14	26	-20	1025	0	0	0
57	SLU 15	26	-19	1024	0	0	0
57	SLU 16	26	-20	1018	0	0	0
57	SLU 17	26	-19	1017	0	0	0
57	SLU 18	26	-21	1042	0	0	0
57	SLU 19	26	-20	1042	0	0	0
57	SLU 20	26	-21	1055	0	0	0
57	SLU 21	26	-20	1054	0	0	0
57	SLU 22	27	-18	1011	0	0	0
57	SLU 23	27	-17	1011	0	0	0
57	SLU 24	27	-18	1031	0	0	0
57	SLU 25	28	-17	1030	0	0	0
57	SLU 26	27	-16	1023	0	0	0
57	SLU 27	28	-17	1043	0	0	0
57	SLU 28	28	-16	1043	0	0	0
57	SLU 29	27	-17	1036	0	0	0
57	SLU 30	27	-17	1036	0	0	0
57	SLU 31	29	-18	1126	0	0	0
57	SLU 32	29	-19	1146	0	0	0
57	SLU 33	29	-19	1146	0	0	0
57	SLU 34	29	-18	1139	0	0	0
57	SLU 35	29	-19	1159	0	0	0
57	SLU 36	29	-18	1159	0	0	0
57	SLU 37	29	-19	1152	0	0	0
57	SLU 38	29	-18	1152	0	0	0
57	SLU 39	29	-21	1176	0	0	0
57	SLU 40	29	-20	1176	0	0	0
57	SLU 41	29	-20	1189	0	0	0
57	SLU 42	29	-19	1189	0	0	0
57	SLU 43	30	-25	1094	0	0	0
57	SLU 44	31	-24	1093	0	0	0
57	SLU 45	31	-25	1113	0	0	0
57	SLU 46	31	-24	1113	0	0	0
57	SLU 47	31	-23	1106	0	0	0
57	SLU 48	31	-24	1126	0	0	0
57	SLU 49	31	-23	1125	0	0	0
57	SLU 50	31	-24	1119	0	0	0
57	SLU 51	31	-23	1118	0	0	0
57	SLU 52	32	-25	1209	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
57	SLU 53	32	-26	1229	0	0	0
57	SLU 54	32	-25	1228	0	0	0
57	SLU 55	32	-25	1221	0	0	0
57	SLU 56	32	-26	1241	0	0	0
57	SLU 57	32	-25	1241	0	0	0
57	SLU 58	32	-26	1235	0	0	0
57	SLU 59	32	-25	1234	0	0	0
57	SLU 60	32	-27	1259	0	0	0
57	SLU 61	33	-26	1258	0	0	0
57	SLU 62	33	-27	1271	0	0	0
57	SLU 63	33	-26	1271	0	0	0
57	SLU 64	33	-24	1228	0	0	0
57	SLU 65	34	-23	1227	0	0	0
57	SLU 66	34	-24	1248	0	0	0
57	SLU 67	34	-23	1247	0	0	0
57	SLU 68	34	-22	1240	0	0	0
57	SLU 69	34	-23	1260	0	0	0
57	SLU 70	34	-22	1260	0	0	0
57	SLU 71	34	-23	1253	0	0	0
57	SLU 72	34	-23	1253	0	0	0
57	SLU 73	35	-24	1343	0	0	0
57	SLU 74	35	-25	1363	0	0	0
57	SLU 75	35	-25	1363	0	0	0
57	SLU 76	35	-24	1356	0	0	0
57	SLU 77	35	-25	1376	0	0	0
57	SLU 78	35	-24	1375	0	0	0
57	SLU 79	35	-25	1369	0	0	0
57	SLU 80	35	-24	1369	0	0	0
57	SLU 81	35	-27	1393	0	0	0
57	SLU 82	36	-26	1393	0	0	0
57	SLU 83	36	-26	1406	0	0	0
57	SLU 84	36	-25	1405	0	0	0
57	SLE RA 1	25	-19	915	0	0	0
57	SLE RA 2	25	-18	915	0	0	0
57	SLE RA 3	25	-19	928	0	0	0
57	SLE RA 4	25	-18	928	0	0	0
57	SLE RA 5	25	-18	923	0	0	0
57	SLE RA 6	25	-18	937	0	0	0
57	SLE RA 7	25	-18	936	0	0	0
57	SLE RA 8	25	-18	932	0	0	0
57	SLE RA 9	25	-18	932	0	0	0
57	SLE RA 10	26	-19	992	0	0	0
57	SLE RA 11	26	-20	1005	0	0	0
57	SLE RA 12	26	-19	1005	0	0	0
57	SLE RA 13	26	-19	1000	0	0	0
57	SLE RA 14	26	-19	1014	0	0	0
57	SLE RA 15	26	-19	1013	0	0	0
57	SLE RA 16	26	-19	1009	0	0	0
57	SLE RA 17	26	-19	1009	0	0	0
57	SLE RA 18	26	-20	1025	0	0	0
57	SLE RA 19	26	-20	1025	0	0	0
57	SLE RA 20	26	-20	1034	0	0	0
57	SLE RA 21	27	-19	1033	0	0	0
57	SLE FR 1	25	-19	915	0	0	0
57	SLE FR 2	25	-19	915	0	0	0
57	SLE FR 3	25	-19	919	0	0	0
57	SLE FR 4	25	-19	948	0	0	0
57	SLE FR 5	25	-19	952	0	0	0
57	SLE FR 6	26	-20	970	0	0	0
57	SLE QP 1	25	-19	915	0	0	0
57	SLE QP 2	25	-19	948	0	0	0
57	SLD 1	72	-13	932	0	0	0
57	SLD 2	73	-9	933	0	0	0
57	SLD 3	70	-26	937	0	0	0
57	SLD 4	70	-22	937	0	0	0
57	SLD 5	43	2	936	0	0	0
57	SLD 6	43	4	937	0	0	0
57	SLD 7	35	-42	952	0	0	0
57	SLD 8	36	-40	952	0	0	0
57	SLD 9	15	1	944	0	0	0
57	SLD 10	16	3	945	0	0	0
57	SLD 11	8	-43	960	0	0	0
57	SLD 12	8	-41	960	0	0	0
57	SLD 13	-19	-16	959	0	0	0
57	SLD 14	-19	-13	960	0	0	0
57	SLD 15	-22	-30	964	0	0	0
57	SLD 16	-21	-26	965	0	0	0
57	SLV 1	98	-8	922	0	0	0
57	SLV 2	99	-2	924	0	0	0
57	SLV 3	94	-30	930	0	0	0
57	SLV 4	96	-25	931	0	0	0
57	SLV 5	53	17	928	0	0	0
57	SLV 6	54	21	929	0	0	0
57	SLV 7	40	-58	954	0	0	0
57	SLV 8	41	-54	955	0	0	0
57	SLV 9	10	15	941	0	0	0
57	SLV 10	11	19	942	0	0	0
57	SLV 11	-3	-60	967	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
57	SLV 12	-2	-56	968	0	0	0
57	SLV 13	-45	-14	965	0	0	0
57	SLV 14	-43	-9	967	0	0	0
57	SLV 15	-49	-36	973	0	0	0
57	SLV 16	-47	-31	974	0	0	0
57	SLV FO 1	105	-7	920	0	0	0
57	SLV FO 2	107	0	921	0	0	0
57	SLV FO 3	101	-31	928	0	0	0
57	SLV FO 4	103	-25	930	0	0	0
57	SLV FO 5	55	21	926	0	0	0
57	SLV FO 6	56	25	927	0	0	0
57	SLV FO 7	42	-61	955	0	0	0
57	SLV FO 8	43	-57	956	0	0	0
57	SLV FO 9	8	19	941	0	0	0
57	SLV FO 10	9	23	942	0	0	0
57	SLV FO 11	-6	-64	969	0	0	0
57	SLV FO 12	-5	-59	970	0	0	0
57	SLV FO 13	-52	-14	967	0	0	0
57	SLV FO 14	-50	-7	968	0	0	0
57	SLV FO 15	-56	-38	976	0	0	0
57	SLV FO 16	-55	-32	977	0	0	0
58	SLU 1	24	-18	880	0	0	0
58	SLU 2	24	-16	880	0	0	0
58	SLU 3	24	-17	900	0	0	0
58	SLU 4	25	-17	899	0	0	0
58	SLU 5	24	-16	892	0	0	0
58	SLU 6	24	-17	912	0	0	0
58	SLU 7	25	-16	912	0	0	0
58	SLU 8	24	-17	905	0	0	0
58	SLU 9	24	-16	905	0	0	0
58	SLU 10	26	-18	995	0	0	0
58	SLU 11	26	-19	1015	0	0	0
58	SLU 12	26	-18	1015	0	0	0
58	SLU 13	26	-17	1008	0	0	0
58	SLU 14	26	-18	1028	0	0	0
58	SLU 15	26	-18	1027	0	0	0
58	SLU 16	26	-18	1021	0	0	0
58	SLU 17	26	-18	1020	0	0	0
58	SLU 18	26	-20	1045	0	0	0
58	SLU 19	26	-19	1045	0	0	0
58	SLU 20	26	-20	1058	0	0	0
58	SLU 21	26	-19	1057	0	0	0
58	SLU 22	27	-17	1015	0	0	0
58	SLU 23	27	-16	1014	0	0	0
58	SLU 24	27	-17	1035	0	0	0
58	SLU 25	27	-16	1034	0	0	0
58	SLU 26	27	-15	1027	0	0	0
58	SLU 27	27	-16	1047	0	0	0
58	SLU 28	28	-15	1047	0	0	0
58	SLU 29	27	-16	1040	0	0	0
58	SLU 30	27	-15	1040	0	0	0
58	SLU 31	29	-17	1130	0	0	0
58	SLU 32	29	-18	1150	0	0	0
58	SLU 33	29	-17	1150	0	0	0
58	SLU 34	29	-17	1142	0	0	0
58	SLU 35	29	-18	1163	0	0	0
58	SLU 36	29	-17	1162	0	0	0
58	SLU 37	29	-18	1156	0	0	0
58	SLU 38	29	-17	1155	0	0	0
58	SLU 39	29	-19	1180	0	0	0
58	SLU 40	29	-18	1180	0	0	0
58	SLU 41	29	-19	1192	0	0	0
58	SLU 42	29	-18	1192	0	0	0
58	SLU 43	30	-24	1098	0	0	0
58	SLU 44	31	-22	1098	0	0	0
58	SLU 45	31	-23	1118	0	0	0
58	SLU 46	31	-22	1117	0	0	0
58	SLU 47	31	-22	1110	0	0	0
58	SLU 48	31	-23	1130	0	0	0
58	SLU 49	31	-22	1130	0	0	0
58	SLU 50	30	-23	1123	0	0	0
58	SLU 51	31	-22	1123	0	0	0
58	SLU 52	32	-24	1213	0	0	0
58	SLU 53	32	-25	1233	0	0	0
58	SLU 54	32	-24	1233	0	0	0
58	SLU 55	32	-23	1226	0	0	0
58	SLU 56	32	-24	1246	0	0	0
58	SLU 57	32	-23	1245	0	0	0
58	SLU 58	32	-24	1239	0	0	0
58	SLU 59	32	-23	1238	0	0	0
58	SLU 60	32	-26	1263	0	0	0
58	SLU 61	32	-25	1263	0	0	0
58	SLU 62	32	-25	1276	0	0	0
58	SLU 63	33	-24	1275	0	0	0
58	SLU 64	33	-23	1233	0	0	0
58	SLU 65	33	-21	1232	0	0	0
58	SLU 66	34	-22	1252	0	0	0
58	SLU 67	34	-21	1252	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLU 68	34	-21	1245	0	0	0
58	SLU 69	34	-22	1265	0	0	0
58	SLU 70	34	-21	1265	0	0	0
58	SLU 71	33	-22	1258	0	0	0
58	SLU 72	34	-21	1258	0	0	0
58	SLU 73	35	-23	1348	0	0	0
58	SLU 74	35	-24	1368	0	0	0
58	SLU 75	35	-23	1368	0	0	0
58	SLU 76	35	-22	1360	0	0	0
58	SLU 77	35	-23	1380	0	0	0
58	SLU 78	35	-22	1380	0	0	0
58	SLU 79	35	-23	1373	0	0	0
58	SLU 80	35	-22	1373	0	0	0
58	SLU 81	35	-25	1398	0	0	0
58	SLU 82	35	-24	1397	0	0	0
58	SLU 83	35	-24	1410	0	0	0
58	SLU 84	35	-24	1410	0	0	0
58	SLE RA 1	25	-18	919	0	0	0
58	SLE RA 2	25	-17	918	0	0	0
58	SLE RA 3	25	-17	932	0	0	0
58	SLE RA 4	25	-17	932	0	0	0
58	SLE RA 5	25	-16	927	0	0	0
58	SLE RA 6	25	-17	940	0	0	0
58	SLE RA 7	25	-16	940	0	0	0
58	SLE RA 8	25	-17	935	0	0	0
58	SLE RA 9	25	-16	935	0	0	0
58	SLE RA 10	26	-18	995	0	0	0
58	SLE RA 11	26	-18	1009	0	0	0
58	SLE RA 12	26	-18	1009	0	0	0
58	SLE RA 13	26	-17	1004	0	0	0
58	SLE RA 14	26	-18	1017	0	0	0
58	SLE RA 15	26	-17	1017	0	0	0
58	SLE RA 16	26	-18	1012	0	0	0
58	SLE RA 17	26	-17	1012	0	0	0
58	SLE RA 18	26	-19	1029	0	0	0
58	SLE RA 19	26	-19	1029	0	0	0
58	SLE RA 20	26	-19	1037	0	0	0
58	SLE RA 21	26	-18	1037	0	0	0
58	SLE FR 1	25	-18	919	0	0	0
58	SLE FR 2	25	-17	919	0	0	0
58	SLE FR 3	25	-18	922	0	0	0
58	SLE FR 4	25	-18	952	0	0	0
58	SLE FR 5	25	-18	955	0	0	0
58	SLE FR 6	26	-18	974	0	0	0
58	SLE QP 1	25	-18	919	0	0	0
58	SLE QP 2	25	-18	952	0	0	0
58	SLD 1	71	-12	928	0	0	0
58	SLD 2	72	-8	928	0	0	0
58	SLD 3	69	-25	931	0	0	0
58	SLD 4	70	-21	932	0	0	0
58	SLD 5	42	2	939	0	0	0
58	SLD 6	43	5	939	0	0	0
58	SLD 7	35	-40	951	0	0	0
58	SLD 8	36	-37	951	0	0	0
58	SLD 9	15	1	952	0	0	0
58	SLD 10	16	4	953	0	0	0
58	SLD 11	8	-41	964	0	0	0
58	SLD 12	8	-38	965	0	0	0
58	SLD 13	-19	-16	972	0	0	0
58	SLD 14	-19	-11	973	0	0	0
58	SLD 15	-22	-28	975	0	0	0
58	SLD 16	-21	-24	976	0	0	0
58	SLV 1	98	-8	914	0	0	0
58	SLV 2	99	-1	915	0	0	0
58	SLV 3	94	-29	920	0	0	0
58	SLV 4	95	-23	921	0	0	0
58	SLV 5	53	17	931	0	0	0
58	SLV 6	53	21	932	0	0	0
58	SLV 7	40	-55	951	0	0	0
58	SLV 8	41	-51	952	0	0	0
58	SLV 9	10	15	952	0	0	0
58	SLV 10	11	19	953	0	0	0
58	SLV 11	-3	-57	972	0	0	0
58	SLV 12	-2	-53	973	0	0	0
58	SLV 13	-45	-13	983	0	0	0
58	SLV 14	-43	-7	984	0	0	0
58	SLV 15	-48	-35	989	0	0	0
58	SLV 16	-47	-28	990	0	0	0
58	SLV FO 1	105	-7	910	0	0	0
58	SLV FO 2	106	1	911	0	0	0
58	SLV FO 3	101	-30	916	0	0	0
58	SLV FO 4	102	-23	918	0	0	0
58	SLV FO 5	55	20	929	0	0	0
58	SLV FO 6	56	25	930	0	0	0
58	SLV FO 7	41	-59	951	0	0	0
58	SLV FO 8	42	-54	952	0	0	0
58	SLV FO 9	8	18	952	0	0	0
58	SLV FO 10	9	23	953	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
58	SLV FO 11	-6	-61	974	0	0	0
58	SLV FO 12	-5	-56	975	0	0	0
58	SLV FO 13	-52	-13	986	0	0	0
58	SLV FO 14	-50	-6	987	0	0	0
58	SLV FO 15	-56	-37	993	0	0	0
58	SLV FO 16	-54	-29	994	0	0	0
59	SLU 1	19	-12	718	0	0	0
59	SLU 2	20	-11	717	0	0	0
59	SLU 3	20	-12	733	0	0	0
59	SLU 4	20	-11	733	0	0	0
59	SLU 5	20	-11	727	0	0	0
59	SLU 6	20	-11	743	0	0	0
59	SLU 7	20	-11	743	0	0	0
59	SLU 8	19	-11	737	0	0	0
59	SLU 9	20	-11	737	0	0	0
59	SLU 10	21	-12	810	0	0	0
59	SLU 11	21	-13	826	0	0	0
59	SLU 12	21	-12	826	0	0	0
59	SLU 13	21	-12	820	0	0	0
59	SLU 14	21	-12	836	0	0	0
59	SLU 15	21	-12	836	0	0	0
59	SLU 16	21	-12	830	0	0	0
59	SLU 17	21	-12	830	0	0	0
59	SLU 18	21	-13	850	0	0	0
59	SLU 19	21	-13	850	0	0	0
59	SLU 20	21	-13	860	0	0	0
59	SLU 21	21	-12	860	0	0	0
59	SLU 22	22	-11	827	0	0	0
59	SLU 23	22	-10	826	0	0	0
59	SLU 24	22	-11	842	0	0	0
59	SLU 25	22	-10	842	0	0	0
59	SLU 26	22	-10	836	0	0	0
59	SLU 27	22	-10	852	0	0	0
59	SLU 28	22	-10	852	0	0	0
59	SLU 29	22	-10	847	0	0	0
59	SLU 30	22	-10	846	0	0	0
59	SLU 31	23	-11	919	0	0	0
59	SLU 32	23	-12	935	0	0	0
59	SLU 33	23	-11	935	0	0	0
59	SLU 34	23	-11	929	0	0	0
59	SLU 35	23	-11	945	0	0	0
59	SLU 36	23	-11	945	0	0	0
59	SLU 37	23	-11	939	0	0	0
59	SLU 38	23	-11	939	0	0	0
59	SLU 39	23	-13	959	0	0	0
59	SLU 40	23	-12	959	0	0	0
59	SLU 41	23	-12	969	0	0	0
59	SLU 42	23	-12	969	0	0	0
59	SLU 43	24	-16	896	0	0	0
59	SLU 44	25	-15	895	0	0	0
59	SLU 45	25	-15	911	0	0	0
59	SLU 46	25	-15	911	0	0	0
59	SLU 47	25	-14	905	0	0	0
59	SLU 48	25	-15	921	0	0	0
59	SLU 49	25	-14	921	0	0	0
59	SLU 50	24	-15	915	0	0	0
59	SLU 51	25	-14	915	0	0	0
59	SLU 52	26	-16	988	0	0	0
59	SLU 53	26	-16	1004	0	0	0
59	SLU 54	26	-16	1004	0	0	0
59	SLU 55	26	-15	998	0	0	0
59	SLU 56	26	-16	1014	0	0	0
59	SLU 57	26	-15	1014	0	0	0
59	SLU 58	26	-16	1008	0	0	0
59	SLU 59	26	-15	1008	0	0	0
59	SLU 60	26	-17	1028	0	0	0
59	SLU 61	26	-17	1028	0	0	0
59	SLU 62	26	-17	1038	0	0	0
59	SLU 63	26	-16	1038	0	0	0
59	SLU 64	27	-15	1005	0	0	0
59	SLU 65	27	-14	1004	0	0	0
59	SLU 66	27	-15	1020	0	0	0
59	SLU 67	27	-14	1020	0	0	0
59	SLU 68	27	-14	1014	0	0	0
59	SLU 69	27	-14	1030	0	0	0
59	SLU 70	27	-14	1030	0	0	0
59	SLU 71	27	-14	1024	0	0	0
59	SLU 72	27	-14	1024	0	0	0
59	SLU 73	28	-15	1097	0	0	0
59	SLU 74	28	-16	1113	0	0	0
59	SLU 75	28	-15	1113	0	0	0
59	SLU 76	28	-15	1107	0	0	0
59	SLU 77	28	-15	1123	0	0	0
59	SLU 78	28	-15	1123	0	0	0
59	SLU 79	28	-15	1117	0	0	0
59	SLU 80	28	-15	1117	0	0	0
59	SLU 81	28	-16	1137	0	0	0
59	SLU 82	28	-16	1137	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
59	SLU 83	28	-16	1147	0	0	0
59	SLU 84	28	-15	1147	0	0	0
59	SLE RA 1	20	-12	749	0	0	0
59	SLE RA 2	20	-11	749	0	0	0
59	SLE RA 3	20	-11	759	0	0	0
59	SLE RA 4	20	-11	759	0	0	0
59	SLE RA 5	20	-11	755	0	0	0
59	SLE RA 6	20	-11	766	0	0	0
59	SLE RA 7	20	-11	766	0	0	0
59	SLE RA 8	20	-11	762	0	0	0
59	SLE RA 9	20	-11	762	0	0	0
59	SLE RA 10	21	-12	810	0	0	0
59	SLE RA 11	21	-12	821	0	0	0
59	SLE RA 12	21	-12	821	0	0	0
59	SLE RA 13	21	-11	817	0	0	0
59	SLE RA 14	21	-12	828	0	0	0
59	SLE RA 15	21	-11	828	0	0	0
59	SLE RA 16	21	-12	824	0	0	0
59	SLE RA 17	21	-11	824	0	0	0
59	SLE RA 18	21	-13	837	0	0	0
59	SLE RA 19	21	-12	837	0	0	0
59	SLE RA 20	21	-12	844	0	0	0
59	SLE RA 21	21	-12	844	0	0	0
59	SLE FR 1	20	-12	749	0	0	0
59	SLE FR 2	20	-12	749	0	0	0
59	SLE FR 3	20	-12	751	0	0	0
59	SLE FR 4	20	-12	775	0	0	0
59	SLE FR 5	20	-12	778	0	0	0
59	SLE FR 6	21	-12	793	0	0	0
59	SLE QP 1	20	-12	749	0	0	0
59	SLE QP 2	20	-12	775	0	0	0
59	SLD 1	57	-11	739	0	0	0
59	SLD 2	58	-6	739	0	0	0
59	SLD 3	56	-20	740	0	0	0
59	SLD 4	56	-15	740	0	0	0
59	SLD 5	34	1	762	0	0	0
59	SLD 6	34	5	762	0	0	0
59	SLD 7	28	-29	767	0	0	0
59	SLD 8	29	-26	767	0	0	0
59	SLD 9	12	2	784	0	0	0
59	SLD 10	13	5	784	0	0	0
59	SLD 11	6	-29	788	0	0	0
59	SLD 12	7	-25	788	0	0	0
59	SLD 13	-16	-9	810	0	0	0
59	SLD 14	-15	-4	811	0	0	0
59	SLD 15	-17	-18	812	0	0	0
59	SLD 16	-17	-13	812	0	0	0
59	SLV 1	79	-10	718	0	0	0
59	SLV 2	80	-2	719	0	0	0
59	SLV 3	76	-26	720	0	0	0
59	SLV 4	77	-18	721	0	0	0
59	SLV 5	42	11	755	0	0	0
59	SLV 6	43	16	755	0	0	0
59	SLV 7	32	-41	762	0	0	0
59	SLV 8	33	-36	762	0	0	0
59	SLV 9	8	12	788	0	0	0
59	SLV 10	9	17	789	0	0	0
59	SLV 11	-2	-40	795	0	0	0
59	SLV 12	-2	-35	796	0	0	0
59	SLV 13	-36	-6	830	0	0	0
59	SLV 14	-35	2	830	0	0	0
59	SLV 15	-39	-22	832	0	0	0
59	SLV 16	-38	-14	833	0	0	0
59	SLV FO 1	84	-10	712	0	0	0
59	SLV FO 2	86	-1	713	0	0	0
59	SLV FO 3	81	-27	715	0	0	0
59	SLV FO 4	82	-19	715	0	0	0
59	SLV FO 5	44	13	753	0	0	0
59	SLV FO 6	45	19	753	0	0	0
59	SLV FO 7	33	-44	761	0	0	0
59	SLV FO 8	34	-39	761	0	0	0
59	SLV FO 9	7	15	789	0	0	0
59	SLV FO 10	7	20	790	0	0	0
59	SLV FO 11	-5	-43	797	0	0	0
59	SLV FO 12	-4	-37	798	0	0	0
59	SLV FO 13	-42	-5	835	0	0	0
59	SLV FO 14	-40	3	836	0	0	0
59	SLV FO 15	-45	-23	838	0	0	0
59	SLV FO 16	-44	-14	838	0	0	0
61	SLU 1	11	-11	430	103.09	-0.03	-2.73
61	SLU 2	11	-10	428	102.78	-0.03	-2.76
61	SLU 3	12	-10	440	105.48	-0.03	-2.76
61	SLU 4	12	-10	439	105.3	-0.03	-2.78
61	SLU 5	12	-10	435	104.34	-0.03	-2.77
61	SLU 6	12	-10	446	107.05	-0.03	-2.77
61	SLU 7	12	-10	445	106.86	-0.03	-2.79
61	SLU 8	11	-10	443	106.22	-0.03	-2.75
61	SLU 9	12	-10	442	106.03	-0.03	-2.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLU 10	12	-11	486	116.58	-0.03	-2.92
61	SLU 11	12	-11	497	119.29	-0.03	-2.92
61	SLU 12	12	-11	496	119.1	-0.03	-2.94
61	SLU 13	12	-11	492	118.14	-0.03	-2.93
61	SLU 14	12	-11	504	120.85	-0.03	-2.93
61	SLU 15	12	-11	503	120.66	-0.03	-2.95
61	SLU 16	12	-11	500	120.02	-0.03	-2.9
61	SLU 17	12	-11	499	119.83	-0.03	-2.92
61	SLU 18	12	-12	512	122.81	-0.03	-2.95
61	SLU 19	12	-11	511	122.62	-0.03	-2.97
61	SLU 20	12	-12	518	124.37	-0.03	-2.96
61	SLU 21	12	-11	517	124.19	-0.03	-2.98
61	SLU 22	13	-10	497	119.23	-0.03	-3.07
61	SLU 23	13	-10	495	118.92	-0.03	-3.11
61	SLU 24	13	-10	507	121.63	-0.03	-3.11
61	SLU 25	13	-10	506	121.44	-0.03	-3.13
61	SLU 26	13	-9	502	120.48	-0.03	-3.12
61	SLU 27	13	-10	513	123.19	-0.03	-3.12
61	SLU 28	13	-9	512	123	-0.03	-3.14
61	SLU 29	13	-10	510	122.36	-0.03	-3.09
61	SLU 30	13	-9	509	122.17	-0.03	-3.11
61	SLU 31	14	-10	553	132.72	-0.03	-3.27
61	SLU 32	14	-11	564	135.43	-0.03	-3.27
61	SLU 33	14	-11	564	135.24	-0.03	-3.29
61	SLU 34	14	-10	560	134.29	-0.03	-3.28
61	SLU 35	14	-11	571	136.99	-0.03	-3.28
61	SLU 36	14	-10	570	136.8	-0.03	-3.3
61	SLU 37	14	-11	567	136.16	-0.03	-3.25
61	SLU 38	14	-10	567	135.97	-0.03	-3.27
61	SLU 39	14	-12	579	138.95	-0.03	-3.3
61	SLU 40	14	-11	578	138.77	-0.03	-3.32
61	SLU 41	14	-11	585	140.52	-0.03	-3.31
61	SLU 42	14	-11	585	140.33	-0.03	-3.33
61	SLU 43	14	-14	535	128.48	-0.03	-3.43
61	SLU 44	14	-13	534	128.17	-0.03	-3.46
61	SLU 45	14	-14	545	130.88	-0.03	-3.46
61	SLU 46	15	-13	545	130.69	-0.03	-3.48
61	SLU 47	14	-13	541	129.73	-0.03	-3.47
61	SLU 48	14	-13	552	132.44	-0.03	-3.47
61	SLU 49	15	-13	551	132.25	-0.03	-3.49
61	SLU 50	14	-13	548	131.61	-0.03	-3.45
61	SLU 51	14	-13	548	131.42	-0.03	-3.47
61	SLU 52	15	-14	592	141.98	-0.03	-3.62
61	SLU 53	15	-15	603	144.68	-0.04	-3.62
61	SLU 54	15	-14	602	144.49	-0.04	-3.64
61	SLU 55	15	-14	598	143.54	-0.04	-3.63
61	SLU 56	15	-14	609	146.24	-0.04	-3.63
61	SLU 57	15	-14	609	146.06	-0.04	-3.65
61	SLU 58	15	-14	606	145.41	-0.04	-3.6
61	SLU 59	15	-14	605	145.22	-0.04	-3.62
61	SLU 60	15	-15	618	148.21	-0.04	-3.65
61	SLU 61	15	-15	617	148.02	-0.04	-3.67
61	SLU 62	15	-15	624	149.77	-0.04	-3.66
61	SLU 63	15	-15	623	149.58	-0.04	-3.68
61	SLU 64	16	-14	603	144.63	-0.04	-3.77
61	SLU 65	16	-13	601	144.31	-0.04	-3.81
61	SLU 66	16	-13	613	147.02	-0.04	-3.81
61	SLU 67	16	-13	612	146.83	-0.04	-3.83
61	SLU 68	16	-13	608	145.87	-0.04	-3.82
61	SLU 69	16	-13	619	148.58	-0.04	-3.82
61	SLU 70	16	-13	618	148.39	-0.04	-3.84
61	SLU 71	16	-13	616	147.75	-0.04	-3.79
61	SLU 72	16	-13	615	147.56	-0.04	-3.81
61	SLU 73	17	-14	659	158.12	-0.04	-3.96
61	SLU 74	17	-14	670	160.82	-0.04	-3.97
61	SLU 75	17	-14	669	160.64	-0.04	-3.99
61	SLU 76	17	-14	665	159.68	-0.04	-3.97
61	SLU 77	17	-14	677	162.39	-0.04	-3.98
61	SLU 78	17	-14	676	162.2	-0.04	-4
61	SLU 79	16	-14	673	161.55	-0.04	-3.95
61	SLU 80	17	-14	672	161.37	-0.04	-3.97
61	SLU 81	17	-15	685	164.35	-0.04	-4
61	SLU 82	17	-14	684	164.16	-0.04	-4.02
61	SLU 83	17	-15	691	165.91	-0.04	-4.01
61	SLU 84	17	-14	691	165.72	-0.04	-4.03
61	SLE RA 1	12	-11	449	107.7	-0.03	-2.83
61	SLE RA 2	12	-10	448	107.49	-0.03	-2.85
61	SLE RA 3	12	-10	455	109.3	-0.03	-2.85
61	SLE RA 4	12	-10	455	109.17	-0.03	-2.86
61	SLE RA 5	12	-10	452	108.53	-0.03	-2.86
61	SLE RA 6	12	-10	460	110.34	-0.03	-2.86
61	SLE RA 7	12	-10	459	110.21	-0.03	-2.87
61	SLE RA 8	12	-10	457	109.79	-0.03	-2.84
61	SLE RA 9	12	-10	457	109.66	-0.03	-2.85
61	SLE RA 10	12	-11	486	116.7	-0.03	-2.95
61	SLE RA 11	12	-11	494	118.5	-0.03	-2.96
61	SLE RA 12	12	-11	493	118.38	-0.03	-2.97
61	SLE RA 13	12	-11	491	117.74	-0.03	-2.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLE RA 14	12	-11	498	119.54	-0.03	-2.96
61	SLE RA 15	12	-11	498	119.42	-0.03	-2.97
61	SLE RA 16	12	-11	496	118.99	-0.03	-2.94
61	SLE RA 17	12	-11	495	118.86	-0.03	-2.96
61	SLE RA 18	12	-11	504	120.85	-0.03	-2.98
61	SLE RA 19	12	-11	503	120.72	-0.03	-2.99
61	SLE RA 20	12	-11	508	121.89	-0.03	-2.98
61	SLE RA 21	12	-11	507	121.77	-0.03	-3
61	SLE FR 1	12	-11	449	107.7	-0.03	-2.83
61	SLE FR 2	12	-10	449	107.66	-0.03	-2.83
61	SLE FR 3	12	-11	450	108.12	-0.03	-2.83
61	SLE FR 4	12	-11	465	111.61	-0.03	-2.88
61	SLE FR 5	12	-11	467	112.06	-0.03	-2.87
61	SLE FR 6	12	-11	476	114.28	-0.03	-2.9
61	SLE QP 1	12	-11	449	107.7	-0.03	-2.83
61	SLE QP 2	12	-11	465	111.65	-0.03	-2.87
61	SLD 1	36	-7	461	110.6	-0.03	-8.58
61	SLD 2	36	-6	461	110.66	-0.03	-8.56
61	SLD 3	34	-14	476	114.22	-0.03	-8.24
61	SLD 4	34	-13	476	114.28	-0.03	-8.22
61	SLD 5	21	1	441	105.82	-0.03	-5.11
61	SLD 6	21	2	441	105.86	-0.03	-5.1
61	SLD 7	17	-23	491	117.91	-0.03	-3.96
61	SLD 8	16	-22	491	117.95	-0.03	-3.95
61	SLD 9	7	0	439	105.35	-0.03	-1.79
61	SLD 10	7	1	439	105.39	-0.03	-1.78
61	SLD 11	3	-23	489	117.43	-0.03	-0.64
61	SLD 12	3	-23	489	117.47	-0.03	-0.63
61	SLD 13	-10	-9	454	109.01	-0.03	2.48
61	SLD 14	-10	-8	454	109.07	-0.03	2.5
61	SLD 15	-12	-16	469	112.64	-0.03	2.82
61	SLD 16	-12	-15	470	112.7	-0.03	2.84
61	SLV 1	49	-4	458	109.82	-0.03	-11.85
61	SLV 2	49	-2	458	109.91	-0.03	-11.81
61	SLV 3	47	-16	483	115.94	-0.03	-11.26
61	SLV 4	47	-14	483	116.04	-0.03	-11.23
61	SLV 5	27	9	424	101.8	-0.02	-6.46
61	SLV 6	27	10	424	101.86	-0.02	-6.44
61	SLV 7	19	-31	509	122.2	-0.03	-4.5
61	SLV 8	19	-30	509	122.26	-0.03	-4.48
61	SLV 9	5	8	421	101.03	-0.02	-1.26
61	SLV 10	5	9	421	101.1	-0.02	-1.24
61	SLV 11	-3	-32	506	121.43	-0.03	0.7
61	SLV 12	-3	-31	506	121.5	-0.03	0.72
61	SLV 13	-23	-8	447	107.26	-0.03	5.48
61	SLV 14	-23	-6	447	107.36	-0.03	5.52
61	SLV 15	-25	-20	472	113.38	-0.03	6.07
61	SLV 16	-25	-18	473	113.48	-0.03	6.1
61	SLV FO 1	53	-3	457	109.63	-0.03	-12.74
61	SLV FO 2	53	-1	457	109.74	-0.03	-12.71
61	SLV FO 3	50	-16	485	116.37	-0.03	-12.1
61	SLV FO 4	50	-14	485	116.47	-0.03	-12.06
61	SLV FO 5	28	11	420	100.81	-0.02	-6.82
61	SLV FO 6	28	12	420	100.88	-0.02	-6.79
61	SLV FO 7	19	-33	514	123.25	-0.03	-4.67
61	SLV FO 8	19	-32	514	123.33	-0.03	-4.64
61	SLV FO 9	5	10	417	99.97	-0.02	-1.1
61	SLV FO 10	4	11	417	100.04	-0.02	-1.08
61	SLV FO 11	-4	-34	510	122.41	-0.03	1.05
61	SLV FO 12	-4	-33	510	122.48	-0.03	1.08
61	SLV FO 13	-26	-7	445	106.82	-0.03	6.32
61	SLV FO 14	-26	-6	446	106.93	-0.03	6.35
61	SLV FO 15	-29	-21	473	113.55	-0.03	6.97
61	SLV FO 16	-29	-19	474	113.66	-0.03	7
61	CRTFP Ux+	0	0	0	0	0	0
61	CRTFP Ux-	0	0	0	0	0	0
61	CRTFP Uy+	0	0	0	0	0	0
61	CRTFP Uy-	0	0	0	0	0	0
62	SLU 1	11	-10	433	103.9	-0.02	-2.72
62	SLU 2	11	-9	432	103.6	-0.02	-2.75
62	SLU 3	11	-10	443	106.3	-0.02	-2.76
62	SLU 4	12	-9	442	106.12	-0.02	-2.78
62	SLU 5	12	-9	438	105.16	-0.02	-2.76
62	SLU 6	12	-10	449	107.86	-0.02	-2.77
62	SLU 7	12	-9	449	107.68	-0.02	-2.79
62	SLU 8	11	-10	446	107.02	-0.02	-2.74
62	SLU 9	11	-9	445	106.84	-0.02	-2.76
62	SLU 10	12	-10	489	117.45	-0.02	-2.91
62	SLU 11	12	-11	501	120.15	-0.02	-2.91
62	SLU 12	12	-10	500	119.97	-0.02	-2.93
62	SLU 13	12	-10	496	119.01	-0.02	-2.92
62	SLU 14	12	-10	507	121.71	-0.02	-2.92
62	SLU 15	12	-10	506	121.53	-0.02	-2.94
62	SLU 16	12	-10	504	120.87	-0.02	-2.9
62	SLU 17	12	-10	503	120.69	-0.02	-2.92
62	SLU 18	12	-11	515	123.68	-0.02	-2.94
62	SLU 19	12	-11	515	123.5	-0.02	-2.96
62	SLU 20	12	-11	522	125.24	-0.02	-2.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLU 21	12	-11	521	125.06	-0.02	-2.97
62	SLU 22	13	-10	501	120.14	-0.02	-3.07
62	SLU 23	13	-9	499	119.84	-0.02	-3.1
62	SLU 24	13	-10	511	122.54	-0.02	-3.1
62	SLU 25	13	-9	510	122.36	-0.02	-3.12
62	SLU 26	13	-9	506	121.4	-0.02	-3.11
62	SLU 27	13	-9	517	124.1	-0.02	-3.11
62	SLU 28	13	-9	516	123.92	-0.02	-3.13
62	SLU 29	13	-9	514	123.26	-0.02	-3.09
62	SLU 30	13	-9	513	123.08	-0.02	-3.11
62	SLU 31	14	-10	557	133.68	-0.02	-3.26
62	SLU 32	14	-10	568	136.39	-0.03	-3.26
62	SLU 33	14	-10	568	136.21	-0.03	-3.28
62	SLU 34	14	-10	564	135.25	-0.02	-3.27
62	SLU 35	14	-10	575	137.95	-0.03	-3.27
62	SLU 36	14	-10	574	137.77	-0.03	-3.29
62	SLU 37	14	-10	571	137.11	-0.03	-3.24
62	SLU 38	14	-10	571	136.93	-0.03	-3.26
62	SLU 39	14	-11	583	139.92	-0.03	-3.29
62	SLU 40	14	-11	582	139.74	-0.03	-3.31
62	SLU 41	14	-11	590	141.48	-0.03	-3.3
62	SLU 42	14	-10	589	141.3	-0.03	-3.32
62	SLU 43	14	-13	540	129.5	-0.02	-3.42
62	SLU 44	14	-13	538	129.2	-0.02	-3.45
62	SLU 45	14	-13	550	131.9	-0.02	-3.45
62	SLU 46	14	-13	549	131.72	-0.02	-3.47
62	SLU 47	14	-12	545	130.76	-0.02	-3.46
62	SLU 48	14	-13	556	133.46	-0.02	-3.46
62	SLU 49	15	-12	555	133.28	-0.02	-3.48
62	SLU 50	14	-13	553	132.62	-0.02	-3.44
62	SLU 51	14	-12	552	132.44	-0.02	-3.46
62	SLU 52	15	-13	596	143.05	-0.03	-3.61
62	SLU 53	15	-14	607	145.75	-0.03	-3.61
62	SLU 54	15	-13	607	145.57	-0.03	-3.63
62	SLU 55	15	-13	603	144.61	-0.03	-3.62
62	SLU 56	15	-14	614	147.31	-0.03	-3.62
62	SLU 57	15	-13	613	147.13	-0.03	-3.64
62	SLU 58	15	-14	610	146.47	-0.03	-3.59
62	SLU 59	15	-13	610	146.29	-0.03	-3.61
62	SLU 60	15	-14	622	149.28	-0.03	-3.64
62	SLU 61	15	-14	621	149.1	-0.03	-3.66
62	SLU 62	15	-14	629	150.85	-0.03	-3.65
62	SLU 63	15	-14	628	150.67	-0.03	-3.67
62	SLU 64	16	-13	607	145.74	-0.03	-3.77
62	SLU 65	16	-12	606	145.44	-0.03	-3.8
62	SLU 66	16	-13	617	148.14	-0.03	-3.8
62	SLU 67	16	-12	616	147.96	-0.03	-3.82
62	SLU 68	16	-12	613	147	-0.03	-3.81
62	SLU 69	16	-12	624	149.7	-0.03	-3.81
62	SLU 70	16	-12	623	149.52	-0.03	-3.83
62	SLU 71	16	-12	620	148.86	-0.03	-3.78
62	SLU 72	16	-12	620	148.68	-0.03	-3.8
62	SLU 73	16	-13	664	159.29	-0.03	-3.96
62	SLU 74	16	-14	675	161.99	-0.03	-3.96
62	SLU 75	17	-13	674	161.81	-0.03	-3.98
62	SLU 76	17	-13	670	160.85	-0.03	-3.96
62	SLU 77	17	-13	681	163.55	-0.03	-3.97
62	SLU 78	17	-13	681	163.37	-0.03	-3.99
62	SLU 79	16	-13	678	162.71	-0.03	-3.94
62	SLU 80	17	-13	677	162.53	-0.03	-3.96
62	SLU 81	17	-14	690	165.52	-0.03	-3.99
62	SLU 82	17	-14	689	165.34	-0.03	-4.01
62	SLU 83	17	-14	696	167.08	-0.03	-4
62	SLU 84	17	-13	695	166.9	-0.03	-4.02
62	SLE RA 1	12	-10	452	108.54	-0.02	-2.82
62	SLE RA 2	12	-10	451	108.34	-0.02	-2.84
62	SLE RA 3	12	-10	459	110.14	-0.02	-2.84
62	SLE RA 4	12	-10	458	110.02	-0.02	-2.86
62	SLE RA 5	12	-9	456	109.38	-0.02	-2.85
62	SLE RA 6	12	-10	463	111.18	-0.02	-2.85
62	SLE RA 7	12	-9	463	111.06	-0.02	-2.86
62	SLE RA 8	12	-10	461	110.62	-0.02	-2.83
62	SLE RA 9	12	-9	460	110.5	-0.02	-2.85
62	SLE RA 10	12	-10	490	117.57	-0.02	-2.95
62	SLE RA 11	12	-10	497	119.37	-0.02	-2.95
62	SLE RA 12	12	-10	497	119.25	-0.02	-2.96
62	SLE RA 13	12	-10	494	118.61	-0.02	-2.95
62	SLE RA 14	12	-10	502	120.41	-0.02	-2.95
62	SLE RA 15	12	-10	501	120.29	-0.02	-2.97
62	SLE RA 16	12	-10	499	119.85	-0.02	-2.94
62	SLE RA 17	12	-10	499	119.73	-0.02	-2.95
62	SLE RA 18	12	-11	507	121.73	-0.02	-2.97
62	SLE RA 19	12	-11	507	121.61	-0.02	-2.98
62	SLE RA 20	12	-11	512	122.77	-0.02	-2.98
62	SLE RA 21	12	-10	511	122.65	-0.02	-2.99
62	SLE FR 1	12	-10	452	108.54	-0.02	-2.82
62	SLE FR 2	12	-10	452	108.5	-0.02	-2.82
62	SLE FR 3	12	-10	454	108.95	-0.02	-2.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLE FR 4	12	-10	469	112.45	-0.02	-2.87
62	SLE FR 5	12	-10	470	112.91	-0.02	-2.87
62	SLE FR 6	12	-10	480	115.13	-0.02	-2.89
62	SLE QP 1	12	-10	452	108.54	-0.02	-2.82
62	SLE QP 2	12	-10	469	112.49	-0.02	-2.86
62	SLD 1	36	-6	459	110.17	-0.02	-8.58
62	SLD 2	36	-5	459	110.24	-0.02	-8.56
62	SLD 3	34	-13	474	113.66	-0.02	-8.24
62	SLD 4	34	-12	474	113.72	-0.02	-8.22
62	SLD 5	21	1	444	106.5	-0.02	-5.11
62	SLD 6	21	2	444	106.55	-0.02	-5.1
62	SLD 7	16	-22	492	118.11	-0.02	-3.95
62	SLD 8	16	-21	492	118.16	-0.02	-3.94
62	SLD 9	7	0	445	106.83	-0.02	-1.79
62	SLD 10	7	1	445	106.87	-0.02	-1.78
62	SLD 11	3	-22	494	118.44	-0.02	-0.63
62	SLD 12	3	-22	494	118.48	-0.02	-0.62
62	SLD 13	-10	-9	464	111.26	-0.02	2.49
62	SLD 14	-10	-7	464	111.33	-0.02	2.51
62	SLD 15	-12	-16	478	114.75	-0.02	2.83
62	SLD 16	-12	-14	478	114.81	-0.02	2.85
62	SLV 1	49	-4	453	108.6	-0.02	-11.85
62	SLV 2	49	-2	453	108.71	-0.02	-11.82
62	SLV 3	47	-15	477	114.49	-0.02	-11.26
62	SLV 4	47	-13	477	114.59	-0.02	-11.23
62	SLV 5	27	9	427	102.39	-0.02	-6.46
62	SLV 6	27	10	427	102.46	-0.02	-6.44
62	SLV 7	19	-30	508	121.99	-0.02	-4.49
62	SLV 8	19	-28	509	122.06	-0.02	-4.47
62	SLV 9	5	8	429	102.92	-0.02	-1.26
62	SLV 10	5	9	429	102.99	-0.02	-1.24
62	SLV 11	-3	-31	511	122.53	-0.02	0.71
62	SLV 12	-3	-29	511	122.6	-0.02	0.73
62	SLV 13	-23	-7	460	110.4	-0.02	5.5
62	SLV 14	-23	-5	460	110.5	-0.02	5.53
62	SLV 15	-25	-19	484	116.28	-0.02	6.09
62	SLV 16	-26	-17	485	116.38	-0.02	6.12
62	SLV FO 1	53	-3	451	108.21	-0.02	-12.75
62	SLV FO 2	53	-1	451	108.33	-0.02	-12.71
62	SLV FO 3	50	-16	478	114.69	-0.02	-12.1
62	SLV FO 4	50	-13	478	114.8	-0.02	-12.06
62	SLV FO 5	28	11	422	101.37	-0.02	-6.82
62	SLV FO 6	28	12	423	101.45	-0.02	-6.8
62	SLV FO 7	19	-32	512	122.94	-0.02	-4.66
62	SLV FO 8	19	-30	513	123.02	-0.02	-4.63
62	SLV FO 9	5	10	425	101.97	-0.02	-1.1
62	SLV FO 10	4	11	425	102.04	-0.02	-1.07
62	SLV FO 11	-4	-33	515	123.54	-0.02	1.07
62	SLV FO 12	-5	-31	515	123.61	-0.02	1.09
62	SLV FO 13	-26	-7	459	110.19	-0.02	6.33
62	SLV FO 14	-27	-5	460	110.3	-0.02	6.37
62	SLV FO 15	-29	-20	486	116.66	-0.02	6.98
62	SLV FO 16	-29	-17	487	116.77	-0.02	7.02
62	CRTFP Ux+	0	0	0	0	0	0
62	CRTFP Ux-	0	0	0	0	0	0
62	CRTFP Uy+	0	0	0	0	0	0
62	CRTFP Uy-	0	0	0	0	0	0
63	SLU 1	11	-10	436	104.56	-0.01	-2.71
63	SLU 2	11	-9	434	104.27	-0.01	-2.74
63	SLU 3	11	-9	446	106.96	-0.01	-2.74
63	SLU 4	12	-9	445	106.79	-0.01	-2.76
63	SLU 5	11	-9	441	105.83	-0.01	-2.75
63	SLU 6	11	-9	452	108.52	-0.01	-2.75
63	SLU 7	12	-9	451	108.35	-0.01	-2.77
63	SLU 8	11	-9	449	107.68	-0.01	-2.73
63	SLU 9	11	-9	448	107.51	-0.01	-2.75
63	SLU 10	12	-10	492	118.14	-0.01	-2.9
63	SLU 11	12	-10	503	120.83	-0.01	-2.9
63	SLU 12	12	-10	503	120.66	-0.01	-2.92
63	SLU 13	12	-9	499	119.71	-0.01	-2.91
63	SLU 14	12	-10	510	122.39	-0.02	-2.91
63	SLU 15	12	-9	509	122.22	-0.01	-2.93
63	SLU 16	12	-10	506	121.55	-0.01	-2.88
63	SLU 17	12	-9	506	121.38	-0.01	-2.9
63	SLU 18	12	-11	518	124.37	-0.02	-2.93
63	SLU 19	12	-10	518	124.2	-0.02	-2.95
63	SLU 20	12	-10	525	125.93	-0.02	-2.94
63	SLU 21	12	-10	524	125.76	-0.02	-2.96
63	SLU 22	13	-9	504	120.87	-0.01	-3.05
63	SLU 23	13	-8	502	120.58	-0.01	-3.09
63	SLU 24	13	-9	514	123.27	-0.02	-3.09
63	SLU 25	13	-8	513	123.1	-0.02	-3.11
63	SLU 26	13	-8	509	122.14	-0.01	-3.1
63	SLU 27	13	-9	520	124.83	-0.02	-3.1
63	SLU 28	13	-8	519	124.66	-0.02	-3.12
63	SLU 29	13	-9	517	123.99	-0.02	-3.07
63	SLU 30	13	-8	516	123.82	-0.02	-3.09
63	SLU 31	14	-9	560	134.46	-0.02	-3.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	SLU 32	14	-10	571	137.14	-0.02	-3.24
63	SLU 33	14	-9	571	136.97	-0.02	-3.26
63	SLU 34	14	-9	567	136.02	-0.02	-3.25
63	SLU 35	14	-9	578	138.71	-0.02	-3.25
63	SLU 36	14	-9	577	138.53	-0.02	-3.27
63	SLU 37	13	-9	574	137.86	-0.02	-3.23
63	SLU 38	14	-9	574	137.69	-0.02	-3.25
63	SLU 39	14	-10	586	140.68	-0.02	-3.27
63	SLU 40	14	-10	585	140.51	-0.02	-3.29
63	SLU 41	14	-10	593	142.25	-0.02	-3.28
63	SLU 42	14	-10	592	142.07	-0.02	-3.3
63	SLU 43	14	-13	543	130.33	-0.02	-3.4
63	SLU 44	14	-12	542	130.05	-0.02	-3.44
63	SLU 45	14	-12	553	132.74	-0.02	-3.44
63	SLU 46	14	-12	552	132.57	-0.02	-3.46
63	SLU 47	14	-12	548	131.61	-0.02	-3.45
63	SLU 48	14	-12	560	134.3	-0.02	-3.45
63	SLU 49	14	-12	559	134.13	-0.02	-3.47
63	SLU 50	14	-12	556	133.45	-0.02	-3.42
63	SLU 51	14	-12	555	133.28	-0.02	-3.44
63	SLU 52	15	-13	600	143.92	-0.02	-3.59
63	SLU 53	15	-13	611	146.61	-0.02	-3.59
63	SLU 54	15	-13	610	146.44	-0.02	-3.61
63	SLU 55	15	-12	606	145.48	-0.02	-3.6
63	SLU 56	15	-13	617	148.17	-0.02	-3.6
63	SLU 57	15	-12	617	148	-0.02	-3.62
63	SLU 58	15	-13	614	147.33	-0.02	-3.58
63	SLU 59	15	-12	613	147.15	-0.02	-3.6
63	SLU 60	15	-14	626	150.15	-0.02	-3.63
63	SLU 61	15	-13	625	149.98	-0.02	-3.65
63	SLU 62	15	-13	632	151.71	-0.02	-3.64
63	SLU 63	15	-13	631	151.54	-0.02	-3.66
63	SLU 64	16	-12	611	146.64	-0.02	-3.75
63	SLU 65	16	-11	610	146.36	-0.02	-3.78
63	SLU 66	16	-12	621	149.05	-0.02	-3.78
63	SLU 67	16	-11	620	148.88	-0.02	-3.8
63	SLU 68	16	-11	616	147.92	-0.02	-3.79
63	SLU 69	16	-12	628	150.61	-0.02	-3.79
63	SLU 70	16	-11	627	150.44	-0.02	-3.81
63	SLU 71	16	-12	624	149.76	-0.02	-3.77
63	SLU 72	16	-11	623	149.59	-0.02	-3.79
63	SLU 73	16	-12	668	160.23	-0.02	-3.94
63	SLU 74	16	-13	679	162.92	-0.02	-3.94
63	SLU 75	16	-12	678	162.75	-0.02	-3.96
63	SLU 76	16	-12	674	161.79	-0.02	-3.95
63	SLU 77	16	-12	685	164.48	-0.02	-3.95
63	SLU 78	17	-12	685	164.31	-0.02	-3.97
63	SLU 79	16	-12	682	163.64	-0.02	-3.92
63	SLU 80	16	-12	681	163.47	-0.02	-3.94
63	SLU 81	17	-13	694	166.46	-0.02	-3.97
63	SLU 82	17	-13	693	166.29	-0.02	-3.99
63	SLU 83	17	-13	700	168.02	-0.02	-3.98
63	SLU 84	17	-13	699	167.85	-0.02	-4
63	SLE RA 1	12	-9	455	109.22	-0.01	-2.81
63	SLE RA 2	12	-9	454	109.03	-0.01	-2.83
63	SLE RA 3	12	-9	462	110.82	-0.01	-2.83
63	SLE RA 4	12	-9	461	110.71	-0.01	-2.84
63	SLE RA 5	12	-9	459	110.07	-0.01	-2.84
63	SLE RA 6	12	-9	466	111.86	-0.01	-2.84
63	SLE RA 7	12	-9	466	111.75	-0.01	-2.85
63	SLE RA 8	12	-9	464	111.3	-0.01	-2.82
63	SLE RA 9	12	-9	463	111.18	-0.01	-2.83
63	SLE RA 10	12	-9	493	118.28	-0.01	-2.93
63	SLE RA 11	12	-10	500	120.07	-0.01	-2.93
63	SLE RA 12	12	-10	500	119.95	-0.01	-2.95
63	SLE RA 13	12	-9	497	119.32	-0.01	-2.94
63	SLE RA 14	12	-10	505	121.11	-0.01	-2.94
63	SLE RA 15	12	-9	504	121	-0.01	-2.95
63	SLE RA 16	12	-10	502	120.55	-0.01	-2.92
63	SLE RA 17	12	-9	502	120.43	-0.01	-2.94
63	SLE RA 18	12	-10	510	122.43	-0.02	-2.96
63	SLE RA 19	12	-10	510	122.32	-0.02	-2.97
63	SLE RA 20	12	-10	514	123.47	-0.02	-2.96
63	SLE RA 21	12	-10	514	123.36	-0.02	-2.97
63	SLE FR 1	12	-9	455	109.22	-0.01	-2.81
63	SLE FR 2	12	-9	455	109.18	-0.01	-2.81
63	SLE FR 3	12	-9	457	109.63	-0.01	-2.81
63	SLE FR 4	12	-10	471	113.14	-0.01	-2.86
63	SLE FR 5	12	-10	473	113.6	-0.01	-2.85
63	SLE FR 6	12	-10	483	115.82	-0.01	-2.88
63	SLE QP 1	12	-9	455	109.22	-0.01	-2.81
63	SLE QP 2	12	-10	472	113.18	-0.01	-2.85
63	SLD 1	36	-6	459	110.06	-0.01	-8.57
63	SLD 2	36	-5	459	110.13	-0.01	-8.55
63	SLD 3	34	-13	472	113.38	-0.01	-8.22
63	SLD 4	34	-11	473	113.45	-0.01	-8.2
63	SLD 5	21	1	447	107.19	-0.01	-5.1
63	SLD 6	21	2	447	107.24	-0.01	-5.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	SLD 7	16	-21	493	118.27	-0.01	-3.94
63	SLD 8	16	-20	493	118.32	-0.01	-3.92
63	SLD 9	7	0	450	108.04	-0.01	-1.78
63	SLD 10	7	2	450	108.09	-0.01	-1.77
63	SLD 11	3	-22	496	119.13	-0.01	-0.62
63	SLD 12	3	-20	497	119.17	-0.01	-0.6
63	SLD 13	-10	-8	470	112.91	-0.01	2.5
63	SLD 14	-10	-6	471	112.98	-0.01	2.52
63	SLD 15	-12	-15	484	116.23	-0.01	2.85
63	SLD 16	-12	-13	485	116.31	-0.01	2.87
63	SLV 1	49	-4	450	108.08	-0.01	-11.84
63	SLV 2	49	-1	451	108.19	-0.01	-11.8
63	SLV 3	47	-15	474	113.69	-0.01	-11.24
63	SLV 4	47	-12	474	113.8	-0.01	-11.21
63	SLV 5	27	9	430	103.11	-0.01	-6.45
63	SLV 6	27	10	430	103.19	-0.01	-6.43
63	SLV 7	19	-29	508	121.83	-0.01	-4.47
63	SLV 8	19	-27	508	121.9	-0.01	-4.45
63	SLV 9	5	8	435	104.46	-0.01	-1.25
63	SLV 10	5	9	436	104.54	-0.01	-1.23
63	SLV 11	-3	-30	513	123.17	-0.02	0.73
63	SLV 12	-3	-28	514	123.25	-0.02	0.75
63	SLV 13	-23	-7	469	112.56	-0.01	5.51
63	SLV 14	-23	-4	469	112.67	-0.01	5.54
63	SLV 15	-25	-18	492	118.17	-0.01	6.1
63	SLV 16	-26	-15	493	118.29	-0.01	6.13
63	SLV FO 1	53	-3	448	107.56	-0.01	-12.73
63	SLV FO 2	53	0	449	107.69	-0.01	-12.7
63	SLV FO 3	50	-16	474	113.74	-0.01	-12.08
63	SLV FO 4	50	-13	474	113.87	-0.01	-12.05
63	SLV FO 5	28	10	425	102.11	-0.01	-6.81
63	SLV FO 6	28	12	426	102.19	-0.01	-6.79
63	SLV FO 7	19	-31	511	122.69	-0.02	-4.64
63	SLV FO 8	19	-29	512	122.78	-0.02	-4.61
63	SLV FO 9	5	9	432	103.58	-0.01	-1.09
63	SLV FO 10	4	11	432	103.67	-0.01	-1.07
63	SLV FO 11	-5	-32	517	124.17	-0.02	1.09
63	SLV FO 12	-5	-30	518	124.26	-0.02	1.11
63	SLV FO 13	-26	-7	469	112.49	-0.01	6.34
63	SLV FO 14	-27	-4	469	112.62	-0.01	6.38
63	SLV FO 15	-29	-19	494	118.67	-0.01	6.99
63	SLV FO 16	-29	-16	495	118.8	-0.01	7.03
63	CRTFP Ux+	0	0	0	0	0	0
63	CRTFP Ux-	0	0	0	0	0	0
63	CRTFP Uy+	0	0	0	0	0	0
63	CRTFP Uy-	0	0	0	0	0	0
64	SLU 1	11	-9	438	105.07	-0.01	-2.7
64	SLU 2	11	-8	437	104.81	-0.01	-2.73
64	SLU 3	11	-9	448	107.48	-0.01	-2.73
64	SLU 4	11	-8	447	107.32	-0.01	-2.75
64	SLU 5	11	-8	443	106.36	-0.01	-2.74
64	SLU 6	11	-8	454	109.03	-0.01	-2.74
64	SLU 7	11	-8	454	108.87	-0.01	-2.76
64	SLU 8	11	-8	451	108.18	-0.01	-2.71
64	SLU 9	11	-8	450	108.02	-0.01	-2.73
64	SLU 10	12	-9	494	118.68	-0.01	-2.88
64	SLU 11	12	-9	506	121.35	-0.01	-2.88
64	SLU 12	12	-9	505	121.19	-0.01	-2.9
64	SLU 13	12	-9	501	120.23	-0.01	-2.89
64	SLU 14	12	-9	512	122.91	-0.01	-2.89
64	SLU 15	12	-9	511	122.75	-0.01	-2.91
64	SLU 16	12	-9	509	122.06	-0.01	-2.87
64	SLU 17	12	-9	508	121.9	-0.01	-2.89
64	SLU 18	12	-10	520	124.89	-0.01	-2.91
64	SLU 19	12	-10	520	124.73	-0.01	-2.93
64	SLU 20	12	-10	527	126.45	-0.01	-2.92
64	SLU 21	12	-9	526	126.29	-0.01	-2.94
64	SLU 22	13	-9	506	121.43	-0.01	-3.04
64	SLU 23	13	-8	505	121.16	-0.01	-3.07
64	SLU 24	13	-8	516	123.83	-0.01	-3.07
64	SLU 25	13	-8	515	123.67	-0.01	-3.09
64	SLU 26	13	-8	511	122.72	-0.01	-3.08
64	SLU 27	13	-8	522	125.39	-0.01	-3.08
64	SLU 28	13	-8	522	125.23	-0.01	-3.1
64	SLU 29	13	-8	519	124.54	-0.01	-3.06
64	SLU 30	13	-8	518	124.38	-0.01	-3.08
64	SLU 31	13	-9	563	135.04	-0.01	-3.22
64	SLU 32	13	-9	574	137.71	-0.01	-3.22
64	SLU 33	14	-9	573	137.55	-0.01	-3.24
64	SLU 34	13	-8	569	136.59	-0.01	-3.23
64	SLU 35	13	-9	580	139.26	-0.01	-3.23
64	SLU 36	14	-8	580	139.1	-0.01	-3.25
64	SLU 37	13	-9	577	138.41	-0.01	-3.21
64	SLU 38	13	-8	576	138.25	-0.01	-3.23
64	SLU 39	14	-10	589	141.25	-0.01	-3.26
64	SLU 40	14	-9	588	141.09	-0.01	-3.28
64	SLU 41	14	-9	595	142.8	-0.01	-3.26
64	SLU 42	14	-9	594	142.64	-0.01	-3.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
64	SLU 43	14	-12	546	130.99	-0.01	-3.39
64	SLU 44	14	-11	545	130.72	-0.01	-3.42
64	SLU 45	14	-12	556	133.39	-0.01	-3.42
64	SLU 46	14	-11	555	133.23	-0.01	-3.44
64	SLU 47	14	-11	551	132.28	-0.01	-3.43
64	SLU 48	14	-11	562	134.95	-0.01	-3.43
64	SLU 49	14	-11	562	134.79	-0.01	-3.45
64	SLU 50	14	-11	559	134.1	-0.01	-3.41
64	SLU 51	14	-11	558	133.94	-0.01	-3.43
64	SLU 52	15	-12	602	144.59	-0.01	-3.57
64	SLU 53	15	-12	614	147.27	-0.01	-3.57
64	SLU 54	15	-12	613	147.1	-0.01	-3.59
64	SLU 55	15	-12	609	146.15	-0.01	-3.58
64	SLU 56	15	-12	620	148.82	-0.01	-3.58
64	SLU 57	15	-12	619	148.66	-0.01	-3.6
64	SLU 58	15	-12	617	147.97	-0.01	-3.56
64	SLU 59	15	-12	616	147.81	-0.01	-3.58
64	SLU 60	15	-13	628	150.81	-0.01	-3.61
64	SLU 61	15	-12	628	150.65	-0.01	-3.63
64	SLU 62	15	-13	635	152.36	-0.01	-3.61
64	SLU 63	15	-12	634	152.2	-0.01	-3.63
64	SLU 64	16	-11	614	147.34	-0.01	-3.73
64	SLU 65	16	-11	613	147.08	-0.01	-3.76
64	SLU 66	16	-11	624	149.75	-0.01	-3.76
64	SLU 67	16	-11	623	149.59	-0.01	-3.78
64	SLU 68	16	-10	619	148.63	-0.01	-3.77
64	SLU 69	16	-11	630	151.3	-0.01	-3.77
64	SLU 70	16	-10	630	151.14	-0.01	-3.79
64	SLU 71	16	-11	627	150.46	-0.01	-3.75
64	SLU 72	16	-10	626	150.29	-0.01	-3.77
64	SLU 73	16	-11	671	160.95	-0.01	-3.91
64	SLU 74	16	-12	682	163.62	-0.01	-3.92
64	SLU 75	16	-11	681	163.46	-0.01	-3.94
64	SLU 76	16	-11	677	162.51	-0.01	-3.92
64	SLU 77	16	-12	688	165.18	-0.01	-3.92
64	SLU 78	16	-11	688	165.02	-0.01	-3.94
64	SLU 79	16	-12	685	164.33	-0.01	-3.9
64	SLU 80	16	-11	684	164.17	-0.01	-3.92
64	SLU 81	16	-12	697	167.16	-0.01	-3.95
64	SLU 82	17	-12	696	167	-0.01	-3.97
64	SLU 83	16	-12	703	168.72	-0.01	-3.96
64	SLU 84	17	-12	702	168.56	-0.01	-3.98
64	SLE RA 1	12	-9	457	109.75	-0.01	-2.79
64	SLE RA 2	12	-8	457	109.57	-0.01	-2.82
64	SLE RA 3	12	-9	464	111.35	-0.01	-2.82
64	SLE RA 4	12	-8	464	111.24	-0.01	-2.83
64	SLE RA 5	12	-8	461	110.61	-0.01	-2.82
64	SLE RA 6	12	-9	468	112.39	-0.01	-2.82
64	SLE RA 7	12	-8	468	112.28	-0.01	-2.84
64	SLE RA 8	12	-9	466	111.82	-0.01	-2.81
64	SLE RA 9	12	-8	465	111.71	-0.01	-2.82
64	SLE RA 10	12	-9	495	118.82	-0.01	-2.92
64	SLE RA 11	12	-9	502	120.6	-0.01	-2.92
64	SLE RA 12	12	-9	502	120.49	-0.01	-2.93
64	SLE RA 13	12	-9	499	119.85	-0.01	-2.92
64	SLE RA 14	12	-9	507	121.64	-0.01	-2.92
64	SLE RA 15	12	-9	506	121.53	-0.01	-2.94
64	SLE RA 16	12	-9	504	121.07	-0.01	-2.91
64	SLE RA 17	12	-9	504	120.96	-0.01	-2.92
64	SLE RA 18	12	-10	512	122.96	-0.01	-2.94
64	SLE RA 19	12	-9	512	122.85	-0.01	-2.95
64	SLE RA 20	12	-9	517	124	-0.01	-2.94
64	SLE RA 21	12	-9	516	123.89	-0.01	-2.96
64	SLE FR 1	12	-9	457	109.75	-0.01	-2.79
64	SLE FR 2	12	-9	457	109.71	-0.01	-2.8
64	SLE FR 3	12	-9	459	110.16	-0.01	-2.8
64	SLE FR 4	12	-9	474	113.67	-0.01	-2.84
64	SLE FR 5	12	-9	476	114.13	-0.01	-2.84
64	SLE FR 6	12	-9	485	116.35	-0.01	-2.87
64	SLE QP 1	12	-9	457	109.75	-0.01	-2.79
64	SLE QP 2	12	-9	474	113.71	-0.01	-2.84
64	SLD 1	36	-6	457	109.66	-0.01	-8.55
64	SLD 2	36	-4	457	109.74	-0.01	-8.52
64	SLD 3	34	-12	470	112.82	-0.01	-8.2
64	SLD 4	34	-10	470	112.9	-0.01	-8.18
64	SLD 5	21	1	449	107.69	-0.01	-5.08
64	SLD 6	21	2	449	107.74	-0.01	-5.07
64	SLD 7	16	-20	493	118.22	-0.01	-3.92
64	SLD 8	16	-19	493	118.27	-0.01	-3.9
64	SLD 9	7	1	455	109.15	-0.01	-1.77
64	SLD 10	7	2	455	109.2	-0.01	-1.76
64	SLD 11	3	-21	499	119.68	-0.01	-0.6
64	SLD 12	2	-19	499	119.73	-0.01	-0.59
64	SLD 13	-10	-8	477	114.52	-0.01	2.5
64	SLD 14	-11	-6	478	114.6	-0.01	2.52
64	SLD 15	-12	-14	490	117.68	-0.01	2.85
64	SLD 16	-12	-12	491	117.76	-0.01	2.87
64	SLV 1	49	-4	447	107.18	-0.01	-11.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
64	SLV 2	49	-1	447	107.31	-0.01	-11.77
64	SLV 3	47	-15	469	112.52	-0.01	-11.21
64	SLV 4	47	-11	469	112.64	-0.01	-11.18
64	SLV 5	27	8	432	103.64	-0.01	-6.44
64	SLV 6	27	11	432	103.72	-0.01	-6.41
64	SLV 7	19	-28	506	121.42	-0.01	-4.45
64	SLV 8	18	-26	506	121.5	-0.01	-4.43
64	SLV 9	5	7	441	105.92	-0.01	-1.24
64	SLV 10	5	10	442	106	-0.01	-1.22
64	SLV 11	-3	-29	515	123.7	-0.01	0.74
64	SLV 12	-3	-26	516	123.78	-0.01	0.76
64	SLV 13	-23	-7	478	114.78	-0.01	5.5
64	SLV 14	-23	-3	479	114.91	-0.01	5.54
64	SLV 15	-25	-18	500	120.11	-0.01	6.1
64	SLV 16	-26	-14	501	120.24	-0.01	6.13
64	SLV FO 1	53	-3	444	106.53	-0.01	-12.7
64	SLV FO 2	53	0	444	106.67	-0.01	-12.67
64	SLV FO 3	50	-15	468	112.4	-0.01	-12.05
64	SLV FO 4	50	-12	469	112.53	-0.01	-12.01
64	SLV FO 5	28	10	428	102.63	-0.01	-6.8
64	SLV FO 6	28	12	428	102.72	-0.01	-6.77
64	SLV FO 7	19	-30	509	122.19	-0.01	-4.61
64	SLV FO 8	19	-27	510	122.28	-0.01	-4.59
64	SLV FO 9	5	9	438	105.14	-0.01	-1.08
64	SLV FO 10	4	12	438	105.23	-0.01	-1.06
64	SLV FO 11	-5	-31	520	124.7	-0.01	1.1
64	SLV FO 12	-5	-28	520	124.79	-0.01	1.12
64	SLV FO 13	-26	-6	479	114.89	-0.01	6.34
64	SLV FO 14	-27	-3	479	115.03	-0.01	6.37
64	SLV FO 15	-29	-18	503	120.76	-0.01	6.99
64	SLV FO 16	-29	-15	504	120.89	-0.01	7.03
64	CRTFP Ux+	0	0	0	0	0	0
64	CRTFP Ux-	0	0	0	0	0	0
64	CRTFP Uy+	0	0	0	0	0	0
64	CRTFP Uy-	0	0	0	0	0	0
66	SLU 1	15	-15	553	0	0	0
66	SLU 2	15	-14	552	0	0	0
66	SLU 3	15	-14	566	0	0	0
66	SLU 4	15	-14	565	0	0	0
66	SLU 5	15	-13	560	0	0	0
66	SLU 6	15	-14	575	0	0	0
66	SLU 7	15	-13	574	0	0	0
66	SLU 8	15	-14	570	0	0	0
66	SLU 9	15	-13	569	0	0	0
66	SLU 10	16	-15	626	0	0	0
66	SLU 11	16	-15	641	0	0	0
66	SLU 12	16	-15	640	0	0	0
66	SLU 13	16	-14	634	0	0	0
66	SLU 14	16	-15	649	0	0	0
66	SLU 15	16	-15	648	0	0	0
66	SLU 16	16	-15	645	0	0	0
66	SLU 17	16	-15	644	0	0	0
66	SLU 18	16	-16	660	0	0	0
66	SLU 19	16	-16	659	0	0	0
66	SLU 20	16	-16	668	0	0	0
66	SLU 21	16	-15	667	0	0	0
66	SLU 22	17	-14	640	0	0	0
66	SLU 23	17	-13	638	0	0	0
66	SLU 24	17	-14	653	0	0	0
66	SLU 25	17	-13	652	0	0	0
66	SLU 26	17	-13	647	0	0	0
66	SLU 27	17	-14	661	0	0	0
66	SLU 28	17	-13	660	0	0	0
66	SLU 29	17	-14	657	0	0	0
66	SLU 30	17	-13	656	0	0	0
66	SLU 31	18	-14	713	0	0	0
66	SLU 32	18	-15	727	0	0	0
66	SLU 33	18	-14	726	0	0	0
66	SLU 34	18	-14	721	0	0	0
66	SLU 35	18	-15	736	0	0	0
66	SLU 36	18	-14	735	0	0	0
66	SLU 37	18	-15	731	0	0	0
66	SLU 38	18	-14	730	0	0	0
66	SLU 39	18	-16	746	0	0	0
66	SLU 40	18	-15	745	0	0	0
66	SLU 41	18	-16	755	0	0	0
66	SLU 42	18	-15	754	0	0	0
66	SLU 43	19	-19	690	0	0	0
66	SLU 44	19	-18	688	0	0	0
66	SLU 45	19	-19	702	0	0	0
66	SLU 46	19	-18	701	0	0	0
66	SLU 47	19	-18	696	0	0	0
66	SLU 48	19	-18	711	0	0	0
66	SLU 49	19	-18	710	0	0	0
66	SLU 50	19	-18	706	0	0	0
66	SLU 51	19	-18	705	0	0	0
66	SLU 52	20	-19	762	0	0	0
66	SLU 53	20	-20	777	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
66	SLU 54	20	-19	776	0	0	0
66	SLU 55	20	-19	771	0	0	0
66	SLU 56	20	-20	785	0	0	0
66	SLU 57	20	-19	784	0	0	0
66	SLU 58	20	-20	781	0	0	0
66	SLU 59	20	-19	780	0	0	0
66	SLU 60	20	-21	796	0	0	0
66	SLU 61	20	-20	795	0	0	0
66	SLU 62	20	-20	804	0	0	0
66	SLU 63	20	-20	803	0	0	0
66	SLU 64	21	-19	776	0	0	0
66	SLU 65	21	-18	775	0	0	0
66	SLU 66	21	-18	789	0	0	0
66	SLU 67	21	-18	788	0	0	0
66	SLU 68	21	-17	783	0	0	0
66	SLU 69	21	-18	798	0	0	0
66	SLU 70	21	-17	797	0	0	0
66	SLU 71	21	-18	793	0	0	0
66	SLU 72	21	-17	792	0	0	0
66	SLU 73	22	-19	849	0	0	0
66	SLU 74	22	-20	864	0	0	0
66	SLU 75	22	-19	863	0	0	0
66	SLU 76	22	-19	857	0	0	0
66	SLU 77	22	-19	872	0	0	0
66	SLU 78	22	-19	871	0	0	0
66	SLU 79	21	-19	868	0	0	0
66	SLU 80	22	-19	867	0	0	0
66	SLU 81	22	-20	883	0	0	0
66	SLU 82	22	-20	882	0	0	0
66	SLU 83	22	-20	891	0	0	0
66	SLU 84	22	-20	890	0	0	0
66	SLE RA 1	15	-14	578	0	0	0
66	SLE RA 2	15	-14	577	0	0	0
66	SLE RA 3	15	-14	587	0	0	0
66	SLE RA 4	16	-14	586	0	0	0
66	SLE RA 5	16	-14	583	0	0	0
66	SLE RA 6	16	-14	592	0	0	0
66	SLE RA 7	16	-14	592	0	0	0
66	SLE RA 8	15	-14	589	0	0	0
66	SLE RA 9	15	-14	589	0	0	0
66	SLE RA 10	16	-15	627	0	0	0
66	SLE RA 11	16	-15	636	0	0	0
66	SLE RA 12	16	-15	636	0	0	0
66	SLE RA 13	16	-14	632	0	0	0
66	SLE RA 14	16	-15	642	0	0	0
66	SLE RA 15	16	-14	641	0	0	0
66	SLE RA 16	16	-15	639	0	0	0
66	SLE RA 17	16	-14	638	0	0	0
66	SLE RA 18	16	-16	649	0	0	0
66	SLE RA 19	16	-15	648	0	0	0
66	SLE RA 20	16	-15	655	0	0	0
66	SLE RA 21	16	-15	654	0	0	0
66	SLE FR 1	15	-14	578	0	0	0
66	SLE FR 2	15	-14	578	0	0	0
66	SLE FR 3	15	-14	580	0	0	0
66	SLE FR 4	16	-15	599	0	0	0
66	SLE FR 5	16	-15	602	0	0	0
66	SLE FR 6	16	-15	614	0	0	0
66	SLE QP 1	15	-14	578	0	0	0
66	SLE QP 2	16	-15	599	0	0	0
66	SLD 1	46	-9	599	0	0	0
66	SLD 2	46	-8	599	0	0	0
66	SLD 3	45	-18	618	0	0	0
66	SLD 4	45	-17	619	0	0	0
66	SLD 5	28	1	570	0	0	0
66	SLD 6	28	2	570	0	0	0
66	SLD 7	22	-30	635	0	0	0
66	SLD 8	21	-30	635	0	0	0
66	SLD 9	10	0	564	0	0	0
66	SLD 10	10	1	564	0	0	0
66	SLD 11	4	-31	629	0	0	0
66	SLD 12	4	-31	629	0	0	0
66	SLD 13	-13	-12	580	0	0	0
66	SLD 14	-13	-11	580	0	0	0
66	SLD 15	-15	-22	600	0	0	0
66	SLD 16	-15	-21	600	0	0	0
66	SLV 1	64	-5	597	0	0	0
66	SLV 2	64	-3	598	0	0	0
66	SLV 3	61	-21	630	0	0	0
66	SLV 4	61	-19	631	0	0	0
66	SLV 5	35	12	549	0	0	0
66	SLV 6	35	13	549	0	0	0
66	SLV 7	24	-41	658	0	0	0
66	SLV 8	24	-40	659	0	0	0
66	SLV 9	7	11	540	0	0	0
66	SLV 10	7	12	540	0	0	0
66	SLV 11	-4	-43	650	0	0	0
66	SLV 12	-4	-42	650	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
66	SLV 13	-30	-10	568	0	0	0
66	SLV 14	-30	-9	568	0	0	0
66	SLV 15	-33	-27	601	0	0	0
66	SLV 16	-33	-25	601	0	0	0
66	SLV FO 1	69	-4	597	0	0	0
66	SLV FO 2	69	-2	598	0	0	0
66	SLV FO 3	65	-21	633	0	0	0
66	SLV FO 4	65	-20	634	0	0	0
66	SLV FO 5	37	15	544	0	0	0
66	SLV FO 6	37	16	544	0	0	0
66	SLV FO 7	25	-44	664	0	0	0
66	SLV FO 8	25	-43	665	0	0	0
66	SLV FO 9	6	13	534	0	0	0
66	SLV FO 10	6	14	534	0	0	0
66	SLV FO 11	-6	-46	655	0	0	0
66	SLV FO 12	-6	-45	655	0	0	0
66	SLV FO 13	-34	-10	565	0	0	0
66	SLV FO 14	-34	-8	565	0	0	0
66	SLV FO 15	-38	-28	601	0	0	0
66	SLV FO 16	-38	-26	602	0	0	0
67	SLU 1	15	-11	572	0	0	0
67	SLU 2	15	-10	570	0	0	0
67	SLU 3	15	-11	585	0	0	0
67	SLU 4	15	-10	584	0	0	0
67	SLU 5	15	-10	579	0	0	0
67	SLU 6	15	-10	593	0	0	0
67	SLU 7	15	-10	592	0	0	0
67	SLU 8	15	-10	588	0	0	0
67	SLU 9	15	-10	588	0	0	0
67	SLU 10	16	-11	645	0	0	0
67	SLU 11	16	-11	660	0	0	0
67	SLU 12	16	-11	659	0	0	0
67	SLU 13	16	-11	654	0	0	0
67	SLU 14	16	-11	668	0	0	0
67	SLU 15	16	-11	667	0	0	0
67	SLU 16	16	-11	663	0	0	0
67	SLU 17	16	-11	663	0	0	0
67	SLU 18	16	-12	679	0	0	0
67	SLU 19	16	-12	678	0	0	0
67	SLU 20	16	-12	687	0	0	0
67	SLU 21	16	-11	686	0	0	0
67	SLU 22	16	-10	660	0	0	0
67	SLU 23	17	-9	659	0	0	0
67	SLU 24	17	-10	673	0	0	0
67	SLU 25	17	-9	673	0	0	0
67	SLU 26	17	-9	667	0	0	0
67	SLU 27	17	-10	682	0	0	0
67	SLU 28	17	-9	681	0	0	0
67	SLU 29	17	-10	677	0	0	0
67	SLU 30	17	-9	676	0	0	0
67	SLU 31	17	-10	734	0	0	0
67	SLU 32	17	-11	748	0	0	0
67	SLU 33	18	-10	748	0	0	0
67	SLU 34	17	-10	742	0	0	0
67	SLU 35	17	-11	757	0	0	0
67	SLU 36	18	-10	756	0	0	0
67	SLU 37	17	-11	752	0	0	0
67	SLU 38	17	-10	751	0	0	0
67	SLU 39	18	-12	768	0	0	0
67	SLU 40	18	-11	767	0	0	0
67	SLU 41	18	-11	776	0	0	0
67	SLU 42	18	-11	775	0	0	0
67	SLU 43	18	-14	713	0	0	0
67	SLU 44	19	-13	711	0	0	0
67	SLU 45	19	-14	726	0	0	0
67	SLU 46	19	-13	725	0	0	0
67	SLU 47	19	-13	720	0	0	0
67	SLU 48	19	-14	734	0	0	0
67	SLU 49	19	-13	733	0	0	0
67	SLU 50	18	-14	729	0	0	0
67	SLU 51	19	-13	729	0	0	0
67	SLU 52	19	-14	786	0	0	0
67	SLU 53	19	-15	801	0	0	0
67	SLU 54	19	-14	800	0	0	0
67	SLU 55	19	-14	795	0	0	0
67	SLU 56	19	-15	809	0	0	0
67	SLU 57	19	-14	808	0	0	0
67	SLU 58	19	-15	805	0	0	0
67	SLU 59	19	-14	804	0	0	0
67	SLU 60	20	-16	820	0	0	0
67	SLU 61	20	-15	819	0	0	0
67	SLU 62	20	-15	828	0	0	0
67	SLU 63	20	-15	828	0	0	0
67	SLU 64	20	-14	801	0	0	0
67	SLU 65	20	-13	800	0	0	0
67	SLU 66	20	-13	814	0	0	0
67	SLU 67	20	-13	814	0	0	0
67	SLU 68	20	-13	808	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
67	SLU 69	20	-13	823	0	0	0
67	SLU 70	21	-13	822	0	0	0
67	SLU 71	20	-13	818	0	0	0
67	SLU 72	20	-13	817	0	0	0
67	SLU 73	21	-14	875	0	0	0
67	SLU 74	21	-14	889	0	0	0
67	SLU 75	21	-14	889	0	0	0
67	SLU 76	21	-13	884	0	0	0
67	SLU 77	21	-14	898	0	0	0
67	SLU 78	21	-13	897	0	0	0
67	SLU 79	21	-14	893	0	0	0
67	SLU 80	21	-14	892	0	0	0
67	SLU 81	21	-15	909	0	0	0
67	SLU 82	21	-14	908	0	0	0
67	SLU 83	21	-15	917	0	0	0
67	SLU 84	22	-14	916	0	0	0
67	SLE RA 1	15	-11	597	0	0	0
67	SLE RA 2	15	-10	596	0	0	0
67	SLE RA 3	15	-10	606	0	0	0
67	SLE RA 4	15	-10	605	0	0	0
67	SLE RA 5	15	-10	602	0	0	0
67	SLE RA 6	15	-10	611	0	0	0
67	SLE RA 7	15	-10	611	0	0	0
67	SLE RA 8	15	-10	608	0	0	0
67	SLE RA 9	15	-10	608	0	0	0
67	SLE RA 10	16	-11	646	0	0	0
67	SLE RA 11	16	-11	656	0	0	0
67	SLE RA 12	16	-11	655	0	0	0
67	SLE RA 13	16	-11	652	0	0	0
67	SLE RA 14	16	-11	661	0	0	0
67	SLE RA 15	16	-11	661	0	0	0
67	SLE RA 16	16	-11	658	0	0	0
67	SLE RA 17	16	-11	658	0	0	0
67	SLE RA 18	16	-12	668	0	0	0
67	SLE RA 19	16	-11	668	0	0	0
67	SLE RA 20	16	-11	674	0	0	0
67	SLE RA 21	16	-11	674	0	0	0
67	SLE FR 1	15	-11	597	0	0	0
67	SLE FR 2	15	-11	597	0	0	0
67	SLE FR 3	15	-11	599	0	0	0
67	SLE FR 4	15	-11	618	0	0	0
67	SLE FR 5	15	-11	621	0	0	0
67	SLE FR 6	16	-11	633	0	0	0
67	SLE QP 1	15	-11	597	0	0	0
67	SLE QP 2	15	-11	618	0	0	0
67	SLD 1	46	-8	592	0	0	0
67	SLD 2	46	-4	592	0	0	0
67	SLD 3	44	-16	607	0	0	0
67	SLD 4	44	-12	608	0	0	0
67	SLD 5	27	2	587	0	0	0
67	SLD 6	27	4	587	0	0	0
67	SLD 7	21	-25	639	0	0	0
67	SLD 8	21	-23	639	0	0	0
67	SLD 9	10	1	598	0	0	0
67	SLD 10	10	3	598	0	0	0
67	SLD 11	3	-26	650	0	0	0
67	SLD 12	3	-23	650	0	0	0
67	SLD 13	-14	-10	629	0	0	0
67	SLD 14	-14	-6	630	0	0	0
67	SLD 15	-15	-18	645	0	0	0
67	SLD 16	-15	-14	645	0	0	0
67	SLV 1	64	-5	576	0	0	0
67	SLV 2	64	0	576	0	0	0
67	SLV 3	61	-19	602	0	0	0
67	SLV 4	60	-14	603	0	0	0
67	SLV 5	35	10	566	0	0	0
67	SLV 6	35	14	566	0	0	0
67	SLV 7	24	-35	653	0	0	0
67	SLV 8	24	-31	654	0	0	0
67	SLV 9	7	9	583	0	0	0
67	SLV 10	7	13	584	0	0	0
67	SLV 11	-4	-36	671	0	0	0
67	SLV 12	-4	-32	671	0	0	0
67	SLV 13	-30	-8	634	0	0	0
67	SLV 14	-30	-3	635	0	0	0
67	SLV 15	-33	-22	661	0	0	0
67	SLV 16	-33	-17	661	0	0	0
67	SLV FO 1	69	-4	571	0	0	0
67	SLV FO 2	68	1	572	0	0	0
67	SLV FO 3	65	-19	600	0	0	0
67	SLV FO 4	65	-14	601	0	0	0
67	SLV FO 5	37	13	560	0	0	0
67	SLV FO 6	37	16	561	0	0	0
67	SLV FO 7	25	-37	657	0	0	0
67	SLV FO 8	25	-33	657	0	0	0
67	SLV FO 9	6	11	580	0	0	0
67	SLV FO 10	6	15	580	0	0	0
67	SLV FO 11	-6	-38	676	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
67	SLV FO 12	-6	-34	677	0	0	0
67	SLV FO 13	-34	-8	636	0	0	0
67	SLV FO 14	-34	-3	637	0	0	0
67	SLV FO 15	-38	-23	665	0	0	0
67	SLV FO 16	-38	-18	666	0	0	0
68	SLU 1	9	-10	338	0	0	0
68	SLU 2	9	-9	337	0	0	0
68	SLU 3	9	-9	346	0	0	0
68	SLU 4	9	-9	345	0	0	0
68	SLU 5	9	-9	342	0	0	0
68	SLU 6	9	-9	351	0	0	0
68	SLU 7	9	-9	350	0	0	0
68	SLU 8	9	-9	348	0	0	0
68	SLU 9	9	-9	347	0	0	0
68	SLU 10	10	-10	382	0	0	0
68	SLU 11	10	-10	391	0	0	0
68	SLU 12	10	-10	391	0	0	0
68	SLU 13	10	-10	388	0	0	0
68	SLU 14	10	-10	397	0	0	0
68	SLU 15	10	-10	396	0	0	0
68	SLU 16	10	-10	394	0	0	0
68	SLU 17	10	-10	393	0	0	0
68	SLU 18	10	-11	403	0	0	0
68	SLU 19	10	-10	402	0	0	0
68	SLU 20	10	-11	408	0	0	0
68	SLU 21	10	-10	408	0	0	0
68	SLU 22	10	-10	391	0	0	0
68	SLU 23	10	-9	390	0	0	0
68	SLU 24	10	-9	399	0	0	0
68	SLU 25	11	-9	398	0	0	0
68	SLU 26	10	-9	395	0	0	0
68	SLU 27	10	-9	404	0	0	0
68	SLU 28	11	-9	403	0	0	0
68	SLU 29	10	-9	401	0	0	0
68	SLU 30	10	-9	401	0	0	0
68	SLU 31	11	-10	435	0	0	0
68	SLU 32	11	-10	445	0	0	0
68	SLU 33	11	-10	444	0	0	0
68	SLU 34	11	-9	441	0	0	0
68	SLU 35	11	-10	450	0	0	0
68	SLU 36	11	-10	449	0	0	0
68	SLU 37	11	-10	447	0	0	0
68	SLU 38	11	-10	446	0	0	0
68	SLU 39	11	-11	456	0	0	0
68	SLU 40	11	-10	456	0	0	0
68	SLU 41	11	-10	461	0	0	0
68	SLU 42	11	-10	461	0	0	0
68	SLU 43	11	-13	421	0	0	0
68	SLU 44	12	-12	420	0	0	0
68	SLU 45	12	-12	429	0	0	0
68	SLU 46	12	-12	428	0	0	0
68	SLU 47	12	-12	425	0	0	0
68	SLU 48	12	-12	434	0	0	0
68	SLU 49	12	-12	433	0	0	0
68	SLU 50	12	-12	431	0	0	0
68	SLU 51	12	-12	430	0	0	0
68	SLU 52	12	-13	465	0	0	0
68	SLU 53	12	-13	474	0	0	0
68	SLU 54	12	-13	474	0	0	0
68	SLU 55	12	-13	471	0	0	0
68	SLU 56	12	-13	480	0	0	0
68	SLU 57	12	-13	479	0	0	0
68	SLU 58	12	-13	477	0	0	0
68	SLU 59	12	-13	476	0	0	0
68	SLU 60	12	-14	486	0	0	0
68	SLU 61	12	-13	485	0	0	0
68	SLU 62	12	-14	491	0	0	0
68	SLU 63	12	-13	491	0	0	0
68	SLU 64	13	-13	474	0	0	0
68	SLU 65	13	-12	473	0	0	0
68	SLU 66	13	-12	482	0	0	0
68	SLU 67	13	-12	481	0	0	0
68	SLU 68	13	-12	478	0	0	0
68	SLU 69	13	-12	487	0	0	0
68	SLU 70	13	-12	486	0	0	0
68	SLU 71	13	-12	484	0	0	0
68	SLU 72	13	-12	484	0	0	0
68	SLU 73	13	-13	519	0	0	0
68	SLU 74	13	-13	528	0	0	0
68	SLU 75	13	-13	527	0	0	0
68	SLU 76	13	-12	524	0	0	0
68	SLU 77	13	-13	533	0	0	0
68	SLU 78	13	-12	532	0	0	0
68	SLU 79	13	-13	530	0	0	0
68	SLU 80	13	-12	529	0	0	0
68	SLU 81	13	-14	539	0	0	0
68	SLU 82	13	-13	539	0	0	0
68	SLU 83	13	-13	545	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLU 84	14	-13	544	0	0	0
68	SLE RA 1	9	-10	353	0	0	0
68	SLE RA 2	10	-9	352	0	0	0
68	SLE RA 3	10	-10	358	0	0	0
68	SLE RA 4	10	-9	358	0	0	0
68	SLE RA 5	10	-9	356	0	0	0
68	SLE RA 6	10	-9	362	0	0	0
68	SLE RA 7	10	-9	361	0	0	0
68	SLE RA 8	10	-9	360	0	0	0
68	SLE RA 9	10	-9	359	0	0	0
68	SLE RA 10	10	-10	383	0	0	0
68	SLE RA 11	10	-10	389	0	0	0
68	SLE RA 12	10	-10	388	0	0	0
68	SLE RA 13	10	-10	386	0	0	0
68	SLE RA 14	10	-10	392	0	0	0
68	SLE RA 15	10	-10	392	0	0	0
68	SLE RA 16	10	-10	390	0	0	0
68	SLE RA 17	10	-10	390	0	0	0
68	SLE RA 18	10	-10	396	0	0	0
68	SLE RA 19	10	-10	396	0	0	0
68	SLE RA 20	10	-10	400	0	0	0
68	SLE RA 21	10	-10	399	0	0	0
68	SLE FR 1	9	-10	353	0	0	0
68	SLE FR 2	9	-10	353	0	0	0
68	SLE FR 3	9	-10	354	0	0	0
68	SLE FR 4	10	-10	366	0	0	0
68	SLE FR 5	10	-10	367	0	0	0
68	SLE FR 6	10	-10	375	0	0	0
68	SLE QP 1	9	-10	353	0	0	0
68	SLE QP 2	10	-10	366	0	0	0
68	SLD 1	29	-6	371	0	0	0
68	SLD 2	29	-5	371	0	0	0
68	SLD 3	28	-12	384	0	0	0
68	SLD 4	28	-12	384	0	0	0
68	SLD 5	17	1	348	0	0	0
68	SLD 6	17	1	348	0	0	0
68	SLD 7	13	-20	391	0	0	0
68	SLD 8	13	-20	391	0	0	0
68	SLD 9	6	0	341	0	0	0
68	SLD 10	6	0	341	0	0	0
68	SLD 11	2	-21	384	0	0	0
68	SLD 12	2	-20	384	0	0	0
68	SLD 13	-8	-8	348	0	0	0
68	SLD 14	-8	-8	348	0	0	0
68	SLD 15	-9	-14	361	0	0	0
68	SLD 16	-9	-14	361	0	0	0
68	SLV 1	40	-3	372	0	0	0
68	SLV 2	40	-2	373	0	0	0
68	SLV 3	38	-13	394	0	0	0
68	SLV 4	38	-13	395	0	0	0
68	SLV 5	22	8	334	0	0	0
68	SLV 6	22	8	335	0	0	0
68	SLV 7	15	-27	408	0	0	0
68	SLV 8	15	-27	408	0	0	0
68	SLV 9	4	7	324	0	0	0
68	SLV 10	4	7	324	0	0	0
68	SLV 11	-2	-28	397	0	0	0
68	SLV 12	-2	-28	397	0	0	0
68	SLV 13	-18	-7	337	0	0	0
68	SLV 14	-18	-7	337	0	0	0
68	SLV 15	-20	-17	359	0	0	0
68	SLV 16	-20	-17	359	0	0	0
68	SLV FO 1	43	-2	373	0	0	0
68	SLV FO 2	43	-2	374	0	0	0
68	SLV FO 3	41	-13	397	0	0	0
68	SLV FO 4	40	-13	398	0	0	0
68	SLV FO 5	23	10	331	0	0	0
68	SLV FO 6	23	10	332	0	0	0
68	SLV FO 7	16	-28	412	0	0	0
68	SLV FO 8	16	-28	412	0	0	0
68	SLV FO 9	4	8	320	0	0	0
68	SLV FO 10	4	9	320	0	0	0
68	SLV FO 11	-3	-30	400	0	0	0
68	SLV FO 12	-4	-30	401	0	0	0
68	SLV FO 13	-21	-7	334	0	0	0
68	SLV FO 14	-21	-6	335	0	0	0
68	SLV FO 15	-23	-18	358	0	0	0
68	SLV FO 16	-23	-18	359	0	0	0
73	SLU 1	9	-6	356	0	0	0
73	SLU 2	9	-5	355	0	0	0
73	SLU 3	9	-6	364	0	0	0
73	SLU 4	9	-5	363	0	0	0
73	SLU 5	9	-5	360	0	0	0
73	SLU 6	9	-6	369	0	0	0
73	SLU 7	9	-5	368	0	0	0
73	SLU 8	9	-6	366	0	0	0
73	SLU 9	9	-5	365	0	0	0
73	SLU 10	10	-6	401	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
73	SLU 11	10	-6	410	0	0	0
73	SLU 12	10	-6	410	0	0	0
73	SLU 13	10	-6	406	0	0	0
73	SLU 14	10	-6	415	0	0	0
73	SLU 15	10	-6	415	0	0	0
73	SLU 16	10	-6	412	0	0	0
73	SLU 17	10	-6	412	0	0	0
73	SLU 18	10	-7	422	0	0	0
73	SLU 19	10	-6	421	0	0	0
73	SLU 20	10	-6	427	0	0	0
73	SLU 21	10	-6	427	0	0	0
73	SLU 22	10	-6	411	0	0	0
73	SLU 23	10	-5	410	0	0	0
73	SLU 24	10	-5	419	0	0	0
73	SLU 25	10	-5	418	0	0	0
73	SLU 26	10	-5	415	0	0	0
73	SLU 27	10	-5	424	0	0	0
73	SLU 28	10	-5	423	0	0	0
73	SLU 29	10	-5	421	0	0	0
73	SLU 30	10	-5	420	0	0	0
73	SLU 31	11	-6	456	0	0	0
73	SLU 32	11	-6	465	0	0	0
73	SLU 33	11	-6	465	0	0	0
73	SLU 34	11	-5	461	0	0	0
73	SLU 35	11	-6	470	0	0	0
73	SLU 36	11	-5	470	0	0	0
73	SLU 37	11	-6	467	0	0	0
73	SLU 38	11	-5	467	0	0	0
73	SLU 39	11	-6	477	0	0	0
73	SLU 40	11	-6	476	0	0	0
73	SLU 41	11	-6	482	0	0	0
73	SLU 42	11	-6	482	0	0	0
73	SLU 43	11	-8	444	0	0	0
73	SLU 44	11	-7	443	0	0	0
73	SLU 45	11	-8	452	0	0	0
73	SLU 46	11	-7	451	0	0	0
73	SLU 47	11	-7	448	0	0	0
73	SLU 48	11	-8	457	0	0	0
73	SLU 49	12	-7	456	0	0	0
73	SLU 50	11	-8	454	0	0	0
73	SLU 51	11	-7	453	0	0	0
73	SLU 52	12	-8	489	0	0	0
73	SLU 53	12	-8	498	0	0	0
73	SLU 54	12	-8	497	0	0	0
73	SLU 55	12	-8	494	0	0	0
73	SLU 56	12	-8	503	0	0	0
73	SLU 57	12	-8	503	0	0	0
73	SLU 58	12	-8	500	0	0	0
73	SLU 59	12	-8	500	0	0	0
73	SLU 60	12	-9	510	0	0	0
73	SLU 61	12	-8	509	0	0	0
73	SLU 62	12	-8	515	0	0	0
73	SLU 63	12	-8	514	0	0	0
73	SLU 64	12	-7	499	0	0	0
73	SLU 65	13	-7	498	0	0	0
73	SLU 66	13	-7	507	0	0	0
73	SLU 67	13	-7	506	0	0	0
73	SLU 68	13	-7	503	0	0	0
73	SLU 69	13	-7	512	0	0	0
73	SLU 70	13	-7	511	0	0	0
73	SLU 71	13	-7	509	0	0	0
73	SLU 72	13	-7	508	0	0	0
73	SLU 73	13	-7	544	0	0	0
73	SLU 74	13	-8	553	0	0	0
73	SLU 75	13	-7	552	0	0	0
73	SLU 76	13	-7	549	0	0	0
73	SLU 77	13	-8	558	0	0	0
73	SLU 78	13	-7	558	0	0	0
73	SLU 79	13	-8	555	0	0	0
73	SLU 80	13	-7	555	0	0	0
73	SLU 81	13	-8	565	0	0	0
73	SLU 82	13	-8	564	0	0	0
73	SLU 83	13	-8	570	0	0	0
73	SLU 84	13	-8	569	0	0	0
73	SLE RA 1	9	-6	371	0	0	0
73	SLE RA 2	9	-6	371	0	0	0
73	SLE RA 3	9	-6	377	0	0	0
73	SLE RA 4	9	-6	376	0	0	0
73	SLE RA 5	9	-5	374	0	0	0
73	SLE RA 6	9	-6	380	0	0	0
73	SLE RA 7	9	-5	380	0	0	0
73	SLE RA 8	9	-6	378	0	0	0
73	SLE RA 9	9	-5	378	0	0	0
73	SLE RA 10	10	-6	402	0	0	0
73	SLE RA 11	10	-6	408	0	0	0
73	SLE RA 12	10	-6	407	0	0	0
73	SLE RA 13	10	-6	405	0	0	0
73	SLE RA 14	10	-6	411	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
73	SLE RA 15	10	-6	411	0	0	0
73	SLE RA 16	10	-6	409	0	0	0
73	SLE RA 17	10	-6	409	0	0	0
73	SLE RA 18	10	-6	416	0	0	0
73	SLE RA 19	10	-6	415	0	0	0
73	SLE RA 20	10	-6	419	0	0	0
73	SLE RA 21	10	-6	419	0	0	0
73	SLE FR 1	9	-6	371	0	0	0
73	SLE FR 2	9	-6	371	0	0	0
73	SLE FR 3	9	-6	373	0	0	0
73	SLE FR 4	9	-6	385	0	0	0
73	SLE FR 5	9	-6	386	0	0	0
73	SLE FR 6	10	-6	393	0	0	0
73	SLE QP 1	9	-6	371	0	0	0
73	SLE QP 2	9	-6	385	0	0	0
73	SLD 1	29	-5	363	0	0	0
73	SLD 2	28	-3	363	0	0	0
73	SLD 3	27	-10	372	0	0	0
73	SLD 4	27	-8	372	0	0	0
73	SLD 5	17	1	364	0	0	0
73	SLD 6	17	2	364	0	0	0
73	SLD 7	13	-15	395	0	0	0
73	SLD 8	13	-13	395	0	0	0
73	SLD 9	6	1	374	0	0	0
73	SLD 10	6	3	374	0	0	0
73	SLD 11	2	-14	406	0	0	0
73	SLD 12	2	-13	406	0	0	0
73	SLD 13	-8	-4	397	0	0	0
73	SLD 14	-8	-2	397	0	0	0
73	SLD 15	-10	-9	406	0	0	0
73	SLD 16	-10	-6	407	0	0	0
73	SLV 1	39	-5	350	0	0	0
73	SLV 2	39	-1	350	0	0	0
73	SLV 3	37	-13	366	0	0	0
73	SLV 4	37	-9	366	0	0	0
73	SLV 5	22	5	350	0	0	0
73	SLV 6	21	8	350	0	0	0
73	SLV 7	15	-21	403	0	0	0
73	SLV 8	15	-18	404	0	0	0
73	SLV 9	4	6	366	0	0	0
73	SLV 10	4	9	366	0	0	0
73	SLV 11	-3	-20	419	0	0	0
73	SLV 12	-3	-17	420	0	0	0
73	SLV 13	-18	-3	403	0	0	0
73	SLV 14	-19	1	403	0	0	0
73	SLV 15	-20	-11	419	0	0	0
73	SLV 16	-21	-7	420	0	0	0
73	SLV FO 1	42	-5	346	0	0	0
73	SLV FO 2	42	-1	347	0	0	0
73	SLV FO 3	40	-13	364	0	0	0
73	SLV FO 4	40	-9	364	0	0	0
73	SLV FO 5	23	7	346	0	0	0
73	SLV FO 6	23	9	346	0	0	0
73	SLV FO 7	15	-22	405	0	0	0
73	SLV FO 8	15	-19	405	0	0	0
73	SLV FO 9	4	7	364	0	0	0
73	SLV FO 10	4	10	364	0	0	0
73	SLV FO 11	-4	-21	423	0	0	0
73	SLV FO 12	-4	-19	423	0	0	0
73	SLV FO 13	-21	-3	405	0	0	0
73	SLV FO 14	-21	1	405	0	0	0
73	SLV FO 15	-23	-11	423	0	0	0
73	SLV FO 16	-24	-7	423	0	0	0
160	SLU 1	-1	-5	250	-18.72	31.29	0.6
160	SLU 2	-1	-4	257	-19.28	32.23	0.49
160	SLU 3	-1	-5	253	-19	31.75	0.61
160	SLU 4	-1	-5	258	-19.33	32.32	0.55
160	SLU 5	-1	-4	259	-19.45	32.51	0.5
160	SLU 6	-1	-5	255	-19.16	32.03	0.62
160	SLU 7	-1	-5	260	-19.5	32.6	0.55
160	SLU 8	-1	-5	254	-19.05	31.85	0.62
160	SLU 9	-1	-5	259	-19.39	32.42	0.55
160	SLU 10	-1	-5	291	-21.8	36.44	0.57
160	SLU 11	-1	-6	287	-21.51	35.96	0.69
160	SLU 12	-1	-5	291	-21.85	36.53	0.63
160	SLU 13	-1	-5	293	-21.97	36.72	0.58
160	SLU 14	-1	-6	289	-21.68	36.24	0.7
160	SLU 15	-1	-5	294	-22.02	36.81	0.63
160	SLU 16	-1	-6	288	-21.57	36.06	0.7
160	SLU 17	-1	-5	292	-21.91	36.63	0.63
160	SLU 18	-1	-6	298	-22.32	37.31	0.71
160	SLU 19	-1	-6	302	-22.66	37.87	0.65
160	SLU 20	-1	-6	300	-22.48	37.59	0.72
160	SLU 21	-1	-6	304	-22.82	38.15	0.66
160	SLU 22	-1	-6	283	-21.22	35.48	0.67
160	SLU 23	-1	-5	290	-21.79	36.42	0.56
160	SLU 24	-1	-6	287	-21.5	35.94	0.69
160	SLU 25	-1	-5	291	-21.84	36.5	0.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
160	SLU 26	-1	-5	293	-21.95	36.7	0.57
160	SLU 27	-1	-6	289	-21.66	36.22	0.69
160	SLU 28	-1	-6	293	-22	36.78	0.63
160	SLU 29	-1	-6	287	-21.56	36.03	0.69
160	SLU 30	-1	-5	292	-21.89	36.6	0.62
160	SLU 31	-1	-6	324	-24.3	40.63	0.64
160	SLU 32	-1	-7	320	-24.02	40.15	0.77
160	SLU 33	-1	-6	325	-24.36	40.71	0.7
160	SLU 34	-1	-6	326	-24.47	40.91	0.65
160	SLU 35	-1	-7	322	-24.18	40.43	0.77
160	SLU 36	-1	-6	327	-24.52	40.99	0.71
160	SLU 37	-1	-7	321	-24.07	40.24	0.77
160	SLU 38	-1	-6	326	-24.41	40.81	0.7
160	SLU 39	-1	-7	331	-24.82	41.49	0.79
160	SLU 40	-1	-6	335	-25.16	42.06	0.72
160	SLU 41	-1	-7	333	-24.99	41.77	0.79
160	SLU 42	-1	-6	338	-25.33	42.34	0.73
160	SLU 43	-1	-7	313	-23.48	39.24	0.76
160	SLU 44	-1	-6	321	-24.04	40.19	0.64
160	SLU 45	-1	-7	317	-23.75	39.71	0.77
160	SLU 46	-1	-6	321	-24.09	40.27	0.7
160	SLU 47	-1	-6	323	-24.21	40.47	0.65
160	SLU 48	-1	-7	319	-23.92	39.99	0.78
160	SLU 49	-1	-6	323	-24.26	40.55	0.71
160	SLU 50	-1	-7	317	-23.81	39.8	0.77
160	SLU 51	-1	-6	322	-24.15	40.37	0.7
160	SLU 52	-1	-6	354	-26.56	44.4	0.72
160	SLU 53	-1	-7	350	-26.27	43.92	0.85
160	SLU 54	-1	-7	355	-26.61	44.48	0.78
160	SLU 55	-1	-6	356	-26.73	44.68	0.73
160	SLU 56	-1	-7	353	-26.44	44.2	0.86
160	SLU 57	-1	-7	357	-26.78	44.76	0.79
160	SLU 58	-1	-7	351	-26.33	44.01	0.85
160	SLU 59	-1	-7	356	-26.67	44.58	0.78
160	SLU 60	-1	-7	361	-27.07	45.26	0.87
160	SLU 61	-1	-7	366	-27.41	45.83	0.8
160	SLU 62	-1	-7	363	-27.24	45.54	0.88
160	SLU 63	-1	-7	368	-27.58	46.1	0.81
160	SLU 64	-1	-7	346	-25.98	43.43	0.83
160	SLU 65	-1	-6	354	-26.54	44.37	0.72
160	SLU 66	-1	-7	350	-26.26	43.89	0.84
160	SLU 67	-1	-7	355	-26.59	44.46	0.77
160	SLU 68	-1	-6	356	-26.71	44.65	0.72
160	SLU 69	-1	-7	352	-26.42	44.17	0.85
160	SLU 70	-1	-7	357	-26.76	44.73	0.78
160	SLU 71	-1	-7	351	-26.31	43.99	0.84
160	SLU 72	-1	-7	355	-26.65	44.55	0.78
160	SLU 73	-1	-7	387	-29.06	48.58	0.8
160	SLU 74	-1	-8	384	-28.77	48.1	0.92
160	SLU 75	-1	-7	388	-29.11	48.67	0.85
160	SLU 76	-1	-7	390	-29.23	48.86	0.8
160	SLU 77	-1	-8	386	-28.94	48.38	0.93
160	SLU 78	-1	-7	390	-29.28	48.95	0.86
160	SLU 79	-1	-8	384	-28.83	48.2	0.92
160	SLU 80	-1	-7	389	-29.17	48.76	0.86
160	SLU 81	-1	-8	394	-29.58	49.44	0.94
160	SLU 82	-1	-8	399	-29.92	50.01	0.88
160	SLU 83	-1	-8	397	-29.74	49.72	0.95
160	SLU 84	-1	-8	401	-30.08	50.29	0.88
160	SLE RA 1	-1	-5	259	-19.43	32.49	0.62
160	SLE RA 2	-1	-5	264	-19.81	33.12	0.55
160	SLE RA 3	-1	-5	262	-19.62	32.79	0.63
160	SLE RA 4	-1	-5	265	-19.84	33.17	0.58
160	SLE RA 5	-1	-5	266	-19.92	33.3	0.55
160	SLE RA 6	-1	-6	263	-19.73	32.98	0.63
160	SLE RA 7	-1	-5	266	-19.96	33.36	0.59
160	SLE RA 8	-1	-5	262	-19.66	32.86	0.63
160	SLE RA 9	-1	-5	265	-19.88	33.24	0.59
160	SLE RA 10	-1	-5	287	-21.49	35.92	0.6
160	SLE RA 11	-1	-6	284	-21.3	35.6	0.68
160	SLE RA 12	-1	-6	287	-21.52	35.98	0.64
160	SLE RA 13	-1	-5	288	-21.6	36.11	0.61
160	SLE RA 14	-1	-6	285	-21.41	35.79	0.69
160	SLE RA 15	-1	-6	288	-21.63	36.16	0.64
160	SLE RA 16	-1	-6	284	-21.34	35.67	0.69
160	SLE RA 17	-1	-6	287	-21.56	36.04	0.64
160	SLE RA 18	-1	-6	291	-21.83	36.5	0.7
160	SLE RA 19	-1	-6	294	-22.06	36.87	0.65
160	SLE RA 20	-1	-6	293	-21.94	36.68	0.7
160	SLE RA 21	-1	-6	296	-22.17	37.06	0.66
160	SLE FR 1	-1	-5	259	-19.43	32.49	0.62
160	SLE FR 2	-1	-5	260	-19.51	32.61	0.61
160	SLE FR 3	-1	-5	260	-19.48	32.56	0.62
160	SLE FR 4	-1	-5	270	-20.23	33.82	0.63
160	SLE FR 5	-1	-6	269	-20.2	33.76	0.65
160	SLE FR 6	-1	-6	275	-20.63	34.49	0.66
160	SLE QP 1	-1	-5	259	-19.43	32.49	0.62
160	SLE QP 2	-1	-6	269	-20.15	33.69	0.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
160	SLD 1	19	-2	350	-26.24	43.87	1.71
160	SLD 2	24	-4	347	-26.04	43.53	2.34
160	SLD 3	20	-13	238	-17.88	29.9	3.1
160	SLD 4	24	-15	236	-17.68	29.56	3.72
160	SLD 5	4	12	463	-34.69	57.99	-1.24
160	SLD 6	7	11	461	-34.56	57.77	-0.84
160	SLD 7	5	-24	91	-6.83	11.42	3.37
160	SLD 8	8	-25	89	-6.7	11.2	3.77
160	SLD 9	-10	14	448	-33.6	56.18	-2.49
160	SLD 10	-7	13	446	-33.47	55.96	-2.08
160	SLD 11	-8	-22	77	-5.75	9.61	2.12
160	SLD 12	-5	-24	75	-5.62	9.39	2.53
160	SLD 13	-26	4	302	-22.63	37.82	-2.43
160	SLD 14	-21	2	299	-22.42	37.48	-1.81
160	SLD 15	-25	-7	190	-14.27	23.85	-1.05
160	SLD 16	-21	-9	188	-14.07	23.51	-0.42
160	SLV 1	31	1	403	-30.2	50.48	2.22
160	SLV 2	38	-3	398	-29.88	49.94	3.21
160	SLV 3	31	-18	214	-16.07	26.87	4.56
160	SLV 4	39	-21	210	-15.75	26.34	5.55
160	SLV 5	6	25	595	-44.64	74.63	-2.61
160	SLV 6	11	23	592	-44.43	74.27	-1.95
160	SLV 7	9	-36	-32	2.43	-4.06	5.18
160	SLV 8	13	-39	-35	2.64	-4.42	5.84
160	SLV 9	-15	28	573	-42.95	71.8	-4.55
160	SLV 10	-10	25	570	-42.74	71.44	-3.89
160	SLV 11	-13	-34	-55	4.12	-6.89	3.23
160	SLV 12	-8	-36	-58	4.34	-7.25	3.9
160	SLV 13	-40	10	327	-24.55	41.04	-4.26
160	SLV 14	-33	7	323	-24.23	40.51	-3.27
160	SLV 15	-39	-8	139	-10.43	17.44	-1.92
160	SLV 16	-32	-12	135	-10.11	16.9	-0.93
160	SLV FO 1	34	1	416	-31.2	52.16	2.38
160	SLV FO 2	42	-3	411	-30.85	51.57	3.47
160	SLV FO 3	35	-19	209	-15.67	26.19	4.95
160	SLV FO 4	43	-23	204	-15.31	25.6	6.04
160	SLV FO 5	7	28	628	-47.09	78.72	-2.94
160	SLV FO 6	13	25	625	-46.86	78.33	-2.2
160	SLV FO 7	9	-40	-62	4.69	-7.84	5.63
160	SLV FO 8	15	-42	-66	4.92	-8.23	6.36
160	SLV FO 9	-16	31	603	-45.23	75.61	-5.07
160	SLV FO 10	-11	28	600	-44.99	75.21	-4.34
160	SLV FO 11	-14	-36	-87	6.55	-10.95	3.49
160	SLV FO 12	-9	-39	-90	6.79	-11.34	4.22
160	SLV FO 13	-44	12	333	-24.99	41.78	-4.75
160	SLV FO 14	-36	8	329	-24.64	41.19	-3.66
160	SLV FO 15	-43	-9	126	-9.46	15.81	-2.18
160	SLV FO 16	-35	-12	121	-9.11	15.22	-1.09
160	CRTFP Ux+	0	0	0	0	0	0
160	CRTFP Ux-	0	0	0	0	0	0
160	CRTFP Uy+	0	0	0	0	0	0
160	CRTFP Uy-	0	0	0	0	0	0
161	SLU 1	-1	-9	489	-36.65	54.46	0.88
161	SLU 2	-1	-7	503	-37.75	56.09	0.67
161	SLU 3	-1	-9	496	-37.19	55.26	0.89
161	SLU 4	-1	-8	505	-37.85	56.24	0.77
161	SLU 5	-1	-7	508	-38.08	56.58	0.68
161	SLU 6	-1	-9	500	-37.52	55.75	0.91
161	SLU 7	-1	-8	509	-38.18	56.73	0.78
161	SLU 8	-1	-9	497	-37.3	55.43	0.9
161	SLU 9	-1	-8	506	-37.96	56.41	0.78
161	SLU 10	-1	-8	569	-42.69	63.43	0.79
161	SLU 11	-1	-10	562	-42.13	62.6	1.02
161	SLU 12	-1	-9	571	-42.79	63.58	0.89
161	SLU 13	-1	-8	574	-43.02	63.92	0.81
161	SLU 14	-1	-10	566	-42.46	63.09	1.03
161	SLU 15	-1	-9	575	-43.12	64.07	0.91
161	SLU 16	-1	-10	563	-42.24	62.77	1.02
161	SLU 17	-1	-9	572	-42.9	63.75	0.9
161	SLU 18	-1	-10	583	-43.7	64.94	1.05
161	SLU 19	-1	-9	592	-44.36	65.92	0.93
161	SLU 20	-1	-10	587	-44.03	65.43	1.06
161	SLU 21	-1	-9	596	-44.69	66.41	0.94
161	SLU 22	-2	-10	554	-41.54	61.72	0.98
161	SLU 23	-2	-8	568	-42.64	63.35	0.78
161	SLU 24	-2	-10	561	-42.08	62.52	1
161	SLU 25	-2	-9	570	-42.74	63.5	0.87
161	SLU 26	-2	-8	573	-42.96	63.84	0.79
161	SLU 27	-2	-10	565	-42.4	63.01	1.01
161	SLU 28	-2	-9	574	-43.06	63.99	0.89
161	SLU 29	-2	-10	563	-42.19	62.69	1
161	SLU 30	-2	-9	571	-42.85	63.67	0.88
161	SLU 31	-1	-9	634	-47.57	70.69	0.9
161	SLU 32	-1	-11	627	-47.01	69.86	1.12
161	SLU 33	-1	-10	636	-47.67	70.84	1
161	SLU 34	-1	-9	639	-47.9	71.18	0.91
161	SLU 35	-1	-11	631	-47.34	70.35	1.13
161	SLU 36	-1	-10	640	-48	71.33	1.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
161	SLU 37	-1	-11	628	-47.13	70.03	1.12
161	SLU 38	-1	-10	637	-47.79	71.01	1
161	SLU 39	-1	-11	648	-48.59	72.2	1.15
161	SLU 40	-1	-10	657	-49.25	73.18	1.03
161	SLU 41	-1	-11	652	-48.92	72.69	1.16
161	SLU 42	-1	-10	661	-49.58	73.67	1.04
161	SLU 43	-2	-11	613	-45.97	68.31	1.1
161	SLU 44	-2	-9	628	-47.07	69.94	0.9
161	SLU 45	-2	-11	620	-46.51	69.11	1.12
161	SLU 46	-2	-10	629	-47.17	70.09	1
161	SLU 47	-2	-9	632	-47.4	70.43	0.91
161	SLU 48	-2	-11	625	-46.84	69.6	1.13
161	SLU 49	-2	-10	633	-47.5	70.58	1.01
161	SLU 50	-2	-11	622	-46.62	69.28	1.13
161	SLU 51	-2	-10	630	-47.29	70.26	1.01
161	SLU 52	-2	-10	693	-52.01	77.28	1.02
161	SLU 53	-2	-12	686	-51.45	76.45	1.24
161	SLU 54	-2	-11	695	-52.11	77.43	1.12
161	SLU 55	-2	-10	698	-52.34	77.77	1.03
161	SLU 56	-2	-12	690	-51.78	76.94	1.26
161	SLU 57	-2	-11	699	-52.44	77.92	1.13
161	SLU 58	-2	-12	688	-51.56	76.62	1.25
161	SLU 59	-2	-11	696	-52.22	77.6	1.13
161	SLU 60	-1	-12	707	-53.02	78.79	1.28
161	SLU 61	-1	-11	716	-53.68	79.77	1.16
161	SLU 62	-1	-13	711	-53.35	79.28	1.29
161	SLU 63	-2	-11	720	-54.01	80.26	1.17
161	SLU 64	-2	-12	678	-50.86	75.57	1.21
161	SLU 65	-2	-10	693	-51.96	77.2	1
161	SLU 66	-2	-12	685	-51.4	76.37	1.22
161	SLU 67	-2	-11	694	-52.06	77.35	1.1
161	SLU 68	-2	-10	697	-52.28	77.69	1.01
161	SLU 69	-2	-12	690	-51.72	76.86	1.24
161	SLU 70	-2	-11	698	-52.38	77.84	1.11
161	SLU 71	-2	-12	687	-51.51	76.54	1.23
161	SLU 72	-2	-11	696	-52.17	77.52	1.11
161	SLU 73	-2	-11	759	-56.89	84.54	1.12
161	SLU 74	-2	-13	751	-56.33	83.71	1.35
161	SLU 75	-2	-12	760	-57	84.69	1.22
161	SLU 76	-2	-11	763	-57.22	85.03	1.14
161	SLU 77	-2	-13	755	-56.66	84.19	1.36
161	SLU 78	-2	-12	764	-57.32	85.18	1.24
161	SLU 79	-2	-13	753	-56.45	83.88	1.35
161	SLU 80	-2	-12	761	-57.11	84.86	1.23
161	SLU 81	-2	-13	772	-57.91	86.05	1.38
161	SLU 82	-2	-12	781	-58.57	87.03	1.26
161	SLU 83	-2	-14	776	-58.24	86.53	1.39
161	SLU 84	-2	-13	785	-58.9	87.52	1.27
161	SLE RA 1	-1	-9	507	-38.05	56.53	0.91
161	SLE RA 2	-1	-8	517	-38.78	57.62	0.77
161	SLE RA 3	-1	-9	512	-38.41	57.07	0.92
161	SLE RA 4	-1	-8	518	-38.85	57.72	0.84
161	SLE RA 5	-1	-8	520	-39	57.95	0.78
161	SLE RA 6	-1	-9	515	-38.63	57.39	0.92
161	SLE RA 7	-1	-9	521	-39.07	58.05	0.84
161	SLE RA 8	-1	-9	513	-38.48	57.18	0.92
161	SLE RA 9	-1	-9	519	-38.92	57.84	0.84
161	SLE RA 10	-1	-9	561	-42.07	62.51	0.85
161	SLE RA 11	-1	-10	556	-41.7	61.96	1
161	SLE RA 12	-1	-9	562	-42.14	62.61	0.92
161	SLE RA 13	-1	-9	564	-42.29	62.84	0.86
161	SLE RA 14	-1	-10	559	-41.92	62.28	1.01
161	SLE RA 15	-1	-9	565	-42.36	62.94	0.92
161	SLE RA 16	-1	-10	557	-41.77	62.07	1
161	SLE RA 17	-1	-9	563	-42.21	62.73	0.92
161	SLE RA 18	-1	-10	570	-42.75	63.52	1.02
161	SLE RA 19	-1	-9	576	-43.19	64.17	0.94
161	SLE RA 20	-1	-10	573	-42.97	63.84	1.03
161	SLE RA 21	-1	-9	579	-43.41	64.5	0.95
161	SLE FR 1	-1	-9	507	-38.05	56.53	0.91
161	SLE FR 2	-1	-9	509	-38.19	56.75	0.88
161	SLE FR 3	-1	-9	508	-38.13	56.66	0.91
161	SLE FR 4	-1	-9	528	-39.6	58.85	0.91
161	SLE FR 5	-1	-9	527	-39.54	58.76	0.94
161	SLE FR 6	-1	-10	539	-40.4	60.03	0.96
161	SLE QP 1	-1	-9	507	-38.05	56.53	0.91
161	SLE QP 2	-1	-9	526	-39.46	58.63	0.94
161	SLD 1	39	-1	681	-51.05	75.86	3.04
161	SLD 2	48	-5	676	-50.69	75.31	4.17
161	SLD 3	39	-23	463	-34.7	51.56	5.54
161	SLD 4	48	-27	458	-34.33	51.02	6.67
161	SLD 5	8	27	904	-67.8	100.74	-2.41
161	SLD 6	14	25	901	-67.56	100.39	-1.68
161	SLD 7	10	-46	177	-13.29	19.75	5.91
161	SLD 8	16	-49	174	-13.06	19.4	6.64
161	SLD 9	-19	30	878	-65.86	97.86	-4.76
161	SLD 10	-13	28	875	-65.62	97.51	-4.03
161	SLD 11	-16	-43	151	-11.35	16.87	3.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
161	SLD 12	-11	-46	148	-11.12	16.52	4.29
161	SLD 13	-51	9	594	-44.58	66.24	-4.79
161	SLD 14	-42	5	590	-44.21	65.7	-3.66
161	SLD 15	-50	-13	376	-28.23	41.95	-2.29
161	SLD 16	-41	-17	372	-27.86	41.4	-1.16
161	SLV 1	61	5	782	-58.61	87.09	4.06
161	SLV 2	75	-2	774	-58.04	86.24	5.84
161	SLV 3	62	-33	413	-30.98	46.04	8.28
161	SLV 4	76	-39	405	-30.41	45.18	10.06
161	SLV 5	13	53	1163	-87.22	129.6	-4.85
161	SLV 6	23	49	1158	-86.83	129.03	-3.66
161	SLV 7	17	-72	-65	4.89	-7.26	9.21
161	SLV 8	27	-76	-70	5.27	-7.84	10.41
161	SLV 9	-29	58	1123	-84.19	125.1	-8.53
161	SLV 10	-19	53	1117	-83.8	124.52	-7.33
161	SLV 11	-25	-67	-106	7.92	-11.77	5.54
161	SLV 12	-15	-71	-111	8.31	-12.34	6.74
161	SLV 13	-79	20	647	-48.51	72.08	-8.18
161	SLV 14	-65	14	639	-47.93	71.22	-6.4
161	SLV 15	-78	-17	278	-20.88	31.02	-3.96
161	SLV 16	-64	-23	271	-20.3	30.16	-2.18
161	SLV FO 1	67	6	807	-60.53	89.94	4.37
161	SLV FO 2	83	-1	799	-59.9	89	6.33
161	SLV FO 3	68	-35	402	-30.13	44.78	9.01
161	SLV FO 4	84	-42	393	-29.5	43.84	10.97
161	SLV FO 5	14	59	1227	-92	136.7	-5.43
161	SLV FO 6	25	54	1221	-91.57	136.06	-4.12
161	SLV FO 7	19	-78	-124	9.32	-13.85	10.04
161	SLV FO 8	29	-83	-130	9.75	-14.48	11.35
161	SLV FO 9	-32	64	1182	-88.66	131.74	-9.47
161	SLV FO 10	-21	60	1176	-88.24	131.11	-8.16
161	SLV FO 11	-28	-73	-169	12.66	-18.81	6
161	SLV FO 12	-17	-78	-174	13.08	-19.44	7.32
161	SLV FO 13	-87	23	659	-49.41	73.42	-9.09
161	SLV FO 14	-71	17	650	-48.78	72.48	-7.13
161	SLV FO 15	-86	-18	254	-19.02	28.26	-4.45
161	SLV FO 16	-70	-25	245	-18.38	27.32	-2.49
161	CRTFP Ux+	0	0	0	0	0	0
161	CRTFP Ux-	0	0	0	0	0	0
161	CRTFP Uy+	0	0	0	0	0	0
161	CRTFP Uy-	0	0	0	0	0	0
162	SLU 1	-1	-7	489	-36.7	47.72	0.62
162	SLU 2	-2	-6	504	-37.8	49.14	0.43
162	SLU 3	-1	-8	497	-37.24	48.42	0.63
162	SLU 4	-2	-6	505	-37.9	49.28	0.52
162	SLU 5	-2	-6	508	-38.12	49.57	0.44
162	SLU 6	-1	-8	501	-37.57	48.85	0.64
162	SLU 7	-2	-7	510	-38.23	49.7	0.53
162	SLU 8	-1	-8	498	-37.36	48.57	0.63
162	SLU 9	-2	-7	507	-38.01	49.43	0.52
162	SLU 10	-1	-6	570	-42.75	55.58	0.52
162	SLU 11	-1	-8	563	-42.2	54.86	0.72
162	SLU 12	-1	-7	571	-42.85	55.72	0.61
162	SLU 13	-1	-7	574	-43.08	56.01	0.53
162	SLU 14	-1	-8	567	-42.52	55.29	0.73
162	SLU 15	-1	-7	576	-43.18	56.14	0.62
162	SLU 16	-1	-8	564	-42.31	55.01	0.72
162	SLU 17	-1	-7	573	-42.97	55.86	0.61
162	SLU 18	-1	-9	584	-43.78	56.92	0.75
162	SLU 19	-1	-7	592	-44.43	57.77	0.64
162	SLU 20	-1	-9	588	-44.1	57.34	0.76
162	SLU 21	-1	-8	597	-44.76	58.2	0.65
162	SLU 22	-2	-8	554	-41.58	54.06	0.69
162	SLU 23	-2	-6	569	-42.68	55.49	0.5
162	SLU 24	-2	-8	562	-42.12	54.77	0.7
162	SLU 25	-2	-7	570	-42.78	55.62	0.59
162	SLU 26	-2	-7	573	-43.01	55.91	0.51
162	SLU 27	-2	-9	566	-42.45	55.19	0.71
162	SLU 28	-2	-7	575	-43.11	56.05	0.59
162	SLU 29	-2	-8	563	-42.24	54.92	0.7
162	SLU 30	-2	-7	572	-42.89	55.77	0.59
162	SLU 31	-2	-7	635	-47.63	61.93	0.59
162	SLU 32	-1	-9	628	-47.08	61.21	0.79
162	SLU 33	-2	-8	636	-47.73	62.06	0.68
162	SLU 34	-2	-7	639	-47.96	62.35	0.6
162	SLU 35	-2	-9	632	-47.4	61.63	0.8
162	SLU 36	-2	-8	641	-48.06	62.49	0.69
162	SLU 37	-2	-9	629	-47.19	61.35	0.79
162	SLU 38	-2	-8	638	-47.85	62.21	0.68
162	SLU 39	-1	-9	649	-48.66	63.26	0.82
162	SLU 40	-1	-8	658	-49.31	64.12	0.71
162	SLU 41	-1	-10	653	-48.98	63.69	0.82
162	SLU 42	-1	-8	662	-49.64	64.54	0.71
162	SLU 43	-2	-9	614	-46.04	59.86	0.78
162	SLU 44	-2	-8	628	-47.13	61.28	0.59
162	SLU 45	-2	-9	621	-46.58	60.56	0.79
162	SLU 46	-2	-8	630	-47.24	61.42	0.68
162	SLU 47	-2	-8	633	-47.46	61.71	0.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
162	SLU 48	-2	-10	625	-46.91	60.99	0.8
162	SLU 49	-2	-9	634	-47.57	61.84	0.69
162	SLU 50	-2	-10	623	-46.69	60.71	0.79
162	SLU 51	-2	-8	631	-47.35	61.57	0.68
162	SLU 52	-2	-8	694	-52.09	67.72	0.69
162	SLU 53	-2	-10	687	-51.53	67	0.88
162	SLU 54	-2	-9	696	-52.19	67.86	0.77
162	SLU 55	-2	-8	699	-52.41	68.15	0.69
162	SLU 56	-2	-10	691	-51.86	67.43	0.89
162	SLU 57	-2	-9	700	-52.52	68.28	0.78
162	SLU 58	-2	-10	689	-51.65	67.15	0.89
162	SLU 59	-2	-9	697	-52.3	68	0.78
162	SLU 60	-2	-10	708	-53.11	69.05	0.91
162	SLU 61	-2	-9	717	-53.77	69.91	0.8
162	SLU 62	-2	-11	713	-53.44	69.48	0.92
162	SLU 63	-2	-10	721	-54.1	70.34	0.81
162	SLU 64	-2	-10	679	-50.92	66.2	0.85
162	SLU 65	-2	-8	694	-52.01	67.63	0.66
162	SLU 66	-2	-10	686	-51.46	66.91	0.86
162	SLU 67	-2	-9	695	-52.12	67.76	0.75
162	SLU 68	-2	-8	698	-52.34	68.05	0.67
162	SLU 69	-2	-10	691	-51.79	67.33	0.87
162	SLU 70	-2	-9	699	-52.45	68.19	0.76
162	SLU 71	-2	-10	688	-51.57	67.05	0.86
162	SLU 72	-2	-9	696	-52.23	67.91	0.75
162	SLU 73	-2	-9	760	-56.97	74.07	0.75
162	SLU 74	-2	-11	752	-56.41	73.35	0.95
162	SLU 75	-2	-10	761	-57.07	74.2	0.84
162	SLU 76	-2	-9	764	-57.29	74.49	0.76
162	SLU 77	-2	-11	757	-56.74	73.77	0.96
162	SLU 78	-2	-10	765	-57.4	74.63	0.85
162	SLU 79	-2	-11	754	-56.53	73.49	0.95
162	SLU 80	-2	-10	762	-57.18	74.35	0.84
162	SLU 81	-2	-11	773	-57.99	75.4	0.98
162	SLU 82	-2	-10	782	-58.65	76.26	0.87
162	SLU 83	-2	-11	778	-58.32	75.83	0.99
162	SLU 84	-2	-10	786	-58.98	76.68	0.88
162	SLE RA 1	-1	-8	508	-38.09	49.53	0.64
162	SLE RA 2	-2	-6	518	-38.83	50.48	0.51
162	SLE RA 3	-1	-8	513	-38.46	50	0.64
162	SLE RA 4	-2	-7	519	-38.9	50.57	0.57
162	SLE RA 5	-2	-7	521	-39.04	50.76	0.52
162	SLE RA 6	-2	-8	516	-38.68	50.28	0.65
162	SLE RA 7	-2	-7	522	-39.11	50.85	0.58
162	SLE RA 8	-2	-8	514	-38.53	50.1	0.65
162	SLE RA 9	-2	-7	520	-38.97	50.67	0.57
162	SLE RA 10	-1	-7	562	-42.13	54.77	0.57
162	SLE RA 11	-1	-8	557	-41.76	54.29	0.71
162	SLE RA 12	-1	-8	563	-42.2	54.86	0.63
162	SLE RA 13	-1	-7	565	-42.35	55.06	0.58
162	SLE RA 14	-1	-8	560	-41.98	54.58	0.71
162	SLE RA 15	-1	-8	566	-42.42	55.15	0.64
162	SLE RA 16	-1	-8	558	-41.83	54.39	0.71
162	SLE RA 17	-1	-8	564	-42.27	54.96	0.63
162	SLE RA 18	-1	-8	571	-42.81	55.66	0.72
162	SLE RA 19	-1	-8	577	-43.25	56.23	0.65
162	SLE RA 20	-1	-9	574	-43.03	55.95	0.73
162	SLE RA 21	-1	-8	580	-43.47	56.52	0.66
162	SLE FR 1	-1	-8	508	-38.09	49.53	0.64
162	SLE FR 2	-1	-7	510	-38.24	49.72	0.61
162	SLE FR 3	-1	-8	509	-38.18	49.64	0.64
162	SLE FR 4	-1	-8	529	-39.66	51.56	0.64
162	SLE FR 5	-1	-8	528	-39.6	51.48	0.67
162	SLE FR 6	-1	-8	539	-40.45	52.6	0.68
162	SLE QP 1	-1	-8	508	-38.09	49.53	0.64
162	SLE QP 2	-1	-8	527	-39.51	51.37	0.66
162	SLD 1	39	1	677	-50.77	66.01	2.81
162	SLD 2	48	-3	672	-50.43	65.57	3.85
162	SLD 3	39	-22	459	-34.42	44.75	5.06
162	SLD 4	49	-25	455	-34.09	44.32	6.1
162	SLD 5	8	30	903	-67.74	88.07	-2.3
162	SLD 6	14	28	900	-67.52	87.79	-1.63
162	SLD 7	10	-46	177	-13.25	17.23	5.23
162	SLD 8	16	-48	174	-13.03	16.95	5.9
162	SLD 9	-19	33	880	-65.98	85.79	-4.57
162	SLD 10	-13	30	877	-65.77	85.51	-3.9
162	SLD 11	-17	-43	153	-11.5	14.95	2.95
162	SLD 12	-11	-46	150	-11.28	14.67	3.62
162	SLD 13	-51	10	599	-44.93	58.42	-4.78
162	SLD 14	-42	6	595	-44.6	57.98	-3.74
162	SLD 15	-51	-13	381	-28.58	37.16	-2.52
162	SLD 16	-41	-17	377	-28.25	36.73	-1.48
162	SLV 1	61	7	775	-58.14	75.59	3.87
162	SLV 2	76	2	768	-57.62	74.91	5.5
162	SLV 3	62	-31	407	-30.52	39.68	7.68
162	SLV 4	77	-37	400	-30	39	9.32
162	SLV 5	13	56	1161	-87.09	113.23	-4.47
162	SLV 6	23	52	1157	-86.74	112.78	-3.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
162	SLV 7	17	-72	-66	4.98	-6.48	8.25
162	SLV 8	27	-76	-71	5.34	-6.94	9.35
162	SLV 9	-29	60	1125	-84.36	109.68	-8.02
162	SLV 10	-20	57	1120	-84	109.22	-6.92
162	SLV 11	-25	-68	-103	7.72	-10.04	4.69
162	SLV 12	-16	-72	-108	8.07	-10.5	5.79
162	SLV 13	-80	21	654	-49.02	63.74	-7.99
162	SLV 14	-65	15	647	-48.5	63.06	-6.35
162	SLV 15	-78	-17	285	-21.4	27.82	-4.18
162	SLV 16	-64	-23	278	-20.88	27.14	-2.54
162	SLV FO 1	67	9	800	-60.01	78.02	4.19
162	SLV FO 2	83	3	792	-59.43	77.27	5.99
162	SLV FO 3	69	-34	395	-29.62	38.51	8.38
162	SLV FO 4	85	-40	387	-29.04	37.76	10.18
162	SLV FO 5	14	63	1225	-91.85	119.42	-4.98
162	SLV FO 6	25	59	1219	-91.46	118.92	-3.77
162	SLV FO 7	19	-79	-126	9.43	-12.27	9.01
162	SLV FO 8	29	-83	-131	9.82	-12.77	10.22
162	SLV FO 9	-32	67	1185	-88.84	115.51	-8.89
162	SLV FO 10	-21	63	1179	-88.45	115	-7.68
162	SLV FO 11	-28	-74	-166	12.44	-16.18	5.09
162	SLV FO 12	-17	-78	-171	12.83	-16.68	6.31
162	SLV FO 13	-87	24	666	-49.98	64.98	-8.85
162	SLV FO 14	-71	18	659	-49.4	64.23	-7.06
162	SLV FO 15	-86	-18	261	-19.59	25.47	-4.66
162	SLV FO 16	-70	-25	254	-19.01	24.72	-2.86
162	CRTFP Ux+	0	0	0	0	0	0
162	CRTFP Ux-	0	0	0	0	0	0
162	CRTFP Uy+	0	0	0	0	0	0
162	CRTFP Uy-	0	0	0	0	0	0
163	SLU 1	-1	-6	493	-36.96	41.19	0.41
163	SLU 2	-2	-4	508	-38.06	42.42	0.25
163	SLU 3	-1	-6	500	-37.51	41.81	0.42
163	SLU 4	-2	-5	509	-38.17	42.54	0.32
163	SLU 5	-2	-4	512	-38.39	42.79	0.25
163	SLU 6	-2	-6	505	-37.84	42.17	0.42
163	SLU 7	-2	-5	513	-38.5	42.91	0.32
163	SLU 8	-2	-6	502	-37.63	41.93	0.42
163	SLU 9	-2	-5	510	-38.29	42.67	0.32
163	SLU 10	-1	-5	574	-43.06	47.99	0.32
163	SLU 11	-1	-7	567	-42.51	47.38	0.49
163	SLU 12	-1	-6	576	-43.17	48.11	0.39
163	SLU 13	-1	-5	579	-43.39	48.36	0.32
163	SLU 14	-1	-7	571	-42.84	47.75	0.49
163	SLU 15	-1	-6	580	-43.5	48.48	0.39
163	SLU 16	-1	-7	568	-42.63	47.5	0.49
163	SLU 17	-1	-6	577	-43.29	48.24	0.39
163	SLU 18	-1	-7	588	-44.11	49.15	0.51
163	SLU 19	-1	-6	597	-44.77	49.89	0.41
163	SLU 20	-1	-7	593	-44.44	49.52	0.51
163	SLU 21	-1	-6	601	-45.1	50.26	0.42
163	SLU 22	-2	-7	558	-41.87	46.66	0.45
163	SLU 23	-2	-5	573	-42.97	47.89	0.29
163	SLU 24	-2	-7	566	-42.42	47.27	0.46
163	SLU 25	-2	-6	574	-43.08	48.01	0.36
163	SLU 26	-2	-5	577	-43.3	48.26	0.29
163	SLU 27	-2	-7	570	-42.75	47.64	0.47
163	SLU 28	-2	-6	579	-43.41	48.38	0.37
163	SLU 29	-2	-7	567	-42.53	47.4	0.46
163	SLU 30	-2	-6	576	-43.19	48.14	0.36
163	SLU 31	-2	-6	640	-47.97	53.46	0.36
163	SLU 32	-2	-8	632	-47.42	52.85	0.53
163	SLU 33	-2	-7	641	-48.08	53.58	0.43
163	SLU 34	-2	-6	644	-48.3	53.83	0.36
163	SLU 35	-2	-8	637	-47.75	53.22	0.53
163	SLU 36	-2	-7	645	-48.41	53.95	0.44
163	SLU 37	-2	-8	634	-47.53	52.97	0.53
163	SLU 38	-2	-7	643	-48.19	53.71	0.43
163	SLU 39	-1	-8	654	-49.01	54.62	0.55
163	SLU 40	-1	-7	662	-49.67	55.36	0.45
163	SLU 41	-1	-8	658	-49.35	54.99	0.56
163	SLU 42	-2	-7	667	-50	55.73	0.46
163	SLU 43	-2	-8	618	-46.37	51.68	0.52
163	SLU 44	-2	-6	633	-47.47	52.9	0.36
163	SLU 45	-2	-8	626	-46.92	52.29	0.53
163	SLU 46	-2	-7	634	-47.58	53.02	0.43
163	SLU 47	-2	-6	637	-47.8	53.27	0.36
163	SLU 48	-2	-8	630	-47.25	52.66	0.53
163	SLU 49	-2	-7	639	-47.91	53.39	0.43
163	SLU 50	-2	-8	627	-47.03	52.42	0.53
163	SLU 51	-2	-7	636	-47.69	53.15	0.43
163	SLU 52	-2	-7	700	-52.47	58.47	0.42
163	SLU 53	-2	-9	692	-51.92	57.86	0.6
163	SLU 54	-2	-8	701	-52.58	58.59	0.5
163	SLU 55	-2	-7	704	-52.8	58.84	0.43
163	SLU 56	-2	-9	697	-52.25	58.23	0.6
163	SLU 57	-2	-8	705	-52.91	58.96	0.5
163	SLU 58	-2	-9	694	-52.03	57.99	0.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
163	SLU 59	-2	-8	703	-52.69	58.72	0.5
163	SLU 60	-2	-9	714	-53.51	59.64	0.62
163	SLU 61	-2	-8	722	-54.17	60.37	0.52
163	SLU 62	-2	-9	718	-53.84	60.01	0.62
163	SLU 63	-2	-8	727	-54.5	60.74	0.52
163	SLU 64	-2	-9	684	-51.28	57.15	0.56
163	SLU 65	-2	-7	698	-52.38	58.37	0.4
163	SLU 66	-2	-9	691	-51.83	57.76	0.57
163	SLU 67	-2	-8	700	-52.49	58.49	0.47
163	SLU 68	-2	-7	703	-52.71	58.74	0.4
163	SLU 69	-2	-9	695	-52.16	58.13	0.57
163	SLU 70	-2	-8	704	-52.82	58.86	0.48
163	SLU 71	-2	-9	693	-51.94	57.88	0.57
163	SLU 72	-2	-8	701	-52.6	58.62	0.47
163	SLU 73	-2	-7	765	-57.38	63.94	0.47
163	SLU 74	-2	-9	758	-56.83	63.33	0.64
163	SLU 75	-2	-8	766	-57.49	64.06	0.54
163	SLU 76	-2	-7	769	-57.71	64.31	0.47
163	SLU 77	-2	-9	762	-57.16	63.7	0.64
163	SLU 78	-2	-8	771	-57.82	64.43	0.54
163	SLU 79	-2	-9	759	-56.94	63.46	0.64
163	SLU 80	-2	-8	768	-57.6	64.19	0.54
163	SLU 81	-2	-10	779	-58.42	65.11	0.66
163	SLU 82	-2	-8	788	-59.08	65.84	0.56
163	SLU 83	-2	-10	783	-58.75	65.48	0.67
163	SLU 84	-2	-8	792	-59.41	66.21	0.57
163	SLE RA 1	-2	-6	512	-38.37	42.76	0.42
163	SLE RA 2	-2	-5	521	-39.1	43.57	0.31
163	SLE RA 3	-2	-7	516	-38.73	43.16	0.43
163	SLE RA 4	-2	-6	522	-39.17	43.65	0.36
163	SLE RA 5	-2	-5	524	-39.32	43.82	0.32
163	SLE RA 6	-2	-7	519	-38.95	43.41	0.43
163	SLE RA 7	-2	-6	525	-39.39	43.9	0.37
163	SLE RA 8	-2	-7	517	-38.81	43.25	0.43
163	SLE RA 9	-2	-6	523	-39.25	43.74	0.36
163	SLE RA 10	-1	-6	566	-42.43	47.29	0.36
163	SLE RA 11	-1	-7	561	-42.06	46.88	0.47
163	SLE RA 12	-1	-6	567	-42.5	47.37	0.41
163	SLE RA 13	-2	-6	569	-42.65	47.53	0.36
163	SLE RA 14	-1	-7	564	-42.29	47.12	0.48
163	SLE RA 15	-2	-6	570	-42.73	47.61	0.41
163	SLE RA 16	-1	-7	562	-42.14	46.96	0.48
163	SLE RA 17	-2	-6	568	-42.58	47.45	0.41
163	SLE RA 18	-1	-7	575	-43.13	48.06	0.49
163	SLE RA 19	-1	-6	581	-43.57	48.55	0.42
163	SLE RA 20	-1	-7	578	-43.35	48.31	0.49
163	SLE RA 21	-1	-6	584	-43.79	48.8	0.43
163	SLE FR 1	-2	-6	512	-38.37	42.76	0.42
163	SLE FR 2	-2	-6	514	-38.51	42.92	0.4
163	SLE FR 3	-2	-6	513	-38.45	42.85	0.42
163	SLE FR 4	-1	-6	533	-39.94	44.51	0.42
163	SLE FR 5	-1	-7	532	-39.88	44.45	0.44
163	SLE FR 6	-1	-7	543	-40.75	45.41	0.46
163	SLE QP 1	-2	-6	512	-38.37	42.76	0.42
163	SLE QP 2	-1	-7	531	-39.79	44.35	0.44
163	SLD 1	39	3	677	-50.77	56.58	2.67
163	SLD 2	48	0	673	-50.47	56.24	3.64
163	SLD 3	40	-21	458	-34.34	38.27	4.67
163	SLD 4	49	-24	454	-34.03	37.93	5.63
163	SLD 5	8	33	907	-68.06	75.85	-2.09
163	SLD 6	14	30	905	-67.86	75.63	-1.46
163	SLD 7	10	-46	177	-13.29	14.81	4.57
163	SLD 8	16	-48	175	-13.09	14.59	5.2
163	SLD 9	-19	35	887	-66.5	74.11	-4.31
163	SLD 10	-13	33	884	-66.3	73.89	-3.69
163	SLD 11	-17	-44	156	-11.72	13.07	2.35
163	SLD 12	-11	-46	154	-11.53	12.85	2.97
163	SLD 13	-52	11	607	-45.55	50.77	-4.75
163	SLD 14	-43	7	603	-45.25	50.43	-3.78
163	SLD 15	-51	-13	388	-29.12	32.46	-2.75
163	SLD 16	-42	-16	384	-28.82	32.12	-1.79
163	SLV 1	62	10	773	-57.99	64.62	3.8
163	SLV 2	76	5	767	-57.51	64.09	5.31
163	SLV 3	63	-30	403	-30.22	33.68	7.17
163	SLV 4	77	-35	397	-29.75	33.15	8.69
163	SLV 5	13	60	1166	-87.46	97.46	-3.95
163	SLV 6	23	56	1162	-87.14	97.11	-2.93
163	SLV 7	17	-73	-68	5.1	-5.69	7.3
163	SLV 8	27	-77	-72	5.42	-6.04	8.32
163	SLV 9	-30	63	1133	-85.01	94.74	-7.43
163	SLV 10	-20	60	1129	-84.69	94.38	-6.41
163	SLV 11	-26	-70	-101	7.55	-8.41	3.82
163	SLV 12	-16	-73	-105	7.87	-8.77	4.84
163	SLV 13	-80	22	665	-49.84	55.55	-7.8
163	SLV 14	-66	17	658	-49.37	55.02	-6.28
163	SLV 15	-79	-18	294	-22.08	24.6	-4.43
163	SLV 16	-65	-23	288	-21.6	24.07	-2.91
163	SLV FO 1	68	12	797	-59.81	66.65	4.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
163	SLV FO 2	84	6	790	-59.28	66.07	5.8
163	SLV FO 3	69	-32	390	-29.26	32.61	7.84
163	SLV FO 4	85	-38	383	-28.74	32.03	9.51
163	SLV FO 5	14	66	1230	-92.22	102.78	-4.39
163	SLV FO 6	25	63	1225	-91.87	102.38	-3.27
163	SLV FO 7	19	-80	-128	9.59	-10.69	7.98
163	SLV FO 8	29	-84	-133	9.94	-11.08	9.11
163	SLV FO 9	-32	70	1194	-89.53	99.78	-8.22
163	SLV FO 10	-22	66	1189	-89.18	99.39	-7.1
163	SLV FO 11	-28	-76	-164	12.28	-13.69	4.15
163	SLV FO 12	-17	-80	-168	12.63	-14.08	5.28
163	SLV FO 13	-88	25	678	-50.85	56.67	-8.63
163	SLV FO 14	-72	19	671	-50.32	56.08	-6.96
163	SLV FO 15	-87	-19	271	-20.3	22.63	-4.92
163	SLV FO 16	-71	-25	264	-19.78	22.04	-3.25
163	CRTFP Ux+	0	0	0	0	0	0
163	CRTFP Ux-	0	0	0	0	0	0
163	CRTFP Uy+	0	0	0	0	0	0
163	CRTFP Uy-	0	0	0	0	0	0
164	SLU 1	-1	-5	497	-37.31	34.65	0.24
164	SLU 2	-2	-3	512	-38.41	35.67	0.1
164	SLU 3	-1	-5	505	-37.87	35.17	0.25
164	SLU 4	-2	-4	514	-38.53	35.78	0.16
164	SLU 5	-2	-3	517	-38.75	35.99	0.1
164	SLU 6	-2	-5	509	-38.2	35.48	0.25
164	SLU 7	-2	-4	518	-38.86	36.09	0.16
164	SLU 8	-2	-5	506	-37.98	35.27	0.25
164	SLU 9	-2	-4	515	-38.64	35.89	0.16
164	SLU 10	-1	-4	580	-43.48	40.38	0.15
164	SLU 11	-1	-6	572	-42.93	39.87	0.3
164	SLU 12	-1	-5	581	-43.59	40.48	0.21
164	SLU 13	-1	-4	584	-43.81	40.69	0.15
164	SLU 14	-1	-6	577	-43.26	40.18	0.3
164	SLU 15	-1	-5	586	-43.93	40.79	0.21
164	SLU 16	-1	-6	574	-43.04	39.97	0.3
164	SLU 17	-1	-5	583	-43.71	40.59	0.21
164	SLU 18	-1	-6	594	-44.54	41.37	0.31
164	SLU 19	-1	-5	603	-45.2	41.98	0.23
164	SLU 20	-1	-6	598	-44.88	41.68	0.32
164	SLU 21	-1	-5	607	-45.54	42.29	0.23
164	SLU 22	-2	-6	563	-42.26	39.25	0.26
164	SLU 23	-2	-4	578	-43.36	40.27	0.12
164	SLU 24	-2	-6	571	-42.82	39.76	0.27
164	SLU 25	-2	-5	580	-43.48	40.38	0.18
164	SLU 26	-2	-4	583	-43.7	40.58	0.12
164	SLU 27	-2	-6	575	-43.15	40.07	0.27
164	SLU 28	-2	-5	584	-43.81	40.69	0.18
164	SLU 29	-2	-6	572	-42.93	39.87	0.27
164	SLU 30	-2	-5	581	-43.59	40.48	0.18
164	SLU 31	-2	-4	646	-48.43	44.97	0.17
164	SLU 32	-2	-6	638	-47.88	44.46	0.32
164	SLU 33	-2	-5	647	-48.54	45.08	0.23
164	SLU 34	-2	-4	650	-48.76	45.28	0.17
164	SLU 35	-2	-6	643	-48.21	44.78	0.32
164	SLU 36	-2	-5	652	-48.88	45.39	0.23
164	SLU 37	-2	-6	640	-47.99	44.57	0.32
164	SLU 38	-2	-5	649	-48.66	45.19	0.23
164	SLU 39	-1	-6	660	-49.49	45.96	0.34
164	SLU 40	-2	-5	669	-50.15	46.58	0.25
164	SLU 41	-1	-6	664	-49.83	46.27	0.34
164	SLU 42	-2	-5	673	-50.49	46.89	0.25
164	SLU 43	-2	-6	624	-46.81	43.47	0.31
164	SLU 44	-2	-4	639	-47.91	44.49	0.17
164	SLU 45	-2	-7	631	-47.36	43.98	0.31
164	SLU 46	-2	-5	640	-48.02	44.6	0.23
164	SLU 47	-2	-5	643	-48.25	44.8	0.17
164	SLU 48	-2	-7	636	-47.7	44.3	0.32
164	SLU 49	-2	-5	645	-48.36	44.91	0.23
164	SLU 50	-2	-7	633	-47.48	44.09	0.31
164	SLU 51	-2	-5	642	-48.14	44.71	0.23
164	SLU 52	-2	-5	706	-52.97	49.19	0.22
164	SLU 53	-2	-7	699	-52.42	48.69	0.36
164	SLU 54	-2	-6	708	-53.09	49.3	0.28
164	SLU 55	-2	-5	711	-53.31	49.51	0.22
164	SLU 56	-2	-7	703	-52.76	49	0.37
164	SLU 57	-2	-6	712	-53.42	49.61	0.28
164	SLU 58	-2	-7	701	-52.54	48.79	0.36
164	SLU 59	-2	-6	709	-53.2	49.41	0.28
164	SLU 60	-2	-7	721	-54.04	50.18	0.38
164	SLU 61	-2	-6	729	-54.7	50.8	0.3
164	SLU 62	-2	-7	725	-54.37	50.5	0.38
164	SLU 63	-2	-6	734	-55.04	51.11	0.3
164	SLU 64	-2	-7	690	-51.76	48.07	0.33
164	SLU 65	-2	-5	705	-52.86	49.09	0.19
164	SLU 66	-2	-7	697	-52.31	48.58	0.33
164	SLU 67	-2	-6	706	-52.97	49.2	0.25
164	SLU 68	-2	-5	709	-53.19	49.4	0.19
164	SLU 69	-2	-7	702	-52.65	48.89	0.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
164	SLU 70	-2	-6	711	-53.31	49.51	0.25
164	SLU 71	-2	-7	699	-52.43	48.69	0.34
164	SLU 72	-2	-6	708	-53.09	49.3	0.25
164	SLU 73	-2	-6	772	-57.92	53.79	0.24
164	SLU 74	-2	-8	765	-57.37	53.28	0.38
164	SLU 75	-2	-6	774	-58.04	53.9	0.3
164	SLU 76	-2	-6	777	-58.26	54.1	0.24
164	SLU 77	-2	-8	769	-57.71	53.59	0.39
164	SLU 78	-2	-6	778	-58.37	54.21	0.3
164	SLU 79	-2	-8	767	-57.49	53.39	0.38
164	SLU 80	-2	-6	775	-58.15	54	0.3
164	SLU 81	-2	-8	787	-58.99	54.78	0.4
164	SLU 82	-2	-7	795	-59.65	55.4	0.32
164	SLU 83	-2	-8	791	-59.32	55.09	0.4
164	SLU 84	-2	-7	800	-59.99	55.71	0.32
164	SLE RA 1	-2	-5	516	-38.72	35.96	0.25
164	SLE RA 2	-2	-4	526	-39.46	36.65	0.15
164	SLE RA 3	-2	-5	521	-39.09	36.31	0.25
164	SLE RA 4	-2	-5	527	-39.54	36.72	0.19
164	SLE RA 5	-2	-4	529	-39.68	36.85	0.16
164	SLE RA 6	-2	-5	524	-39.32	36.51	0.25
164	SLE RA 7	-2	-5	530	-39.76	36.92	0.2
164	SLE RA 8	-2	-5	522	-39.17	36.38	0.25
164	SLE RA 9	-2	-5	528	-39.61	36.79	0.2
164	SLE RA 10	-1	-4	571	-42.83	39.78	0.19
164	SLE RA 11	-1	-6	566	-42.47	39.44	0.29
164	SLE RA 12	-1	-5	572	-42.91	39.85	0.23
164	SLE RA 13	-2	-4	574	-43.06	39.99	0.19
164	SLE RA 14	-1	-6	569	-42.69	39.65	0.29
164	SLE RA 15	-2	-5	575	-43.13	40.06	0.23
164	SLE RA 16	-1	-6	567	-42.55	39.51	0.29
164	SLE RA 17	-2	-5	573	-42.99	39.92	0.23
164	SLE RA 18	-1	-6	581	-43.55	40.44	0.3
164	SLE RA 19	-1	-5	586	-43.99	40.85	0.24
164	SLE RA 20	-1	-6	584	-43.77	40.65	0.3
164	SLE RA 21	-1	-5	589	-44.21	41.06	0.24
164	SLE FR 1	-2	-5	516	-38.72	35.96	0.25
164	SLE FR 2	-2	-5	518	-38.87	36.1	0.23
164	SLE FR 3	-2	-5	518	-38.81	36.05	0.25
164	SLE FR 4	-1	-5	538	-40.32	37.44	0.24
164	SLE FR 5	-1	-5	537	-40.26	37.39	0.26
164	SLE FR 6	-1	-5	548	-41.13	38.2	0.27
164	SLE QP 1	-2	-5	516	-38.72	35.96	0.25
164	SLE QP 2	-1	-5	536	-40.17	37.31	0.26
164	SLD 1	39	5	678	-50.88	47.25	2.6
164	SLD 2	49	2	675	-50.6	47	3.5
164	SLD 3	40	-19	458	-34.32	31.87	4.32
164	SLD 4	49	-22	454	-34.05	31.62	5.22
164	SLD 5	8	35	914	-68.54	63.65	-1.79
164	SLD 6	14	33	911	-68.36	63.49	-1.21
164	SLD 7	10	-46	178	-13.35	12.4	3.92
164	SLD 8	16	-48	176	-13.18	12.24	4.51
164	SLD 9	-19	37	896	-67.16	62.37	-3.98
164	SLD 10	-13	35	893	-66.99	62.21	-3.4
164	SLD 11	-17	-44	160	-11.98	11.13	1.74
164	SLD 12	-11	-46	157	-11.8	10.96	2.32
164	SLD 13	-52	11	617	-46.29	42.99	-4.69
164	SLD 14	-43	9	614	-46.02	42.74	-3.79
164	SLD 15	-51	-13	396	-29.74	27.62	-2.97
164	SLD 16	-42	-16	393	-29.46	27.36	-2.07
164	SLV 1	62	12	773	-57.96	53.82	3.81
164	SLV 2	77	8	767	-57.53	53.42	5.22
164	SLV 3	63	-29	400	-29.98	27.84	6.7
164	SLV 4	78	-33	394	-29.55	27.44	8.12
164	SLV 5	13	63	1174	-88.02	81.74	-3.33
164	SLV 6	23	60	1170	-87.73	81.47	-2.37
164	SLV 7	17	-74	-70	5.24	-4.86	6.32
164	SLV 8	27	-77	-74	5.53	-5.13	7.27
164	SLV 9	-30	66	1145	-85.87	79.75	-6.75
164	SLV 10	-20	63	1141	-85.58	79.48	-5.79
164	SLV 11	-26	-71	-98	7.39	-6.86	2.9
164	SLV 12	-16	-74	-102	7.68	-7.13	3.86
164	SLV 13	-81	22	677	-50.79	47.17	-7.59
164	SLV 14	-66	18	671	-50.36	46.77	-6.17
164	SLV 15	-80	-19	304	-22.81	21.19	-4.7
164	SLV 16	-65	-23	298	-22.38	20.79	-3.28
164	SLV FO 1	69	14	796	-59.74	55.48	4.16
164	SLV FO 2	85	9	790	-59.26	55.04	5.72
164	SLV FO 3	70	-31	386	-28.96	26.9	7.35
164	SLV FO 4	86	-36	380	-28.49	26.46	8.9
164	SLV FO 5	15	70	1237	-92.8	86.19	-3.69
164	SLV FO 6	26	67	1233	-92.48	85.89	-2.64
164	SLV FO 7	19	-81	-130	9.78	-9.08	6.93
164	SLV FO 8	30	-84	-135	10.1	-9.38	7.98
164	SLV FO 9	-32	73	1206	-90.44	83.99	-7.45
164	SLV FO 10	-22	70	1202	-90.12	83.69	-6.4
164	SLV FO 11	-28	-77	-162	12.14	-11.28	3.17
164	SLV FO 12	-18	-81	-166	12.46	-11.57	4.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
164	SLV FO 13	-89	25	691	-51.85	48.16	-8.38
164	SLV FO 14	-73	20	685	-51.38	47.72	-6.82
164	SLV FO 15	-88	-20	281	-21.08	19.58	-5.19
164	SLV FO 16	-71	-25	275	-20.61	19.14	-3.63
164	CRTFP Ux+	0	0	0	0	0	0
164	CRTFP Ux-	0	0	0	0	0	0
164	CRTFP Uy+	0	0	0	0	0	0
164	CRTFP Uy-	0	0	0	0	0	0
165	SLU 1	-1	-4	503	-37.7	28.01	0.11
165	SLU 2	-2	-2	517	-38.81	28.83	-0.01
165	SLU 3	-1	-4	510	-38.26	28.43	0.11
165	SLU 4	-2	-3	519	-38.93	28.92	0.04
165	SLU 5	-2	-2	522	-39.15	29.08	-0.01
165	SLU 6	-2	-4	515	-38.6	28.68	0.11
165	SLU 7	-2	-3	524	-39.27	29.17	0.04
165	SLU 8	-2	-4	512	-38.38	28.51	0.11
165	SLU 9	-2	-3	521	-39.04	29.01	0.04
165	SLU 10	-1	-2	586	-43.94	32.65	0.02
165	SLU 11	-1	-4	579	-43.39	32.24	0.14
165	SLU 12	-1	-3	587	-44.06	32.73	0.07
165	SLU 13	-1	-2	590	-44.28	32.9	0.02
165	SLU 14	-1	-4	583	-43.74	32.49	0.14
165	SLU 15	-1	-3	592	-44.4	32.99	0.07
165	SLU 16	-1	-4	580	-43.51	32.33	0.14
165	SLU 17	-1	-3	589	-44.18	32.82	0.07
165	SLU 18	-1	-4	600	-45.03	33.46	0.16
165	SLU 19	-1	-3	609	-45.7	33.95	0.09
165	SLU 20	-1	-5	605	-45.37	33.71	0.16
165	SLU 21	-1	-3	614	-46.04	34.2	0.09
165	SLU 22	-2	-4	569	-42.7	31.72	0.11
165	SLU 23	-2	-2	584	-43.81	32.55	-0.01
165	SLU 24	-2	-4	577	-43.26	32.14	0.11
165	SLU 25	-2	-3	586	-43.93	32.64	0.04
165	SLU 26	-2	-2	589	-44.15	32.8	-0.01
165	SLU 27	-2	-4	581	-43.6	32.4	0.11
165	SLU 28	-2	-3	590	-44.27	32.89	0.04
165	SLU 29	-2	-4	578	-43.38	32.23	0.11
165	SLU 30	-2	-3	587	-44.05	32.72	0.04
165	SLU 31	-2	-3	653	-48.94	36.36	0.03
165	SLU 32	-2	-5	645	-48.4	35.96	0.15
165	SLU 33	-2	-4	654	-49.06	36.45	0.08
165	SLU 34	-2	-3	657	-49.28	36.61	0.03
165	SLU 35	-2	-5	650	-48.74	36.21	0.15
165	SLU 36	-2	-4	659	-49.4	36.7	0.08
165	SLU 37	-2	-5	647	-48.51	36.04	0.15
165	SLU 38	-2	-4	656	-49.18	36.54	0.08
165	SLU 39	-1	-5	667	-50.03	37.17	0.16
165	SLU 40	-2	-4	676	-50.7	37.67	0.09
165	SLU 41	-1	-5	672	-50.37	37.43	0.16
165	SLU 42	-2	-4	681	-51.04	37.92	0.09
165	SLU 43	-2	-5	631	-47.29	35.13	0.14
165	SLU 44	-2	-3	645	-48.4	35.96	0.02
165	SLU 45	-2	-5	638	-47.85	35.55	0.14
165	SLU 46	-2	-4	647	-48.52	36.05	0.07
165	SLU 47	-2	-3	650	-48.74	36.21	0.02
165	SLU 48	-2	-5	643	-48.2	35.81	0.14
165	SLU 49	-2	-4	651	-48.86	36.3	0.07
165	SLU 50	-2	-5	640	-47.97	35.64	0.14
165	SLU 51	-2	-4	648	-48.64	36.14	0.07
165	SLU 52	-2	-3	714	-53.53	39.77	0.06
165	SLU 53	-2	-5	707	-52.99	39.37	0.17
165	SLU 54	-2	-4	715	-53.65	39.86	0.1
165	SLU 55	-2	-3	718	-53.87	40.03	0.06
165	SLU 56	-2	-6	711	-53.33	39.62	0.17
165	SLU 57	-2	-4	720	-53.99	40.12	0.1
165	SLU 58	-2	-5	708	-53.11	39.46	0.17
165	SLU 59	-2	-4	717	-53.77	39.95	0.1
165	SLU 60	-2	-6	728	-54.63	40.58	0.19
165	SLU 61	-2	-4	737	-55.29	41.08	0.12
165	SLU 62	-2	-6	733	-54.97	40.84	0.19
165	SLU 63	-2	-4	742	-55.63	41.33	0.12
165	SLU 64	-2	-5	697	-52.29	38.85	0.14
165	SLU 65	-2	-3	712	-53.4	39.68	0.02
165	SLU 66	-2	-5	705	-52.86	39.27	0.14
165	SLU 67	-2	-4	714	-53.52	39.76	0.07
165	SLU 68	-2	-3	717	-53.74	39.93	0.03
165	SLU 69	-2	-5	709	-53.2	39.52	0.14
165	SLU 70	-2	-4	718	-53.86	40.02	0.07
165	SLU 71	-2	-5	706	-52.97	39.36	0.14
165	SLU 72	-2	-4	715	-53.64	39.85	0.07
165	SLU 73	-2	-4	780	-58.54	43.49	0.06
165	SLU 74	-2	-6	773	-57.99	43.08	0.18
165	SLU 75	-2	-5	782	-58.66	43.58	0.11
165	SLU 76	-2	-4	785	-58.88	43.74	0.06
165	SLU 77	-2	-6	778	-58.33	43.34	0.18
165	SLU 78	-2	-5	787	-59	43.83	0.11
165	SLU 79	-2	-6	775	-58.11	43.17	0.18
165	SLU 80	-2	-5	784	-58.77	43.67	0.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
165	SLU 81	-2	-6	795	-59.63	44.3	0.19
165	SLU 82	-2	-5	804	-60.29	44.79	0.12
165	SLU 83	-2	-6	800	-59.97	44.55	0.19
165	SLU 84	-2	-5	808	-60.63	45.05	0.12
165	SLE RA 1	-2	-4	522	-39.13	29.07	0.11
165	SLE RA 2	-2	-3	532	-39.87	29.62	0.03
165	SLE RA 3	-2	-4	527	-39.5	29.35	0.11
165	SLE RA 4	-2	-3	533	-39.95	29.68	0.06
165	SLE RA 5	-2	-3	535	-40.09	29.79	0.03
165	SLE RA 6	-2	-4	530	-39.73	29.52	0.11
165	SLE RA 7	-2	-3	536	-40.17	29.85	0.06
165	SLE RA 8	-2	-4	528	-39.58	29.41	0.11
165	SLE RA 9	-2	-3	534	-40.02	29.74	0.06
165	SLE RA 10	-1	-3	577	-43.29	32.16	0.05
165	SLE RA 11	-1	-4	572	-42.92	31.89	0.13
165	SLE RA 12	-1	-4	578	-43.37	32.22	0.09
165	SLE RA 13	-2	-3	580	-43.52	32.33	0.05
165	SLE RA 14	-1	-4	575	-43.15	32.06	0.13
165	SLE RA 15	-2	-4	581	-43.6	32.39	0.09
165	SLE RA 16	-1	-4	573	-43	31.95	0.13
165	SLE RA 17	-2	-4	579	-43.45	32.28	0.09
165	SLE RA 18	-1	-4	587	-44.02	32.7	0.14
165	SLE RA 19	-1	-4	593	-44.46	33.03	0.09
165	SLE RA 20	-1	-4	590	-44.24	32.87	0.14
165	SLE RA 21	-1	-4	596	-44.69	33.2	0.09
165	SLE FR 1	-2	-4	522	-39.13	29.07	0.11
165	SLE FR 2	-2	-4	524	-39.27	29.18	0.09
165	SLE FR 3	-2	-4	523	-39.22	29.14	0.11
165	SLE FR 4	-1	-4	543	-40.74	30.27	0.1
165	SLE FR 5	-1	-4	542	-40.68	30.23	0.12
165	SLE FR 6	-1	-4	554	-41.57	30.89	0.13
165	SLE QP 1	-2	-4	522	-39.13	29.07	0.11
165	SLE QP 2	-1	-4	541	-40.59	30.16	0.12
165	SLD 1	40	7	681	-51.04	37.92	2.58
165	SLD 2	49	5	677	-50.8	37.74	3.43
165	SLD 3	40	-18	458	-34.34	25.52	3.99
165	SLD 4	50	-20	455	-34.1	25.33	4.83
165	SLD 5	8	38	921	-69.1	51.34	-1.42
165	SLD 6	14	36	919	-68.94	51.22	-0.88
165	SLD 7	10	-46	179	-13.43	9.98	3.27
165	SLD 8	16	-47	177	-13.27	9.86	3.81
165	SLD 9	-19	39	905	-67.91	50.45	-3.58
165	SLD 10	-13	37	903	-67.75	50.34	-3.03
165	SLD 11	-17	-44	163	-12.25	9.1	1.12
165	SLD 12	-11	-46	161	-12.09	8.98	1.66
165	SLD 13	-52	12	628	-47.09	34.98	-4.6
165	SLD 14	-43	10	625	-46.84	34.8	-3.75
165	SLD 15	-52	-13	405	-30.39	22.58	-3.19
165	SLD 16	-42	-15	402	-30.14	22.39	-2.35
165	SLV 1	63	15	773	-57.99	43.08	3.88
165	SLV 2	77	11	768	-57.6	42.8	5.21
165	SLV 3	64	-27	397	-29.77	22.12	6.26
165	SLV 4	78	-31	392	-29.38	21.83	7.58
165	SLV 5	13	66	1182	-88.68	65.89	-2.6
165	SLV 6	23	64	1179	-88.42	65.7	-1.71
165	SLV 7	17	-74	-72	5.38	-4	5.32
165	SLV 8	27	-77	-75	5.64	-4.19	6.21
165	SLV 9	-30	69	1158	-86.83	64.51	-5.97
165	SLV 10	-20	66	1154	-86.57	64.32	-5.08
165	SLV 11	-26	-72	-97	7.24	-5.38	1.95
165	SLV 12	-16	-75	-100	7.5	-5.57	2.84
165	SLV 13	-81	23	691	-51.8	38.49	-7.35
165	SLV 14	-67	19	686	-51.42	38.2	-6.02
165	SLV 15	-80	-19	314	-23.58	17.52	-4.97
165	SLV 16	-66	-23	309	-23.2	17.23	-3.64
165	SLV FO 1	69	17	796	-59.73	44.38	4.26
165	SLV FO 2	85	12	791	-59.3	44.06	5.72
165	SLV FO 3	70	-30	382	-28.69	21.31	6.87
165	SLV FO 4	86	-34	377	-28.26	21	8.33
165	SLV FO 5	15	73	1247	-93.49	69.46	-2.87
165	SLV FO 6	26	70	1243	-93.21	69.25	-1.89
165	SLV FO 7	19	-81	-133	9.98	-7.42	5.84
165	SLV FO 8	30	-84	-137	10.27	-7.63	6.82
165	SLV FO 9	-33	76	1219	-91.45	67.95	-6.58
165	SLV FO 10	-22	73	1216	-91.17	67.73	-5.6
165	SLV FO 11	-29	-79	-160	12.02	-8.93	2.13
165	SLV FO 12	-18	-82	-164	12.31	-9.14	3.11
165	SLV FO 13	-89	26	706	-52.93	39.32	-8.09
165	SLV FO 14	-73	21	700	-52.5	39.01	-6.63
165	SLV FO 15	-88	-21	292	-21.88	16.26	-5.48
165	SLV FO 16	-72	-25	286	-21.46	15.94	-4.02
165	CRTFP Ux+	0	0	0	0	0	0
165	CRTFP Ux-	0	0	0	0	0	0
165	CRTFP Uy+	0	0	0	0	0	0
165	CRTFP Uy-	0	0	0	0	0	0
166	SLU 1	-1	-3	509	-38.15	21.26	0
166	SLU 2	-2	-1	524	-39.26	21.88	-0.09
166	SLU 3	-2	-3	516	-38.72	21.58	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
166	SLU 4	-2	-2	525	-39.39	21.95	-0.05
166	SLU 5	-2	-1	528	-39.61	22.07	-0.09
166	SLU 6	-2	-3	521	-39.07	21.77	0
166	SLU 7	-2	-2	530	-39.74	22.14	-0.06
166	SLU 8	-2	-3	518	-38.84	21.64	0
166	SLU 9	-2	-2	527	-39.51	22.01	-0.06
166	SLU 10	-1	-1	593	-44.48	24.79	-0.07
166	SLU 11	-1	-3	586	-43.94	24.48	0.02
166	SLU 12	-1	-2	595	-44.61	24.86	-0.03
166	SLU 13	-1	-1	598	-44.83	24.98	-0.07
166	SLU 14	-1	-3	590	-44.28	24.68	0.02
166	SLU 15	-2	-2	599	-44.95	25.05	-0.04
166	SLU 16	-1	-3	587	-44.06	24.55	0.02
166	SLU 17	-1	-2	596	-44.73	24.92	-0.03
166	SLU 18	-1	-3	608	-45.6	25.41	0.03
166	SLU 19	-1	-2	617	-46.27	25.78	-0.02
166	SLU 20	-1	-3	613	-45.95	25.6	0.03
166	SLU 21	-1	-2	622	-46.62	25.98	-0.02
166	SLU 22	-2	-3	576	-43.21	24.08	-0.01
166	SLU 23	-2	-1	591	-44.33	24.7	-0.1
166	SLU 24	-2	-3	584	-43.79	24.4	-0.01
166	SLU 25	-2	-2	593	-44.46	24.77	-0.06
166	SLU 26	-2	-1	596	-44.68	24.89	-0.1
166	SLU 27	-2	-3	588	-44.13	24.59	-0.01
166	SLU 28	-2	-2	597	-44.8	24.96	-0.06
166	SLU 29	-2	-3	585	-43.9	24.46	-0.01
166	SLU 30	-2	-2	594	-44.57	24.84	-0.06
166	SLU 31	-2	-1	661	-49.55	27.61	-0.08
166	SLU 32	-2	-3	653	-49	27.31	0.01
166	SLU 33	-2	-2	662	-49.67	27.68	-0.04
166	SLU 34	-2	-1	665	-49.89	27.8	-0.08
166	SLU 35	-2	-3	658	-49.35	27.5	0.01
166	SLU 36	-2	-2	667	-50.02	27.87	-0.04
166	SLU 37	-2	-3	655	-49.12	27.37	0.01
166	SLU 38	-2	-2	664	-49.79	27.75	-0.04
166	SLU 39	-2	-3	676	-50.67	28.23	0.02
166	SLU 40	-2	-2	684	-51.34	28.61	-0.03
166	SLU 41	-2	-3	680	-51.01	28.43	0.02
166	SLU 42	-2	-2	689	-51.68	28.8	-0.03
166	SLU 43	-2	-3	638	-47.85	26.66	0.01
166	SLU 44	-2	-1	653	-48.97	27.29	-0.09
166	SLU 45	-2	-4	646	-48.43	26.98	0
166	SLU 46	-2	-2	655	-49.1	27.36	-0.05
166	SLU 47	-2	-1	658	-49.32	27.48	-0.09
166	SLU 48	-2	-4	650	-48.77	27.18	0
166	SLU 49	-2	-2	659	-49.44	27.55	-0.05
166	SLU 50	-2	-4	647	-48.54	27.05	0
166	SLU 51	-2	-2	656	-49.21	27.42	-0.05
166	SLU 52	-2	-2	722	-54.19	30.19	-0.07
166	SLU 53	-2	-4	715	-53.64	29.89	0.03
166	SLU 54	-2	-3	724	-54.31	30.26	-0.03
166	SLU 55	-2	-2	727	-54.53	30.39	-0.07
166	SLU 56	-2	-4	720	-53.99	30.08	0.02
166	SLU 57	-2	-3	729	-54.66	30.46	-0.03
166	SLU 58	-2	-4	717	-53.76	29.96	0.02
166	SLU 59	-2	-3	726	-54.43	30.33	-0.03
166	SLU 60	-2	-4	737	-55.31	30.82	0.04
166	SLU 61	-2	-3	746	-55.98	31.19	-0.02
166	SLU 62	-2	-4	742	-55.65	31.01	0.04
166	SLU 63	-2	-3	751	-56.32	31.38	-0.02
166	SLU 64	-2	-4	706	-52.92	29.49	0
166	SLU 65	-2	-2	720	-54.04	30.11	-0.09
166	SLU 66	-2	-4	713	-53.49	29.81	0
166	SLU 67	-2	-2	722	-54.16	30.18	-0.06
166	SLU 68	-2	-2	725	-54.38	30.3	-0.1
166	SLU 69	-2	-4	718	-53.84	30	-0.01
166	SLU 70	-2	-2	727	-54.51	30.37	-0.06
166	SLU 71	-2	-4	715	-53.61	29.87	0
166	SLU 72	-2	-3	724	-54.28	30.25	-0.06
166	SLU 73	-2	-2	790	-59.25	33.02	-0.07
166	SLU 74	-2	-4	783	-58.71	32.71	0.02
166	SLU 75	-2	-3	792	-59.38	33.09	-0.04
166	SLU 76	-2	-2	795	-59.6	33.21	-0.08
166	SLU 77	-2	-4	787	-59.06	32.91	0.02
166	SLU 78	-2	-3	796	-59.73	33.28	-0.04
166	SLU 79	-2	-4	784	-58.83	32.78	0.02
166	SLU 80	-2	-3	793	-59.5	33.15	-0.04
166	SLU 81	-2	-4	805	-60.37	33.64	0.03
166	SLU 82	-2	-3	814	-61.04	34.01	-0.03
166	SLU 83	-2	-4	810	-60.72	33.83	0.03
166	SLU 84	-2	-3	819	-61.39	34.21	-0.03
166	SLE RA 1	-2	-3	528	-39.59	22.06	0
166	SLE RA 2	-2	-1	538	-40.34	22.48	-0.06
166	SLE RA 3	-2	-3	533	-39.98	22.28	0
166	SLE RA 4	-2	-2	539	-40.42	22.52	-0.04
166	SLE RA 5	-2	-1	541	-40.57	22.61	-0.06
166	SLE RA 6	-2	-3	536	-40.21	22.4	0
166	SLE RA 7	-2	-2	542	-40.65	22.65	-0.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
166	SLE RA 8	-2	-3	534	-40.06	22.32	0
166	SLE RA 9	-2	-2	540	-40.5	22.57	-0.04
166	SLE RA 10	-2	-2	584	-43.82	24.42	-0.05
166	SLE RA 11	-1	-3	579	-43.45	24.21	0.01
166	SLE RA 12	-2	-2	585	-43.9	24.46	-0.02
166	SLE RA 13	-2	-2	587	-44.05	24.54	-0.05
166	SLE RA 14	-2	-3	582	-43.69	24.34	0.01
166	SLE RA 15	-2	-2	588	-44.13	24.59	-0.03
166	SLE RA 16	-2	-3	580	-43.53	24.26	0.01
166	SLE RA 17	-2	-2	586	-43.98	24.51	-0.02
166	SLE RA 18	-1	-3	594	-44.56	24.83	0.02
166	SLE RA 19	-1	-2	600	-45.01	25.08	-0.02
166	SLE RA 20	-1	-3	597	-44.79	24.96	0.02
166	SLE RA 21	-1	-2	603	-45.24	25.21	-0.02
166	SLE FR 1	-2	-3	528	-39.59	22.06	0
166	SLE FR 2	-2	-2	530	-39.74	22.15	-0.01
166	SLE FR 3	-2	-3	529	-39.69	22.11	0
166	SLE FR 4	-2	-3	550	-41.23	22.98	-0.01
166	SLE FR 5	-2	-3	549	-41.18	22.94	0.01
166	SLE FR 6	-1	-3	561	-42.08	23.45	0.01
166	SLE QP 1	-2	-3	528	-39.59	22.06	0
166	SLE QP 2	-1	-3	548	-41.08	22.89	0.01
166	SLD 1	40	9	684	-51.3	28.58	2.62
166	SLD 2	49	7	681	-51.08	28.46	3.41
166	SLD 3	40	-17	459	-34.42	19.18	3.7
166	SLD 4	50	-19	456	-34.21	19.06	4.49
166	SLD 5	8	40	930	-69.78	38.88	-0.99
166	SLD 6	14	39	929	-69.64	38.8	-0.47
166	SLD 7	10	-46	180	-13.53	7.54	2.62
166	SLD 8	16	-47	179	-13.39	7.46	3.13
166	SLD 9	-19	41	917	-68.78	38.32	-3.12
166	SLD 10	-13	40	915	-68.64	38.25	-2.6
166	SLD 11	-17	-44	167	-12.53	6.98	0.49
166	SLD 12	-11	-46	165	-12.39	6.9	1
166	SLD 13	-53	13	640	-47.96	26.73	-4.48
166	SLD 14	-43	11	637	-47.74	26.6	-3.69
166	SLD 15	-52	-13	415	-31.09	17.32	-3.4
166	SLD 16	-43	-15	412	-30.87	17.2	-2.6
166	SLV 1	63	18	775	-58.13	32.39	4.02
166	SLV 2	78	14	770	-57.78	32.2	5.27
166	SLV 3	64	-26	395	-29.61	16.5	5.84
166	SLV 4	79	-29	390	-29.26	16.31	7.09
166	SLV 5	14	70	1193	-89.51	49.88	-1.79
166	SLV 6	23	67	1190	-89.28	49.75	-0.95
166	SLV 7	17	-75	-74	5.54	-3.09	4.29
166	SLV 8	27	-77	-77	5.78	-3.22	5.13
166	SLV 9	-30	72	1173	-87.94	49	-5.12
166	SLV 10	-20	69	1170	-87.71	48.88	-4.28
166	SLV 11	-26	-73	-95	7.11	-3.96	0.96
166	SLV 12	-17	-75	-98	7.34	-4.09	1.8
166	SLV 13	-82	24	705	-52.9	29.48	-7.08
166	SLV 14	-67	20	701	-52.56	29.29	-5.83
166	SLV 15	-81	-20	325	-24.39	13.59	-5.26
166	SLV 16	-66	-23	321	-24.04	13.4	-4.01
166	SLV FO 1	69	20	798	-59.83	33.34	4.42
166	SLV FO 2	86	16	793	-59.45	33.13	5.79
166	SLV FO 3	71	-28	379	-28.46	15.86	6.43
166	SLV FO 4	87	-32	374	-28.08	15.65	7.8
166	SLV FO 5	15	77	1258	-94.35	52.58	-1.97
166	SLV FO 6	26	74	1255	-94.1	52.43	-1.05
166	SLV FO 7	19	-82	-136	10.21	-5.69	4.72
166	SLV FO 8	30	-85	-139	10.46	-5.83	5.65
166	SLV FO 9	-33	79	1235	-92.63	51.62	-5.63
166	SLV FO 10	-22	76	1232	-92.38	51.47	-4.71
166	SLV FO 11	-29	-80	-159	11.93	-6.65	1.06
166	SLV FO 12	-18	-83	-162	12.19	-6.79	1.98
166	SLV FO 13	-90	26	721	-54.09	30.14	-7.79
166	SLV FO 14	-74	23	716	-53.71	29.93	-6.41
166	SLV FO 15	-89	-21	303	-22.72	12.66	-5.78
166	SLV FO 16	-72	-25	298	-22.34	12.45	-4.41
166	CRTFP Ux+	0	0	0	0	0	0
166	CRTFP Ux-	0	0	0	0	0	0
166	CRTFP Uy+	0	0	0	0	0	0
166	CRTFP Uy-	0	0	0	0	0	0
167	SLU 1	-2	-2	516	-38.68	14.37	-0.07
167	SLU 2	-2	1	531	-39.81	14.79	-0.14
167	SLU 3	-2	-2	524	-39.27	14.59	-0.08
167	SLU 4	-2	0	533	-39.94	14.84	-0.12
167	SLU 5	-2	1	535	-40.16	14.92	-0.14
167	SLU 6	-2	-2	528	-39.62	14.72	-0.08
167	SLU 7	-2	0	537	-40.3	14.97	-0.12
167	SLU 8	-2	-2	525	-39.39	14.63	-0.08
167	SLU 9	-2	0	534	-40.06	14.88	-0.12
167	SLU 10	-2	0	602	-45.12	16.76	-0.13
167	SLU 11	-2	-2	594	-44.58	16.56	-0.07
167	SLU 12	-2	0	603	-45.26	16.81	-0.11
167	SLU 13	-2	0	606	-45.48	16.89	-0.13
167	SLU 14	-2	-2	599	-44.93	16.69	-0.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
167	SLU 15	-2	0	608	-45.61	16.94	-0.11
167	SLU 16	-2	-2	596	-44.7	16.61	-0.07
167	SLU 17	-2	0	605	-45.38	16.86	-0.11
167	SLU 18	-1	-2	617	-46.28	17.19	-0.06
167	SLU 19	-1	0	626	-46.95	17.44	-0.1
167	SLU 20	-1	-2	622	-46.63	17.32	-0.06
167	SLU 21	-2	-1	631	-47.3	17.57	-0.1
167	SLU 22	-2	-2	584	-43.83	16.28	-0.09
167	SLU 23	-2	1	599	-44.95	16.7	-0.16
167	SLU 24	-2	-2	592	-44.41	16.5	-0.1
167	SLU 25	-2	0	601	-45.09	16.75	-0.13
167	SLU 26	-2	1	604	-45.31	16.83	-0.16
167	SLU 27	-2	-2	597	-44.76	16.63	-0.1
167	SLU 28	-2	0	606	-45.44	16.88	-0.14
167	SLU 29	-2	-2	594	-44.53	16.54	-0.1
167	SLU 30	-2	0	603	-45.21	16.79	-0.14
167	SLU 31	-2	0	670	-50.27	18.67	-0.15
167	SLU 32	-2	-2	663	-49.73	18.47	-0.08
167	SLU 33	-2	0	672	-50.4	18.72	-0.12
167	SLU 34	-2	0	675	-50.62	18.81	-0.15
167	SLU 35	-2	-2	668	-50.08	18.6	-0.09
167	SLU 36	-2	0	677	-50.76	18.85	-0.13
167	SLU 37	-2	-2	665	-49.85	18.52	-0.09
167	SLU 38	-2	0	674	-50.52	18.77	-0.13
167	SLU 39	-2	-2	686	-51.42	19.1	-0.08
167	SLU 40	-2	0	695	-52.1	19.35	-0.12
167	SLU 41	-2	-2	690	-51.77	19.23	-0.08
167	SLU 42	-2	-1	699	-52.45	19.48	-0.12
167	SLU 43	-2	-2	647	-48.52	18.02	-0.09
167	SLU 44	-2	0	662	-49.65	18.44	-0.16
167	SLU 45	-2	-2	655	-49.11	18.24	-0.09
167	SLU 46	-2	-1	664	-49.78	18.49	-0.13
167	SLU 47	-2	0	667	-50	18.57	-0.16
167	SLU 48	-2	-2	659	-49.46	18.37	-0.1
167	SLU 49	-2	-1	668	-50.14	18.62	-0.14
167	SLU 50	-2	-2	656	-49.23	18.29	-0.1
167	SLU 51	-2	-1	665	-49.9	18.54	-0.14
167	SLU 52	-2	0	733	-54.96	20.42	-0.15
167	SLU 53	-2	-2	726	-54.42	20.22	-0.08
167	SLU 54	-2	-1	735	-55.1	20.47	-0.12
167	SLU 55	-2	0	738	-55.32	20.55	-0.15
167	SLU 56	-2	-2	730	-54.77	20.35	-0.09
167	SLU 57	-2	-1	739	-55.45	20.6	-0.13
167	SLU 58	-2	-2	727	-54.54	20.26	-0.09
167	SLU 59	-2	-1	736	-55.22	20.51	-0.13
167	SLU 60	-2	-2	748	-56.12	20.85	-0.08
167	SLU 61	-2	-1	757	-56.79	21.1	-0.12
167	SLU 62	-2	-2	753	-56.47	20.98	-0.08
167	SLU 63	-2	-1	762	-57.14	21.23	-0.12
167	SLU 64	-2	-2	716	-53.67	19.94	-0.11
167	SLU 65	-2	0	731	-54.79	20.35	-0.17
167	SLU 66	-2	-2	723	-54.25	20.15	-0.11
167	SLU 67	-2	-1	732	-54.93	20.4	-0.15
167	SLU 68	-2	0	735	-55.15	20.49	-0.18
167	SLU 69	-2	-2	728	-54.6	20.28	-0.11
167	SLU 70	-2	-1	737	-55.28	20.54	-0.15
167	SLU 71	-2	-2	725	-54.37	20.2	-0.11
167	SLU 72	-2	-1	734	-55.05	20.45	-0.15
167	SLU 73	-2	0	801	-60.11	22.33	-0.16
167	SLU 74	-2	-2	794	-59.57	22.13	-0.1
167	SLU 75	-2	-1	803	-60.24	22.38	-0.14
167	SLU 76	-2	0	806	-60.46	22.46	-0.17
167	SLU 77	-2	-2	799	-59.92	22.26	-0.1
167	SLU 78	-2	-1	808	-60.6	22.51	-0.14
167	SLU 79	-2	-2	796	-59.69	22.17	-0.1
167	SLU 80	-2	-1	805	-60.36	22.42	-0.14
167	SLU 81	-2	-2	817	-61.26	22.76	-0.09
167	SLU 82	-2	-1	826	-61.94	23.01	-0.13
167	SLU 83	-2	-2	822	-61.61	22.89	-0.1
167	SLU 84	-2	-1	831	-62.29	23.14	-0.14
167	SLE RA 1	-2	-2	535	-40.15	14.92	-0.08
167	SLE RA 2	-2	0	545	-40.9	15.19	-0.12
167	SLE RA 3	-2	-2	541	-40.54	15.06	-0.08
167	SLE RA 4	-2	-1	547	-40.99	15.23	-0.11
167	SLE RA 5	-2	0	549	-41.14	15.28	-0.12
167	SLE RA 6	-2	-2	544	-40.78	15.15	-0.08
167	SLE RA 7	-2	-1	550	-41.23	15.32	-0.11
167	SLE RA 8	-2	-2	542	-40.62	15.09	-0.08
167	SLE RA 9	-2	-1	548	-41.07	15.26	-0.11
167	SLE RA 10	-2	0	593	-44.45	16.51	-0.12
167	SLE RA 11	-2	-2	588	-44.09	16.38	-0.07
167	SLE RA 12	-2	-1	594	-44.54	16.54	-0.1
167	SLE RA 13	-2	0	596	-44.68	16.6	-0.12
167	SLE RA 14	-2	-2	591	-44.32	16.46	-0.08
167	SLE RA 15	-2	-1	597	-44.77	16.63	-0.1
167	SLE RA 16	-2	-2	589	-44.17	16.41	-0.08
167	SLE RA 17	-2	-1	595	-44.62	16.57	-0.1
167	SLE RA 18	-2	-2	603	-45.21	16.8	-0.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
167	SLE RA 19	-2	-1	609	-45.66	16.96	-0.1
167	SLE RA 20	-2	-2	606	-45.45	16.88	-0.07
167	SLE RA 21	-2	-1	612	-45.9	17.05	-0.1
167	SLE FR 1	-2	-2	535	-40.15	14.92	-0.08
167	SLE FR 2	-2	-1	537	-40.3	14.97	-0.09
167	SLE FR 3	-2	-2	537	-40.25	14.95	-0.08
167	SLE FR 4	-2	-1	558	-41.82	15.54	-0.09
167	SLE FR 5	-2	-2	557	-41.76	15.51	-0.08
167	SLE FR 6	-2	-2	569	-42.68	15.86	-0.07
167	SLE QP 1	-2	-2	535	-40.15	14.92	-0.08
167	SLE QP 2	-2	-2	556	-41.67	15.48	-0.08
167	SLD 1	40	11	689	-51.69	19.2	2.7
167	SLD 2	49	9	687	-51.49	19.13	3.46
167	SLD 3	41	-15	461	-34.59	12.85	3.44
167	SLD 4	50	-17	459	-34.4	12.78	4.2
167	SLD 5	8	43	942	-70.63	26.24	-0.49
167	SLD 6	14	41	940	-70.51	26.19	0
167	SLD 7	10	-45	182	-13.66	5.07	1.97
167	SLD 8	16	-47	180	-13.53	5.03	2.45
167	SLD 9	-20	43	931	-69.81	25.93	-2.61
167	SLD 10	-14	42	929	-69.68	25.89	-2.12
167	SLD 11	-18	-45	171	-12.83	4.77	-0.15
167	SLD 12	-11	-46	169	-12.71	4.72	0.34
167	SLD 13	-53	14	653	-48.94	18.18	-4.35
167	SLD 14	-44	12	650	-48.75	18.11	-3.59
167	SLD 15	-53	-13	425	-31.85	11.83	-3.61
167	SLD 16	-43	-14	422	-31.66	11.76	-2.86
167	SLV 1	63	20	779	-58.41	21.7	4.22
167	SLV 2	78	17	775	-58.11	21.59	5.41
167	SLV 3	64	-25	394	-29.53	10.97	5.46
167	SLV 4	79	-27	390	-29.23	10.86	6.65
167	SLV 5	14	73	1207	-90.56	33.64	-0.9
167	SLV 6	24	71	1205	-90.36	33.57	-0.09
167	SLV 7	17	-76	-76	5.73	-2.13	3.25
167	SLV 8	27	-77	-79	5.93	-2.2	4.05
167	SLV 9	-30	74	1190	-89.27	33.16	-4.2
167	SLV 10	-20	72	1188	-89.07	33.09	-3.4
167	SLV 11	-27	-74	-94	7.01	-2.61	-0.06
167	SLV 12	-17	-76	-96	7.22	-2.68	0.74
167	SLV 13	-82	24	722	-54.12	20.1	-6.81
167	SLV 14	-68	21	717	-53.81	19.99	-5.62
167	SLV 15	-81	-20	336	-25.23	9.37	-5.56
167	SLV 16	-67	-23	332	-24.93	9.26	-4.37
167	SLV FO 1	70	22	801	-60.09	22.32	4.65
167	SLV FO 2	86	19	797	-59.75	22.2	5.96
167	SLV FO 3	71	-27	378	-28.31	10.52	6.02
167	SLV FO 4	87	-30	373	-27.98	10.39	7.33
167	SLV FO 5	15	81	1273	-95.45	35.46	-0.98
167	SLV FO 6	26	78	1270	-95.22	35.37	-0.1
167	SLV FO 7	19	-83	-140	10.46	-3.89	3.58
167	SLV FO 8	30	-85	-143	10.69	-3.97	4.46
167	SLV FO 9	-33	82	1254	-94.03	34.93	-4.62
167	SLV FO 10	-22	80	1251	-93.81	34.85	-3.74
167	SLV FO 11	-29	-82	-158	11.88	-4.41	-0.06
167	SLV FO 12	-18	-84	-161	12.11	-4.5	0.83
167	SLV FO 13	-90	27	738	-55.36	20.57	-7.48
167	SLV FO 14	-74	24	734	-55.03	20.44	-6.17
167	SLV FO 15	-89	-22	314	-23.59	8.76	-6.11
167	SLV FO 16	-73	-25	310	-23.25	8.64	-4.8
167	CRTFP Ux+	0	0	0	0	0	0
167	CRTFP Ux-	0	0	0	0	0	0
167	CRTFP Uy+	0	0	0	0	0	0
167	CRTFP Uy-	0	0	0	0	0	0
168	SLU 1	-2	0	524	-39.28	7.29	-0.13
168	SLU 2	-2	2	539	-40.41	7.51	-0.16
168	SLU 3	-2	0	532	-39.87	7.41	-0.13
168	SLU 4	-2	1	541	-40.56	7.53	-0.16
168	SLU 5	-2	2	544	-40.77	7.57	-0.17
168	SLU 6	-2	0	536	-40.23	7.47	-0.14
168	SLU 7	-2	1	546	-40.92	7.6	-0.16
168	SLU 8	-2	0	533	-39.99	7.43	-0.14
168	SLU 9	-2	1	542	-40.68	7.56	-0.16
168	SLU 10	-2	2	611	-45.84	8.51	-0.16
168	SLU 11	-2	0	604	-45.3	8.41	-0.13
168	SLU 12	-2	1	613	-45.98	8.54	-0.16
168	SLU 13	-2	2	616	-46.2	8.58	-0.17
168	SLU 14	-2	0	609	-45.65	8.48	-0.14
168	SLU 15	-2	1	618	-46.34	8.61	-0.16
168	SLU 16	-2	0	606	-45.42	8.44	-0.14
168	SLU 17	-2	1	615	-46.1	8.56	-0.16
168	SLU 18	-2	0	627	-47.02	8.73	-0.13
168	SLU 19	-2	1	636	-47.71	8.86	-0.15
168	SLU 20	-2	0	632	-47.38	8.8	-0.13
168	SLU 21	-2	1	641	-48.06	8.93	-0.15
168	SLU 22	-2	0	593	-44.51	8.27	-0.15
168	SLU 23	-2	2	609	-45.65	8.48	-0.19
168	SLU 24	-2	0	601	-45.11	8.38	-0.16
168	SLU 25	-2	1	611	-45.79	8.51	-0.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
168	SLU 26	-2	2	613	-46.01	8.55	-0.19
168	SLU 27	-2	0	606	-45.47	8.44	-0.16
168	SLU 28	-2	1	615	-46.15	8.57	-0.18
168	SLU 29	-2	0	603	-45.23	8.4	-0.16
168	SLU 30	-2	1	612	-45.91	8.53	-0.18
168	SLU 31	-2	2	681	-51.07	9.49	-0.19
168	SLU 32	-2	0	674	-50.53	9.39	-0.16
168	SLU 33	-2	1	683	-51.21	9.51	-0.18
168	SLU 34	-2	2	686	-51.43	9.55	-0.19
168	SLU 35	-2	0	679	-50.89	9.45	-0.16
168	SLU 36	-2	1	688	-51.57	9.58	-0.18
168	SLU 37	-2	0	675	-50.65	9.41	-0.16
168	SLU 38	-2	1	684	-51.33	9.53	-0.18
168	SLU 39	-2	0	697	-52.26	9.71	-0.15
168	SLU 40	-2	1	706	-52.94	9.83	-0.17
168	SLU 41	-2	0	702	-52.62	9.77	-0.16
168	SLU 42	-2	1	711	-53.3	9.9	-0.18
168	SLU 43	-2	-1	657	-49.26	9.15	-0.16
168	SLU 44	-2	2	672	-50.4	9.36	-0.2
168	SLU 45	-2	-1	665	-49.86	9.26	-0.17
168	SLU 46	-2	1	674	-50.54	9.39	-0.19
168	SLU 47	-2	2	677	-50.76	9.43	-0.2
168	SLU 48	-2	-1	670	-50.22	9.33	-0.17
168	SLU 49	-2	1	679	-50.9	9.45	-0.19
168	SLU 50	-2	-1	666	-49.98	9.28	-0.17
168	SLU 51	-2	1	676	-50.67	9.41	-0.19
168	SLU 52	-2	2	744	-55.82	10.37	-0.2
168	SLU 53	-2	-1	737	-55.28	10.27	-0.17
168	SLU 54	-2	1	746	-55.97	10.4	-0.19
168	SLU 55	-2	2	749	-56.18	10.44	-0.2
168	SLU 56	-2	-1	742	-55.64	10.33	-0.17
168	SLU 57	-2	1	751	-56.33	10.46	-0.19
168	SLU 58	-2	-1	739	-55.4	10.29	-0.17
168	SLU 59	-2	1	748	-56.09	10.42	-0.19
168	SLU 60	-2	-1	760	-57.01	10.59	-0.16
168	SLU 61	-2	1	769	-57.69	10.72	-0.18
168	SLU 62	-2	-1	765	-57.37	10.66	-0.16
168	SLU 63	-2	1	774	-58.05	10.78	-0.19
168	SLU 64	-3	0	727	-54.5	10.12	-0.18
168	SLU 65	-3	2	742	-55.64	10.33	-0.22
168	SLU 66	-3	0	735	-55.09	10.23	-0.19
168	SLU 67	-3	1	744	-55.78	10.36	-0.21
168	SLU 68	-3	2	747	-56	10.4	-0.22
168	SLU 69	-3	0	739	-55.45	10.3	-0.19
168	SLU 70	-3	1	749	-56.14	10.43	-0.21
168	SLU 71	-3	0	736	-55.22	10.26	-0.19
168	SLU 72	-3	1	745	-55.9	10.38	-0.21
168	SLU 73	-3	2	814	-61.06	11.34	-0.22
168	SLU 74	-3	0	807	-60.52	11.24	-0.19
168	SLU 75	-3	1	816	-61.2	11.37	-0.21
168	SLU 76	-3	2	819	-61.42	11.41	-0.22
168	SLU 77	-3	0	812	-60.88	11.31	-0.19
168	SLU 78	-3	1	821	-61.56	11.43	-0.21
168	SLU 79	-3	0	809	-60.64	11.26	-0.19
168	SLU 80	-3	1	818	-61.32	11.39	-0.21
168	SLU 81	-3	0	830	-62.24	11.56	-0.18
168	SLU 82	-3	1	839	-62.93	11.69	-0.2
168	SLU 83	-3	0	835	-62.6	11.63	-0.19
168	SLU 84	-3	1	844	-63.29	11.75	-0.21
168	SLE RA 1	-2	0	544	-40.77	7.57	-0.14
168	SLE RA 2	-2	1	554	-41.53	7.71	-0.16
168	SLE RA 3	-2	0	549	-41.17	7.65	-0.14
168	SLE RA 4	-2	1	555	-41.62	7.73	-0.15
168	SLE RA 5	-2	1	557	-41.77	7.76	-0.16
168	SLE RA 6	-2	0	552	-41.41	7.69	-0.14
168	SLE RA 7	-2	1	558	-41.86	7.78	-0.16
168	SLE RA 8	-2	0	550	-41.25	7.66	-0.14
168	SLE RA 9	-2	1	556	-41.71	7.75	-0.16
168	SLE RA 10	-2	1	602	-45.15	8.39	-0.16
168	SLE RA 11	-2	0	597	-44.78	8.32	-0.14
168	SLE RA 12	-2	1	603	-45.24	8.4	-0.15
168	SLE RA 13	-2	1	605	-45.38	8.43	-0.16
168	SLE RA 14	-2	0	600	-45.02	8.36	-0.14
168	SLE RA 15	-2	0	606	-45.48	8.45	-0.16
168	SLE RA 16	-2	0	598	-44.87	8.33	-0.14
168	SLE RA 17	-2	0	604	-45.32	8.42	-0.16
168	SLE RA 18	-2	0	612	-45.94	8.53	-0.14
168	SLE RA 19	-2	1	619	-46.39	8.62	-0.15
168	SLE RA 20	-2	0	616	-46.17	8.58	-0.14
168	SLE RA 21	-2	0	622	-46.63	8.66	-0.15
168	SLE FR 1	-2	0	544	-40.77	7.57	-0.14
168	SLE FR 2	-2	0	546	-40.92	7.6	-0.14
168	SLE FR 3	-2	0	545	-40.87	7.59	-0.14
168	SLE FR 4	-2	0	566	-42.47	7.89	-0.14
168	SLE FR 5	-2	0	566	-42.42	7.88	-0.14
168	SLE FR 6	-2	0	578	-43.35	8.05	-0.14
168	SLE QP 1	-2	0	544	-40.77	7.57	-0.14
168	SLE QP 2	-2	0	564	-42.32	7.86	-0.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
168	SLD 1	41	13	696	-52.17	9.69	2.84
168	SLD 2	50	12	693	-52	9.66	3.57
168	SLD 3	40	-14	464	-34.82	6.47	3.22
168	SLD 4	50	-15	462	-34.66	6.44	3.95
168	SLD 5	10	45	955	-71.61	13.3	0.06
168	SLD 6	16	44	953	-71.5	13.28	0.53
168	SLD 7	8	-45	184	-13.8	2.56	1.31
168	SLD 8	14	-46	183	-13.69	2.54	1.79
168	SLD 9	-18	46	946	-70.95	13.18	-2.06
168	SLD 10	-12	45	945	-70.84	13.16	-1.58
168	SLD 11	-20	-45	175	-13.14	2.44	-0.8
168	SLD 12	-14	-46	174	-13.03	2.42	-0.33
168	SLD 13	-53	15	666	-49.98	9.28	-4.22
168	SLD 14	-44	13	664	-49.82	9.25	-3.49
168	SLD 15	-54	-13	435	-32.64	6.06	-3.84
168	SLD 16	-44	-14	433	-32.47	6.03	-3.11
168	SLV 1	65	23	784	-58.82	10.93	4.49
168	SLV 2	80	20	781	-58.56	10.88	5.64
168	SLV 3	64	-23	393	-29.51	5.48	5.13
168	SLV 4	79	-25	390	-29.25	5.43	6.27
168	SLV 5	17	77	1224	-91.77	17.05	0.08
168	SLV 6	27	75	1221	-91.59	17.01	0.85
168	SLV 7	13	-77	-79	5.92	-1.1	2.19
168	SLV 8	23	-78	-81	6.1	-1.13	2.96
168	SLV 9	-27	77	1210	-90.74	16.85	-3.23
168	SLV 10	-17	76	1208	-90.57	16.82	-2.46
168	SLV 11	-31	-76	-93	6.95	-1.29	-1.12
168	SLV 12	-21	-77	-95	7.13	-1.32	-0.35
168	SLV 13	-82	25	739	-55.39	10.29	-6.54
168	SLV 14	-67	23	735	-55.13	10.24	-5.4
168	SLV 15	-83	-21	348	-26.08	4.84	-5.91
168	SLV 16	-68	-23	344	-25.82	4.8	-4.76
168	SLV FO 1	71	25	806	-60.47	11.23	4.96
168	SLV FO 2	88	23	802	-60.18	11.18	6.22
168	SLV FO 3	70	-26	376	-28.23	5.24	5.65
168	SLV FO 4	87	-28	373	-27.94	5.19	6.91
168	SLV FO 5	19	84	1290	-96.72	17.96	0.1
168	SLV FO 6	30	83	1287	-96.52	17.93	0.95
168	SLV FO 7	15	-84	-143	10.75	-2	2.42
168	SLV FO 8	26	-86	-146	10.94	-2.03	3.27
168	SLV FO 9	-30	85	1274	-95.58	17.75	-3.54
168	SLV FO 10	-19	83	1272	-95.39	17.72	-2.69
168	SLV FO 11	-34	-83	-158	11.88	-2.21	-1.22
168	SLV FO 12	-22	-85	-161	12.08	-2.24	-0.37
168	SLV FO 13	-90	27	756	-56.7	10.53	-7.19
168	SLV FO 14	-74	25	752	-56.41	10.48	-5.92
168	SLV FO 15	-91	-23	326	-24.46	4.54	-6.49
168	SLV FO 16	-75	-26	322	-24.17	4.49	-5.23
168	CRTFP Ux+	0	0	0	0	0	0
168	CRTFP Ux-	0	0	0	0	0	0
168	CRTFP Uy+	0	0	0	0	0	0
168	CRTFP Uy-	0	0	0	0	0	0
169	SLU 1	-12	0	3002	888.8	-318.58	3.61
169	SLU 2	-12	14	3082	910.06	-327.03	5.08
169	SLU 3	-12	1	3049	903.25	-323.59	3.77
169	SLU 4	-12	9	3097	916.01	-328.66	4.66
169	SLU 5	-12	14	3111	918.87	-330.06	5.22
169	SLU 6	-13	0	3078	912.06	-326.62	3.91
169	SLU 7	-13	8	3126	924.81	-331.69	4.8
169	SLU 8	-13	0	3059	906.41	-324.64	3.89
169	SLU 9	-13	8	3107	919.17	-329.71	4.77
169	SLU 10	-14	14	3498	1032.68	-371.07	5.64
169	SLU 11	-14	0	3464	1025.86	-367.63	4.34
169	SLU 12	-14	8	3513	1038.62	-372.7	5.22
169	SLU 13	-14	14	3526	1041.48	-374.1	5.78
169	SLU 14	-14	0	3493	1034.67	-370.66	4.48
169	SLU 15	-14	8	3541	1047.43	-375.73	5.36
169	SLU 16	-14	0	3474	1029.02	-368.68	4.45
169	SLU 17	-14	8	3522	1041.78	-373.75	5.33
169	SLU 18	-14	0	3595	1063.96	-381.5	4.41
169	SLU 19	-14	8	3643	1076.72	-386.57	5.29
169	SLU 20	-15	0	3624	1072.77	-384.53	4.55
169	SLU 21	-15	8	3672	1085.52	-389.6	5.43
169	SLU 22	-13	2	3406	1009.55	-361.44	4.29
169	SLU 23	-14	15	3486	1030.82	-369.89	5.76
169	SLU 24	-14	2	3453	1024	-366.45	4.46
169	SLU 25	-14	10	3501	1036.76	-371.52	5.34
169	SLU 26	-14	15	3515	1039.62	-372.92	5.9
169	SLU 27	-14	2	3481	1032.81	-369.48	4.6
169	SLU 28	-14	10	3530	1045.57	-374.55	5.48
169	SLU 29	-14	2	3463	1027.16	-367.5	4.57
169	SLU 30	-14	10	3511	1039.92	-372.57	5.45
169	SLU 31	-15	15	3901	1153.43	-413.93	6.32
169	SLU 32	-16	2	3868	1146.61	-410.49	5.02
169	SLU 33	-16	10	3916	1159.37	-415.56	5.9
169	SLU 34	-16	15	3930	1162.23	-416.96	6.46
169	SLU 35	-16	1	3896	1155.42	-413.52	5.16
169	SLU 36	-16	10	3945	1168.18	-418.59	6.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
169	SLU 37	-16	1	3878	1149.78	-411.54	5.13
169	SLU 38	-16	9	3926	1162.54	-416.61	6.01
169	SLU 39	-16	1	3999	1184.71	-424.36	5.09
169	SLU 40	-16	10	4047	1197.47	-429.43	5.98
169	SLU 41	-16	1	4027	1193.52	-427.39	5.23
169	SLU 42	-16	9	4075	1206.28	-432.46	6.12
169	SLU 43	-14	0	3764	1114.04	-399.46	4.45
169	SLU 44	-15	14	3845	1135.3	-407.91	5.92
169	SLU 45	-15	0	3812	1128.49	-404.47	4.62
169	SLU 46	-15	8	3860	1141.25	-409.54	5.5
169	SLU 47	-15	13	3873	1144.11	-410.94	6.06
169	SLU 48	-16	0	3840	1137.29	-407.5	4.76
169	SLU 49	-16	8	3888	1150.05	-412.57	5.64
169	SLU 50	-15	0	3821	1131.65	-405.52	4.73
169	SLU 51	-16	8	3870	1144.41	-410.59	5.62
169	SLU 52	-16	13	4260	1257.91	-451.95	6.49
169	SLU 53	-17	0	4227	1251.1	-448.51	5.19
169	SLU 54	-17	8	4275	1263.86	-453.58	6.07
169	SLU 55	-17	13	4288	1266.72	-454.98	6.63
169	SLU 56	-17	0	4255	1259.91	-451.54	5.33
169	SLU 57	-17	8	4303	1272.67	-456.61	6.21
169	SLU 58	-17	0	4236	1254.26	-449.56	5.3
169	SLU 59	-17	8	4285	1267.02	-454.63	6.18
169	SLU 60	-17	0	4357	1289.2	-462.38	5.26
169	SLU 61	-17	8	4406	1301.96	-467.45	6.14
169	SLU 62	-18	0	4386	1298	-465.41	5.4
169	SLU 63	-18	8	4434	1310.76	-470.48	6.28
169	SLU 64	-16	2	4168	1234.79	-442.32	5.14
169	SLU 65	-16	15	4248	1256.05	-450.77	6.61
169	SLU 66	-17	2	4215	1249.24	-447.33	5.3
169	SLU 67	-17	10	4263	1262	-452.4	6.19
169	SLU 68	-17	15	4277	1264.86	-453.8	6.75
169	SLU 69	-17	1	4244	1258.05	-450.36	5.44
169	SLU 70	-17	9	4292	1270.81	-455.43	6.33
169	SLU 71	-17	1	4225	1252.4	-448.38	5.42
169	SLU 72	-17	9	4273	1265.16	-453.45	6.3
169	SLU 73	-18	15	4663	1378.67	-494.81	7.17
169	SLU 74	-19	1	4630	1371.85	-491.37	5.87
169	SLU 75	-19	9	4678	1384.61	-496.44	6.75
169	SLU 76	-19	15	4692	1387.47	-497.84	7.31
169	SLU 77	-19	1	4659	1380.66	-494.4	6.01
169	SLU 78	-19	9	4707	1393.42	-499.47	6.89
169	SLU 79	-19	1	4640	1375.02	-492.42	5.98
169	SLU 80	-19	9	4688	1387.77	-497.49	6.86
169	SLU 81	-19	1	4761	1409.95	-505.24	5.94
169	SLU 82	-19	9	4809	1422.71	-510.31	6.82
169	SLU 83	-19	1	4790	1418.76	-508.27	6.08
169	SLU 84	-19	9	4838	1431.52	-513.34	6.96
169	SLE RA 1	-12	1	3118	923.3	-330.83	3.8
169	SLE RA 2	-12	10	3171	937.48	-336.46	4.78
169	SLE RA 3	-12	1	3149	932.93	-334.17	3.91
169	SLE RA 4	-13	6	3181	941.44	-337.55	4.5
169	SLE RA 5	-13	10	3190	943.35	-338.48	4.87
169	SLE RA 6	-13	1	3168	938.8	-336.19	4.01
169	SLE RA 7	-13	6	3200	947.31	-339.57	4.59
169	SLE RA 8	-13	1	3155	935.04	-334.87	3.99
169	SLE RA 9	-13	6	3188	943.55	-338.25	4.58
169	SLE RA 10	-13	10	3448	1019.22	-365.82	5.16
169	SLE RA 11	-14	1	3426	1014.67	-363.53	4.29
169	SLE RA 12	-14	6	3458	1023.18	-366.91	4.88
169	SLE RA 13	-14	10	3467	1025.09	-367.84	5.25
169	SLE RA 14	-14	1	3445	1020.55	-365.55	4.38
169	SLE RA 15	-14	6	3477	1029.05	-368.93	4.97
169	SLE RA 16	-14	0	3432	1016.78	-364.23	4.36
169	SLE RA 17	-14	6	3464	1025.29	-367.61	4.95
169	SLE RA 18	-14	1	3513	1040.07	-372.77	4.34
169	SLE RA 19	-14	6	3545	1048.58	-376.15	4.93
169	SLE RA 20	-14	1	3532	1045.94	-374.79	4.43
169	SLE RA 21	-14	6	3564	1054.45	-378.17	5.02
169	SLE FR 1	-12	1	3118	923.3	-330.83	3.8
169	SLE FR 2	-12	3	3128	926.14	-331.96	4
169	SLE FR 3	-12	1	3125	925.65	-331.64	3.84
169	SLE FR 4	-13	3	3247	961.17	-344.54	4.16
169	SLE FR 5	-13	1	3244	960.68	-344.22	4
169	SLE FR 6	-13	1	3315	981.69	-351.8	4.07
169	SLE QP 1	-12	1	3118	923.3	-330.83	3.8
169	SLE QP 2	-13	1	3236	958.33	-343.41	3.96
169	SLD 1	249	91	3912	1139.3	-414.33	-68.75
169	SLD 2	305	85	3904	1137.75	-413.56	-86.84
169	SLD 3	246	-76	2679	809.89	-284.45	-86.38
169	SLD 4	302	-82	2671	808.34	-283.68	-104.47
169	SLD 5	62	281	5310	1512.5	-561.81	12.01
169	SLD 6	98	278	5305	1511.49	-561.31	0.31
169	SLD 7	50	-274	1200	414.46	-128.87	-46.73
169	SLD 8	86	-277	1195	413.46	-128.37	-58.43
169	SLD 9	-111	279	5277	1503.2	-558.45	66.36
169	SLD 10	-75	275	5272	1502.2	-557.95	54.65
169	SLD 11	-123	-276	1167	405.17	-125.51	7.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
169	SLD 12	-87	-280	1162	404.17	-125.02	-4.09
169	SLD 13	-327	83	3801	1108.33	-403.14	112.39
169	SLD 14	-271	78	3793	1106.77	-402.38	94.3
169	SLD 15	-330	-83	2568	778.92	-273.26	94.77
169	SLD 16	-275	-89	2560	777.36	-272.49	76.68
169	SLV 1	397	152	4371	1262.33	-462.6	-108.56
169	SLV 2	485	143	4359	1259.88	-461.39	-137.04
169	SLV 3	391	-129	2288	705.63	-243.11	-138.3
169	SLV 4	479	-138	2276	703.18	-241.9	-166.78
169	SLV 5	103	475	6739	1894.31	-712.29	20.62
169	SLV 6	162	469	6731	1892.67	-711.48	1.45
169	SLV 7	83	-463	-206	38.65	19.35	-78.5
169	SLV 8	142	-469	-214	37	20.17	-97.68
169	SLV 9	-168	471	6686	1879.66	-706.99	105.6
169	SLV 10	-109	465	6678	1878.02	-706.18	86.43
169	SLV 11	-187	-467	-258	23.99	24.65	6.48
169	SLV 12	-128	-473	-267	22.35	25.47	-12.7
169	SLV 13	-504	140	4197	1213.48	-444.93	174.71
169	SLV 14	-416	131	4184	1211.04	-443.72	146.22
169	SLV 15	-510	-142	2113	656.78	-225.43	144.97
169	SLV 16	-422	-150	2101	654.34	-224.22	116.49
169	SLV FO 1	438	167	4485	1292.73	-474.52	-119.81
169	SLV FO 2	534	157	4471	1290.04	-473.19	-151.14
169	SLV FO 3	431	-142	2193	680.36	-233.08	-152.53
169	SLV FO 4	528	-152	2180	677.67	-231.74	-183.86
169	SLV FO 5	114	522	7089	1987.91	-749.18	22.29
169	SLV FO 6	179	515	7080	1986.1	-748.29	1.19
169	SLV FO 7	93	-510	-550	-53.32	55.63	-86.75
169	SLV FO 8	158	-516	-559	-55.13	56.53	-107.84
169	SLV FO 9	-183	518	7031	1971.79	-743.35	115.77
169	SLV FO 10	-118	511	7022	1969.98	-742.45	94.67
169	SLV FO 11	-205	-514	-608	-69.44	61.46	6.73
169	SLV FO 12	-139	-520	-617	-71.25	62.36	-14.36
169	SLV FO 13	-553	154	4293	1238.99	-455.08	191.78
169	SLV FO 14	-457	144	4279	1236.31	-453.75	160.45
169	SLV FO 15	-560	-156	2001	626.62	-213.64	159.07
169	SLV FO 16	-463	-166	1987	623.94	-212.3	127.74
169	CRTFP Ux+	0	0	0	0	0	0
169	CRTFP Ux-	0	0	0	0	0	0
169	CRTFP Uy+	0	0	0	0	0	0
169	CRTFP Uy-	0	0	0	0	0	0
170	SLU 1	-16	-2	4131	1362.02	-75.95	5.51
170	SLU 2	-16	16	4240	1394.76	-77.97	5.9
170	SLU 3	-17	-2	4195	1384.12	-77.14	5.78
170	SLU 4	-17	9	4261	1403.76	-78.35	6.01
170	SLU 5	-17	16	4279	1408.2	-78.68	6.15
170	SLU 6	-18	-2	4235	1397.57	-77.85	6.02
170	SLU 7	-18	9	4300	1417.21	-79.06	6.25
170	SLU 8	-18	-3	4209	1388.91	-77.38	6
170	SLU 9	-18	9	4275	1408.56	-78.59	6.24
170	SLU 10	-19	17	4811	1582.44	-88.44	6.87
170	SLU 11	-20	-2	4766	1571.8	-87.61	6.74
170	SLU 12	-20	9	4832	1591.44	-88.82	6.98
170	SLU 13	-20	16	4850	1595.89	-89.15	7.11
170	SLU 14	-20	-2	4805	1585.25	-88.32	6.99
170	SLU 15	-20	9	4871	1604.89	-89.53	7.22
170	SLU 16	-20	-2	4780	1576.6	-87.85	6.97
170	SLU 17	-20	9	4845	1596.24	-89.06	7.2
170	SLU 18	-20	-2	4946	1630.13	-90.91	6.89
170	SLU 19	-20	9	5012	1649.78	-92.12	7.13
170	SLU 20	-21	-2	4985	1643.58	-91.62	7.14
170	SLU 21	-21	9	5051	1663.23	-92.83	7.37
170	SLU 22	-19	-1	4686	1546.76	-86.13	6.38
170	SLU 23	-19	18	4795	1579.5	-88.14	6.77
170	SLU 24	-19	-1	4750	1568.86	-87.31	6.65
170	SLU 25	-19	10	4816	1588.51	-88.52	6.88
170	SLU 26	-20	18	4834	1592.95	-88.86	7.02
170	SLU 27	-20	-1	4790	1582.31	-88.02	6.89
170	SLU 28	-20	10	4855	1601.96	-89.23	7.12
170	SLU 29	-20	-1	4764	1573.66	-87.55	6.87
170	SLU 30	-20	10	4830	1593.3	-88.76	7.11
170	SLU 31	-22	18	5366	1767.18	-98.62	7.74
170	SLU 32	-22	-1	5321	1756.54	-97.78	7.61
170	SLU 33	-22	10	5387	1776.19	-98.99	7.85
170	SLU 34	-22	18	5405	1780.63	-99.33	7.98
170	SLU 35	-23	-1	5360	1769.99	-98.5	7.86
170	SLU 36	-23	10	5426	1789.64	-99.71	8.09
170	SLU 37	-23	-1	5335	1761.34	-98.02	7.84
170	SLU 38	-23	10	5400	1780.99	-99.23	8.07
170	SLU 39	-23	-1	5501	1814.88	-101.09	7.76
170	SLU 40	-23	11	5567	1834.52	-102.3	8
170	SLU 41	-23	-1	5540	1828.33	-101.8	8.01
170	SLU 42	-23	10	5606	1847.97	-103.01	8.24
170	SLU 43	-20	-3	5180	1707.28	-95.25	6.87
170	SLU 44	-20	15	5289	1740.02	-97.26	7.26
170	SLU 45	-21	-3	5244	1729.38	-96.43	7.13
170	SLU 46	-21	8	5310	1749.02	-97.64	7.37
170	SLU 47	-21	15	5328	1753.47	-97.98	7.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLU 48	-22	-3	5283	1742.83	-97.14	7.38
170	SLU 49	-22	8	5349	1762.47	-98.36	7.61
170	SLU 50	-22	-4	5258	1734.18	-96.67	7.36
170	SLU 51	-22	7	5324	1753.82	-97.88	7.59
170	SLU 52	-23	15	5860	1927.7	-107.74	8.22
170	SLU 53	-24	-3	5815	1917.06	-106.9	8.1
170	SLU 54	-24	8	5881	1936.7	-108.11	8.33
170	SLU 55	-24	15	5899	1941.15	-108.45	8.47
170	SLU 56	-24	-3	5854	1930.51	-107.62	8.34
170	SLU 57	-24	8	5920	1950.15	-108.83	8.58
170	SLU 58	-24	-4	5828	1921.86	-107.14	8.32
170	SLU 59	-24	8	5894	1941.5	-108.35	8.56
170	SLU 60	-24	-3	5995	1975.4	-110.21	8.25
170	SLU 61	-24	8	6060	1995.04	-111.42	8.48
170	SLU 62	-25	-3	6034	1988.85	-110.92	8.49
170	SLU 63	-25	8	6100	2008.49	-112.13	8.73
170	SLU 64	-23	-2	5735	1892.03	-105.42	7.74
170	SLU 65	-23	17	5844	1924.77	-107.44	8.13
170	SLU 66	-23	-2	5799	1914.13	-106.61	8
170	SLU 67	-24	9	5865	1933.77	-107.82	8.23
170	SLU 68	-24	16	5883	1938.22	-108.15	8.37
170	SLU 69	-24	-2	5839	1927.58	-107.32	8.25
170	SLU 70	-24	9	5904	1947.22	-108.53	8.48
170	SLU 71	-24	-2	5813	1918.92	-106.85	8.23
170	SLU 72	-24	9	5879	1938.57	-108.06	8.46
170	SLU 73	-26	17	6415	2112.45	-117.91	9.09
170	SLU 74	-26	-2	6370	2101.81	-117.08	8.97
170	SLU 75	-26	9	6436	2121.45	-118.29	9.2
170	SLU 76	-26	17	6454	2125.9	-118.63	9.34
170	SLU 77	-27	-2	6409	2115.26	-117.79	9.21
170	SLU 78	-27	9	6475	2134.9	-119	9.45
170	SLU 79	-27	-2	6383	2106.61	-117.32	9.19
170	SLU 80	-27	9	6449	2126.25	-118.53	9.43
170	SLU 81	-27	-2	6550	2160.14	-120.38	9.12
170	SLU 82	-27	9	6616	2179.79	-121.59	9.35
170	SLU 83	-27	-2	6589	2173.59	-121.09	9.36
170	SLU 84	-27	9	6655	2193.24	-122.31	9.6
170	SLE RA 1	-17	-2	4289	1414.8	-78.86	5.76
170	SLE RA 2	-17	11	4362	1436.63	-80.2	6.02
170	SLE RA 3	-17	-2	4332	1429.54	-79.65	5.94
170	SLE RA 4	-17	6	4376	1442.63	-80.45	6.09
170	SLE RA 5	-17	10	4388	1445.59	-80.68	6.18
170	SLE RA 6	-18	-2	4359	1438.5	-80.12	6.1
170	SLE RA 7	-18	6	4402	1451.6	-80.93	6.26
170	SLE RA 8	-18	-2	4341	1432.73	-79.81	6.09
170	SLE RA 9	-18	5	4385	1445.83	-80.62	6.24
170	SLE RA 10	-19	11	4743	1561.75	-87.18	6.67
170	SLE RA 11	-19	-2	4713	1554.66	-86.63	6.58
170	SLE RA 12	-19	6	4757	1567.75	-87.44	6.74
170	SLE RA 13	-19	11	4769	1570.71	-87.66	6.83
170	SLE RA 14	-20	-2	4739	1563.62	-87.1	6.74
170	SLE RA 15	-20	6	4783	1576.72	-87.91	6.9
170	SLE RA 16	-20	-2	4722	1557.85	-86.79	6.73
170	SLE RA 17	-20	5	4766	1570.95	-87.6	6.89
170	SLE RA 18	-19	-2	4833	1593.55	-88.83	6.68
170	SLE RA 19	-20	6	4877	1606.64	-89.64	6.84
170	SLE RA 20	-20	-2	4859	1602.51	-89.31	6.85
170	SLE RA 21	-20	6	4903	1615.61	-90.11	7
170	SLE FR 1	-17	-2	4289	1414.8	-78.86	5.76
170	SLE FR 2	-17	1	4304	1419.17	-79.13	5.81
170	SLE FR 3	-17	-2	4300	1418.39	-79.05	5.83
170	SLE FR 4	-18	1	4467	1472.79	-82.12	6.09
170	SLE FR 5	-18	-2	4463	1472.01	-82.04	6.1
170	SLE FR 6	-18	-2	4561	1504.17	-83.84	6.22
170	SLE QP 1	-17	-2	4289	1414.8	-78.86	5.76
170	SLE QP 2	-18	-2	4452	1468.43	-81.85	6.04
170	SLD 1	348	112	5354	1741.41	-97.91	-118.94
170	SLD 2	425	105	5347	1739.79	-97.87	-146.16
170	SLD 3	343	-120	3669	1234.86	-66.84	-123.3
170	SLD 4	420	-126	3661	1233.24	-66.8	-150.52
170	SLD 5	86	385	7281	2318.86	-133.79	-20.11
170	SLD 6	136	381	7276	2317.81	-133.77	-37.72
170	SLD 7	69	-388	1662	630.38	-30.23	-34.66
170	SLD 8	120	-392	1657	629.33	-30.21	-52.27
170	SLD 9	-155	389	7247	2307.52	-133.49	64.35
170	SLD 10	-105	384	7243	2306.47	-133.47	46.74
170	SLD 11	-172	-384	1629	619.04	-29.93	49.8
170	SLD 12	-121	-389	1624	617.99	-29.91	32.19
170	SLD 13	-456	123	5243	1703.61	-96.89	162.6
170	SLD 14	-378	116	5236	1701.99	-96.86	135.38
170	SLD 15	-461	-109	3558	1197.06	-65.83	158.24
170	SLD 16	-383	-116	3550	1195.44	-65.79	131.01
170	SLV 1	553	191	5971	1927.7	-108.97	-189.03
170	SLV 2	675	180	5959	1925.15	-108.92	-231.89
170	SLV 3	545	-201	3122	1071.64	-56.47	-196.31
170	SLV 4	667	-212	3111	1069.09	-56.42	-239.17
170	SLV 5	143	652	9231	2905.04	-169.63	-33.44
170	SLV 6	225	645	9223	2903.32	-169.59	-62.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLV 7	116	-654	-265	51.51	5.39	-57.7
170	SLV 8	198	-661	-273	49.79	5.42	-86.56
170	SLV 9	-234	658	9178	2887.06	-169.12	98.64
170	SLV 10	-152	650	9170	2885.34	-169.09	69.78
170	SLV 11	-261	-648	-318	33.53	5.89	74.38
170	SLV 12	-178	-656	-326	31.81	5.93	45.52
170	SLV 13	-703	209	5794	1867.76	-107.28	251.25
170	SLV 14	-581	198	5782	1865.21	-107.23	208.38
170	SLV 15	-711	-183	2945	1011.71	-54.78	243.97
170	SLV 16	-589	-194	2934	1009.15	-54.73	201.11
170	SLV FO 1	611	210	6123	1973.63	-111.68	-208.54
170	SLV FO 2	745	198	6110	1970.82	-111.63	-255.69
170	SLV FO 3	602	-221	2989	1031.97	-53.93	-216.54
170	SLV FO 4	736	-233	2976	1029.15	-53.87	-263.69
170	SLV FO 5	159	718	9708	3048.7	-178.4	-37.39
170	SLV FO 6	250	710	9700	3046.81	-178.37	-69.14
170	SLV FO 7	130	-719	-737	-90.18	14.11	-64.08
170	SLV FO 8	220	-727	-746	-92.07	14.15	-95.82
170	SLV FO 9	-255	723	9650	3028.92	-177.85	107.9
170	SLV FO 10	-165	715	9641	3027.03	-177.81	76.15
170	SLV FO 11	-285	-713	-795	-109.96	14.67	81.21
170	SLV FO 12	-195	-721	-804	-111.85	14.71	49.47
170	SLV FO 13	-771	230	5928	1907.7	-109.82	275.77
170	SLV FO 14	-637	218	5915	1904.89	-109.77	228.62
170	SLV FO 15	-780	-201	2795	966.03	-52.07	267.76
170	SLV FO 16	-646	-213	2782	963.22	-52.01	220.61
170	CRTFP Ux+	0	0	0	0	0	0
170	CRTFP Ux-	0	0	0	0	0	0
170	CRTFP Uy+	0	0	0	-0.01	0	0
170	CRTFP Uy-	0	0	0	0.01	0	0
171	SLU 1	-18	-8	4530	1478.35	1.15	6.12
171	SLU 2	-18	13	4651	1513.97	1.17	6.15
171	SLU 3	-19	-8	4601	1502.27	1.18	6.41
171	SLU 4	-19	5	4673	1523.64	1.19	6.43
171	SLU 5	-19	13	4693	1528.49	1.19	6.43
171	SLU 6	-20	-8	4644	1516.78	1.2	6.69
171	SLU 7	-20	4	4716	1538.16	1.21	6.71
171	SLU 8	-20	-8	4615	1507.39	1.19	6.68
171	SLU 9	-20	4	4688	1528.76	1.2	6.69
171	SLU 10	-21	13	5275	1717.23	1.37	7.27
171	SLU 11	-22	-8	5226	1705.52	1.38	7.53
171	SLU 12	-22	5	5298	1726.89	1.39	7.55
171	SLU 13	-22	13	5318	1731.75	1.39	7.55
171	SLU 14	-23	-8	5268	1720.04	1.4	7.81
171	SLU 15	-23	4	5341	1741.41	1.41	7.83
171	SLU 16	-23	-8	5240	1710.65	1.39	7.79
171	SLU 17	-23	4	5312	1732.02	1.4	7.81
171	SLU 18	-23	-7	5423	1768.72	1.43	7.71
171	SLU 19	-23	5	5495	1790.09	1.45	7.73
171	SLU 20	-23	-8	5465	1783.24	1.45	7.99
171	SLU 21	-24	5	5538	1804.61	1.47	8.01
171	SLU 22	-21	-7	5138	1678.4	1.34	7.05
171	SLU 23	-21	13	5258	1714.02	1.37	7.08
171	SLU 24	-22	-7	5208	1702.31	1.37	7.35
171	SLU 25	-22	5	5281	1723.69	1.39	7.36
171	SLU 26	-22	13	5301	1728.54	1.39	7.36
171	SLU 27	-22	-8	5251	1716.83	1.39	7.62
171	SLU 28	-23	5	5323	1738.2	1.41	7.64
171	SLU 29	-22	-8	5223	1707.44	1.39	7.61
171	SLU 30	-22	5	5295	1728.81	1.4	7.63
171	SLU 31	-24	13	5883	1917.28	1.57	8.2
171	SLU 32	-25	-7	5833	1905.57	1.57	8.46
171	SLU 33	-25	5	5905	1926.94	1.59	8.48
171	SLU 34	-25	13	5925	1931.8	1.59	8.48
171	SLU 35	-26	-7	5876	1920.09	1.59	8.74
171	SLU 36	-26	5	5948	1941.46	1.61	8.76
171	SLU 37	-26	-8	5848	1910.69	1.59	8.73
171	SLU 38	-26	5	5920	1932.07	1.6	8.75
171	SLU 39	-25	-7	6030	1968.77	1.63	8.65
171	SLU 40	-25	5	6102	1990.14	1.64	8.67
171	SLU 41	-26	-7	6073	1983.29	1.65	8.93
171	SLU 42	-26	5	6145	2004.66	1.67	8.95
171	SLU 43	-23	-10	5681	1853.27	1.42	7.63
171	SLU 44	-23	10	5801	1888.89	1.44	7.66
171	SLU 45	-23	-10	5752	1877.18	1.45	7.93
171	SLU 46	-23	2	5824	1898.56	1.46	7.95
171	SLU 47	-23	10	5844	1903.41	1.47	7.94
171	SLU 48	-24	-10	5794	1891.7	1.47	8.21
171	SLU 49	-24	2	5867	1913.07	1.49	8.23
171	SLU 50	-24	-11	5766	1882.31	1.47	8.19
171	SLU 51	-24	2	5838	1903.68	1.48	8.21
171	SLU 52	-26	11	6426	2092.15	1.65	8.78
171	SLU 53	-27	-10	6377	2080.44	1.65	9.04
171	SLU 54	-27	2	6449	2101.81	1.67	9.06
171	SLU 55	-27	10	6469	2106.67	1.67	9.06
171	SLU 56	-27	-10	6419	2094.96	1.67	9.32
171	SLU 57	-27	2	6491	2116.33	1.69	9.34
171	SLU 58	-27	-11	6391	2085.56	1.67	9.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLU 59	-27	2	6463	2106.94	1.68	9.33
171	SLU 60	-27	-10	6573	2143.64	1.71	9.23
171	SLU 61	-27	2	6646	2165.01	1.72	9.25
171	SLU 62	-28	-10	6616	2158.15	1.73	9.51
171	SLU 63	-28	2	6688	2179.53	1.74	9.53
171	SLU 64	-25	-10	6288	2053.32	1.62	8.56
171	SLU 65	-25	11	6409	2088.94	1.64	8.6
171	SLU 66	-26	-10	6359	2077.23	1.65	8.86
171	SLU 67	-26	3	6431	2098.6	1.66	8.88
171	SLU 68	-26	11	6451	2103.46	1.66	8.88
171	SLU 69	-27	-10	6402	2091.75	1.67	9.14
171	SLU 70	-27	2	6474	2113.12	1.68	9.16
171	SLU 71	-27	-10	6374	2082.36	1.66	9.12
171	SLU 72	-27	2	6446	2103.73	1.68	9.14
171	SLU 73	-29	11	7034	2292.19	1.84	9.72
171	SLU 74	-29	-10	6984	2280.49	1.85	9.98
171	SLU 75	-29	3	7056	2301.86	1.86	10
171	SLU 76	-29	11	7076	2306.71	1.86	9.99
171	SLU 77	-30	-10	7027	2295.01	1.87	10.26
171	SLU 78	-30	2	7099	2316.38	1.88	10.28
171	SLU 79	-30	-10	6998	2285.61	1.86	10.24
171	SLU 80	-30	2	7071	2306.98	1.88	10.26
171	SLU 81	-30	-9	7181	2343.68	1.91	10.16
171	SLU 82	-30	3	7253	2365.06	1.92	10.18
171	SLU 83	-31	-10	7224	2358.2	1.93	10.44
171	SLU 84	-31	3	7296	2379.58	1.94	10.46
171	SLE RA 1	-19	-7	4704	1535.51	1.2	6.38
171	SLE RA 2	-19	6	4784	1559.26	1.22	6.4
171	SLE RA 3	-19	-8	4751	1551.45	1.22	6.58
171	SLE RA 4	-19	1	4799	1565.7	1.23	6.59
171	SLE RA 5	-19	6	4812	1568.94	1.23	6.59
171	SLE RA 6	-20	-8	4779	1561.13	1.24	6.77
171	SLE RA 7	-20	0	4827	1575.38	1.25	6.78
171	SLE RA 8	-20	-8	4761	1554.87	1.23	6.76
171	SLE RA 9	-20	0	4809	1569.12	1.24	6.77
171	SLE RA 10	-21	6	5201	1694.76	1.35	7.15
171	SLE RA 11	-22	-8	5167	1686.96	1.36	7.32
171	SLE RA 12	-22	1	5216	1701.2	1.36	7.34
171	SLE RA 13	-22	6	5229	1704.44	1.37	7.34
171	SLE RA 14	-22	-8	5196	1696.63	1.37	7.51
171	SLE RA 15	-22	0	5244	1710.88	1.38	7.52
171	SLE RA 16	-22	-8	5177	1690.37	1.37	7.5
171	SLE RA 17	-22	0	5225	1704.62	1.37	7.51
171	SLE RA 18	-22	-7	5299	1729.09	1.39	7.45
171	SLE RA 19	-22	1	5347	1743.33	1.4	7.46
171	SLE RA 20	-22	-8	5327	1738.77	1.41	7.63
171	SLE RA 21	-22	1	5375	1753.01	1.42	7.65
171	SLE FR 1	-19	-7	4704	1535.51	1.2	6.38
171	SLE FR 2	-19	-5	4720	1540.26	1.21	6.39
171	SLE FR 3	-19	-8	4715	1539.38	1.21	6.46
171	SLE FR 4	-20	-5	4898	1598.33	1.26	6.71
171	SLE FR 5	-20	-8	4894	1597.45	1.27	6.78
171	SLE FR 6	-20	-7	5001	1632.3	1.3	6.92
171	SLE QP 1	-19	-7	4704	1535.51	1.2	6.38
171	SLE QP 2	-20	-7	4882	1593.58	1.26	6.7
171	SLD 1	384	115	5847	1882.18	2.55	-134.86
171	SLD 2	470	109	5843	1881.63	2.41	-164.78
171	SLD 3	379	-142	3995	1331.48	2.21	-132.93
171	SLD 4	464	-148	3991	1330.94	2.07	-162.86
171	SLD 5	95	421	7981	2515.48	2.19	-33.5
171	SLD 6	150	417	7979	2515.13	2.1	-52.86
171	SLD 7	77	-437	1808	679.83	1.05	-27.08
171	SLD 8	132	-441	1805	679.47	0.96	-46.44
171	SLD 9	-171	426	7959	2507.69	1.56	59.84
171	SLD 10	-116	422	7957	2507.34	1.47	40.48
171	SLD 11	-190	-432	1786	672.04	0.42	66.26
171	SLD 12	-135	-436	1783	671.69	0.33	46.9
171	SLD 13	-504	133	5773	1856.23	0.45	176.26
171	SLD 14	-418	127	5769	1855.68	0.31	146.34
171	SLD 15	-510	-124	3921	1305.53	0.11	178.19
171	SLD 16	-424	-130	3917	1304.99	-0.03	148.26
171	SLV 1	612	200	6511	2080.34	3.3	-214.57
171	SLV 2	747	191	6505	2079.49	3.08	-261.69
171	SLV 3	603	-235	3381	1149.67	2.72	-211.45
171	SLV 4	738	-244	3375	1148.82	2.5	-258.56
171	SLV 5	158	716	10119	3151.28	2.79	-55.62
171	SLV 6	249	710	10115	3150.71	2.64	-87.34
171	SLV 7	128	-733	-314	49.06	0.86	-45.22
171	SLV 8	219	-740	-318	48.48	0.71	-76.94
171	SLV 9	-259	725	10083	3138.69	1.81	90.34
171	SLV 10	-168	719	10079	3138.11	1.66	58.62
171	SLV 11	-289	-725	-350	36.46	-0.12	100.75
171	SLV 12	-198	-731	-355	35.88	-0.27	69.03
171	SLV 13	-777	229	6390	2038.35	0.02	271.97
171	SLV 14	-642	220	6383	2037.49	-0.2	224.85
171	SLV 15	-786	-205	3260	1107.68	-0.56	275.09
171	SLV 16	-651	-215	3254	1106.83	-0.78	227.97
171	SLV FO 1	675	221	6674	2129.02	3.5	-236.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLV FO 2	823	210	6667	2128.08	3.26	-288.52
171	SLV FO 3	665	-257	3231	1105.28	2.86	-233.26
171	SLV FO 4	814	-268	3224	1104.34	2.62	-285.09
171	SLV FO 5	176	789	10643	3307.05	2.95	-61.85
171	SLV FO 6	276	781	10638	3306.42	2.78	-96.75
171	SLV FO 7	143	-806	-834	-105.4	0.82	-50.41
171	SLV FO 8	243	-813	-838	-106.03	0.66	-85.3
171	SLV FO 9	-282	798	10603	3293.2	1.87	98.7
171	SLV FO 10	-183	791	10598	3292.56	1.7	63.81
171	SLV FO 11	-315	-796	-874	-119.25	-0.26	110.15
171	SLV FO 12	-216	-804	-878	-119.89	-0.42	75.26
171	SLV FO 13	-853	253	6541	2082.82	-0.1	298.5
171	SLV FO 14	-705	243	6534	2081.88	-0.34	246.67
171	SLV FO 15	-863	-225	3098	1059.09	-0.74	301.93
171	SLV FO 16	-715	-236	3091	1058.15	-0.98	250.1
171	CRTFP Ux+	0	0	0	0	0	0
171	CRTFP Ux-	0	0	0	0	0	0
171	CRTFP Uy+	0	0	0	-0.01	0	0
171	CRTFP Uy-	0	0	0	0.01	0	0
172	SLU 1	-18	-14	4500	1458.66	0.74	6.03
172	SLU 2	-18	6	4620	1493.93	0.74	6.05
172	SLU 3	-19	-15	4570	1482.15	0.76	6.33
172	SLU 4	-19	-2	4642	1503.31	0.76	6.34
172	SLU 5	-19	6	4662	1508.15	0.76	6.33
172	SLU 6	-20	-15	4612	1496.37	0.78	6.62
172	SLU 7	-20	-3	4684	1517.53	0.78	6.63
172	SLU 8	-20	-15	4584	1487.1	0.77	6.6
172	SLU 9	-20	-3	4656	1508.27	0.78	6.61
172	SLU 10	-21	6	5239	1693.87	0.9	7.21
172	SLU 11	-22	-15	5189	1682.09	0.91	7.5
172	SLU 12	-22	-3	5261	1703.25	0.92	7.5
172	SLU 13	-22	5	5281	1708.1	0.91	7.49
172	SLU 14	-23	-16	5231	1696.31	0.93	7.78
172	SLU 15	-23	-3	5303	1717.48	0.93	7.79
172	SLU 16	-23	-16	5203	1687.04	0.93	7.76
172	SLU 17	-23	-3	5275	1708.21	0.93	7.77
172	SLU 18	-23	-15	5385	1744.29	0.95	7.69
172	SLU 19	-23	-3	5457	1765.45	0.96	7.7
172	SLU 20	-24	-16	5427	1758.51	0.97	7.98
172	SLU 21	-24	-3	5499	1779.67	0.98	7.99
172	SLU 22	-21	-15	5102	1655.53	0.88	6.96
172	SLU 23	-21	5	5222	1690.8	0.88	6.97
172	SLU 24	-22	-16	5172	1679.02	0.9	7.26
172	SLU 25	-22	-3	5244	1700.18	0.9	7.27
172	SLU 26	-22	5	5264	1705.02	0.9	7.26
172	SLU 27	-22	-16	5214	1693.24	0.92	7.54
172	SLU 28	-22	-4	5286	1714.4	0.92	7.55
172	SLU 29	-22	-16	5186	1683.97	0.91	7.53
172	SLU 30	-22	-4	5258	1705.14	0.92	7.54
172	SLU 31	-24	5	5842	1890.74	1.04	8.14
172	SLU 32	-25	-16	5792	1878.96	1.05	8.42
172	SLU 33	-25	-4	5864	1900.12	1.06	8.43
172	SLU 34	-25	4	5884	1904.97	1.05	8.42
172	SLU 35	-26	-17	5834	1893.18	1.07	8.71
172	SLU 36	-26	-4	5906	1914.35	1.07	8.71
172	SLU 37	-26	-17	5806	1883.91	1.07	8.69
172	SLU 38	-26	-4	5878	1905.08	1.07	8.7
172	SLU 39	-26	-16	5987	1941.16	1.09	8.62
172	SLU 40	-26	-4	6059	1962.32	1.1	8.63
172	SLU 41	-26	-16	6029	1955.38	1.11	8.9
172	SLU 42	-26	-4	6101	1976.55	1.12	8.91
172	SLU 43	-22	-18	5644	1828.75	0.91	7.53
172	SLU 44	-22	2	5764	1864.03	0.92	7.54
172	SLU 45	-23	-19	5714	1852.25	0.93	7.83
172	SLU 46	-23	-7	5786	1873.41	0.94	7.83
172	SLU 47	-23	2	5806	1878.25	0.93	7.82
172	SLU 48	-24	-19	5756	1866.47	0.95	8.11
172	SLU 49	-24	-7	5828	1887.63	0.95	8.12
172	SLU 50	-24	-19	5728	1857.2	0.95	8.1
172	SLU 51	-24	-7	5800	1878.36	0.95	8.1
172	SLU 52	-26	1	6383	2063.97	1.07	8.7
172	SLU 53	-27	-19	6333	2052.19	1.09	8.99
172	SLU 54	-27	-7	6405	2073.35	1.09	9
172	SLU 55	-27	1	6425	2078.19	1.09	8.99
172	SLU 56	-27	-20	6375	2066.41	1.1	9.27
172	SLU 57	-27	-7	6447	2087.57	1.11	9.28
172	SLU 58	-27	-20	6347	2057.14	1.1	9.26
172	SLU 59	-27	-8	6419	2078.31	1.1	9.27
172	SLU 60	-27	-19	6528	2114.39	1.13	9.19
172	SLU 61	-27	-7	6600	2135.55	1.13	9.2
172	SLU 62	-28	-20	6570	2128.61	1.15	9.47
172	SLU 63	-28	-7	6642	2149.77	1.15	9.48
172	SLU 64	-25	-19	6246	2025.63	1.05	8.45
172	SLU 65	-25	1	6366	2060.9	1.06	8.47
172	SLU 66	-26	-20	6316	2049.12	1.07	8.75
172	SLU 67	-26	-7	6388	2070.28	1.08	8.76
172	SLU 68	-26	1	6408	2075.12	1.07	8.75
172	SLU 69	-27	-20	6358	2063.34	1.09	9.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
172	SLU 70	-27	-8	6430	2084.5	1.09	9.04
172	SLU 71	-27	-20	6330	2054.07	1.09	9.02
172	SLU 72	-27	-8	6402	2075.23	1.09	9.03
172	SLU 73	-29	1	6985	2260.84	1.21	9.63
172	SLU 74	-29	-20	6935	2249.06	1.23	9.91
172	SLU 75	-29	-8	7007	2270.22	1.23	9.92
172	SLU 76	-29	0	7027	2275.06	1.23	9.91
172	SLU 77	-30	-21	6977	2263.28	1.24	10.2
172	SLU 78	-30	-8	7049	2284.45	1.25	10.21
172	SLU 79	-30	-21	6949	2254.01	1.24	10.18
172	SLU 80	-30	-8	7021	2275.18	1.24	10.19
172	SLU 81	-30	-20	7131	2311.26	1.27	10.11
172	SLU 82	-30	-8	7203	2332.42	1.27	10.12
172	SLU 83	-31	-21	7173	2325.48	1.29	10.4
172	SLU 84	-31	-8	7245	2346.64	1.29	10.41
172	SLE RA 1	-19	-15	4672	1514.91	0.78	6.3
172	SLE RA 2	-19	-1	4752	1538.42	0.78	6.31
172	SLE RA 3	-19	-15	4719	1530.57	0.79	6.5
172	SLE RA 4	-19	-7	4767	1544.68	0.79	6.5
172	SLE RA 5	-19	-1	4780	1547.9	0.79	6.5
172	SLE RA 6	-20	-15	4747	1540.05	0.8	6.69
172	SLE RA 7	-20	-7	4795	1554.16	0.81	6.69
172	SLE RA 8	-20	-15	4728	1533.87	0.8	6.68
172	SLE RA 9	-20	-7	4776	1547.98	0.8	6.68
172	SLE RA 10	-21	-1	5165	1671.72	0.88	7.08
172	SLE RA 11	-22	-15	5132	1663.86	0.89	7.27
172	SLE RA 12	-22	-7	5180	1677.97	0.9	7.28
172	SLE RA 13	-22	-2	5193	1681.2	0.9	7.27
172	SLE RA 14	-22	-16	5160	1673.34	0.91	7.46
172	SLE RA 15	-22	-7	5208	1687.45	0.91	7.47
172	SLE RA 16	-22	-16	5141	1667.16	0.9	7.45
172	SLE RA 17	-22	-7	5189	1681.27	0.91	7.46
172	SLE RA 18	-22	-15	5262	1705.33	0.92	7.41
172	SLE RA 19	-22	-7	5310	1719.44	0.92	7.41
172	SLE RA 20	-22	-15	5290	1714.81	0.93	7.6
172	SLE RA 21	-23	-7	5338	1728.92	0.94	7.6
172	SLE FR 1	-19	-15	4672	1514.91	0.78	6.3
172	SLE FR 2	-19	-12	4688	1519.61	0.78	6.3
172	SLE FR 3	-19	-15	4684	1518.7	0.78	6.37
172	SLE FR 4	-20	-12	4865	1576.73	0.82	6.63
172	SLE FR 5	-20	-15	4860	1575.82	0.82	6.71
172	SLE FR 6	-20	-15	4967	1610.12	0.85	6.85
172	SLE QP 1	-19	-15	4672	1514.91	0.78	6.3
172	SLE QP 2	-20	-15	4849	1572.03	0.82	6.63
172	SLD 1	384	106	5741	1852.43	2.02	-134.77
172	SLD 2	470	102	5741	1853.09	1.88	-164.65
172	SLD 3	379	-153	3897	1307.7	1.87	-132.83
172	SLD 4	464	-157	3897	1308.35	1.73	-162.7
172	SLD 5	95	415	7914	2482.22	1.43	-33.56
172	SLD 6	151	412	7914	2482.64	1.34	-52.89
172	SLD 7	76	-449	1766	666.44	0.93	-27.07
172	SLD 8	132	-451	1767	666.86	0.84	-46.4
172	SLD 9	-171	422	7932	2477.2	0.8	59.66
172	SLD 10	-116	419	7932	2477.63	0.71	40.33
172	SLD 11	-190	-442	1785	661.42	0.3	66.15
172	SLD 12	-135	-445	1785	661.84	0.21	46.82
172	SLD 13	-503	128	5801	1835.71	-0.09	175.96
172	SLD 14	-418	124	5802	1836.36	-0.23	146.09
172	SLD 15	-509	-131	3957	1290.97	-0.24	177.91
172	SLD 16	-424	-136	3958	1291.63	-0.38	148.04
172	SLV 1	612	190	6357	2045.86	2.71	-214.4
172	SLV 2	746	183	6358	2046.89	2.49	-261.44
172	SLV 3	602	-248	3240	1125.27	2.45	-211.24
172	SLV 4	737	-254	3241	1126.3	2.23	-258.28
172	SLV 5	158	712	10028	3110.21	1.82	-55.7
172	SLV 6	249	707	10029	3110.91	1.67	-87.37
172	SLV 7	128	-748	-360	41.58	0.96	-45.15
172	SLV 8	219	-752	-360	42.28	0.82	-76.82
172	SLV 9	-258	722	10058	3101.79	0.82	90.09
172	SLV 10	-167	718	10059	3102.48	0.68	58.41
172	SLV 11	-289	-737	-330	33.16	-0.03	100.63
172	SLV 12	-198	-742	-330	33.85	-0.18	68.96
172	SLV 13	-777	225	6458	2017.76	-0.59	271.54
172	SLV 14	-642	218	6458	2018.8	-0.81	224.5
172	SLV 15	-786	-213	3341	1097.18	-0.85	274.71
172	SLV 16	-651	-220	3342	1098.21	-1.07	227.66
172	SLV FO 1	675	211	6508	2093.24	2.9	-236.5
172	SLV FO 2	823	203	6508	2094.37	2.66	-288.25
172	SLV FO 3	665	-271	3079	1080.59	2.61	-233.02
172	SLV FO 4	813	-278	3080	1081.73	2.38	-284.77
172	SLV FO 5	176	785	10546	3264.03	1.91	-61.93
172	SLV FO 6	276	780	10547	3264.8	1.75	-96.77
172	SLV FO 7	143	-821	-881	-111.46	0.98	-50.33
172	SLV FO 8	242	-826	-881	-110.7	0.81	-85.17
172	SLV FO 9	-282	796	10579	3254.76	0.83	98.43
172	SLV FO 10	-182	791	10580	3255.53	0.66	63.59
172	SLV FO 11	-315	-809	-848	-120.73	-0.11	110.03
172	SLV FO 12	-216	-814	-848	-119.97	-0.27	75.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
172	SLV FO 13	-852	249	6618	2062.34	-0.74	298.03
172	SLV FO 14	-704	241	6619	2063.47	-0.97	246.29
172	SLV FO 15	-862	-233	3190	1049.69	-1.02	301.51
172	SLV FO 16	-714	-240	3191	1050.83	-1.26	249.77
172	CRTFP Ux+	0	0	0	0	0	0
172	CRTFP Ux-	0	0	0	0	0	0
172	CRTFP Uy+	0	0	0	-0.01	0	0
172	CRTFP Uy-	0	0	0	0.01	0	0
173	SLU 1	-18	-22	4485	1453.24	0.24	5.88
173	SLU 2	-18	-2	4605	1488.57	0.23	5.87
173	SLU 3	-18	-23	4554	1476.53	0.25	6.18
173	SLU 4	-18	-10	4626	1497.72	0.25	6.18
173	SLU 5	-18	-2	4647	1502.62	0.24	6.16
173	SLU 6	-19	-23	4596	1490.58	0.27	6.47
173	SLU 7	-19	-11	4668	1511.77	0.26	6.46
173	SLU 8	-19	-23	4568	1481.35	0.27	6.46
173	SLU 9	-19	-11	4640	1502.54	0.26	6.45
173	SLU 10	-21	-3	5220	1687.11	0.32	7.07
173	SLU 11	-22	-24	5170	1675.07	0.35	7.38
173	SLU 12	-22	-12	5242	1696.26	0.34	7.38
173	SLU 13	-22	-4	5262	1701.16	0.33	7.36
173	SLU 14	-23	-25	5211	1689.12	0.36	7.67
173	SLU 15	-23	-13	5283	1710.32	0.35	7.67
173	SLU 16	-23	-25	5183	1679.89	0.36	7.66
173	SLU 17	-23	-13	5255	1701.08	0.35	7.65
173	SLU 18	-23	-25	5364	1736.87	0.37	7.6
173	SLU 19	-23	-12	5436	1758.07	0.36	7.59
173	SLU 20	-23	-25	5406	1750.93	0.38	7.88
173	SLU 21	-23	-13	5478	1772.12	0.38	7.88
173	SLU 22	-20	-24	5084	1648.92	0.31	6.79
173	SLU 23	-20	-4	5204	1684.25	0.3	6.77
173	SLU 24	-21	-25	5153	1672.21	0.32	7.09
173	SLU 25	-21	-13	5225	1693.4	0.32	7.08
173	SLU 26	-21	-4	5245	1698.3	0.31	7.06
173	SLU 27	-22	-26	5195	1686.26	0.34	7.38
173	SLU 28	-22	-13	5267	1707.45	0.33	7.37
173	SLU 29	-22	-26	5167	1677.02	0.34	7.36
173	SLU 30	-22	-13	5239	1698.22	0.33	7.36
173	SLU 31	-24	-6	5819	1882.79	0.39	7.97
173	SLU 32	-25	-27	5769	1870.75	0.41	8.29
173	SLU 33	-25	-14	5841	1891.94	0.41	8.28
173	SLU 34	-25	-6	5861	1896.84	0.4	8.26
173	SLU 35	-26	-27	5810	1884.8	0.43	8.58
173	SLU 36	-26	-15	5882	1905.99	0.42	8.57
173	SLU 37	-25	-27	5782	1875.57	0.43	8.56
173	SLU 38	-25	-15	5854	1896.76	0.42	8.56
173	SLU 39	-25	-27	5963	1932.55	0.44	8.5
173	SLU 40	-25	-15	6035	1953.75	0.43	8.49
173	SLU 41	-26	-27	6005	1946.6	0.45	8.79
173	SLU 42	-26	-15	6077	1967.8	0.45	8.78
173	SLU 43	-22	-28	5625	1822.12	0.29	7.34
173	SLU 44	-22	-8	5745	1857.45	0.28	7.32
173	SLU 45	-23	-29	5695	1845.41	0.3	7.64
173	SLU 46	-23	-16	5767	1866.6	0.3	7.63
173	SLU 47	-23	-8	5787	1871.5	0.29	7.61
173	SLU 48	-24	-29	5736	1859.46	0.32	7.93
173	SLU 49	-24	-17	5808	1880.66	0.31	7.92
173	SLU 50	-24	-29	5708	1850.23	0.31	7.91
173	SLU 51	-24	-17	5780	1871.42	0.31	7.9
173	SLU 52	-25	-9	6361	2055.99	0.37	8.52
173	SLU 53	-26	-30	6310	2043.95	0.39	8.84
173	SLU 54	-26	-18	6382	2065.15	0.39	8.83
173	SLU 55	-26	-10	6402	2070.04	0.38	8.81
173	SLU 56	-27	-31	6352	2058	0.41	9.13
173	SLU 57	-27	-19	6424	2079.2	0.4	9.12
173	SLU 58	-27	-31	6324	2048.77	0.41	9.11
173	SLU 59	-27	-18	6396	2069.97	0.4	9.1
173	SLU 60	-27	-31	6504	2105.76	0.42	9.05
173	SLU 61	-27	-18	6576	2126.95	0.41	9.04
173	SLU 62	-28	-31	6546	2119.81	0.43	9.34
173	SLU 63	-28	-19	6618	2141	0.42	9.33
173	SLU 64	-25	-30	6224	2017.8	0.36	8.24
173	SLU 65	-25	-10	6344	2053.13	0.35	8.23
173	SLU 66	-25	-31	6294	2041.09	0.37	8.54
173	SLU 67	-25	-19	6366	2062.28	0.37	8.54
173	SLU 68	-25	-10	6386	2067.18	0.36	8.52
173	SLU 69	-26	-31	6335	2055.14	0.39	8.83
173	SLU 70	-26	-19	6407	2076.33	0.38	8.82
173	SLU 71	-26	-31	6307	2045.91	0.38	8.82
173	SLU 72	-26	-19	6379	2067.1	0.38	8.81
173	SLU 73	-28	-11	6960	2251.67	0.44	9.43
173	SLU 74	-29	-33	6909	2239.63	0.46	9.74
173	SLU 75	-29	-20	6981	2260.83	0.46	9.74
173	SLU 76	-29	-12	7001	2265.72	0.45	9.72
173	SLU 77	-30	-33	6950	2253.68	0.48	10.03
173	SLU 78	-30	-21	7022	2274.88	0.47	10.02
173	SLU 79	-30	-33	6923	2244.45	0.47	10.02
173	SLU 80	-30	-21	6995	2265.64	0.47	10.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
173	SLU 81	-30	-33	7103	2301.44	0.49	9.96
173	SLU 82	-30	-20	7175	2322.63	0.48	9.95
173	SLU 83	-31	-33	7145	2315.49	0.5	10.24
173	SLU 84	-30	-21	7217	2336.68	0.49	10.24
173	SLE RA 1	-18	-23	4656	1509.15	0.26	6.14
173	SLE RA 2	-18	-9	4736	1532.7	0.25	6.13
173	SLE RA 3	-19	-23	4702	1524.67	0.27	6.34
173	SLE RA 4	-19	-15	4750	1538.8	0.27	6.34
173	SLE RA 5	-19	-9	4764	1542.07	0.26	6.32
173	SLE RA 6	-19	-24	4730	1534.04	0.28	6.53
173	SLE RA 7	-19	-15	4778	1548.17	0.27	6.53
173	SLE RA 8	-19	-24	4712	1527.89	0.28	6.52
173	SLE RA 9	-19	-15	4760	1542.02	0.27	6.52
173	SLE RA 10	-21	-10	5146	1665.06	0.31	6.93
173	SLE RA 11	-21	-24	5113	1657.04	0.33	7.14
173	SLE RA 12	-21	-16	5161	1671.16	0.33	7.14
173	SLE RA 13	-21	-11	5174	1674.43	0.32	7.12
173	SLE RA 14	-22	-25	5140	1666.4	0.34	7.33
173	SLE RA 15	-22	-16	5188	1680.53	0.33	7.33
173	SLE RA 16	-22	-25	5122	1660.25	0.34	7.32
173	SLE RA 17	-22	-16	5170	1674.38	0.33	7.32
173	SLE RA 18	-22	-24	5242	1698.24	0.34	7.28
173	SLE RA 19	-22	-16	5290	1712.37	0.34	7.28
173	SLE RA 20	-22	-25	5270	1707.61	0.35	7.48
173	SLE RA 21	-22	-17	5318	1721.74	0.35	7.47
173	SLE FR 1	-18	-23	4656	1509.15	0.26	6.14
173	SLE FR 2	-18	-20	4672	1513.86	0.26	6.14
173	SLE FR 3	-19	-23	4667	1512.9	0.26	6.22
173	SLE FR 4	-19	-21	4848	1570.59	0.28	6.48
173	SLE FR 5	-20	-23	4843	1569.62	0.29	6.56
173	SLE FR 6	-20	-24	4949	1603.69	0.3	6.71
173	SLE QP 1	-18	-23	4656	1509.15	0.26	6.14
173	SLE QP 2	-19	-23	4832	1565.88	0.28	6.48
173	SLD 1	384	98	5700	1822.59	1.36	-134.63
173	SLD 2	469	96	5705	1824.43	1.23	-164.44
173	SLD 3	378	-163	3857	1277.78	1.44	-132.64
173	SLD 4	464	-165	3862	1279.61	1.3	-162.44
173	SLD 5	96	409	7887	2468.88	0.52	-33.7
173	SLD 6	151	408	7890	2470.06	0.43	-52.98
173	SLD 7	76	-461	1743	652.83	0.77	-27.06
173	SLD 8	132	-462	1746	654.01	0.68	-46.34
173	SLD 9	-170	416	7918	2477.74	-0.11	59.31
173	SLD 10	-115	414	7921	2478.93	-0.2	40.03
173	SLD 11	-189	-455	1774	661.69	0.14	65.95
173	SLD 12	-134	-456	1777	662.88	0.05	46.67
173	SLD 13	-502	119	5803	1852.14	-0.73	175.41
173	SLD 14	-417	117	5807	1853.98	-0.87	145.61
173	SLD 15	-508	-143	3959	1307.33	-0.66	177.4
173	SLD 16	-423	-144	3964	1309.16	-0.8	147.6
173	SLV 1	611	182	6304	2001.23	1.97	-214.11
173	SLV 2	745	179	6311	2004.11	1.75	-261.03
173	SLV 3	602	-259	3189	1080.51	2.09	-210.86
173	SLV 4	736	-262	3197	1083.4	1.87	-257.78
173	SLV 5	159	708	9996	3092.37	0.64	-55.86
173	SLV 6	249	706	10001	3094.31	0.49	-87.46
173	SLV 7	128	-763	-386	23.31	1.06	-45.03
173	SLV 8	218	-765	-381	25.25	0.91	-76.63
173	SLV 9	-257	718	10045	3106.51	-0.34	89.59
173	SLV 10	-166	716	10050	3108.45	-0.49	58
173	SLV 11	-288	-753	-337	37.44	0.08	100.42
173	SLV 12	-198	-755	-332	39.39	-0.07	68.83
173	SLV 13	-775	215	6467	2048.36	-1.3	270.75
173	SLV 14	-640	212	6475	2051.24	-1.52	223.82
173	SLV 15	-784	-226	3353	1127.64	-1.18	274
173	SLV 16	-650	-229	3360	1130.52	-1.4	227.07
173	SLV FO 1	674	203	6451	2044.76	2.13	-236.17
173	SLV FO 2	822	200	6459	2047.94	1.89	-287.78
173	SLV FO 3	664	-283	3025	1031.97	2.27	-232.59
173	SLV FO 4	812	-286	3033	1035.15	2.03	-284.21
173	SLV FO 5	177	781	10512	3245.02	0.67	-62.1
173	SLV FO 6	276	779	10518	3247.15	0.51	-96.85
173	SLV FO 7	142	-837	-908	-130.95	1.14	-50.19
173	SLV FO 8	242	-839	-902	-128.81	0.97	-84.94
173	SLV FO 9	-281	792	10566	3260.57	-0.4	97.9
173	SLV FO 10	-181	790	10572	3262.71	-0.57	63.15
173	SLV FO 11	-315	-826	-854	-115.4	0.06	109.82
173	SLV FO 12	-215	-828	-848	-113.26	-0.11	75.06
173	SLV FO 13	-850	239	6631	2096.61	-1.46	297.18
173	SLV FO 14	-702	236	6639	2099.78	-1.7	245.56
173	SLV FO 15	-861	-246	3205	1083.81	-1.32	300.75
173	SLV FO 16	-713	-250	3213	1086.99	-1.57	249.13
173	CRTFP Ux+	0	0	0	0	0	0
173	CRTFP Ux-	0	0	0	0	0	0
173	CRTFP Uy+	0	0	0	-0.01	0	0
173	CRTFP Uy-	0	0	0	0.01	0	0
174	SLU 1	-17	-31	4484	1462.06	-0.14	5.68
174	SLU 2	-17	-10	4605	1497.82	-0.16	5.63
174	SLU 3	-18	-31	4553	1485.35	-0.13	5.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLU 4	-18	-19	4625	1506.8	-0.14	5.96
174	SLU 5	-18	-11	4646	1511.83	-0.15	5.93
174	SLU 6	-19	-32	4594	1499.35	-0.12	6.28
174	SLU 7	-19	-20	4666	1520.81	-0.13	6.25
174	SLU 8	-19	-32	4566	1490.07	-0.12	6.26
174	SLU 9	-19	-20	4639	1511.53	-0.13	6.24
174	SLU 10	-21	-13	5218	1696.88	-0.12	6.87
174	SLU 11	-22	-35	5166	1684.41	-0.08	7.22
174	SLU 12	-22	-22	5239	1705.87	-0.1	7.19
174	SLU 13	-21	-14	5259	1710.89	-0.1	7.16
174	SLU 14	-22	-35	5207	1698.41	-0.07	7.51
174	SLU 15	-22	-23	5280	1719.87	-0.09	7.49
174	SLU 16	-22	-35	5180	1689.13	-0.07	7.5
174	SLU 17	-22	-23	5252	1710.59	-0.09	7.47
174	SLU 18	-22	-35	5360	1746.43	-0.07	7.45
174	SLU 19	-22	-23	5432	1767.89	-0.09	7.42
174	SLU 20	-23	-36	5401	1760.44	-0.06	7.74
174	SLU 21	-23	-23	5474	1781.9	-0.08	7.71
174	SLU 22	-20	-34	5082	1658.53	-0.12	6.56
174	SLU 23	-20	-14	5202	1694.29	-0.15	6.51
174	SLU 24	-21	-35	5151	1681.81	-0.11	6.86
174	SLU 25	-20	-23	5223	1703.27	-0.13	6.83
174	SLU 26	-20	-14	5243	1708.29	-0.13	6.8
174	SLU 27	-21	-36	5192	1695.82	-0.1	7.15
174	SLU 28	-21	-23	5264	1717.28	-0.12	7.13
174	SLU 29	-21	-36	5164	1686.53	-0.1	7.14
174	SLU 30	-21	-23	5236	1707.99	-0.12	7.11
174	SLU 31	-23	-17	5815	1893.35	-0.1	7.75
174	SLU 32	-24	-38	5764	1880.88	-0.07	8.1
174	SLU 33	-24	-26	5836	1902.33	-0.08	8.07
174	SLU 34	-24	-17	5857	1907.36	-0.09	8.04
174	SLU 35	-25	-39	5805	1894.88	-0.06	8.39
174	SLU 36	-25	-27	5877	1916.34	-0.07	8.36
174	SLU 37	-25	-39	5777	1885.6	-0.06	8.38
174	SLU 38	-25	-26	5849	1907.05	-0.07	8.35
174	SLU 39	-25	-39	5958	1942.9	-0.06	8.32
174	SLU 40	-25	-26	6030	1964.36	-0.07	8.3
174	SLU 41	-26	-39	5999	1956.91	-0.05	8.61
174	SLU 42	-26	-27	6071	1978.36	-0.06	8.59
174	SLU 43	-21	-39	5624	1833.32	-0.19	7.08
174	SLU 44	-21	-18	5745	1869.08	-0.21	7.04
174	SLU 45	-22	-39	5693	1856.61	-0.18	7.39
174	SLU 46	-22	-27	5766	1878.06	-0.19	7.36
174	SLU 47	-22	-19	5786	1883.08	-0.2	7.33
174	SLU 48	-23	-40	5734	1870.61	-0.16	7.68
174	SLU 49	-23	-28	5807	1892.07	-0.18	7.65
174	SLU 50	-23	-40	5707	1861.33	-0.16	7.67
174	SLU 51	-23	-28	5779	1882.78	-0.18	7.64
174	SLU 52	-25	-21	6358	2068.14	-0.16	8.27
174	SLU 53	-26	-42	6307	2055.67	-0.13	8.62
174	SLU 54	-26	-30	6379	2077.13	-0.14	8.6
174	SLU 55	-26	-22	6399	2082.15	-0.15	8.57
174	SLU 56	-27	-43	6348	2069.67	-0.12	8.92
174	SLU 57	-27	-31	6420	2091.13	-0.13	8.89
174	SLU 58	-27	-43	6320	2060.39	-0.12	8.9
174	SLU 59	-27	-31	6392	2081.85	-0.13	8.88
174	SLU 60	-26	-43	6501	2117.69	-0.12	8.85
174	SLU 61	-26	-31	6573	2139.15	-0.13	8.82
174	SLU 62	-27	-44	6542	2131.7	-0.11	9.14
174	SLU 63	-27	-31	6614	2153.15	-0.12	9.11
174	SLU 64	-24	-42	6222	2029.78	-0.17	7.96
174	SLU 65	-24	-22	6342	2065.55	-0.19	7.91
174	SLU 66	-25	-43	6291	2053.07	-0.16	8.26
174	SLU 67	-25	-31	6363	2074.53	-0.17	8.24
174	SLU 68	-25	-22	6384	2079.55	-0.18	8.21
174	SLU 69	-26	-44	6332	2067.08	-0.15	8.56
174	SLU 70	-26	-31	6404	2088.53	-0.16	8.53
174	SLU 71	-26	-44	6304	2057.79	-0.15	8.54
174	SLU 72	-25	-31	6376	2079.25	-0.16	8.52
174	SLU 73	-27	-25	6956	2264.61	-0.15	9.15
174	SLU 74	-28	-46	6904	2252.13	-0.12	9.5
174	SLU 75	-28	-34	6977	2273.59	-0.13	9.47
174	SLU 76	-28	-25	6997	2278.61	-0.14	9.44
174	SLU 77	-29	-47	6945	2266.14	-0.1	9.79
174	SLU 78	-29	-34	7018	2287.6	-0.12	9.77
174	SLU 79	-29	-47	6917	2256.86	-0.1	9.78
174	SLU 80	-29	-34	6990	2278.31	-0.12	9.75
174	SLU 81	-29	-47	7098	2314.16	-0.11	9.73
174	SLU 82	-29	-34	7170	2335.62	-0.12	9.7
174	SLU 83	-30	-47	7139	2328.16	-0.1	10.02
174	SLU 84	-30	-35	7212	2349.62	-0.11	9.99
174	SLE RA 1	-18	-32	4655	1518.19	-0.14	5.93
174	SLE RA 2	-18	-18	4735	1542.03	-0.15	5.9
174	SLE RA 3	-18	-32	4701	1533.72	-0.13	6.13
174	SLE RA 4	-18	-24	4749	1548.02	-0.14	6.11
174	SLE RA 5	-18	-18	4763	1551.37	-0.14	6.09
174	SLE RA 6	-19	-33	4728	1543.05	-0.12	6.33
174	SLE RA 7	-19	-24	4776	1557.36	-0.13	6.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLE RA 8	-19	-33	4710	1536.87	-0.12	6.32
174	SLE RA 9	-19	-24	4758	1551.17	-0.13	6.3
174	SLE RA 10	-20	-20	5144	1674.74	-0.12	6.72
174	SLE RA 11	-21	-34	5110	1666.43	-0.1	6.96
174	SLE RA 12	-21	-26	5158	1680.73	-0.11	6.94
174	SLE RA 13	-21	-20	5171	1684.08	-0.11	6.92
174	SLE RA 14	-21	-35	5137	1675.76	-0.09	7.15
174	SLE RA 15	-21	-26	5185	1690.07	-0.1	7.13
174	SLE RA 16	-21	-35	5118	1669.57	-0.09	7.14
174	SLE RA 17	-21	-26	5167	1683.88	-0.1	7.13
174	SLE RA 18	-21	-35	5239	1707.78	-0.09	7.11
174	SLE RA 19	-21	-26	5287	1722.08	-0.1	7.09
174	SLE RA 20	-22	-35	5266	1717.11	-0.08	7.3
174	SLE RA 21	-22	-27	5314	1731.42	-0.09	7.28
174	SLE FR 1	-18	-32	4655	1518.19	-0.14	5.93
174	SLE FR 2	-18	-29	4671	1522.96	-0.14	5.92
174	SLE FR 3	-18	-32	4666	1521.93	-0.13	6.01
174	SLE FR 4	-19	-30	4846	1579.84	-0.13	6.28
174	SLE FR 5	-19	-33	4841	1578.8	-0.12	6.36
174	SLE FR 6	-20	-33	4947	1612.98	-0.11	6.52
174	SLE QP 1	-18	-32	4655	1518.19	-0.14	5.93
174	SLE QP 2	-19	-33	4830	1575.07	-0.12	6.28
174	SLD 1	383	90	5669	1824.83	0.85	-134.42
174	SLD 2	469	91	5678	1827.93	0.71	-164.12
174	SLD 3	377	-172	3821	1273.98	1.09	-132.35
174	SLD 4	463	-172	3830	1277.09	0.95	-162.05
174	SLD 5	96	403	7883	2484.91	-0.17	-33.92
174	SLD 6	151	403	7889	2486.92	-0.26	-53.14
174	SLD 7	76	-473	1723	648.75	0.62	-27.01
174	SLD 8	131	-473	1729	650.76	0.53	-46.23
174	SLD 9	-169	408	7931	2499.37	-0.78	58.79
174	SLD 10	-114	408	7937	2501.38	-0.87	39.57
174	SLD 11	-189	-469	1771	663.22	0.01	65.7
174	SLD 12	-134	-468	1777	665.23	-0.08	46.48
174	SLD 13	-500	106	5830	1873.05	-1.19	174.62
174	SLD 14	-415	107	5839	1876.15	-1.33	144.91
174	SLD 15	-506	-157	3982	1322.2	-0.95	176.69
174	SLD 16	-421	-156	3991	1325.31	-1.09	146.99
174	SLV 1	610	176	6258	2000.17	1.38	-213.68
174	SLV 2	744	177	6273	2005.06	1.16	-260.44
174	SLV 3	600	-268	3135	1069.27	1.78	-210.28
174	SLV 4	734	-267	3150	1074.16	1.56	-257.04
174	SLV 5	160	703	9992	3113.56	-0.24	-56.13
174	SLV 6	250	704	10002	3116.85	-0.39	-87.62
174	SLV 7	127	-777	-418	10.55	1.1	-44.8
174	SLV 8	217	-776	-408	13.84	0.95	-76.29
174	SLV 9	-255	711	10068	3136.3	-1.19	88.85
174	SLV 10	-165	712	10078	3139.59	-1.34	57.37
174	SLV 11	-288	-769	-342	33.29	0.14	100.18
174	SLV 12	-197	-768	-332	36.58	-0.01	68.7
174	SLV 13	-772	201	6511	2075.98	-1.8	269.61
174	SLV 14	-638	203	6525	2080.87	-2.02	222.84
174	SLV 15	-782	-243	3387	1145.08	-1.4	273.01
174	SLV 16	-648	-241	3402	1149.97	-1.62	226.24
174	SLV FO 1	673	197	6401	2042.68	1.53	-235.67
174	SLV FO 2	820	198	6417	2048.06	1.29	-287.12
174	SLV FO 3	662	-291	2966	1018.69	1.97	-231.93
174	SLV FO 4	810	-290	2981	1024.06	1.73	-283.38
174	SLV FO 5	178	777	10509	3267.4	-0.25	-62.37
174	SLV FO 6	277	778	10519	3271.02	-0.41	-97.01
174	SLV FO 7	142	-851	-942	-145.91	1.22	-49.91
174	SLV FO 8	241	-850	-932	-142.29	1.05	-84.55
174	SLV FO 9	-279	785	10592	3292.42	-1.3	97.11
174	SLV FO 10	-179	786	10603	3296.04	-1.46	62.48
174	SLV FO 11	-314	-843	-859	-120.89	0.17	109.57
174	SLV FO 12	-215	-842	-849	-117.27	0	74.94
174	SLV FO 13	-847	225	6679	2126.07	-1.97	295.94
174	SLV FO 14	-700	226	6694	2131.45	-2.21	244.5
174	SLV FO 15	-858	-264	3243	1102.08	-1.53	299.68
174	SLV FO 16	-711	-262	3259	1107.46	-1.77	248.24
174	CRTFP Ux+	0	0	0	0	0	0
174	CRTFP Ux-	0	0	0	0	0	0
174	CRTFP Uy+	0	0	0	-0.01	0	0
174	CRTFP Uy-	0	0	0	0.01	0	0
175	SLU 1	-15	-35	4061	1338.94	75.43	5.63
175	SLU 2	-15	-17	4171	1371.9	77.45	5.21
175	SLU 3	-16	-36	4123	1360.12	76.6	5.93
175	SLU 4	-16	-25	4189	1379.9	77.81	5.67
175	SLU 5	-15	-17	4208	1384.59	78.15	5.49
175	SLU 6	-16	-37	4160	1372.82	77.29	6.21
175	SLU 7	-16	-26	4226	1392.59	78.5	5.96
175	SLU 8	-16	-37	4135	1364.33	76.82	6.2
175	SLU 9	-16	-26	4201	1384.11	78.04	5.94
175	SLU 10	-18	-21	4725	1553.58	87.79	6.44
175	SLU 11	-19	-40	4677	1541.81	86.93	7.16
175	SLU 12	-19	-29	4743	1561.58	88.15	6.9
175	SLU 13	-19	-21	4761	1566.28	88.49	6.72
175	SLU 14	-20	-41	4714	1554.5	87.63	7.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLU 15	-20	-30	4780	1574.28	88.84	7.19
175	SLU 16	-20	-41	4689	1546.01	87.16	7.43
175	SLU 17	-20	-30	4754	1565.79	88.37	7.17
175	SLU 18	-20	-41	4852	1598.49	90.2	7.39
175	SLU 19	-20	-30	4918	1618.26	91.41	7.13
175	SLU 20	-20	-42	4889	1611.18	90.89	7.67
175	SLU 21	-20	-31	4955	1630.96	92.11	7.42
175	SLU 22	-17	-40	4602	1518.56	85.49	6.48
175	SLU 23	-17	-21	4711	1551.51	87.52	6.06
175	SLU 24	-18	-41	4664	1539.74	86.66	6.78
175	SLU 25	-18	-30	4729	1559.51	87.87	6.53
175	SLU 26	-18	-22	4748	1564.21	88.21	6.35
175	SLU 27	-19	-42	4701	1552.43	87.35	7.07
175	SLU 28	-19	-30	4766	1572.21	88.57	6.81
175	SLU 29	-19	-42	4675	1543.95	86.88	7.05
175	SLU 30	-19	-30	4741	1563.72	88.1	6.8
175	SLU 31	-20	-25	5265	1733.2	97.85	7.29
175	SLU 32	-21	-45	5217	1721.42	96.99	8.01
175	SLU 33	-21	-34	5283	1741.2	98.21	7.76
175	SLU 34	-21	-26	5302	1745.89	98.55	7.58
175	SLU 35	-22	-46	5254	1734.12	97.69	8.3
175	SLU 36	-22	-34	5320	1753.89	98.9	8.04
175	SLU 37	-22	-46	5229	1725.63	97.22	8.28
175	SLU 38	-22	-34	5295	1745.4	98.43	8.03
175	SLU 39	-22	-46	5393	1778.1	100.26	8.24
175	SLU 40	-22	-35	5458	1797.88	101.47	7.99
175	SLU 41	-23	-47	5429	1790.8	100.96	8.53
175	SLU 42	-23	-35	5495	1810.57	102.17	8.27
175	SLU 43	-18	-44	5094	1679.04	94.61	7.02
175	SLU 44	-18	-26	5204	1712	96.63	6.6
175	SLU 45	-19	-45	5156	1700.22	95.78	7.32
175	SLU 46	-19	-34	5222	1720	96.99	7.07
175	SLU 47	-19	-26	5241	1724.69	97.33	6.89
175	SLU 48	-20	-46	5193	1712.92	96.47	7.61
175	SLU 49	-20	-35	5259	1732.69	97.68	7.35
175	SLU 50	-20	-46	5168	1704.43	96	7.59
175	SLU 51	-20	-35	5234	1724.21	97.22	7.34
175	SLU 52	-22	-30	5758	1893.68	106.97	7.83
175	SLU 53	-23	-49	5710	1881.91	106.11	8.55
175	SLU 54	-23	-38	5776	1901.68	107.33	8.3
175	SLU 55	-22	-30	5795	1906.38	107.67	8.12
175	SLU 56	-23	-50	5747	1894.6	106.81	8.84
175	SLU 57	-23	-39	5813	1914.38	108.02	8.58
175	SLU 58	-23	-50	5722	1886.11	106.34	8.82
175	SLU 59	-23	-39	5788	1905.89	107.55	8.57
175	SLU 60	-23	-50	5885	1938.59	109.38	8.78
175	SLU 61	-23	-39	5951	1958.36	110.59	8.53
175	SLU 62	-24	-51	5922	1951.28	110.07	9.07
175	SLU 63	-24	-40	5988	1971.06	111.29	8.81
175	SLU 64	-21	-49	5635	1858.66	104.67	7.88
175	SLU 65	-21	-30	5744	1891.61	106.7	7.46
175	SLU 66	-22	-50	5697	1879.84	105.84	8.18
175	SLU 67	-21	-39	5763	1899.61	107.05	7.92
175	SLU 68	-21	-31	5781	1904.31	107.39	7.74
175	SLU 69	-22	-51	5734	1892.53	106.53	8.46
175	SLU 70	-22	-39	5799	1912.31	107.75	8.21
175	SLU 71	-22	-51	5708	1884.05	106.06	8.45
175	SLU 72	-22	-39	5774	1903.82	107.28	8.19
175	SLU 73	-24	-34	6298	2073.3	117.03	8.69
175	SLU 74	-25	-54	6250	2061.52	116.17	9.41
175	SLU 75	-25	-43	6316	2081.3	117.39	9.16
175	SLU 76	-25	-35	6335	2085.99	117.73	8.97
175	SLU 77	-26	-55	6287	2074.22	116.87	9.69
175	SLU 78	-26	-44	6353	2093.99	118.08	9.44
175	SLU 79	-26	-55	6262	2065.73	116.4	9.68
175	SLU 80	-26	-43	6328	2085.5	117.61	9.42
175	SLU 81	-26	-55	6426	2118.2	119.44	9.64
175	SLU 82	-25	-44	6491	2137.98	120.65	9.38
175	SLU 83	-26	-56	6463	2130.9	120.14	9.92
175	SLU 84	-26	-44	6528	2150.67	121.35	9.67
175	SLE RA 1	-15	-37	4216	1390.26	78.31	5.87
175	SLE RA 2	-15	-24	4289	1412.23	79.65	5.59
175	SLE RA 3	-16	-37	4257	1404.38	79.08	6.07
175	SLE RA 4	-16	-30	4301	1417.56	79.89	5.9
175	SLE RA 5	-16	-25	4313	1420.69	80.12	5.78
175	SLE RA 6	-17	-38	4282	1412.84	79.55	6.26
175	SLE RA 7	-16	-30	4325	1426.03	80.36	6.09
175	SLE RA 8	-17	-38	4265	1407.19	79.23	6.25
175	SLE RA 9	-16	-30	4309	1420.37	80.04	6.08
175	SLE RA 10	-18	-27	4658	1533.35	86.55	6.41
175	SLE RA 11	-18	-40	4626	1525.5	85.97	6.89
175	SLE RA 12	-18	-33	4670	1538.69	86.78	6.72
175	SLE RA 13	-18	-27	4682	1541.82	87.01	6.6
175	SLE RA 14	-19	-41	4651	1533.97	86.44	7.08
175	SLE RA 15	-19	-33	4695	1547.15	87.25	6.91
175	SLE RA 16	-19	-40	4634	1528.31	86.12	7.07
175	SLE RA 17	-19	-33	4678	1541.49	86.93	6.9
175	SLE RA 18	-19	-41	4743	1563.29	88.15	7.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLE RA 19	-19	-33	4787	1576.47	88.96	6.88
175	SLE RA 20	-19	-41	4768	1571.75	88.61	7.23
175	SLE RA 21	-19	-34	4811	1584.94	89.42	7.07
175	SLE FR 1	-15	-37	4216	1390.26	78.31	5.87
175	SLE FR 2	-15	-34	4230	1394.65	78.58	5.82
175	SLE FR 3	-16	-37	4225	1393.64	78.49	5.95
175	SLE FR 4	-16	-35	4388	1446.56	81.53	6.17
175	SLE FR 5	-17	-38	4384	1445.55	81.45	6.3
175	SLE FR 6	-17	-39	4479	1476.77	83.23	6.46
175	SLE QP 1	-15	-37	4216	1390.26	78.31	5.87
175	SLE QP 2	-16	-38	4374	1442.17	81.26	6.22
175	SLD 1	346	75	5109	1664.7	95.59	-122.44
175	SLD 2	423	78	5121	1668.7	95.71	-149.28
175	SLD 3	341	-163	3430	1157.76	64.53	-116.7
175	SLD 4	417	-160	3442	1161.75	64.65	-143.54
175	SLD 5	88	356	7138	2277.1	132.63	-36.43
175	SLD 6	137	359	7146	2279.68	132.71	-53.8
175	SLD 7	69	-437	1543	587.29	29.12	-17.28
175	SLD 8	118	-435	1551	589.88	29.2	-34.65
175	SLD 9	-151	359	7197	2294.46	133.32	47.1
175	SLD 10	-102	361	7205	2297.05	133.4	29.73
175	SLD 11	-170	-434	1602	604.66	29.81	66.25
175	SLD 12	-121	-432	1610	607.24	29.89	48.88
175	SLD 13	-450	84	5305	1722.58	97.87	155.99
175	SLD 14	-373	87	5317	1726.58	97.99	129.15
175	SLD 15	-456	-154	3627	1215.64	66.81	161.73
175	SLD 16	-379	-151	3639	1219.64	66.93	134.89
175	SLV 1	551	153	5629	1822.03	105.6	-195.21
175	SLV 2	671	159	5648	1828.32	105.8	-237.48
175	SLV 3	541	-249	2792	965.33	53.13	-185.5
175	SLV 4	662	-244	2811	971.62	53.32	-227.76
175	SLV 5	145	628	9049	2854.28	168.12	-61.05
175	SLV 6	227	632	9061	2858.52	168.25	-89.51
175	SLV 7	114	-712	-406	-1.39	-6.81	-28.67
175	SLV 8	196	-709	-393	2.85	-6.68	-57.13
175	SLV 9	-228	633	9141	2881.49	169.2	69.58
175	SLV 10	-147	636	9154	2885.72	169.33	41.12
175	SLV 11	-259	-708	-314	25.82	-5.73	101.95
175	SLV 12	-178	-704	-301	30.06	-5.6	73.5
175	SLV 13	-695	168	5937	1912.71	109.2	240.21
175	SLV 14	-574	173	5955	1919.01	109.39	197.95
175	SLV 15	-704	-234	3100	1056.01	56.73	249.93
175	SLV 16	-583	-229	3119	1062.31	56.92	207.66
175	SLV FO 1	607	172	5754	1860.02	108.04	-215.36
175	SLV FO 2	740	178	5775	1866.94	108.25	-261.85
175	SLV FO 3	597	-270	2634	917.65	50.31	-204.67
175	SLV FO 4	730	-264	2655	924.57	50.52	-251.16
175	SLV FO 5	161	695	9516	2995.49	176.81	-67.78
175	SLV FO 6	251	699	9530	3000.15	176.95	-99.08
175	SLV FO 7	127	-780	-884	-145.74	-15.61	-32.16
175	SLV FO 8	217	-776	-870	-141.08	-15.47	-63.46
175	SLV FO 9	-250	700	9618	3025.42	177.99	75.91
175	SLV FO 10	-160	704	9632	3030.08	178.13	44.61
175	SLV FO 11	-284	-775	-783	-115.82	-14.43	111.53
175	SLV FO 12	-194	-771	-769	-111.15	-14.28	80.23
175	SLV FO 13	-763	188	6093	1959.77	112	263.61
175	SLV FO 14	-630	194	6114	1966.69	112.21	217.12
175	SLV FO 15	-773	-254	2973	1017.4	54.27	274.3
175	SLV FO 16	-640	-248	2993	1024.32	54.48	227.81
175	CRTFP Ux+	0	0	0	0	0	0
175	CRTFP Ux-	0	0	0	0	0	0
175	CRTFP Uy+	0	0	0	-0.01	0	0
175	CRTFP Uy-	0	0	0	0.01	0	0
176	SLU 1	-15	-39	3897	1086.76	627.97	9.94
176	SLU 2	-14	-21	4003	1114.18	645.11	6.99
176	SLU 3	-15	-40	3956	1103.75	637.54	10.32
176	SLU 4	-15	-29	4020	1120.2	647.83	8.55
176	SLU 5	-15	-22	4038	1124.32	650.79	7.33
176	SLU 6	-16	-40	3991	1113.88	643.22	10.67
176	SLU 7	-16	-30	4055	1130.33	653.51	8.9
176	SLU 8	-16	-40	3966	1107.03	639.33	10.62
176	SLU 9	-16	-30	4031	1123.48	649.62	8.85
176	SLU 10	-18	-25	4534	1261.52	730.81	8.65
176	SLU 11	-19	-44	4486	1251.08	723.24	11.99
176	SLU 12	-19	-34	4550	1267.54	733.53	10.22
176	SLU 13	-19	-26	4569	1271.65	736.49	9
176	SLU 14	-20	-45	4521	1261.22	728.92	12.33
176	SLU 15	-19	-34	4585	1277.67	739.21	10.56
176	SLU 16	-20	-45	4497	1254.37	725.03	12.29
176	SLU 17	-19	-34	4561	1270.82	735.32	10.52
176	SLU 18	-20	-45	4654	1297.25	750.4	12.32
176	SLU 19	-19	-35	4718	1313.7	760.69	10.55
176	SLU 20	-20	-46	4689	1307.38	756.08	12.66
176	SLU 21	-20	-35	4753	1323.83	766.37	10.89
176	SLU 22	-17	-44	4414	1232.18	711.45	11.34
176	SLU 23	-17	-26	4521	1259.6	728.59	8.39
176	SLU 24	-18	-45	4473	1249.16	721.02	11.72
176	SLU 25	-18	-34	4537	1265.61	731.31	9.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
176	SLU 26	-17	-27	4556	1269.73	734.27	8.73
176	SLU 27	-18	-46	4508	1259.29	726.7	12.07
176	SLU 28	-18	-35	4572	1275.74	736.99	10.3
176	SLU 29	-18	-45	4484	1252.44	722.81	12.02
176	SLU 30	-18	-35	4548	1268.89	733.1	10.25
176	SLU 31	-20	-31	5051	1406.93	814.29	10.05
176	SLU 32	-21	-49	5003	1396.49	806.72	13.39
176	SLU 33	-21	-39	5067	1412.95	817.01	11.62
176	SLU 34	-21	-31	5086	1417.07	819.97	10.4
176	SLU 35	-22	-50	5038	1406.63	812.41	13.73
176	SLU 36	-22	-40	5102	1423.08	822.69	11.96
176	SLU 37	-22	-50	5014	1399.78	808.51	13.69
176	SLU 38	-22	-39	5078	1416.23	818.8	11.92
176	SLU 39	-22	-50	5171	1442.66	833.88	13.72
176	SLU 40	-22	-40	5235	1459.11	844.17	11.95
176	SLU 41	-23	-51	5206	1452.79	839.56	14.06
176	SLU 42	-22	-40	5270	1469.24	849.85	12.29
176	SLU 43	-18	-49	4888	1362.94	787.74	12.44
176	SLU 44	-18	-31	4995	1390.36	804.88	9.49
176	SLU 45	-19	-50	4947	1379.92	797.31	12.82
176	SLU 46	-19	-39	5011	1396.37	807.6	11.06
176	SLU 47	-19	-32	5030	1400.49	810.56	9.83
176	SLU 48	-20	-50	4982	1390.05	802.99	13.17
176	SLU 49	-20	-40	5046	1406.5	813.28	11.4
176	SLU 50	-20	-50	4958	1383.2	799.1	13.13
176	SLU 51	-20	-39	5022	1399.66	809.39	11.36
176	SLU 52	-21	-35	5525	1537.7	890.58	11.16
176	SLU 53	-22	-54	5477	1527.26	883.01	14.49
176	SLU 54	-22	-43	5542	1543.71	893.3	12.72
176	SLU 55	-22	-36	5560	1547.83	896.26	11.5
176	SLU 56	-23	-55	5512	1537.39	888.69	14.83
176	SLU 57	-23	-44	5576	1553.84	898.98	13.06
176	SLU 58	-23	-55	5488	1530.54	884.8	14.79
176	SLU 59	-23	-44	5552	1546.99	895.09	13.02
176	SLU 60	-23	-55	5646	1573.42	910.17	14.82
176	SLU 61	-23	-44	5710	1589.87	920.46	13.05
176	SLU 62	-24	-56	5681	1583.55	915.85	15.16
176	SLU 63	-24	-45	5745	1600.01	926.14	13.39
176	SLU 64	-20	-54	5405	1508.35	871.22	13.84
176	SLU 65	-20	-36	5512	1535.77	888.36	10.89
176	SLU 66	-21	-55	5464	1525.33	880.79	14.22
176	SLU 67	-21	-44	5529	1541.78	891.08	12.46
176	SLU 68	-21	-37	5547	1545.9	894.04	11.23
176	SLU 69	-22	-55	5499	1535.46	886.47	14.57
176	SLU 70	-22	-45	5564	1551.92	896.76	12.8
176	SLU 71	-22	-55	5475	1528.61	882.58	14.53
176	SLU 72	-22	-45	5539	1545.07	892.87	12.76
176	SLU 73	-24	-40	6042	1683.11	974.06	12.56
176	SLU 74	-25	-59	5995	1672.67	966.49	15.89
176	SLU 75	-25	-49	6059	1689.12	976.78	14.12
176	SLU 76	-24	-41	6077	1693.24	979.74	12.9
176	SLU 77	-25	-60	6030	1682.8	972.17	16.23
176	SLU 78	-25	-49	6094	1699.25	982.46	14.46
176	SLU 79	-25	-60	6005	1675.95	968.28	16.19
176	SLU 80	-25	-49	6070	1692.4	978.57	14.42
176	SLU 81	-25	-60	6163	1718.83	993.65	16.22
176	SLU 82	-25	-50	6227	1735.28	1003.94	14.45
176	SLU 83	-26	-61	6198	1728.96	999.33	16.56
176	SLU 84	-26	-50	6262	1745.42	1009.62	14.79
176	SLE RA 1	-15	-40	4044	1128.31	651.82	10.34
176	SLE RA 2	-15	-28	4116	1146.59	663.25	8.37
176	SLE RA 3	-16	-41	4084	1139.63	658.2	10.6
176	SLE RA 4	-16	-34	4126	1150.6	665.06	9.42
176	SLE RA 5	-16	-29	4139	1153.35	667.04	8.6
176	SLE RA 6	-16	-41	4107	1146.39	661.99	10.82
176	SLE RA 7	-16	-34	4150	1157.35	668.85	9.64
176	SLE RA 8	-16	-41	4091	1141.82	659.4	10.8
176	SLE RA 9	-16	-34	4134	1152.79	666.25	9.62
176	SLE RA 10	-17	-31	4469	1244.82	720.38	9.48
176	SLE RA 11	-18	-44	4437	1237.86	715.34	11.7
176	SLE RA 12	-18	-37	4480	1248.82	722.19	10.52
176	SLE RA 13	-18	-32	4492	1251.57	724.17	9.71
176	SLE RA 14	-19	-44	4460	1244.61	719.12	11.93
176	SLE RA 15	-19	-37	4503	1255.58	725.98	10.75
176	SLE RA 16	-19	-44	4444	1240.05	716.53	11.91
176	SLE RA 17	-18	-37	4487	1251.01	723.39	10.73
176	SLE RA 18	-19	-45	4549	1268.63	733.44	11.92
176	SLE RA 19	-18	-37	4592	1279.6	740.3	10.74
176	SLE RA 20	-19	-45	4573	1275.39	737.23	12.15
176	SLE RA 21	-19	-38	4615	1286.35	744.09	10.97
176	SLE FR 1	-15	-40	4044	1128.31	651.82	10.34
176	SLE FR 2	-15	-38	4059	1131.97	654.11	9.95
176	SLE FR 3	-15	-40	4054	1131.01	653.34	10.43
176	SLE FR 4	-16	-39	4210	1174.06	678.59	10.42
176	SLE FR 5	-16	-42	4205	1173.11	677.82	10.91
176	SLE FR 6	-17	-42	4297	1198.47	692.63	11.13
176	SLE QP 1	-15	-40	4044	1128.31	651.82	10.34
176	SLE QP 2	-16	-41	4196	1170.41	676.31	10.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
176	SLD 1	329	74	4891	1352	791.38	-107.17
176	SLD 2	402	79	4905	1355.77	793.22	-129.14
176	SLD 3	324	-153	3260	931.02	528.99	-69.68
176	SLD 4	397	-147	3274	934.79	530.83	-91.65
176	SLD 5	83	335	6877	1862.72	1108.47	-77.63
176	SLD 6	130	338	6886	1865.16	1109.66	-91.85
176	SLD 7	65	-419	1438	459.45	233.83	47.34
176	SLD 8	112	-415	1447	461.89	235.02	33.13
176	SLD 9	-145	332	6945	1878.92	1117.59	-11.5
176	SLD 10	-97	336	6954	1881.37	1118.78	-25.71
176	SLD 11	-163	-421	1506	475.66	242.96	113.48
176	SLD 12	-115	-418	1515	478.1	244.15	99.26
176	SLD 13	-429	64	5118	1406.02	821.79	113.28
176	SLD 14	-356	70	5132	1409.8	823.63	91.31
176	SLD 15	-435	-162	3486	985.04	559.4	150.77
176	SLD 16	-361	-156	3500	988.82	561.24	128.8
176	SLV 1	524	153	5386	1480.87	872.76	-175.96
176	SLV 2	639	161	5408	1486.82	875.65	-210.56
176	SLV 3	515	-229	2629	769.45	429.34	-112.58
176	SLV 4	630	-221	2651	775.39	432.23	-147.18
176	SLV 5	138	595	8731	2341.43	1407.22	-134.89
176	SLV 6	215	600	8745	2345.43	1409.17	-158.18
176	SLV 7	108	-679	-460	-29.98	-70.84	76.38
176	SLV 8	186	-673	-445	-25.98	-68.89	53.09
176	SLV 9	-218	590	8837	2366.8	1421.51	-31.46
176	SLV 10	-140	596	8852	2370.8	1423.45	-54.75
176	SLV 11	-248	-683	-354	-4.62	-56.55	179.81
176	SLV 12	-170	-678	-339	-0.62	-54.6	156.52
176	SLV 13	-663	138	5741	1565.42	920.38	168.81
176	SLV 14	-547	146	5763	1571.36	923.28	134.21
176	SLV 15	-672	-244	2984	854	476.96	232.19
176	SLV 16	-556	-236	3005	859.94	479.86	197.59
176	SLV FO 1	577	173	5505	1511.92	892.4	-194.64
176	SLV FO 2	705	182	5529	1518.46	895.59	-232.69
176	SLV FO 3	568	-248	2472	729.35	404.64	-124.92
176	SLV FO 4	695	-238	2496	735.89	407.83	-162.98
176	SLV FO 5	153	658	9184	2458.53	1480.31	-149.46
176	SLV FO 6	239	665	9200	2462.93	1482.45	-175.08
176	SLV FO 7	120	-742	-925	-150.02	-145.55	82.93
176	SLV FO 8	206	-736	-909	-145.62	-143.41	57.31
176	SLV FO 9	-238	653	9301	2486.43	1496.02	-35.68
176	SLV FO 10	-153	659	9317	2490.84	1498.17	-61.3
176	SLV FO 11	-271	-747	-809	-122.12	-129.84	196.71
176	SLV FO 12	-185	-741	-792	-117.72	-127.69	171.09
176	SLV FO 13	-727	156	5895	1604.92	944.79	184.61
176	SLV FO 14	-600	165	5919	1611.46	947.97	146.55
176	SLV FO 15	-737	-265	2862	822.36	457.03	254.32
176	SLV FO 16	-610	-255	2886	828.89	460.21	216.27
176	CRTFP Ux+	0	0	0	0	0	0
176	CRTFP Ux-	0	0	0	0	0	0
176	CRTFP Uy+	0	0	0	-0.01	0	0
176	CRTFP Uy-	0	0	0	0.01	0	0
177	SLU 1	-3	-8	641	-47.96	-8.9	-0.35
177	SLU 2	-3	-5	660	-49.38	-9.17	-0.31
177	SLU 3	-3	-8	650	-48.66	-9.03	-0.36
177	SLU 4	-3	-6	662	-49.51	-9.19	-0.34
177	SLU 5	-3	-5	666	-49.78	-9.24	-0.32
177	SLU 6	-4	-8	656	-49.06	-9.11	-0.37
177	SLU 7	-4	-6	667	-49.91	-9.27	-0.35
177	SLU 8	-3	-8	652	-48.77	-9.06	-0.37
177	SLU 9	-3	-6	663	-49.62	-9.21	-0.35
177	SLU 10	-4	-6	747	-55.88	-10.38	-0.37
177	SLU 11	-4	-9	737	-55.16	-10.24	-0.42
177	SLU 12	-4	-7	749	-56.01	-10.4	-0.4
177	SLU 13	-4	-6	753	-56.29	-10.45	-0.38
177	SLU 14	-4	-9	743	-55.57	-10.32	-0.44
177	SLU 15	-4	-7	754	-56.42	-10.48	-0.41
177	SLU 16	-4	-9	739	-55.28	-10.26	-0.43
177	SLU 17	-4	-7	750	-56.13	-10.42	-0.41
177	SLU 18	-4	-9	765	-57.25	-10.63	-0.44
177	SLU 19	-4	-7	777	-58.1	-10.79	-0.41
177	SLU 20	-4	-9	771	-57.66	-10.71	-0.45
177	SLU 21	-4	-7	782	-58.51	-10.86	-0.43
177	SLU 22	-4	-9	725	-54.26	-10.07	-0.4
177	SLU 23	-4	-6	744	-55.68	-10.34	-0.36
177	SLU 24	-4	-9	735	-54.96	-10.2	-0.41
177	SLU 25	-4	-7	746	-55.81	-10.36	-0.39
177	SLU 26	-4	-6	750	-56.08	-10.41	-0.37
177	SLU 27	-4	-9	740	-55.36	-10.28	-0.42
177	SLU 28	-4	-7	752	-56.22	-10.44	-0.4
177	SLU 29	-4	-9	736	-55.07	-10.23	-0.42
177	SLU 30	-4	-7	748	-55.93	-10.38	-0.4
177	SLU 31	-4	-7	831	-62.18	-11.55	-0.42
177	SLU 32	-5	-10	822	-61.46	-11.41	-0.47
177	SLU 33	-5	-8	833	-62.31	-11.57	-0.45
177	SLU 34	-5	-7	837	-62.59	-11.62	-0.43
177	SLU 35	-5	-10	827	-61.87	-11.49	-0.48
177	SLU 36	-5	-8	839	-62.72	-11.65	-0.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
177	SLU 37	-5	-10	823	-61.58	-11.43	-0.48
177	SLU 38	-5	-8	835	-62.43	-11.59	-0.46
177	SLU 39	-5	-10	850	-63.56	-11.8	-0.49
177	SLU 40	-5	-8	861	-64.41	-11.96	-0.46
177	SLU 41	-5	-10	855	-63.96	-11.88	-0.5
177	SLU 42	-5	-8	866	-64.81	-12.03	-0.48
177	SLU 43	-4	-10	805	-60.18	-11.18	-0.43
177	SLU 44	-4	-7	824	-61.6	-11.44	-0.4
177	SLU 45	-4	-10	814	-60.88	-11.3	-0.45
177	SLU 46	-4	-8	825	-61.73	-11.46	-0.42
177	SLU 47	-4	-7	829	-62.01	-11.51	-0.41
177	SLU 48	-4	-10	819	-61.29	-11.38	-0.46
177	SLU 49	-4	-8	831	-62.14	-11.54	-0.44
177	SLU 50	-4	-10	816	-61	-11.33	-0.46
177	SLU 51	-4	-8	827	-61.85	-11.48	-0.43
177	SLU 52	-5	-8	911	-68.11	-12.65	-0.46
177	SLU 53	-5	-11	901	-67.39	-12.51	-0.51
177	SLU 54	-5	-9	912	-68.24	-12.67	-0.49
177	SLU 55	-5	-8	916	-68.52	-12.72	-0.47
177	SLU 56	-5	-11	906	-67.8	-12.59	-0.52
177	SLU 57	-5	-9	918	-68.65	-12.75	-0.5
177	SLU 58	-5	-11	903	-67.51	-12.53	-0.52
177	SLU 59	-5	-9	914	-68.36	-12.69	-0.5
177	SLU 60	-5	-11	929	-69.48	-12.9	-0.52
177	SLU 61	-5	-9	940	-70.33	-13.06	-0.5
177	SLU 62	-5	-11	934	-69.89	-12.98	-0.54
177	SLU 63	-5	-9	946	-70.74	-13.13	-0.51
177	SLU 64	-4	-11	889	-66.49	-12.35	-0.48
177	SLU 65	-5	-8	908	-67.9	-12.61	-0.44
177	SLU 66	-5	-11	898	-67.18	-12.47	-0.5
177	SLU 67	-5	-9	910	-68.03	-12.63	-0.47
177	SLU 68	-5	-8	913	-68.31	-12.68	-0.46
177	SLU 69	-5	-11	904	-67.59	-12.55	-0.51
177	SLU 70	-5	-9	915	-68.44	-12.71	-0.49
177	SLU 71	-5	-11	900	-67.3	-12.5	-0.51
177	SLU 72	-5	-9	911	-68.15	-12.65	-0.48
177	SLU 73	-5	-9	995	-74.41	-13.82	-0.51
177	SLU 74	-5	-12	985	-73.69	-13.68	-0.56
177	SLU 75	-5	-10	997	-74.54	-13.84	-0.54
177	SLU 76	-5	-9	1000	-74.82	-13.89	-0.52
177	SLU 77	-5	-12	991	-74.1	-13.76	-0.57
177	SLU 78	-5	-10	1002	-74.95	-13.92	-0.55
177	SLU 79	-5	-12	987	-73.81	-13.7	-0.57
177	SLU 80	-5	-10	998	-74.66	-13.86	-0.55
177	SLU 81	-5	-12	1013	-75.78	-14.07	-0.57
177	SLU 82	-5	-10	1025	-76.63	-14.23	-0.55
177	SLU 83	-6	-12	1019	-76.19	-14.15	-0.59
177	SLU 84	-6	-10	1030	-77.04	-14.3	-0.56
177	SLE RA 1	-3	-8	665	-49.76	-9.24	-0.36
177	SLE RA 2	-3	-6	678	-50.7	-9.41	-0.34
177	SLE RA 3	-3	-8	671	-50.22	-9.33	-0.37
177	SLE RA 4	-3	-7	679	-50.79	-9.43	-0.35
177	SLE RA 5	-3	-6	681	-50.98	-9.47	-0.34
177	SLE RA 6	-4	-8	675	-50.5	-9.38	-0.38
177	SLE RA 7	-4	-7	683	-51.06	-9.48	-0.36
177	SLE RA 8	-4	-8	672	-50.3	-9.34	-0.38
177	SLE RA 9	-4	-7	680	-50.87	-9.45	-0.36
177	SLE RA 10	-4	-7	736	-55.04	-10.22	-0.38
177	SLE RA 11	-4	-9	729	-54.56	-10.13	-0.41
177	SLE RA 12	-4	-8	737	-55.13	-10.24	-0.4
177	SLE RA 13	-4	-7	739	-55.31	-10.27	-0.39
177	SLE RA 14	-4	-9	733	-54.83	-10.18	-0.42
177	SLE RA 15	-4	-8	741	-55.4	-10.29	-0.4
177	SLE RA 16	-4	-9	730	-54.64	-10.15	-0.42
177	SLE RA 17	-4	-8	738	-55.21	-10.25	-0.4
177	SLE RA 18	-4	-9	748	-55.96	-10.39	-0.42
177	SLE RA 19	-4	-8	756	-56.52	-10.5	-0.41
177	SLE RA 20	-4	-9	752	-56.23	-10.44	-0.43
177	SLE RA 21	-4	-8	759	-56.79	-10.55	-0.41
177	SLE FR 1	-3	-8	665	-49.76	-9.24	-0.36
177	SLE FR 2	-3	-8	668	-49.95	-9.27	-0.36
177	SLE FR 3	-3	-8	667	-49.87	-9.26	-0.36
177	SLE FR 4	-4	-8	693	-51.81	-9.62	-0.37
177	SLE FR 5	-4	-8	692	-51.73	-9.6	-0.38
177	SLE FR 6	-4	-8	707	-52.86	-9.81	-0.39
177	SLE QP 1	-3	-8	665	-49.76	-9.24	-0.36
177	SLE QP 2	-4	-8	690	-51.62	-9.58	-0.38
177	SLD 1	51	11	805	-60.22	-11.18	4
177	SLD 2	63	12	808	-60.45	-11.22	4.94
177	SLD 3	52	-24	518	-38.75	-7.2	3.51
177	SLD 4	64	-23	521	-38.98	-7.24	4.45
177	SLD 5	10	51	1159	-86.72	-16.1	1.52
177	SLD 6	18	52	1161	-86.86	-16.13	2.12
177	SLD 7	12	-67	203	-15.16	-2.82	-0.12
177	SLD 8	20	-66	205	-15.31	-2.84	0.49
177	SLD 9	-27	49	1175	-87.92	-16.33	-1.24
177	SLD 10	-19	50	1177	-88.07	-16.35	-0.64
177	SLD 11	-25	-68	219	-16.37	-3.04	-2.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
177	SLD 12	-17	-67	221	-16.52	-3.07	-2.28
177	SLD 13	-71	7	859	-64.25	-11.93	-5.2
177	SLD 14	-59	8	862	-64.48	-11.97	-4.27
177	SLD 15	-70	-29	572	-42.78	-7.94	-5.69
177	SLD 16	-58	-27	575	-43.01	-7.99	-4.76
177	SLV 1	82	24	888	-66.43	-12.33	6.5
177	SLV 2	101	26	893	-66.79	-12.4	7.97
177	SLV 3	83	-36	403	-30.15	-5.6	5.67
177	SLV 4	102	-33	408	-30.51	-5.67	7.14
177	SLV 5	17	91	1484	-111.01	-20.61	2.67
177	SLV 6	30	93	1487	-111.25	-20.66	3.66
177	SLV 7	21	-107	-132	9.91	1.84	-0.1
177	SLV 8	34	-105	-129	9.66	1.79	0.89
177	SLV 9	-41	89	1509	-112.9	-20.96	-1.65
177	SLV 10	-28	91	1513	-113.14	-21.01	-0.66
177	SLV 11	-37	-109	-107	8.02	1.49	-4.42
177	SLV 12	-24	-107	-104	7.78	1.44	-3.43
177	SLV 13	-109	17	972	-72.72	-13.5	-7.9
177	SLV 14	-90	20	977	-73.08	-13.57	-6.43
177	SLV 15	-108	-42	487	-36.45	-6.77	-8.73
177	SLV 16	-89	-40	492	-36.81	-6.83	-7.26
177	SLV FO 1	91	27	908	-67.91	-12.61	7.19
177	SLV FO 2	112	30	913	-68.31	-12.68	8.8
177	SLV FO 3	92	-39	374	-28.01	-5.2	6.28
177	SLV FO 4	113	-36	380	-28.4	-5.27	7.89
177	SLV FO 5	19	101	1563	-116.95	-21.72	2.97
177	SLV FO 6	33	103	1567	-117.22	-21.76	4.06
177	SLV FO 7	23	-117	-215	16.06	2.98	-0.07
177	SLV FO 8	37	-115	-211	15.79	2.93	1.02
177	SLV FO 9	-44	99	1591	-119.03	-22.1	-1.78
177	SLV FO 10	-30	101	1595	-119.29	-22.15	-0.69
177	SLV FO 11	-40	-119	-187	13.98	2.6	-4.82
177	SLV FO 12	-26	-117	-183	13.71	2.55	-3.73
177	SLV FO 13	-120	20	1000	-74.83	-13.89	-8.65
177	SLV FO 14	-99	22	1006	-75.23	-13.97	-7.03
177	SLV FO 15	-119	-46	467	-34.93	-6.49	-9.56
177	SLV FO 16	-98	-43	472	-35.33	-6.56	-7.95
177	CRTFP Ux+	0	0	0	0	0	0
177	CRTFP Ux-	0	0	0	0	0	0
177	CRTFP Uy+	0	0	0	0	0	0
177	CRTFP Uy-	0	0	0	0	0	0
178	SLU 1	-3	-8	635	-47.48	-17.63	-0.47
178	SLU 2	-3	-6	654	-48.89	-18.15	-0.39
178	SLU 3	-3	-9	644	-48.16	-17.89	-0.48
178	SLU 4	-3	-7	655	-49.01	-18.2	-0.44
178	SLU 5	-3	-6	659	-49.29	-18.3	-0.41
178	SLU 6	-3	-9	649	-48.56	-18.03	-0.5
178	SLU 7	-3	-7	661	-49.41	-18.35	-0.45
178	SLU 8	-3	-9	645	-48.27	-17.93	-0.49
178	SLU 9	-3	-7	657	-49.12	-18.24	-0.45
178	SLU 10	-4	-7	739	-55.3	-20.54	-0.47
178	SLU 11	-4	-10	730	-54.57	-20.27	-0.56
178	SLU 12	-4	-8	741	-55.42	-20.58	-0.52
178	SLU 13	-4	-7	745	-55.7	-20.68	-0.48
178	SLU 14	-4	-10	735	-54.97	-20.41	-0.58
178	SLU 15	-4	-8	746	-55.82	-20.73	-0.53
178	SLU 16	-4	-10	731	-54.69	-20.31	-0.57
178	SLU 17	-4	-8	742	-55.53	-20.62	-0.53
178	SLU 18	-4	-10	757	-56.64	-21.03	-0.58
178	SLU 19	-4	-8	769	-57.48	-21.35	-0.53
178	SLU 20	-4	-10	763	-57.04	-21.18	-0.59
178	SLU 21	-4	-8	774	-57.88	-21.5	-0.55
178	SLU 22	-4	-10	718	-53.7	-19.94	-0.53
178	SLU 23	-4	-7	737	-55.11	-20.47	-0.46
178	SLU 24	-4	-10	727	-54.39	-20.2	-0.55
178	SLU 25	-4	-8	738	-55.23	-20.51	-0.5
178	SLU 26	-4	-7	742	-55.51	-20.61	-0.47
178	SLU 27	-4	-10	732	-54.79	-20.35	-0.56
178	SLU 28	-4	-8	744	-55.63	-20.66	-0.52
178	SLU 29	-4	-10	729	-54.5	-20.24	-0.56
178	SLU 30	-4	-8	740	-55.35	-20.55	-0.51
178	SLU 31	-4	-8	823	-61.53	-22.85	-0.53
178	SLU 32	-4	-11	813	-60.8	-22.58	-0.63
178	SLU 33	-4	-9	824	-61.65	-22.89	-0.58
178	SLU 34	-4	-8	828	-61.92	-23	-0.55
178	SLU 35	-4	-11	818	-61.2	-22.73	-0.64
178	SLU 36	-4	-9	829	-62.04	-23.04	-0.6
178	SLU 37	-4	-11	814	-60.91	-22.62	-0.64
178	SLU 38	-4	-9	826	-61.76	-22.93	-0.59
178	SLU 39	-5	-11	840	-62.86	-23.35	-0.64
178	SLU 40	-5	-9	852	-63.71	-23.66	-0.6
178	SLU 41	-5	-11	846	-63.26	-23.49	-0.66
178	SLU 42	-5	-10	857	-64.11	-23.81	-0.61
178	SLU 43	-4	-11	797	-59.59	-22.13	-0.58
178	SLU 44	-4	-8	815	-61	-22.65	-0.51
178	SLU 45	-4	-11	806	-60.27	-22.38	-0.6
178	SLU 46	-4	-9	817	-61.12	-22.7	-0.56
178	SLU 47	-4	-8	821	-61.39	-22.8	-0.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLU 48	-4	-11	811	-60.67	-22.53	-0.62
178	SLU 49	-4	-9	822	-61.51	-22.84	-0.57
178	SLU 50	-4	-11	807	-60.38	-22.42	-0.61
178	SLU 51	-4	-9	819	-61.23	-22.74	-0.57
178	SLU 52	-5	-9	901	-67.41	-25.03	-0.59
178	SLU 53	-5	-12	891	-66.68	-24.76	-0.68
178	SLU 54	-5	-10	903	-67.53	-25.08	-0.64
178	SLU 55	-5	-9	907	-67.81	-25.18	-0.6
178	SLU 56	-5	-12	897	-67.08	-24.91	-0.69
178	SLU 57	-5	-10	908	-67.93	-25.23	-0.65
178	SLU 58	-5	-12	893	-66.8	-24.81	-0.69
178	SLU 59	-5	-10	904	-67.64	-25.12	-0.65
178	SLU 60	-5	-12	919	-68.75	-25.53	-0.7
178	SLU 61	-5	-10	930	-69.59	-25.84	-0.65
178	SLU 62	-5	-12	924	-69.15	-25.68	-0.71
178	SLU 63	-5	-11	936	-69.99	-25.99	-0.67
178	SLU 64	-4	-12	880	-65.81	-24.44	-0.65
178	SLU 65	-4	-9	899	-67.22	-24.96	-0.57
178	SLU 66	-4	-12	889	-66.5	-24.69	-0.67
178	SLU 67	-4	-10	900	-67.34	-25.01	-0.62
178	SLU 68	-4	-9	904	-67.62	-25.11	-0.59
178	SLU 69	-5	-12	894	-66.89	-24.84	-0.68
178	SLU 70	-5	-10	906	-67.74	-25.16	-0.63
178	SLU 71	-5	-12	890	-66.61	-24.74	-0.68
178	SLU 72	-5	-10	902	-67.45	-25.05	-0.63
178	SLU 73	-5	-10	984	-73.63	-27.34	-0.65
178	SLU 74	-5	-13	975	-72.91	-27.08	-0.74
178	SLU 75	-5	-11	986	-73.76	-27.39	-0.7
178	SLU 76	-5	-10	990	-74.03	-27.49	-0.67
178	SLU 77	-5	-13	980	-73.31	-27.22	-0.76
178	SLU 78	-5	-11	991	-74.15	-27.54	-0.71
178	SLU 79	-5	-13	976	-73.02	-27.12	-0.76
178	SLU 80	-5	-11	988	-73.87	-27.43	-0.71
178	SLU 81	-5	-13	1002	-74.97	-27.84	-0.76
178	SLU 82	-5	-12	1014	-75.82	-28.16	-0.72
178	SLU 83	-5	-13	1008	-75.37	-27.99	-0.77
178	SLU 84	-5	-12	1019	-76.22	-28.3	-0.73
178	SLE RA 1	-3	-9	659	-49.26	-18.29	-0.48
178	SLE RA 2	-3	-7	671	-50.2	-18.64	-0.44
178	SLE RA 3	-3	-9	665	-49.71	-18.46	-0.5
178	SLE RA 4	-3	-8	672	-50.28	-18.67	-0.47
178	SLE RA 5	-3	-7	675	-50.46	-18.74	-0.44
178	SLE RA 6	-3	-9	668	-49.98	-18.56	-0.51
178	SLE RA 7	-3	-8	676	-50.54	-18.77	-0.48
178	SLE RA 8	-3	-9	666	-49.79	-18.49	-0.5
178	SLE RA 9	-3	-8	673	-50.35	-18.7	-0.47
178	SLE RA 10	-4	-8	728	-54.47	-20.23	-0.49
178	SLE RA 11	-4	-10	722	-53.99	-20.05	-0.55
178	SLE RA 12	-4	-8	729	-54.55	-20.26	-0.52
178	SLE RA 13	-4	-8	732	-54.74	-20.33	-0.5
178	SLE RA 14	-4	-10	725	-54.25	-20.15	-0.56
178	SLE RA 15	-4	-9	733	-54.82	-20.36	-0.53
178	SLE RA 16	-4	-10	723	-54.06	-20.08	-0.56
178	SLE RA 17	-4	-9	730	-54.63	-20.29	-0.53
178	SLE RA 18	-4	-10	740	-55.36	-20.56	-0.56
178	SLE RA 19	-4	-9	748	-55.93	-20.77	-0.53
178	SLE RA 20	-4	-10	744	-55.63	-20.66	-0.57
178	SLE RA 21	-4	-9	751	-56.19	-20.87	-0.54
178	SLE FR 1	-3	-9	659	-49.26	-18.29	-0.48
178	SLE FR 2	-3	-8	661	-49.44	-18.36	-0.47
178	SLE FR 3	-3	-9	660	-49.36	-18.33	-0.49
178	SLE FR 4	-3	-9	686	-51.28	-19.04	-0.5
178	SLE FR 5	-3	-9	684	-51.19	-19.01	-0.51
178	SLE FR 6	-4	-9	699	-52.31	-19.43	-0.52
178	SLE QP 1	-3	-9	659	-49.26	-18.29	-0.48
178	SLE QP 2	-3	-9	683	-51.09	-18.97	-0.51
178	SLD 1	51	10	792	-59.27	-22.01	4.11
178	SLD 2	63	12	796	-59.53	-22.11	5.07
178	SLD 3	52	-24	508	-38	-14.11	3.15
178	SLD 4	64	-22	512	-38.27	-14.21	4.12
178	SLD 5	10	49	1146	-85.75	-31.84	2.16
178	SLD 6	17	50	1149	-85.92	-31.91	2.79
178	SLD 7	12	-66	199	-14.87	-5.52	-1.03
178	SLD 8	20	-65	201	-15.04	-5.58	-0.41
178	SLD 9	-27	47	1165	-87.14	-32.36	-0.61
178	SLD 10	-19	48	1167	-87.31	-32.42	0.02
178	SLD 11	-24	-68	217	-16.26	-6.04	-3.8
178	SLD 12	-17	-67	220	-16.43	-6.1	-3.18
178	SLD 13	-70	4	854	-63.91	-23.73	-5.13
178	SLD 14	-58	6	858	-64.17	-23.83	-4.17
178	SLD 15	-70	-30	570	-42.65	-15.84	-6.09
178	SLD 16	-58	-28	574	-42.91	-15.94	-5.12
178	SLV 1	81	23	872	-65.22	-24.22	6.77
178	SLV 2	100	27	878	-65.64	-24.38	8.29
178	SLV 3	83	-35	392	-29.29	-10.88	5.15
178	SLV 4	102	-32	397	-29.7	-11.03	6.67
178	SLV 5	17	88	1467	-109.75	-40.76	3.85
178	SLV 6	29	90	1471	-110.03	-40.86	4.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLV 7	21	-106	-134	10.03	3.72	-1.55
178	SLV 8	33	-103	-130	9.75	3.62	-0.53
178	SLV 9	-40	85	1496	-111.93	-41.56	-0.48
178	SLV 10	-27	88	1500	-112.21	-41.67	0.54
178	SLV 11	-36	-109	-105	7.85	2.92	-5.89
178	SLV 12	-24	-106	-101	7.57	2.81	-4.86
178	SLV 13	-108	13	969	-72.47	-26.91	-7.68
178	SLV 14	-89	17	974	-72.89	-27.07	-6.16
178	SLV 15	-107	-45	488	-36.54	-13.57	-9.3
178	SLV 16	-88	-41	494	-36.95	-13.72	-7.78
178	SLV FO 1	90	26	891	-66.64	-24.75	7.5
178	SLV FO 2	111	30	897	-67.09	-24.92	9.17
178	SLV FO 3	91	-38	362	-27.11	-10.07	5.72
178	SLV FO 4	112	-34	369	-27.57	-10.24	7.38
178	SLV FO 5	19	98	1546	-115.62	-42.94	4.29
178	SLV FO 6	33	100	1550	-115.92	-43.05	5.41
178	SLV FO 7	23	-115	-216	16.14	5.99	-1.65
178	SLV FO 8	37	-113	-212	15.83	5.88	-0.53
178	SLV FO 9	-44	95	1578	-118.01	-43.82	-0.48
178	SLV FO 10	-30	97	1582	-118.32	-43.94	0.64
178	SLV FO 11	-40	-119	-184	13.75	5.11	-6.42
178	SLV FO 12	-26	-116	-180	13.44	4.99	-5.3
178	SLV FO 13	-119	16	997	-74.61	-27.71	-8.4
178	SLV FO 14	-98	19	1004	-75.07	-27.88	-6.73
178	SLV FO 15	-118	-48	469	-35.08	-13.03	-10.18
178	SLV FO 16	-97	-45	475	-35.54	-13.2	-8.51
178	CRTFP Ux+	0	0	0	0	0	0
178	CRTFP Ux-	0	0	0	0	0	0
178	CRTFP Uy+	0	0	0	0	0	0
178	CRTFP Uy-	0	0	0	0	0	0
179	SLU 1	-3	-9	628	-46.99	-26.18	-0.61
179	SLU 2	-3	-7	647	-48.39	-26.96	-0.5
179	SLU 3	-3	-10	637	-47.66	-26.55	-0.63
179	SLU 4	-3	-8	648	-48.5	-27.02	-0.57
179	SLU 5	-3	-7	652	-48.78	-27.17	-0.52
179	SLU 6	-3	-10	642	-48.05	-26.77	-0.65
179	SLU 7	-3	-8	654	-48.89	-27.23	-0.58
179	SLU 8	-3	-10	639	-47.77	-26.61	-0.65
179	SLU 9	-3	-8	650	-48.61	-27.08	-0.58
179	SLU 10	-4	-8	731	-54.71	-30.48	-0.6
179	SLU 11	-4	-11	722	-53.98	-30.07	-0.73
179	SLU 12	-4	-9	733	-54.82	-30.54	-0.66
179	SLU 13	-4	-8	737	-55.1	-30.69	-0.62
179	SLU 14	-4	-11	727	-54.37	-30.29	-0.75
179	SLU 15	-4	-9	738	-55.21	-30.75	-0.68
179	SLU 16	-4	-11	723	-54.09	-30.13	-0.74
179	SLU 17	-4	-9	734	-54.93	-30.6	-0.68
179	SLU 18	-4	-11	749	-56.02	-31.2	-0.75
179	SLU 19	-4	-9	760	-56.86	-31.67	-0.69
179	SLU 20	-4	-11	754	-56.41	-31.42	-0.77
179	SLU 21	-4	-9	765	-57.25	-31.89	-0.7
179	SLU 22	-3	-11	710	-53.14	-29.6	-0.7
179	SLU 23	-3	-8	729	-54.54	-30.38	-0.59
179	SLU 24	-4	-11	719	-53.81	-29.98	-0.72
179	SLU 25	-4	-9	731	-54.65	-30.44	-0.65
179	SLU 26	-4	-8	734	-54.93	-30.6	-0.6
179	SLU 27	-4	-11	725	-54.2	-30.19	-0.73
179	SLU 28	-4	-9	736	-55.04	-30.66	-0.67
179	SLU 29	-4	-11	721	-53.92	-30.04	-0.73
179	SLU 30	-4	-9	732	-54.76	-30.5	-0.66
179	SLU 31	-4	-9	814	-60.86	-33.9	-0.68
179	SLU 32	-4	-12	804	-60.13	-33.5	-0.81
179	SLU 33	-4	-10	815	-60.97	-33.96	-0.75
179	SLU 34	-4	-9	819	-61.25	-34.12	-0.7
179	SLU 35	-4	-12	809	-60.52	-33.71	-0.83
179	SLU 36	-4	-10	820	-61.36	-34.18	-0.76
179	SLU 37	-4	-12	805	-60.24	-33.56	-0.83
179	SLU 38	-4	-10	817	-61.08	-34.02	-0.76
179	SLU 39	-4	-12	831	-62.17	-34.63	-0.83
179	SLU 40	-4	-11	842	-63.01	-35.1	-0.77
179	SLU 41	-5	-12	836	-62.56	-34.85	-0.85
179	SLU 42	-5	-11	848	-63.4	-35.32	-0.78
179	SLU 43	-4	-12	788	-58.98	-32.85	-0.77
179	SLU 44	-4	-9	807	-60.38	-33.63	-0.66
179	SLU 45	-4	-12	797	-59.65	-33.23	-0.79
179	SLU 46	-4	-10	809	-60.49	-33.7	-0.72
179	SLU 47	-4	-9	812	-60.77	-33.85	-0.68
179	SLU 48	-4	-12	803	-60.04	-33.44	-0.81
179	SLU 49	-4	-10	814	-60.88	-33.91	-0.74
179	SLU 50	-4	-12	799	-59.76	-33.29	-0.8
179	SLU 51	-4	-10	810	-60.6	-33.76	-0.74
179	SLU 52	-4	-10	892	-66.7	-37.15	-0.76
179	SLU 53	-5	-13	882	-65.97	-36.75	-0.89
179	SLU 54	-5	-11	893	-66.81	-37.22	-0.82
179	SLU 55	-5	-10	897	-67.09	-37.37	-0.77
179	SLU 56	-5	-13	887	-66.36	-36.96	-0.9
179	SLU 57	-5	-12	898	-67.2	-37.43	-0.84
179	SLU 58	-5	-13	883	-66.08	-36.81	-0.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
179	SLU 59	-5	-12	895	-66.92	-37.28	-0.83
179	SLU 60	-5	-13	909	-68.01	-37.88	-0.91
179	SLU 61	-5	-12	920	-68.85	-38.35	-0.84
179	SLU 62	-5	-13	914	-68.4	-38.1	-0.92
179	SLU 63	-5	-12	926	-69.24	-38.57	-0.86
179	SLU 64	-4	-13	871	-65.13	-36.28	-0.85
179	SLU 65	-4	-10	889	-66.53	-37.06	-0.74
179	SLU 66	-4	-13	880	-65.8	-36.65	-0.87
179	SLU 67	-4	-12	891	-66.64	-37.12	-0.81
179	SLU 68	-4	-10	895	-66.92	-37.28	-0.76
179	SLU 69	-4	-13	885	-66.19	-36.87	-0.89
179	SLU 70	-4	-12	896	-67.03	-37.34	-0.82
179	SLU 71	-4	-13	881	-65.91	-36.71	-0.88
179	SLU 72	-4	-12	892	-66.75	-37.18	-0.82
179	SLU 73	-5	-11	974	-72.85	-40.58	-0.84
179	SLU 74	-5	-14	964	-72.12	-40.17	-0.97
179	SLU 75	-5	-13	975	-72.96	-40.64	-0.9
179	SLU 76	-5	-12	979	-73.24	-40.8	-0.86
179	SLU 77	-5	-14	969	-72.51	-40.39	-0.98
179	SLU 78	-5	-13	981	-73.35	-40.86	-0.92
179	SLU 79	-5	-14	966	-72.23	-40.23	-0.98
179	SLU 80	-5	-13	977	-73.07	-40.7	-0.92
179	SLU 81	-5	-14	991	-74.16	-41.31	-0.99
179	SLU 82	-5	-13	1003	-75	-41.78	-0.92
179	SLU 83	-5	-15	997	-74.55	-41.53	-1.01
179	SLU 84	-5	-13	1008	-75.39	-41.99	-0.94
179	SLE RA 1	-3	-10	652	-48.75	-27.15	-0.64
179	SLE RA 2	-3	-8	664	-49.68	-27.67	-0.56
179	SLE RA 3	-3	-10	658	-49.19	-27.4	-0.65
179	SLE RA 4	-3	-9	665	-49.76	-27.72	-0.61
179	SLE RA 5	-3	-8	668	-49.94	-27.82	-0.58
179	SLE RA 6	-3	-10	661	-49.45	-27.55	-0.66
179	SLE RA 7	-3	-9	669	-50.01	-27.86	-0.62
179	SLE RA 8	-3	-10	659	-49.27	-27.44	-0.66
179	SLE RA 9	-3	-9	666	-49.83	-27.76	-0.62
179	SLE RA 10	-4	-9	721	-53.89	-30.02	-0.63
179	SLE RA 11	-4	-11	714	-53.41	-29.75	-0.71
179	SLE RA 12	-4	-9	722	-53.97	-30.06	-0.67
179	SLE RA 13	-4	-9	724	-54.15	-30.17	-0.64
179	SLE RA 14	-4	-11	717	-53.67	-29.89	-0.73
179	SLE RA 15	-4	-10	725	-54.23	-30.21	-0.68
179	SLE RA 16	-4	-11	715	-53.48	-29.79	-0.72
179	SLE RA 17	-4	-10	722	-54.04	-30.1	-0.68
179	SLE RA 18	-4	-11	732	-54.77	-30.51	-0.73
179	SLE RA 19	-4	-10	740	-55.33	-30.82	-0.69
179	SLE RA 20	-4	-11	736	-55.03	-30.65	-0.74
179	SLE RA 21	-4	-10	743	-55.59	-30.96	-0.7
179	SLE FR 1	-3	-10	652	-48.75	-27.15	-0.64
179	SLE FR 2	-3	-9	654	-48.93	-27.26	-0.62
179	SLE FR 3	-3	-10	653	-48.85	-27.21	-0.64
179	SLE FR 4	-3	-10	678	-50.74	-28.26	-0.65
179	SLE FR 5	-3	-10	677	-50.66	-28.22	-0.67
179	SLE FR 6	-3	-10	692	-51.76	-28.83	-0.68
179	SLE QP 1	-3	-10	652	-48.75	-27.15	-0.64
179	SLE QP 2	-3	-10	676	-50.55	-28.16	-0.66
179	SLD 1	50	10	779	-58.28	-32.46	4.2
179	SLD 2	62	12	783	-58.57	-32.63	5.21
179	SLD 3	51	-24	498	-37.22	-20.73	2.79
179	SLD 4	63	-21	502	-37.52	-20.9	3.8
179	SLD 5	10	47	1133	-84.76	-47.21	2.76
179	SLD 6	17	48	1136	-84.95	-47.32	3.41
179	SLD 7	12	-66	195	-14.56	-8.11	-1.94
179	SLD 8	20	-64	197	-14.76	-8.22	-1.29
179	SLD 9	-26	44	1154	-86.35	-48.1	-0.04
179	SLD 10	-19	46	1157	-86.54	-48.21	0.61
179	SLD 11	-24	-68	216	-16.16	-9	-4.74
179	SLD 12	-16	-66	219	-16.35	-9.11	-4.08
179	SLD 13	-70	2	850	-63.59	-35.42	-5.13
179	SLD 14	-58	4	854	-63.89	-35.59	-4.12
179	SLD 15	-69	-32	569	-42.53	-23.69	-6.54
179	SLD 16	-57	-30	573	-42.83	-23.86	-5.53
179	SLV 1	81	23	855	-63.97	-35.63	7.03
179	SLV 2	100	27	861	-64.43	-35.89	8.61
179	SLV 3	82	-34	379	-28.38	-15.81	4.64
179	SLV 4	101	-30	386	-28.85	-16.07	6.23
179	SLV 5	17	85	1450	-108.46	-60.42	4.96
179	SLV 6	29	88	1454	-108.77	-60.59	6.03
179	SLV 7	20	-104	-136	10.16	5.66	-2.98
179	SLV 8	33	-102	-132	9.84	5.48	-1.91
179	SLV 9	-40	82	1483	-110.95	-61.8	0.58
179	SLV 10	-27	84	1487	-111.26	-61.98	1.65
179	SLV 11	-36	-108	-103	7.67	4.27	-7.35
179	SLV 12	-23	-105	-98	7.35	4.1	-6.29
179	SLV 13	-107	10	966	-72.26	-40.25	-7.56
179	SLV 14	-89	14	972	-72.72	-40.51	-5.97
179	SLV 15	-106	-47	490	-36.67	-20.43	-9.94
179	SLV 16	-87	-43	496	-37.14	-20.69	-8.35
179	SLV FO 1	89	26	873	-65.31	-36.38	7.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
179	SLV FO 2	110	31	880	-65.82	-36.66	9.54
179	SLV FO 3	90	-37	350	-26.17	-14.58	5.18
179	SLV FO 4	111	-32	357	-26.68	-14.86	6.92
179	SLV FO 5	19	95	1527	-114.25	-63.64	5.52
179	SLV FO 6	33	98	1532	-114.6	-63.83	6.69
179	SLV FO 7	23	-114	-217	16.23	9.04	-3.21
179	SLV FO 8	37	-111	-212	15.88	8.85	-2.04
179	SLV FO 9	-43	91	1564	-116.99	-65.17	0.71
179	SLV FO 10	-30	94	1569	-117.33	-65.36	1.88
179	SLV FO 11	-39	-118	-180	13.49	7.51	-8.02
179	SLV FO 12	-25	-115	-176	13.15	7.32	-6.85
179	SLV FO 13	-118	12	995	-74.43	-41.46	-8.25
179	SLV FO 14	-97	17	1002	-74.94	-41.74	-6.5
179	SLV FO 15	-117	-50	472	-35.29	-19.66	-10.87
179	SLV FO 16	-96	-46	479	-35.8	-19.94	-9.12
179	CRTFP Ux+	0	0	0	0	0	0
179	CRTFP Ux-	0	0	0	0	0	0
179	CRTFP Uy+	0	0	0	0	0	0
179	CRTFP Uy-	0	0	0	0	0	0
180	SLU 1	-3	-10	623	-46.59	-34.6	-0.79
180	SLU 2	-3	-8	641	-47.98	-35.64	-0.64
180	SLU 3	-3	-10	632	-47.24	-35.09	-0.81
180	SLU 4	-3	-9	643	-48.08	-35.71	-0.72
180	SLU 5	-3	-8	647	-48.36	-35.92	-0.66
180	SLU 6	-3	-11	637	-47.62	-35.37	-0.83
180	SLU 7	-3	-9	648	-48.46	-35.99	-0.74
180	SLU 8	-3	-11	633	-47.35	-35.17	-0.82
180	SLU 9	-3	-9	644	-48.18	-35.79	-0.74
180	SLU 10	-4	-9	725	-54.22	-40.27	-0.76
180	SLU 11	-4	-12	715	-53.48	-39.72	-0.93
180	SLU 12	-4	-10	726	-54.32	-40.35	-0.84
180	SLU 13	-4	-9	730	-54.6	-40.55	-0.78
180	SLU 14	-4	-12	720	-53.87	-40.01	-0.95
180	SLU 15	-4	-10	731	-54.7	-40.63	-0.86
180	SLU 16	-4	-12	716	-53.59	-39.8	-0.94
180	SLU 17	-4	-10	728	-54.42	-40.42	-0.86
180	SLU 18	-4	-12	742	-55.5	-41.22	-0.95
180	SLU 19	-4	-10	753	-56.34	-41.84	-0.87
180	SLU 20	-4	-12	747	-55.88	-41.5	-0.97
180	SLU 21	-4	-11	758	-56.72	-42.13	-0.89
180	SLU 22	-3	-11	704	-52.68	-39.12	-0.89
180	SLU 23	-3	-9	723	-54.07	-40.16	-0.75
180	SLU 24	-3	-12	713	-53.33	-39.61	-0.91
180	SLU 25	-3	-10	724	-54.17	-40.23	-0.83
180	SLU 26	-3	-9	728	-54.45	-40.44	-0.77
180	SLU 27	-4	-12	718	-53.72	-39.9	-0.93
180	SLU 28	-4	-10	729	-54.55	-40.52	-0.85
180	SLU 29	-4	-12	714	-53.44	-39.69	-0.93
180	SLU 30	-4	-10	726	-54.27	-40.31	-0.84
180	SLU 31	-4	-10	806	-60.31	-44.79	-0.86
180	SLU 32	-4	-13	796	-59.58	-44.25	-1.03
180	SLU 33	-4	-11	808	-60.41	-44.87	-0.94
180	SLU 34	-4	-10	811	-60.69	-45.08	-0.88
180	SLU 35	-4	-13	802	-59.96	-44.53	-1.05
180	SLU 36	-4	-12	813	-60.79	-45.15	-0.96
180	SLU 37	-4	-13	798	-59.68	-44.32	-1.04
180	SLU 38	-4	-12	809	-60.51	-44.95	-0.96
180	SLU 39	-4	-13	823	-61.59	-45.74	-1.06
180	SLU 40	-4	-12	835	-62.43	-46.37	-0.97
180	SLU 41	-4	-13	828	-61.97	-46.03	-1.08
180	SLU 42	-4	-12	840	-62.81	-46.65	-0.99
180	SLU 43	-4	-13	782	-58.47	-43.43	-0.99
180	SLU 44	-4	-10	800	-59.87	-44.47	-0.84
180	SLU 45	-4	-13	791	-59.13	-43.92	-1.01
180	SLU 46	-4	-11	802	-59.97	-44.54	-0.92
180	SLU 47	-4	-10	805	-60.25	-44.75	-0.86
180	SLU 48	-4	-13	796	-59.51	-44.2	-1.03
180	SLU 49	-4	-12	807	-60.35	-44.82	-0.94
180	SLU 50	-4	-13	792	-59.23	-43.99	-1.02
180	SLU 51	-4	-12	803	-60.07	-44.62	-0.94
180	SLU 52	-4	-11	884	-66.11	-49.1	-0.96
180	SLU 53	-4	-14	874	-65.37	-48.55	-1.13
180	SLU 54	-4	-13	885	-66.21	-49.18	-1.04
180	SLU 55	-4	-12	889	-66.49	-49.38	-0.98
180	SLU 56	-5	-14	879	-65.75	-48.84	-1.15
180	SLU 57	-5	-13	890	-66.59	-49.46	-1.06
180	SLU 58	-5	-14	875	-65.47	-48.63	-1.14
180	SLU 59	-5	-13	887	-66.31	-49.25	-1.06
180	SLU 60	-5	-15	901	-67.39	-50.05	-1.15
180	SLU 61	-5	-13	912	-68.23	-50.67	-1.07
180	SLU 62	-5	-15	906	-67.77	-50.33	-1.17
180	SLU 63	-5	-13	917	-68.61	-50.95	-1.09
180	SLU 64	-4	-14	863	-64.56	-47.95	-1.09
180	SLU 65	-4	-12	882	-65.96	-48.99	-0.95
180	SLU 66	-4	-14	872	-65.22	-48.44	-1.11
180	SLU 67	-4	-13	883	-66.06	-49.06	-1.03
180	SLU 68	-4	-12	887	-66.34	-49.27	-0.97
180	SLU 69	-4	-14	877	-65.6	-48.72	-1.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
180	SLU 70	-4	-13	888	-66.44	-49.35	-1.05
180	SLU 71	-4	-14	873	-65.32	-48.52	-1.13
180	SLU 72	-4	-13	885	-66.16	-49.14	-1.04
180	SLU 73	-5	-13	965	-72.2	-53.62	-1.06
180	SLU 74	-5	-16	955	-71.46	-53.08	-1.23
180	SLU 75	-5	-14	967	-72.3	-53.7	-1.14
180	SLU 76	-5	-13	970	-72.58	-53.91	-1.08
180	SLU 77	-5	-16	960	-71.84	-53.36	-1.25
180	SLU 78	-5	-14	972	-72.68	-53.98	-1.16
180	SLU 79	-5	-16	957	-71.56	-53.15	-1.24
180	SLU 80	-5	-14	968	-72.4	-53.77	-1.16
180	SLU 81	-5	-16	982	-73.48	-54.57	-1.26
180	SLU 82	-5	-14	994	-74.32	-55.2	-1.17
180	SLU 83	-5	-16	987	-73.86	-54.86	-1.28
180	SLU 84	-5	-14	999	-74.7	-55.48	-1.19
180	SLE RA 1	-3	-11	646	-48.33	-35.89	-0.81
180	SLE RA 2	-3	-9	659	-49.26	-36.58	-0.72
180	SLE RA 3	-3	-11	652	-48.76	-36.22	-0.83
180	SLE RA 4	-3	-10	659	-49.32	-36.63	-0.77
180	SLE RA 5	-3	-9	662	-49.51	-36.77	-0.73
180	SLE RA 6	-3	-11	655	-49.02	-36.41	-0.84
180	SLE RA 7	-3	-10	663	-49.58	-36.82	-0.79
180	SLE RA 8	-3	-11	653	-48.83	-36.27	-0.84
180	SLE RA 9	-3	-10	660	-49.39	-36.68	-0.78
180	SLE RA 10	-3	-10	714	-53.42	-39.67	-0.8
180	SLE RA 11	-4	-12	708	-52.93	-39.31	-0.91
180	SLE RA 12	-4	-11	715	-53.48	-39.72	-0.85
180	SLE RA 13	-4	-10	718	-53.67	-39.86	-0.81
180	SLE RA 14	-4	-12	711	-53.18	-39.5	-0.92
180	SLE RA 15	-4	-11	718	-53.74	-39.91	-0.86
180	SLE RA 16	-4	-12	708	-52.99	-39.36	-0.92
180	SLE RA 17	-4	-11	716	-53.55	-39.77	-0.86
180	SLE RA 18	-4	-12	726	-54.27	-40.31	-0.93
180	SLE RA 19	-4	-11	733	-54.83	-40.72	-0.87
180	SLE RA 20	-4	-12	729	-54.52	-40.5	-0.94
180	SLE RA 21	-4	-11	736	-55.08	-40.91	-0.88
180	SLE FR 1	-3	-11	646	-48.33	-35.89	-0.81
180	SLE FR 2	-3	-10	649	-48.51	-36.03	-0.8
180	SLE FR 3	-3	-11	647	-48.43	-35.97	-0.82
180	SLE FR 4	-3	-11	672	-50.29	-37.35	-0.83
180	SLE FR 5	-3	-11	671	-50.21	-37.29	-0.85
180	SLE FR 6	-3	-11	686	-51.3	-38.1	-0.87
180	SLE QP 1	-3	-11	646	-48.33	-35.89	-0.81
180	SLE QP 2	-3	-11	670	-50.11	-37.22	-0.85
180	SLD 1	50	9	767	-57.38	-42.62	4.27
180	SLD 2	62	12	771	-57.71	-42.86	5.34
180	SLD 3	51	-24	488	-36.49	-27.1	2.43
180	SLD 4	63	-21	492	-36.81	-27.34	3.5
180	SLD 5	10	45	1122	-83.92	-62.33	3.3
180	SLD 6	17	47	1125	-84.13	-62.49	3.99
180	SLD 7	12	-65	191	-14.28	-10.61	-2.84
180	SLD 8	20	-63	194	-14.49	-10.76	-2.15
180	SLD 9	-26	42	1146	-85.73	-63.67	0.46
180	SLD 10	-19	44	1149	-85.94	-63.83	1.15
180	SLD 11	-24	-68	215	-16.09	-11.95	-5.68
180	SLD 12	-16	-66	218	-16.3	-12.11	-5
180	SLD 13	-69	-1	848	-63.4	-47.09	-5.19
180	SLD 14	-57	2	852	-63.73	-47.33	-4.13
180	SLD 15	-69	-34	568	-42.51	-31.57	-7.04
180	SLD 16	-57	-31	573	-42.84	-31.82	-5.97
180	SLV 1	80	22	840	-62.8	-46.65	7.27
180	SLV 2	99	27	846	-63.32	-47.03	8.95
180	SLV 3	81	-34	368	-27.5	-20.42	4.16
180	SLV 4	100	-29	375	-28.01	-20.81	5.84
180	SLV 5	17	83	1435	-107.36	-79.74	6
180	SLV 6	29	86	1440	-107.71	-80	7.13
180	SLV 7	20	-103	-138	10.31	7.66	-4.38
180	SLV 8	33	-100	-133	9.97	7.4	-3.25
180	SLV 9	-40	78	1473	-110.18	-81.84	1.56
180	SLV 10	-27	81	1478	-110.53	-82.09	2.69
180	SLV 11	-36	-108	-100	7.49	5.57	-8.83
180	SLV 12	-23	-104	-96	7.15	5.31	-7.7
180	SLV 13	-107	7	965	-72.2	-53.63	-7.53
180	SLV 14	-88	12	972	-72.72	-54.01	-5.86
180	SLV 15	-105	-49	493	-36.9	-27.41	-10.65
180	SLV 16	-87	-44	500	-37.41	-27.79	-8.97
180	SLV FO 1	89	25	857	-64.07	-47.59	8.09
180	SLV FO 2	109	31	864	-64.64	-48.01	9.93
180	SLV FO 3	90	-36	337	-25.24	-18.75	4.66
180	SLV FO 4	110	-30	345	-25.81	-19.17	6.51
180	SLV FO 5	18	92	1512	-113.09	-83.99	6.68
180	SLV FO 6	32	96	1517	-113.47	-84.28	7.93
180	SLV FO 7	23	-112	-219	16.36	12.15	-4.74
180	SLV FO 8	37	-109	-214	15.97	11.86	-3.5
180	SLV FO 9	-43	87	1553	-116.19	-86.3	1.8
180	SLV FO 10	-29	91	1558	-116.57	-86.58	3.04
180	SLV FO 11	-39	-117	-177	13.25	9.84	-9.62
180	SLV FO 12	-25	-114	-172	12.87	9.56	-8.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
180	SLV FO 13	-117	9	995	-74.41	-55.27	-8.2
180	SLV FO 14	-96	14	1002	-74.98	-55.69	-6.36
180	SLV FO 15	-116	-53	476	-35.58	-26.42	-11.63
180	SLV FO 16	-95	-47	483	-36.15	-26.85	-9.78
180	CRTFP Ux+	0	0	0	0	0	0
180	CRTFP Ux-	0	0	0	0	0	0
180	CRTFP Uy+	0	0	0	0	0	0
180	CRTFP Uy-	0	0	0	0	0	0
181	SLU 1	-3	-11	618	-46.25	-42.93	-0.98
181	SLU 2	-3	-9	637	-47.64	-44.23	-0.81
181	SLU 3	-3	-11	627	-46.89	-43.54	-1.01
181	SLU 4	-3	-10	638	-47.73	-44.31	-0.9
181	SLU 5	-3	-9	642	-48.01	-44.57	-0.83
181	SLU 6	-3	-11	632	-47.27	-43.88	-1.03
181	SLU 7	-3	-10	643	-48.1	-44.66	-0.93
181	SLU 8	-3	-11	628	-46.99	-43.63	-1.02
181	SLU 9	-3	-10	639	-47.82	-44.4	-0.92
181	SLU 10	-4	-10	719	-53.81	-49.96	-0.95
181	SLU 11	-4	-13	709	-53.07	-49.27	-1.15
181	SLU 12	-4	-11	721	-53.9	-50.04	-1.05
181	SLU 13	-4	-10	724	-54.18	-50.3	-0.97
181	SLU 14	-4	-13	714	-53.44	-49.61	-1.17
181	SLU 15	-4	-11	726	-54.27	-50.39	-1.07
181	SLU 16	-4	-13	711	-53.16	-49.36	-1.17
181	SLU 17	-4	-11	722	-54	-50.13	-1.06
181	SLU 18	-4	-13	736	-55.06	-51.12	-1.18
181	SLU 19	-4	-11	747	-55.9	-51.9	-1.08
181	SLU 20	-4	-13	741	-55.44	-51.47	-1.2
181	SLU 21	-4	-12	752	-56.27	-52.24	-1.1
181	SLU 22	-3	-12	699	-52.29	-48.54	-1.11
181	SLU 23	-3	-10	718	-53.68	-49.84	-0.93
181	SLU 24	-3	-13	708	-52.94	-49.15	-1.14
181	SLU 25	-3	-11	719	-53.77	-49.92	-1.03
181	SLU 26	-3	-10	723	-54.05	-50.18	-0.96
181	SLU 27	-4	-13	713	-53.31	-49.49	-1.16
181	SLU 28	-4	-11	724	-54.14	-50.27	-1.05
181	SLU 29	-4	-13	709	-53.03	-49.24	-1.15
181	SLU 30	-4	-11	720	-53.87	-50.01	-1.05
181	SLU 31	-4	-11	800	-59.85	-55.57	-1.08
181	SLU 32	-4	-14	790	-59.11	-54.88	-1.28
181	SLU 33	-4	-13	801	-59.94	-55.65	-1.17
181	SLU 34	-4	-11	805	-60.22	-55.91	-1.1
181	SLU 35	-4	-14	795	-59.48	-55.22	-1.3
181	SLU 36	-4	-13	806	-60.32	-56	-1.2
181	SLU 37	-4	-14	792	-59.21	-54.97	-1.29
181	SLU 38	-4	-13	803	-60.04	-55.74	-1.19
181	SLU 39	-4	-14	817	-61.11	-56.73	-1.31
181	SLU 40	-4	-13	828	-61.94	-57.51	-1.21
181	SLU 41	-4	-15	822	-61.48	-57.08	-1.33
181	SLU 42	-4	-13	833	-62.31	-57.85	-1.23
181	SLU 43	-4	-14	776	-58.05	-53.89	-1.23
181	SLU 44	-4	-11	795	-59.44	-55.18	-1.06
181	SLU 45	-4	-14	785	-58.69	-54.49	-1.26
181	SLU 46	-4	-13	796	-59.53	-55.27	-1.15
181	SLU 47	-4	-12	800	-59.81	-55.53	-1.08
181	SLU 48	-4	-14	790	-59.07	-54.84	-1.28
181	SLU 49	-4	-13	801	-59.9	-55.61	-1.18
181	SLU 50	-4	-14	786	-58.79	-54.58	-1.27
181	SLU 51	-4	-13	797	-59.63	-55.36	-1.17
181	SLU 52	-4	-13	877	-65.61	-60.91	-1.2
181	SLU 53	-4	-15	867	-64.87	-60.22	-1.4
181	SLU 54	-4	-14	878	-65.7	-61	-1.3
181	SLU 55	-4	-13	882	-65.98	-61.26	-1.22
181	SLU 56	-5	-16	872	-65.24	-60.57	-1.42
181	SLU 57	-5	-14	883	-66.08	-61.34	-1.32
181	SLU 58	-5	-16	869	-64.97	-60.31	-1.42
181	SLU 59	-4	-14	880	-65.8	-61.09	-1.31
181	SLU 60	-5	-16	894	-66.87	-62.08	-1.43
181	SLU 61	-5	-14	905	-67.7	-62.85	-1.33
181	SLU 62	-5	-16	899	-67.24	-62.42	-1.45
181	SLU 63	-5	-14	910	-68.07	-63.2	-1.35
181	SLU 64	-4	-15	857	-64.09	-59.5	-1.36
181	SLU 65	-4	-13	875	-65.48	-60.79	-1.19
181	SLU 66	-4	-16	865	-64.74	-60.1	-1.39
181	SLU 67	-4	-14	877	-65.57	-60.88	-1.28
181	SLU 68	-4	-13	880	-65.85	-61.14	-1.21
181	SLU 69	-4	-16	870	-65.11	-60.45	-1.41
181	SLU 70	-4	-14	882	-65.94	-61.22	-1.3
181	SLU 71	-4	-16	867	-64.83	-60.19	-1.4
181	SLU 72	-4	-14	878	-65.67	-60.97	-1.3
181	SLU 73	-5	-14	958	-71.65	-66.52	-1.33
181	SLU 74	-5	-17	948	-70.91	-65.83	-1.53
181	SLU 75	-5	-15	959	-71.75	-66.61	-1.42
181	SLU 76	-5	-14	963	-72.03	-66.87	-1.35
181	SLU 77	-5	-17	953	-71.28	-66.18	-1.55
181	SLU 78	-5	-16	964	-72.12	-66.95	-1.45
181	SLU 79	-5	-17	949	-71.01	-65.92	-1.54
181	SLU 80	-5	-15	960	-71.84	-66.7	-1.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
181	SLU 81	-5	-17	975	-72.91	-67.69	-1.56
181	SLU 82	-5	-16	986	-73.74	-68.46	-1.46
181	SLU 83	-5	-17	980	-73.28	-68.03	-1.58
181	SLU 84	-5	-16	991	-74.12	-68.81	-1.48
181	SLE RA 1	-3	-11	641	-47.97	-44.54	-1.02
181	SLE RA 2	-3	-10	654	-48.9	-45.4	-0.9
181	SLE RA 3	-3	-12	647	-48.4	-44.94	-1.04
181	SLE RA 4	-3	-11	655	-48.96	-45.45	-0.97
181	SLE RA 5	-3	-10	657	-49.15	-45.63	-0.92
181	SLE RA 6	-3	-12	650	-48.65	-45.17	-1.05
181	SLE RA 7	-3	-11	658	-49.21	-45.68	-0.98
181	SLE RA 8	-3	-12	648	-48.47	-45	-1.05
181	SLE RA 9	-3	-11	655	-49.02	-45.51	-0.98
181	SLE RA 10	-3	-11	709	-53.01	-49.22	-1
181	SLE RA 11	-4	-12	702	-52.52	-48.76	-1.13
181	SLE RA 12	-4	-11	710	-53.08	-49.28	-1.06
181	SLE RA 13	-3	-11	712	-53.26	-49.45	-1.01
181	SLE RA 14	-4	-13	705	-52.77	-48.99	-1.14
181	SLE RA 15	-4	-12	713	-53.32	-49.51	-1.07
181	SLE RA 16	-4	-13	703	-52.58	-48.82	-1.14
181	SLE RA 17	-4	-12	710	-53.14	-49.34	-1.07
181	SLE RA 18	-4	-13	720	-53.85	-50	-1.15
181	SLE RA 19	-4	-12	727	-54.41	-50.51	-1.08
181	SLE RA 20	-4	-13	723	-54.1	-50.23	-1.17
181	SLE RA 21	-4	-12	731	-54.66	-50.74	-1.1
181	SLE FR 1	-3	-11	641	-47.97	-44.54	-1.02
181	SLE FR 2	-3	-11	644	-48.16	-44.71	-0.99
181	SLE FR 3	-3	-11	643	-48.07	-44.63	-1.02
181	SLE FR 4	-3	-11	667	-49.92	-46.35	-1.03
181	SLE FR 5	-3	-12	666	-49.83	-46.27	-1.06
181	SLE FR 6	-3	-12	681	-50.91	-47.27	-1.08
181	SLE QP 1	-3	-11	641	-47.97	-44.54	-1.02
181	SLE QP 2	-3	-12	665	-49.74	-46.17	-1.06
181	SLD 1	51	8	756	-56.55	-52.5	4.33
181	SLD 2	62	12	761	-56.91	-52.84	5.47
181	SLD 3	50	-24	479	-35.8	-33.23	2.07
181	SLD 4	62	-21	483	-36.15	-33.57	3.21
181	SLD 5	12	43	1112	-83.2	-77.25	3.79
181	SLD 6	20	45	1115	-83.44	-77.46	4.52
181	SLD 7	10	-65	187	-14.01	-13	-3.74
181	SLD 8	17	-63	190	-14.24	-13.22	-3.01
181	SLD 9	-24	39	1139	-85.23	-79.13	0.89
181	SLD 10	-16	42	1143	-85.46	-79.34	1.63
181	SLD 11	-26	-69	214	-16.04	-14.89	-6.64
181	SLD 12	-18	-66	217	-16.27	-15.1	-5.9
181	SLD 13	-68	-3	846	-63.32	-58.78	-5.32
181	SLD 14	-56	1	851	-63.68	-59.12	-4.18
181	SLD 15	-69	-35	569	-42.56	-39.51	-7.58
181	SLD 16	-57	-32	574	-42.92	-39.84	-6.44
181	SLV 1	81	21	825	-61.72	-57.3	7.5
181	SLV 2	100	27	833	-62.28	-57.82	9.29
181	SLV 3	80	-33	356	-26.64	-24.73	3.68
181	SLV 4	98	-27	364	-27.2	-25.26	5.47
181	SLV 5	20	80	1423	-106.43	-98.81	6.97
181	SLV 6	33	84	1428	-106.81	-99.16	8.18
181	SLV 7	16	-102	-140	10.5	9.75	-5.76
181	SLV 8	29	-98	-135	10.12	9.4	-4.56
181	SLV 9	-35	75	1465	-109.59	-101.74	2.44
181	SLV 10	-23	78	1470	-109.97	-102.1	3.65
181	SLV 11	-39	-107	-98	7.34	6.81	-10.29
181	SLV 12	-27	-104	-93	6.96	6.46	-9.09
181	SLV 13	-105	4	966	-72.27	-67.09	-7.59
181	SLV 14	-86	10	974	-72.83	-67.62	-5.8
181	SLV 15	-106	-51	497	-37.19	-34.53	-11.41
181	SLV 16	-87	-45	505	-37.75	-35.05	-9.62
181	SLV FO 1	89	25	841	-62.92	-58.41	8.36
181	SLV FO 2	110	31	849	-63.54	-58.99	10.33
181	SLV FO 3	88	-35	325	-24.33	-22.59	4.16
181	SLV FO 4	108	-29	334	-24.95	-23.17	6.13
181	SLV FO 5	23	89	1499	-112.1	-104.07	7.77
181	SLV FO 6	37	93	1504	-112.51	-104.46	9.1
181	SLV FO 7	18	-111	-221	16.53	15.34	-6.23
181	SLV FO 8	32	-107	-215	16.11	14.95	-4.91
181	SLV FO 9	-39	83	1545	-115.58	-107.3	2.79
181	SLV FO 10	-25	88	1551	-116	-107.69	4.12
181	SLV FO 11	-43	-117	-174	13.04	12.11	-11.21
181	SLV FO 12	-29	-113	-169	12.62	11.72	-9.89
181	SLV FO 13	-115	5	996	-74.52	-69.18	-8.24
181	SLV FO 14	-94	12	1005	-75.14	-69.76	-6.27
181	SLV FO 15	-116	-55	480	-35.93	-33.36	-12.44
181	SLV FO 16	-96	-48	489	-36.56	-33.94	-10.47
181	CRTFP Ux+	0	0	0	0	0	0
181	CRTFP Ux-	0	0	0	0	0	0
181	CRTFP Uy+	0	0	0	0	0	0
181	CRTFP Uy-	0	0	0	0	0	0
182	SLU 1	-3	-12	614	-45.9	-51.14	-1.2
182	SLU 2	-3	-9	632	-47.29	-52.69	-1
182	SLU 3	-3	-12	622	-46.54	-51.85	-1.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
182	SLU 4	-3	-11	633	-47.37	-52.78	-1.11
182	SLU 5	-3	-10	637	-47.65	-53.09	-1.02
182	SLU 6	-3	-12	627	-46.9	-52.26	-1.26
182	SLU 7	-3	-11	638	-47.74	-53.18	-1.14
182	SLU 8	-3	-12	623	-46.63	-51.95	-1.25
182	SLU 9	-3	-11	635	-47.46	-52.88	-1.13
182	SLU 10	-3	-11	714	-53.4	-59.49	-1.17
182	SLU 11	-4	-14	704	-52.65	-58.66	-1.4
182	SLU 12	-4	-12	715	-53.48	-59.59	-1.28
182	SLU 13	-4	-11	719	-53.77	-59.9	-1.19
182	SLU 14	-4	-14	709	-53.02	-59.06	-1.43
182	SLU 15	-4	-12	720	-53.85	-59.99	-1.3
182	SLU 16	-4	-14	705	-52.74	-58.76	-1.42
182	SLU 17	-4	-12	716	-53.58	-59.69	-1.3
182	SLU 18	-4	-14	730	-54.63	-60.87	-1.44
182	SLU 19	-4	-12	742	-55.47	-61.79	-1.32
182	SLU 20	-4	-14	735	-55	-61.27	-1.47
182	SLU 21	-4	-13	746	-55.83	-62.2	-1.34
182	SLU 22	-3	-13	694	-51.9	-57.82	-1.36
182	SLU 23	-3	-11	712	-53.29	-59.37	-1.15
182	SLU 24	-3	-14	702	-52.54	-58.53	-1.39
182	SLU 25	-3	-12	714	-53.37	-59.46	-1.27
182	SLU 26	-3	-11	717	-53.65	-59.77	-1.18
182	SLU 27	-3	-14	707	-52.9	-58.94	-1.41
182	SLU 28	-3	-12	718	-53.74	-59.87	-1.29
182	SLU 29	-3	-14	704	-52.63	-58.64	-1.41
182	SLU 30	-3	-12	715	-53.46	-59.56	-1.28
182	SLU 31	-4	-12	794	-59.4	-66.18	-1.32
182	SLU 32	-4	-15	784	-58.65	-65.34	-1.56
182	SLU 33	-4	-14	795	-59.48	-66.27	-1.44
182	SLU 34	-4	-13	799	-59.77	-66.58	-1.35
182	SLU 35	-4	-15	789	-59.02	-65.75	-1.58
182	SLU 36	-4	-14	800	-59.85	-66.68	-1.46
182	SLU 37	-4	-15	785	-58.74	-65.44	-1.57
182	SLU 38	-4	-14	796	-59.57	-66.37	-1.45
182	SLU 39	-4	-15	811	-60.63	-67.55	-1.6
182	SLU 40	-4	-14	822	-61.46	-68.48	-1.47
182	SLU 41	-4	-16	815	-61	-67.96	-1.62
182	SLU 42	-4	-14	827	-61.83	-68.88	-1.5
182	SLU 43	-4	-15	770	-57.62	-64.19	-1.51
182	SLU 44	-4	-12	789	-59	-65.74	-1.31
182	SLU 45	-4	-15	779	-58.25	-64.9	-1.54
182	SLU 46	-4	-14	790	-59.09	-65.83	-1.42
182	SLU 47	-4	-13	794	-59.37	-66.14	-1.33
182	SLU 48	-4	-15	784	-58.62	-65.31	-1.57
182	SLU 49	-4	-14	795	-59.45	-66.23	-1.44
182	SLU 50	-4	-15	780	-58.35	-65	-1.56
182	SLU 51	-4	-14	791	-59.18	-65.93	-1.44
182	SLU 52	-4	-14	871	-65.12	-72.54	-1.47
182	SLU 53	-4	-17	860	-64.37	-71.71	-1.71
182	SLU 54	-4	-15	872	-65.2	-72.64	-1.59
182	SLU 55	-4	-14	875	-65.48	-72.95	-1.5
182	SLU 56	-4	-17	865	-64.73	-72.11	-1.73
182	SLU 57	-4	-15	876	-65.56	-73.04	-1.61
182	SLU 58	-4	-17	862	-64.46	-71.81	-1.73
182	SLU 59	-4	-15	873	-65.29	-72.74	-1.6
182	SLU 60	-4	-17	887	-66.35	-73.92	-1.75
182	SLU 61	-4	-16	898	-67.18	-74.84	-1.63
182	SLU 62	-5	-17	892	-66.71	-74.32	-1.77
182	SLU 63	-5	-16	903	-67.54	-75.25	-1.65
182	SLU 64	-4	-16	850	-63.62	-70.87	-1.66
182	SLU 65	-4	-14	869	-65	-72.42	-1.46
182	SLU 66	-4	-17	859	-64.25	-71.58	-1.7
182	SLU 67	-4	-15	870	-65.09	-72.51	-1.58
182	SLU 68	-4	-14	874	-65.37	-72.83	-1.49
182	SLU 69	-4	-17	864	-64.62	-71.99	-1.72
182	SLU 70	-4	-15	875	-65.45	-72.92	-1.6
182	SLU 71	-4	-17	860	-64.35	-71.69	-1.71
182	SLU 72	-4	-15	871	-65.18	-72.61	-1.59
182	SLU 73	-5	-15	951	-71.11	-79.23	-1.63
182	SLU 74	-5	-18	941	-70.36	-78.39	-1.86
182	SLU 75	-5	-17	952	-71.2	-79.32	-1.74
182	SLU 76	-5	-16	956	-71.48	-79.63	-1.65
182	SLU 77	-5	-18	946	-70.73	-78.8	-1.89
182	SLU 78	-5	-17	957	-71.56	-79.73	-1.77
182	SLU 79	-5	-18	942	-70.46	-78.49	-1.88
182	SLU 80	-5	-17	953	-71.29	-79.42	-1.76
182	SLU 81	-5	-18	967	-72.35	-80.6	-1.9
182	SLU 82	-5	-17	978	-73.18	-81.53	-1.78
182	SLU 83	-5	-19	972	-72.71	-81.01	-1.93
182	SLU 84	-5	-17	983	-73.54	-81.93	-1.81
182	SLE RA 1	-3	-12	637	-47.62	-53.05	-1.25
182	SLE RA 2	-3	-11	649	-48.54	-54.08	-1.11
182	SLE RA 3	-3	-12	642	-48.04	-53.52	-1.27
182	SLE RA 4	-3	-12	650	-48.6	-54.14	-1.19
182	SLE RA 5	-3	-11	652	-48.78	-54.35	-1.13
182	SLE RA 6	-3	-13	646	-48.29	-53.79	-1.28
182	SLE RA 7	-3	-12	653	-48.84	-54.41	-1.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
182	SLE RA 8	-3	-13	643	-48.1	-53.59	-1.28
182	SLE RA 9	-3	-12	651	-48.66	-54.21	-1.2
182	SLE RA 10	-3	-12	703	-52.62	-58.62	-1.22
182	SLE RA 11	-3	-13	697	-52.12	-58.06	-1.38
182	SLE RA 12	-3	-12	704	-52.67	-58.68	-1.3
182	SLE RA 13	-3	-12	707	-52.86	-58.89	-1.24
182	SLE RA 14	-4	-14	700	-52.36	-58.33	-1.4
182	SLE RA 15	-4	-13	707	-52.91	-58.95	-1.31
182	SLE RA 16	-4	-14	698	-52.18	-58.13	-1.39
182	SLE RA 17	-4	-13	705	-52.73	-58.75	-1.31
182	SLE RA 18	-4	-14	714	-53.44	-59.53	-1.41
182	SLE RA 19	-4	-13	722	-53.99	-60.15	-1.32
182	SLE RA 20	-4	-14	718	-53.68	-59.8	-1.42
182	SLE RA 21	-4	-13	725	-54.24	-60.42	-1.34
182	SLE FR 1	-3	-12	637	-47.62	-53.05	-1.25
182	SLE FR 2	-3	-12	639	-47.8	-53.26	-1.22
182	SLE FR 3	-3	-12	638	-47.71	-53.16	-1.25
182	SLE FR 4	-3	-12	662	-49.55	-55.2	-1.27
182	SLE FR 5	-3	-13	661	-49.46	-55.1	-1.3
182	SLE FR 6	-3	-13	675	-50.53	-56.29	-1.33
182	SLE QP 1	-3	-12	637	-47.62	-53.05	-1.25
182	SLE QP 2	-3	-13	660	-49.36	-54.99	-1.29
182	SLD 1	50	7	745	-55.73	-62.09	4.35
182	SLD 2	62	11	750	-56.13	-62.53	5.57
182	SLD 3	49	-24	469	-35.1	-39.11	1.7
182	SLD 4	61	-20	475	-35.49	-39.54	2.92
182	SLD 5	12	41	1103	-82.5	-91.91	4.21
182	SLD 6	20	43	1106	-82.75	-92.19	5
182	SLD 7	9	-65	183	-13.72	-15.29	-4.63
182	SLD 8	17	-62	187	-13.98	-15.57	-3.84
182	SLD 9	-23	37	1133	-84.75	-94.42	1.26
182	SLD 10	-16	39	1136	-85	-94.7	2.04
182	SLD 11	-26	-69	214	-15.97	-17.8	-7.59
182	SLD 12	-18	-66	217	-16.23	-18.08	-6.8
182	SLD 13	-67	-5	845	-63.23	-70.45	-5.5
182	SLD 14	-56	-1	851	-63.63	-70.88	-4.29
182	SLD 15	-68	-37	570	-42.6	-47.46	-8.16
182	SLD 16	-56	-33	575	-42.99	-47.9	-6.94
182	SLV 1	80	21	811	-60.64	-67.55	7.7
182	SLV 2	99	27	819	-61.25	-68.24	9.61
182	SLV 3	79	-33	345	-25.77	-28.71	3.21
182	SLV 4	98	-26	353	-26.39	-29.4	5.13
182	SLV 5	20	77	1411	-105.51	-117.54	7.85
182	SLV 6	33	81	1416	-105.92	-118.01	9.14
182	SLV 7	16	-101	-143	10.71	11.93	-7.1
182	SLV 8	29	-97	-138	10.29	11.46	-5.81
182	SLV 9	-35	71	1457	-109.02	-121.45	3.22
182	SLV 10	-22	75	1463	-109.43	-121.92	4.52
182	SLV 11	-39	-107	-96	7.2	8.02	-11.73
182	SLV 12	-27	-103	-91	6.78	7.55	-10.43
182	SLV 13	-104	1	967	-72.33	-80.59	-7.72
182	SLV 14	-85	7	975	-72.95	-81.28	-5.8
182	SLV 15	-105	-53	501	-37.47	-41.75	-12.2
182	SLV 16	-87	-46	509	-38.09	-42.44	-10.28
182	SLV FO 1	89	24	826	-61.76	-68.81	8.59
182	SLV FO 2	109	31	835	-62.44	-69.57	10.7
182	SLV FO 3	87	-35	313	-23.41	-26.08	3.66
182	SLV FO 4	108	-28	322	-24.09	-26.84	5.77
182	SLV FO 5	23	86	1486	-111.12	-123.8	8.76
182	SLV FO 6	36	91	1492	-111.58	-124.31	10.18
182	SLV FO 7	18	-110	-223	16.71	18.62	-7.68
182	SLV FO 8	32	-105	-217	16.25	18.11	-6.26
182	SLV FO 9	-38	79	1537	-114.98	-128.1	3.68
182	SLV FO 10	-24	84	1543	-115.44	-128.61	5.1
182	SLV FO 11	-43	-116	-172	12.85	14.32	-12.77
182	SLV FO 12	-29	-112	-166	12.39	13.81	-11.35
182	SLV FO 13	-114	2	998	-74.63	-83.15	-8.36
182	SLV FO 14	-94	9	1007	-75.31	-83.9	-6.25
182	SLV FO 15	-115	-57	485	-36.28	-40.42	-13.29
182	SLV FO 16	-95	-50	494	-36.96	-41.18	-11.18
182	CRTFP Ux+	0	0	0	0	0	0
182	CRTFP Ux-	0	0	0	0	0	0
182	CRTFP Uy+	0	0	0	0	0	0
182	CRTFP Uy-	0	0	0	0	0	0
183	SLU 1	-3	-13	609	-45.52	-59.17	-1.45
183	SLU 2	-3	-10	627	-46.9	-60.96	-1.22
183	SLU 3	-3	-13	617	-46.15	-59.98	-1.49
183	SLU 4	-3	-12	628	-46.98	-61.06	-1.35
183	SLU 5	-3	-11	632	-47.26	-61.43	-1.25
183	SLU 6	-3	-13	622	-46.51	-60.45	-1.52
183	SLU 7	-3	-12	633	-47.33	-61.52	-1.38
183	SLU 8	-3	-13	618	-46.23	-60.09	-1.51
183	SLU 9	-3	-12	629	-47.06	-61.17	-1.37
183	SLU 10	-3	-12	708	-52.95	-68.83	-1.42
183	SLU 11	-4	-15	698	-52.2	-67.84	-1.69
183	SLU 12	-4	-13	709	-53.03	-68.92	-1.55
183	SLU 13	-4	-12	713	-53.31	-69.29	-1.45
183	SLU 14	-4	-15	703	-52.55	-68.31	-1.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
183	SLU 15	-4	-13	714	-53.38	-69.38	-1.58
183	SLU 16	-4	-15	699	-52.28	-67.96	-1.7
183	SLU 17	-4	-13	710	-53.11	-69.03	-1.57
183	SLU 18	-4	-15	724	-54.16	-70.4	-1.73
183	SLU 19	-4	-14	735	-54.99	-71.48	-1.59
183	SLU 20	-4	-15	729	-54.52	-70.86	-1.76
183	SLU 21	-4	-14	740	-55.35	-71.94	-1.62
183	SLU 22	-3	-14	688	-51.48	-66.91	-1.64
183	SLU 23	-3	-12	707	-52.86	-68.71	-1.41
183	SLU 24	-3	-15	697	-52.11	-67.72	-1.67
183	SLU 25	-3	-13	708	-52.93	-68.8	-1.54
183	SLU 26	-3	-12	711	-53.22	-69.17	-1.43
183	SLU 27	-3	-15	701	-52.46	-68.19	-1.7
183	SLU 28	-3	-13	712	-53.29	-69.27	-1.57
183	SLU 29	-3	-15	698	-52.19	-67.84	-1.69
183	SLU 30	-3	-13	709	-53.02	-68.91	-1.56
183	SLU 31	-4	-14	788	-58.91	-76.57	-1.6
183	SLU 32	-4	-16	777	-58.15	-75.59	-1.87
183	SLU 33	-4	-15	789	-58.98	-76.66	-1.73
183	SLU 34	-4	-14	792	-59.27	-77.03	-1.63
183	SLU 35	-4	-16	782	-58.51	-76.05	-1.9
183	SLU 36	-4	-15	793	-59.34	-77.13	-1.76
183	SLU 37	-4	-16	779	-58.24	-75.7	-1.89
183	SLU 38	-4	-15	790	-59.07	-76.78	-1.75
183	SLU 39	-4	-17	804	-60.12	-78.14	-1.92
183	SLU 40	-4	-15	815	-60.95	-79.22	-1.78
183	SLU 41	-4	-17	808	-60.47	-78.6	-1.95
183	SLU 42	-4	-15	820	-61.3	-79.68	-1.81
183	SLU 43	-4	-16	764	-57.14	-74.26	-1.82
183	SLU 44	-4	-14	782	-58.52	-76.06	-1.59
183	SLU 45	-4	-16	772	-57.76	-75.08	-1.86
183	SLU 46	-4	-15	783	-58.59	-76.16	-1.72
183	SLU 47	-4	-14	787	-58.88	-76.52	-1.62
183	SLU 48	-4	-16	777	-58.12	-75.54	-1.89
183	SLU 49	-4	-15	788	-58.95	-76.62	-1.75
183	SLU 50	-4	-16	773	-57.85	-75.19	-1.88
183	SLU 51	-4	-15	784	-58.68	-76.27	-1.74
183	SLU 52	-4	-15	863	-64.57	-83.92	-1.79
183	SLU 53	-4	-18	853	-63.81	-82.94	-2.06
183	SLU 54	-4	-16	864	-64.64	-84.02	-1.92
183	SLU 55	-4	-15	868	-64.92	-84.38	-1.82
183	SLU 56	-4	-18	858	-64.17	-83.4	-2.08
183	SLU 57	-4	-17	869	-65	-84.48	-1.95
183	SLU 58	-4	-18	854	-63.9	-83.05	-2.07
183	SLU 59	-4	-17	865	-64.73	-84.13	-1.94
183	SLU 60	-4	-18	879	-65.78	-85.49	-2.1
183	SLU 61	-4	-17	890	-66.61	-86.57	-1.96
183	SLU 62	-5	-18	884	-66.13	-85.96	-2.13
183	SLU 63	-5	-17	895	-66.96	-87.03	-1.99
183	SLU 64	-4	-18	843	-63.09	-82.01	-2.01
183	SLU 65	-4	-15	862	-64.47	-83.8	-1.78
183	SLU 66	-4	-18	852	-63.72	-82.82	-2.05
183	SLU 67	-4	-16	863	-64.55	-83.9	-1.91
183	SLU 68	-4	-15	867	-64.83	-84.27	-1.81
183	SLU 69	-4	-18	857	-64.08	-83.28	-2.07
183	SLU 70	-4	-17	868	-64.91	-84.36	-1.94
183	SLU 71	-4	-18	853	-63.81	-82.93	-2.06
183	SLU 72	-4	-17	864	-64.64	-84.01	-1.93
183	SLU 73	-5	-17	943	-70.52	-91.66	-1.97
183	SLU 74	-5	-19	933	-69.77	-90.68	-2.24
183	SLU 75	-5	-18	944	-70.6	-91.76	-2.1
183	SLU 76	-5	-17	948	-70.88	-92.13	-2
183	SLU 77	-5	-20	937	-70.12	-91.14	-2.27
183	SLU 78	-5	-18	949	-70.95	-92.22	-2.13
183	SLU 79	-5	-20	934	-69.85	-90.79	-2.26
183	SLU 80	-5	-18	945	-70.68	-91.87	-2.12
183	SLU 81	-5	-20	959	-71.73	-93.24	-2.29
183	SLU 82	-5	-18	970	-72.56	-94.31	-2.15
183	SLU 83	-5	-20	964	-72.09	-93.7	-2.32
183	SLU 84	-5	-19	975	-72.92	-94.78	-2.18
183	SLE RA 1	-3	-13	631	-47.22	-61.38	-1.5
183	SLE RA 2	-3	-12	644	-48.15	-62.58	-1.35
183	SLE RA 3	-3	-13	637	-47.64	-61.92	-1.53
183	SLE RA 4	-3	-12	644	-48.19	-62.64	-1.44
183	SLE RA 5	-3	-12	647	-48.38	-62.89	-1.37
183	SLE RA 6	-3	-14	640	-47.88	-62.23	-1.55
183	SLE RA 7	-3	-13	647	-48.43	-62.95	-1.46
183	SLE RA 8	-3	-13	638	-47.7	-62	-1.54
183	SLE RA 9	-3	-13	645	-48.25	-62.72	-1.45
183	SLE RA 10	-3	-13	698	-52.18	-67.82	-1.48
183	SLE RA 11	-3	-14	691	-51.67	-67.16	-1.66
183	SLE RA 12	-3	-13	698	-52.23	-67.88	-1.57
183	SLE RA 13	-3	-13	701	-52.41	-68.13	-1.5
183	SLE RA 14	-4	-15	694	-51.91	-67.47	-1.68
183	SLE RA 15	-4	-14	701	-52.46	-68.19	-1.59
183	SLE RA 16	-4	-14	692	-51.73	-67.24	-1.67
183	SLE RA 17	-4	-14	699	-52.28	-67.96	-1.58
183	SLE RA 18	-4	-15	708	-52.98	-68.87	-1.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
183	SLE RA 19	-4	-14	716	-53.54	-69.58	-1.6
183	SLE RA 20	-4	-15	712	-53.22	-69.18	-1.71
183	SLE RA 21	-4	-14	719	-53.77	-69.89	-1.62
183	SLE FR 1	-3	-13	631	-47.22	-61.38	-1.5
183	SLE FR 2	-3	-13	634	-47.41	-61.62	-1.47
183	SLE FR 3	-3	-13	633	-47.32	-61.5	-1.51
183	SLE FR 4	-3	-13	657	-49.14	-63.87	-1.53
183	SLE FR 5	-3	-14	656	-49.05	-63.75	-1.57
183	SLE FR 6	-3	-14	670	-50.1	-65.12	-1.6
183	SLE QP 1	-3	-13	631	-47.22	-61.38	-1.5
183	SLE QP 2	-3	-14	654	-48.95	-63.63	-1.56
183	SLD 1	50	7	734	-54.88	-71.33	4.33
183	SLD 2	61	11	739	-55.3	-71.88	5.64
183	SLD 3	49	-24	460	-34.38	-44.69	1.32
183	SLD 4	61	-20	465	-34.81	-45.25	2.63
183	SLD 5	12	38	1093	-81.74	-106.24	4.55
183	SLD 6	19	41	1096	-82.01	-106.6	5.4
183	SLD 7	9	-64	179	-13.43	-17.45	-5.5
183	SLD 8	17	-61	183	-13.7	-17.81	-4.65
183	SLD 9	-23	34	1126	-84.2	-109.44	1.53
183	SLD 10	-16	37	1129	-84.48	-109.8	2.38
183	SLD 11	-26	-68	212	-15.89	-20.65	-8.52
183	SLD 12	-18	-66	216	-16.17	-21.01	-7.67
183	SLD 13	-67	-8	843	-63.09	-82	-5.75
183	SLD 14	-55	-3	849	-63.52	-82.56	-4.44
183	SLD 15	-68	-38	570	-42.6	-55.37	-8.76
183	SLD 16	-56	-34	575	-43.03	-55.92	-7.45
183	SLV 1	79	20	796	-59.52	-77.37	7.84
183	SLV 2	98	27	805	-60.2	-78.24	9.9
183	SLV 3	78	-32	333	-24.89	-32.36	2.74
183	SLV 4	97	-25	342	-25.57	-33.23	4.8
183	SLV 5	20	74	1397	-104.52	-135.85	8.6
183	SLV 6	32	79	1403	-104.97	-136.44	9.99
183	SLV 7	16	-99	-146	10.91	14.18	-8.38
183	SLV 8	28	-95	-140	10.46	13.59	-7
183	SLV 9	-35	67	1449	-108.36	-140.85	3.88
183	SLV 10	-22	72	1455	-108.82	-141.43	5.26
183	SLV 11	-39	-106	-94	7.07	9.19	-13.11
183	SLV 12	-26	-101	-88	6.62	8.6	-11.72
183	SLV 13	-103	-2	967	-72.34	-94.02	-7.92
183	SLV 14	-84	5	976	-73.01	-94.89	-5.86
183	SLV 15	-104	-54	504	-37.71	-49.01	-13.02
183	SLV 16	-86	-47	513	-38.38	-49.88	-10.96
183	SLV FO 1	88	23	810	-60.58	-78.74	8.78
183	SLV FO 2	108	31	820	-61.32	-79.7	11.05
183	SLV FO 3	86	-34	301	-22.49	-29.23	3.17
183	SLV FO 4	106	-26	311	-23.23	-30.19	5.44
183	SLV FO 5	22	83	1472	-110.08	-143.07	9.62
183	SLV FO 6	36	88	1478	-110.57	-143.72	11.15
183	SLV FO 7	18	-108	-226	16.9	21.96	-9.06
183	SLV FO 8	31	-103	-219	16.4	21.32	-7.54
183	SLV FO 9	-38	75	1528	-114.3	-148.57	4.42
183	SLV FO 10	-24	81	1535	-114.8	-149.22	5.95
183	SLV FO 11	-42	-115	-169	12.67	16.47	-14.27
183	SLV FO 12	-29	-110	-163	12.17	15.82	-12.74
183	SLV FO 13	-113	-1	998	-74.68	-97.06	-8.56
183	SLV FO 14	-93	7	1008	-75.41	-98.02	-6.29
183	SLV FO 15	-114	-58	489	-36.58	-47.55	-14.17
183	SLV FO 16	-94	-51	499	-37.32	-48.51	-11.9
183	CRTFP Ux+	0	0	0	0	0	0
183	CRTFP Ux-	0	0	0	0	0	0
183	CRTFP Uy+	0	0	0	0	0	0
183	CRTFP Uy-	0	0	0	0	0	0
184	SLU 1	-3	-14	605	-45.22	-67.17	-1.74
184	SLU 2	-3	-11	623	-46.6	-69.22	-1.49
184	SLU 3	-3	-14	613	-45.84	-68.09	-1.79
184	SLU 4	-3	-13	624	-46.67	-69.32	-1.64
184	SLU 5	-3	-12	628	-46.95	-69.74	-1.52
184	SLU 6	-3	-14	617	-46.19	-68.61	-1.82
184	SLU 7	-3	-13	629	-47.02	-69.84	-1.67
184	SLU 8	-3	-14	614	-45.92	-68.21	-1.81
184	SLU 9	-3	-13	625	-46.75	-69.44	-1.66
184	SLU 10	-3	-13	703	-52.6	-78.13	-1.72
184	SLU 11	-4	-16	693	-51.84	-77	-2.02
184	SLU 12	-4	-14	704	-52.67	-78.23	-1.87
184	SLU 13	-4	-13	708	-52.95	-78.65	-1.75
184	SLU 14	-4	-16	698	-52.19	-77.52	-2.05
184	SLU 15	-4	-15	709	-53.02	-78.75	-1.9
184	SLU 16	-4	-16	694	-51.92	-77.12	-2.04
184	SLU 17	-4	-14	705	-52.75	-78.35	-1.89
184	SLU 18	-4	-16	719	-53.79	-79.9	-2.07
184	SLU 19	-4	-15	730	-54.62	-81.13	-1.92
184	SLU 20	-4	-16	724	-54.14	-80.42	-2.11
184	SLU 21	-4	-15	735	-54.97	-81.65	-1.95
184	SLU 22	-3	-15	684	-51.15	-75.98	-1.97
184	SLU 23	-3	-13	702	-52.53	-78.03	-1.71
184	SLU 24	-3	-16	692	-51.77	-76.9	-2.01
184	SLU 25	-3	-14	703	-52.59	-78.13	-1.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
184	SLU 26	-3	-13	707	-52.88	-78.55	-1.74
184	SLU 27	-4	-16	697	-52.12	-77.42	-2.04
184	SLU 28	-4	-15	708	-52.94	-78.64	-1.89
184	SLU 29	-4	-16	693	-51.85	-77.02	-2.03
184	SLU 30	-4	-15	704	-52.67	-78.25	-1.88
184	SLU 31	-4	-15	782	-58.53	-86.94	-1.94
184	SLU 32	-4	-17	772	-57.77	-85.81	-2.24
184	SLU 33	-4	-16	783	-58.59	-87.04	-2.09
184	SLU 34	-4	-15	787	-58.88	-87.46	-1.98
184	SLU 35	-4	-18	777	-58.12	-86.33	-2.27
184	SLU 36	-4	-16	788	-58.94	-87.56	-2.12
184	SLU 37	-4	-18	773	-57.85	-85.93	-2.26
184	SLU 38	-4	-16	784	-58.67	-87.16	-2.11
184	SLU 39	-4	-18	798	-59.72	-88.71	-2.3
184	SLU 40	-4	-16	809	-60.55	-89.94	-2.14
184	SLU 41	-4	-18	803	-60.07	-89.23	-2.33
184	SLU 42	-4	-17	814	-60.9	-90.46	-2.18
184	SLU 43	-4	-17	759	-56.75	-84.3	-2.19
184	SLU 44	-4	-15	777	-58.13	-86.35	-1.94
184	SLU 45	-4	-18	767	-57.37	-85.22	-2.23
184	SLU 46	-4	-16	778	-58.2	-86.45	-2.08
184	SLU 47	-4	-15	782	-58.48	-86.87	-1.97
184	SLU 48	-4	-18	772	-57.72	-85.74	-2.27
184	SLU 49	-4	-16	783	-58.55	-86.97	-2.11
184	SLU 50	-4	-18	768	-57.45	-85.34	-2.25
184	SLU 51	-4	-16	779	-58.28	-86.57	-2.1
184	SLU 52	-4	-17	857	-64.13	-95.27	-2.17
184	SLU 53	-4	-19	847	-63.37	-94.14	-2.47
184	SLU 54	-4	-18	858	-64.2	-95.36	-2.31
184	SLU 55	-4	-17	862	-64.48	-95.78	-2.2
184	SLU 56	-5	-19	852	-63.72	-94.65	-2.5
184	SLU 57	-5	-18	863	-64.55	-95.88	-2.35
184	SLU 58	-5	-19	848	-63.45	-94.25	-2.49
184	SLU 59	-5	-18	859	-64.28	-95.48	-2.33
184	SLU 60	-5	-20	873	-65.33	-97.04	-2.52
184	SLU 61	-5	-18	884	-66.15	-98.27	-2.37
184	SLU 62	-5	-20	878	-65.67	-97.56	-2.55
184	SLU 63	-5	-18	889	-66.5	-98.78	-2.4
184	SLU 64	-4	-19	838	-62.68	-93.11	-2.41
184	SLU 65	-4	-17	856	-64.06	-95.16	-2.16
184	SLU 66	-4	-19	846	-63.3	-94.03	-2.46
184	SLU 67	-4	-18	857	-64.13	-95.26	-2.3
184	SLU 68	-4	-17	861	-64.41	-95.68	-2.19
184	SLU 69	-4	-20	851	-63.65	-94.55	-2.49
184	SLU 70	-4	-18	862	-64.48	-95.78	-2.34
184	SLU 71	-4	-19	847	-63.38	-94.15	-2.48
184	SLU 72	-4	-18	858	-64.21	-95.38	-2.32
184	SLU 73	-5	-18	937	-70.06	-104.07	-2.39
184	SLU 74	-5	-21	926	-69.3	-102.94	-2.69
184	SLU 75	-5	-20	938	-70.13	-104.17	-2.54
184	SLU 76	-5	-19	941	-70.41	-104.59	-2.42
184	SLU 77	-5	-21	931	-69.65	-103.46	-2.72
184	SLU 78	-5	-20	942	-70.48	-104.69	-2.57
184	SLU 79	-5	-21	928	-69.38	-103.06	-2.71
184	SLU 80	-5	-20	939	-70.21	-104.29	-2.56
184	SLU 81	-5	-21	953	-71.25	-105.84	-2.74
184	SLU 82	-5	-20	964	-72.08	-107.07	-2.59
184	SLU 83	-5	-22	957	-71.6	-106.36	-2.78
184	SLU 84	-5	-20	968	-72.43	-107.59	-2.62
184	SLE RA 1	-3	-14	627	-46.91	-69.69	-1.81
184	SLE RA 2	-3	-13	639	-47.83	-71.05	-1.64
184	SLE RA 3	-3	-14	633	-47.33	-70.3	-1.84
184	SLE RA 4	-3	-14	640	-47.88	-71.12	-1.73
184	SLE RA 5	-3	-13	643	-48.07	-71.4	-1.66
184	SLE RA 6	-3	-15	636	-47.56	-70.65	-1.86
184	SLE RA 7	-3	-14	643	-48.11	-71.47	-1.76
184	SLE RA 8	-3	-15	633	-47.38	-70.38	-1.85
184	SLE RA 9	-3	-14	641	-47.93	-71.2	-1.75
184	SLE RA 10	-3	-14	693	-51.83	-77	-1.79
184	SLE RA 11	-4	-16	686	-51.33	-76.24	-1.99
184	SLE RA 12	-4	-15	694	-51.88	-77.06	-1.89
184	SLE RA 13	-3	-14	696	-52.07	-77.34	-1.81
184	SLE RA 14	-4	-16	689	-51.56	-76.59	-2.01
184	SLE RA 15	-4	-15	697	-52.11	-77.41	-1.91
184	SLE RA 16	-4	-16	687	-51.38	-76.32	-2
184	SLE RA 17	-4	-15	694	-51.93	-77.14	-1.9
184	SLE RA 18	-4	-16	704	-52.63	-78.18	-2.03
184	SLE RA 19	-4	-15	711	-53.18	-79	-1.93
184	SLE RA 20	-4	-16	707	-52.86	-78.52	-2.05
184	SLE RA 21	-4	-15	714	-53.41	-79.34	-1.95
184	SLE FR 1	-3	-14	627	-46.91	-69.69	-1.81
184	SLE FR 2	-3	-14	630	-47.1	-69.96	-1.77
184	SLE FR 3	-3	-14	628	-47.01	-69.83	-1.82
184	SLE FR 4	-3	-14	653	-48.81	-72.51	-1.84
184	SLE FR 5	-3	-15	651	-48.72	-72.37	-1.88
184	SLE FR 6	-3	-15	665	-49.77	-73.93	-1.92
184	SLE QP 1	-3	-14	627	-46.91	-69.69	-1.81
184	SLE QP 2	-3	-15	650	-48.63	-72.23	-1.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
184	SLD 1	49	6	724	-54.14	-80.42	4.28
184	SLD 2	61	11	730	-54.6	-81.1	5.69
184	SLD 3	48	-24	451	-33.75	-50.13	0.93
184	SLD 4	60	-19	457	-34.21	-50.81	2.34
184	SLD 5	12	36	1085	-81.13	-120.51	4.8
184	SLD 6	19	39	1089	-81.43	-120.95	5.72
184	SLD 7	9	-64	176	-13.16	-19.54	-6.35
184	SLD 8	17	-61	180	-13.46	-19.99	-5.44
184	SLD 9	-23	31	1120	-83.8	-124.48	1.69
184	SLD 10	-15	34	1124	-84.1	-124.92	2.61
184	SLD 11	-25	-68	212	-15.83	-23.52	-9.46
184	SLD 12	-18	-65	216	-16.13	-23.96	-8.55
184	SLD 13	-66	-10	843	-63.05	-93.65	-6.09
184	SLD 14	-55	-5	849	-63.51	-94.34	-4.68
184	SLD 15	-67	-40	570	-42.66	-63.36	-9.44
184	SLD 16	-55	-35	576	-43.12	-64.05	-8.02
184	SLV 1	79	19	783	-58.54	-86.96	7.95
184	SLV 2	97	27	792	-59.27	-88.04	10.17
184	SLV 3	77	-32	322	-24.09	-35.78	2.29
184	SLV 4	95	-24	332	-24.81	-36.86	4.52
184	SLV 5	20	71	1387	-103.73	-154.08	9.24
184	SLV 6	32	76	1393	-104.21	-154.8	10.73
184	SLV 7	16	-98	-149	11.13	16.53	-9.62
184	SLV 8	28	-93	-142	10.64	15.8	-8.12
184	SLV 9	-34	63	1442	-107.9	-160.27	4.37
184	SLV 10	-22	68	1449	-108.38	-161	5.87
184	SLV 11	-38	-105	-93	6.96	10.34	-14.48
184	SLV 12	-26	-100	-86	6.47	9.61	-12.98
184	SLV 13	-102	-6	968	-72.44	-107.61	-8.26
184	SLV 14	-84	2	978	-73.17	-108.69	-6.04
184	SLV 15	-103	-56	508	-37.99	-56.43	-13.92
184	SLV 16	-85	-48	518	-38.71	-57.51	-11.69
184	SLV FO 1	87	22	796	-59.53	-88.44	8.93
184	SLV FO 2	107	31	807	-60.33	-89.62	11.38
184	SLV FO 3	85	-33	289	-21.63	-32.13	2.71
184	SLV FO 4	105	-25	300	-22.43	-33.32	5.15
184	SLV FO 5	22	79	1460	-109.24	-162.26	10.35
184	SLV FO 6	36	85	1468	-109.77	-163.06	12
184	SLV FO 7	18	-106	-229	17.1	25.41	-10.39
184	SLV FO 8	31	-100	-221	16.57	24.61	-8.74
184	SLV FO 9	-37	71	1522	-113.82	-169.08	5
184	SLV FO 10	-24	77	1529	-114.36	-169.88	6.65
184	SLV FO 11	-42	-114	-167	12.52	18.59	-15.74
184	SLV FO 12	-29	-109	-160	11.98	17.79	-14.09
184	SLV FO 13	-112	-5	1000	-74.82	-111.15	-8.9
184	SLV FO 14	-92	4	1011	-75.62	-112.33	-6.45
184	SLV FO 15	-113	-60	494	-36.92	-54.85	-15.12
184	SLV FO 16	-93	-52	504	-37.72	-56.03	-12.68
184	CRTFP Ux+	0	0	0	0	0	0
184	CRTFP Ux-	0	0	0	0	0	0
184	CRTFP Uy+	0	0	0	0	0	0
184	CRTFP Uy-	0	0	0	0	0	0
185	SLU 1	-1	-7	297	-22.22	-37.14	-1.02
185	SLU 2	-1	-6	306	-22.9	-38.27	-0.88
185	SLU 3	-1	-7	301	-22.52	-37.64	-1.05
185	SLU 4	-1	-7	307	-22.93	-38.32	-0.96
185	SLU 5	-1	-6	308	-23.07	-38.56	-0.9
185	SLU 6	-2	-8	303	-22.69	-37.92	-1.06
185	SLU 7	-2	-7	309	-23.1	-38.61	-0.98
185	SLU 8	-2	-8	302	-22.56	-37.7	-1.06
185	SLU 9	-2	-7	307	-22.97	-38.38	-0.98
185	SLU 10	-2	-7	346	-25.85	-43.2	-1.02
185	SLU 11	-2	-8	341	-25.47	-42.56	-1.18
185	SLU 12	-2	-8	346	-25.88	-43.25	-1.1
185	SLU 13	-2	-7	348	-26.02	-43.48	-1.04
185	SLU 14	-2	-8	343	-25.64	-42.85	-1.2
185	SLU 15	-2	-8	348	-26.05	-43.53	-1.12
185	SLU 16	-2	-8	341	-25.51	-42.63	-1.19
185	SLU 17	-2	-8	346	-25.92	-43.31	-1.11
185	SLU 18	-2	-9	353	-26.43	-44.17	-1.21
185	SLU 19	-2	-8	359	-26.84	-44.85	-1.13
185	SLU 20	-2	-9	356	-26.6	-44.45	-1.23
185	SLU 21	-2	-8	361	-27.01	-45.13	-1.15
185	SLU 22	-2	-8	336	-25.14	-42.02	-1.15
185	SLU 23	-2	-7	345	-25.82	-43.15	-1.01
185	SLU 24	-2	-8	340	-25.44	-42.52	-1.18
185	SLU 25	-2	-8	346	-25.85	-43.2	-1.09
185	SLU 26	-2	-7	347	-25.99	-43.44	-1.03
185	SLU 27	-2	-9	342	-25.61	-42.8	-1.19
185	SLU 28	-2	-8	348	-26.02	-43.49	-1.11
185	SLU 29	-2	-8	341	-25.48	-42.58	-1.19
185	SLU 30	-2	-8	346	-25.89	-43.27	-1.1
185	SLU 31	-2	-8	385	-28.77	-48.08	-1.15
185	SLU 32	-2	-9	380	-28.39	-47.44	-1.31
185	SLU 33	-2	-9	385	-28.8	-48.13	-1.23
185	SLU 34	-2	-8	387	-28.94	-48.36	-1.17
185	SLU 35	-2	-9	382	-28.56	-47.73	-1.33
185	SLU 36	-2	-9	387	-28.97	-48.41	-1.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLU 37	-2	-9	380	-28.43	-47.51	-1.32
185	SLU 38	-2	-9	386	-28.84	-48.19	-1.24
185	SLU 39	-2	-10	392	-29.35	-49.05	-1.34
185	SLU 40	-2	-9	398	-29.76	-49.73	-1.26
185	SLU 41	-2	-10	395	-29.52	-49.33	-1.36
185	SLU 42	-2	-9	400	-29.93	-50.02	-1.28
185	SLU 43	-2	-9	373	-27.89	-46.6	-1.28
185	SLU 44	-2	-8	382	-28.57	-47.74	-1.15
185	SLU 45	-2	-9	377	-28.19	-47.11	-1.31
185	SLU 46	-2	-9	382	-28.6	-47.79	-1.23
185	SLU 47	-2	-8	384	-28.74	-48.02	-1.17
185	SLU 48	-2	-9	379	-28.36	-47.39	-1.33
185	SLU 49	-2	-9	385	-28.77	-48.07	-1.24
185	SLU 50	-2	-9	377	-28.23	-47.17	-1.32
185	SLU 51	-2	-9	383	-28.63	-47.85	-1.24
185	SLU 52	-2	-9	421	-31.51	-52.66	-1.28
185	SLU 53	-2	-10	416	-31.14	-52.03	-1.44
185	SLU 54	-2	-10	422	-31.54	-52.71	-1.36
185	SLU 55	-2	-9	424	-31.68	-52.95	-1.3
185	SLU 56	-2	-10	419	-31.3	-52.31	-1.46
185	SLU 57	-2	-10	424	-31.71	-53	-1.38
185	SLU 58	-2	-10	417	-31.17	-52.09	-1.45
185	SLU 59	-2	-10	422	-31.58	-52.78	-1.37
185	SLU 60	-2	-10	429	-32.1	-53.64	-1.47
185	SLU 61	-2	-10	435	-32.5	-54.32	-1.39
185	SLU 62	-2	-11	431	-32.27	-53.92	-1.49
185	SLU 63	-2	-10	437	-32.67	-54.6	-1.41
185	SLU 64	-2	-10	412	-30.81	-51.48	-1.41
185	SLU 65	-2	-9	421	-31.49	-52.62	-1.28
185	SLU 66	-2	-10	416	-31.11	-51.99	-1.44
185	SLU 67	-2	-10	421	-31.52	-52.67	-1.36
185	SLU 68	-2	-9	423	-31.66	-52.9	-1.29
185	SLU 69	-2	-10	418	-31.28	-52.27	-1.46
185	SLU 70	-2	-10	424	-31.69	-52.95	-1.37
185	SLU 71	-2	-10	416	-31.15	-52.05	-1.45
185	SLU 72	-2	-10	422	-31.56	-52.73	-1.37
185	SLU 73	-2	-10	460	-34.43	-57.54	-1.41
185	SLU 74	-2	-11	455	-34.06	-56.91	-1.57
185	SLU 75	-2	-11	461	-34.46	-57.59	-1.49
185	SLU 76	-2	-10	463	-34.6	-57.83	-1.43
185	SLU 77	-2	-11	458	-34.23	-57.19	-1.59
185	SLU 78	-2	-11	463	-34.63	-57.88	-1.51
185	SLU 79	-2	-11	456	-34.09	-56.97	-1.58
185	SLU 80	-2	-11	461	-34.5	-57.66	-1.5
185	SLU 81	-2	-11	468	-35.02	-58.52	-1.6
185	SLU 82	-2	-11	474	-35.42	-59.2	-1.52
185	SLU 83	-2	-12	470	-35.19	-58.8	-1.62
185	SLU 84	-2	-11	476	-35.59	-59.48	-1.54
185	SLE RA 1	-1	-8	308	-23.06	-38.53	-1.06
185	SLE RA 2	-1	-7	314	-23.51	-39.29	-0.97
185	SLE RA 3	-1	-8	311	-23.26	-38.87	-1.07
185	SLE RA 4	-1	-7	315	-23.53	-39.32	-1.02
185	SLE RA 5	-1	-7	316	-23.62	-39.48	-0.98
185	SLE RA 6	-2	-8	312	-23.37	-39.06	-1.09
185	SLE RA 7	-2	-7	316	-23.64	-39.51	-1.03
185	SLE RA 8	-2	-8	311	-23.28	-38.91	-1.08
185	SLE RA 9	-2	-7	315	-23.55	-39.36	-1.03
185	SLE RA 10	-2	-7	341	-25.47	-42.57	-1.06
185	SLE RA 11	-2	-8	337	-25.22	-42.15	-1.16
185	SLE RA 12	-2	-8	341	-25.49	-42.6	-1.11
185	SLE RA 13	-2	-8	342	-25.59	-42.76	-1.07
185	SLE RA 14	-2	-8	339	-25.33	-42.34	-1.18
185	SLE RA 15	-2	-8	342	-25.61	-42.79	-1.12
185	SLE RA 16	-2	-8	338	-25.25	-42.19	-1.17
185	SLE RA 17	-2	-8	341	-25.52	-42.64	-1.12
185	SLE RA 18	-2	-8	346	-25.86	-43.22	-1.19
185	SLE RA 19	-2	-8	349	-26.13	-43.67	-1.13
185	SLE RA 20	-2	-9	347	-25.98	-43.41	-1.2
185	SLE RA 21	-2	-8	351	-26.25	-43.86	-1.14
185	SLE FR 1	-1	-8	308	-23.06	-38.53	-1.06
185	SLE FR 2	-1	-7	309	-23.15	-38.68	-1.04
185	SLE FR 3	-1	-8	309	-23.1	-38.61	-1.06
185	SLE FR 4	-2	-8	321	-23.99	-40.09	-1.08
185	SLE FR 5	-2	-8	320	-23.94	-40.01	-1.1
185	SLE FR 6	-2	-8	327	-24.46	-40.87	-1.12
185	SLE QP 1	-1	-8	308	-23.06	-38.53	-1.06
185	SLE QP 2	-2	-8	319	-23.9	-39.94	-1.1
185	SLD 1	24	2	353	-26.43	-44.16	2.07
185	SLD 2	30	5	357	-26.67	-44.57	2.83
185	SLD 3	24	-12	219	-16.4	-27.4	0.27
185	SLD 4	29	-9	222	-16.64	-27.81	1.03
185	SLD 5	6	16	532	-39.83	-66.55	2.45
185	SLD 6	9	18	535	-39.98	-66.82	2.94
185	SLD 7	4	-31	85	-6.39	-10.68	-3.55
185	SLD 8	8	-30	88	-6.55	-10.95	-3.06
185	SLD 9	-11	14	551	-41.25	-68.93	0.87
185	SLD 10	-8	16	554	-41.4	-69.19	1.36
185	SLD 11	-12	-34	104	-7.81	-13.05	-5.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
185	SLD 12	-9	-32	107	-7.97	-13.32	-4.65
185	SLD 13	-32	-6	417	-31.16	-52.07	-3.22
185	SLD 14	-27	-4	420	-31.4	-52.47	-2.46
185	SLD 15	-33	-21	282	-21.13	-35.3	-5.02
185	SLD 16	-27	-18	286	-21.37	-35.71	-4.26
185	SLV 1	38	9	381	-28.49	-47.61	3.97
185	SLV 2	47	13	386	-28.88	-48.26	5.15
185	SLV 3	38	-15	154	-11.54	-19.29	0.92
185	SLV 4	47	-11	159	-11.93	-19.93	2.11
185	SLV 5	10	33	681	-50.91	-85.08	4.82
185	SLV 6	16	36	684	-51.17	-85.51	5.62
185	SLV 7	8	-48	-75	5.59	9.33	-5.33
185	SLV 8	14	-45	-71	5.33	8.9	-4.53
185	SLV 9	-17	29	710	-53.12	-88.77	2.34
185	SLV 10	-11	32	714	-53.38	-89.21	3.14
185	SLV 11	-19	-52	-45	3.37	5.64	-7.81
185	SLV 12	-13	-49	-42	3.11	5.2	-7.01
185	SLV 13	-50	-5	480	-35.87	-59.94	-4.3
185	SLV 14	-41	0	485	-36.25	-60.58	-3.12
185	SLV 15	-50	-29	253	-18.92	-31.62	-7.35
185	SLV 16	-41	-25	258	-19.31	-32.26	-6.16
185	SLV FO 1	42	11	387	-28.95	-48.38	4.47
185	SLV FO 2	52	15	393	-29.37	-49.09	5.78
185	SLV FO 3	42	-16	138	-10.31	-17.22	1.12
185	SLV FO 4	51	-11	143	-10.73	-17.93	2.43
185	SLV FO 5	11	37	717	-53.61	-89.59	5.41
185	SLV FO 6	17	40	721	-53.9	-90.07	6.29
185	SLV FO 7	9	-51	-114	8.53	14.26	-5.75
185	SLV FO 8	15	-48	-110	8.25	13.78	-4.87
185	SLV FO 9	-18	33	749	-56.05	-93.66	2.68
185	SLV FO 10	-12	36	753	-56.33	-94.14	3.56
185	SLV FO 11	-20	-56	-82	6.1	10.19	-8.48
185	SLV FO 12	-14	-53	-78	5.81	9.72	-7.6
185	SLV FO 13	-54	-4	496	-37.07	-61.94	-4.62
185	SLV FO 14	-45	0	501	-37.49	-62.65	-3.32
185	SLV FO 15	-55	-31	246	-18.42	-30.79	-7.97
185	SLV FO 16	-45	-26	252	-18.85	-31.49	-6.67
185	CRTFP Ux+	0	0	0	0	0	0
185	CRTFP Ux-	0	0	0	0	0	0
185	CRTFP Uy+	0	0	0	0	0	0
185	CRTFP Uy-	0	0	0	0	0	0
196	SLU 1	-5	-17	933	0	0	0
196	SLU 2	-5	-14	960	0	0	0
196	SLU 3	-5	-18	947	0	0	0
196	SLU 4	-5	-16	963	0	0	0
196	SLU 5	-5	-14	968	0	0	0
196	SLU 6	-5	-18	956	0	0	0
196	SLU 7	-5	-16	972	0	0	0
196	SLU 8	-5	-18	950	0	0	0
196	SLU 9	-5	-16	966	0	0	0
196	SLU 10	-5	-16	1085	0	0	0
196	SLU 11	-5	-20	1073	0	0	0
196	SLU 12	-5	-18	1089	0	0	0
196	SLU 13	-5	-16	1094	0	0	0
196	SLU 14	-5	-20	1081	0	0	0
196	SLU 15	-5	-18	1097	0	0	0
196	SLU 16	-5	-20	1076	0	0	0
196	SLU 17	-5	-18	1092	0	0	0
196	SLU 18	-5	-20	1113	0	0	0
196	SLU 19	-5	-18	1128	0	0	0
196	SLU 20	-5	-20	1121	0	0	0
196	SLU 21	-5	-18	1137	0	0	0
196	SLU 22	-6	-19	1059	0	0	0
196	SLU 23	-6	-16	1085	0	0	0
196	SLU 24	-6	-20	1073	0	0	0
196	SLU 25	-6	-18	1089	0	0	0
196	SLU 26	-6	-16	1094	0	0	0
196	SLU 27	-6	-20	1081	0	0	0
196	SLU 28	-6	-18	1097	0	0	0
196	SLU 29	-6	-20	1076	0	0	0
196	SLU 30	-6	-18	1092	0	0	0
196	SLU 31	-6	-18	1210	0	0	0
196	SLU 32	-6	-22	1198	0	0	0
196	SLU 33	-6	-20	1214	0	0	0
196	SLU 34	-6	-18	1219	0	0	0
196	SLU 35	-6	-22	1207	0	0	0
196	SLU 36	-6	-20	1223	0	0	0
196	SLU 37	-6	-22	1201	0	0	0
196	SLU 38	-6	-20	1217	0	0	0
196	SLU 39	-6	-22	1238	0	0	0
196	SLU 40	-6	-20	1254	0	0	0
196	SLU 41	-6	-22	1246	0	0	0
196	SLU 42	-6	-20	1262	0	0	0
196	SLU 43	-6	-22	1170	0	0	0
196	SLU 44	-7	-18	1197	0	0	0
196	SLU 45	-6	-22	1184	0	0	0
196	SLU 46	-7	-20	1200	0	0	0
196	SLU 47	-7	-19	1205	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
196	SLU 48	-7	-22	1193	0	0	0
196	SLU 49	-7	-20	1209	0	0	0
196	SLU 50	-7	-22	1187	0	0	0
196	SLU 51	-7	-20	1203	0	0	0
196	SLU 52	-7	-20	1322	0	0	0
196	SLU 53	-6	-24	1310	0	0	0
196	SLU 54	-7	-22	1326	0	0	0
196	SLU 55	-7	-21	1331	0	0	0
196	SLU 56	-6	-24	1318	0	0	0
196	SLU 57	-7	-22	1334	0	0	0
196	SLU 58	-6	-24	1313	0	0	0
196	SLU 59	-7	-22	1329	0	0	0
196	SLU 60	-6	-25	1350	0	0	0
196	SLU 61	-6	-23	1365	0	0	0
196	SLU 62	-6	-25	1358	0	0	0
196	SLU 63	-7	-23	1374	0	0	0
196	SLU 64	-7	-24	1296	0	0	0
196	SLU 65	-7	-20	1322	0	0	0
196	SLU 66	-7	-24	1310	0	0	0
196	SLU 67	-7	-22	1326	0	0	0
196	SLU 68	-7	-21	1331	0	0	0
196	SLU 69	-7	-25	1318	0	0	0
196	SLU 70	-7	-22	1334	0	0	0
196	SLU 71	-7	-24	1313	0	0	0
196	SLU 72	-7	-22	1329	0	0	0
196	SLU 73	-7	-22	1448	0	0	0
196	SLU 74	-7	-26	1435	0	0	0
196	SLU 75	-7	-24	1451	0	0	0
196	SLU 76	-7	-23	1456	0	0	0
196	SLU 77	-7	-26	1444	0	0	0
196	SLU 78	-7	-24	1460	0	0	0
196	SLU 79	-7	-26	1438	0	0	0
196	SLU 80	-7	-24	1454	0	0	0
196	SLU 81	-7	-27	1475	0	0	0
196	SLU 82	-7	-25	1491	0	0	0
196	SLU 83	-7	-27	1483	0	0	0
196	SLU 84	-7	-25	1499	0	0	0
196	SLE RA 1	-5	-18	969	0	0	0
196	SLE RA 2	-5	-16	987	0	0	0
196	SLE RA 3	-5	-18	978	0	0	0
196	SLE RA 4	-5	-17	989	0	0	0
196	SLE RA 5	-6	-16	992	0	0	0
196	SLE RA 6	-5	-18	984	0	0	0
196	SLE RA 7	-6	-17	995	0	0	0
196	SLE RA 8	-5	-18	980	0	0	0
196	SLE RA 9	-6	-17	991	0	0	0
196	SLE RA 10	-5	-17	1070	0	0	0
196	SLE RA 11	-5	-19	1062	0	0	0
196	SLE RA 12	-5	-18	1073	0	0	0
196	SLE RA 13	-6	-17	1076	0	0	0
196	SLE RA 14	-5	-20	1068	0	0	0
196	SLE RA 15	-6	-18	1078	0	0	0
196	SLE RA 16	-5	-20	1064	0	0	0
196	SLE RA 17	-5	-18	1075	0	0	0
196	SLE RA 18	-5	-20	1089	0	0	0
196	SLE RA 19	-5	-18	1099	0	0	0
196	SLE RA 20	-5	-20	1094	0	0	0
196	SLE RA 21	-5	-19	1105	0	0	0
196	SLE FR 1	-5	-18	969	0	0	0
196	SLE FR 2	-5	-17	973	0	0	0
196	SLE FR 3	-5	-18	971	0	0	0
196	SLE FR 4	-5	-18	1008	0	0	0
196	SLE FR 5	-5	-19	1007	0	0	0
196	SLE FR 6	-5	-19	1029	0	0	0
196	SLE QP 1	-5	-18	969	0	0	0
196	SLE QP 2	-5	-18	1005	0	0	0
196	SLD 1	72	-3	1285	0	0	0
196	SLD 2	89	-11	1276	0	0	0
196	SLD 3	74	-46	892	0	0	0
196	SLD 4	91	-54	883	0	0	0
196	SLD 5	12	54	1687	0	0	0
196	SLD 6	23	49	1681	0	0	0
196	SLD 7	19	-92	376	0	0	0
196	SLD 8	30	-97	370	0	0	0
196	SLD 9	-40	60	1640	0	0	0
196	SLD 10	-29	55	1634	0	0	0
196	SLD 11	-33	-86	329	0	0	0
196	SLD 12	-22	-91	323	0	0	0
196	SLD 13	-102	17	1127	0	0	0
196	SLD 14	-85	9	1118	0	0	0
196	SLD 15	-100	-26	734	0	0	0
196	SLD 16	-82	-34	724	0	0	0
196	SLV 1	115	9	1468	0	0	0
196	SLV 2	143	-4	1454	0	0	0
196	SLV 3	119	-65	803	0	0	0
196	SLV 4	146	-77	789	0	0	0
196	SLV 5	20	104	2155	0	0	0
196	SLV 6	39	96	2145	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
196	SLV 7	32	-142	-61	0	0	0
196	SLV 8	51	-150	-71	0	0	0
196	SLV 9	-61	113	2081	0	0	0
196	SLV 10	-43	105	2071	0	0	0
196	SLV 11	-49	-132	-135	0	0	0
196	SLV 12	-31	-141	-145	0	0	0
196	SLV 13	-157	40	1221	0	0	0
196	SLV 14	-129	28	1206	0	0	0
196	SLV 15	-153	-33	556	0	0	0
196	SLV 16	-126	-46	542	0	0	0
196	SLV FO 1	127	12	1515	0	0	0
196	SLV FO 2	157	-2	1499	0	0	0
196	SLV FO 3	131	-69	783	0	0	0
196	SLV FO 4	161	-83	767	0	0	0
196	SLV FO 5	23	116	2270	0	0	0
196	SLV FO 6	43	107	2259	0	0	0
196	SLV FO 7	36	-154	-168	0	0	0
196	SLV FO 8	56	-163	-178	0	0	0
196	SLV FO 9	-67	126	2188	0	0	0
196	SLV FO 10	-46	117	2177	0	0	0
196	SLV FO 11	-54	-144	-249	0	0	0
196	SLV FO 12	-34	-153	-260	0	0	0
196	SLV FO 13	-172	46	1242	0	0	0
196	SLV FO 14	-142	33	1227	0	0	0
196	SLV FO 15	-168	-35	511	0	0	0
196	SLV FO 16	-138	-49	495	0	0	0
196	CRTFP Uy+	0	0	0	0	0	0
196	CRTFP Uy-	0	0	0	0	0	0
197	SLU 1	-5	-15	937	0	0	0
197	SLU 2	-5	-11	963	0	0	0
197	SLU 3	-5	-15	951	0	0	0
197	SLU 4	-5	-13	967	0	0	0
197	SLU 5	-6	-11	972	0	0	0
197	SLU 6	-5	-15	960	0	0	0
197	SLU 7	-6	-13	976	0	0	0
197	SLU 8	-5	-15	954	0	0	0
197	SLU 9	-5	-13	970	0	0	0
197	SLU 10	-5	-13	1090	0	0	0
197	SLU 11	-5	-17	1077	0	0	0
197	SLU 12	-5	-15	1093	0	0	0
197	SLU 13	-5	-13	1098	0	0	0
197	SLU 14	-5	-17	1086	0	0	0
197	SLU 15	-5	-15	1102	0	0	0
197	SLU 16	-5	-17	1080	0	0	0
197	SLU 17	-5	-15	1096	0	0	0
197	SLU 18	-5	-17	1117	0	0	0
197	SLU 19	-5	-15	1133	0	0	0
197	SLU 20	-5	-17	1126	0	0	0
197	SLU 21	-5	-15	1142	0	0	0
197	SLU 22	-6	-17	1062	0	0	0
197	SLU 23	-6	-13	1089	0	0	0
197	SLU 24	-6	-17	1077	0	0	0
197	SLU 25	-6	-15	1092	0	0	0
197	SLU 26	-6	-13	1097	0	0	0
197	SLU 27	-6	-17	1085	0	0	0
197	SLU 28	-6	-15	1101	0	0	0
197	SLU 29	-6	-17	1080	0	0	0
197	SLU 30	-6	-15	1095	0	0	0
197	SLU 31	-6	-15	1215	0	0	0
197	SLU 32	-6	-19	1203	0	0	0
197	SLU 33	-6	-16	1218	0	0	0
197	SLU 34	-6	-15	1224	0	0	0
197	SLU 35	-6	-19	1211	0	0	0
197	SLU 36	-6	-17	1227	0	0	0
197	SLU 37	-6	-19	1206	0	0	0
197	SLU 38	-6	-17	1222	0	0	0
197	SLU 39	-6	-19	1243	0	0	0
197	SLU 40	-6	-17	1258	0	0	0
197	SLU 41	-6	-19	1251	0	0	0
197	SLU 42	-6	-17	1267	0	0	0
197	SLU 43	-6	-19	1175	0	0	0
197	SLU 44	-7	-15	1202	0	0	0
197	SLU 45	-6	-19	1189	0	0	0
197	SLU 46	-7	-17	1205	0	0	0
197	SLU 47	-7	-15	1210	0	0	0
197	SLU 48	-7	-19	1198	0	0	0
197	SLU 49	-7	-17	1214	0	0	0
197	SLU 50	-7	-19	1192	0	0	0
197	SLU 51	-7	-17	1208	0	0	0
197	SLU 52	-7	-17	1328	0	0	0
197	SLU 53	-6	-21	1315	0	0	0
197	SLU 54	-7	-19	1331	0	0	0
197	SLU 55	-7	-17	1336	0	0	0
197	SLU 56	-7	-21	1324	0	0	0
197	SLU 57	-7	-19	1340	0	0	0
197	SLU 58	-7	-21	1318	0	0	0
197	SLU 59	-7	-19	1334	0	0	0
197	SLU 60	-6	-21	1355	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLU 61	-6	-19	1371	0	0	0
197	SLU 62	-6	-21	1364	0	0	0
197	SLU 63	-7	-19	1380	0	0	0
197	SLU 64	-7	-20	1300	0	0	0
197	SLU 65	-7	-17	1327	0	0	0
197	SLU 66	-7	-21	1315	0	0	0
197	SLU 67	-7	-19	1330	0	0	0
197	SLU 68	-8	-17	1336	0	0	0
197	SLU 69	-7	-21	1323	0	0	0
197	SLU 70	-8	-19	1339	0	0	0
197	SLU 71	-7	-21	1318	0	0	0
197	SLU 72	-8	-19	1334	0	0	0
197	SLU 73	-7	-19	1453	0	0	0
197	SLU 74	-7	-22	1441	0	0	0
197	SLU 75	-7	-20	1457	0	0	0
197	SLU 76	-7	-19	1462	0	0	0
197	SLU 77	-7	-23	1449	0	0	0
197	SLU 78	-7	-20	1465	0	0	0
197	SLU 79	-7	-23	1444	0	0	0
197	SLU 80	-7	-20	1460	0	0	0
197	SLU 81	-7	-23	1481	0	0	0
197	SLU 82	-7	-21	1496	0	0	0
197	SLU 83	-7	-23	1489	0	0	0
197	SLU 84	-7	-21	1505	0	0	0
197	SLE RA 1	-5	-15	973	0	0	0
197	SLE RA 2	-6	-13	990	0	0	0
197	SLE RA 3	-5	-16	982	0	0	0
197	SLE RA 4	-6	-14	993	0	0	0
197	SLE RA 5	-6	-13	996	0	0	0
197	SLE RA 6	-5	-16	988	0	0	0
197	SLE RA 7	-6	-14	999	0	0	0
197	SLE RA 8	-5	-16	984	0	0	0
197	SLE RA 9	-6	-14	995	0	0	0
197	SLE RA 10	-5	-14	1075	0	0	0
197	SLE RA 11	-5	-17	1066	0	0	0
197	SLE RA 12	-5	-15	1077	0	0	0
197	SLE RA 13	-6	-14	1080	0	0	0
197	SLE RA 14	-5	-17	1072	0	0	0
197	SLE RA 15	-6	-15	1083	0	0	0
197	SLE RA 16	-5	-17	1068	0	0	0
197	SLE RA 17	-6	-15	1079	0	0	0
197	SLE RA 18	-5	-17	1093	0	0	0
197	SLE RA 19	-5	-15	1103	0	0	0
197	SLE RA 20	-5	-17	1099	0	0	0
197	SLE RA 21	-5	-16	1109	0	0	0
197	SLE FR 1	-5	-15	973	0	0	0
197	SLE FR 2	-5	-15	976	0	0	0
197	SLE FR 3	-5	-15	975	0	0	0
197	SLE FR 4	-5	-15	1012	0	0	0
197	SLE FR 5	-5	-16	1011	0	0	0
197	SLE FR 6	-5	-16	1033	0	0	0
197	SLE QP 1	-5	-15	973	0	0	0
197	SLE QP 2	-5	-16	1009	0	0	0
197	SLD 1	73	2	1282	0	0	0
197	SLD 2	90	-6	1274	0	0	0
197	SLD 3	75	-44	887	0	0	0
197	SLD 4	93	-51	879	0	0	0
197	SLD 5	12	59	1691	0	0	0
197	SLD 6	23	55	1685	0	0	0
197	SLD 7	19	-92	375	0	0	0
197	SLD 8	30	-96	370	0	0	0
197	SLD 9	-41	65	1648	0	0	0
197	SLD 10	-30	60	1642	0	0	0
197	SLD 11	-34	-86	332	0	0	0
197	SLD 12	-22	-91	327	0	0	0
197	SLD 13	-103	19	1139	0	0	0
197	SLD 14	-86	12	1130	0	0	0
197	SLD 15	-101	-26	744	0	0	0
197	SLD 16	-83	-33	736	0	0	0
197	SLV 1	117	14	1461	0	0	0
197	SLV 2	144	3	1448	0	0	0
197	SLV 3	120	-62	794	0	0	0
197	SLV 4	148	-73	781	0	0	0
197	SLV 5	21	111	2158	0	0	0
197	SLV 6	39	104	2149	0	0	0
197	SLV 7	33	-144	-65	0	0	0
197	SLV 8	51	-151	-73	0	0	0
197	SLV 9	-62	120	2091	0	0	0
197	SLV 10	-43	112	2082	0	0	0
197	SLV 11	-50	-135	-132	0	0	0
197	SLV 12	-31	-143	-141	0	0	0
197	SLV 13	-158	42	1237	0	0	0
197	SLV 14	-131	30	1224	0	0	0
197	SLV 15	-155	-35	570	0	0	0
197	SLV 16	-127	-46	557	0	0	0
197	SLV FO 1	129	17	1506	0	0	0
197	SLV FO 2	159	5	1491	0	0	0
197	SLV FO 3	133	-67	772	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLV FO 4	163	-79	758	0	0	0
197	SLV FO 5	23	124	2273	0	0	0
197	SLV FO 6	44	116	2263	0	0	0
197	SLV FO 7	36	-156	-172	0	0	0
197	SLV FO 8	57	-165	-182	0	0	0
197	SLV FO 9	-67	133	2199	0	0	0
197	SLV FO 10	-47	125	2190	0	0	0
197	SLV FO 11	-54	-147	-246	0	0	0
197	SLV FO 12	-34	-156	-256	0	0	0
197	SLV FO 13	-174	48	1260	0	0	0
197	SLV FO 14	-143	35	1245	0	0	0
197	SLV FO 15	-170	-37	526	0	0	0
197	SLV FO 16	-140	-49	512	0	0	0
197	CRTFP Uy+	0	0	0	0	0	0
197	CRTFP Uy-	0	0	0	0	0	0
198	SLU 1	-5	-13	946	0	0	0
198	SLU 2	-5	-9	973	0	0	0
198	SLU 3	-5	-13	960	0	0	0
198	SLU 4	-5	-11	976	0	0	0
198	SLU 5	-6	-9	981	0	0	0
198	SLU 6	-5	-13	969	0	0	0
198	SLU 7	-6	-11	985	0	0	0
198	SLU 8	-5	-13	963	0	0	0
198	SLU 9	-6	-11	979	0	0	0
198	SLU 10	-5	-10	1100	0	0	0
198	SLU 11	-5	-14	1088	0	0	0
198	SLU 12	-5	-12	1104	0	0	0
198	SLU 13	-5	-10	1109	0	0	0
198	SLU 14	-5	-14	1097	0	0	0
198	SLU 15	-6	-12	1112	0	0	0
198	SLU 16	-5	-14	1091	0	0	0
198	SLU 17	-5	-12	1107	0	0	0
198	SLU 18	-5	-15	1128	0	0	0
198	SLU 19	-5	-12	1144	0	0	0
198	SLU 20	-5	-15	1137	0	0	0
198	SLU 21	-5	-13	1153	0	0	0
198	SLU 22	-6	-14	1072	0	0	0
198	SLU 23	-6	-10	1099	0	0	0
198	SLU 24	-6	-14	1087	0	0	0
198	SLU 25	-6	-12	1103	0	0	0
198	SLU 26	-6	-10	1108	0	0	0
198	SLU 27	-6	-14	1095	0	0	0
198	SLU 28	-6	-12	1111	0	0	0
198	SLU 29	-6	-14	1090	0	0	0
198	SLU 30	-6	-12	1106	0	0	0
198	SLU 31	-6	-12	1227	0	0	0
198	SLU 32	-6	-16	1214	0	0	0
198	SLU 33	-6	-13	1230	0	0	0
198	SLU 34	-6	-12	1235	0	0	0
198	SLU 35	-6	-16	1223	0	0	0
198	SLU 36	-6	-14	1239	0	0	0
198	SLU 37	-6	-16	1217	0	0	0
198	SLU 38	-6	-14	1233	0	0	0
198	SLU 39	-6	-16	1255	0	0	0
198	SLU 40	-6	-14	1271	0	0	0
198	SLU 41	-6	-16	1263	0	0	0
198	SLU 42	-6	-14	1279	0	0	0
198	SLU 43	-6	-16	1186	0	0	0
198	SLU 44	-7	-12	1213	0	0	0
198	SLU 45	-7	-16	1201	0	0	0
198	SLU 46	-7	-14	1217	0	0	0
198	SLU 47	-7	-12	1222	0	0	0
198	SLU 48	-7	-16	1209	0	0	0
198	SLU 49	-7	-14	1225	0	0	0
198	SLU 50	-7	-16	1204	0	0	0
198	SLU 51	-7	-14	1220	0	0	0
198	SLU 52	-7	-14	1341	0	0	0
198	SLU 53	-6	-18	1328	0	0	0
198	SLU 54	-7	-15	1344	0	0	0
198	SLU 55	-7	-14	1349	0	0	0
198	SLU 56	-7	-18	1337	0	0	0
198	SLU 57	-7	-16	1353	0	0	0
198	SLU 58	-7	-18	1331	0	0	0
198	SLU 59	-7	-15	1347	0	0	0
198	SLU 60	-6	-18	1369	0	0	0
198	SLU 61	-7	-16	1385	0	0	0
198	SLU 62	-6	-18	1377	0	0	0
198	SLU 63	-7	-16	1393	0	0	0
198	SLU 64	-7	-17	1313	0	0	0
198	SLU 65	-7	-14	1339	0	0	0
198	SLU 66	-7	-18	1327	0	0	0
198	SLU 67	-7	-15	1343	0	0	0
198	SLU 68	-8	-14	1348	0	0	0
198	SLU 69	-7	-18	1336	0	0	0
198	SLU 70	-8	-16	1352	0	0	0
198	SLU 71	-7	-18	1330	0	0	0
198	SLU 72	-8	-15	1346	0	0	0
198	SLU 73	-7	-15	1467	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	SLU 74	-7	-19	1455	0	0	0
198	SLU 75	-7	-17	1471	0	0	0
198	SLU 76	-8	-15	1476	0	0	0
198	SLU 77	-7	-19	1463	0	0	0
198	SLU 78	-8	-17	1479	0	0	0
198	SLU 79	-7	-19	1458	0	0	0
198	SLU 80	-7	-17	1474	0	0	0
198	SLU 81	-7	-19	1495	0	0	0
198	SLU 82	-7	-17	1511	0	0	0
198	SLU 83	-7	-19	1504	0	0	0
198	SLU 84	-7	-17	1520	0	0	0
198	SLE RA 1	-5	-13	982	0	0	0
198	SLE RA 2	-6	-11	1000	0	0	0
198	SLE RA 3	-5	-13	992	0	0	0
198	SLE RA 4	-6	-12	1002	0	0	0
198	SLE RA 5	-6	-11	1006	0	0	0
198	SLE RA 6	-5	-13	997	0	0	0
198	SLE RA 7	-6	-12	1008	0	0	0
198	SLE RA 8	-5	-13	994	0	0	0
198	SLE RA 9	-6	-12	1004	0	0	0
198	SLE RA 10	-5	-11	1085	0	0	0
198	SLE RA 11	-5	-14	1077	0	0	0
198	SLE RA 12	-6	-13	1087	0	0	0
198	SLE RA 13	-6	-12	1091	0	0	0
198	SLE RA 14	-5	-14	1082	0	0	0
198	SLE RA 15	-6	-13	1093	0	0	0
198	SLE RA 16	-5	-14	1079	0	0	0
198	SLE RA 17	-6	-13	1089	0	0	0
198	SLE RA 18	-5	-14	1104	0	0	0
198	SLE RA 19	-5	-13	1114	0	0	0
198	SLE RA 20	-5	-14	1109	0	0	0
198	SLE RA 21	-5	-13	1120	0	0	0
198	SLE FR 1	-5	-13	982	0	0	0
198	SLE FR 2	-5	-13	986	0	0	0
198	SLE FR 3	-5	-13	984	0	0	0
198	SLE FR 4	-5	-13	1022	0	0	0
198	SLE FR 5	-5	-13	1021	0	0	0
198	SLE FR 6	-5	-14	1043	0	0	0
198	SLE QP 1	-5	-13	982	0	0	0
198	SLE QP 2	-5	-13	1019	0	0	0
198	SLD 1	74	6	1286	0	0	0
198	SLD 2	92	-1	1278	0	0	0
198	SLD 3	76	-41	887	0	0	0
198	SLD 4	94	-48	880	0	0	0
198	SLD 5	12	65	1704	0	0	0
198	SLD 6	24	60	1699	0	0	0
198	SLD 7	19	-92	377	0	0	0
198	SLD 8	31	-96	372	0	0	0
198	SLD 9	-41	69	1665	0	0	0
198	SLD 10	-30	65	1660	0	0	0
198	SLD 11	-34	-87	338	0	0	0
198	SLD 12	-23	-92	333	0	0	0
198	SLD 13	-105	21	1157	0	0	0
198	SLD 14	-87	14	1150	0	0	0
198	SLD 15	-102	-26	759	0	0	0
198	SLD 16	-85	-33	752	0	0	0
198	SLV 1	119	19	1461	0	0	0
198	SLV 2	147	9	1449	0	0	0
198	SLV 3	122	-60	788	0	0	0
198	SLV 4	150	-70	776	0	0	0
198	SLV 5	21	119	2174	0	0	0
198	SLV 6	40	112	2166	0	0	0
198	SLV 7	33	-146	-69	0	0	0
198	SLV 8	52	-153	-77	0	0	0
198	SLV 9	-62	126	2114	0	0	0
198	SLV 10	-43	119	2106	0	0	0
198	SLV 11	-51	-139	-129	0	0	0
198	SLV 12	-32	-146	-137	0	0	0
198	SLV 13	-161	43	1261	0	0	0
198	SLV 14	-133	33	1249	0	0	0
198	SLV 15	-157	-36	588	0	0	0
198	SLV 16	-129	-46	576	0	0	0
198	SLV FO 1	131	23	1505	0	0	0
198	SLV FO 2	162	11	1492	0	0	0
198	SLV FO 3	135	-65	765	0	0	0
198	SLV FO 4	166	-76	752	0	0	0
198	SLV FO 5	24	132	2289	0	0	0
198	SLV FO 6	45	124	2280	0	0	0
198	SLV FO 7	37	-159	-177	0	0	0
198	SLV FO 8	57	-167	-186	0	0	0
198	SLV FO 9	-68	140	2223	0	0	0
198	SLV FO 10	-47	132	2214	0	0	0
198	SLV FO 11	-55	-151	-243	0	0	0
198	SLV FO 12	-35	-159	-252	0	0	0
198	SLV FO 13	-176	49	1285	0	0	0
198	SLV FO 14	-145	38	1272	0	0	0
198	SLV FO 15	-172	-38	545	0	0	0
198	SLV FO 16	-142	-50	532	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	CRTFP Uy+	0	0	0	0	0	0
198	CRTFP Uy-	0	0	0	0	0	0
199	SLU 1	-5	-10	956	0	0	0
199	SLU 2	-5	-6	983	0	0	0
199	SLU 3	-5	-11	971	0	0	0
199	SLU 4	-5	-8	987	0	0	0
199	SLU 5	-6	-7	992	0	0	0
199	SLU 6	-5	-11	980	0	0	0
199	SLU 7	-6	-8	996	0	0	0
199	SLU 8	-5	-11	974	0	0	0
199	SLU 9	-6	-8	990	0	0	0
199	SLU 10	-5	-8	1112	0	0	0
199	SLU 11	-5	-12	1100	0	0	0
199	SLU 12	-5	-9	1116	0	0	0
199	SLU 13	-5	-8	1121	0	0	0
199	SLU 14	-5	-12	1109	0	0	0
199	SLU 15	-5	-10	1125	0	0	0
199	SLU 16	-5	-12	1103	0	0	0
199	SLU 17	-5	-9	1119	0	0	0
199	SLU 18	-5	-12	1141	0	0	0
199	SLU 19	-5	-10	1157	0	0	0
199	SLU 20	-5	-12	1150	0	0	0
199	SLU 21	-5	-10	1166	0	0	0
199	SLU 22	-6	-11	1084	0	0	0
199	SLU 23	-6	-8	1111	0	0	0
199	SLU 24	-6	-12	1098	0	0	0
199	SLU 25	-6	-9	1114	0	0	0
199	SLU 26	-6	-8	1119	0	0	0
199	SLU 27	-6	-12	1107	0	0	0
199	SLU 28	-6	-9	1123	0	0	0
199	SLU 29	-6	-12	1101	0	0	0
199	SLU 30	-6	-9	1117	0	0	0
199	SLU 31	-6	-9	1240	0	0	0
199	SLU 32	-6	-13	1228	0	0	0
199	SLU 33	-6	-10	1244	0	0	0
199	SLU 34	-6	-9	1249	0	0	0
199	SLU 35	-6	-13	1236	0	0	0
199	SLU 36	-6	-11	1252	0	0	0
199	SLU 37	-6	-13	1231	0	0	0
199	SLU 38	-6	-11	1247	0	0	0
199	SLU 39	-6	-13	1269	0	0	0
199	SLU 40	-6	-11	1285	0	0	0
199	SLU 41	-6	-13	1277	0	0	0
199	SLU 42	-6	-11	1293	0	0	0
199	SLU 43	-6	-13	1199	0	0	0
199	SLU 44	-7	-9	1226	0	0	0
199	SLU 45	-7	-13	1214	0	0	0
199	SLU 46	-7	-11	1230	0	0	0
199	SLU 47	-7	-9	1235	0	0	0
199	SLU 48	-7	-13	1223	0	0	0
199	SLU 49	-7	-11	1239	0	0	0
199	SLU 50	-7	-13	1217	0	0	0
199	SLU 51	-7	-11	1233	0	0	0
199	SLU 52	-7	-10	1355	0	0	0
199	SLU 53	-6	-14	1343	0	0	0
199	SLU 54	-7	-12	1359	0	0	0
199	SLU 55	-7	-11	1364	0	0	0
199	SLU 56	-7	-15	1352	0	0	0
199	SLU 57	-7	-12	1368	0	0	0
199	SLU 58	-7	-15	1346	0	0	0
199	SLU 59	-7	-12	1362	0	0	0
199	SLU 60	-6	-15	1384	0	0	0
199	SLU 61	-6	-12	1400	0	0	0
199	SLU 62	-6	-15	1393	0	0	0
199	SLU 63	-7	-13	1409	0	0	0
199	SLU 64	-7	-14	1327	0	0	0
199	SLU 65	-7	-10	1354	0	0	0
199	SLU 66	-7	-14	1341	0	0	0
199	SLU 67	-7	-12	1357	0	0	0
199	SLU 68	-8	-10	1362	0	0	0
199	SLU 69	-7	-15	1350	0	0	0
199	SLU 70	-8	-12	1366	0	0	0
199	SLU 71	-7	-15	1344	0	0	0
199	SLU 72	-8	-12	1361	0	0	0
199	SLU 73	-7	-11	1483	0	0	0
199	SLU 74	-7	-16	1471	0	0	0
199	SLU 75	-7	-13	1487	0	0	0
199	SLU 76	-7	-12	1492	0	0	0
199	SLU 77	-7	-16	1480	0	0	0
199	SLU 78	-8	-13	1496	0	0	0
199	SLU 79	-7	-16	1474	0	0	0
199	SLU 80	-7	-13	1490	0	0	0
199	SLU 81	-7	-16	1512	0	0	0
199	SLU 82	-7	-13	1528	0	0	0
199	SLU 83	-7	-16	1520	0	0	0
199	SLU 84	-7	-14	1537	0	0	0
199	SLE RA 1	-5	-11	993	0	0	0
199	SLE RA 2	-6	-8	1010	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
199	SLE RA 3	-5	-11	1002	0	0	0
199	SLE RA 4	-6	-9	1013	0	0	0
199	SLE RA 5	-6	-8	1016	0	0	0
199	SLE RA 6	-5	-11	1008	0	0	0
199	SLE RA 7	-6	-9	1019	0	0	0
199	SLE RA 8	-5	-11	1004	0	0	0
199	SLE RA 9	-6	-9	1015	0	0	0
199	SLE RA 10	-5	-9	1097	0	0	0
199	SLE RA 11	-5	-12	1089	0	0	0
199	SLE RA 12	-5	-10	1099	0	0	0
199	SLE RA 13	-6	-9	1103	0	0	0
199	SLE RA 14	-5	-12	1094	0	0	0
199	SLE RA 15	-6	-10	1105	0	0	0
199	SLE RA 16	-5	-12	1091	0	0	0
199	SLE RA 17	-6	-10	1101	0	0	0
199	SLE RA 18	-5	-12	1116	0	0	0
199	SLE RA 19	-5	-10	1127	0	0	0
199	SLE RA 20	-5	-12	1122	0	0	0
199	SLE RA 21	-5	-10	1132	0	0	0
199	SLE FR 1	-5	-11	993	0	0	0
199	SLE FR 2	-5	-10	996	0	0	0
199	SLE FR 3	-5	-11	995	0	0	0
199	SLE FR 4	-5	-10	1033	0	0	0
199	SLE FR 5	-5	-11	1032	0	0	0
199	SLE FR 6	-5	-11	1054	0	0	0
199	SLE QP 1	-5	-11	993	0	0	0
199	SLE QP 2	-5	-11	1030	0	0	0
199	SLD 1	75	10	1290	0	0	0
199	SLD 2	93	4	1283	0	0	0
199	SLD 3	77	-39	888	0	0	0
199	SLD 4	95	-45	881	0	0	0
199	SLD 5	13	70	1719	0	0	0
199	SLD 6	24	66	1714	0	0	0
199	SLD 7	19	-92	379	0	0	0
199	SLD 8	31	-96	374	0	0	0
199	SLD 9	-42	74	1685	0	0	0
199	SLD 10	-30	70	1681	0	0	0
199	SLD 11	-35	-88	345	0	0	0
199	SLD 12	-23	-92	340	0	0	0
199	SLD 13	-106	23	1178	0	0	0
199	SLD 14	-88	17	1171	0	0	0
199	SLD 15	-104	-26	776	0	0	0
199	SLD 16	-86	-32	769	0	0	0
199	SLV 1	120	24	1463	0	0	0
199	SLV 2	149	15	1452	0	0	0
199	SLV 3	124	-58	783	0	0	0
199	SLV 4	152	-67	772	0	0	0
199	SLV 5	22	126	2192	0	0	0
199	SLV 6	41	120	2185	0	0	0
199	SLV 7	33	-148	-73	0	0	0
199	SLV 8	52	-154	-80	0	0	0
199	SLV 9	-63	132	2139	0	0	0
199	SLV 10	-44	126	2132	0	0	0
199	SLV 11	-52	-142	-125	0	0	0
199	SLV 12	-33	-148	-133	0	0	0
199	SLV 13	-162	45	1287	0	0	0
199	SLV 14	-134	36	1276	0	0	0
199	SLV 15	-159	-37	607	0	0	0
199	SLV 16	-131	-46	597	0	0	0
199	SLV FO 1	133	28	1506	0	0	0
199	SLV FO 2	164	18	1494	0	0	0
199	SLV FO 3	136	-62	759	0	0	0
199	SLV FO 4	168	-73	747	0	0	0
199	SLV FO 5	25	140	2308	0	0	0
199	SLV FO 6	46	133	2300	0	0	0
199	SLV FO 7	37	-161	-183	0	0	0
199	SLV FO 8	58	-168	-191	0	0	0
199	SLV FO 9	-68	146	2250	0	0	0
199	SLV FO 10	-47	139	2242	0	0	0
199	SLV FO 11	-56	-155	-241	0	0	0
199	SLV FO 12	-35	-162	-249	0	0	0
199	SLV FO 13	-178	51	1313	0	0	0
199	SLV FO 14	-147	40	1301	0	0	0
199	SLV FO 15	-175	-40	565	0	0	0
199	SLV FO 16	-143	-50	553	0	0	0
199	CRTFP Uy+	0	0	0	0	0	0
199	CRTFP Uy-	0	0	0	0	0	0
200	SLU 1	-5	-8	968	0	0	0
200	SLU 2	-5	-4	995	0	0	0
200	SLU 3	-5	-8	983	0	0	0
200	SLU 4	-5	-6	999	0	0	0
200	SLU 5	-5	-4	1004	0	0	0
200	SLU 6	-5	-8	992	0	0	0
200	SLU 7	-6	-6	1008	0	0	0
200	SLU 8	-5	-8	986	0	0	0
200	SLU 9	-5	-6	1002	0	0	0
200	SLU 10	-5	-5	1126	0	0	0
200	SLU 11	-5	-9	1114	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	SLU 12	-5	-7	1130	0	0	0
200	SLU 13	-5	-5	1135	0	0	0
200	SLU 14	-5	-9	1123	0	0	0
200	SLU 15	-5	-7	1139	0	0	0
200	SLU 16	-5	-9	1117	0	0	0
200	SLU 17	-5	-7	1134	0	0	0
200	SLU 18	-5	-9	1156	0	0	0
200	SLU 19	-5	-7	1172	0	0	0
200	SLU 20	-5	-9	1165	0	0	0
200	SLU 21	-5	-7	1181	0	0	0
200	SLU 22	-6	-9	1097	0	0	0
200	SLU 23	-6	-5	1124	0	0	0
200	SLU 24	-6	-9	1112	0	0	0
200	SLU 25	-6	-6	1128	0	0	0
200	SLU 26	-6	-5	1133	0	0	0
200	SLU 27	-6	-9	1121	0	0	0
200	SLU 28	-6	-7	1137	0	0	0
200	SLU 29	-6	-9	1115	0	0	0
200	SLU 30	-6	-7	1131	0	0	0
200	SLU 31	-6	-6	1256	0	0	0
200	SLU 32	-6	-10	1243	0	0	0
200	SLU 33	-6	-7	1260	0	0	0
200	SLU 34	-6	-6	1265	0	0	0
200	SLU 35	-6	-10	1252	0	0	0
200	SLU 36	-6	-7	1269	0	0	0
200	SLU 37	-6	-10	1247	0	0	0
200	SLU 38	-6	-7	1263	0	0	0
200	SLU 39	-6	-10	1285	0	0	0
200	SLU 40	-6	-8	1301	0	0	0
200	SLU 41	-6	-10	1294	0	0	0
200	SLU 42	-6	-8	1310	0	0	0
200	SLU 43	-6	-10	1214	0	0	0
200	SLU 44	-7	-6	1241	0	0	0
200	SLU 45	-6	-10	1229	0	0	0
200	SLU 46	-7	-8	1245	0	0	0
200	SLU 47	-7	-6	1250	0	0	0
200	SLU 48	-7	-10	1238	0	0	0
200	SLU 49	-7	-8	1254	0	0	0
200	SLU 50	-7	-10	1232	0	0	0
200	SLU 51	-7	-8	1248	0	0	0
200	SLU 52	-7	-7	1373	0	0	0
200	SLU 53	-6	-11	1360	0	0	0
200	SLU 54	-7	-9	1377	0	0	0
200	SLU 55	-7	-7	1381	0	0	0
200	SLU 56	-7	-11	1369	0	0	0
200	SLU 57	-7	-9	1385	0	0	0
200	SLU 58	-7	-11	1363	0	0	0
200	SLU 59	-7	-9	1380	0	0	0
200	SLU 60	-6	-11	1402	0	0	0
200	SLU 61	-6	-9	1418	0	0	0
200	SLU 62	-6	-12	1411	0	0	0
200	SLU 63	-7	-9	1427	0	0	0
200	SLU 64	-7	-11	1343	0	0	0
200	SLU 65	-7	-7	1370	0	0	0
200	SLU 66	-7	-11	1358	0	0	0
200	SLU 67	-7	-9	1374	0	0	0
200	SLU 68	-7	-7	1379	0	0	0
200	SLU 69	-7	-11	1367	0	0	0
200	SLU 70	-8	-9	1383	0	0	0
200	SLU 71	-7	-11	1361	0	0	0
200	SLU 72	-7	-9	1377	0	0	0
200	SLU 73	-7	-8	1502	0	0	0
200	SLU 74	-7	-12	1490	0	0	0
200	SLU 75	-7	-10	1506	0	0	0
200	SLU 76	-7	-8	1511	0	0	0
200	SLU 77	-7	-12	1498	0	0	0
200	SLU 78	-7	-10	1515	0	0	0
200	SLU 79	-7	-12	1493	0	0	0
200	SLU 80	-7	-10	1509	0	0	0
200	SLU 81	-7	-12	1531	0	0	0
200	SLU 82	-7	-10	1547	0	0	0
200	SLU 83	-7	-12	1540	0	0	0
200	SLU 84	-7	-10	1556	0	0	0
200	SLE RA 1	-5	-8	1005	0	0	0
200	SLE RA 2	-5	-6	1023	0	0	0
200	SLE RA 3	-5	-8	1015	0	0	0
200	SLE RA 4	-6	-7	1026	0	0	0
200	SLE RA 5	-6	-6	1029	0	0	0
200	SLE RA 6	-5	-8	1021	0	0	0
200	SLE RA 7	-6	-7	1031	0	0	0
200	SLE RA 8	-5	-8	1017	0	0	0
200	SLE RA 9	-6	-7	1028	0	0	0
200	SLE RA 10	-5	-6	1111	0	0	0
200	SLE RA 11	-5	-9	1102	0	0	0
200	SLE RA 12	-5	-7	1113	0	0	0
200	SLE RA 13	-6	-6	1116	0	0	0
200	SLE RA 14	-5	-9	1108	0	0	0
200	SLE RA 15	-6	-7	1119	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	SLE RA 16	-5	-9	1104	0	0	0
200	SLE RA 17	-6	-7	1115	0	0	0
200	SLE RA 18	-5	-9	1130	0	0	0
200	SLE RA 19	-5	-7	1141	0	0	0
200	SLE RA 20	-5	-9	1136	0	0	0
200	SLE RA 21	-5	-8	1147	0	0	0
200	SLE FR 1	-5	-8	1005	0	0	0
200	SLE FR 2	-5	-8	1009	0	0	0
200	SLE FR 3	-5	-8	1007	0	0	0
200	SLE FR 4	-5	-8	1046	0	0	0
200	SLE FR 5	-5	-9	1045	0	0	0
200	SLE FR 6	-5	-9	1068	0	0	0
200	SLE QP 1	-5	-8	1005	0	0	0
200	SLE QP 2	-5	-8	1042	0	0	0
200	SLD 1	76	14	1297	0	0	0
200	SLD 2	94	9	1291	0	0	0
200	SLD 3	78	-36	891	0	0	0
200	SLD 4	96	-41	884	0	0	0
200	SLD 5	13	75	1737	0	0	0
200	SLD 6	25	72	1733	0	0	0
200	SLD 7	19	-92	381	0	0	0
200	SLD 8	31	-95	377	0	0	0
200	SLD 9	-42	78	1708	0	0	0
200	SLD 10	-30	75	1704	0	0	0
200	SLD 11	-35	-89	352	0	0	0
200	SLD 12	-24	-92	348	0	0	0
200	SLD 13	-106	24	1201	0	0	0
200	SLD 14	-88	19	1194	0	0	0
200	SLD 15	-105	-26	794	0	0	0
200	SLD 16	-86	-31	788	0	0	0
200	SLV 1	122	30	1466	0	0	0
200	SLV 2	150	21	1457	0	0	0
200	SLV 3	125	-55	779	0	0	0
200	SLV 4	153	-63	770	0	0	0
200	SLV 5	23	133	2214	0	0	0
200	SLV 6	42	127	2207	0	0	0
200	SLV 7	33	-149	-77	0	0	0
200	SLV 8	52	-155	-83	0	0	0
200	SLV 9	-63	138	2168	0	0	0
200	SLV 10	-44	132	2162	0	0	0
200	SLV 11	-52	-144	-122	0	0	0
200	SLV 12	-33	-150	-129	0	0	0
200	SLV 13	-164	46	1315	0	0	0
200	SLV 14	-135	38	1306	0	0	0
200	SLV 15	-161	-38	628	0	0	0
200	SLV 16	-132	-47	619	0	0	0
200	SLV FO 1	134	33	1509	0	0	0
200	SLV FO 2	166	24	1498	0	0	0
200	SLV FO 3	138	-60	753	0	0	0
200	SLV FO 4	169	-69	742	0	0	0
200	SLV FO 5	26	147	2331	0	0	0
200	SLV FO 6	47	141	2323	0	0	0
200	SLV FO 7	37	-163	-189	0	0	0
200	SLV FO 8	58	-169	-196	0	0	0
200	SLV FO 9	-69	152	2281	0	0	0
200	SLV FO 10	-47	146	2274	0	0	0
200	SLV FO 11	-57	-158	-238	0	0	0
200	SLV FO 12	-36	-164	-246	0	0	0
200	SLV FO 13	-180	52	1343	0	0	0
200	SLV FO 14	-148	43	1332	0	0	0
200	SLV FO 15	-176	-41	587	0	0	0
200	SLV FO 16	-145	-50	576	0	0	0
200	CRTFP Uy+	0	0	0	0	0	0
200	CRTFP Uy-	0	0	0	0	0	0
201	SLU 1	-5	-6	984	0	0	0
201	SLU 2	-5	-1	1011	0	0	0
201	SLU 3	-5	-6	999	0	0	0
201	SLU 4	-5	-3	1015	0	0	0
201	SLU 5	-6	-2	1020	0	0	0
201	SLU 6	-5	-6	1008	0	0	0
201	SLU 7	-6	-3	1024	0	0	0
201	SLU 8	-5	-6	1002	0	0	0
201	SLU 9	-6	-3	1018	0	0	0
201	SLU 10	-5	-2	1145	0	0	0
201	SLU 11	-5	-6	1133	0	0	0
201	SLU 12	-5	-4	1149	0	0	0
201	SLU 13	-6	-2	1154	0	0	0
201	SLU 14	-5	-6	1142	0	0	0
201	SLU 15	-6	-4	1158	0	0	0
201	SLU 16	-5	-6	1136	0	0	0
201	SLU 17	-6	-4	1152	0	0	0
201	SLU 18	-5	-6	1175	0	0	0
201	SLU 19	-5	-4	1192	0	0	0
201	SLU 20	-5	-7	1184	0	0	0
201	SLU 21	-5	-4	1201	0	0	0
201	SLU 22	-6	-6	1115	0	0	0
201	SLU 23	-6	-2	1142	0	0	0
201	SLU 24	-6	-6	1130	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
201	SLU 25	-6	-4	1146	0	0	0
201	SLU 26	-6	-2	1151	0	0	0
201	SLU 27	-6	-6	1139	0	0	0
201	SLU 28	-6	-4	1155	0	0	0
201	SLU 29	-6	-6	1133	0	0	0
201	SLU 30	-6	-4	1150	0	0	0
201	SLU 31	-6	-2	1276	0	0	0
201	SLU 32	-6	-7	1264	0	0	0
201	SLU 33	-6	-4	1281	0	0	0
201	SLU 34	-6	-3	1286	0	0	0
201	SLU 35	-6	-7	1273	0	0	0
201	SLU 36	-6	-4	1290	0	0	0
201	SLU 37	-6	-7	1267	0	0	0
201	SLU 38	-6	-4	1284	0	0	0
201	SLU 39	-6	-7	1307	0	0	0
201	SLU 40	-6	-4	1323	0	0	0
201	SLU 41	-6	-7	1316	0	0	0
201	SLU 42	-6	-4	1332	0	0	0
201	SLU 43	-6	-7	1234	0	0	0
201	SLU 44	-7	-3	1261	0	0	0
201	SLU 45	-7	-7	1249	0	0	0
201	SLU 46	-7	-5	1265	0	0	0
201	SLU 47	-7	-3	1270	0	0	0
201	SLU 48	-7	-7	1258	0	0	0
201	SLU 49	-7	-5	1274	0	0	0
201	SLU 50	-7	-7	1252	0	0	0
201	SLU 51	-7	-5	1268	0	0	0
201	SLU 52	-7	-4	1395	0	0	0
201	SLU 53	-7	-8	1383	0	0	0
201	SLU 54	-7	-5	1399	0	0	0
201	SLU 55	-7	-4	1404	0	0	0
201	SLU 56	-7	-8	1392	0	0	0
201	SLU 57	-7	-5	1408	0	0	0
201	SLU 58	-7	-8	1386	0	0	0
201	SLU 59	-7	-5	1402	0	0	0
201	SLU 60	-6	-8	1425	0	0	0
201	SLU 61	-7	-6	1442	0	0	0
201	SLU 62	-6	-8	1434	0	0	0
201	SLU 63	-7	-6	1451	0	0	0
201	SLU 64	-7	-8	1365	0	0	0
201	SLU 65	-7	-3	1392	0	0	0
201	SLU 66	-7	-8	1380	0	0	0
201	SLU 67	-7	-5	1396	0	0	0
201	SLU 68	-8	-4	1401	0	0	0
201	SLU 69	-7	-8	1389	0	0	0
201	SLU 70	-8	-5	1405	0	0	0
201	SLU 71	-7	-8	1383	0	0	0
201	SLU 72	-8	-5	1400	0	0	0
201	SLU 73	-7	-4	1526	0	0	0
201	SLU 74	-7	-8	1514	0	0	0
201	SLU 75	-7	-6	1531	0	0	0
201	SLU 76	-8	-4	1536	0	0	0
201	SLU 77	-7	-8	1523	0	0	0
201	SLU 78	-8	-6	1540	0	0	0
201	SLU 79	-7	-8	1517	0	0	0
201	SLU 80	-8	-6	1534	0	0	0
201	SLU 81	-7	-8	1557	0	0	0
201	SLU 82	-7	-6	1573	0	0	0
201	SLU 83	-7	-8	1566	0	0	0
201	SLU 84	-7	-6	1582	0	0	0
201	SLE RA 1	-5	-6	1021	0	0	0
201	SLE RA 2	-6	-3	1039	0	0	0
201	SLE RA 3	-5	-6	1031	0	0	0
201	SLE RA 4	-6	-4	1042	0	0	0
201	SLE RA 5	-6	-3	1045	0	0	0
201	SLE RA 6	-5	-6	1037	0	0	0
201	SLE RA 7	-6	-4	1048	0	0	0
201	SLE RA 8	-5	-6	1033	0	0	0
201	SLE RA 9	-6	-4	1044	0	0	0
201	SLE RA 10	-6	-3	1129	0	0	0
201	SLE RA 11	-5	-6	1121	0	0	0
201	SLE RA 12	-6	-5	1131	0	0	0
201	SLE RA 13	-6	-3	1135	0	0	0
201	SLE RA 14	-5	-6	1127	0	0	0
201	SLE RA 15	-6	-5	1138	0	0	0
201	SLE RA 16	-5	-6	1123	0	0	0
201	SLE RA 17	-6	-5	1134	0	0	0
201	SLE RA 18	-5	-6	1149	0	0	0
201	SLE RA 19	-5	-5	1160	0	0	0
201	SLE RA 20	-5	-6	1155	0	0	0
201	SLE RA 21	-6	-5	1166	0	0	0
201	SLE FR 1	-5	-6	1021	0	0	0
201	SLE FR 2	-5	-5	1025	0	0	0
201	SLE FR 3	-5	-6	1023	0	0	0
201	SLE FR 4	-5	-5	1063	0	0	0
201	SLE FR 5	-5	-6	1062	0	0	0
201	SLE FR 6	-5	-6	1085	0	0	0
201	SLE QP 1	-5	-6	1021	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
201	SLE QP 2	-5	-6	1059	0	0	0
201	SLD 1	77	18	1309	0	0	0
201	SLD 2	95	14	1303	0	0	0
201	SLD 3	78	-34	896	0	0	0
201	SLD 4	97	-38	891	0	0	0
201	SLD 5	13	80	1761	0	0	0
201	SLD 6	25	77	1757	0	0	0
201	SLD 7	19	-92	386	0	0	0
201	SLD 8	31	-94	382	0	0	0
201	SLD 9	-42	83	1737	0	0	0
201	SLD 10	-30	80	1733	0	0	0
201	SLD 11	-36	-89	362	0	0	0
201	SLD 12	-24	-92	358	0	0	0
201	SLD 13	-107	26	1228	0	0	0
201	SLD 14	-89	22	1222	0	0	0
201	SLD 15	-105	-25	815	0	0	0
201	SLD 16	-87	-30	810	0	0	0
201	SLV 1	123	35	1476	0	0	0
201	SLV 2	151	28	1467	0	0	0
201	SLV 3	126	-52	779	0	0	0
201	SLV 4	154	-59	770	0	0	0
201	SLV 5	23	140	2243	0	0	0
201	SLV 6	43	135	2237	0	0	0
201	SLV 7	33	-151	-81	0	0	0
201	SLV 8	52	-155	-86	0	0	0
201	SLV 9	-63	144	2205	0	0	0
201	SLV 10	-44	139	2199	0	0	0
201	SLV 11	-53	-147	-119	0	0	0
201	SLV 12	-34	-152	-124	0	0	0
201	SLV 13	-165	47	1349	0	0	0
201	SLV 14	-136	41	1340	0	0	0
201	SLV 15	-162	-40	652	0	0	0
201	SLV 16	-133	-47	643	0	0	0
201	SLV FO 1	135	39	1517	0	0	0
201	SLV FO 2	167	31	1508	0	0	0
201	SLV FO 3	139	-57	750	0	0	0
201	SLV FO 4	170	-65	741	0	0	0
201	SLV FO 5	26	154	2362	0	0	0
201	SLV FO 6	47	149	2355	0	0	0
201	SLV FO 7	37	-165	-195	0	0	0
201	SLV FO 8	58	-170	-201	0	0	0
201	SLV FO 9	-69	159	2320	0	0	0
201	SLV FO 10	-47	153	2313	0	0	0
201	SLV FO 11	-58	-161	-236	0	0	0
201	SLV FO 12	-37	-166	-243	0	0	0
201	SLV FO 13	-181	53	1378	0	0	0
201	SLV FO 14	-149	45	1368	0	0	0
201	SLV FO 15	-178	-43	611	0	0	0
201	SLV FO 16	-146	-51	602	0	0	0
201	CRTFP Uy+	0	0	0	0	0	0
201	CRTFP Uy-	0	0	0	0	0	0
202	SLU 1	-5	-3	1004	0	0	0
202	SLU 2	-5	1	1031	0	0	0
202	SLU 3	-5	-3	1019	0	0	0
202	SLU 4	-6	-1	1036	0	0	0
202	SLU 5	-6	1	1041	0	0	0
202	SLU 6	-6	-3	1029	0	0	0
202	SLU 7	-6	-1	1045	0	0	0
202	SLU 8	-5	-3	1023	0	0	0
202	SLU 9	-6	-1	1039	0	0	0
202	SLU 10	-6	1	1169	0	0	0
202	SLU 11	-5	-4	1157	0	0	0
202	SLU 12	-6	-1	1174	0	0	0
202	SLU 13	-6	1	1178	0	0	0
202	SLU 14	-6	-4	1166	0	0	0
202	SLU 15	-6	-1	1183	0	0	0
202	SLU 16	-6	-4	1160	0	0	0
202	SLU 17	-6	-1	1177	0	0	0
202	SLU 18	-5	-4	1200	0	0	0
202	SLU 19	-5	-1	1217	0	0	0
202	SLU 20	-5	-4	1210	0	0	0
202	SLU 21	-6	-1	1226	0	0	0
202	SLU 22	-6	-3	1138	0	0	0
202	SLU 23	-6	1	1166	0	0	0
202	SLU 24	-6	-3	1154	0	0	0
202	SLU 25	-6	-1	1170	0	0	0
202	SLU 26	-6	1	1175	0	0	0
202	SLU 27	-6	-3	1163	0	0	0
202	SLU 28	-6	-1	1180	0	0	0
202	SLU 29	-6	-3	1157	0	0	0
202	SLU 30	-6	-1	1173	0	0	0
202	SLU 31	-6	1	1303	0	0	0
202	SLU 32	-6	-4	1291	0	0	0
202	SLU 33	-6	-1	1308	0	0	0
202	SLU 34	-6	1	1313	0	0	0
202	SLU 35	-6	-4	1301	0	0	0
202	SLU 36	-6	-1	1317	0	0	0
202	SLU 37	-6	-4	1295	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
202	SLU 38	-6	-1	1311	0	0	0
202	SLU 39	-6	-4	1335	0	0	0
202	SLU 40	-6	-1	1351	0	0	0
202	SLU 41	-6	-4	1344	0	0	0
202	SLU 42	-6	-1	1361	0	0	0
202	SLU 43	-7	-4	1259	0	0	0
202	SLU 44	-7	0	1286	0	0	0
202	SLU 45	-7	-4	1274	0	0	0
202	SLU 46	-7	-2	1291	0	0	0
202	SLU 47	-7	0	1296	0	0	0
202	SLU 48	-7	-4	1284	0	0	0
202	SLU 49	-7	-2	1300	0	0	0
202	SLU 50	-7	-4	1278	0	0	0
202	SLU 51	-7	-2	1294	0	0	0
202	SLU 52	-7	0	1424	0	0	0
202	SLU 53	-7	-5	1412	0	0	0
202	SLU 54	-7	-2	1429	0	0	0
202	SLU 55	-7	0	1434	0	0	0
202	SLU 56	-7	-5	1421	0	0	0
202	SLU 57	-7	-2	1438	0	0	0
202	SLU 58	-7	-5	1415	0	0	0
202	SLU 59	-7	-2	1432	0	0	0
202	SLU 60	-7	-5	1456	0	0	0
202	SLU 61	-7	-2	1472	0	0	0
202	SLU 62	-7	-5	1465	0	0	0
202	SLU 63	-7	-2	1482	0	0	0
202	SLU 64	-7	-4	1393	0	0	0
202	SLU 65	-8	0	1421	0	0	0
202	SLU 66	-7	-4	1409	0	0	0
202	SLU 67	-8	-2	1425	0	0	0
202	SLU 68	-8	0	1430	0	0	0
202	SLU 69	-8	-4	1418	0	0	0
202	SLU 70	-8	-2	1435	0	0	0
202	SLU 71	-8	-4	1412	0	0	0
202	SLU 72	-8	-2	1429	0	0	0
202	SLU 73	-8	0	1559	0	0	0
202	SLU 74	-7	-5	1546	0	0	0
202	SLU 75	-8	-2	1563	0	0	0
202	SLU 76	-8	0	1568	0	0	0
202	SLU 77	-8	-5	1556	0	0	0
202	SLU 78	-8	-2	1572	0	0	0
202	SLU 79	-8	-5	1550	0	0	0
202	SLU 80	-8	-2	1566	0	0	0
202	SLU 81	-7	-5	1590	0	0	0
202	SLU 82	-8	-2	1607	0	0	0
202	SLU 83	-7	-5	1599	0	0	0
202	SLU 84	-8	-2	1616	0	0	0
202	SLE RA 1	-5	-3	1042	0	0	0
202	SLE RA 2	-6	0	1061	0	0	0
202	SLE RA 3	-6	-3	1052	0	0	0
202	SLE RA 4	-6	-2	1064	0	0	0
202	SLE RA 5	-6	0	1067	0	0	0
202	SLE RA 6	-6	-3	1059	0	0	0
202	SLE RA 7	-6	-2	1070	0	0	0
202	SLE RA 8	-6	-3	1055	0	0	0
202	SLE RA 9	-6	-2	1066	0	0	0
202	SLE RA 10	-6	-1	1152	0	0	0
202	SLE RA 11	-6	-3	1144	0	0	0
202	SLE RA 12	-6	-2	1155	0	0	0
202	SLE RA 13	-6	-1	1159	0	0	0
202	SLE RA 14	-6	-3	1151	0	0	0
202	SLE RA 15	-6	-2	1162	0	0	0
202	SLE RA 16	-6	-4	1146	0	0	0
202	SLE RA 17	-6	-2	1158	0	0	0
202	SLE RA 18	-5	-3	1173	0	0	0
202	SLE RA 19	-6	-2	1184	0	0	0
202	SLE RA 20	-6	-4	1180	0	0	0
202	SLE RA 21	-6	-2	1191	0	0	0
202	SLE FR 1	-5	-3	1042	0	0	0
202	SLE FR 2	-5	-3	1046	0	0	0
202	SLE FR 3	-5	-3	1045	0	0	0
202	SLE FR 4	-5	-3	1085	0	0	0
202	SLE FR 5	-5	-3	1084	0	0	0
202	SLE FR 6	-5	-3	1108	0	0	0
202	SLE QP 1	-5	-3	1042	0	0	0
202	SLE QP 2	-5	-3	1082	0	0	0
202	SLD 1	77	22	1327	0	0	0
202	SLD 2	96	19	1322	0	0	0
202	SLD 3	79	-31	907	0	0	0
202	SLD 4	97	-34	902	0	0	0
202	SLD 5	14	86	1793	0	0	0
202	SLD 6	25	83	1790	0	0	0
202	SLD 7	19	-92	392	0	0	0
202	SLD 8	31	-94	389	0	0	0
202	SLD 9	-42	87	1774	0	0	0
202	SLD 10	-30	85	1771	0	0	0
202	SLD 11	-36	-90	373	0	0	0
202	SLD 12	-24	-92	370	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
202	SLD 13	-108	28	1261	0	0	0
202	SLD 14	-90	24	1256	0	0	0
202	SLD 15	-106	-25	841	0	0	0
202	SLD 16	-88	-29	836	0	0	0
202	SLV 1	124	40	1492	0	0	0
202	SLV 2	153	35	1485	0	0	0
202	SLV 3	126	-50	782	0	0	0
202	SLV 4	155	-55	774	0	0	0
202	SLV 5	24	147	2283	0	0	0
202	SLV 6	43	143	2278	0	0	0
202	SLV 7	33	-152	-84	0	0	0
202	SLV 8	52	-156	-89	0	0	0
202	SLV 9	-63	150	2252	0	0	0
202	SLV 10	-44	146	2247	0	0	0
202	SLV 11	-54	-150	-115	0	0	0
202	SLV 12	-35	-154	-120	0	0	0
202	SLV 13	-166	49	1389	0	0	0
202	SLV 14	-137	43	1381	0	0	0
202	SLV 15	-163	-41	678	0	0	0
202	SLV 16	-135	-47	671	0	0	0
202	SLV FO 1	137	45	1533	0	0	0
202	SLV FO 2	168	38	1525	0	0	0
202	SLV FO 3	140	-54	752	0	0	0
202	SLV FO 4	171	-60	743	0	0	0
202	SLV FO 5	27	162	2404	0	0	0
202	SLV FO 6	48	158	2398	0	0	0
202	SLV FO 7	37	-167	-201	0	0	0
202	SLV FO 8	58	-172	-207	0	0	0
202	SLV FO 9	-69	165	2370	0	0	0
202	SLV FO 10	-48	161	2364	0	0	0
202	SLV FO 11	-59	-165	-235	0	0	0
202	SLV FO 12	-37	-169	-241	0	0	0
202	SLV FO 13	-182	54	1420	0	0	0
202	SLV FO 14	-150	48	1411	0	0	0
202	SLV FO 15	-179	-45	638	0	0	0
202	SLV FO 16	-147	-51	630	0	0	0
202	CRTFP Uy+	0	0	0	0	0	0
202	CRTFP Uy-	0	0	0	0	0	0
203	SLU 1	-5	-1	1026	0	0	0
203	SLU 2	-6	3	1054	0	0	0
203	SLU 3	-6	-1	1042	0	0	0
203	SLU 4	-6	2	1059	0	0	0
203	SLU 5	-6	3	1064	0	0	0
203	SLU 6	-6	-1	1052	0	0	0
203	SLU 7	-6	2	1069	0	0	0
203	SLU 8	-6	-1	1045	0	0	0
203	SLU 9	-6	2	1062	0	0	0
203	SLU 10	-6	3	1196	0	0	0
203	SLU 11	-6	-1	1184	0	0	0
203	SLU 12	-6	2	1200	0	0	0
203	SLU 13	-6	3	1205	0	0	0
203	SLU 14	-6	-1	1193	0	0	0
203	SLU 15	-6	2	1210	0	0	0
203	SLU 16	-6	-1	1187	0	0	0
203	SLU 17	-6	2	1204	0	0	0
203	SLU 18	-6	-1	1228	0	0	0
203	SLU 19	-6	2	1245	0	0	0
203	SLU 20	-6	-1	1238	0	0	0
203	SLU 21	-6	2	1255	0	0	0
203	SLU 22	-6	-1	1164	0	0	0
203	SLU 23	-6	4	1192	0	0	0
203	SLU 24	-6	-1	1180	0	0	0
203	SLU 25	-6	2	1197	0	0	0
203	SLU 26	-7	4	1202	0	0	0
203	SLU 27	-6	-1	1189	0	0	0
203	SLU 28	-7	2	1206	0	0	0
203	SLU 29	-6	-1	1183	0	0	0
203	SLU 30	-7	2	1200	0	0	0
203	SLU 31	-7	4	1333	0	0	0
203	SLU 32	-6	-1	1321	0	0	0
203	SLU 33	-7	2	1338	0	0	0
203	SLU 34	-7	4	1343	0	0	0
203	SLU 35	-7	-1	1331	0	0	0
203	SLU 36	-7	2	1348	0	0	0
203	SLU 37	-7	-1	1325	0	0	0
203	SLU 38	-7	2	1342	0	0	0
203	SLU 39	-6	-1	1366	0	0	0
203	SLU 40	-6	2	1383	0	0	0
203	SLU 41	-6	-1	1376	0	0	0
203	SLU 42	-7	2	1393	0	0	0
203	SLU 43	-7	-1	1287	0	0	0
203	SLU 44	-7	3	1315	0	0	0
203	SLU 45	-7	-1	1303	0	0	0
203	SLU 46	-7	1	1320	0	0	0
203	SLU 47	-7	3	1325	0	0	0
203	SLU 48	-7	-1	1312	0	0	0
203	SLU 49	-7	1	1329	0	0	0
203	SLU 50	-7	-1	1306	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLU 51	-7	1	1323	0	0	0
203	SLU 52	-7	3	1456	0	0	0
203	SLU 53	-7	-1	1444	0	0	0
203	SLU 54	-7	1	1461	0	0	0
203	SLU 55	-7	3	1466	0	0	0
203	SLU 56	-7	-1	1454	0	0	0
203	SLU 57	-7	1	1471	0	0	0
203	SLU 58	-7	-2	1448	0	0	0
203	SLU 59	-7	1	1464	0	0	0
203	SLU 60	-7	-1	1489	0	0	0
203	SLU 61	-7	1	1506	0	0	0
203	SLU 62	-7	-2	1499	0	0	0
203	SLU 63	-7	1	1515	0	0	0
203	SLU 64	-7	-1	1424	0	0	0
203	SLU 65	-8	3	1453	0	0	0
203	SLU 66	-8	-1	1440	0	0	0
203	SLU 67	-8	2	1457	0	0	0
203	SLU 68	-8	3	1462	0	0	0
203	SLU 69	-8	-1	1450	0	0	0
203	SLU 70	-8	2	1467	0	0	0
203	SLU 71	-8	-1	1444	0	0	0
203	SLU 72	-8	2	1461	0	0	0
203	SLU 73	-8	3	1594	0	0	0
203	SLU 74	-8	-1	1582	0	0	0
203	SLU 75	-8	2	1599	0	0	0
203	SLU 76	-8	3	1604	0	0	0
203	SLU 77	-8	-1	1592	0	0	0
203	SLU 78	-8	1	1608	0	0	0
203	SLU 79	-8	-1	1585	0	0	0
203	SLU 80	-8	1	1602	0	0	0
203	SLU 81	-8	-1	1627	0	0	0
203	SLU 82	-8	2	1643	0	0	0
203	SLU 83	-8	-1	1636	0	0	0
203	SLU 84	-8	1	1653	0	0	0
203	SLE RA 1	-6	-1	1065	0	0	0
203	SLE RA 2	-6	2	1084	0	0	0
203	SLE RA 3	-6	-1	1076	0	0	0
203	SLE RA 4	-6	1	1087	0	0	0
203	SLE RA 5	-6	2	1091	0	0	0
203	SLE RA 6	-6	-1	1083	0	0	0
203	SLE RA 7	-6	1	1094	0	0	0
203	SLE RA 8	-6	-1	1078	0	0	0
203	SLE RA 9	-6	1	1090	0	0	0
203	SLE RA 10	-6	2	1179	0	0	0
203	SLE RA 11	-6	-1	1170	0	0	0
203	SLE RA 12	-6	1	1182	0	0	0
203	SLE RA 13	-6	2	1185	0	0	0
203	SLE RA 14	-6	-1	1177	0	0	0
203	SLE RA 15	-6	1	1188	0	0	0
203	SLE RA 16	-6	-1	1173	0	0	0
203	SLE RA 17	-6	1	1184	0	0	0
203	SLE RA 18	-6	-1	1200	0	0	0
203	SLE RA 19	-6	1	1211	0	0	0
203	SLE RA 20	-6	-1	1207	0	0	0
203	SLE RA 21	-6	1	1218	0	0	0
203	SLE FR 1	-6	-1	1065	0	0	0
203	SLE FR 2	-6	0	1069	0	0	0
203	SLE FR 3	-6	-1	1068	0	0	0
203	SLE FR 4	-6	0	1110	0	0	0
203	SLE FR 5	-6	-1	1108	0	0	0
203	SLE FR 6	-6	-1	1133	0	0	0
203	SLE QP 1	-6	-1	1065	0	0	0
203	SLE QP 2	-6	-1	1106	0	0	0
203	SLD 1	78	27	1348	0	0	0
203	SLD 2	96	24	1344	0	0	0
203	SLD 3	79	-28	919	0	0	0
203	SLD 4	98	-31	915	0	0	0
203	SLD 5	14	91	1830	0	0	0
203	SLD 6	26	89	1827	0	0	0
203	SLD 7	19	-92	400	0	0	0
203	SLD 8	31	-94	397	0	0	0
203	SLD 9	-42	92	1815	0	0	0
203	SLD 10	-30	90	1812	0	0	0
203	SLD 11	-37	-91	384	0	0	0
203	SLD 12	-25	-93	382	0	0	0
203	SLD 13	-109	29	1297	0	0	0
203	SLD 14	-91	27	1292	0	0	0
203	SLD 15	-107	-26	868	0	0	0
203	SLD 16	-89	-28	863	0	0	0
203	SLV 1	125	45	1512	0	0	0
203	SLV 2	154	41	1506	0	0	0
203	SLV 3	127	-47	787	0	0	0
203	SLV 4	156	-52	781	0	0	0
203	SLV 5	24	155	2329	0	0	0
203	SLV 6	43	152	2324	0	0	0
203	SLV 7	33	-155	-88	0	0	0
203	SLV 8	52	-158	-92	0	0	0
203	SLV 9	-64	156	2304	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLV 10	-44	153	2300	0	0	0
203	SLV 11	-55	-153	-112	0	0	0
203	SLV 12	-35	-156	-117	0	0	0
203	SLV 13	-168	50	1431	0	0	0
203	SLV 14	-138	46	1425	0	0	0
203	SLV 15	-165	-43	706	0	0	0
203	SLV 16	-136	-47	699	0	0	0
203	SLV FO 1	138	50	1553	0	0	0
203	SLV FO 2	170	45	1546	0	0	0
203	SLV FO 3	141	-52	755	0	0	0
203	SLV FO 4	173	-57	748	0	0	0
203	SLV FO 5	27	170	2451	0	0	0
203	SLV FO 6	48	167	2446	0	0	0
203	SLV FO 7	37	-170	-208	0	0	0
203	SLV FO 8	58	-173	-212	0	0	0
203	SLV FO 9	-70	172	2424	0	0	0
203	SLV FO 10	-48	168	2419	0	0	0
203	SLV FO 11	-60	-169	-234	0	0	0
203	SLV FO 12	-38	-172	-239	0	0	0
203	SLV FO 13	-184	55	1464	0	0	0
203	SLV FO 14	-152	50	1456	0	0	0
203	SLV FO 15	-181	-47	666	0	0	0
203	SLV FO 16	-149	-52	659	0	0	0
203	CRTFP Uy+	0	0	0	0	0	0
203	CRTFP Uy-	0	0	0	0	0	0
205	SLU 1	-3	-10	471	-28.24	59.25	1.12
205	SLU 2	-3	-8	484	-29.04	60.93	0.9
205	SLU 3	-3	-10	478	-28.67	60.14	1.14
205	SLU 4	-3	-9	486	-29.15	61.15	1.01
205	SLU 5	-3	-9	488	-29.3	61.47	0.91
205	SLU 6	-3	-10	482	-28.93	60.68	1.16
205	SLU 7	-3	-9	490	-29.41	61.69	1.02
205	SLU 8	-3	-10	479	-28.76	60.33	1.15
205	SLU 9	-3	-9	487	-29.24	61.34	1.02
205	SLU 10	-3	-10	547	-32.84	68.89	1.04
205	SLU 11	-3	-11	541	-32.46	68.09	1.29
205	SLU 12	-3	-10	549	-32.94	69.11	1.15
205	SLU 13	-3	-10	552	-33.09	69.43	1.06
205	SLU 14	-3	-12	545	-32.72	68.64	1.3
205	SLU 15	-3	-11	553	-33.2	69.65	1.17
205	SLU 16	-3	-11	542	-32.55	68.29	1.29
205	SLU 17	-3	-10	551	-33.03	69.3	1.16
205	SLU 18	-2	-12	561	-33.66	70.61	1.32
205	SLU 19	-3	-11	569	-34.14	71.62	1.19
205	SLU 20	-3	-12	565	-33.92	71.15	1.34
205	SLU 21	-3	-11	573	-34.4	72.16	1.21
205	SLU 22	-3	-11	534	-32.05	67.23	1.25
205	SLU 23	-3	-10	547	-32.85	68.91	1.03
205	SLU 24	-3	-12	541	-32.47	68.12	1.28
205	SLU 25	-3	-11	549	-32.95	69.13	1.14
205	SLU 26	-3	-10	552	-33.11	69.45	1.05
205	SLU 27	-3	-12	545	-32.73	68.66	1.29
205	SLU 28	-3	-11	554	-33.21	69.67	1.16
205	SLU 29	-3	-12	543	-32.56	68.31	1.28
205	SLU 30	-3	-11	551	-33.04	69.32	1.15
205	SLU 31	-3	-11	611	-36.64	76.87	1.18
205	SLU 32	-3	-13	604	-36.26	76.07	1.42
205	SLU 33	-3	-12	612	-36.74	77.08	1.29
205	SLU 34	-3	-11	615	-36.9	77.41	1.19
205	SLU 35	-3	-13	609	-36.52	76.62	1.43
205	SLU 36	-3	-12	617	-37	77.63	1.3
205	SLU 37	-3	-13	606	-36.35	76.26	1.43
205	SLU 38	-3	-12	614	-36.84	77.28	1.29
205	SLU 39	-3	-13	624	-37.46	78.59	1.46
205	SLU 40	-3	-12	632	-37.94	79.6	1.33
205	SLU 41	-3	-13	629	-37.72	79.13	1.47
205	SLU 42	-3	-12	637	-38.2	80.14	1.34
205	SLU 43	-3	-13	590	-35.41	74.29	1.41
205	SLU 44	-3	-11	604	-36.21	75.97	1.19
205	SLU 45	-3	-13	597	-35.84	75.18	1.43
205	SLU 46	-3	-12	605	-36.32	76.19	1.3
205	SLU 47	-3	-11	608	-36.47	76.51	1.2
205	SLU 48	-3	-13	602	-36.09	75.72	1.45
205	SLU 49	-3	-12	610	-36.58	76.73	1.31
205	SLU 50	-3	-13	599	-35.93	75.37	1.44
205	SLU 51	-3	-12	607	-36.41	76.38	1.31
205	SLU 52	-3	-12	667	-40.01	83.93	1.33
205	SLU 53	-3	-14	660	-39.63	83.13	1.58
205	SLU 54	-3	-13	668	-40.11	84.14	1.44
205	SLU 55	-3	-12	671	-40.26	84.47	1.35
205	SLU 56	-3	-14	665	-39.89	83.67	1.59
205	SLU 57	-3	-13	673	-40.37	84.69	1.46
205	SLU 58	-3	-14	662	-39.72	83.32	1.58
205	SLU 59	-3	-13	670	-40.2	84.33	1.45
205	SLU 60	-3	-14	680	-40.83	85.65	1.61
205	SLU 61	-3	-13	688	-41.31	86.66	1.48
205	SLU 62	-3	-14	685	-41.09	86.19	1.63
205	SLU 63	-3	-13	693	-41.57	87.2	1.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLU 64	-3	-14	654	-39.21	82.27	1.54
205	SLU 65	-4	-12	667	-40.02	83.95	1.32
205	SLU 66	-4	-14	661	-39.64	83.16	1.56
205	SLU 67	-4	-13	669	-40.12	84.17	1.43
205	SLU 68	-4	-12	671	-40.28	84.49	1.34
205	SLU 69	-4	-14	665	-39.9	83.7	1.58
205	SLU 70	-4	-13	673	-40.38	84.71	1.45
205	SLU 71	-4	-14	662	-39.73	83.35	1.57
205	SLU 72	-4	-13	670	-40.21	84.36	1.44
205	SLU 73	-4	-13	730	-43.81	91.9	1.47
205	SLU 74	-4	-15	724	-43.43	91.11	1.71
205	SLU 75	-4	-14	732	-43.91	92.12	1.58
205	SLU 76	-4	-14	734	-44.07	92.45	1.48
205	SLU 77	-4	-15	728	-43.69	91.65	1.72
205	SLU 78	-4	-14	736	-44.17	92.66	1.59
205	SLU 79	-4	-15	725	-43.52	91.3	1.72
205	SLU 80	-4	-14	733	-44	92.31	1.58
205	SLU 81	-3	-16	744	-44.63	93.63	1.75
205	SLU 82	-4	-15	752	-45.11	94.64	1.62
205	SLU 83	-4	-16	748	-44.89	94.17	1.76
205	SLU 84	-4	-15	756	-45.37	95.18	1.63
205	SLE RA 1	-3	-10	489	-29.33	61.53	1.16
205	SLE RA 2	-3	-9	498	-29.86	62.65	1.01
205	SLE RA 3	-3	-11	494	-29.61	62.12	1.17
205	SLE RA 4	-3	-10	499	-29.93	62.8	1.08
205	SLE RA 5	-3	-9	501	-30.04	63.01	1.02
205	SLE RA 6	-3	-11	496	-29.78	62.48	1.18
205	SLE RA 7	-3	-10	502	-30.11	63.16	1.09
205	SLE RA 8	-3	-11	495	-29.67	62.25	1.18
205	SLE RA 9	-3	-10	500	-29.99	62.92	1.09
205	SLE RA 10	-3	-10	540	-32.39	67.95	1.11
205	SLE RA 11	-3	-11	536	-32.14	67.43	1.27
205	SLE RA 12	-3	-11	541	-32.46	68.1	1.18
205	SLE RA 13	-3	-10	543	-32.56	68.31	1.12
205	SLE RA 14	-3	-11	539	-32.31	67.79	1.28
205	SLE RA 15	-3	-11	544	-32.63	68.46	1.19
205	SLE RA 16	-3	-11	537	-32.2	67.55	1.27
205	SLE RA 17	-3	-11	542	-32.52	68.23	1.18
205	SLE RA 18	-3	-12	549	-32.94	69.1	1.29
205	SLE RA 19	-3	-11	554	-33.26	69.78	1.21
205	SLE RA 20	-3	-12	552	-33.11	69.46	1.3
205	SLE RA 21	-3	-11	557	-33.43	70.14	1.22
205	SLE FR 1	-3	-10	489	-29.33	61.53	1.16
205	SLE FR 2	-3	-10	491	-29.44	61.75	1.13
205	SLE FR 3	-3	-10	490	-29.4	61.67	1.16
205	SLE FR 4	-3	-11	509	-30.52	64.02	1.17
205	SLE FR 5	-3	-11	508	-30.48	63.94	1.2
205	SLE FR 6	-3	-11	519	-31.13	65.32	1.23
205	SLE QP 1	-3	-10	489	-29.33	61.53	1.16
205	SLE QP 2	-3	-11	507	-30.41	63.8	1.2
205	SLD 1	36	-4	652	-39.14	82.11	2.63
205	SLD 2	45	-8	647	-38.84	81.48	3.7
205	SLD 3	37	-25	454	-27.23	57.13	5.35
205	SLD 4	46	-29	449	-26.93	56.49	6.42
205	SLD 5	6	24	852	-51.15	107.3	-2.69
205	SLD 6	11	21	849	-50.95	106.89	-2
205	SLD 7	9	-46	191	-11.45	24.01	6.39
205	SLD 8	15	-49	188	-11.25	23.6	7.08
205	SLD 9	-20	28	826	-49.57	104	-4.68
205	SLD 10	-15	25	823	-49.38	103.59	-3.99
205	SLD 11	-17	-43	165	-9.87	20.71	4.39
205	SLD 12	-11	-46	161	-9.68	20.3	5.08
205	SLD 13	-51	8	565	-33.9	71.11	-4.02
205	SLD 14	-42	4	560	-33.59	70.47	-2.96
205	SLD 15	-50	-13	366	-21.99	46.12	-1.3
205	SLD 16	-41	-18	361	-21.68	45.49	-0.24
205	SLV 1	58	1	747	-44.81	94	3.26
205	SLV 2	71	-5	739	-44.33	93	4.93
205	SLV 3	59	-34	411	-24.68	51.78	7.86
205	SLV 4	73	-41	403	-24.21	50.78	9.54
205	SLV 5	10	49	1089	-65.35	137.09	-5.47
205	SLV 6	19	44	1084	-65.02	136.41	-4.35
205	SLV 7	16	-71	-29	1.74	-3.66	9.86
205	SLV 8	25	-75	-34	2.06	-4.33	10.99
205	SLV 9	-30	54	1048	-62.89	131.93	-8.59
205	SLV 10	-21	49	1043	-62.57	131.26	-7.46
205	SLV 11	-25	-65	-70	4.2	-8.81	6.74
205	SLV 12	-15	-70	-75	4.52	-9.49	7.87
205	SLV 13	-78	20	610	-36.62	76.82	-7.14
205	SLV 14	-65	13	602	-36.14	75.82	-5.46
205	SLV 15	-76	-16	275	-16.49	34.6	-2.54
205	SLV 16	-63	-23	267	-16.01	33.6	-0.86
205	SLV FO 1	64	3	771	-46.25	97.02	3.46
205	SLV FO 2	79	-5	762	-45.72	95.92	5.31
205	SLV FO 3	66	-37	402	-24.11	50.58	8.52
205	SLV FO 4	80	-44	393	-23.59	49.48	10.37
205	SLV FO 5	12	54	1147	-68.84	144.41	-6.14
205	SLV FO 6	22	49	1141	-68.49	143.67	-4.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLV FO 7	18	-77	-83	4.96	-10.4	10.73
205	SLV FO 8	28	-82	-89	5.31	-11.14	11.97
205	SLV FO 9	-33	60	1102	-66.14	138.74	-9.57
205	SLV FO 10	-23	55	1096	-65.78	138	-8.33
205	SLV FO 11	-27	-71	-128	7.66	-16.07	7.3
205	SLV FO 12	-17	-76	-134	8.02	-16.81	8.54
205	SLV FO 13	-86	23	621	-37.24	78.12	-7.97
205	SLV FO 14	-71	15	612	-36.71	77.02	-6.13
205	SLV FO 15	-84	-17	252	-15.1	31.68	-2.91
205	SLV FO 16	-69	-24	243	-14.57	30.58	-1.07
205	CRTFP Ux+	0	0	0	0	0	0
205	CRTFP Ux-	0	0	0	0	0	0
205	CRTFP Uy+	0	0	0	0	0	0
205	CRTFP Uy-	0	0	0	0	0	0
206	SLU 1	-3	0	523	-31.37	0	-0.16
206	SLU 2	-3	3	537	-32.22	0	-0.17
206	SLU 3	-3	0	531	-31.86	0	-0.16
206	SLU 4	-3	2	540	-32.37	0	-0.17
206	SLU 5	-3	3	542	-32.52	0	-0.17
206	SLU 6	-3	0	536	-32.16	0	-0.17
206	SLU 7	-3	2	544	-32.67	0	-0.17
206	SLU 8	-3	0	533	-31.96	0	-0.17
206	SLU 9	-3	2	541	-32.47	0	-0.17
206	SLU 10	-3	3	609	-36.57	0	-0.17
206	SLU 11	-3	0	603	-36.2	0	-0.17
206	SLU 12	-3	2	612	-36.72	0	-0.17
206	SLU 13	-3	3	614	-36.87	0	-0.17
206	SLU 14	-3	0	608	-36.5	0	-0.17
206	SLU 15	-3	2	617	-37.01	0	-0.18
206	SLU 16	-3	0	605	-36.31	0	-0.17
206	SLU 17	-3	2	614	-36.82	0	-0.17
206	SLU 18	-3	0	626	-37.58	0	-0.16
206	SLU 19	-3	2	635	-38.09	0	-0.17
206	SLU 20	-3	0	631	-37.87	0	-0.17
206	SLU 21	-3	2	640	-38.39	0	-0.17
206	SLU 22	-3	1	593	-35.59	0	-0.18
206	SLU 23	-3	3	607	-36.44	0	-0.19
206	SLU 24	-3	1	601	-36.08	0	-0.19
206	SLU 25	-3	2	610	-36.59	0	-0.19
206	SLU 26	-3	3	612	-36.74	0	-0.19
206	SLU 27	-3	1	606	-36.37	0	-0.19
206	SLU 28	-3	2	615	-36.89	0	-0.2
206	SLU 29	-3	1	603	-36.18	0	-0.19
206	SLU 30	-3	2	612	-36.69	0	-0.19
206	SLU 31	-3	3	680	-40.79	0	-0.19
206	SLU 32	-3	1	674	-40.42	0	-0.19
206	SLU 33	-3	2	682	-40.94	0	-0.19
206	SLU 34	-3	3	685	-41.08	0	-0.2
206	SLU 35	-3	1	679	-40.72	0	-0.19
206	SLU 36	-3	2	687	-41.23	0	-0.2
206	SLU 37	-3	1	675	-40.53	0	-0.19
206	SLU 38	-3	2	684	-41.04	0	-0.2
206	SLU 39	-3	1	697	-41.79	0	-0.19
206	SLU 40	-3	2	705	-42.31	0	-0.19
206	SLU 41	-3	1	702	-42.09	0	-0.19
206	SLU 42	-3	2	710	-42.6	0	-0.2
206	SLU 43	-3	0	656	-39.33	0	-0.2
206	SLU 44	-3	3	670	-40.19	0	-0.21
206	SLU 45	-3	1	664	-39.82	0	-0.2
206	SLU 46	-3	2	672	-40.34	0	-0.21
206	SLU 47	-3	3	675	-40.48	0	-0.21
206	SLU 48	-3	0	669	-40.12	0	-0.21
206	SLU 49	-4	2	677	-40.63	0	-0.21
206	SLU 50	-3	0	665	-39.93	0	-0.21
206	SLU 51	-4	2	674	-40.44	0	-0.21
206	SLU 52	-3	3	742	-44.53	0	-0.21
206	SLU 53	-3	0	736	-44.17	0	-0.21
206	SLU 54	-4	2	745	-44.68	0	-0.21
206	SLU 55	-4	3	747	-44.83	0	-0.21
206	SLU 56	-4	0	741	-44.47	0	-0.21
206	SLU 57	-4	2	750	-44.98	0	-0.22
206	SLU 58	-3	0	738	-44.27	0	-0.21
206	SLU 59	-4	2	746	-44.78	0	-0.21
206	SLU 60	-3	0	759	-45.54	0	-0.2
206	SLU 61	-3	2	768	-46.05	0	-0.21
206	SLU 62	-3	0	764	-45.84	0	-0.21
206	SLU 63	-4	2	773	-46.35	0	-0.21
206	SLU 64	-4	1	726	-43.55	0	-0.22
206	SLU 65	-4	3	740	-44.41	0	-0.23
206	SLU 66	-4	1	734	-44.04	0	-0.23
206	SLU 67	-4	2	743	-44.55	0	-0.23
206	SLU 68	-4	3	745	-44.7	0	-0.23
206	SLU 69	-4	1	739	-44.34	0	-0.23
206	SLU 70	-4	2	748	-44.85	0	-0.24
206	SLU 71	-4	1	736	-44.14	0	-0.23
206	SLU 72	-4	2	744	-44.66	0	-0.23
206	SLU 73	-4	3	813	-48.75	0	-0.23
206	SLU 74	-4	1	806	-48.39	0	-0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
206	SLU 75	-4	2	815	-48.9	0	-0.23
206	SLU 76	-4	3	817	-49.05	0	-0.24
206	SLU 77	-4	1	811	-48.68	0	-0.23
206	SLU 78	-4	2	820	-49.2	0	-0.24
206	SLU 79	-4	1	808	-48.49	0	-0.23
206	SLU 80	-4	2	817	-49	0	-0.24
206	SLU 81	-4	1	829	-49.76	0	-0.23
206	SLU 82	-4	2	838	-50.27	0	-0.23
206	SLU 83	-4	1	834	-50.06	0	-0.23
206	SLU 84	-4	2	843	-50.57	0	-0.23
206	SLE RA 1	-3	1	543	-32.57	0	-0.17
206	SLE RA 2	-3	2	552	-33.14	0	-0.17
206	SLE RA 3	-3	1	548	-32.9	0	-0.17
206	SLE RA 4	-3	1	554	-33.24	0	-0.17
206	SLE RA 5	-3	2	556	-33.34	0	-0.17
206	SLE RA 6	-3	1	552	-33.1	0	-0.17
206	SLE RA 7	-3	1	557	-33.44	0	-0.17
206	SLE RA 8	-3	1	549	-32.97	0	-0.17
206	SLE RA 9	-3	1	555	-33.31	0	-0.17
206	SLE RA 10	-3	2	601	-36.04	0	-0.17
206	SLE RA 11	-3	1	597	-35.8	0	-0.17
206	SLE RA 12	-3	1	602	-36.14	0	-0.17
206	SLE RA 13	-3	2	604	-36.24	0	-0.18
206	SLE RA 14	-3	1	600	-36	0	-0.17
206	SLE RA 15	-3	1	606	-36.34	0	-0.18
206	SLE RA 16	-3	0	598	-35.87	0	-0.17
206	SLE RA 17	-3	1	603	-36.21	0	-0.18
206	SLE RA 18	-3	1	612	-36.71	0	-0.17
206	SLE RA 19	-3	1	618	-37.05	0	-0.17
206	SLE RA 20	-3	1	615	-36.91	0	-0.17
206	SLE RA 21	-3	1	621	-37.25	0	-0.17
206	SLE FR 1	-3	1	543	-32.57	0	-0.17
206	SLE FR 2	-3	1	545	-32.69	0	-0.17
206	SLE FR 3	-3	1	544	-32.65	0	-0.17
206	SLE FR 4	-3	1	565	-33.93	0	-0.17
206	SLE FR 5	-3	1	565	-33.89	0	-0.17
206	SLE FR 6	-3	1	577	-34.64	0	-0.17
206	SLE QP 1	-3	1	543	-32.57	0	-0.17
206	SLE QP 2	-3	1	564	-33.82	0	-0.17
206	SLD 1	39	16	683	-41	0	2.35
206	SLD 2	48	15	682	-40.9	0	2.91
206	SLD 3	40	-12	465	-27.9	0	2.4
206	SLD 4	49	-13	463	-27.8	0	2.96
206	SLD 5	7	48	931	-55.86	0	0.42
206	SLD 6	13	48	930	-55.79	0	0.78
206	SLD 7	10	-46	203	-12.19	0	0.58
206	SLD 8	16	-47	202	-12.12	0	0.94
206	SLD 9	-21	48	925	-55.51	0	-1.27
206	SLD 10	-15	47	924	-55.44	0	-0.91
206	SLD 11	-19	-47	197	-11.84	0	-1.11
206	SLD 12	-13	-47	196	-11.78	0	-0.75
206	SLD 13	-55	14	664	-39.84	0	-3.29
206	SLD 14	-46	13	662	-39.73	0	-2.73
206	SLD 15	-54	-14	446	-26.74	0	-3.24
206	SLD 16	-45	-15	444	-26.63	0	-2.68
206	SLV 1	63	27	765	-45.88	0	3.77
206	SLV 2	77	25	762	-45.72	0	4.64
206	SLV 3	64	-21	396	-23.74	0	3.85
206	SLV 4	79	-23	393	-23.58	0	4.72
206	SLV 5	12	81	1184	-71.04	0	0.73
206	SLV 6	22	80	1182	-70.93	0	1.32
206	SLV 7	17	-79	-46	2.75	0	0.99
206	SLV 8	26	-80	-48	2.86	0	1.58
206	SLV 9	-32	81	1175	-70.49	0	-1.92
206	SLV 10	-22	80	1173	-70.38	0	-1.33
206	SLV 11	-28	-79	-55	3.3	0	-1.65
206	SLV 12	-18	-80	-57	3.41	0	-1.06
206	SLV 13	-84	24	734	-44.05	0	-5.06
206	SLV 14	-70	22	731	-43.89	0	-4.18
206	SLV 15	-83	-24	365	-21.91	0	-4.98
206	SLV 16	-68	-26	362	-21.75	0	-4.1
206	SLV FO 1	69	29	785	-47.09	0	4.16
206	SLV FO 2	85	28	782	-46.91	0	5.13
206	SLV FO 3	71	-23	379	-22.74	0	4.25
206	SLV FO 4	87	-25	376	-22.56	0	5.21
206	SLV FO 5	14	90	1246	-74.76	0	0.82
206	SLV FO 6	25	88	1244	-74.65	0	1.47
206	SLV FO 7	18	-86	-107	6.41	0	1.11
206	SLV FO 8	29	-88	-109	6.53	0	1.76
206	SLV FO 9	-35	89	1236	-74.16	0	-2.09
206	SLV FO 10	-24	87	1234	-74.04	0	-1.44
206	SLV FO 11	-30	-87	-117	7.01	0	-1.8
206	SLV FO 12	-19	-88	-119	7.13	0	-1.15
206	SLV FO 13	-92	26	751	-45.07	0	-5.54
206	SLV FO 14	-76	25	748	-44.89	0	-4.58
206	SLV FO 15	-91	-27	345	-20.72	0	-5.46
206	SLV FO 16	-75	-28	342	-20.54	0	-4.49
206	CRTFP Ux+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
206	CRTFP Ux-	0	0	0	0	0	0
206	CRTFP Uy+	0	0	0	0	0	0
206	CRTFP Uy-	0	0	0	0	0	0
208	SLU 1	-4	-16	1263	0	0	0
208	SLU 2	-4	-10	1298	0	0	0
208	SLU 3	-5	-16	1282	0	0	0
208	SLU 4	-5	-13	1303	0	0	0
208	SLU 5	-5	-10	1309	0	0	0
208	SLU 6	-5	-16	1293	0	0	0
208	SLU 7	-5	-13	1314	0	0	0
208	SLU 8	-5	-16	1285	0	0	0
208	SLU 9	-5	-13	1306	0	0	0
208	SLU 10	-5	-12	1468	0	0	0
208	SLU 11	-6	-18	1452	0	0	0
208	SLU 12	-6	-15	1473	0	0	0
208	SLU 13	-6	-12	1479	0	0	0
208	SLU 14	-6	-18	1463	0	0	0
208	SLU 15	-6	-15	1484	0	0	0
208	SLU 16	-6	-18	1456	0	0	0
208	SLU 17	-6	-15	1477	0	0	0
208	SLU 18	-6	-18	1507	0	0	0
208	SLU 19	-6	-15	1527	0	0	0
208	SLU 20	-6	-19	1518	0	0	0
208	SLU 21	-6	-15	1539	0	0	0
208	SLU 22	-5	-18	1430	0	0	0
208	SLU 23	-5	-12	1465	0	0	0
208	SLU 24	-5	-18	1449	0	0	0
208	SLU 25	-5	-15	1470	0	0	0
208	SLU 26	-5	-12	1476	0	0	0
208	SLU 27	-6	-18	1460	0	0	0
208	SLU 28	-6	-15	1481	0	0	0
208	SLU 29	-6	-18	1452	0	0	0
208	SLU 30	-6	-15	1473	0	0	0
208	SLU 31	-6	-14	1635	0	0	0
208	SLU 32	-7	-20	1619	0	0	0
208	SLU 33	-6	-17	1640	0	0	0
208	SLU 34	-6	-14	1646	0	0	0
208	SLU 35	-7	-20	1631	0	0	0
208	SLU 36	-7	-17	1651	0	0	0
208	SLU 37	-7	-20	1623	0	0	0
208	SLU 38	-7	-17	1644	0	0	0
208	SLU 39	-7	-20	1674	0	0	0
208	SLU 40	-7	-17	1695	0	0	0
208	SLU 41	-7	-21	1685	0	0	0
208	SLU 42	-7	-17	1706	0	0	0
208	SLU 43	-6	-20	1584	0	0	0
208	SLU 44	-5	-14	1619	0	0	0
208	SLU 45	-6	-20	1603	0	0	0
208	SLU 46	-6	-17	1624	0	0	0
208	SLU 47	-6	-14	1630	0	0	0
208	SLU 48	-6	-20	1614	0	0	0
208	SLU 49	-6	-17	1635	0	0	0
208	SLU 50	-6	-20	1607	0	0	0
208	SLU 51	-6	-17	1627	0	0	0
208	SLU 52	-7	-16	1790	0	0	0
208	SLU 53	-7	-22	1774	0	0	0
208	SLU 54	-7	-19	1795	0	0	0
208	SLU 55	-7	-16	1801	0	0	0
208	SLU 56	-7	-22	1785	0	0	0
208	SLU 57	-7	-19	1806	0	0	0
208	SLU 58	-7	-22	1777	0	0	0
208	SLU 59	-7	-19	1798	0	0	0
208	SLU 60	-7	-22	1828	0	0	0
208	SLU 61	-7	-19	1849	0	0	0
208	SLU 62	-7	-23	1839	0	0	0
208	SLU 63	-7	-19	1860	0	0	0
208	SLU 64	-6	-22	1751	0	0	0
208	SLU 65	-6	-16	1786	0	0	0
208	SLU 66	-6	-22	1770	0	0	0
208	SLU 67	-6	-19	1791	0	0	0
208	SLU 68	-6	-16	1797	0	0	0
208	SLU 69	-7	-22	1781	0	0	0
208	SLU 70	-7	-19	1802	0	0	0
208	SLU 71	-7	-22	1774	0	0	0
208	SLU 72	-7	-19	1795	0	0	0
208	SLU 73	-7	-18	1957	0	0	0
208	SLU 74	-8	-24	1941	0	0	0
208	SLU 75	-8	-21	1962	0	0	0
208	SLU 76	-7	-18	1968	0	0	0
208	SLU 77	-8	-24	1952	0	0	0
208	SLU 78	-8	-21	1973	0	0	0
208	SLU 79	-8	-24	1944	0	0	0
208	SLU 80	-8	-21	1965	0	0	0
208	SLU 81	-8	-24	1995	0	0	0
208	SLU 82	-8	-21	2016	0	0	0
208	SLU 83	-8	-25	2006	0	0	0
208	SLU 84	-8	-21	2027	0	0	0
208	SLE RA 1	-5	-16	1311	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
208	SLE RA 2	-5	-12	1334	0	0	0
208	SLE RA 3	-5	-17	1323	0	0	0
208	SLE RA 4	-5	-14	1337	0	0	0
208	SLE RA 5	-5	-13	1341	0	0	0
208	SLE RA 6	-5	-17	1331	0	0	0
208	SLE RA 7	-5	-14	1344	0	0	0
208	SLE RA 8	-5	-17	1325	0	0	0
208	SLE RA 9	-5	-14	1339	0	0	0
208	SLE RA 10	-5	-14	1447	0	0	0
208	SLE RA 11	-6	-18	1437	0	0	0
208	SLE RA 12	-6	-16	1451	0	0	0
208	SLE RA 13	-5	-14	1455	0	0	0
208	SLE RA 14	-6	-18	1444	0	0	0
208	SLE RA 15	-6	-16	1458	0	0	0
208	SLE RA 16	-6	-18	1439	0	0	0
208	SLE RA 17	-6	-16	1453	0	0	0
208	SLE RA 18	-6	-18	1473	0	0	0
208	SLE RA 19	-6	-16	1487	0	0	0
208	SLE RA 20	-6	-18	1480	0	0	0
208	SLE RA 21	-6	-16	1494	0	0	0
208	SLE FR 1	-5	-16	1311	0	0	0
208	SLE FR 2	-5	-16	1315	0	0	0
208	SLE FR 3	-5	-16	1313	0	0	0
208	SLE FR 4	-5	-16	1364	0	0	0
208	SLE FR 5	-5	-17	1362	0	0	0
208	SLE FR 6	-5	-17	1392	0	0	0
208	SLE QP 1	-5	-16	1311	0	0	0
208	SLE QP 2	-5	-17	1359	0	0	0
208	SLD 1	107	22	1573	0	0	0
208	SLD 2	131	25	1579	0	0	0
208	SLD 3	105	-50	1045	0	0	0
208	SLD 4	129	-47	1051	0	0	0
208	SLD 5	27	104	2224	0	0	0
208	SLD 6	43	106	2228	0	0	0
208	SLD 7	21	-137	462	0	0	0
208	SLD 8	37	-135	466	0	0	0
208	SLD 9	-46	101	2252	0	0	0
208	SLD 10	-31	103	2256	0	0	0
208	SLD 11	-53	-140	491	0	0	0
208	SLD 12	-37	-137	494	0	0	0
208	SLD 13	-139	13	1668	0	0	0
208	SLD 14	-115	17	1674	0	0	0
208	SLD 15	-141	-59	1139	0	0	0
208	SLD 16	-117	-56	1145	0	0	0
208	SLV 1	171	49	1728	0	0	0
208	SLV 2	208	54	1737	0	0	0
208	SLV 3	167	-74	834	0	0	0
208	SLV 4	205	-68	844	0	0	0
208	SLV 5	45	187	2823	0	0	0
208	SLV 6	71	190	2829	0	0	0
208	SLV 7	35	-220	-155	0	0	0
208	SLV 8	60	-216	-148	0	0	0
208	SLV 9	-70	183	2867	0	0	0
208	SLV 10	-45	186	2873	0	0	0
208	SLV 11	-81	-224	-110	0	0	0
208	SLV 12	-55	-220	-104	0	0	0
208	SLV 13	-215	35	1875	0	0	0
208	SLV 14	-177	40	1884	0	0	0
208	SLV 15	-218	-87	982	0	0	0
208	SLV 16	-181	-82	991	0	0	0
208	SLV FO 1	188	55	1764	0	0	0
208	SLV FO 2	229	61	1775	0	0	0
208	SLV FO 3	185	-79	782	0	0	0
208	SLV FO 4	226	-73	792	0	0	0
208	SLV FO 5	51	207	2969	0	0	0
208	SLV FO 6	78	211	2976	0	0	0
208	SLV FO 7	39	-240	-306	0	0	0
208	SLV FO 8	67	-236	-299	0	0	0
208	SLV FO 9	-77	203	3018	0	0	0
208	SLV FO 10	-49	207	3025	0	0	0
208	SLV FO 11	-88	-245	-257	0	0	0
208	SLV FO 12	-60	-241	-250	0	0	0
208	SLV FO 13	-236	40	1926	0	0	0
208	SLV FO 14	-195	46	1937	0	0	0
208	SLV FO 15	-239	-94	944	0	0	0
208	SLV FO 16	-198	-89	954	0	0	0
208	CRTFP Uy+	0	0	0	0	0	0
208	CRTFP Uy-	0	0	0	0	0	0
209	SLU 1	-4	-17	1224	0	0	0
209	SLU 2	-4	-12	1258	0	0	0
209	SLU 3	-4	-18	1243	0	0	0
209	SLU 4	-4	-14	1263	0	0	0
209	SLU 5	-4	-12	1269	0	0	0
209	SLU 6	-5	-18	1253	0	0	0
209	SLU 7	-5	-15	1274	0	0	0
209	SLU 8	-5	-18	1246	0	0	0
209	SLU 9	-5	-15	1266	0	0	0
209	SLU 10	-5	-14	1423	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
209	SLU 11	-5	-20	1407	0	0	0
209	SLU 12	-5	-16	1428	0	0	0
209	SLU 13	-5	-14	1434	0	0	0
209	SLU 14	-6	-20	1418	0	0	0
209	SLU 15	-6	-17	1438	0	0	0
209	SLU 16	-6	-20	1410	0	0	0
209	SLU 17	-6	-17	1431	0	0	0
209	SLU 18	-6	-20	1460	0	0	0
209	SLU 19	-6	-17	1480	0	0	0
209	SLU 20	-6	-20	1470	0	0	0
209	SLU 21	-6	-17	1491	0	0	0
209	SLU 22	-5	-19	1386	0	0	0
209	SLU 23	-5	-14	1420	0	0	0
209	SLU 24	-5	-20	1404	0	0	0
209	SLU 25	-5	-17	1425	0	0	0
209	SLU 26	-5	-14	1431	0	0	0
209	SLU 27	-5	-20	1415	0	0	0
209	SLU 28	-5	-17	1435	0	0	0
209	SLU 29	-5	-20	1407	0	0	0
209	SLU 30	-5	-17	1428	0	0	0
209	SLU 31	-6	-16	1585	0	0	0
209	SLU 32	-6	-22	1569	0	0	0
209	SLU 33	-6	-19	1589	0	0	0
209	SLU 34	-6	-16	1595	0	0	0
209	SLU 35	-6	-22	1580	0	0	0
209	SLU 36	-6	-19	1600	0	0	0
209	SLU 37	-6	-22	1572	0	0	0
209	SLU 38	-6	-19	1592	0	0	0
209	SLU 39	-6	-22	1621	0	0	0
209	SLU 40	-6	-19	1642	0	0	0
209	SLU 41	-7	-23	1632	0	0	0
209	SLU 42	-6	-19	1652	0	0	0
209	SLU 43	-5	-22	1536	0	0	0
209	SLU 44	-5	-16	1570	0	0	0
209	SLU 45	-5	-22	1554	0	0	0
209	SLU 46	-5	-19	1575	0	0	0
209	SLU 47	-5	-16	1581	0	0	0
209	SLU 48	-6	-22	1565	0	0	0
209	SLU 49	-6	-19	1585	0	0	0
209	SLU 50	-6	-22	1558	0	0	0
209	SLU 51	-6	-19	1578	0	0	0
209	SLU 52	-6	-18	1735	0	0	0
209	SLU 53	-7	-24	1719	0	0	0
209	SLU 54	-6	-21	1739	0	0	0
209	SLU 55	-6	-18	1745	0	0	0
209	SLU 56	-7	-24	1730	0	0	0
209	SLU 57	-7	-21	1750	0	0	0
209	SLU 58	-7	-24	1722	0	0	0
209	SLU 59	-7	-21	1743	0	0	0
209	SLU 60	-7	-24	1772	0	0	0
209	SLU 61	-7	-21	1792	0	0	0
209	SLU 62	-7	-25	1782	0	0	0
209	SLU 63	-7	-22	1803	0	0	0
209	SLU 64	-6	-24	1698	0	0	0
209	SLU 65	-6	-18	1732	0	0	0
209	SLU 66	-6	-24	1716	0	0	0
209	SLU 67	-6	-21	1736	0	0	0
209	SLU 68	-6	-19	1742	0	0	0
209	SLU 69	-6	-24	1727	0	0	0
209	SLU 70	-6	-21	1747	0	0	0
209	SLU 71	-6	-24	1719	0	0	0
209	SLU 72	-6	-21	1740	0	0	0
209	SLU 73	-7	-20	1897	0	0	0
209	SLU 74	-7	-26	1881	0	0	0
209	SLU 75	-7	-23	1901	0	0	0
209	SLU 76	-7	-21	1907	0	0	0
209	SLU 77	-7	-27	1891	0	0	0
209	SLU 78	-7	-23	1912	0	0	0
209	SLU 79	-7	-26	1884	0	0	0
209	SLU 80	-7	-23	1904	0	0	0
209	SLU 81	-7	-27	1933	0	0	0
209	SLU 82	-7	-23	1954	0	0	0
209	SLU 83	-8	-27	1944	0	0	0
209	SLU 84	-8	-24	1964	0	0	0
209	SLE RA 1	-4	-18	1271	0	0	0
209	SLE RA 2	-4	-14	1293	0	0	0
209	SLE RA 3	-4	-18	1283	0	0	0
209	SLE RA 4	-4	-16	1296	0	0	0
209	SLE RA 5	-4	-14	1300	0	0	0
209	SLE RA 6	-5	-18	1290	0	0	0
209	SLE RA 7	-5	-16	1303	0	0	0
209	SLE RA 8	-5	-18	1285	0	0	0
209	SLE RA 9	-5	-16	1298	0	0	0
209	SLE RA 10	-5	-16	1403	0	0	0
209	SLE RA 11	-5	-19	1392	0	0	0
209	SLE RA 12	-5	-17	1406	0	0	0
209	SLE RA 13	-5	-16	1410	0	0	0
209	SLE RA 14	-5	-20	1400	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
209	SLE RA 15	-5	-17	1413	0	0	0
209	SLE RA 16	-5	-20	1395	0	0	0
209	SLE RA 17	-5	-17	1408	0	0	0
209	SLE RA 18	-5	-20	1427	0	0	0
209	SLE RA 19	-5	-18	1441	0	0	0
209	SLE RA 20	-6	-20	1435	0	0	0
209	SLE RA 21	-5	-18	1448	0	0	0
209	SLE FR 1	-4	-18	1271	0	0	0
209	SLE FR 2	-4	-17	1275	0	0	0
209	SLE FR 3	-4	-18	1273	0	0	0
209	SLE FR 4	-5	-18	1322	0	0	0
209	SLE FR 5	-5	-18	1320	0	0	0
209	SLE FR 6	-5	-19	1349	0	0	0
209	SLE QP 1	-4	-18	1271	0	0	0
209	SLE QP 2	-5	-18	1318	0	0	0
209	SLD 1	105	20	1516	0	0	0
209	SLD 2	128	25	1523	0	0	0
209	SLD 3	103	-49	1004	0	0	0
209	SLD 4	126	-44	1010	0	0	0
209	SLD 5	27	98	2154	0	0	0
209	SLD 6	42	101	2158	0	0	0
209	SLD 7	21	-133	445	0	0	0
209	SLD 8	36	-131	449	0	0	0
209	SLD 9	-45	94	2186	0	0	0
209	SLD 10	-30	97	2191	0	0	0
209	SLD 11	-51	-137	477	0	0	0
209	SLD 12	-36	-134	481	0	0	0
209	SLD 13	-135	8	1625	0	0	0
209	SLD 14	-112	12	1632	0	0	0
209	SLD 15	-137	-62	1112	0	0	0
209	SLD 16	-114	-57	1119	0	0	0
209	SLV 1	166	47	1661	0	0	0
209	SLV 2	203	54	1672	0	0	0
209	SLV 3	163	-70	794	0	0	0
209	SLV 4	200	-63	805	0	0	0
209	SLV 5	45	178	2733	0	0	0
209	SLV 6	69	182	2740	0	0	0
209	SLV 7	34	-213	-155	0	0	0
209	SLV 8	59	-208	-148	0	0	0
209	SLV 9	-68	172	2784	0	0	0
209	SLV 10	-43	176	2791	0	0	0
209	SLV 11	-79	-219	-105	0	0	0
209	SLV 12	-54	-214	-98	0	0	0
209	SLV 13	-209	27	1830	0	0	0
209	SLV 14	-173	34	1841	0	0	0
209	SLV 15	-212	-90	964	0	0	0
209	SLV 16	-176	-84	974	0	0	0
209	SLV FO 1	184	53	1695	0	0	0
209	SLV FO 2	224	61	1707	0	0	0
209	SLV FO 3	180	-76	742	0	0	0
209	SLV FO 4	220	-68	754	0	0	0
209	SLV FO 5	50	197	2874	0	0	0
209	SLV FO 6	77	202	2882	0	0	0
209	SLV FO 7	38	-232	-303	0	0	0
209	SLV FO 8	65	-227	-295	0	0	0
209	SLV FO 9	-74	191	2930	0	0	0
209	SLV FO 10	-47	196	2938	0	0	0
209	SLV FO 11	-86	-239	-247	0	0	0
209	SLV FO 12	-59	-234	-239	0	0	0
209	SLV FO 13	-230	31	1882	0	0	0
209	SLV FO 14	-189	39	1893	0	0	0
209	SLV FO 15	-233	-98	928	0	0	0
209	SLV FO 16	-193	-90	940	0	0	0
209	CRTFP Uy+	0	0	0	0	0	0
209	CRTFP Uy-	0	0	0	0	0	0
210	SLU 1	-4	-19	1206	0	0	0
210	SLU 2	-4	-14	1240	0	0	0
210	SLU 3	-4	-19	1224	0	0	0
210	SLU 4	-4	-16	1244	0	0	0
210	SLU 5	-4	-14	1250	0	0	0
210	SLU 6	-4	-20	1234	0	0	0
210	SLU 7	-4	-17	1254	0	0	0
210	SLU 8	-4	-20	1227	0	0	0
210	SLU 9	-4	-16	1247	0	0	0
210	SLU 10	-5	-16	1401	0	0	0
210	SLU 11	-5	-22	1385	0	0	0
210	SLU 12	-5	-18	1405	0	0	0
210	SLU 13	-5	-16	1412	0	0	0
210	SLU 14	-5	-22	1396	0	0	0
210	SLU 15	-5	-19	1416	0	0	0
210	SLU 16	-5	-22	1388	0	0	0
210	SLU 17	-5	-19	1408	0	0	0
210	SLU 18	-5	-22	1437	0	0	0
210	SLU 19	-5	-19	1457	0	0	0
210	SLU 20	-6	-22	1447	0	0	0
210	SLU 21	-6	-19	1467	0	0	0
210	SLU 22	-5	-21	1365	0	0	0
210	SLU 23	-4	-16	1399	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
210	SLU 24	-5	-22	1383	0	0	0
210	SLU 25	-5	-19	1403	0	0	0
210	SLU 26	-5	-16	1409	0	0	0
210	SLU 27	-5	-22	1393	0	0	0
210	SLU 28	-5	-19	1413	0	0	0
210	SLU 29	-5	-22	1386	0	0	0
210	SLU 30	-5	-19	1406	0	0	0
210	SLU 31	-5	-18	1560	0	0	0
210	SLU 32	-6	-24	1544	0	0	0
210	SLU 33	-6	-21	1564	0	0	0
210	SLU 34	-6	-19	1571	0	0	0
210	SLU 35	-6	-24	1555	0	0	0
210	SLU 36	-6	-21	1575	0	0	0
210	SLU 37	-6	-24	1547	0	0	0
210	SLU 38	-6	-21	1567	0	0	0
210	SLU 39	-6	-25	1596	0	0	0
210	SLU 40	-6	-21	1616	0	0	0
210	SLU 41	-6	-25	1606	0	0	0
210	SLU 42	-6	-22	1626	0	0	0
210	SLU 43	-5	-24	1514	0	0	0
210	SLU 44	-5	-18	1547	0	0	0
210	SLU 45	-5	-24	1531	0	0	0
210	SLU 46	-5	-21	1551	0	0	0
210	SLU 47	-5	-19	1557	0	0	0
210	SLU 48	-5	-24	1542	0	0	0
210	SLU 49	-5	-21	1562	0	0	0
210	SLU 50	-5	-24	1534	0	0	0
210	SLU 51	-5	-21	1554	0	0	0
210	SLU 52	-6	-21	1709	0	0	0
210	SLU 53	-6	-26	1693	0	0	0
210	SLU 54	-6	-23	1713	0	0	0
210	SLU 55	-6	-21	1719	0	0	0
210	SLU 56	-6	-27	1703	0	0	0
210	SLU 57	-6	-24	1723	0	0	0
210	SLU 58	-6	-27	1696	0	0	0
210	SLU 59	-6	-23	1716	0	0	0
210	SLU 60	-6	-27	1744	0	0	0
210	SLU 61	-6	-24	1764	0	0	0
210	SLU 62	-7	-27	1755	0	0	0
210	SLU 63	-7	-24	1775	0	0	0
210	SLU 64	-5	-26	1673	0	0	0
210	SLU 65	-5	-21	1706	0	0	0
210	SLU 66	-6	-27	1690	0	0	0
210	SLU 67	-6	-23	1710	0	0	0
210	SLU 68	-6	-21	1716	0	0	0
210	SLU 69	-6	-27	1701	0	0	0
210	SLU 70	-6	-24	1721	0	0	0
210	SLU 71	-6	-27	1693	0	0	0
210	SLU 72	-6	-24	1713	0	0	0
210	SLU 73	-6	-23	1868	0	0	0
210	SLU 74	-7	-29	1852	0	0	0
210	SLU 75	-7	-26	1872	0	0	0
210	SLU 76	-7	-24	1878	0	0	0
210	SLU 77	-7	-29	1862	0	0	0
210	SLU 78	-7	-26	1882	0	0	0
210	SLU 79	-7	-29	1855	0	0	0
210	SLU 80	-7	-26	1875	0	0	0
210	SLU 81	-7	-29	1903	0	0	0
210	SLU 82	-7	-26	1923	0	0	0
210	SLU 83	-7	-30	1914	0	0	0
210	SLU 84	-7	-27	1934	0	0	0
210	SLE RA 1	-4	-20	1252	0	0	0
210	SLE RA 2	-4	-16	1274	0	0	0
210	SLE RA 3	-4	-20	1263	0	0	0
210	SLE RA 4	-4	-18	1277	0	0	0
210	SLE RA 5	-4	-16	1281	0	0	0
210	SLE RA 6	-4	-20	1270	0	0	0
210	SLE RA 7	-4	-18	1284	0	0	0
210	SLE RA 8	-4	-20	1265	0	0	0
210	SLE RA 9	-4	-18	1279	0	0	0
210	SLE RA 10	-5	-18	1382	0	0	0
210	SLE RA 11	-5	-21	1371	0	0	0
210	SLE RA 12	-5	-19	1384	0	0	0
210	SLE RA 13	-5	-18	1389	0	0	0
210	SLE RA 14	-5	-22	1378	0	0	0
210	SLE RA 15	-5	-20	1391	0	0	0
210	SLE RA 16	-5	-22	1373	0	0	0
210	SLE RA 17	-5	-19	1386	0	0	0
210	SLE RA 18	-5	-22	1405	0	0	0
210	SLE RA 19	-5	-20	1419	0	0	0
210	SLE RA 20	-5	-22	1412	0	0	0
210	SLE RA 21	-5	-20	1426	0	0	0
210	SLE FR 1	-4	-20	1252	0	0	0
210	SLE FR 2	-4	-19	1256	0	0	0
210	SLE FR 3	-4	-20	1254	0	0	0
210	SLE FR 4	-4	-20	1302	0	0	0
210	SLE FR 5	-4	-20	1301	0	0	0
210	SLE FR 6	-5	-21	1329	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
210	SLE QP 1	-4	-20	1252	0	0	0
210	SLE QP 2	-4	-20	1298	0	0	0
210	SLD 1	104	19	1484	0	0	0
210	SLD 2	127	25	1492	0	0	0
210	SLD 3	102	-48	979	0	0	0
210	SLD 4	125	-43	986	0	0	0
210	SLD 5	27	93	2119	0	0	0
210	SLD 6	42	97	2124	0	0	0
210	SLD 7	21	-132	434	0	0	0
210	SLD 8	35	-129	439	0	0	0
210	SLD 9	-44	88	2156	0	0	0
210	SLD 10	-29	92	2161	0	0	0
210	SLD 11	-51	-137	472	0	0	0
210	SLD 12	-36	-134	477	0	0	0
210	SLD 13	-134	3	1609	0	0	0
210	SLD 14	-111	8	1617	0	0	0
210	SLD 15	-136	-65	1104	0	0	0
210	SLD 16	-113	-60	1111	0	0	0
210	SLV 1	165	46	1621	0	0	0
210	SLV 2	201	54	1633	0	0	0
210	SLV 3	162	-69	767	0	0	0
210	SLV 4	198	-60	779	0	0	0
210	SLV 5	45	171	2688	0	0	0
210	SLV 6	69	177	2696	0	0	0
210	SLV 7	34	-210	-159	0	0	0
210	SLV 8	58	-204	-151	0	0	0
210	SLV 9	-67	164	2746	0	0	0
210	SLV 10	-43	169	2754	0	0	0
210	SLV 11	-78	-218	-100	0	0	0
210	SLV 12	-53	-212	-92	0	0	0
210	SLV 13	-207	20	1816	0	0	0
210	SLV 14	-171	28	1828	0	0	0
210	SLV 15	-210	-95	963	0	0	0
210	SLV 16	-174	-86	974	0	0	0
210	SLV FO 1	182	52	1654	0	0	0
210	SLV FO 2	222	62	1667	0	0	0
210	SLV FO 3	178	-74	714	0	0	0
210	SLV FO 4	218	-64	727	0	0	0
210	SLV FO 5	50	190	2827	0	0	0
210	SLV FO 6	76	197	2835	0	0	0
210	SLV FO 7	38	-229	-304	0	0	0
210	SLV FO 8	64	-222	-296	0	0	0
210	SLV FO 9	-73	182	2891	0	0	0
210	SLV FO 10	-46	188	2900	0	0	0
210	SLV FO 11	-85	-237	-240	0	0	0
210	SLV FO 12	-58	-231	-231	0	0	0
210	SLV FO 13	-227	24	1868	0	0	0
210	SLV FO 14	-187	33	1881	0	0	0
210	SLV FO 15	-231	-102	929	0	0	0
210	SLV FO 16	-191	-93	942	0	0	0
210	CRTFP Uy+	0	0	0	0	0	0
210	CRTFP Uy-	0	0	0	0	0	0
211	SLU 1	-4	-21	1193	0	0	0
211	SLU 2	-4	-16	1226	0	0	0
211	SLU 3	-4	-21	1210	0	0	0
211	SLU 4	-4	-18	1230	0	0	0
211	SLU 5	-4	-16	1236	0	0	0
211	SLU 6	-4	-21	1220	0	0	0
211	SLU 7	-4	-18	1240	0	0	0
211	SLU 8	-4	-21	1213	0	0	0
211	SLU 9	-4	-18	1233	0	0	0
211	SLU 10	-5	-18	1385	0	0	0
211	SLU 11	-5	-24	1369	0	0	0
211	SLU 12	-5	-21	1389	0	0	0
211	SLU 13	-5	-18	1395	0	0	0
211	SLU 14	-5	-24	1379	0	0	0
211	SLU 15	-5	-21	1399	0	0	0
211	SLU 16	-5	-24	1372	0	0	0
211	SLU 17	-5	-21	1392	0	0	0
211	SLU 18	-5	-24	1420	0	0	0
211	SLU 19	-5	-21	1440	0	0	0
211	SLU 20	-5	-25	1430	0	0	0
211	SLU 21	-5	-21	1450	0	0	0
211	SLU 22	-4	-23	1350	0	0	0
211	SLU 23	-4	-18	1383	0	0	0
211	SLU 24	-5	-24	1367	0	0	0
211	SLU 25	-4	-21	1387	0	0	0
211	SLU 26	-4	-19	1393	0	0	0
211	SLU 27	-5	-24	1377	0	0	0
211	SLU 28	-5	-21	1397	0	0	0
211	SLU 29	-5	-24	1370	0	0	0
211	SLU 30	-5	-21	1390	0	0	0
211	SLU 31	-5	-21	1542	0	0	0
211	SLU 32	-6	-26	1526	0	0	0
211	SLU 33	-6	-23	1546	0	0	0
211	SLU 34	-5	-21	1552	0	0	0
211	SLU 35	-6	-27	1536	0	0	0
211	SLU 36	-6	-24	1556	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
211	SLU 37	-6	-26	1529	0	0	0
211	SLU 38	-6	-23	1549	0	0	0
211	SLU 39	-6	-27	1577	0	0	0
211	SLU 40	-6	-24	1597	0	0	0
211	SLU 41	-6	-27	1587	0	0	0
211	SLU 42	-6	-24	1607	0	0	0
211	SLU 43	-5	-26	1497	0	0	0
211	SLU 44	-5	-21	1530	0	0	0
211	SLU 45	-5	-26	1514	0	0	0
211	SLU 46	-5	-23	1534	0	0	0
211	SLU 47	-5	-21	1540	0	0	0
211	SLU 48	-5	-27	1524	0	0	0
211	SLU 49	-5	-24	1544	0	0	0
211	SLU 50	-5	-27	1517	0	0	0
211	SLU 51	-5	-24	1537	0	0	0
211	SLU 52	-6	-23	1689	0	0	0
211	SLU 53	-6	-29	1673	0	0	0
211	SLU 54	-6	-26	1693	0	0	0
211	SLU 55	-6	-24	1699	0	0	0
211	SLU 56	-6	-29	1683	0	0	0
211	SLU 57	-6	-26	1703	0	0	0
211	SLU 58	-6	-29	1676	0	0	0
211	SLU 59	-6	-26	1696	0	0	0
211	SLU 60	-6	-29	1724	0	0	0
211	SLU 61	-6	-26	1744	0	0	0
211	SLU 62	-6	-30	1734	0	0	0
211	SLU 63	-6	-27	1754	0	0	0
211	SLU 64	-5	-29	1654	0	0	0
211	SLU 65	-5	-23	1687	0	0	0
211	SLU 66	-5	-29	1671	0	0	0
211	SLU 67	-5	-26	1691	0	0	0
211	SLU 68	-5	-24	1697	0	0	0
211	SLU 69	-6	-29	1681	0	0	0
211	SLU 70	-6	-26	1701	0	0	0
211	SLU 71	-6	-29	1674	0	0	0
211	SLU 72	-6	-26	1694	0	0	0
211	SLU 73	-6	-26	1846	0	0	0
211	SLU 74	-7	-32	1830	0	0	0
211	SLU 75	-6	-28	1850	0	0	0
211	SLU 76	-6	-26	1856	0	0	0
211	SLU 77	-7	-32	1840	0	0	0
211	SLU 78	-7	-29	1860	0	0	0
211	SLU 79	-7	-32	1833	0	0	0
211	SLU 80	-7	-29	1853	0	0	0
211	SLU 81	-7	-32	1881	0	0	0
211	SLU 82	-7	-29	1901	0	0	0
211	SLU 83	-7	-32	1891	0	0	0
211	SLU 84	-7	-29	1911	0	0	0
211	SLE RA 1	-4	-21	1238	0	0	0
211	SLE RA 2	-4	-18	1260	0	0	0
211	SLE RA 3	-4	-22	1249	0	0	0
211	SLE RA 4	-4	-20	1262	0	0	0
211	SLE RA 5	-4	-18	1266	0	0	0
211	SLE RA 6	-4	-22	1256	0	0	0
211	SLE RA 7	-4	-20	1269	0	0	0
211	SLE RA 8	-4	-22	1251	0	0	0
211	SLE RA 9	-4	-20	1264	0	0	0
211	SLE RA 10	-5	-20	1366	0	0	0
211	SLE RA 11	-5	-23	1355	0	0	0
211	SLE RA 12	-5	-21	1368	0	0	0
211	SLE RA 13	-5	-20	1372	0	0	0
211	SLE RA 14	-5	-24	1362	0	0	0
211	SLE RA 15	-5	-22	1375	0	0	0
211	SLE RA 16	-5	-23	1357	0	0	0
211	SLE RA 17	-5	-21	1370	0	0	0
211	SLE RA 18	-5	-24	1389	0	0	0
211	SLE RA 19	-5	-22	1402	0	0	0
211	SLE RA 20	-5	-24	1396	0	0	0
211	SLE RA 21	-5	-22	1409	0	0	0
211	SLE FR 1	-4	-21	1238	0	0	0
211	SLE FR 2	-4	-21	1242	0	0	0
211	SLE FR 3	-4	-21	1240	0	0	0
211	SLE FR 4	-4	-21	1287	0	0	0
211	SLE FR 5	-4	-22	1286	0	0	0
211	SLE FR 6	-4	-23	1313	0	0	0
211	SLE QP 1	-4	-21	1238	0	0	0
211	SLE QP 2	-4	-22	1283	0	0	0
211	SLD 1	103	18	1457	0	0	0
211	SLD 2	126	24	1466	0	0	0
211	SLD 3	101	-48	958	0	0	0
211	SLD 4	124	-42	966	0	0	0
211	SLD 5	27	89	2092	0	0	0
211	SLD 6	42	93	2097	0	0	0
211	SLD 7	20	-131	426	0	0	0
211	SLD 8	35	-127	431	0	0	0
211	SLD 9	-44	83	2135	0	0	0
211	SLD 10	-29	87	2140	0	0	0
211	SLD 11	-50	-137	469	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
211	SLD 12	-36	-133	474	0	0	0
211	SLD 13	-132	-2	1600	0	0	0
211	SLD 14	-110	4	1608	0	0	0
211	SLD 15	-135	-68	1100	0	0	0
211	SLD 16	-112	-62	1109	0	0	0
211	SLV 1	164	44	1587	0	0	0
211	SLV 2	200	54	1600	0	0	0
211	SLV 3	160	-67	743	0	0	0
211	SLV 4	196	-57	756	0	0	0
211	SLV 5	45	165	2652	0	0	0
211	SLV 6	69	172	2661	0	0	0
211	SLV 7	33	-207	-162	0	0	0
211	SLV 8	58	-200	-153	0	0	0
211	SLV 9	-66	156	2719	0	0	0
211	SLV 10	-42	163	2728	0	0	0
211	SLV 11	-77	-216	-95	0	0	0
211	SLV 12	-53	-210	-87	0	0	0
211	SLV 13	-205	13	1810	0	0	0
211	SLV 14	-169	23	1823	0	0	0
211	SLV 15	-208	-99	966	0	0	0
211	SLV 16	-172	-89	979	0	0	0
211	SLV FO 1	181	51	1618	0	0	0
211	SLV FO 2	220	62	1632	0	0	0
211	SLV FO 3	177	-72	689	0	0	0
211	SLV FO 4	217	-61	703	0	0	0
211	SLV FO 5	50	184	2789	0	0	0
211	SLV FO 6	76	192	2799	0	0	0
211	SLV FO 7	37	-225	-307	0	0	0
211	SLV FO 8	64	-218	-297	0	0	0
211	SLV FO 9	-72	174	2863	0	0	0
211	SLV FO 10	-45	181	2873	0	0	0
211	SLV FO 11	-85	-236	-233	0	0	0
211	SLV FO 12	-58	-228	-224	0	0	0
211	SLV FO 13	-225	17	1863	0	0	0
211	SLV FO 14	-185	28	1877	0	0	0
211	SLV FO 15	-229	-106	934	0	0	0
211	SLV FO 16	-189	-95	948	0	0	0
211	CRTFP Uy+	0	0	0	0	0	0
211	CRTFP Uy-	0	0	0	0	0	0
212	SLU 1	-4	-22	1182	0	0	0
212	SLU 2	-3	-17	1215	0	0	0
212	SLU 3	-4	-23	1199	0	0	0
212	SLU 4	-4	-20	1218	0	0	0
212	SLU 5	-4	-18	1225	0	0	0
212	SLU 6	-4	-23	1208	0	0	0
212	SLU 7	-4	-20	1228	0	0	0
212	SLU 8	-4	-23	1201	0	0	0
212	SLU 9	-4	-20	1221	0	0	0
212	SLU 10	-4	-20	1372	0	0	0
212	SLU 11	-5	-25	1356	0	0	0
212	SLU 12	-5	-23	1375	0	0	0
212	SLU 13	-5	-20	1382	0	0	0
212	SLU 14	-5	-26	1365	0	0	0
212	SLU 15	-5	-23	1385	0	0	0
212	SLU 16	-5	-26	1358	0	0	0
212	SLU 17	-5	-23	1378	0	0	0
212	SLU 18	-5	-26	1406	0	0	0
212	SLU 19	-5	-23	1426	0	0	0
212	SLU 20	-5	-26	1416	0	0	0
212	SLU 21	-5	-24	1436	0	0	0
212	SLU 22	-4	-25	1337	0	0	0
212	SLU 23	-4	-20	1370	0	0	0
212	SLU 24	-4	-26	1354	0	0	0
212	SLU 25	-4	-23	1374	0	0	0
212	SLU 26	-4	-21	1380	0	0	0
212	SLU 27	-5	-26	1364	0	0	0
212	SLU 28	-4	-23	1384	0	0	0
212	SLU 29	-5	-26	1357	0	0	0
212	SLU 30	-4	-23	1377	0	0	0
212	SLU 31	-5	-23	1527	0	0	0
212	SLU 32	-5	-28	1511	0	0	0
212	SLU 33	-5	-25	1531	0	0	0
212	SLU 34	-5	-23	1537	0	0	0
212	SLU 35	-6	-29	1521	0	0	0
212	SLU 36	-5	-26	1541	0	0	0
212	SLU 37	-6	-29	1514	0	0	0
212	SLU 38	-5	-26	1534	0	0	0
212	SLU 39	-6	-29	1561	0	0	0
212	SLU 40	-5	-26	1581	0	0	0
212	SLU 41	-6	-29	1571	0	0	0
212	SLU 42	-6	-26	1591	0	0	0
212	SLU 43	-4	-28	1483	0	0	0
212	SLU 44	-4	-23	1516	0	0	0
212	SLU 45	-5	-29	1500	0	0	0
212	SLU 46	-5	-26	1520	0	0	0
212	SLU 47	-5	-23	1526	0	0	0
212	SLU 48	-5	-29	1510	0	0	0
212	SLU 49	-5	-26	1529	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
212	SLU 50	-5	-29	1502	0	0	0
212	SLU 51	-5	-26	1522	0	0	0
212	SLU 52	-5	-26	1673	0	0	0
212	SLU 53	-6	-31	1657	0	0	0
212	SLU 54	-6	-28	1677	0	0	0
212	SLU 55	-6	-26	1683	0	0	0
212	SLU 56	-6	-32	1667	0	0	0
212	SLU 57	-6	-29	1686	0	0	0
212	SLU 58	-6	-31	1659	0	0	0
212	SLU 59	-6	-28	1679	0	0	0
212	SLU 60	-6	-32	1707	0	0	0
212	SLU 61	-6	-29	1727	0	0	0
212	SLU 62	-6	-32	1717	0	0	0
212	SLU 63	-6	-29	1737	0	0	0
212	SLU 64	-5	-31	1638	0	0	0
212	SLU 65	-5	-26	1671	0	0	0
212	SLU 66	-5	-31	1655	0	0	0
212	SLU 67	-5	-28	1675	0	0	0
212	SLU 68	-5	-26	1681	0	0	0
212	SLU 69	-5	-32	1665	0	0	0
212	SLU 70	-5	-29	1685	0	0	0
212	SLU 71	-5	-32	1658	0	0	0
212	SLU 72	-5	-29	1678	0	0	0
212	SLU 73	-6	-29	1828	0	0	0
212	SLU 74	-6	-34	1812	0	0	0
212	SLU 75	-6	-31	1832	0	0	0
212	SLU 76	-6	-29	1838	0	0	0
212	SLU 77	-6	-34	1822	0	0	0
212	SLU 78	-6	-31	1842	0	0	0
212	SLU 79	-6	-34	1815	0	0	0
212	SLU 80	-6	-31	1835	0	0	0
212	SLU 81	-6	-35	1863	0	0	0
212	SLU 82	-6	-32	1882	0	0	0
212	SLU 83	-7	-35	1872	0	0	0
212	SLU 84	-7	-32	1892	0	0	0
212	SLE RA 1	-4	-23	1226	0	0	0
212	SLE RA 2	-4	-20	1248	0	0	0
212	SLE RA 3	-4	-23	1237	0	0	0
212	SLE RA 4	-4	-21	1251	0	0	0
212	SLE RA 5	-4	-20	1255	0	0	0
212	SLE RA 6	-4	-24	1244	0	0	0
212	SLE RA 7	-4	-22	1257	0	0	0
212	SLE RA 8	-4	-24	1239	0	0	0
212	SLE RA 9	-4	-22	1252	0	0	0
212	SLE RA 10	-4	-22	1353	0	0	0
212	SLE RA 11	-5	-25	1342	0	0	0
212	SLE RA 12	-4	-23	1355	0	0	0
212	SLE RA 13	-4	-22	1359	0	0	0
212	SLE RA 14	-5	-25	1349	0	0	0
212	SLE RA 15	-5	-23	1362	0	0	0
212	SLE RA 16	-5	-25	1344	0	0	0
212	SLE RA 17	-5	-23	1357	0	0	0
212	SLE RA 18	-5	-26	1376	0	0	0
212	SLE RA 19	-5	-24	1389	0	0	0
212	SLE RA 20	-5	-26	1382	0	0	0
212	SLE RA 21	-5	-24	1395	0	0	0
212	SLE FR 1	-4	-23	1226	0	0	0
212	SLE FR 2	-4	-22	1230	0	0	0
212	SLE FR 3	-4	-23	1229	0	0	0
212	SLE FR 4	-4	-23	1275	0	0	0
212	SLE FR 5	-4	-24	1274	0	0	0
212	SLE FR 6	-4	-24	1301	0	0	0
212	SLE QP 1	-4	-23	1226	0	0	0
212	SLE QP 2	-4	-24	1271	0	0	0
212	SLD 1	103	16	1433	0	0	0
212	SLD 2	125	24	1443	0	0	0
212	SLD 3	100	-48	938	0	0	0
212	SLD 4	123	-41	947	0	0	0
212	SLD 5	27	85	2069	0	0	0
212	SLD 6	42	90	2075	0	0	0
212	SLD 7	20	-130	419	0	0	0
212	SLD 8	35	-126	424	0	0	0
212	SLD 9	-43	78	2117	0	0	0
212	SLD 10	-28	83	2123	0	0	0
212	SLD 11	-50	-137	467	0	0	0
212	SLD 12	-35	-133	473	0	0	0
212	SLD 13	-131	-7	1594	0	0	0
212	SLD 14	-108	1	1604	0	0	0
212	SLD 15	-133	-71	1099	0	0	0
212	SLD 16	-111	-64	1108	0	0	0
212	SLV 1	163	43	1556	0	0	0
212	SLV 2	198	54	1571	0	0	0
212	SLV 3	159	-66	720	0	0	0
212	SLV 4	195	-55	734	0	0	0
212	SLV 5	45	159	2623	0	0	0
212	SLV 6	69	167	2633	0	0	0
212	SLV 7	33	-204	-166	0	0	0
212	SLV 8	57	-196	-156	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
212	SLV 9	-65	149	2698	0	0	0
212	SLV 10	-41	156	2708	0	0	0
212	SLV 11	-77	-215	-91	0	0	0
212	SLV 12	-53	-207	-81	0	0	0
212	SLV 13	-203	7	1808	0	0	0
212	SLV 14	-167	18	1822	0	0	0
212	SLV 15	-206	-102	971	0	0	0
212	SLV 16	-171	-91	985	0	0	0
212	SLV FO 1	179	50	1585	0	0	0
212	SLV FO 2	219	62	1601	0	0	0
212	SLV FO 3	175	-70	665	0	0	0
212	SLV FO 4	215	-58	680	0	0	0
212	SLV FO 5	50	178	2758	0	0	0
212	SLV FO 6	76	186	2769	0	0	0
212	SLV FO 7	37	-222	-310	0	0	0
212	SLV FO 8	63	-214	-299	0	0	0
212	SLV FO 9	-71	166	2841	0	0	0
212	SLV FO 10	-44	174	2852	0	0	0
212	SLV FO 11	-84	-234	-227	0	0	0
212	SLV FO 12	-58	-225	-216	0	0	0
212	SLV FO 13	-223	10	1861	0	0	0
212	SLV FO 14	-183	23	1877	0	0	0
212	SLV FO 15	-226	-110	941	0	0	0
212	SLV FO 16	-187	-97	957	0	0	0
212	CRTFP Uy+	0	0	0	0	0	0
212	CRTFP Uy-	0	0	0	0	0	0
213	SLU 1	-3	-24	1169	0	0	0
213	SLU 2	-3	-19	1202	0	0	0
213	SLU 3	-4	-24	1186	0	0	0
213	SLU 4	-3	-21	1206	0	0	0
213	SLU 5	-3	-19	1212	0	0	0
213	SLU 6	-4	-25	1196	0	0	0
213	SLU 7	-4	-22	1215	0	0	0
213	SLU 8	-4	-25	1189	0	0	0
213	SLU 9	-4	-22	1208	0	0	0
213	SLU 10	-4	-22	1357	0	0	0
213	SLU 11	-5	-27	1341	0	0	0
213	SLU 12	-4	-24	1361	0	0	0
213	SLU 13	-4	-22	1367	0	0	0
213	SLU 14	-5	-28	1351	0	0	0
213	SLU 15	-5	-25	1370	0	0	0
213	SLU 16	-5	-27	1344	0	0	0
213	SLU 17	-5	-25	1363	0	0	0
213	SLU 18	-5	-28	1391	0	0	0
213	SLU 19	-5	-25	1411	0	0	0
213	SLU 20	-5	-28	1401	0	0	0
213	SLU 21	-5	-25	1420	0	0	0
213	SLU 22	-4	-27	1324	0	0	0
213	SLU 23	-4	-22	1356	0	0	0
213	SLU 24	-4	-27	1340	0	0	0
213	SLU 25	-4	-25	1360	0	0	0
213	SLU 26	-4	-22	1366	0	0	0
213	SLU 27	-4	-28	1350	0	0	0
213	SLU 28	-4	-25	1370	0	0	0
213	SLU 29	-4	-28	1343	0	0	0
213	SLU 30	-4	-25	1363	0	0	0
213	SLU 31	-5	-25	1512	0	0	0
213	SLU 32	-5	-30	1495	0	0	0
213	SLU 33	-5	-27	1515	0	0	0
213	SLU 34	-5	-25	1521	0	0	0
213	SLU 35	-5	-31	1505	0	0	0
213	SLU 36	-5	-28	1525	0	0	0
213	SLU 37	-5	-30	1498	0	0	0
213	SLU 38	-5	-28	1518	0	0	0
213	SLU 39	-5	-31	1545	0	0	0
213	SLU 40	-5	-28	1565	0	0	0
213	SLU 41	-5	-31	1555	0	0	0
213	SLU 42	-5	-28	1574	0	0	0
213	SLU 43	-4	-30	1467	0	0	0
213	SLU 44	-4	-25	1500	0	0	0
213	SLU 45	-4	-30	1484	0	0	0
213	SLU 46	-4	-28	1504	0	0	0
213	SLU 47	-4	-25	1510	0	0	0
213	SLU 48	-5	-31	1494	0	0	0
213	SLU 49	-5	-28	1513	0	0	0
213	SLU 50	-5	-31	1487	0	0	0
213	SLU 51	-5	-28	1506	0	0	0
213	SLU 52	-5	-28	1655	0	0	0
213	SLU 53	-5	-33	1639	0	0	0
213	SLU 54	-5	-30	1659	0	0	0
213	SLU 55	-5	-28	1665	0	0	0
213	SLU 56	-6	-34	1649	0	0	0
213	SLU 57	-6	-31	1669	0	0	0
213	SLU 58	-6	-34	1642	0	0	0
213	SLU 59	-6	-31	1661	0	0	0
213	SLU 60	-6	-34	1689	0	0	0
213	SLU 61	-5	-31	1709	0	0	0
213	SLU 62	-6	-34	1699	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
213	SLU 63	-6	-31	1718	0	0	0
213	SLU 64	-5	-33	1622	0	0	0
213	SLU 65	-4	-28	1654	0	0	0
213	SLU 66	-5	-33	1638	0	0	0
213	SLU 67	-5	-31	1658	0	0	0
213	SLU 68	-5	-29	1664	0	0	0
213	SLU 69	-5	-34	1648	0	0	0
213	SLU 70	-5	-31	1668	0	0	0
213	SLU 71	-5	-34	1641	0	0	0
213	SLU 72	-5	-31	1661	0	0	0
213	SLU 73	-5	-31	1810	0	0	0
213	SLU 74	-6	-36	1793	0	0	0
213	SLU 75	-6	-33	1813	0	0	0
213	SLU 76	-6	-31	1819	0	0	0
213	SLU 77	-6	-37	1803	0	0	0
213	SLU 78	-6	-34	1823	0	0	0
213	SLU 79	-6	-37	1796	0	0	0
213	SLU 80	-6	-34	1816	0	0	0
213	SLU 81	-6	-37	1843	0	0	0
213	SLU 82	-6	-34	1863	0	0	0
213	SLU 83	-6	-37	1853	0	0	0
213	SLU 84	-6	-35	1872	0	0	0
213	SLE RA 1	-3	-25	1214	0	0	0
213	SLE RA 2	-3	-21	1235	0	0	0
213	SLE RA 3	-4	-25	1225	0	0	0
213	SLE RA 4	-4	-23	1238	0	0	0
213	SLE RA 5	-4	-22	1242	0	0	0
213	SLE RA 6	-4	-25	1231	0	0	0
213	SLE RA 7	-4	-23	1244	0	0	0
213	SLE RA 8	-4	-25	1226	0	0	0
213	SLE RA 9	-4	-23	1239	0	0	0
213	SLE RA 10	-4	-23	1339	0	0	0
213	SLE RA 11	-4	-27	1328	0	0	0
213	SLE RA 12	-4	-25	1341	0	0	0
213	SLE RA 13	-4	-24	1345	0	0	0
213	SLE RA 14	-4	-27	1334	0	0	0
213	SLE RA 15	-4	-25	1348	0	0	0
213	SLE RA 16	-4	-27	1330	0	0	0
213	SLE RA 17	-4	-25	1343	0	0	0
213	SLE RA 18	-4	-27	1361	0	0	0
213	SLE RA 19	-4	-25	1374	0	0	0
213	SLE RA 20	-5	-28	1368	0	0	0
213	SLE RA 21	-5	-26	1381	0	0	0
213	SLE FR 1	-3	-25	1214	0	0	0
213	SLE FR 2	-3	-24	1218	0	0	0
213	SLE FR 3	-4	-25	1216	0	0	0
213	SLE FR 4	-4	-25	1262	0	0	0
213	SLE FR 5	-4	-26	1260	0	0	0
213	SLE FR 6	-4	-26	1287	0	0	0
213	SLE QP 1	-3	-25	1214	0	0	0
213	SLE QP 2	-4	-26	1258	0	0	0
213	SLD 1	101	15	1408	0	0	0
213	SLD 2	124	23	1418	0	0	0
213	SLD 3	99	-48	918	0	0	0
213	SLD 4	121	-40	928	0	0	0
213	SLD 5	27	80	2045	0	0	0
213	SLD 6	42	86	2051	0	0	0
213	SLD 7	20	-129	411	0	0	0
213	SLD 8	34	-124	417	0	0	0
213	SLD 9	-42	73	2098	0	0	0
213	SLD 10	-27	78	2105	0	0	0
213	SLD 11	-49	-137	464	0	0	0
213	SLD 12	-35	-131	471	0	0	0
213	SLD 13	-129	-11	1587	0	0	0
213	SLD 14	-107	-3	1597	0	0	0
213	SLD 15	-131	-74	1097	0	0	0
213	SLD 16	-109	-66	1107	0	0	0
213	SLV 1	161	41	1525	0	0	0
213	SLV 2	196	54	1540	0	0	0
213	SLV 3	157	-65	696	0	0	0
213	SLV 4	192	-52	712	0	0	0
213	SLV 5	45	153	2591	0	0	0
213	SLV 6	68	162	2602	0	0	0
213	SLV 7	32	-200	-170	0	0	0
213	SLV 8	56	-192	-159	0	0	0
213	SLV 9	-63	141	2675	0	0	0
213	SLV 10	-40	149	2686	0	0	0
213	SLV 11	-76	-213	-86	0	0	0
213	SLV 12	-52	-204	-76	0	0	0
213	SLV 13	-200	1	1804	0	0	0
213	SLV 14	-164	14	1819	0	0	0
213	SLV 15	-203	-105	975	0	0	0
213	SLV 16	-168	-92	991	0	0	0
213	SLV FO 1	177	48	1551	0	0	0
213	SLV FO 2	216	62	1569	0	0	0
213	SLV FO 3	173	-69	640	0	0	0
213	SLV FO 4	212	-55	657	0	0	0
213	SLV FO 5	49	171	2725	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
213	SLV FO 6	76	180	2736	0	0	0
213	SLV FO 7	36	-218	-313	0	0	0
213	SLV FO 8	62	-208	-301	0	0	0
213	SLV FO 9	-69	157	2817	0	0	0
213	SLV FO 10	-43	167	2828	0	0	0
213	SLV FO 11	-83	-231	-221	0	0	0
213	SLV FO 12	-57	-222	-209	0	0	0
213	SLV FO 13	-219	4	1858	0	0	0
213	SLV FO 14	-180	18	1875	0	0	0
213	SLV FO 15	-223	-113	947	0	0	0
213	SLV FO 16	-185	-99	964	0	0	0
213	CRTFP Ux+	0	0	0	0	0	0
213	CRTFP Ux-	0	0	0	0	0	0
213	CRTFP Uy+	0	0	0	0	0	0
213	CRTFP Uy-	0	0	0	0	0	0
214	SLU 1	-3	-25	1154	0	0	0
214	SLU 2	-3	-21	1186	0	0	0
214	SLU 3	-3	-26	1170	0	0	0
214	SLU 4	-3	-23	1190	0	0	0
214	SLU 5	-3	-21	1196	0	0	0
214	SLU 6	-4	-26	1179	0	0	0
214	SLU 7	-4	-23	1199	0	0	0
214	SLU 8	-4	-26	1172	0	0	0
214	SLU 9	-4	-23	1192	0	0	0
214	SLU 10	-4	-24	1339	0	0	0
214	SLU 11	-4	-29	1323	0	0	0
214	SLU 12	-4	-26	1342	0	0	0
214	SLU 13	-4	-24	1348	0	0	0
214	SLU 14	-5	-29	1332	0	0	0
214	SLU 15	-4	-26	1352	0	0	0
214	SLU 16	-5	-29	1325	0	0	0
214	SLU 17	-4	-26	1345	0	0	0
214	SLU 18	-5	-30	1372	0	0	0
214	SLU 19	-4	-27	1391	0	0	0
214	SLU 20	-5	-30	1381	0	0	0
214	SLU 21	-5	-27	1401	0	0	0
214	SLU 22	-4	-28	1306	0	0	0
214	SLU 23	-3	-24	1339	0	0	0
214	SLU 24	-4	-29	1322	0	0	0
214	SLU 25	-4	-26	1342	0	0	0
214	SLU 26	-4	-24	1348	0	0	0
214	SLU 27	-4	-29	1332	0	0	0
214	SLU 28	-4	-27	1351	0	0	0
214	SLU 29	-4	-29	1325	0	0	0
214	SLU 30	-4	-26	1344	0	0	0
214	SLU 31	-4	-27	1491	0	0	0
214	SLU 32	-5	-32	1475	0	0	0
214	SLU 33	-5	-29	1495	0	0	0
214	SLU 34	-5	-27	1501	0	0	0
214	SLU 35	-5	-32	1484	0	0	0
214	SLU 36	-5	-30	1504	0	0	0
214	SLU 37	-5	-32	1477	0	0	0
214	SLU 38	-5	-29	1497	0	0	0
214	SLU 39	-5	-33	1524	0	0	0
214	SLU 40	-5	-30	1544	0	0	0
214	SLU 41	-5	-33	1534	0	0	0
214	SLU 42	-5	-30	1553	0	0	0
214	SLU 43	-4	-32	1448	0	0	0
214	SLU 44	-4	-27	1480	0	0	0
214	SLU 45	-4	-32	1464	0	0	0
214	SLU 46	-4	-30	1484	0	0	0
214	SLU 47	-4	-27	1490	0	0	0
214	SLU 48	-4	-33	1473	0	0	0
214	SLU 49	-4	-30	1493	0	0	0
214	SLU 50	-4	-32	1466	0	0	0
214	SLU 51	-4	-30	1486	0	0	0
214	SLU 52	-5	-30	1633	0	0	0
214	SLU 53	-5	-35	1617	0	0	0
214	SLU 54	-5	-33	1636	0	0	0
214	SLU 55	-5	-31	1642	0	0	0
214	SLU 56	-5	-36	1626	0	0	0
214	SLU 57	-5	-33	1646	0	0	0
214	SLU 58	-5	-36	1619	0	0	0
214	SLU 59	-5	-33	1639	0	0	0
214	SLU 60	-5	-36	1666	0	0	0
214	SLU 61	-5	-33	1685	0	0	0
214	SLU 62	-6	-36	1675	0	0	0
214	SLU 63	-5	-34	1695	0	0	0
214	SLU 64	-4	-35	1600	0	0	0
214	SLU 65	-4	-30	1633	0	0	0
214	SLU 66	-5	-36	1616	0	0	0
214	SLU 67	-5	-33	1636	0	0	0
214	SLU 68	-4	-31	1642	0	0	0
214	SLU 69	-5	-36	1626	0	0	0
214	SLU 70	-5	-33	1645	0	0	0
214	SLU 71	-5	-36	1619	0	0	0
214	SLU 72	-5	-33	1638	0	0	0
214	SLU 73	-5	-33	1785	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
214	SLU 74	-6	-39	1769	0	0	0
214	SLU 75	-6	-36	1789	0	0	0
214	SLU 76	-5	-34	1795	0	0	0
214	SLU 77	-6	-39	1778	0	0	0
214	SLU 78	-6	-36	1798	0	0	0
214	SLU 79	-6	-39	1771	0	0	0
214	SLU 80	-6	-36	1791	0	0	0
214	SLU 81	-6	-39	1818	0	0	0
214	SLU 82	-6	-37	1838	0	0	0
214	SLU 83	-6	-40	1827	0	0	0
214	SLU 84	-6	-37	1847	0	0	0
214	SLE RA 1	-3	-26	1197	0	0	0
214	SLE RA 2	-3	-23	1219	0	0	0
214	SLE RA 3	-3	-27	1208	0	0	0
214	SLE RA 4	-3	-25	1221	0	0	0
214	SLE RA 5	-3	-23	1225	0	0	0
214	SLE RA 6	-4	-27	1214	0	0	0
214	SLE RA 7	-4	-25	1227	0	0	0
214	SLE RA 8	-4	-27	1210	0	0	0
214	SLE RA 9	-4	-25	1223	0	0	0
214	SLE RA 10	-4	-25	1321	0	0	0
214	SLE RA 11	-4	-29	1310	0	0	0
214	SLE RA 12	-4	-27	1323	0	0	0
214	SLE RA 13	-4	-25	1327	0	0	0
214	SLE RA 14	-4	-29	1316	0	0	0
214	SLE RA 15	-4	-27	1329	0	0	0
214	SLE RA 16	-4	-29	1312	0	0	0
214	SLE RA 17	-4	-27	1325	0	0	0
214	SLE RA 18	-4	-29	1343	0	0	0
214	SLE RA 19	-4	-27	1356	0	0	0
214	SLE RA 20	-4	-29	1349	0	0	0
214	SLE RA 21	-4	-27	1362	0	0	0
214	SLE FR 1	-3	-26	1197	0	0	0
214	SLE FR 2	-3	-26	1202	0	0	0
214	SLE FR 3	-3	-26	1200	0	0	0
214	SLE FR 4	-4	-26	1245	0	0	0
214	SLE FR 5	-4	-27	1243	0	0	0
214	SLE FR 6	-4	-28	1270	0	0	0
214	SLE QP 1	-3	-26	1197	0	0	0
214	SLE QP 2	-4	-27	1241	0	0	0
214	SLD 1	99	13	1380	0	0	0
214	SLD 2	121	22	1391	0	0	0
214	SLD 3	97	-48	896	0	0	0
214	SLD 4	119	-39	907	0	0	0
214	SLD 5	27	75	2015	0	0	0
214	SLD 6	41	81	2022	0	0	0
214	SLD 7	19	-127	402	0	0	0
214	SLD 8	34	-121	409	0	0	0
214	SLD 9	-41	67	2073	0	0	0
214	SLD 10	-27	73	2080	0	0	0
214	SLD 11	-48	-135	460	0	0	0
214	SLD 12	-34	-129	467	0	0	0
214	SLD 13	-126	-15	1575	0	0	0
214	SLD 14	-104	-6	1586	0	0	0
214	SLD 15	-129	-76	1091	0	0	0
214	SLD 16	-107	-67	1102	0	0	0
214	SLV 1	158	39	1489	0	0	0
214	SLV 2	192	53	1506	0	0	0
214	SLV 3	154	-63	671	0	0	0
214	SLV 4	188	-49	688	0	0	0
214	SLV 5	44	145	2552	0	0	0
214	SLV 6	67	155	2564	0	0	0
214	SLV 7	32	-196	-173	0	0	0
214	SLV 8	55	-186	-162	0	0	0
214	SLV 9	-62	132	2644	0	0	0
214	SLV 10	-39	142	2655	0	0	0
214	SLV 11	-74	-209	-82	0	0	0
214	SLV 12	-51	-199	-71	0	0	0
214	SLV 13	-195	-5	1794	0	0	0
214	SLV 14	-161	9	1811	0	0	0
214	SLV 15	-199	-107	976	0	0	0
214	SLV 16	-165	-93	993	0	0	0
214	SLV FO 1	174	46	1514	0	0	0
214	SLV FO 2	212	61	1532	0	0	0
214	SLV FO 3	170	-67	614	0	0	0
214	SLV FO 4	207	-51	633	0	0	0
214	SLV FO 5	49	163	2684	0	0	0
214	SLV FO 6	74	173	2696	0	0	0
214	SLV FO 7	35	-213	-315	0	0	0
214	SLV FO 8	61	-202	-302	0	0	0
214	SLV FO 9	-68	148	2784	0	0	0
214	SLV FO 10	-42	158	2797	0	0	0
214	SLV FO 11	-81	-227	-214	0	0	0
214	SLV FO 12	-56	-217	-202	0	0	0
214	SLV FO 13	-215	-3	1849	0	0	0
214	SLV FO 14	-177	13	1868	0	0	0
214	SLV FO 15	-219	-115	949	0	0	0
214	SLV FO 16	-181	-100	968	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
214	CRTFP Ux+	0	0	0	0	0	0
214	CRTFP Ux-	0	0	0	0	0	0
214	CRTFP Uy+	0	0	0	0	0	0
214	CRTFP Uy-	0	0	0	0	0	0
215	SLU 1	-3	-27	1141	0	0	0
215	SLU 2	-3	-22	1173	0	0	0
215	SLU 3	-3	-27	1157	0	0	0
215	SLU 4	-3	-25	1176	0	0	0
215	SLU 5	-3	-23	1182	0	0	0
215	SLU 6	-4	-28	1166	0	0	0
215	SLU 7	-3	-25	1185	0	0	0
215	SLU 8	-3	-28	1159	0	0	0
215	SLU 9	-3	-25	1178	0	0	0
215	SLU 10	-4	-26	1324	0	0	0
215	SLU 11	-4	-31	1308	0	0	0
215	SLU 12	-4	-28	1327	0	0	0
215	SLU 13	-4	-26	1333	0	0	0
215	SLU 14	-4	-31	1317	0	0	0
215	SLU 15	-4	-28	1336	0	0	0
215	SLU 16	-4	-31	1310	0	0	0
215	SLU 17	-4	-28	1329	0	0	0
215	SLU 18	-4	-32	1356	0	0	0
215	SLU 19	-4	-29	1376	0	0	0
215	SLU 20	-5	-32	1365	0	0	0
215	SLU 21	-5	-29	1385	0	0	0
215	SLU 22	-3	-30	1292	0	0	0
215	SLU 23	-3	-26	1324	0	0	0
215	SLU 24	-4	-31	1308	0	0	0
215	SLU 25	-4	-28	1327	0	0	0
215	SLU 26	-4	-26	1333	0	0	0
215	SLU 27	-4	-31	1317	0	0	0
215	SLU 28	-4	-29	1336	0	0	0
215	SLU 29	-4	-31	1310	0	0	0
215	SLU 30	-4	-28	1329	0	0	0
215	SLU 31	-4	-29	1475	0	0	0
215	SLU 32	-5	-34	1459	0	0	0
215	SLU 33	-5	-31	1478	0	0	0
215	SLU 34	-4	-30	1484	0	0	0
215	SLU 35	-5	-35	1468	0	0	0
215	SLU 36	-5	-32	1487	0	0	0
215	SLU 37	-5	-34	1461	0	0	0
215	SLU 38	-5	-32	1480	0	0	0
215	SLU 39	-5	-35	1507	0	0	0
215	SLU 40	-5	-32	1527	0	0	0
215	SLU 41	-5	-35	1516	0	0	0
215	SLU 42	-5	-33	1536	0	0	0
215	SLU 43	-4	-34	1431	0	0	0
215	SLU 44	-4	-29	1464	0	0	0
215	SLU 45	-4	-34	1447	0	0	0
215	SLU 46	-4	-32	1467	0	0	0
215	SLU 47	-4	-30	1473	0	0	0
215	SLU 48	-4	-35	1456	0	0	0
215	SLU 49	-4	-32	1476	0	0	0
215	SLU 50	-4	-35	1449	0	0	0
215	SLU 51	-4	-32	1469	0	0	0
215	SLU 52	-5	-33	1614	0	0	0
215	SLU 53	-5	-38	1598	0	0	0
215	SLU 54	-5	-35	1618	0	0	0
215	SLU 55	-5	-33	1624	0	0	0
215	SLU 56	-5	-38	1607	0	0	0
215	SLU 57	-5	-35	1627	0	0	0
215	SLU 58	-5	-38	1600	0	0	0
215	SLU 59	-5	-35	1620	0	0	0
215	SLU 60	-5	-38	1647	0	0	0
215	SLU 61	-5	-36	1666	0	0	0
215	SLU 62	-5	-39	1656	0	0	0
215	SLU 63	-5	-36	1675	0	0	0
215	SLU 64	-4	-37	1582	0	0	0
215	SLU 65	-4	-33	1615	0	0	0
215	SLU 66	-4	-38	1598	0	0	0
215	SLU 67	-4	-35	1618	0	0	0
215	SLU 68	-4	-33	1624	0	0	0
215	SLU 69	-5	-38	1607	0	0	0
215	SLU 70	-5	-36	1627	0	0	0
215	SLU 71	-5	-38	1600	0	0	0
215	SLU 72	-5	-35	1620	0	0	0
215	SLU 73	-5	-36	1765	0	0	0
215	SLU 74	-5	-41	1749	0	0	0
215	SLU 75	-5	-38	1769	0	0	0
215	SLU 76	-5	-36	1775	0	0	0
215	SLU 77	-6	-41	1758	0	0	0
215	SLU 78	-6	-39	1778	0	0	0
215	SLU 79	-6	-41	1751	0	0	0
215	SLU 80	-6	-39	1771	0	0	0
215	SLU 81	-6	-42	1798	0	0	0
215	SLU 82	-5	-39	1817	0	0	0
215	SLU 83	-6	-42	1807	0	0	0
215	SLU 84	-6	-40	1826	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
215	SLE RA 1	-3	-28	1184	0	0	0
215	SLE RA 2	-3	-25	1205	0	0	0
215	SLE RA 3	-3	-28	1195	0	0	0
215	SLE RA 4	-3	-26	1208	0	0	0
215	SLE RA 5	-3	-25	1212	0	0	0
215	SLE RA 6	-3	-29	1201	0	0	0
215	SLE RA 7	-3	-27	1214	0	0	0
215	SLE RA 8	-3	-28	1196	0	0	0
215	SLE RA 9	-3	-27	1209	0	0	0
215	SLE RA 10	-4	-27	1306	0	0	0
215	SLE RA 11	-4	-30	1295	0	0	0
215	SLE RA 12	-4	-29	1308	0	0	0
215	SLE RA 13	-4	-27	1312	0	0	0
215	SLE RA 14	-4	-31	1301	0	0	0
215	SLE RA 15	-4	-29	1314	0	0	0
215	SLE RA 16	-4	-31	1297	0	0	0
215	SLE RA 17	-4	-29	1310	0	0	0
215	SLE RA 18	-4	-31	1328	0	0	0
215	SLE RA 19	-4	-29	1341	0	0	0
215	SLE RA 20	-4	-31	1334	0	0	0
215	SLE RA 21	-4	-29	1347	0	0	0
215	SLE FR 1	-3	-28	1184	0	0	0
215	SLE FR 2	-3	-27	1188	0	0	0
215	SLE FR 3	-3	-28	1186	0	0	0
215	SLE FR 4	-3	-28	1231	0	0	0
215	SLE FR 5	-4	-29	1229	0	0	0
215	SLE FR 6	-4	-29	1256	0	0	0
215	SLE QP 1	-3	-28	1184	0	0	0
215	SLE QP 2	-3	-29	1227	0	0	0
215	SLD 1	98	11	1355	0	0	0
215	SLD 2	119	21	1367	0	0	0
215	SLD 3	95	-47	876	0	0	0
215	SLD 4	117	-38	888	0	0	0
215	SLD 5	27	70	1990	0	0	0
215	SLD 6	40	76	1997	0	0	0
215	SLD 7	19	-125	393	0	0	0
215	SLD 8	33	-118	401	0	0	0
215	SLD 9	-40	61	2053	0	0	0
215	SLD 10	-26	67	2061	0	0	0
215	SLD 11	-47	-134	457	0	0	0
215	SLD 12	-33	-128	464	0	0	0
215	SLD 13	-124	-20	1566	0	0	0
215	SLD 14	-102	-10	1578	0	0	0
215	SLD 15	-126	-78	1087	0	0	0
215	SLD 16	-104	-69	1099	0	0	0
215	SLV 1	154	37	1458	0	0	0
215	SLV 2	188	52	1476	0	0	0
215	SLV 3	151	-62	649	0	0	0
215	SLV 4	185	-46	667	0	0	0
215	SLV 5	43	138	2520	0	0	0
215	SLV 6	66	148	2533	0	0	0
215	SLV 7	31	-191	-177	0	0	0
215	SLV 8	54	-181	-165	0	0	0
215	SLV 9	-60	123	2619	0	0	0
215	SLV 10	-38	134	2631	0	0	0
215	SLV 11	-73	-206	-79	0	0	0
215	SLV 12	-50	-195	-66	0	0	0
215	SLV 13	-191	-11	1787	0	0	0
215	SLV 14	-158	4	1805	0	0	0
215	SLV 15	-195	-110	978	0	0	0
215	SLV 16	-161	-95	996	0	0	0
215	SLV FO 1	170	44	1481	0	0	0
215	SLV FO 2	207	60	1501	0	0	0
215	SLV FO 3	166	-65	591	0	0	0
215	SLV FO 4	203	-48	611	0	0	0
215	SLV FO 5	48	154	2650	0	0	0
215	SLV FO 6	73	166	2663	0	0	0
215	SLV FO 7	34	-207	-318	0	0	0
215	SLV FO 8	59	-196	-304	0	0	0
215	SLV FO 9	-66	138	2758	0	0	0
215	SLV FO 10	-41	150	2772	0	0	0
215	SLV FO 11	-80	-223	-209	0	0	0
215	SLV FO 12	-55	-212	-196	0	0	0
215	SLV FO 13	-210	-10	1843	0	0	0
215	SLV FO 14	-173	7	1863	0	0	0
215	SLV FO 15	-214	-118	953	0	0	0
215	SLV FO 16	-177	-101	973	0	0	0
215	CRTFP Ux+	0	0	0	0	0	0
215	CRTFP Ux-	0	0	0	0	0	0
215	CRTFP Uy+	0	0	0	0	0	0
215	CRTFP Uy-	0	0	0	0	0	0
226	SLU 1	-12	-33	3567	106.66	1021.37	9.47
226	SLU 2	-11	-17	3662	109.4	1048.53	4.71
226	SLU 3	-12	-34	3621	108.33	1037.19	9.74
226	SLU 4	-12	-24	3679	109.97	1053.48	6.88
226	SLU 5	-12	-18	3695	110.39	1057.96	4.93
226	SLU 6	-13	-35	3654	109.32	1046.62	9.96
226	SLU 7	-13	-25	3711	110.96	1062.91	7.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
226	SLU 8	-13	-35	3631	108.65	1040.23	9.91
226	SLU 9	-13	-25	3689	110.29	1056.53	7.05
226	SLU 10	-14	-21	4148	123.92	1188.25	5.88
226	SLU 11	-15	-38	4107	122.85	1176.91	10.9
226	SLU 12	-15	-28	4164	124.49	1193.2	8.05
226	SLU 13	-15	-22	4180	124.91	1197.68	6.1
226	SLU 14	-16	-39	4139	123.84	1186.34	11.12
226	SLU 15	-16	-29	4197	125.48	1202.63	8.26
226	SLU 16	-16	-39	4117	123.17	1179.96	11.07
226	SLU 17	-16	-29	4174	124.81	1196.25	8.22
226	SLU 18	-16	-39	4260	127.41	1220.98	11.13
226	SLU 19	-16	-29	4318	129.05	1237.28	8.28
226	SLU 20	-17	-40	4293	128.4	1230.41	11.35
226	SLU 21	-16	-30	4350	130.04	1246.71	8.5
226	SLU 22	-13	-38	4041	120.93	1157.68	10.73
226	SLU 23	-13	-21	4137	123.67	1184.84	5.97
226	SLU 24	-14	-39	4096	122.59	1173.49	11
226	SLU 25	-14	-29	4153	124.24	1189.79	8.14
226	SLU 26	-14	-22	4169	124.66	1194.27	6.19
226	SLU 27	-15	-39	4128	123.59	1182.92	11.21
226	SLU 28	-15	-30	4186	125.23	1199.22	8.36
226	SLU 29	-15	-39	4106	122.92	1176.54	11.17
226	SLU 30	-15	-29	4164	124.56	1192.84	8.31
226	SLU 31	-16	-25	4623	138.19	1324.56	7.14
226	SLU 32	-17	-43	4581	137.12	1313.22	12.16
226	SLU 33	-17	-33	4639	138.76	1329.51	9.3
226	SLU 34	-17	-26	4655	139.18	1333.99	7.35
226	SLU 35	-18	-43	4614	138.11	1322.65	12.38
226	SLU 36	-18	-33	4671	139.75	1338.94	9.52
226	SLU 37	-18	-43	4592	137.44	1316.27	12.33
226	SLU 38	-18	-33	4649	139.08	1332.56	9.47
226	SLU 39	-18	-44	4735	141.68	1357.29	12.39
226	SLU 40	-18	-34	4792	143.32	1373.58	9.54
226	SLU 41	-18	-44	4767	142.67	1366.72	12.61
226	SLU 42	-18	-34	4825	144.31	1383.01	9.75
226	SLU 43	-15	-42	4474	133.77	1281.05	11.88
226	SLU 44	-14	-25	4570	136.5	1308.21	7.13
226	SLU 45	-15	-43	4529	135.43	1296.86	12.15
226	SLU 46	-15	-33	4586	137.07	1313.16	9.29
226	SLU 47	-15	-26	4602	137.5	1317.64	7.34
226	SLU 48	-16	-44	4561	136.43	1306.29	12.37
226	SLU 49	-16	-34	4618	138.07	1322.59	9.51
226	SLU 50	-16	-43	4539	135.76	1299.91	12.32
226	SLU 51	-16	-33	4596	137.4	1316.2	9.46
226	SLU 52	-17	-29	5055	151.03	1447.93	8.29
226	SLU 53	-18	-47	5014	149.95	1436.59	13.31
226	SLU 54	-18	-37	5071	151.6	1452.88	10.46
226	SLU 55	-18	-30	5088	152.02	1457.36	8.51
226	SLU 56	-19	-48	5046	150.95	1446.02	13.53
226	SLU 57	-19	-38	5104	152.59	1462.31	10.68
226	SLU 58	-19	-47	5024	150.28	1439.64	13.48
226	SLU 59	-19	-37	5082	151.92	1455.93	10.63
226	SLU 60	-19	-48	5167	154.51	1480.66	13.55
226	SLU 61	-19	-38	5225	156.16	1496.95	10.69
226	SLU 62	-19	-48	5200	155.51	1490.09	13.76
226	SLU 63	-19	-38	5257	157.15	1506.38	10.91
226	SLU 64	-16	-46	4949	148.04	1417.36	13.14
226	SLU 65	-16	-30	5044	150.77	1444.52	8.38
226	SLU 66	-17	-47	5003	149.7	1433.17	13.41
226	SLU 67	-17	-37	5061	151.34	1449.46	10.55
226	SLU 68	-17	-31	5077	151.77	1453.94	8.6
226	SLU 69	-18	-48	5036	150.7	1442.6	13.62
226	SLU 70	-18	-38	5093	152.34	1458.89	10.77
226	SLU 71	-18	-48	5013	150.02	1436.22	13.58
226	SLU 72	-18	-38	5071	151.67	1452.51	10.72
226	SLU 73	-19	-34	5530	165.29	1584.24	9.55
226	SLU 74	-20	-51	5489	164.22	1572.9	14.57
226	SLU 75	-20	-41	5546	165.86	1589.19	11.71
226	SLU 76	-20	-35	5562	166.29	1593.67	9.76
226	SLU 77	-21	-52	5521	165.22	1582.33	14.79
226	SLU 78	-21	-42	5578	166.86	1598.62	11.93
226	SLU 79	-21	-52	5499	164.55	1575.95	14.74
226	SLU 80	-20	-42	5556	166.19	1592.24	11.88
226	SLU 81	-21	-52	5642	168.78	1616.97	14.8
226	SLU 82	-20	-42	5700	170.42	1633.26	11.95
226	SLU 83	-21	-53	5675	169.78	1626.4	15.02
226	SLU 84	-21	-43	5732	171.42	1642.69	12.17
226	SLE RA 1	-12	-35	3702	110.74	1060.32	9.83
226	SLE RA 2	-12	-24	3766	112.56	1078.42	6.66
226	SLE RA 3	-13	-35	3739	111.85	1070.86	10.01
226	SLE RA 4	-13	-29	3777	112.94	1081.72	8.11
226	SLE RA 5	-12	-24	3788	113.22	1084.71	6.81
226	SLE RA 6	-13	-36	3760	112.51	1077.15	10.15
226	SLE RA 7	-13	-29	3799	113.61	1088.01	8.25
226	SLE RA 8	-13	-36	3745	112.06	1072.89	10.12
226	SLE RA 9	-13	-29	3784	113.16	1083.75	8.22
226	SLE RA 10	-14	-26	4090	122.24	1171.57	7.44
226	SLE RA 11	-15	-38	4062	121.53	1164.01	10.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
226	SLE RA 12	-14	-31	4101	122.62	1174.87	8.88
226	SLE RA 13	-14	-27	4111	122.91	1177.86	7.58
226	SLE RA 14	-15	-38	4084	122.19	1170.3	10.93
226	SLE RA 15	-15	-32	4122	123.29	1181.16	9.03
226	SLE RA 16	-15	-38	4069	121.75	1166.04	10.9
226	SLE RA 17	-15	-32	4107	122.84	1176.91	8.99
226	SLE RA 18	-15	-38	4165	124.57	1193.39	10.94
226	SLE RA 19	-15	-32	4203	125.66	1204.25	9.04
226	SLE RA 20	-15	-39	4186	125.23	1199.68	11.09
226	SLE RA 21	-15	-32	4225	126.33	1210.54	9.18
226	SLE FR 1	-12	-35	3702	110.74	1060.32	9.83
226	SLE FR 2	-12	-33	3715	111.1	1063.94	9.2
226	SLE FR 3	-12	-35	3711	111	1062.83	9.89
226	SLE FR 4	-13	-34	3854	115.25	1103.86	9.53
226	SLE FR 5	-13	-36	3850	115.15	1102.76	10.22
226	SLE FR 6	-14	-37	3933	117.65	1126.86	10.39
226	SLE QP 1	-12	-35	3702	110.74	1060.32	9.83
226	SLE QP 2	-13	-36	3841	114.89	1100.24	10.16
226	SLD 1	305	71	4476	133.61	1288.9	-28.75
226	SLD 2	372	75	4488	133.92	1291.25	-31.68
226	SLD 3	299	-139	3011	91.55	871.56	31.61
226	SLD 4	366	-135	3023	91.85	873.91	28.67
226	SLD 5	79	314	6252	184.25	1789.4	-92.53
226	SLD 6	122	317	6259	184.44	1790.92	-94.43
226	SLD 7	61	-386	1368	44.04	398.26	108.64
226	SLD 8	104	-383	1375	44.23	399.78	106.74
226	SLD 9	-130	312	6307	185.54	1800.7	-86.41
226	SLD 10	-87	314	6314	185.74	1802.22	-88.31
226	SLD 11	-148	-388	1423	45.33	409.56	114.76
226	SLD 12	-105	-386	1430	45.53	411.08	112.86
226	SLD 13	-392	64	4659	137.92	1326.58	-8.34
226	SLD 14	-325	67	4671	138.23	1328.92	-11.28
226	SLD 15	-398	-146	3194	95.86	909.23	52.01
226	SLD 16	-331	-143	3206	96.16	911.58	49.07
226	SLV 1	484	145	4927	146.81	1421.43	-54.49
226	SLV 2	589	151	4945	147.29	1425.13	-59.12
226	SLV 3	475	-210	2451	75.73	716.16	47.48
226	SLV 4	580	-204	2469	76.2	719.85	42.85
226	SLV 5	130	555	7919	232.18	2265.58	-163.03
226	SLV 6	201	559	7931	232.51	2268.07	-166.14
226	SLV 7	100	-627	-335	-4.76	-85.34	176.88
226	SLV 8	171	-623	-322	-4.44	-82.86	173.77
226	SLV 9	-197	552	8004	234.21	2283.34	-153.44
226	SLV 10	-126	556	8017	234.53	2285.83	-156.55
226	SLV 11	-227	-631	-249	-2.73	-67.58	186.47
226	SLV 12	-156	-627	-237	-2.41	-65.1	183.36
226	SLV 13	-606	132	5213	153.57	1480.63	-22.52
226	SLV 14	-501	138	5231	154.05	1484.33	-27.15
226	SLV 15	-615	-223	2737	82.49	775.35	79.45
226	SLV 16	-510	-216	2755	82.97	779.05	74.82
226	SLV FO 1	533	163	5035	150	1453.55	-60.96
226	SLV FO 2	649	170	5056	150.53	1457.62	-66.05
226	SLV FO 3	523	-227	2312	71.81	677.75	51.21
226	SLV FO 4	639	-221	2332	72.34	681.81	46.12
226	SLV FO 5	145	614	8326	243.91	2382.11	-180.35
226	SLV FO 6	223	619	8340	244.27	2384.85	-183.77
226	SLV FO 7	111	-687	-752	-16.73	-203.9	193.55
226	SLV FO 8	189	-682	-739	-16.37	-201.17	190.13
226	SLV FO 9	-215	610	8421	246.14	2401.65	-169.8
226	SLV FO 10	-137	615	8434	246.5	2404.39	-173.22
226	SLV FO 11	-249	-691	-658	-14.49	-184.37	204.1
226	SLV FO 12	-171	-686	-644	-14.14	-181.63	200.68
226	SLV FO 13	-665	149	5350	157.44	1518.67	-25.79
226	SLV FO 14	-549	156	5370	157.97	1522.74	-30.88
226	SLV FO 15	-675	-241	2626	79.25	742.87	86.38
226	SLV FO 16	-559	-235	2647	79.77	746.93	81.29
226	CRTFP Ux+	0	0	0	0	0	0
226	CRTFP Ux-	0	0	0	0	0	0
226	CRTFP Uy+	0	0	0	0	-0.01	0
226	CRTFP Uy-	0	0	0	0	0.01	0
227	SLU 1	-2	-14	569	-31.92	-71.18	-1.9
227	SLU 2	-1	-12	586	-32.82	-73.2	-1.62
227	SLU 3	-2	-15	577	-32.36	-72.17	-1.94
227	SLU 4	-2	-14	587	-32.91	-73.39	-1.78
227	SLU 5	-2	-13	590	-33.08	-73.77	-1.66
227	SLU 6	-2	-15	582	-32.62	-72.74	-1.97
227	SLU 7	-2	-14	592	-33.16	-73.95	-1.81
227	SLU 8	-2	-15	578	-32.42	-72.31	-1.96
227	SLU 9	-2	-14	588	-32.97	-73.52	-1.8
227	SLU 10	-2	-14	661	-37.04	-82.61	-1.87
227	SLU 11	-2	-17	653	-36.58	-81.58	-2.18
227	SLU 12	-2	-15	662	-37.13	-82.8	-2.02
227	SLU 13	-2	-14	665	-37.3	-83.18	-1.9
227	SLU 14	-2	-17	657	-36.83	-82.14	-2.22
227	SLU 15	-2	-15	667	-37.38	-83.36	-2.05
227	SLU 16	-2	-17	654	-36.64	-81.71	-2.2
227	SLU 17	-2	-15	663	-37.19	-82.93	-2.04
227	SLU 18	-2	-17	677	-37.94	-84.62	-2.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
227	SLU 19	-2	-16	687	-38.49	-85.83	-2.08
227	SLU 20	-2	-17	681	-38.2	-85.18	-2.28
227	SLU 21	-2	-16	691	-38.74	-86.4	-2.11
227	SLU 22	-2	-16	645	-36.15	-80.63	-2.14
227	SLU 23	-2	-14	661	-37.06	-82.65	-1.86
227	SLU 24	-2	-17	653	-36.6	-81.62	-2.18
227	SLU 25	-2	-15	663	-37.14	-82.84	-2.02
227	SLU 26	-2	-14	666	-37.31	-83.22	-1.9
227	SLU 27	-2	-17	657	-36.85	-82.18	-2.21
227	SLU 28	-2	-16	667	-37.4	-83.4	-2.05
227	SLU 29	-2	-17	654	-36.66	-81.75	-2.2
227	SLU 30	-2	-15	664	-37.2	-82.97	-2.04
227	SLU 31	-2	-16	736	-41.28	-92.06	-2.11
227	SLU 32	-2	-18	728	-40.82	-91.03	-2.43
227	SLU 33	-2	-17	738	-41.36	-92.24	-2.26
227	SLU 34	-2	-16	741	-41.53	-92.62	-2.14
227	SLU 35	-2	-19	733	-41.07	-91.59	-2.46
227	SLU 36	-2	-17	742	-41.61	-92.81	-2.29
227	SLU 37	-2	-18	729	-40.88	-91.16	-2.44
227	SLU 38	-2	-17	739	-41.42	-92.38	-2.28
227	SLU 39	-2	-19	753	-42.18	-94.06	-2.48
227	SLU 40	-2	-18	762	-42.72	-95.28	-2.32
227	SLU 41	-3	-19	757	-42.43	-94.63	-2.52
227	SLU 42	-2	-18	767	-42.98	-95.84	-2.35
227	SLU 43	-2	-18	714	-40.04	-89.29	-2.38
227	SLU 44	-2	-16	731	-40.95	-91.32	-2.11
227	SLU 45	-2	-19	722	-40.49	-90.29	-2.43
227	SLU 46	-2	-17	732	-41.03	-91.5	-2.26
227	SLU 47	-2	-16	735	-41.2	-91.88	-2.14
227	SLU 48	-2	-19	727	-40.74	-90.85	-2.46
227	SLU 49	-2	-17	737	-41.28	-92.07	-2.3
227	SLU 50	-2	-19	723	-40.54	-90.42	-2.45
227	SLU 51	-2	-17	733	-41.09	-91.64	-2.28
227	SLU 52	-2	-18	806	-45.17	-100.73	-2.35
227	SLU 53	-2	-20	798	-44.7	-99.69	-2.67
227	SLU 54	-2	-19	807	-45.25	-100.91	-2.51
227	SLU 55	-2	-18	810	-45.42	-101.29	-2.39
227	SLU 56	-3	-20	802	-44.96	-100.26	-2.7
227	SLU 57	-3	-19	812	-45.5	-101.47	-2.54
227	SLU 58	-3	-20	799	-44.76	-99.83	-2.69
227	SLU 59	-3	-19	808	-45.31	-101.04	-2.53
227	SLU 60	-3	-21	822	-46.06	-102.73	-2.73
227	SLU 61	-3	-19	832	-46.61	-103.95	-2.57
227	SLU 62	-3	-21	826	-46.32	-103.3	-2.76
227	SLU 63	-3	-20	836	-46.86	-104.51	-2.6
227	SLU 64	-2	-20	790	-44.27	-98.74	-2.62
227	SLU 65	-2	-18	806	-45.18	-100.77	-2.35
227	SLU 66	-2	-20	798	-44.72	-99.73	-2.67
227	SLU 67	-2	-19	808	-45.27	-100.95	-2.5
227	SLU 68	-2	-18	811	-45.44	-101.33	-2.38
227	SLU 69	-2	-21	802	-44.97	-100.3	-2.7
227	SLU 70	-2	-19	812	-45.52	-101.51	-2.54
227	SLU 71	-2	-20	799	-44.78	-99.87	-2.69
227	SLU 72	-2	-19	809	-45.33	-101.08	-2.52
227	SLU 73	-3	-20	881	-49.4	-110.17	-2.59
227	SLU 74	-3	-22	873	-48.94	-109.14	-2.91
227	SLU 75	-3	-21	883	-49.48	-110.36	-2.75
227	SLU 76	-3	-20	886	-49.65	-110.74	-2.63
227	SLU 77	-3	-22	878	-49.19	-109.71	-2.94
227	SLU 78	-3	-21	887	-49.74	-110.92	-2.78
227	SLU 79	-3	-22	874	-49	-109.27	-2.93
227	SLU 80	-3	-21	884	-49.54	-110.49	-2.77
227	SLU 81	-3	-23	897	-50.3	-112.18	-2.97
227	SLU 82	-3	-21	907	-50.85	-113.39	-2.81
227	SLU 83	-3	-23	902	-50.55	-112.74	-3
227	SLU 84	-3	-21	912	-51.1	-113.96	-2.84
227	SLE RA 1	-2	-15	591	-33.13	-73.88	-1.96
227	SLE RA 2	-2	-14	602	-33.73	-75.23	-1.78
227	SLE RA 3	-2	-15	596	-33.42	-74.54	-1.99
227	SLE RA 4	-2	-14	603	-33.79	-75.35	-1.89
227	SLE RA 5	-2	-14	605	-33.9	-75.6	-1.8
227	SLE RA 6	-2	-15	599	-33.59	-74.92	-2.02
227	SLE RA 7	-2	-14	606	-33.96	-75.73	-1.91
227	SLE RA 8	-2	-15	597	-33.46	-74.63	-2.01
227	SLE RA 9	-2	-14	604	-33.83	-75.44	-1.9
227	SLE RA 10	-2	-15	652	-36.54	-81.5	-1.94
227	SLE RA 11	-2	-16	646	-36.24	-80.81	-2.16
227	SLE RA 12	-2	-16	653	-36.6	-81.62	-2.05
227	SLE RA 13	-2	-15	655	-36.71	-81.88	-1.97
227	SLE RA 14	-2	-17	650	-36.4	-81.19	-2.18
227	SLE RA 15	-2	-16	656	-36.77	-82	-2.07
227	SLE RA 16	-2	-16	647	-36.28	-80.9	-2.17
227	SLE RA 17	-2	-16	654	-36.64	-81.71	-2.06
227	SLE RA 18	-2	-17	663	-37.14	-82.84	-2.2
227	SLE RA 19	-2	-16	669	-37.51	-83.65	-2.09
227	SLE RA 20	-2	-17	666	-37.31	-83.21	-2.22
227	SLE RA 21	-2	-16	672	-37.68	-84.02	-2.11
227	SLE FR 1	-2	-15	591	-33.13	-73.88	-1.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
227	SLE FR 2	-2	-15	593	-33.25	-74.15	-1.93
227	SLE FR 3	-2	-15	592	-33.19	-74.03	-1.97
227	SLE FR 4	-2	-15	615	-34.45	-76.84	-2
227	SLE FR 5	-2	-16	614	-34.4	-76.72	-2.04
227	SLE FR 6	-2	-16	627	-35.14	-78.36	-2.08
227	SLE QP 1	-2	-15	591	-33.13	-73.88	-1.96
227	SLE QP 2	-2	-15	613	-34.33	-76.57	-2.03
227	SLD 1	48	5	672	-37.67	-84.01	3.27
227	SLD 2	59	10	678	-38.02	-84.79	4.52
227	SLD 3	47	-24	433	-24.26	-54.1	-0.33
227	SLD 4	58	-18	439	-24.61	-54.87	0.93
227	SLD 5	13	33	992	-55.62	-124.03	4.79
227	SLD 6	20	36	996	-55.84	-124.53	5.6
227	SLD 7	9	-62	195	-10.91	-24.32	-7.19
227	SLD 8	16	-58	199	-11.13	-24.82	-6.38
227	SLD 9	-20	27	1026	-57.53	-128.31	2.31
227	SLD 10	-13	31	1030	-57.76	-128.81	3.12
227	SLD 11	-23	-67	229	-12.82	-28.6	-9.67
227	SLD 12	-17	-64	233	-13.05	-29.1	-8.85
227	SLD 13	-61	-13	786	-44.06	-98.26	-5
227	SLD 14	-51	-7	792	-44.41	-99.03	-3.74
227	SLD 15	-62	-41	547	-30.65	-68.34	-8.59
227	SLD 16	-52	-36	553	-30.99	-69.12	-7.33
227	SLV 1	76	18	721	-40.41	-90.12	6.47
227	SLV 2	93	26	731	-40.96	-91.34	8.45
227	SLV 3	74	-30	317	-17.75	-39.58	0.4
227	SLV 4	91	-22	326	-18.29	-40.79	2.38
227	SLV 5	21	66	1257	-70.43	-157.07	9.36
227	SLV 6	33	71	1263	-70.8	-157.89	10.69
227	SLV 7	15	-94	-91	5.12	11.42	-10.88
227	SLV 8	26	-88	-85	4.75	10.6	-9.55
227	SLV 9	-30	57	1310	-73.42	-163.73	5.48
227	SLV 10	-19	63	1316	-73.79	-164.55	6.81
227	SLV 11	-36	-102	-38	2.13	4.76	-14.76
227	SLV 12	-25	-97	-32	1.77	3.94	-13.43
227	SLV 13	-95	-9	899	-50.37	-112.34	-6.44
227	SLV 14	-78	-1	908	-50.92	-113.55	-4.47
227	SLV 15	-96	-57	494	-27.71	-61.79	-12.52
227	SLV 16	-80	-49	504	-28.25	-63.01	-10.54
227	SLV FO 1	84	21	732	-41.02	-91.48	7.32
227	SLV FO 2	103	30	743	-41.62	-92.82	9.5
227	SLV FO 3	82	-32	287	-16.09	-35.88	0.64
227	SLV FO 4	100	-22	298	-16.69	-37.22	2.82
227	SLV FO 5	24	74	1321	-74.04	-165.12	10.5
227	SLV FO 6	36	80	1328	-74.44	-166.02	11.96
227	SLV FO 7	17	-102	-162	9.07	20.22	-11.77
227	SLV FO 8	29	-96	-155	8.66	19.32	-10.3
227	SLV FO 9	-33	65	1380	-77.33	-172.45	6.24
227	SLV FO 10	-20	71	1387	-77.73	-173.35	7.7
227	SLV FO 11	-40	-111	-103	5.78	12.89	-16.03
227	SLV FO 12	-27	-105	-96	5.38	11.99	-14.57
227	SLV FO 13	-104	-9	927	-51.98	-115.91	-6.88
227	SLV FO 14	-86	1	938	-52.58	-117.25	-4.71
227	SLV FO 15	-106	-61	483	-27.04	-60.31	-13.56
227	SLV FO 16	-88	-52	493	-27.64	-61.65	-11.39
227	CRTFP Ux+	0	0	0	0	0	0
227	CRTFP Ux-	0	0	0	0	0	0
227	CRTFP Uy+	0	0	0	0	0	0
227	CRTFP Uy-	0	0	0	0	0	0
229	SLU 1	-7	-17	870	0	0	0
229	SLU 2	-8	-13	893	0	0	0
229	SLU 3	-7	-17	883	0	0	0
229	SLU 4	-8	-15	897	0	0	0
229	SLU 5	-8	-14	901	0	0	0
229	SLU 6	-8	-17	891	0	0	0
229	SLU 7	-8	-15	905	0	0	0
229	SLU 8	-7	-17	886	0	0	0
229	SLU 9	-8	-15	900	0	0	0
229	SLU 10	-8	-15	1009	0	0	0
229	SLU 11	-8	-19	1000	0	0	0
229	SLU 12	-8	-17	1014	0	0	0
229	SLU 13	-8	-15	1018	0	0	0
229	SLU 14	-8	-19	1008	0	0	0
229	SLU 15	-8	-17	1022	0	0	0
229	SLU 16	-8	-19	1003	0	0	0
229	SLU 17	-8	-17	1017	0	0	0
229	SLU 18	-8	-19	1036	0	0	0
229	SLU 19	-8	-17	1050	0	0	0
229	SLU 20	-8	-20	1045	0	0	0
229	SLU 21	-8	-18	1058	0	0	0
229	SLU 22	-8	-19	987	0	0	0
229	SLU 23	-9	-15	1011	0	0	0
229	SLU 24	-8	-19	1001	0	0	0
229	SLU 25	-9	-17	1015	0	0	0
229	SLU 26	-9	-16	1019	0	0	0
229	SLU 27	-9	-19	1009	0	0	0
229	SLU 28	-9	-17	1023	0	0	0
229	SLU 29	-8	-19	1004	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
229	SLU 30	-9	-17	1018	0	0	0
229	SLU 31	-9	-17	1127	0	0	0
229	SLU 32	-9	-21	1117	0	0	0
229	SLU 33	-9	-19	1131	0	0	0
229	SLU 34	-9	-17	1135	0	0	0
229	SLU 35	-9	-21	1126	0	0	0
229	SLU 36	-9	-19	1139	0	0	0
229	SLU 37	-9	-21	1120	0	0	0
229	SLU 38	-9	-19	1134	0	0	0
229	SLU 39	-9	-21	1154	0	0	0
229	SLU 40	-9	-19	1168	0	0	0
229	SLU 41	-9	-22	1162	0	0	0
229	SLU 42	-9	-20	1176	0	0	0
229	SLU 43	-9	-21	1090	0	0	0
229	SLU 44	-9	-18	1113	0	0	0
229	SLU 45	-9	-21	1104	0	0	0
229	SLU 46	-9	-19	1118	0	0	0
229	SLU 47	-10	-18	1122	0	0	0
229	SLU 48	-9	-22	1112	0	0	0
229	SLU 49	-10	-20	1126	0	0	0
229	SLU 50	-9	-21	1107	0	0	0
229	SLU 51	-9	-19	1121	0	0	0
229	SLU 52	-10	-20	1230	0	0	0
229	SLU 53	-9	-23	1220	0	0	0
229	SLU 54	-10	-21	1234	0	0	0
229	SLU 55	-10	-20	1238	0	0	0
229	SLU 56	-10	-23	1229	0	0	0
229	SLU 57	-10	-21	1242	0	0	0
229	SLU 58	-9	-23	1223	0	0	0
229	SLU 59	-10	-21	1237	0	0	0
229	SLU 60	-9	-24	1257	0	0	0
229	SLU 61	-10	-22	1271	0	0	0
229	SLU 62	-9	-24	1265	0	0	0
229	SLU 63	-10	-22	1279	0	0	0
229	SLU 64	-10	-23	1208	0	0	0
229	SLU 65	-10	-20	1231	0	0	0
229	SLU 66	-10	-23	1221	0	0	0
229	SLU 67	-10	-21	1235	0	0	0
229	SLU 68	-11	-20	1239	0	0	0
229	SLU 69	-10	-24	1230	0	0	0
229	SLU 70	-11	-22	1243	0	0	0
229	SLU 71	-10	-23	1224	0	0	0
229	SLU 72	-11	-21	1238	0	0	0
229	SLU 73	-11	-22	1348	0	0	0
229	SLU 74	-10	-25	1338	0	0	0
229	SLU 75	-11	-23	1352	0	0	0
229	SLU 76	-11	-22	1356	0	0	0
229	SLU 77	-11	-25	1346	0	0	0
229	SLU 78	-11	-23	1360	0	0	0
229	SLU 79	-11	-25	1341	0	0	0
229	SLU 80	-11	-23	1355	0	0	0
229	SLU 81	-10	-26	1375	0	0	0
229	SLU 82	-11	-24	1388	0	0	0
229	SLU 83	-10	-26	1383	0	0	0
229	SLU 84	-11	-24	1397	0	0	0
229	SLE RA 1	-7	-17	903	0	0	0
229	SLE RA 2	-8	-15	919	0	0	0
229	SLE RA 3	-8	-17	912	0	0	0
229	SLE RA 4	-8	-16	922	0	0	0
229	SLE RA 5	-8	-15	924	0	0	0
229	SLE RA 6	-8	-18	918	0	0	0
229	SLE RA 7	-8	-16	927	0	0	0
229	SLE RA 8	-8	-18	914	0	0	0
229	SLE RA 9	-8	-16	924	0	0	0
229	SLE RA 10	-8	-16	997	0	0	0
229	SLE RA 11	-8	-19	990	0	0	0
229	SLE RA 12	-8	-17	999	0	0	0
229	SLE RA 13	-8	-16	1002	0	0	0
229	SLE RA 14	-8	-19	996	0	0	0
229	SLE RA 15	-8	-18	1005	0	0	0
229	SLE RA 16	-8	-19	992	0	0	0
229	SLE RA 17	-8	-17	1001	0	0	0
229	SLE RA 18	-8	-19	1014	0	0	0
229	SLE RA 19	-8	-18	1024	0	0	0
229	SLE RA 20	-8	-19	1020	0	0	0
229	SLE RA 21	-8	-18	1029	0	0	0
229	SLE FR 1	-7	-17	903	0	0	0
229	SLE FR 2	-8	-17	906	0	0	0
229	SLE FR 3	-8	-17	906	0	0	0
229	SLE FR 4	-8	-17	940	0	0	0
229	SLE FR 5	-8	-18	939	0	0	0
229	SLE FR 6	-8	-18	959	0	0	0
229	SLE QP 1	-7	-17	903	0	0	0
229	SLE QP 2	-8	-18	937	0	0	0
229	SLD 1	65	-3	1183	0	0	0
229	SLD 2	81	-10	1175	0	0	0
229	SLD 3	68	-45	840	0	0	0
229	SLD 4	84	-52	831	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
229	SLD 5	7	52	1534	0	0	0
229	SLD 6	17	47	1528	0	0	0
229	SLD 7	17	-88	388	0	0	0
229	SLD 8	27	-93	382	0	0	0
229	SLD 9	-42	58	1491	0	0	0
229	SLD 10	-32	53	1486	0	0	0
229	SLD 11	-32	-82	345	0	0	0
229	SLD 12	-22	-87	340	0	0	0
229	SLD 13	-99	17	1042	0	0	0
229	SLD 14	-83	9	1034	0	0	0
229	SLD 15	-96	-25	698	0	0	0
229	SLD 16	-80	-33	690	0	0	0
229	SLV 1	106	9	1344	0	0	0
229	SLV 2	131	-3	1331	0	0	0
229	SLV 3	111	-62	763	0	0	0
229	SLV 4	136	-74	750	0	0	0
229	SLV 5	14	100	1943	0	0	0
229	SLV 6	31	92	1934	0	0	0
229	SLV 7	31	-137	6	0	0	0
229	SLV 8	48	-145	-3	0	0	0
229	SLV 9	-63	109	1877	0	0	0
229	SLV 10	-46	101	1868	0	0	0
229	SLV 11	-46	-128	-60	0	0	0
229	SLV 12	-29	-136	-69	0	0	0
229	SLV 13	-151	39	1124	0	0	0
229	SLV 14	-126	27	1110	0	0	0
229	SLV 15	-147	-32	543	0	0	0
229	SLV 16	-121	-44	529	0	0	0
229	SLV FO 1	118	11	1385	0	0	0
229	SLV FO 2	145	-2	1370	0	0	0
229	SLV FO 3	123	-67	746	0	0	0
229	SLV FO 4	151	-80	731	0	0	0
229	SLV FO 5	17	112	2043	0	0	0
229	SLV FO 6	35	103	2033	0	0	0
229	SLV FO 7	35	-148	-87	0	0	0
229	SLV FO 8	53	-157	-97	0	0	0
229	SLV FO 9	-68	122	1971	0	0	0
229	SLV FO 10	-50	113	1961	0	0	0
229	SLV FO 11	-50	-139	-160	0	0	0
229	SLV FO 12	-32	-147	-170	0	0	0
229	SLV FO 13	-166	44	1142	0	0	0
229	SLV FO 14	-138	31	1128	0	0	0
229	SLV FO 15	-160	-34	503	0	0	0
229	SLV FO 16	-133	-47	489	0	0	0
229	CRTFP Uy+	0	0	0	0	0	0
229	CRTFP Uy-	0	0	0	0	0	0
230	SLU 1	-7	-15	882	0	0	0
230	SLU 2	-8	-11	906	0	0	0
230	SLU 3	-7	-15	896	0	0	0
230	SLU 4	-8	-13	910	0	0	0
230	SLU 5	-8	-11	914	0	0	0
230	SLU 6	-8	-15	904	0	0	0
230	SLU 7	-8	-13	918	0	0	0
230	SLU 8	-8	-15	899	0	0	0
230	SLU 9	-8	-13	913	0	0	0
230	SLU 10	-8	-13	1024	0	0	0
230	SLU 11	-8	-17	1014	0	0	0
230	SLU 12	-8	-14	1028	0	0	0
230	SLU 13	-8	-13	1032	0	0	0
230	SLU 14	-8	-17	1023	0	0	0
230	SLU 15	-8	-15	1037	0	0	0
230	SLU 16	-8	-17	1017	0	0	0
230	SLU 17	-8	-15	1031	0	0	0
230	SLU 18	-8	-17	1051	0	0	0
230	SLU 19	-8	-15	1065	0	0	0
230	SLU 20	-8	-17	1060	0	0	0
230	SLU 21	-8	-15	1074	0	0	0
230	SLU 22	-8	-16	1001	0	0	0
230	SLU 23	-9	-13	1025	0	0	0
230	SLU 24	-9	-17	1015	0	0	0
230	SLU 25	-9	-15	1029	0	0	0
230	SLU 26	-9	-13	1033	0	0	0
230	SLU 27	-9	-17	1023	0	0	0
230	SLU 28	-9	-15	1037	0	0	0
230	SLU 29	-9	-17	1018	0	0	0
230	SLU 30	-9	-15	1032	0	0	0
230	SLU 31	-9	-14	1143	0	0	0
230	SLU 32	-9	-18	1133	0	0	0
230	SLU 33	-9	-16	1147	0	0	0
230	SLU 34	-9	-15	1151	0	0	0
230	SLU 35	-9	-18	1141	0	0	0
230	SLU 36	-9	-16	1155	0	0	0
230	SLU 37	-9	-18	1136	0	0	0
230	SLU 38	-9	-16	1150	0	0	0
230	SLU 39	-9	-19	1170	0	0	0
230	SLU 40	-9	-17	1184	0	0	0
230	SLU 41	-9	-19	1179	0	0	0
230	SLU 42	-9	-17	1193	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
230	SLU 43	-9	-18	1106	0	0	0
230	SLU 44	-10	-15	1130	0	0	0
230	SLU 45	-9	-19	1120	0	0	0
230	SLU 46	-10	-17	1134	0	0	0
230	SLU 47	-10	-15	1138	0	0	0
230	SLU 48	-9	-19	1128	0	0	0
230	SLU 49	-10	-17	1142	0	0	0
230	SLU 50	-9	-19	1123	0	0	0
230	SLU 51	-10	-17	1137	0	0	0
230	SLU 52	-10	-17	1248	0	0	0
230	SLU 53	-10	-20	1238	0	0	0
230	SLU 54	-10	-18	1252	0	0	0
230	SLU 55	-10	-17	1256	0	0	0
230	SLU 56	-10	-21	1246	0	0	0
230	SLU 57	-10	-18	1260	0	0	0
230	SLU 58	-10	-20	1241	0	0	0
230	SLU 59	-10	-18	1255	0	0	0
230	SLU 60	-9	-21	1275	0	0	0
230	SLU 61	-10	-19	1289	0	0	0
230	SLU 62	-10	-21	1284	0	0	0
230	SLU 63	-10	-19	1298	0	0	0
230	SLU 64	-10	-20	1225	0	0	0
230	SLU 65	-11	-17	1248	0	0	0
230	SLU 66	-10	-20	1239	0	0	0
230	SLU 67	-11	-18	1253	0	0	0
230	SLU 68	-11	-17	1257	0	0	0
230	SLU 69	-11	-21	1247	0	0	0
230	SLU 70	-11	-19	1261	0	0	0
230	SLU 71	-10	-21	1242	0	0	0
230	SLU 72	-11	-18	1256	0	0	0
230	SLU 73	-11	-18	1367	0	0	0
230	SLU 74	-11	-22	1357	0	0	0
230	SLU 75	-11	-20	1371	0	0	0
230	SLU 76	-11	-18	1375	0	0	0
230	SLU 77	-11	-22	1365	0	0	0
230	SLU 78	-11	-20	1379	0	0	0
230	SLU 79	-11	-22	1360	0	0	0
230	SLU 80	-11	-20	1374	0	0	0
230	SLU 81	-11	-22	1394	0	0	0
230	SLU 82	-11	-20	1408	0	0	0
230	SLU 83	-11	-23	1403	0	0	0
230	SLU 84	-11	-21	1417	0	0	0
230	SLE RA 1	-8	-15	916	0	0	0
230	SLE RA 2	-8	-13	932	0	0	0
230	SLE RA 3	-8	-15	925	0	0	0
230	SLE RA 4	-8	-14	935	0	0	0
230	SLE RA 5	-8	-13	937	0	0	0
230	SLE RA 6	-8	-15	931	0	0	0
230	SLE RA 7	-8	-14	940	0	0	0
230	SLE RA 8	-8	-15	927	0	0	0
230	SLE RA 9	-8	-14	937	0	0	0
230	SLE RA 10	-8	-14	1011	0	0	0
230	SLE RA 11	-8	-16	1004	0	0	0
230	SLE RA 12	-8	-15	1014	0	0	0
230	SLE RA 13	-8	-14	1016	0	0	0
230	SLE RA 14	-8	-17	1010	0	0	0
230	SLE RA 15	-8	-15	1019	0	0	0
230	SLE RA 16	-8	-16	1006	0	0	0
230	SLE RA 17	-8	-15	1016	0	0	0
230	SLE RA 18	-8	-17	1029	0	0	0
230	SLE RA 19	-8	-15	1038	0	0	0
230	SLE RA 20	-8	-17	1035	0	0	0
230	SLE RA 21	-8	-15	1044	0	0	0
230	SLE FR 1	-8	-15	916	0	0	0
230	SLE FR 2	-8	-15	919	0	0	0
230	SLE FR 3	-8	-15	918	0	0	0
230	SLE FR 4	-8	-15	953	0	0	0
230	SLE FR 5	-8	-16	952	0	0	0
230	SLE FR 6	-8	-16	973	0	0	0
230	SLE QP 1	-8	-15	916	0	0	0
230	SLE QP 2	-8	-16	950	0	0	0
230	SLD 1	67	1	1193	0	0	0
230	SLD 2	84	-6	1185	0	0	0
230	SLD 3	70	-43	844	0	0	0
230	SLD 4	87	-50	836	0	0	0
230	SLD 5	7	58	1553	0	0	0
230	SLD 6	18	53	1548	0	0	0
230	SLD 7	17	-90	391	0	0	0
230	SLD 8	28	-94	386	0	0	0
230	SLD 9	-43	63	1514	0	0	0
230	SLD 10	-33	58	1509	0	0	0
230	SLD 11	-33	-84	352	0	0	0
230	SLD 12	-23	-89	347	0	0	0
230	SLD 13	-102	19	1064	0	0	0
230	SLD 14	-86	12	1056	0	0	0
230	SLD 15	-99	-25	715	0	0	0
230	SLD 16	-83	-33	707	0	0	0
230	SLV 1	109	14	1352	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
230	SLV 2	135	3	1339	0	0	0
230	SLV 3	114	-61	762	0	0	0
230	SLV 4	140	-72	750	0	0	0
230	SLV 5	15	109	1967	0	0	0
230	SLV 6	32	101	1958	0	0	0
230	SLV 7	32	-140	2	0	0	0
230	SLV 8	49	-148	-6	0	0	0
230	SLV 9	-64	117	1906	0	0	0
230	SLV 10	-47	109	1898	0	0	0
230	SLV 11	-48	-132	-58	0	0	0
230	SLV 12	-30	-140	-66	0	0	0
230	SLV 13	-156	41	1150	0	0	0
230	SLV 14	-130	30	1138	0	0	0
230	SLV 15	-151	-34	561	0	0	0
230	SLV 16	-125	-45	548	0	0	0
230	SLV FO 1	121	17	1392	0	0	0
230	SLV FO 2	149	4	1378	0	0	0
230	SLV FO 3	126	-65	744	0	0	0
230	SLV FO 4	155	-78	730	0	0	0
230	SLV FO 5	17	121	2068	0	0	0
230	SLV FO 6	36	113	2059	0	0	0
230	SLV FO 7	36	-153	-92	0	0	0
230	SLV FO 8	55	-161	-102	0	0	0
230	SLV FO 9	-70	130	2002	0	0	0
230	SLV FO 10	-51	122	1993	0	0	0
230	SLV FO 11	-52	-144	-159	0	0	0
230	SLV FO 12	-33	-152	-168	0	0	0
230	SLV FO 13	-170	46	1170	0	0	0
230	SLV FO 14	-142	34	1157	0	0	0
230	SLV FO 15	-165	-36	522	0	0	0
230	SLV FO 16	-136	-48	508	0	0	0
230	CRTFP Uy+	0	0	0	0	0	0
230	CRTFP Uy-	0	0	0	0	0	0
231	SLU 1	-7	-13	902	0	0	0
231	SLU 2	-8	-9	926	0	0	0
231	SLU 3	-8	-13	916	0	0	0
231	SLU 4	-8	-11	930	0	0	0
231	SLU 5	-8	-9	934	0	0	0
231	SLU 6	-8	-13	924	0	0	0
231	SLU 7	-8	-11	938	0	0	0
231	SLU 8	-8	-13	919	0	0	0
231	SLU 9	-8	-11	933	0	0	0
231	SLU 10	-8	-10	1047	0	0	0
231	SLU 11	-8	-14	1037	0	0	0
231	SLU 12	-8	-12	1051	0	0	0
231	SLU 13	-8	-11	1055	0	0	0
231	SLU 14	-8	-15	1045	0	0	0
231	SLU 15	-8	-12	1060	0	0	0
231	SLU 16	-8	-15	1040	0	0	0
231	SLU 17	-8	-12	1054	0	0	0
231	SLU 18	-8	-15	1075	0	0	0
231	SLU 19	-8	-13	1089	0	0	0
231	SLU 20	-8	-15	1084	0	0	0
231	SLU 21	-8	-13	1098	0	0	0
231	SLU 22	-8	-14	1023	0	0	0
231	SLU 23	-9	-10	1047	0	0	0
231	SLU 24	-9	-14	1037	0	0	0
231	SLU 25	-9	-12	1051	0	0	0
231	SLU 26	-9	-11	1055	0	0	0
231	SLU 27	-9	-15	1045	0	0	0
231	SLU 28	-9	-12	1060	0	0	0
231	SLU 29	-9	-15	1040	0	0	0
231	SLU 30	-9	-12	1054	0	0	0
231	SLU 31	-9	-12	1168	0	0	0
231	SLU 32	-9	-16	1158	0	0	0
231	SLU 33	-9	-14	1173	0	0	0
231	SLU 34	-9	-12	1177	0	0	0
231	SLU 35	-9	-16	1167	0	0	0
231	SLU 36	-9	-14	1181	0	0	0
231	SLU 37	-9	-16	1161	0	0	0
231	SLU 38	-9	-14	1176	0	0	0
231	SLU 39	-9	-16	1196	0	0	0
231	SLU 40	-9	-14	1211	0	0	0
231	SLU 41	-9	-16	1205	0	0	0
231	SLU 42	-9	-14	1219	0	0	0
231	SLU 43	-9	-16	1131	0	0	0
231	SLU 44	-10	-12	1155	0	0	0
231	SLU 45	-9	-16	1145	0	0	0
231	SLU 46	-10	-14	1159	0	0	0
231	SLU 47	-10	-13	1163	0	0	0
231	SLU 48	-10	-17	1153	0	0	0
231	SLU 49	-10	-14	1167	0	0	0
231	SLU 50	-10	-16	1148	0	0	0
231	SLU 51	-10	-14	1162	0	0	0
231	SLU 52	-10	-14	1276	0	0	0
231	SLU 53	-10	-18	1266	0	0	0
231	SLU 54	-10	-16	1280	0	0	0
231	SLU 55	-10	-14	1284	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
231	SLU 56	-10	-18	1274	0	0	0
231	SLU 57	-10	-16	1289	0	0	0
231	SLU 58	-10	-18	1269	0	0	0
231	SLU 59	-10	-16	1283	0	0	0
231	SLU 60	-10	-18	1304	0	0	0
231	SLU 61	-10	-16	1318	0	0	0
231	SLU 62	-10	-18	1313	0	0	0
231	SLU 63	-10	-16	1327	0	0	0
231	SLU 64	-10	-18	1252	0	0	0
231	SLU 65	-11	-14	1276	0	0	0
231	SLU 66	-10	-18	1266	0	0	0
231	SLU 67	-11	-16	1280	0	0	0
231	SLU 68	-11	-14	1284	0	0	0
231	SLU 69	-11	-18	1274	0	0	0
231	SLU 70	-11	-16	1289	0	0	0
231	SLU 71	-11	-18	1269	0	0	0
231	SLU 72	-11	-16	1283	0	0	0
231	SLU 73	-11	-15	1397	0	0	0
231	SLU 74	-11	-19	1387	0	0	0
231	SLU 75	-11	-17	1401	0	0	0
231	SLU 76	-11	-15	1406	0	0	0
231	SLU 77	-11	-19	1396	0	0	0
231	SLU 78	-11	-17	1410	0	0	0
231	SLU 79	-11	-19	1390	0	0	0
231	SLU 80	-11	-17	1405	0	0	0
231	SLU 81	-11	-20	1425	0	0	0
231	SLU 82	-11	-17	1440	0	0	0
231	SLU 83	-11	-20	1434	0	0	0
231	SLU 84	-11	-17	1448	0	0	0
231	SLE RA 1	-8	-13	936	0	0	0
231	SLE RA 2	-8	-11	952	0	0	0
231	SLE RA 3	-8	-13	946	0	0	0
231	SLE RA 4	-8	-12	955	0	0	0
231	SLE RA 5	-8	-11	958	0	0	0
231	SLE RA 6	-8	-13	951	0	0	0
231	SLE RA 7	-8	-12	961	0	0	0
231	SLE RA 8	-8	-13	948	0	0	0
231	SLE RA 9	-8	-12	957	0	0	0
231	SLE RA 10	-8	-12	1033	0	0	0
231	SLE RA 11	-8	-14	1027	0	0	0
231	SLE RA 12	-8	-13	1036	0	0	0
231	SLE RA 13	-8	-12	1039	0	0	0
231	SLE RA 14	-8	-14	1032	0	0	0
231	SLE RA 15	-8	-13	1042	0	0	0
231	SLE RA 16	-8	-14	1029	0	0	0
231	SLE RA 17	-8	-13	1038	0	0	0
231	SLE RA 18	-8	-14	1052	0	0	0
231	SLE RA 19	-8	-13	1061	0	0	0
231	SLE RA 20	-8	-15	1058	0	0	0
231	SLE RA 21	-8	-13	1067	0	0	0
231	SLE FR 1	-8	-13	936	0	0	0
231	SLE FR 2	-8	-13	940	0	0	0
231	SLE FR 3	-8	-13	939	0	0	0
231	SLE FR 4	-8	-13	974	0	0	0
231	SLE FR 5	-8	-14	973	0	0	0
231	SLE FR 6	-8	-14	994	0	0	0
231	SLE QP 1	-8	-13	936	0	0	0
231	SLE QP 2	-8	-14	971	0	0	0
231	SLD 1	70	5	1211	0	0	0
231	SLD 2	87	-1	1204	0	0	0
231	SLD 3	73	-41	855	0	0	0
231	SLD 4	90	-48	848	0	0	0
231	SLD 5	8	64	1585	0	0	0
231	SLD 6	19	60	1580	0	0	0
231	SLD 7	18	-91	397	0	0	0
231	SLD 8	29	-96	392	0	0	0
231	SLD 9	-44	69	1550	0	0	0
231	SLD 10	-33	64	1545	0	0	0
231	SLD 11	-34	-87	362	0	0	0
231	SLD 12	-23	-91	357	0	0	0
231	SLD 13	-105	21	1095	0	0	0
231	SLD 14	-88	14	1087	0	0	0
231	SLD 15	-102	-26	738	0	0	0
231	SLD 16	-85	-32	731	0	0	0
231	SLV 1	113	19	1369	0	0	0
231	SLV 2	140	9	1358	0	0	0
231	SLV 3	118	-60	767	0	0	0
231	SLV 4	145	-70	755	0	0	0
231	SLV 5	16	118	2006	0	0	0
231	SLV 6	34	111	1999	0	0	0
231	SLV 7	33	-145	-2	0	0	0
231	SLV 8	51	-152	-9	0	0	0
231	SLV 9	-66	125	1952	0	0	0
231	SLV 10	-48	118	1944	0	0	0
231	SLV 11	-49	-138	-57	0	0	0
231	SLV 12	-31	-145	-64	0	0	0
231	SLV 13	-160	43	1187	0	0	0
231	SLV 14	-134	33	1175	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
231	SLV 15	-155	-36	584	0	0	0
231	SLV 16	-129	-46	573	0	0	0
231	SLV FO 1	125	22	1409	0	0	0
231	SLV FO 2	155	11	1397	0	0	0
231	SLV FO 3	131	-64	746	0	0	0
231	SLV FO 4	160	-76	734	0	0	0
231	SLV FO 5	18	131	2110	0	0	0
231	SLV FO 6	38	123	2102	0	0	0
231	SLV FO 7	37	-158	-99	0	0	0
231	SLV FO 8	56	-166	-108	0	0	0
231	SLV FO 9	-72	139	2050	0	0	0
231	SLV FO 10	-52	131	2041	0	0	0
231	SLV FO 11	-54	-150	-159	0	0	0
231	SLV FO 12	-34	-158	-168	0	0	0
231	SLV FO 13	-176	49	1208	0	0	0
231	SLV FO 14	-146	37	1196	0	0	0
231	SLV FO 15	-170	-38	546	0	0	0
231	SLV FO 16	-141	-49	533	0	0	0
231	CRTFP Uy+	0	0	0	0	0	0
231	CRTFP Uy-	0	0	0	0	0	0
232	SLU 1	-7	-11	918	0	0	0
232	SLU 2	-8	-7	942	0	0	0
232	SLU 3	-8	-11	932	0	0	0
232	SLU 4	-8	-9	946	0	0	0
232	SLU 5	-8	-7	950	0	0	0
232	SLU 6	-8	-11	941	0	0	0
232	SLU 7	-8	-9	955	0	0	0
232	SLU 8	-8	-11	935	0	0	0
232	SLU 9	-8	-9	949	0	0	0
232	SLU 10	-8	-8	1066	0	0	0
232	SLU 11	-8	-12	1056	0	0	0
232	SLU 12	-8	-10	1070	0	0	0
232	SLU 13	-8	-8	1074	0	0	0
232	SLU 14	-8	-12	1064	0	0	0
232	SLU 15	-8	-10	1079	0	0	0
232	SLU 16	-8	-12	1059	0	0	0
232	SLU 17	-8	-10	1073	0	0	0
232	SLU 18	-8	-12	1094	0	0	0
232	SLU 19	-8	-10	1109	0	0	0
232	SLU 20	-8	-12	1103	0	0	0
232	SLU 21	-8	-10	1118	0	0	0
232	SLU 22	-8	-12	1041	0	0	0
232	SLU 23	-9	-8	1065	0	0	0
232	SLU 24	-9	-12	1055	0	0	0
232	SLU 25	-9	-10	1070	0	0	0
232	SLU 26	-9	-8	1074	0	0	0
232	SLU 27	-9	-12	1064	0	0	0
232	SLU 28	-9	-10	1078	0	0	0
232	SLU 29	-9	-12	1058	0	0	0
232	SLU 30	-9	-10	1073	0	0	0
232	SLU 31	-9	-9	1189	0	0	0
232	SLU 32	-9	-13	1179	0	0	0
232	SLU 33	-9	-11	1193	0	0	0
232	SLU 34	-9	-9	1197	0	0	0
232	SLU 35	-9	-13	1187	0	0	0
232	SLU 36	-9	-11	1202	0	0	0
232	SLU 37	-9	-13	1182	0	0	0
232	SLU 38	-9	-11	1196	0	0	0
232	SLU 39	-9	-13	1218	0	0	0
232	SLU 40	-9	-11	1232	0	0	0
232	SLU 41	-9	-14	1226	0	0	0
232	SLU 42	-9	-11	1241	0	0	0
232	SLU 43	-9	-13	1151	0	0	0
232	SLU 44	-10	-10	1175	0	0	0
232	SLU 45	-9	-14	1165	0	0	0
232	SLU 46	-10	-11	1179	0	0	0
232	SLU 47	-10	-10	1184	0	0	0
232	SLU 48	-10	-14	1174	0	0	0
232	SLU 49	-10	-12	1188	0	0	0
232	SLU 50	-9	-14	1168	0	0	0
232	SLU 51	-10	-11	1183	0	0	0
232	SLU 52	-10	-11	1299	0	0	0
232	SLU 53	-10	-15	1289	0	0	0
232	SLU 54	-10	-13	1303	0	0	0
232	SLU 55	-10	-11	1307	0	0	0
232	SLU 56	-10	-15	1297	0	0	0
232	SLU 57	-10	-13	1312	0	0	0
232	SLU 58	-10	-15	1292	0	0	0
232	SLU 59	-10	-13	1306	0	0	0
232	SLU 60	-10	-15	1328	0	0	0
232	SLU 61	-10	-13	1342	0	0	0
232	SLU 62	-10	-15	1336	0	0	0
232	SLU 63	-10	-13	1351	0	0	0
232	SLU 64	-10	-15	1274	0	0	0
232	SLU 65	-11	-11	1298	0	0	0
232	SLU 66	-10	-15	1288	0	0	0
232	SLU 67	-11	-12	1303	0	0	0
232	SLU 68	-11	-11	1307	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
232	SLU 69	-11	-15	1297	0	0	0
232	SLU 70	-11	-13	1311	0	0	0
232	SLU 71	-11	-15	1291	0	0	0
232	SLU 72	-11	-13	1306	0	0	0
232	SLU 73	-11	-12	1422	0	0	0
232	SLU 74	-11	-16	1412	0	0	0
232	SLU 75	-11	-14	1426	0	0	0
232	SLU 76	-11	-12	1430	0	0	0
232	SLU 77	-11	-16	1421	0	0	0
232	SLU 78	-11	-14	1435	0	0	0
232	SLU 79	-11	-16	1415	0	0	0
232	SLU 80	-11	-14	1429	0	0	0
232	SLU 81	-11	-16	1451	0	0	0
232	SLU 82	-11	-14	1465	0	0	0
232	SLU 83	-11	-16	1459	0	0	0
232	SLU 84	-11	-14	1474	0	0	0
232	SLE RA 1	-8	-11	953	0	0	0
232	SLE RA 2	-8	-8	969	0	0	0
232	SLE RA 3	-8	-11	962	0	0	0
232	SLE RA 4	-8	-10	972	0	0	0
232	SLE RA 5	-8	-8	975	0	0	0
232	SLE RA 6	-8	-11	968	0	0	0
232	SLE RA 7	-8	-10	978	0	0	0
232	SLE RA 8	-8	-11	964	0	0	0
232	SLE RA 9	-8	-10	974	0	0	0
232	SLE RA 10	-8	-9	1051	0	0	0
232	SLE RA 11	-8	-12	1045	0	0	0
232	SLE RA 12	-8	-10	1055	0	0	0
232	SLE RA 13	-8	-9	1057	0	0	0
232	SLE RA 14	-8	-12	1051	0	0	0
232	SLE RA 15	-8	-10	1060	0	0	0
232	SLE RA 16	-8	-12	1047	0	0	0
232	SLE RA 17	-8	-10	1057	0	0	0
232	SLE RA 18	-8	-12	1071	0	0	0
232	SLE RA 19	-8	-11	1080	0	0	0
232	SLE RA 20	-8	-12	1077	0	0	0
232	SLE RA 21	-8	-11	1086	0	0	0
232	SLE FR 1	-8	-11	953	0	0	0
232	SLE FR 2	-8	-10	956	0	0	0
232	SLE FR 3	-8	-11	955	0	0	0
232	SLE FR 4	-8	-11	991	0	0	0
232	SLE FR 5	-8	-11	991	0	0	0
232	SLE FR 6	-8	-12	1012	0	0	0
232	SLE QP 1	-8	-11	953	0	0	0
232	SLE QP 2	-8	-11	988	0	0	0
232	SLD 1	72	9	1224	0	0	0
232	SLD 2	89	3	1218	0	0	0
232	SLD 3	74	-39	861	0	0	0
232	SLD 4	92	-45	855	0	0	0
232	SLD 5	9	70	1611	0	0	0
232	SLD 6	20	66	1606	0	0	0
232	SLD 7	18	-92	401	0	0	0
232	SLD 8	30	-96	397	0	0	0
232	SLD 9	-45	74	1580	0	0	0
232	SLD 10	-34	70	1576	0	0	0
232	SLD 11	-35	-88	370	0	0	0
232	SLD 12	-24	-92	366	0	0	0
232	SLD 13	-107	23	1122	0	0	0
232	SLD 14	-90	17	1115	0	0	0
232	SLD 15	-104	-26	759	0	0	0
232	SLD 16	-87	-32	752	0	0	0
232	SLV 1	116	24	1380	0	0	0
232	SLV 2	143	15	1370	0	0	0
232	SLV 3	121	-58	767	0	0	0
232	SLV 4	148	-68	757	0	0	0
232	SLV 5	17	126	2038	0	0	0
232	SLV 6	35	119	2031	0	0	0
232	SLV 7	33	-148	-6	0	0	0
232	SLV 8	52	-155	-13	0	0	0
232	SLV 9	-67	132	1990	0	0	0
232	SLV 10	-49	126	1983	0	0	0
232	SLV 11	-51	-142	-54	0	0	0
232	SLV 12	-32	-148	-61	0	0	0
232	SLV 13	-164	45	1220	0	0	0
232	SLV 14	-136	36	1209	0	0	0
232	SLV 15	-159	-37	607	0	0	0
232	SLV 16	-131	-47	596	0	0	0
232	SLV FO 1	128	28	1420	0	0	0
232	SLV FO 2	158	17	1408	0	0	0
232	SLV FO 3	134	-63	745	0	0	0
232	SLV FO 4	164	-73	734	0	0	0
232	SLV FO 5	19	139	2143	0	0	0
232	SLV FO 6	40	132	2135	0	0	0
232	SLV FO 7	37	-162	-106	0	0	0
232	SLV FO 8	57	-169	-113	0	0	0
232	SLV FO 9	-73	146	2090	0	0	0
232	SLV FO 10	-53	139	2082	0	0	0
232	SLV FO 11	-55	-155	-159	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
232	SLV FO 12	-35	-162	-166	0	0	0
232	SLV FO 13	-179	51	1243	0	0	0
232	SLV FO 14	-149	40	1232	0	0	0
232	SLV FO 15	-174	-40	568	0	0	0
232	SLV FO 16	-144	-50	557	0	0	0
232	CRTFP Uy+	0	0	0	0	0	0
232	CRTFP Uy-	0	0	0	0	0	0
233	SLU 1	-7	-8	933	0	0	0
233	SLU 2	-8	-4	958	0	0	0
233	SLU 3	-8	-8	948	0	0	0
233	SLU 4	-8	-6	962	0	0	0
233	SLU 5	-8	-4	967	0	0	0
233	SLU 6	-8	-9	957	0	0	0
233	SLU 7	-8	-6	971	0	0	0
233	SLU 8	-8	-9	951	0	0	0
233	SLU 9	-8	-6	966	0	0	0
233	SLU 10	-8	-5	1084	0	0	0
233	SLU 11	-8	-9	1074	0	0	0
233	SLU 12	-8	-7	1089	0	0	0
233	SLU 13	-8	-5	1093	0	0	0
233	SLU 14	-8	-10	1083	0	0	0
233	SLU 15	-8	-7	1098	0	0	0
233	SLU 16	-8	-9	1077	0	0	0
233	SLU 17	-8	-7	1092	0	0	0
233	SLU 18	-8	-10	1114	0	0	0
233	SLU 19	-8	-7	1128	0	0	0
233	SLU 20	-8	-10	1123	0	0	0
233	SLU 21	-8	-7	1137	0	0	0
233	SLU 22	-8	-9	1059	0	0	0
233	SLU 23	-9	-5	1083	0	0	0
233	SLU 24	-9	-9	1073	0	0	0
233	SLU 25	-9	-7	1088	0	0	0
233	SLU 26	-9	-5	1092	0	0	0
233	SLU 27	-9	-9	1082	0	0	0
233	SLU 28	-9	-7	1097	0	0	0
233	SLU 29	-9	-9	1076	0	0	0
233	SLU 30	-9	-7	1091	0	0	0
233	SLU 31	-9	-6	1209	0	0	0
233	SLU 32	-9	-10	1199	0	0	0
233	SLU 33	-9	-8	1214	0	0	0
233	SLU 34	-9	-6	1218	0	0	0
233	SLU 35	-9	-10	1208	0	0	0
233	SLU 36	-9	-8	1223	0	0	0
233	SLU 37	-9	-10	1203	0	0	0
233	SLU 38	-9	-8	1217	0	0	0
233	SLU 39	-9	-10	1239	0	0	0
233	SLU 40	-9	-8	1254	0	0	0
233	SLU 41	-9	-10	1248	0	0	0
233	SLU 42	-9	-8	1263	0	0	0
233	SLU 43	-9	-11	1170	0	0	0
233	SLU 44	-10	-7	1195	0	0	0
233	SLU 45	-9	-11	1185	0	0	0
233	SLU 46	-10	-8	1200	0	0	0
233	SLU 47	-10	-7	1204	0	0	0
233	SLU 48	-9	-11	1194	0	0	0
233	SLU 49	-10	-8	1208	0	0	0
233	SLU 50	-9	-11	1188	0	0	0
233	SLU 51	-10	-8	1203	0	0	0
233	SLU 52	-10	-7	1321	0	0	0
233	SLU 53	-10	-12	1311	0	0	0
233	SLU 54	-10	-9	1326	0	0	0
233	SLU 55	-10	-8	1330	0	0	0
233	SLU 56	-10	-12	1320	0	0	0
233	SLU 57	-10	-9	1335	0	0	0
233	SLU 58	-10	-12	1314	0	0	0
233	SLU 59	-10	-9	1329	0	0	0
233	SLU 60	-9	-12	1351	0	0	0
233	SLU 61	-10	-9	1366	0	0	0
233	SLU 62	-10	-12	1360	0	0	0
233	SLU 63	-10	-10	1374	0	0	0
233	SLU 64	-10	-11	1296	0	0	0
233	SLU 65	-11	-7	1320	0	0	0
233	SLU 66	-10	-11	1310	0	0	0
233	SLU 67	-11	-9	1325	0	0	0
233	SLU 68	-11	-7	1329	0	0	0
233	SLU 69	-11	-12	1319	0	0	0
233	SLU 70	-11	-9	1334	0	0	0
233	SLU 71	-10	-12	1313	0	0	0
233	SLU 72	-11	-9	1328	0	0	0
233	SLU 73	-11	-8	1446	0	0	0
233	SLU 74	-11	-12	1437	0	0	0
233	SLU 75	-11	-10	1451	0	0	0
233	SLU 76	-11	-8	1455	0	0	0
233	SLU 77	-11	-13	1445	0	0	0
233	SLU 78	-11	-10	1460	0	0	0
233	SLU 79	-11	-12	1440	0	0	0
233	SLU 80	-11	-10	1454	0	0	0
233	SLU 81	-11	-13	1476	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
233	SLU 82	-11	-10	1491	0	0	0
233	SLU 83	-11	-13	1485	0	0	0
233	SLU 84	-11	-10	1500	0	0	0
233	SLE RA 1	-8	-9	969	0	0	0
233	SLE RA 2	-8	-6	985	0	0	0
233	SLE RA 3	-8	-9	979	0	0	0
233	SLE RA 4	-8	-7	989	0	0	0
233	SLE RA 5	-8	-6	991	0	0	0
233	SLE RA 6	-8	-9	985	0	0	0
233	SLE RA 7	-8	-7	994	0	0	0
233	SLE RA 8	-8	-9	981	0	0	0
233	SLE RA 9	-8	-7	991	0	0	0
233	SLE RA 10	-8	-6	1070	0	0	0
233	SLE RA 11	-8	-9	1063	0	0	0
233	SLE RA 12	-8	-8	1073	0	0	0
233	SLE RA 13	-8	-7	1076	0	0	0
233	SLE RA 14	-8	-9	1069	0	0	0
233	SLE RA 15	-8	-8	1079	0	0	0
233	SLE RA 16	-8	-9	1065	0	0	0
233	SLE RA 17	-8	-8	1075	0	0	0
233	SLE RA 18	-8	-9	1089	0	0	0
233	SLE RA 19	-8	-8	1099	0	0	0
233	SLE RA 20	-8	-9	1095	0	0	0
233	SLE RA 21	-8	-8	1105	0	0	0
233	SLE FR 1	-8	-9	969	0	0	0
233	SLE FR 2	-8	-8	972	0	0	0
233	SLE FR 3	-8	-9	971	0	0	0
233	SLE FR 4	-8	-8	1008	0	0	0
233	SLE FR 5	-8	-9	1008	0	0	0
233	SLE FR 6	-8	-9	1029	0	0	0
233	SLE QP 1	-8	-9	969	0	0	0
233	SLE QP 2	-8	-9	1005	0	0	0
233	SLD 1	73	14	1237	0	0	0
233	SLD 2	90	8	1231	0	0	0
233	SLD 3	76	-37	868	0	0	0
233	SLD 4	93	-42	862	0	0	0
233	SLD 5	9	75	1635	0	0	0
233	SLD 6	20	72	1631	0	0	0
233	SLD 7	19	-93	405	0	0	0
233	SLD 8	30	-96	402	0	0	0
233	SLD 9	-45	79	1609	0	0	0
233	SLD 10	-34	75	1605	0	0	0
233	SLD 11	-36	-89	379	0	0	0
233	SLD 12	-24	-93	375	0	0	0
233	SLD 13	-109	25	1149	0	0	0
233	SLD 14	-91	19	1143	0	0	0
233	SLD 15	-106	-26	780	0	0	0
233	SLD 16	-88	-31	774	0	0	0
233	SLV 1	118	29	1390	0	0	0
233	SLV 2	146	21	1381	0	0	0
233	SLV 3	123	-56	767	0	0	0
233	SLV 4	150	-64	758	0	0	0
233	SLV 5	18	133	2068	0	0	0
233	SLV 6	36	128	2062	0	0	0
233	SLV 7	33	-151	-10	0	0	0
233	SLV 8	52	-156	-16	0	0	0
233	SLV 9	-67	139	2027	0	0	0
233	SLV 10	-49	133	2021	0	0	0
233	SLV 11	-52	-145	-52	0	0	0
233	SLV 12	-33	-151	-58	0	0	0
233	SLV 13	-166	47	1253	0	0	0
233	SLV 14	-138	38	1244	0	0	0
233	SLV 15	-161	-39	629	0	0	0
233	SLV 16	-133	-47	620	0	0	0
233	SLV FO 1	130	33	1429	0	0	0
233	SLV FO 2	161	24	1419	0	0	0
233	SLV FO 3	136	-61	743	0	0	0
233	SLV FO 4	166	-70	733	0	0	0
233	SLV FO 5	20	148	2174	0	0	0
233	SLV FO 6	41	142	2168	0	0	0
233	SLV FO 7	38	-165	-112	0	0	0
233	SLV FO 8	58	-171	-119	0	0	0
233	SLV FO 9	-73	153	2129	0	0	0
233	SLV FO 10	-53	147	2122	0	0	0
233	SLV FO 11	-56	-159	-157	0	0	0
233	SLV FO 12	-36	-165	-164	0	0	0
233	SLV FO 13	-181	52	1278	0	0	0
233	SLV FO 14	-151	43	1267	0	0	0
233	SLV FO 15	-176	-42	592	0	0	0
233	SLV FO 16	-146	-51	582	0	0	0
233	CRTFP Uy+	0	0	0	0	0	0
233	CRTFP Uy-	0	0	0	0	0	0
234	SLU 1	-7	-6	954	0	0	0
234	SLU 2	-8	-2	979	0	0	0
234	SLU 3	-8	-6	969	0	0	0
234	SLU 4	-8	-3	984	0	0	0
234	SLU 5	-8	-2	988	0	0	0
234	SLU 6	-8	-6	978	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
234	SLU 7	-8	-4	993	0	0	0
234	SLU 8	-8	-6	972	0	0	0
234	SLU 9	-8	-4	987	0	0	0
234	SLU 10	-8	-2	1109	0	0	0
234	SLU 11	-8	-7	1099	0	0	0
234	SLU 12	-8	-4	1114	0	0	0
234	SLU 13	-8	-2	1118	0	0	0
234	SLU 14	-8	-7	1108	0	0	0
234	SLU 15	-8	-4	1123	0	0	0
234	SLU 16	-8	-7	1102	0	0	0
234	SLU 17	-8	-4	1117	0	0	0
234	SLU 18	-8	-7	1140	0	0	0
234	SLU 19	-8	-4	1154	0	0	0
234	SLU 20	-8	-7	1149	0	0	0
234	SLU 21	-8	-4	1164	0	0	0
234	SLU 22	-8	-6	1082	0	0	0
234	SLU 23	-9	-2	1107	0	0	0
234	SLU 24	-9	-6	1097	0	0	0
234	SLU 25	-9	-4	1112	0	0	0
234	SLU 26	-9	-2	1116	0	0	0
234	SLU 27	-9	-6	1106	0	0	0
234	SLU 28	-9	-4	1121	0	0	0
234	SLU 29	-9	-6	1100	0	0	0
234	SLU 30	-9	-4	1115	0	0	0
234	SLU 31	-9	-3	1237	0	0	0
234	SLU 32	-9	-7	1227	0	0	0
234	SLU 33	-9	-4	1242	0	0	0
234	SLU 34	-9	-3	1246	0	0	0
234	SLU 35	-9	-7	1236	0	0	0
234	SLU 36	-9	-5	1251	0	0	0
234	SLU 37	-9	-7	1230	0	0	0
234	SLU 38	-9	-5	1245	0	0	0
234	SLU 39	-9	-7	1268	0	0	0
234	SLU 40	-9	-5	1283	0	0	0
234	SLU 41	-9	-7	1277	0	0	0
234	SLU 42	-9	-5	1292	0	0	0
234	SLU 43	-9	-7	1196	0	0	0
234	SLU 44	-10	-3	1221	0	0	0
234	SLU 45	-9	-8	1211	0	0	0
234	SLU 46	-10	-5	1226	0	0	0
234	SLU 47	-10	-3	1230	0	0	0
234	SLU 48	-9	-8	1220	0	0	0
234	SLU 49	-10	-5	1235	0	0	0
234	SLU 50	-9	-8	1215	0	0	0
234	SLU 51	-10	-5	1229	0	0	0
234	SLU 52	-10	-4	1351	0	0	0
234	SLU 53	-10	-8	1341	0	0	0
234	SLU 54	-10	-6	1356	0	0	0
234	SLU 55	-10	-4	1360	0	0	0
234	SLU 56	-10	-8	1350	0	0	0
234	SLU 57	-10	-6	1365	0	0	0
234	SLU 58	-10	-8	1344	0	0	0
234	SLU 59	-10	-6	1359	0	0	0
234	SLU 60	-9	-8	1382	0	0	0
234	SLU 61	-10	-6	1397	0	0	0
234	SLU 62	-10	-8	1391	0	0	0
234	SLU 63	-10	-6	1406	0	0	0
234	SLU 64	-10	-8	1325	0	0	0
234	SLU 65	-11	-4	1349	0	0	0
234	SLU 66	-10	-8	1339	0	0	0
234	SLU 67	-11	-5	1354	0	0	0
234	SLU 68	-11	-4	1358	0	0	0
234	SLU 69	-11	-8	1349	0	0	0
234	SLU 70	-11	-6	1363	0	0	0
234	SLU 71	-10	-8	1343	0	0	0
234	SLU 72	-11	-6	1358	0	0	0
234	SLU 73	-11	-4	1479	0	0	0
234	SLU 74	-11	-9	1469	0	0	0
234	SLU 75	-11	-6	1484	0	0	0
234	SLU 76	-11	-4	1488	0	0	0
234	SLU 77	-11	-9	1478	0	0	0
234	SLU 78	-11	-6	1493	0	0	0
234	SLU 79	-11	-9	1473	0	0	0
234	SLU 80	-11	-6	1487	0	0	0
234	SLU 81	-11	-9	1510	0	0	0
234	SLU 82	-11	-6	1525	0	0	0
234	SLU 83	-11	-9	1519	0	0	0
234	SLU 84	-11	-6	1534	0	0	0
234	SLE RA 1	-8	-6	991	0	0	0
234	SLE RA 2	-8	-3	1007	0	0	0
234	SLE RA 3	-8	-6	1001	0	0	0
234	SLE RA 4	-8	-4	1011	0	0	0
234	SLE RA 5	-8	-3	1013	0	0	0
234	SLE RA 6	-8	-6	1007	0	0	0
234	SLE RA 7	-8	-4	1017	0	0	0
234	SLE RA 8	-8	-6	1003	0	0	0
234	SLE RA 9	-8	-4	1013	0	0	0
234	SLE RA 10	-8	-4	1094	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
234	SLE RA 11	-8	-6	1087	0	0	0
234	SLE RA 12	-8	-5	1097	0	0	0
234	SLE RA 13	-8	-4	1100	0	0	0
234	SLE RA 14	-8	-7	1093	0	0	0
234	SLE RA 15	-8	-5	1103	0	0	0
234	SLE RA 16	-8	-7	1089	0	0	0
234	SLE RA 17	-8	-5	1099	0	0	0
234	SLE RA 18	-8	-7	1114	0	0	0
234	SLE RA 19	-8	-5	1124	0	0	0
234	SLE RA 20	-8	-7	1120	0	0	0
234	SLE RA 21	-8	-5	1130	0	0	0
234	SLE FR 1	-8	-6	991	0	0	0
234	SLE FR 2	-8	-5	994	0	0	0
234	SLE FR 3	-8	-6	993	0	0	0
234	SLE FR 4	-8	-6	1031	0	0	0
234	SLE FR 5	-8	-6	1030	0	0	0
234	SLE FR 6	-8	-6	1053	0	0	0
234	SLE QP 1	-8	-6	991	0	0	0
234	SLE QP 2	-8	-6	1028	0	0	0
234	SLD 1	74	18	1255	0	0	0
234	SLD 2	92	14	1250	0	0	0
234	SLD 3	77	-34	879	0	0	0
234	SLD 4	94	-39	873	0	0	0
234	SLD 5	9	81	1668	0	0	0
234	SLD 6	21	78	1665	0	0	0
234	SLD 7	19	-93	412	0	0	0
234	SLD 8	30	-96	409	0	0	0
234	SLD 9	-46	84	1647	0	0	0
234	SLD 10	-34	81	1643	0	0	0
234	SLD 11	-36	-90	391	0	0	0
234	SLD 12	-25	-93	387	0	0	0
234	SLD 13	-110	26	1182	0	0	0
234	SLD 14	-92	22	1177	0	0	0
234	SLD 15	-107	-26	805	0	0	0
234	SLD 16	-89	-30	800	0	0	0
234	SLV 1	119	35	1408	0	0	0
234	SLV 2	147	28	1399	0	0	0
234	SLV 3	124	-53	771	0	0	0
234	SLV 4	152	-60	763	0	0	0
234	SLV 5	18	141	2109	0	0	0
234	SLV 6	37	136	2104	0	0	0
234	SLV 7	34	-153	-14	0	0	0
234	SLV 8	52	-157	-19	0	0	0
234	SLV 9	-68	145	2075	0	0	0
234	SLV 10	-49	140	2069	0	0	0
234	SLV 11	-52	-149	-48	0	0	0
234	SLV 12	-34	-154	-53	0	0	0
234	SLV 13	-167	48	1293	0	0	0
234	SLV 14	-139	41	1285	0	0	0
234	SLV 15	-163	-40	656	0	0	0
234	SLV 16	-135	-47	648	0	0	0
234	SLV FO 1	132	39	1446	0	0	0
234	SLV FO 2	163	31	1437	0	0	0
234	SLV FO 3	137	-58	745	0	0	0
234	SLV FO 4	168	-66	736	0	0	0
234	SLV FO 5	21	156	2217	0	0	0
234	SLV FO 6	42	151	2211	0	0	0
234	SLV FO 7	38	-167	-118	0	0	0
234	SLV FO 8	58	-173	-124	0	0	0
234	SLV FO 9	-74	160	2179	0	0	0
234	SLV FO 10	-53	155	2173	0	0	0
234	SLV FO 11	-57	-163	-155	0	0	0
234	SLV FO 12	-36	-168	-162	0	0	0
234	SLV FO 13	-183	53	1320	0	0	0
234	SLV FO 14	-153	46	1311	0	0	0
234	SLV FO 15	-178	-44	619	0	0	0
234	SLV FO 16	-148	-51	610	0	0	0
234	CRTFP Uy+	0	0	0	0	0	0
234	CRTFP Uy-	0	0	0	0	0	0
235	SLU 1	-7	-3	983	0	0	0
235	SLU 2	-8	1	1009	0	0	0
235	SLU 3	-8	-3	999	0	0	0
235	SLU 4	-8	-1	1014	0	0	0
235	SLU 5	-8	1	1018	0	0	0
235	SLU 6	-8	-4	1008	0	0	0
235	SLU 7	-8	-1	1023	0	0	0
235	SLU 8	-8	-4	1002	0	0	0
235	SLU 9	-8	-1	1017	0	0	0
235	SLU 10	-8	1	1143	0	0	0
235	SLU 11	-8	-4	1133	0	0	0
235	SLU 12	-8	-1	1149	0	0	0
235	SLU 13	-8	1	1153	0	0	0
235	SLU 14	-8	-4	1143	0	0	0
235	SLU 15	-8	-1	1158	0	0	0
235	SLU 16	-8	-4	1137	0	0	0
235	SLU 17	-8	-1	1152	0	0	0
235	SLU 18	-8	-4	1176	0	0	0
235	SLU 19	-8	-1	1191	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
235	SLU 20	-8	-4	1185	0	0	0
235	SLU 21	-8	-1	1200	0	0	0
235	SLU 22	-8	-3	1116	0	0	0
235	SLU 23	-9	1	1141	0	0	0
235	SLU 24	-9	-3	1131	0	0	0
235	SLU 25	-9	-1	1146	0	0	0
235	SLU 26	-9	1	1151	0	0	0
235	SLU 27	-9	-4	1141	0	0	0
235	SLU 28	-9	-1	1156	0	0	0
235	SLU 29	-9	-4	1135	0	0	0
235	SLU 30	-9	-1	1150	0	0	0
235	SLU 31	-9	1	1276	0	0	0
235	SLU 32	-9	-4	1266	0	0	0
235	SLU 33	-9	-1	1281	0	0	0
235	SLU 34	-9	0	1285	0	0	0
235	SLU 35	-9	-4	1275	0	0	0
235	SLU 36	-9	-1	1291	0	0	0
235	SLU 37	-9	-4	1269	0	0	0
235	SLU 38	-9	-1	1284	0	0	0
235	SLU 39	-9	-4	1308	0	0	0
235	SLU 40	-9	-1	1323	0	0	0
235	SLU 41	-9	-4	1318	0	0	0
235	SLU 42	-9	-1	1333	0	0	0
235	SLU 43	-9	-4	1233	0	0	0
235	SLU 44	-10	0	1258	0	0	0
235	SLU 45	-9	-4	1248	0	0	0
235	SLU 46	-10	-2	1264	0	0	0
235	SLU 47	-10	0	1268	0	0	0
235	SLU 48	-10	-5	1258	0	0	0
235	SLU 49	-10	-2	1273	0	0	0
235	SLU 50	-9	-5	1252	0	0	0
235	SLU 51	-10	-2	1267	0	0	0
235	SLU 52	-10	0	1393	0	0	0
235	SLU 53	-10	-5	1383	0	0	0
235	SLU 54	-10	-2	1398	0	0	0
235	SLU 55	-10	0	1402	0	0	0
235	SLU 56	-10	-5	1392	0	0	0
235	SLU 57	-10	-2	1408	0	0	0
235	SLU 58	-10	-5	1386	0	0	0
235	SLU 59	-10	-2	1402	0	0	0
235	SLU 60	-10	-5	1425	0	0	0
235	SLU 61	-10	-2	1440	0	0	0
235	SLU 62	-10	-5	1435	0	0	0
235	SLU 63	-10	-2	1450	0	0	0
235	SLU 64	-10	-4	1365	0	0	0
235	SLU 65	-11	0	1391	0	0	0
235	SLU 66	-10	-5	1381	0	0	0
235	SLU 67	-11	-2	1396	0	0	0
235	SLU 68	-11	0	1400	0	0	0
235	SLU 69	-11	-5	1390	0	0	0
235	SLU 70	-11	-2	1405	0	0	0
235	SLU 71	-11	-5	1384	0	0	0
235	SLU 72	-11	-2	1399	0	0	0
235	SLU 73	-11	0	1525	0	0	0
235	SLU 74	-11	-5	1515	0	0	0
235	SLU 75	-11	-2	1531	0	0	0
235	SLU 76	-11	-1	1535	0	0	0
235	SLU 77	-11	-5	1525	0	0	0
235	SLU 78	-11	-2	1540	0	0	0
235	SLU 79	-11	-5	1519	0	0	0
235	SLU 80	-11	-2	1534	0	0	0
235	SLU 81	-11	-5	1558	0	0	0
235	SLU 82	-11	-2	1573	0	0	0
235	SLU 83	-11	-5	1567	0	0	0
235	SLU 84	-11	-2	1582	0	0	0
235	SLE RA 1	-8	-3	1021	0	0	0
235	SLE RA 2	-8	-1	1038	0	0	0
235	SLE RA 3	-8	-3	1031	0	0	0
235	SLE RA 4	-8	-2	1042	0	0	0
235	SLE RA 5	-8	-1	1044	0	0	0
235	SLE RA 6	-8	-4	1038	0	0	0
235	SLE RA 7	-8	-2	1048	0	0	0
235	SLE RA 8	-8	-4	1034	0	0	0
235	SLE RA 9	-8	-2	1044	0	0	0
235	SLE RA 10	-8	-1	1128	0	0	0
235	SLE RA 11	-8	-4	1121	0	0	0
235	SLE RA 12	-8	-2	1131	0	0	0
235	SLE RA 13	-8	-1	1134	0	0	0
235	SLE RA 14	-8	-4	1127	0	0	0
235	SLE RA 15	-8	-2	1138	0	0	0
235	SLE RA 16	-8	-4	1123	0	0	0
235	SLE RA 17	-8	-2	1134	0	0	0
235	SLE RA 18	-8	-4	1149	0	0	0
235	SLE RA 19	-8	-2	1159	0	0	0
235	SLE RA 20	-8	-4	1156	0	0	0
235	SLE RA 21	-8	-2	1166	0	0	0
235	SLE FR 1	-8	-3	1021	0	0	0
235	SLE FR 2	-8	-3	1024	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
235	SLE FR 3	-8	-3	1024	0	0	0
235	SLE FR 4	-8	-3	1063	0	0	0
235	SLE FR 5	-8	-4	1062	0	0	0
235	SLE FR 6	-8	-4	1085	0	0	0
235	SLE QP 1	-8	-3	1021	0	0	0
235	SLE QP 2	-8	-4	1060	0	0	0
235	SLD 1	75	23	1285	0	0	0
235	SLD 2	93	19	1281	0	0	0
235	SLD 3	77	-31	897	0	0	0
235	SLD 4	95	-35	893	0	0	0
235	SLD 5	10	87	1716	0	0	0
235	SLD 6	21	85	1713	0	0	0
235	SLD 7	19	-93	424	0	0	0
235	SLD 8	30	-96	421	0	0	0
235	SLD 9	-46	89	1698	0	0	0
235	SLD 10	-34	86	1695	0	0	0
235	SLD 11	-37	-92	406	0	0	0
235	SLD 12	-25	-94	403	0	0	0
235	SLD 13	-111	28	1226	0	0	0
235	SLD 14	-93	24	1222	0	0	0
235	SLD 15	-108	-26	839	0	0	0
235	SLD 16	-90	-30	834	0	0	0
235	SLV 1	121	41	1437	0	0	0
235	SLV 2	149	35	1430	0	0	0
235	SLV 3	126	-51	782	0	0	0
235	SLV 4	154	-56	775	0	0	0
235	SLV 5	19	149	2168	0	0	0
235	SLV 6	38	146	2163	0	0	0
235	SLV 7	34	-155	-16	0	0	0
235	SLV 8	53	-159	-21	0	0	0
235	SLV 9	-68	152	2140	0	0	0
235	SLV 10	-49	148	2135	0	0	0
235	SLV 11	-53	-153	-44	0	0	0
235	SLV 12	-34	-156	-49	0	0	0
235	SLV 13	-169	49	1345	0	0	0
235	SLV 14	-141	44	1337	0	0	0
235	SLV 15	-165	-42	689	0	0	0
235	SLV 16	-136	-48	682	0	0	0
235	SLV FO 1	134	45	1475	0	0	0
235	SLV FO 2	165	39	1467	0	0	0
235	SLV FO 3	139	-55	754	0	0	0
235	SLV FO 4	170	-62	746	0	0	0
235	SLV FO 5	21	165	2278	0	0	0
235	SLV FO 6	42	160	2273	0	0	0
235	SLV FO 7	38	-170	-124	0	0	0
235	SLV FO 8	59	-175	-129	0	0	0
235	SLV FO 9	-74	168	2248	0	0	0
235	SLV FO 10	-53	163	2243	0	0	0
235	SLV FO 11	-58	-167	-154	0	0	0
235	SLV FO 12	-37	-172	-159	0	0	0
235	SLV FO 13	-185	55	1373	0	0	0
235	SLV FO 14	-154	48	1365	0	0	0
235	SLV FO 15	-180	-46	652	0	0	0
235	SLV FO 16	-149	-52	644	0	0	0
235	CRTFP Uy+	0	0	0	0	0	0
235	CRTFP Uy-	0	0	0	0	0	0
236	SLU 1	-7	-1	1026	0	0	0
236	SLU 2	-8	3	1052	0	0	0
236	SLU 3	-8	-1	1042	0	0	0
236	SLU 4	-8	2	1058	0	0	0
236	SLU 5	-8	3	1062	0	0	0
236	SLU 6	-8	-1	1052	0	0	0
236	SLU 7	-8	2	1068	0	0	0
236	SLU 8	-8	-1	1045	0	0	0
236	SLU 9	-8	2	1061	0	0	0
236	SLU 10	-8	3	1193	0	0	0
236	SLU 11	-8	-1	1183	0	0	0
236	SLU 12	-8	2	1199	0	0	0
236	SLU 13	-8	3	1203	0	0	0
236	SLU 14	-8	-1	1193	0	0	0
236	SLU 15	-8	1	1209	0	0	0
236	SLU 16	-8	-1	1187	0	0	0
236	SLU 17	-8	1	1203	0	0	0
236	SLU 18	-8	-1	1227	0	0	0
236	SLU 19	-8	1	1243	0	0	0
236	SLU 20	-8	-1	1237	0	0	0
236	SLU 21	-8	1	1253	0	0	0
236	SLU 22	-8	-1	1164	0	0	0
236	SLU 23	-9	4	1191	0	0	0
236	SLU 24	-9	-1	1181	0	0	0
236	SLU 25	-9	2	1196	0	0	0
236	SLU 26	-9	4	1200	0	0	0
236	SLU 27	-9	-1	1190	0	0	0
236	SLU 28	-9	2	1206	0	0	0
236	SLU 29	-9	-1	1184	0	0	0
236	SLU 30	-9	2	1200	0	0	0
236	SLU 31	-9	4	1332	0	0	0
236	SLU 32	-9	-1	1322	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLU 33	-9	2	1338	0	0	0
236	SLU 34	-9	4	1342	0	0	0
236	SLU 35	-9	-1	1332	0	0	0
236	SLU 36	-9	2	1348	0	0	0
236	SLU 37	-9	-1	1325	0	0	0
236	SLU 38	-9	2	1341	0	0	0
236	SLU 39	-9	-1	1366	0	0	0
236	SLU 40	-9	2	1382	0	0	0
236	SLU 41	-9	-1	1376	0	0	0
236	SLU 42	-9	2	1392	0	0	0
236	SLU 43	-9	-2	1286	0	0	0
236	SLU 44	-10	3	1312	0	0	0
236	SLU 45	-9	-2	1302	0	0	0
236	SLU 46	-10	1	1318	0	0	0
236	SLU 47	-10	3	1322	0	0	0
236	SLU 48	-10	-2	1312	0	0	0
236	SLU 49	-10	1	1328	0	0	0
236	SLU 50	-10	-2	1306	0	0	0
236	SLU 51	-10	1	1321	0	0	0
236	SLU 52	-10	3	1453	0	0	0
236	SLU 53	-10	-2	1443	0	0	0
236	SLU 54	-10	1	1459	0	0	0
236	SLU 55	-10	3	1463	0	0	0
236	SLU 56	-10	-2	1453	0	0	0
236	SLU 57	-10	1	1469	0	0	0
236	SLU 58	-10	-2	1447	0	0	0
236	SLU 59	-10	1	1463	0	0	0
236	SLU 60	-10	-2	1488	0	0	0
236	SLU 61	-10	1	1503	0	0	0
236	SLU 62	-10	-2	1498	0	0	0
236	SLU 63	-10	1	1513	0	0	0
236	SLU 64	-10	-1	1424	0	0	0
236	SLU 65	-11	3	1451	0	0	0
236	SLU 66	-11	-1	1441	0	0	0
236	SLU 67	-11	2	1456	0	0	0
236	SLU 68	-11	3	1461	0	0	0
236	SLU 69	-11	-1	1451	0	0	0
236	SLU 70	-11	1	1466	0	0	0
236	SLU 71	-11	-1	1444	0	0	0
236	SLU 72	-11	1	1460	0	0	0
236	SLU 73	-11	3	1592	0	0	0
236	SLU 74	-11	-1	1582	0	0	0
236	SLU 75	-11	1	1598	0	0	0
236	SLU 76	-11	3	1602	0	0	0
236	SLU 77	-11	-1	1592	0	0	0
236	SLU 78	-11	1	1608	0	0	0
236	SLU 79	-11	-1	1586	0	0	0
236	SLU 80	-11	1	1601	0	0	0
236	SLU 81	-11	-1	1626	0	0	0
236	SLU 82	-11	1	1642	0	0	0
236	SLU 83	-11	-1	1636	0	0	0
236	SLU 84	-11	1	1652	0	0	0
236	SLE RA 1	-8	-1	1065	0	0	0
236	SLE RA 2	-8	2	1083	0	0	0
236	SLE RA 3	-8	-1	1076	0	0	0
236	SLE RA 4	-8	1	1087	0	0	0
236	SLE RA 5	-8	2	1089	0	0	0
236	SLE RA 6	-8	-1	1083	0	0	0
236	SLE RA 7	-8	1	1093	0	0	0
236	SLE RA 8	-8	-1	1078	0	0	0
236	SLE RA 9	-8	1	1089	0	0	0
236	SLE RA 10	-8	2	1177	0	0	0
236	SLE RA 11	-8	-1	1170	0	0	0
236	SLE RA 12	-8	1	1181	0	0	0
236	SLE RA 13	-8	2	1184	0	0	0
236	SLE RA 14	-8	-1	1177	0	0	0
236	SLE RA 15	-8	1	1187	0	0	0
236	SLE RA 16	-8	-1	1173	0	0	0
236	SLE RA 17	-8	1	1183	0	0	0
236	SLE RA 18	-8	-1	1200	0	0	0
236	SLE RA 19	-8	1	1210	0	0	0
236	SLE RA 20	-8	-1	1206	0	0	0
236	SLE RA 21	-8	1	1217	0	0	0
236	SLE FR 1	-8	-1	1065	0	0	0
236	SLE FR 2	-8	0	1069	0	0	0
236	SLE FR 3	-8	-1	1068	0	0	0
236	SLE FR 4	-8	0	1109	0	0	0
236	SLE FR 5	-8	-1	1108	0	0	0
236	SLE FR 6	-8	-1	1132	0	0	0
236	SLE QP 1	-8	-1	1065	0	0	0
236	SLE QP 2	-8	-1	1106	0	0	0
236	SLD 1	76	27	1332	0	0	0
236	SLD 2	95	24	1328	0	0	0
236	SLD 3	79	-29	929	0	0	0
236	SLD 4	97	-32	925	0	0	0
236	SLD 5	10	94	1786	0	0	0
236	SLD 6	22	92	1784	0	0	0
236	SLD 7	19	-95	441	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLD 8	31	-97	439	0	0	0
236	SLD 9	-47	95	1773	0	0	0
236	SLD 10	-35	93	1770	0	0	0
236	SLD 11	-38	-94	428	0	0	0
236	SLD 12	-26	-96	425	0	0	0
236	SLD 13	-113	30	1287	0	0	0
236	SLD 14	-95	27	1283	0	0	0
236	SLD 15	-110	-26	883	0	0	0
236	SLD 16	-92	-29	879	0	0	0
236	SLV 1	124	47	1485	0	0	0
236	SLV 2	152	42	1479	0	0	0
236	SLV 3	128	-49	803	0	0	0
236	SLV 4	157	-53	797	0	0	0
236	SLV 5	19	159	2255	0	0	0
236	SLV 6	39	156	2251	0	0	0
236	SLV 7	34	-160	-18	0	0	0
236	SLV 8	54	-163	-22	0	0	0
236	SLV 9	-69	161	2233	0	0	0
236	SLV 10	-50	158	2229	0	0	0
236	SLV 11	-54	-158	-40	0	0	0
236	SLV 12	-35	-161	-44	0	0	0
236	SLV 13	-173	51	1414	0	0	0
236	SLV 14	-144	47	1408	0	0	0
236	SLV 15	-168	-44	732	0	0	0
236	SLV 16	-139	-49	726	0	0	0
236	SLV FO 1	137	51	1523	0	0	0
236	SLV FO 2	169	46	1516	0	0	0
236	SLV FO 3	142	-54	773	0	0	0
236	SLV FO 4	173	-59	766	0	0	0
236	SLV FO 5	22	175	2370	0	0	0
236	SLV FO 6	44	172	2365	0	0	0
236	SLV FO 7	39	-175	-130	0	0	0
236	SLV FO 8	60	-179	-135	0	0	0
236	SLV FO 9	-76	177	2346	0	0	0
236	SLV FO 10	-54	173	2342	0	0	0
236	SLV FO 11	-59	-174	-154	0	0	0
236	SLV FO 12	-38	-177	-159	0	0	0
236	SLV FO 13	-189	57	1445	0	0	0
236	SLV FO 14	-157	52	1438	0	0	0
236	SLV FO 15	-184	-49	695	0	0	0
236	SLV FO 16	-152	-53	688	0	0	0
236	CRTFP Uy+	0	0	0	0	0	0
236	CRTFP Uy-	0	0	0	0	0	0
238	SLU 1	-4	-10	438	-19.72	55.38	1.05
238	SLU 2	-4	-8	450	-20.24	56.85	0.84
238	SLU 3	-4	-10	445	-20.02	56.23	1.07
238	SLU 4	-4	-9	452	-20.34	57.11	0.95
238	SLU 5	-4	-8	454	-20.43	57.37	0.85
238	SLU 6	-4	-10	449	-20.21	56.75	1.09
238	SLU 7	-4	-9	456	-20.52	57.63	0.96
238	SLU 8	-4	-10	446	-20.09	56.42	1.08
238	SLU 9	-4	-9	453	-20.4	57.3	0.95
238	SLU 10	-4	-9	509	-22.89	64.27	0.97
238	SLU 11	-4	-11	504	-22.66	63.65	1.2
238	SLU 12	-4	-10	511	-22.98	64.53	1.08
238	SLU 13	-4	-9	513	-23.07	64.79	0.99
238	SLU 14	-4	-11	508	-22.85	64.17	1.22
238	SLU 15	-4	-10	515	-23.16	65.05	1.09
238	SLU 16	-4	-11	505	-22.73	63.83	1.21
238	SLU 17	-4	-10	512	-23.05	64.72	1.08
238	SLU 18	-4	-11	522	-23.49	65.97	1.24
238	SLU 19	-4	-10	529	-23.81	66.86	1.11
238	SLU 20	-4	-11	526	-23.68	66.49	1.25
238	SLU 21	-4	-10	533	-23.99	67.38	1.13
238	SLU 22	-4	-11	498	-22.4	62.89	1.18
238	SLU 23	-4	-9	509	-22.92	64.37	0.97
238	SLU 24	-4	-11	504	-22.7	63.75	1.2
238	SLU 25	-4	-10	511	-23.01	64.63	1.07
238	SLU 26	-4	-9	513	-23.11	64.89	0.98
238	SLU 27	-4	-11	509	-22.88	64.26	1.21
238	SLU 28	-4	-10	516	-23.2	65.15	1.09
238	SLU 29	-4	-11	506	-22.77	63.93	1.21
238	SLU 30	-4	-10	513	-23.08	64.82	1.08
238	SLU 31	-4	-10	568	-25.56	71.79	1.1
238	SLU 32	-4	-12	563	-25.34	71.16	1.33
238	SLU 33	-4	-11	570	-25.66	72.05	1.2
238	SLU 34	-4	-10	572	-25.75	72.31	1.11
238	SLU 35	-4	-12	567	-25.53	71.68	1.34
238	SLU 36	-4	-11	574	-25.84	72.57	1.22
238	SLU 37	-4	-12	565	-25.41	71.35	1.34
238	SLU 38	-4	-11	572	-25.72	72.24	1.21
238	SLU 39	-4	-12	582	-26.17	73.49	1.36
238	SLU 40	-4	-11	589	-26.49	74.38	1.24
238	SLU 41	-4	-12	586	-26.35	74.01	1.38
238	SLU 42	-4	-11	593	-26.67	74.9	1.25
238	SLU 43	-4	-12	549	-24.72	69.41	1.32
238	SLU 44	-5	-10	561	-25.24	70.89	1.11
238	SLU 45	-5	-12	556	-25.02	70.26	1.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
238	SLU 46	-5	-11	563	-25.34	71.15	1.22
238	SLU 47	-5	-11	565	-25.43	71.41	1.13
238	SLU 48	-5	-12	560	-25.21	70.78	1.36
238	SLU 49	-5	-11	567	-25.52	71.67	1.23
238	SLU 50	-5	-12	558	-25.09	70.45	1.35
238	SLU 51	-5	-11	565	-25.4	71.34	1.23
238	SLU 52	-5	-12	620	-27.88	78.31	1.24
238	SLU 53	-5	-13	615	-27.66	77.68	1.48
238	SLU 54	-5	-12	622	-27.98	78.57	1.35
238	SLU 55	-5	-12	624	-28.07	78.83	1.26
238	SLU 56	-5	-13	619	-27.85	78.2	1.49
238	SLU 57	-5	-13	626	-28.16	79.09	1.36
238	SLU 58	-5	-13	616	-27.73	77.87	1.48
238	SLU 59	-5	-12	623	-28.04	78.75	1.36
238	SLU 60	-5	-14	633	-28.49	80.01	1.51
238	SLU 61	-5	-13	640	-28.81	80.9	1.38
238	SLU 62	-5	-14	637	-28.68	80.53	1.52
238	SLU 63	-5	-13	644	-28.99	81.41	1.4
238	SLU 64	-5	-13	609	-27.39	76.93	1.45
238	SLU 65	-5	-12	620	-27.92	78.41	1.24
238	SLU 66	-5	-13	616	-27.7	77.78	1.47
238	SLU 67	-5	-12	623	-28.01	78.67	1.34
238	SLU 68	-5	-12	625	-28.1	78.92	1.25
238	SLU 69	-5	-14	620	-27.88	78.3	1.49
238	SLU 70	-5	-13	627	-28.2	79.19	1.36
238	SLU 71	-5	-14	617	-27.76	77.97	1.48
238	SLU 72	-5	-13	624	-28.08	78.85	1.35
238	SLU 73	-5	-13	679	-30.56	85.82	1.37
238	SLU 74	-5	-15	674	-30.34	85.2	1.6
238	SLU 75	-5	-14	681	-30.65	86.08	1.48
238	SLU 76	-5	-13	683	-30.75	86.34	1.38
238	SLU 77	-5	-15	678	-30.52	85.72	1.62
238	SLU 78	-5	-14	685	-30.84	86.6	1.49
238	SLU 79	-5	-15	676	-30.41	85.39	1.61
238	SLU 80	-5	-14	683	-30.72	86.27	1.48
238	SLU 81	-5	-15	693	-31.17	87.53	1.64
238	SLU 82	-5	-14	700	-31.48	88.41	1.51
238	SLU 83	-5	-15	697	-31.35	88.05	1.65
238	SLU 84	-5	-14	704	-31.67	88.93	1.52
238	SLE RA 1	-4	-10	455	-20.48	57.52	1.09
238	SLE RA 2	-4	-9	463	-20.83	58.51	0.95
238	SLE RA 3	-4	-10	460	-20.69	58.09	1.1
238	SLE RA 4	-4	-9	464	-20.9	58.68	1.02
238	SLE RA 5	-4	-9	466	-20.96	58.85	0.96
238	SLE RA 6	-4	-10	462	-20.81	58.44	1.11
238	SLE RA 7	-4	-10	467	-21.02	59.03	1.03
238	SLE RA 8	-4	-10	461	-20.73	58.22	1.11
238	SLE RA 9	-4	-9	465	-20.94	58.81	1.02
238	SLE RA 10	-4	-10	502	-22.6	63.45	1.03
238	SLE RA 11	-4	-11	499	-22.45	63.04	1.19
238	SLE RA 12	-4	-10	504	-22.66	63.63	1.1
238	SLE RA 13	-4	-10	505	-22.72	63.8	1.04
238	SLE RA 14	-4	-11	502	-22.57	63.38	1.2
238	SLE RA 15	-4	-10	506	-22.78	63.97	1.11
238	SLE RA 16	-4	-11	500	-22.49	63.16	1.19
238	SLE RA 17	-4	-10	504	-22.7	63.75	1.11
238	SLE RA 18	-4	-11	511	-23	64.59	1.21
238	SLE RA 19	-4	-10	516	-23.21	65.18	1.13
238	SLE RA 20	-4	-11	514	-23.12	64.94	1.22
238	SLE RA 21	-4	-10	519	-23.33	65.53	1.14
238	SLE FR 1	-4	-10	455	-20.48	57.52	1.09
238	SLE FR 2	-4	-10	457	-20.55	57.72	1.06
238	SLE FR 3	-4	-10	456	-20.53	57.66	1.09
238	SLE FR 4	-4	-10	474	-21.31	59.84	1.1
238	SLE FR 5	-4	-10	473	-21.29	59.78	1.13
238	SLE FR 6	-4	-10	483	-21.74	61.06	1.15
238	SLE QP 1	-4	-10	455	-20.48	57.52	1.09
238	SLE QP 2	-4	-10	472	-21.24	59.64	1.12
238	SLD 1	32	-3	600	-26.99	75.81	1.9
238	SLD 2	40	-8	595	-26.79	75.22	2.78
238	SLD 3	34	-24	427	-19.2	53.91	4.53
238	SLD 4	42	-28	422	-18.99	53.32	5.41
238	SLD 5	3	23	774	-34.83	97.81	-2.79
238	SLD 6	9	21	771	-34.69	97.43	-2.22
238	SLD 7	8	-44	196	-8.83	24.81	5.99
238	SLD 8	14	-47	193	-8.7	24.43	6.56
238	SLD 9	-21	27	751	-33.78	94.86	-4.31
238	SLD 10	-16	24	748	-33.64	94.48	-3.74
238	SLD 11	-16	-41	173	-7.78	21.86	4.47
238	SLD 12	-11	-44	170	-7.65	21.48	5.04
238	SLD 13	-49	8	522	-23.49	65.97	-3.16
238	SLD 14	-41	3	517	-23.28	65.38	-2.28
238	SLD 15	-48	-13	349	-15.69	44.07	-0.53
238	SLD 16	-40	-17	344	-15.48	43.48	0.35
238	SLV 1	53	2	683	-30.73	86.29	2.16
238	SLV 2	65	-5	676	-30.4	85.37	3.55
238	SLV 3	55	-33	390	-17.55	49.28	6.61
238	SLV 4	68	-39	383	-17.22	48.36	8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
238	SLV 5	7	47	981	-44.13	123.94	-5.57
238	SLV 6	16	42	976	-43.91	123.32	-4.64
238	SLV 7	15	-68	5	-0.21	0.58	9.26
238	SLV 8	24	-72	0	0.02	-0.04	10.19
238	SLV 9	-31	52	944	-42.49	119.33	-7.94
238	SLV 10	-23	47	939	-42.27	118.71	-7.01
238	SLV 11	-23	-63	-32	1.44	-4.03	6.89
238	SLV 12	-15	-67	-37	1.66	-4.65	7.82
238	SLV 13	-75	19	561	-25.26	70.93	-5.75
238	SLV 14	-63	12	554	-24.93	70.01	-4.36
238	SLV 15	-73	-16	268	-12.08	33.92	-1.3
238	SLV 16	-60	-22	261	-11.75	33	0.09
238	SLV FO 1	58	3	704	-31.68	88.96	2.26
238	SLV FO 2	72	-4	696	-31.32	87.94	3.79
238	SLV FO 3	61	-35	382	-17.18	48.24	7.16
238	SLV FO 4	75	-42	374	-16.82	47.23	8.68
238	SLV FO 5	8	52	1032	-46.42	130.37	-6.24
238	SLV FO 6	18	48	1026	-46.18	129.69	-5.21
238	SLV FO 7	17	-74	-42	1.9	-5.33	10.07
238	SLV FO 8	27	-79	-48	2.14	-6.01	11.1
238	SLV FO 9	-34	58	992	-44.62	125.3	-8.85
238	SLV FO 10	-25	53	986	-44.38	124.62	-7.82
238	SLV FO 11	-25	-68	-82	3.7	-10.4	7.46
238	SLV FO 12	-16	-73	-88	3.95	-11.08	8.49
238	SLV FO 13	-82	22	570	-25.66	72.06	-6.43
238	SLV FO 14	-69	15	562	-25.3	71.04	-4.91
238	SLV FO 15	-80	-16	248	-11.16	31.35	-1.54
238	SLV FO 16	-66	-23	240	-10.8	30.33	-0.01
238	CRTFP Ux+	0	0	0	0	0	0
238	CRTFP Ux-	0	0	0	0	0	0
238	CRTFP Uy+	0	0	0	0	0	0
238	CRTFP Uy-	0	0	0	0	0	0
239	SLU 1	-4	1	541	-24.37	0	-0.17
239	SLU 2	-4	3	555	-24.99	0	-0.18
239	SLU 3	-4	1	550	-24.76	0	-0.18
239	SLU 4	-4	2	558	-25.13	0	-0.18
239	SLU 5	-4	3	561	-25.22	0	-0.18
239	SLU 6	-4	1	555	-24.99	0	-0.18
239	SLU 7	-4	2	564	-25.37	0	-0.19
239	SLU 8	-4	1	552	-24.84	0	-0.18
239	SLU 9	-4	2	560	-25.21	0	-0.18
239	SLU 10	-4	3	630	-28.36	0	-0.19
239	SLU 11	-4	1	625	-28.13	0	-0.18
239	SLU 12	-4	2	633	-28.51	0	-0.19
239	SLU 13	-4	3	636	-28.6	0	-0.19
239	SLU 14	-4	1	630	-28.37	0	-0.19
239	SLU 15	-4	2	639	-28.74	0	-0.19
239	SLU 16	-4	1	627	-28.22	0	-0.18
239	SLU 17	-4	2	635	-28.59	0	-0.19
239	SLU 18	-4	1	649	-29.19	0	-0.18
239	SLU 19	-4	2	657	-29.56	0	-0.18
239	SLU 20	-4	1	654	-29.43	0	-0.18
239	SLU 21	-4	2	662	-29.8	0	-0.19
239	SLU 22	-4	1	615	-27.67	0	-0.2
239	SLU 23	-5	3	629	-28.29	0	-0.21
239	SLU 24	-4	1	624	-28.06	0	-0.2
239	SLU 25	-5	2	632	-28.43	0	-0.21
239	SLU 26	-5	3	634	-28.53	0	-0.21
239	SLU 27	-5	1	629	-28.3	0	-0.21
239	SLU 28	-5	2	637	-28.67	0	-0.21
239	SLU 29	-5	1	625	-28.15	0	-0.2
239	SLU 30	-5	2	634	-28.52	0	-0.21
239	SLU 31	-5	3	704	-31.67	0	-0.21
239	SLU 32	-5	1	699	-31.44	0	-0.21
239	SLU 33	-5	3	707	-31.81	0	-0.21
239	SLU 34	-5	3	709	-31.91	0	-0.21
239	SLU 35	-5	1	704	-31.68	0	-0.21
239	SLU 36	-5	2	712	-32.05	0	-0.22
239	SLU 37	-5	1	701	-31.52	0	-0.21
239	SLU 38	-5	2	709	-31.9	0	-0.21
239	SLU 39	-5	1	722	-32.5	0	-0.2
239	SLU 40	-5	3	730	-32.87	0	-0.21
239	SLU 41	-5	1	727	-32.73	0	-0.21
239	SLU 42	-5	2	736	-33.11	0	-0.21
239	SLU 43	-5	1	679	-30.54	0	-0.22
239	SLU 44	-5	3	693	-31.16	0	-0.22
239	SLU 45	-5	1	687	-30.93	0	-0.22
239	SLU 46	-5	2	696	-31.31	0	-0.23
239	SLU 47	-5	3	698	-31.4	0	-0.23
239	SLU 48	-5	1	693	-31.17	0	-0.22
239	SLU 49	-5	2	701	-31.54	0	-0.23
239	SLU 50	-5	1	689	-31.02	0	-0.22
239	SLU 51	-5	2	698	-31.39	0	-0.23
239	SLU 52	-5	3	768	-34.54	0	-0.23
239	SLU 53	-5	1	762	-34.31	0	-0.22
239	SLU 54	-5	2	771	-34.68	0	-0.23
239	SLU 55	-5	3	773	-34.78	0	-0.23
239	SLU 56	-5	1	768	-34.55	0	-0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLU 57	-5	2	776	-34.92	0	-0.23
239	SLU 58	-5	1	764	-34.39	0	-0.23
239	SLU 59	-5	2	773	-34.77	0	-0.23
239	SLU 60	-5	1	786	-35.37	0	-0.22
239	SLU 61	-5	2	794	-35.74	0	-0.23
239	SLU 62	-5	1	791	-35.61	0	-0.23
239	SLU 63	-5	2	800	-35.98	0	-0.23
239	SLU 64	-5	1	752	-33.85	0	-0.24
239	SLU 65	-6	4	766	-34.47	0	-0.25
239	SLU 66	-5	1	761	-34.24	0	-0.24
239	SLU 67	-6	3	769	-34.61	0	-0.25
239	SLU 68	-6	3	771	-34.71	0	-0.25
239	SLU 69	-6	1	766	-34.48	0	-0.25
239	SLU 70	-6	3	774	-34.85	0	-0.25
239	SLU 71	-5	1	763	-34.32	0	-0.25
239	SLU 72	-6	2	771	-34.7	0	-0.25
239	SLU 73	-6	4	841	-37.85	0	-0.25
239	SLU 74	-6	1	836	-37.62	0	-0.25
239	SLU 75	-6	3	844	-37.99	0	-0.26
239	SLU 76	-6	4	846	-38.08	0	-0.26
239	SLU 77	-6	1	841	-37.85	0	-0.25
239	SLU 78	-6	3	849	-38.23	0	-0.26
239	SLU 79	-6	1	838	-37.7	0	-0.25
239	SLU 80	-6	3	846	-38.07	0	-0.26
239	SLU 81	-5	1	859	-38.67	0	-0.25
239	SLU 82	-6	3	868	-39.05	0	-0.25
239	SLU 83	-6	1	865	-38.91	0	-0.25
239	SLU 84	-6	3	873	-39.28	0	-0.26
239	SLE RA 1	-4	1	562	-25.31	0	-0.18
239	SLE RA 2	-4	2	572	-25.72	0	-0.19
239	SLE RA 3	-4	1	568	-25.57	0	-0.18
239	SLE RA 4	-4	2	574	-25.82	0	-0.19
239	SLE RA 5	-4	2	575	-25.88	0	-0.19
239	SLE RA 6	-4	1	572	-25.73	0	-0.18
239	SLE RA 7	-4	2	577	-25.98	0	-0.19
239	SLE RA 8	-4	1	569	-25.63	0	-0.18
239	SLE RA 9	-4	2	575	-25.88	0	-0.19
239	SLE RA 10	-4	2	622	-27.98	0	-0.19
239	SLE RA 11	-4	1	618	-27.82	0	-0.19
239	SLE RA 12	-4	2	624	-28.07	0	-0.19
239	SLE RA 13	-4	2	625	-28.13	0	-0.19
239	SLE RA 14	-4	1	622	-27.98	0	-0.19
239	SLE RA 15	-4	2	627	-28.23	0	-0.19
239	SLE RA 16	-4	1	620	-27.88	0	-0.19
239	SLE RA 17	-4	2	625	-28.13	0	-0.19
239	SLE RA 18	-4	1	634	-28.53	0	-0.18
239	SLE RA 19	-4	2	639	-28.78	0	-0.19
239	SLE RA 20	-4	1	637	-28.69	0	-0.19
239	SLE RA 21	-4	2	643	-28.93	0	-0.19
239	SLE FR 1	-4	1	562	-25.31	0	-0.18
239	SLE FR 2	-4	1	564	-25.39	0	-0.18
239	SLE FR 3	-4	1	564	-25.37	0	-0.18
239	SLE FR 4	-4	1	586	-26.36	0	-0.18
239	SLE FR 5	-4	1	585	-26.34	0	-0.18
239	SLE FR 6	-4	1	598	-26.92	0	-0.18
239	SLE QP 1	-4	1	562	-25.31	0	-0.18
239	SLE QP 2	-4	1	584	-26.28	0	-0.18
239	SLD 1	39	17	699	-31.46	0	1.77
239	SLD 2	49	16	697	-31.39	0	2.19
239	SLD 3	41	-13	487	-21.9	0	1.83
239	SLD 4	50	-14	485	-21.82	0	2.26
239	SLD 5	5	51	941	-42.35	0	0.23
239	SLD 6	11	51	940	-42.3	0	0.51
239	SLD 7	10	-49	233	-10.47	0	0.44
239	SLD 8	16	-49	231	-10.42	0	0.72
239	SLD 9	-24	51	936	-42.13	0	-1.08
239	SLD 10	-18	50	935	-42.08	0	-0.81
239	SLD 11	-19	-49	228	-10.25	0	-0.87
239	SLD 12	-13	-50	227	-10.2	0	-0.6
239	SLD 13	-58	15	683	-30.73	0	-2.62
239	SLD 14	-49	14	681	-30.65	0	-2.19
239	SLD 15	-57	-15	470	-21.16	0	-2.55
239	SLD 16	-47	-16	469	-21.09	0	-2.13
239	SLV 1	64	28	778	-35	0	2.86
239	SLV 2	78	27	775	-34.88	0	3.53
239	SLV 3	66	-22	419	-18.83	0	2.97
239	SLV 4	81	-24	416	-18.71	0	3.63
239	SLV 5	10	86	1187	-53.43	0	0.45
239	SLV 6	20	85	1186	-53.35	0	0.9
239	SLV 7	18	-83	-10	0.45	0	0.8
239	SLV 8	28	-84	-12	0.53	0	1.25
239	SLV 9	-36	85	1180	-53.08	0	-1.61
239	SLV 10	-26	84	1178	-53	0	-1.16
239	SLV 11	-28	-84	-18	0.8	0	-1.26
239	SLV 12	-18	-85	-20	0.88	0	-0.81
239	SLV 13	-89	26	752	-33.84	0	-4
239	SLV 14	-74	24	749	-33.72	0	-3.33
239	SLV 15	-86	-25	393	-17.67	0	-3.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLV 16	-72	-27	390	-17.55	0	-3.22
239	SLV FO 1	70	31	797	-35.87	0	3.17
239	SLV FO 2	87	29	794	-35.74	0	3.9
239	SLV FO 3	73	-25	402	-18.09	0	3.28
239	SLV FO 4	89	-26	399	-17.96	0	4.02
239	SLV FO 5	11	95	1248	-56.15	0	0.51
239	SLV FO 6	22	94	1246	-56.06	0	1.01
239	SLV FO 7	20	-91	-69	3.13	0	0.89
239	SLV FO 8	31	-92	-71	3.22	0	1.39
239	SLV FO 9	-39	94	1239	-55.77	0	-1.75
239	SLV FO 10	-28	93	1237	-55.68	0	-1.26
239	SLV FO 11	-30	-92	-78	3.51	0	-1.37
239	SLV FO 12	-19	-93	-80	3.6	0	-0.87
239	SLV FO 13	-97	28	769	-34.59	0	-4.38
239	SLV FO 14	-81	26	766	-34.46	0	-3.64
239	SLV FO 15	-95	-28	374	-16.81	0	-4.26
239	SLV FO 16	-78	-30	371	-16.68	0	-3.53
239	CRTFP Ux+	0	0	0	0	0	0
239	CRTFP Ux-	0	0	0	0	0	0
239	CRTFP Uy+	0	0	0	0	0	0
239	CRTFP Uy-	0	0	0	0	0	0
241	SLU 1	-2	-16	1236	0	0	0
241	SLU 2	-2	-10	1268	0	0	0
241	SLU 3	-2	-16	1256	0	0	0
241	SLU 4	-2	-13	1274	0	0	0
241	SLU 5	-2	-11	1279	0	0	0
241	SLU 6	-3	-17	1267	0	0	0
241	SLU 7	-2	-13	1286	0	0	0
241	SLU 8	-3	-17	1259	0	0	0
241	SLU 9	-2	-13	1278	0	0	0
241	SLU 10	-3	-12	1434	0	0	0
241	SLU 11	-3	-18	1422	0	0	0
241	SLU 12	-3	-15	1441	0	0	0
241	SLU 13	-3	-12	1446	0	0	0
241	SLU 14	-3	-19	1433	0	0	0
241	SLU 15	-3	-15	1452	0	0	0
241	SLU 16	-3	-19	1426	0	0	0
241	SLU 17	-3	-15	1444	0	0	0
241	SLU 18	-3	-19	1474	0	0	0
241	SLU 19	-3	-15	1493	0	0	0
241	SLU 20	-4	-19	1486	0	0	0
241	SLU 21	-3	-16	1504	0	0	0
241	SLU 22	-3	-18	1401	0	0	0
241	SLU 23	-2	-12	1433	0	0	0
241	SLU 24	-3	-19	1420	0	0	0
241	SLU 25	-3	-15	1439	0	0	0
241	SLU 26	-3	-13	1444	0	0	0
241	SLU 27	-3	-19	1432	0	0	0
241	SLU 28	-3	-15	1451	0	0	0
241	SLU 29	-3	-19	1424	0	0	0
241	SLU 30	-3	-15	1443	0	0	0
241	SLU 31	-3	-14	1599	0	0	0
241	SLU 32	-4	-20	1587	0	0	0
241	SLU 33	-3	-17	1606	0	0	0
241	SLU 34	-3	-15	1611	0	0	0
241	SLU 35	-4	-21	1598	0	0	0
241	SLU 36	-4	-17	1617	0	0	0
241	SLU 37	-4	-21	1590	0	0	0
241	SLU 38	-4	-17	1609	0	0	0
241	SLU 39	-4	-21	1639	0	0	0
241	SLU 40	-4	-17	1658	0	0	0
241	SLU 41	-4	-21	1650	0	0	0
241	SLU 42	-4	-18	1669	0	0	0
241	SLU 43	-3	-20	1551	0	0	0
241	SLU 44	-2	-14	1582	0	0	0
241	SLU 45	-3	-21	1570	0	0	0
241	SLU 46	-3	-17	1589	0	0	0
241	SLU 47	-3	-15	1594	0	0	0
241	SLU 48	-3	-21	1581	0	0	0
241	SLU 49	-3	-17	1600	0	0	0
241	SLU 50	-3	-21	1574	0	0	0
241	SLU 51	-3	-17	1592	0	0	0
241	SLU 52	-3	-16	1749	0	0	0
241	SLU 53	-4	-22	1736	0	0	0
241	SLU 54	-4	-19	1755	0	0	0
241	SLU 55	-4	-17	1760	0	0	0
241	SLU 56	-4	-23	1748	0	0	0
241	SLU 57	-4	-19	1766	0	0	0
241	SLU 58	-4	-23	1740	0	0	0
241	SLU 59	-4	-19	1759	0	0	0
241	SLU 60	-4	-23	1789	0	0	0
241	SLU 61	-4	-19	1807	0	0	0
241	SLU 62	-4	-23	1800	0	0	0
241	SLU 63	-4	-20	1819	0	0	0
241	SLU 64	-3	-22	1716	0	0	0
241	SLU 65	-3	-16	1747	0	0	0
241	SLU 66	-3	-23	1735	0	0	0
241	SLU 67	-3	-19	1754	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
241	SLU 68	-3	-17	1758	0	0	0
241	SLU 69	-4	-23	1746	0	0	0
241	SLU 70	-3	-19	1765	0	0	0
241	SLU 71	-4	-23	1738	0	0	0
241	SLU 72	-3	-19	1757	0	0	0
241	SLU 73	-4	-18	1914	0	0	0
241	SLU 74	-4	-25	1901	0	0	0
241	SLU 75	-4	-21	1920	0	0	0
241	SLU 76	-4	-19	1925	0	0	0
241	SLU 77	-4	-25	1913	0	0	0
241	SLU 78	-4	-21	1931	0	0	0
241	SLU 79	-4	-25	1905	0	0	0
241	SLU 80	-4	-21	1924	0	0	0
241	SLU 81	-4	-25	1954	0	0	0
241	SLU 82	-4	-22	1972	0	0	0
241	SLU 83	-4	-25	1965	0	0	0
241	SLU 84	-4	-22	1984	0	0	0
241	SLE RA 1	-2	-17	1284	0	0	0
241	SLE RA 2	-2	-13	1305	0	0	0
241	SLE RA 3	-2	-17	1296	0	0	0
241	SLE RA 4	-2	-15	1309	0	0	0
241	SLE RA 5	-2	-13	1312	0	0	0
241	SLE RA 6	-3	-17	1304	0	0	0
241	SLE RA 7	-2	-15	1316	0	0	0
241	SLE RA 8	-3	-17	1299	0	0	0
241	SLE RA 9	-2	-15	1311	0	0	0
241	SLE RA 10	-3	-14	1415	0	0	0
241	SLE RA 11	-3	-18	1407	0	0	0
241	SLE RA 12	-3	-16	1420	0	0	0
241	SLE RA 13	-3	-14	1423	0	0	0
241	SLE RA 14	-3	-18	1415	0	0	0
241	SLE RA 15	-3	-16	1427	0	0	0
241	SLE RA 16	-3	-18	1410	0	0	0
241	SLE RA 17	-3	-16	1422	0	0	0
241	SLE RA 18	-3	-18	1442	0	0	0
241	SLE RA 19	-3	-16	1455	0	0	0
241	SLE RA 20	-3	-19	1450	0	0	0
241	SLE RA 21	-3	-16	1462	0	0	0
241	SLE FR 1	-2	-17	1284	0	0	0
241	SLE FR 2	-2	-16	1288	0	0	0
241	SLE FR 3	-2	-17	1287	0	0	0
241	SLE FR 4	-2	-16	1335	0	0	0
241	SLE FR 5	-3	-17	1334	0	0	0
241	SLE FR 6	-3	-18	1363	0	0	0
241	SLE QP 1	-2	-17	1284	0	0	0
241	SLE QP 2	-3	-17	1331	0	0	0
241	SLD 1	111	23	1528	0	0	0
241	SLD 2	134	26	1534	0	0	0
241	SLD 3	108	-51	1049	0	0	0
241	SLD 4	131	-48	1055	0	0	0
241	SLD 5	32	106	2116	0	0	0
241	SLD 6	47	108	2119	0	0	0
241	SLD 7	22	-140	519	0	0	0
241	SLD 8	37	-138	523	0	0	0
241	SLD 9	-42	103	2140	0	0	0
241	SLD 10	-27	105	2143	0	0	0
241	SLD 11	-52	-143	543	0	0	0
241	SLD 12	-37	-140	547	0	0	0
241	SLD 13	-136	13	1608	0	0	0
241	SLD 14	-113	17	1613	0	0	0
241	SLD 15	-139	-61	1129	0	0	0
241	SLD 16	-116	-57	1134	0	0	0
241	SLV 1	175	50	1669	0	0	0
241	SLV 2	211	55	1678	0	0	0
241	SLV 3	170	-75	860	0	0	0
241	SLV 4	206	-69	869	0	0	0
241	SLV 5	51	191	2658	0	0	0
241	SLV 6	76	195	2664	0	0	0
241	SLV 7	35	-225	-40	0	0	0
241	SLV 8	60	-221	-33	0	0	0
241	SLV 9	-65	186	2696	0	0	0
241	SLV 10	-40	190	2702	0	0	0
241	SLV 11	-81	-229	-2	0	0	0
241	SLV 12	-56	-225	4	0	0	0
241	SLV 13	-211	35	1794	0	0	0
241	SLV 14	-175	40	1803	0	0	0
241	SLV 15	-216	-90	984	0	0	0
241	SLV 16	-180	-84	993	0	0	0
241	SLV FO 1	193	56	1703	0	0	0
241	SLV FO 2	233	63	1713	0	0	0
241	SLV FO 3	187	-81	812	0	0	0
241	SLV FO 4	227	-75	822	0	0	0
241	SLV FO 5	57	212	2791	0	0	0
241	SLV FO 6	84	216	2798	0	0	0
241	SLV FO 7	39	-245	-177	0	0	0
241	SLV FO 8	66	-241	-170	0	0	0
241	SLV FO 9	-71	207	2832	0	0	0
241	SLV FO 10	-44	211	2839	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
241	SLV FO 11	-89	-250	-135	0	0	0
241	SLV FO 12	-62	-246	-129	0	0	0
241	SLV FO 13	-232	40	1840	0	0	0
241	SLV FO 14	-192	46	1850	0	0	0
241	SLV FO 15	-238	-97	950	0	0	0
241	SLV FO 16	-198	-91	960	0	0	0
241	CRTFP Uy+	0	0	0	0	0	0
241	CRTFP Uy-	0	0	0	0	0	0
242	SLU 1	-2	-18	1192	0	0	0
242	SLU 2	-2	-12	1223	0	0	0
242	SLU 3	-2	-18	1210	0	0	0
242	SLU 4	-2	-15	1229	0	0	0
242	SLU 5	-2	-12	1233	0	0	0
242	SLU 6	-2	-18	1221	0	0	0
242	SLU 7	-2	-15	1239	0	0	0
242	SLU 8	-2	-18	1214	0	0	0
242	SLU 9	-2	-15	1232	0	0	0
242	SLU 10	-3	-14	1382	0	0	0
242	SLU 11	-3	-20	1370	0	0	0
242	SLU 12	-3	-17	1388	0	0	0
242	SLU 13	-3	-15	1393	0	0	0
242	SLU 14	-3	-20	1381	0	0	0
242	SLU 15	-3	-17	1399	0	0	0
242	SLU 16	-3	-20	1373	0	0	0
242	SLU 17	-3	-17	1391	0	0	0
242	SLU 18	-3	-21	1420	0	0	0
242	SLU 19	-3	-17	1438	0	0	0
242	SLU 20	-3	-21	1431	0	0	0
242	SLU 21	-3	-18	1449	0	0	0
242	SLU 22	-2	-20	1351	0	0	0
242	SLU 23	-2	-14	1381	0	0	0
242	SLU 24	-3	-20	1369	0	0	0
242	SLU 25	-2	-17	1387	0	0	0
242	SLU 26	-2	-15	1392	0	0	0
242	SLU 27	-3	-21	1380	0	0	0
242	SLU 28	-3	-17	1398	0	0	0
242	SLU 29	-3	-21	1372	0	0	0
242	SLU 30	-3	-17	1391	0	0	0
242	SLU 31	-3	-17	1541	0	0	0
242	SLU 32	-3	-22	1529	0	0	0
242	SLU 33	-3	-19	1547	0	0	0
242	SLU 34	-3	-17	1552	0	0	0
242	SLU 35	-4	-23	1539	0	0	0
242	SLU 36	-3	-19	1558	0	0	0
242	SLU 37	-4	-23	1532	0	0	0
242	SLU 38	-3	-19	1550	0	0	0
242	SLU 39	-3	-23	1579	0	0	0
242	SLU 40	-3	-20	1597	0	0	0
242	SLU 41	-4	-23	1590	0	0	0
242	SLU 42	-4	-20	1608	0	0	0
242	SLU 43	-2	-22	1495	0	0	0
242	SLU 44	-2	-17	1526	0	0	0
242	SLU 45	-3	-23	1514	0	0	0
242	SLU 46	-3	-19	1532	0	0	0
242	SLU 47	-2	-17	1537	0	0	0
242	SLU 48	-3	-23	1524	0	0	0
242	SLU 49	-3	-20	1543	0	0	0
242	SLU 50	-3	-23	1517	0	0	0
242	SLU 51	-3	-19	1535	0	0	0
242	SLU 52	-3	-19	1685	0	0	0
242	SLU 53	-3	-25	1673	0	0	0
242	SLU 54	-3	-21	1691	0	0	0
242	SLU 55	-3	-19	1696	0	0	0
242	SLU 56	-4	-25	1684	0	0	0
242	SLU 57	-4	-22	1702	0	0	0
242	SLU 58	-4	-25	1677	0	0	0
242	SLU 59	-4	-22	1695	0	0	0
242	SLU 60	-4	-25	1723	0	0	0
242	SLU 61	-3	-22	1742	0	0	0
242	SLU 62	-4	-25	1734	0	0	0
242	SLU 63	-4	-22	1752	0	0	0
242	SLU 64	-3	-24	1654	0	0	0
242	SLU 65	-3	-19	1684	0	0	0
242	SLU 66	-3	-25	1672	0	0	0
242	SLU 67	-3	-22	1690	0	0	0
242	SLU 68	-3	-19	1695	0	0	0
242	SLU 69	-3	-25	1683	0	0	0
242	SLU 70	-3	-22	1701	0	0	0
242	SLU 71	-3	-25	1676	0	0	0
242	SLU 72	-3	-22	1694	0	0	0
242	SLU 73	-3	-21	1844	0	0	0
242	SLU 74	-4	-27	1832	0	0	0
242	SLU 75	-4	-24	1850	0	0	0
242	SLU 76	-4	-21	1855	0	0	0
242	SLU 77	-4	-27	1843	0	0	0
242	SLU 78	-4	-24	1861	0	0	0
242	SLU 79	-4	-27	1835	0	0	0
242	SLU 80	-4	-24	1853	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
242	SLU 81	-4	-27	1882	0	0	0
242	SLU 82	-4	-24	1900	0	0	0
242	SLU 83	-4	-28	1893	0	0	0
242	SLU 84	-4	-24	1911	0	0	0
242	SLE RA 1	-2	-18	1237	0	0	0
242	SLE RA 2	-2	-15	1258	0	0	0
242	SLE RA 3	-2	-19	1250	0	0	0
242	SLE RA 4	-2	-16	1262	0	0	0
242	SLE RA 5	-2	-15	1265	0	0	0
242	SLE RA 6	-2	-19	1257	0	0	0
242	SLE RA 7	-2	-17	1269	0	0	0
242	SLE RA 8	-2	-19	1252	0	0	0
242	SLE RA 9	-2	-16	1264	0	0	0
242	SLE RA 10	-2	-16	1364	0	0	0
242	SLE RA 11	-3	-20	1356	0	0	0
242	SLE RA 12	-3	-18	1368	0	0	0
242	SLE RA 13	-3	-16	1371	0	0	0
242	SLE RA 14	-3	-20	1363	0	0	0
242	SLE RA 15	-3	-18	1375	0	0	0
242	SLE RA 16	-3	-20	1358	0	0	0
242	SLE RA 17	-3	-18	1370	0	0	0
242	SLE RA 18	-3	-20	1389	0	0	0
242	SLE RA 19	-3	-18	1402	0	0	0
242	SLE RA 20	-3	-21	1397	0	0	0
242	SLE RA 21	-3	-18	1409	0	0	0
242	SLE FR 1	-2	-18	1237	0	0	0
242	SLE FR 2	-2	-18	1242	0	0	0
242	SLE FR 3	-2	-18	1240	0	0	0
242	SLE FR 4	-2	-18	1287	0	0	0
242	SLE FR 5	-2	-19	1286	0	0	0
242	SLE FR 6	-2	-19	1313	0	0	0
242	SLE QP 1	-2	-18	1237	0	0	0
242	SLE QP 2	-2	-19	1283	0	0	0
242	SLD 1	108	21	1464	0	0	0
242	SLD 2	131	25	1470	0	0	0
242	SLD 3	105	-50	1002	0	0	0
242	SLD 4	128	-45	1009	0	0	0
242	SLD 5	31	99	2037	0	0	0
242	SLD 6	46	102	2041	0	0	0
242	SLD 7	22	-136	497	0	0	0
242	SLD 8	36	-133	502	0	0	0
242	SLD 9	-41	95	2065	0	0	0
242	SLD 10	-26	98	2069	0	0	0
242	SLD 11	-51	-140	525	0	0	0
242	SLD 12	-36	-137	530	0	0	0
242	SLD 13	-132	7	1558	0	0	0
242	SLD 14	-110	12	1564	0	0	0
242	SLD 15	-135	-63	1096	0	0	0
242	SLD 16	-113	-59	1102	0	0	0
242	SLV 1	170	48	1595	0	0	0
242	SLV 2	206	55	1605	0	0	0
242	SLV 3	165	-72	815	0	0	0
242	SLV 4	201	-64	825	0	0	0
242	SLV 5	50	181	2558	0	0	0
242	SLV 6	74	186	2565	0	0	0
242	SLV 7	34	-217	-43	0	0	0
242	SLV 8	58	-212	-36	0	0	0
242	SLV 9	-62	174	2602	0	0	0
242	SLV 10	-38	179	2609	0	0	0
242	SLV 11	-79	-223	1	0	0	0
242	SLV 12	-55	-219	8	0	0	0
242	SLV 13	-205	27	1741	0	0	0
242	SLV 14	-170	34	1751	0	0	0
242	SLV 15	-210	-93	961	0	0	0
242	SLV 16	-175	-85	971	0	0	0
242	SLV FO 1	187	54	1626	0	0	0
242	SLV FO 2	227	62	1637	0	0	0
242	SLV FO 3	182	-77	768	0	0	0
242	SLV FO 4	221	-69	779	0	0	0
242	SLV FO 5	56	201	2686	0	0	0
242	SLV FO 6	82	206	2693	0	0	0
242	SLV FO 7	37	-237	-175	0	0	0
242	SLV FO 8	64	-232	-168	0	0	0
242	SLV FO 9	-68	194	2734	0	0	0
242	SLV FO 10	-42	199	2742	0	0	0
242	SLV FO 11	-86	-244	-127	0	0	0
242	SLV FO 12	-60	-238	-120	0	0	0
242	SLV FO 13	-226	31	1787	0	0	0
242	SLV FO 14	-187	39	1798	0	0	0
242	SLV FO 15	-231	-100	929	0	0	0
242	SLV FO 16	-192	-92	940	0	0	0
242	CRTFP Uy+	0	0	0	0	0	0
242	CRTFP Uy-	0	0	0	0	0	0
243	SLU 1	-2	-19	1165	0	0	0
243	SLU 2	-2	-14	1195	0	0	0
243	SLU 3	-2	-20	1183	0	0	0
243	SLU 4	-2	-17	1201	0	0	0
243	SLU 5	-2	-14	1205	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLU 6	-2	-20	1193	0	0	0
243	SLU 7	-2	-17	1211	0	0	0
243	SLU 8	-2	-20	1186	0	0	0
243	SLU 9	-2	-17	1204	0	0	0
243	SLU 10	-2	-16	1350	0	0	0
243	SLU 11	-3	-22	1338	0	0	0
243	SLU 12	-3	-19	1356	0	0	0
243	SLU 13	-3	-17	1361	0	0	0
243	SLU 14	-3	-22	1348	0	0	0
243	SLU 15	-3	-19	1366	0	0	0
243	SLU 16	-3	-22	1341	0	0	0
243	SLU 17	-3	-19	1359	0	0	0
243	SLU 18	-3	-23	1387	0	0	0
243	SLU 19	-3	-19	1405	0	0	0
243	SLU 20	-3	-23	1397	0	0	0
243	SLU 21	-3	-20	1415	0	0	0
243	SLU 22	-2	-22	1320	0	0	0
243	SLU 23	-2	-17	1350	0	0	0
243	SLU 24	-2	-22	1337	0	0	0
243	SLU 25	-2	-19	1355	0	0	0
243	SLU 26	-2	-17	1360	0	0	0
243	SLU 27	-3	-23	1348	0	0	0
243	SLU 28	-2	-19	1366	0	0	0
243	SLU 29	-3	-23	1341	0	0	0
243	SLU 30	-2	-19	1359	0	0	0
243	SLU 31	-3	-19	1505	0	0	0
243	SLU 32	-3	-25	1493	0	0	0
243	SLU 33	-3	-21	1511	0	0	0
243	SLU 34	-3	-19	1515	0	0	0
243	SLU 35	-3	-25	1503	0	0	0
243	SLU 36	-3	-22	1521	0	0	0
243	SLU 37	-3	-25	1496	0	0	0
243	SLU 38	-3	-22	1514	0	0	0
243	SLU 39	-3	-25	1542	0	0	0
243	SLU 40	-3	-22	1560	0	0	0
243	SLU 41	-3	-26	1552	0	0	0
243	SLU 42	-3	-22	1570	0	0	0
243	SLU 43	-2	-24	1462	0	0	0
243	SLU 44	-2	-19	1492	0	0	0
243	SLU 45	-2	-25	1479	0	0	0
243	SLU 46	-2	-22	1497	0	0	0
243	SLU 47	-2	-19	1502	0	0	0
243	SLU 48	-3	-25	1490	0	0	0
243	SLU 49	-2	-22	1507	0	0	0
243	SLU 50	-3	-25	1482	0	0	0
243	SLU 51	-2	-22	1500	0	0	0
243	SLU 52	-3	-21	1647	0	0	0
243	SLU 53	-3	-27	1634	0	0	0
243	SLU 54	-3	-24	1652	0	0	0
243	SLU 55	-3	-22	1657	0	0	0
243	SLU 56	-3	-27	1645	0	0	0
243	SLU 57	-3	-24	1663	0	0	0
243	SLU 58	-3	-27	1638	0	0	0
243	SLU 59	-3	-24	1655	0	0	0
243	SLU 60	-3	-28	1683	0	0	0
243	SLU 61	-3	-24	1701	0	0	0
243	SLU 62	-4	-28	1694	0	0	0
243	SLU 63	-3	-25	1712	0	0	0
243	SLU 64	-2	-27	1616	0	0	0
243	SLU 65	-2	-21	1646	0	0	0
243	SLU 66	-3	-27	1634	0	0	0
243	SLU 67	-3	-24	1652	0	0	0
243	SLU 68	-2	-22	1657	0	0	0
243	SLU 69	-3	-28	1644	0	0	0
243	SLU 70	-3	-24	1662	0	0	0
243	SLU 71	-3	-27	1637	0	0	0
243	SLU 72	-3	-24	1655	0	0	0
243	SLU 73	-3	-24	1801	0	0	0
243	SLU 74	-4	-30	1789	0	0	0
243	SLU 75	-3	-26	1807	0	0	0
243	SLU 76	-3	-24	1812	0	0	0
243	SLU 77	-4	-30	1800	0	0	0
243	SLU 78	-4	-27	1817	0	0	0
243	SLU 79	-4	-30	1792	0	0	0
243	SLU 80	-4	-27	1810	0	0	0
243	SLU 81	-4	-30	1838	0	0	0
243	SLU 82	-3	-27	1856	0	0	0
243	SLU 83	-4	-30	1849	0	0	0
243	SLU 84	-4	-27	1866	0	0	0
243	SLE RA 1	-2	-20	1209	0	0	0
243	SLE RA 2	-2	-17	1229	0	0	0
243	SLE RA 3	-2	-20	1221	0	0	0
243	SLE RA 4	-2	-18	1233	0	0	0
243	SLE RA 5	-2	-17	1236	0	0	0
243	SLE RA 6	-2	-21	1228	0	0	0
243	SLE RA 7	-2	-18	1240	0	0	0
243	SLE RA 8	-2	-21	1223	0	0	0
243	SLE RA 9	-2	-18	1235	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLE RA 10	-2	-18	1333	0	0	0
243	SLE RA 11	-3	-22	1325	0	0	0
243	SLE RA 12	-2	-20	1337	0	0	0
243	SLE RA 13	-2	-18	1340	0	0	0
243	SLE RA 14	-3	-22	1331	0	0	0
243	SLE RA 15	-3	-20	1343	0	0	0
243	SLE RA 16	-3	-22	1327	0	0	0
243	SLE RA 17	-3	-20	1339	0	0	0
243	SLE RA 18	-3	-22	1357	0	0	0
243	SLE RA 19	-3	-20	1369	0	0	0
243	SLE RA 20	-3	-23	1364	0	0	0
243	SLE RA 21	-3	-20	1376	0	0	0
243	SLE FR 1	-2	-20	1209	0	0	0
243	SLE FR 2	-2	-19	1213	0	0	0
243	SLE FR 3	-2	-20	1212	0	0	0
243	SLE FR 4	-2	-20	1258	0	0	0
243	SLE FR 5	-2	-21	1257	0	0	0
243	SLE FR 6	-2	-21	1283	0	0	0
243	SLE QP 1	-2	-20	1209	0	0	0
243	SLE QP 2	-2	-21	1254	0	0	0
243	SLD 1	107	19	1421	0	0	0
243	SLD 2	129	25	1428	0	0	0
243	SLD 3	104	-49	970	0	0	0
243	SLD 4	126	-44	977	0	0	0
243	SLD 5	31	94	1987	0	0	0
243	SLD 6	46	98	1992	0	0	0
243	SLD 7	21	-134	483	0	0	0
243	SLD 8	36	-130	488	0	0	0
243	SLD 9	-40	89	2020	0	0	0
243	SLD 10	-25	93	2024	0	0	0
243	SLD 11	-50	-139	516	0	0	0
243	SLD 12	-35	-136	521	0	0	0
243	SLD 13	-130	2	1530	0	0	0
243	SLD 14	-108	8	1537	0	0	0
243	SLD 15	-133	-66	1079	0	0	0
243	SLD 16	-111	-61	1086	0	0	0
243	SLV 1	168	46	1544	0	0	0
243	SLV 2	203	55	1556	0	0	0
243	SLV 3	163	-70	782	0	0	0
243	SLV 4	198	-61	793	0	0	0
243	SLV 5	50	173	2495	0	0	0
243	SLV 6	74	179	2503	0	0	0
243	SLV 7	33	-213	-46	0	0	0
243	SLV 8	57	-207	-39	0	0	0
243	SLV 9	-61	165	2546	0	0	0
243	SLV 10	-37	171	2554	0	0	0
243	SLV 11	-78	-221	5	0	0	0
243	SLV 12	-54	-215	12	0	0	0
243	SLV 13	-202	19	1714	0	0	0
243	SLV 14	-167	28	1726	0	0	0
243	SLV 15	-207	-97	952	0	0	0
243	SLV 16	-172	-88	963	0	0	0
243	SLV FO 1	185	53	1573	0	0	0
243	SLV FO 2	224	63	1586	0	0	0
243	SLV FO 3	179	-74	735	0	0	0
243	SLV FO 4	218	-65	747	0	0	0
243	SLV FO 5	55	193	2619	0	0	0
243	SLV FO 6	81	199	2628	0	0	0
243	SLV FO 7	37	-232	-176	0	0	0
243	SLV FO 8	63	-225	-168	0	0	0
243	SLV FO 9	-67	184	2675	0	0	0
243	SLV FO 10	-41	190	2684	0	0	0
243	SLV FO 11	-85	-241	-120	0	0	0
243	SLV FO 12	-59	-234	-112	0	0	0
243	SLV FO 13	-222	23	1760	0	0	0
243	SLV FO 14	-184	33	1773	0	0	0
243	SLV FO 15	-228	-104	922	0	0	0
243	SLV FO 16	-189	-94	934	0	0	0
243	CRTFP Uy+	0	0	0	0	0	0
243	CRTFP Uy-	0	0	0	0	0	0
244	SLU 1	-2	-21	1148	0	0	0
244	SLU 2	-1	-16	1177	0	0	0
244	SLU 3	-2	-22	1165	0	0	0
244	SLU 4	-2	-19	1183	0	0	0
244	SLU 5	-1	-16	1187	0	0	0
244	SLU 6	-2	-22	1175	0	0	0
244	SLU 7	-2	-19	1193	0	0	0
244	SLU 8	-2	-22	1168	0	0	0
244	SLU 9	-2	-19	1186	0	0	0
244	SLU 10	-2	-18	1329	0	0	0
244	SLU 11	-3	-24	1317	0	0	0
244	SLU 12	-2	-21	1335	0	0	0
244	SLU 13	-2	-19	1340	0	0	0
244	SLU 14	-3	-24	1327	0	0	0
244	SLU 15	-3	-21	1345	0	0	0
244	SLU 16	-3	-24	1320	0	0	0
244	SLU 17	-3	-21	1338	0	0	0
244	SLU 18	-3	-25	1365	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
244	SLU 19	-2	-22	1383	0	0	0
244	SLU 20	-3	-25	1375	0	0	0
244	SLU 21	-3	-22	1393	0	0	0
244	SLU 22	-2	-24	1300	0	0	0
244	SLU 23	-2	-19	1330	0	0	0
244	SLU 24	-2	-24	1317	0	0	0
244	SLU 25	-2	-21	1335	0	0	0
244	SLU 26	-2	-19	1340	0	0	0
244	SLU 27	-2	-25	1327	0	0	0
244	SLU 28	-2	-22	1345	0	0	0
244	SLU 29	-2	-25	1320	0	0	0
244	SLU 30	-2	-21	1338	0	0	0
244	SLU 31	-2	-21	1482	0	0	0
244	SLU 32	-3	-27	1469	0	0	0
244	SLU 33	-3	-24	1487	0	0	0
244	SLU 34	-3	-22	1492	0	0	0
244	SLU 35	-3	-27	1479	0	0	0
244	SLU 36	-3	-24	1497	0	0	0
244	SLU 37	-3	-27	1472	0	0	0
244	SLU 38	-3	-24	1490	0	0	0
244	SLU 39	-3	-27	1518	0	0	0
244	SLU 40	-3	-24	1535	0	0	0
244	SLU 41	-3	-28	1528	0	0	0
244	SLU 42	-3	-25	1545	0	0	0
244	SLU 43	-2	-27	1440	0	0	0
244	SLU 44	-2	-21	1469	0	0	0
244	SLU 45	-2	-27	1457	0	0	0
244	SLU 46	-2	-24	1475	0	0	0
244	SLU 47	-2	-22	1479	0	0	0
244	SLU 48	-2	-27	1467	0	0	0
244	SLU 49	-2	-24	1485	0	0	0
244	SLU 50	-2	-27	1460	0	0	0
244	SLU 51	-2	-24	1478	0	0	0
244	SLU 52	-2	-24	1622	0	0	0
244	SLU 53	-3	-30	1609	0	0	0
244	SLU 54	-3	-26	1627	0	0	0
244	SLU 55	-3	-24	1632	0	0	0
244	SLU 56	-3	-30	1619	0	0	0
244	SLU 57	-3	-27	1637	0	0	0
244	SLU 58	-3	-30	1612	0	0	0
244	SLU 59	-3	-27	1630	0	0	0
244	SLU 60	-3	-30	1657	0	0	0
244	SLU 61	-3	-27	1675	0	0	0
244	SLU 62	-3	-30	1667	0	0	0
244	SLU 63	-3	-27	1685	0	0	0
244	SLU 64	-2	-29	1592	0	0	0
244	SLU 65	-2	-24	1622	0	0	0
244	SLU 66	-2	-30	1609	0	0	0
244	SLU 67	-2	-27	1627	0	0	0
244	SLU 68	-2	-24	1632	0	0	0
244	SLU 69	-3	-30	1619	0	0	0
244	SLU 70	-2	-27	1637	0	0	0
244	SLU 71	-3	-30	1612	0	0	0
244	SLU 72	-2	-27	1630	0	0	0
244	SLU 73	-3	-27	1774	0	0	0
244	SLU 74	-3	-32	1762	0	0	0
244	SLU 75	-3	-29	1779	0	0	0
244	SLU 76	-3	-27	1784	0	0	0
244	SLU 77	-3	-33	1772	0	0	0
244	SLU 78	-3	-30	1789	0	0	0
244	SLU 79	-3	-32	1765	0	0	0
244	SLU 80	-3	-29	1782	0	0	0
244	SLU 81	-3	-33	1810	0	0	0
244	SLU 82	-3	-30	1827	0	0	0
244	SLU 83	-3	-33	1820	0	0	0
244	SLU 84	-3	-30	1837	0	0	0
244	SLE RA 1	-2	-22	1191	0	0	0
244	SLE RA 2	-1	-18	1211	0	0	0
244	SLE RA 3	-2	-22	1203	0	0	0
244	SLE RA 4	-2	-20	1214	0	0	0
244	SLE RA 5	-2	-19	1218	0	0	0
244	SLE RA 6	-2	-22	1209	0	0	0
244	SLE RA 7	-2	-20	1221	0	0	0
244	SLE RA 8	-2	-22	1205	0	0	0
244	SLE RA 9	-2	-20	1216	0	0	0
244	SLE RA 10	-2	-20	1312	0	0	0
244	SLE RA 11	-2	-24	1304	0	0	0
244	SLE RA 12	-2	-22	1316	0	0	0
244	SLE RA 13	-2	-20	1319	0	0	0
244	SLE RA 14	-2	-24	1311	0	0	0
244	SLE RA 15	-2	-22	1323	0	0	0
244	SLE RA 16	-2	-24	1306	0	0	0
244	SLE RA 17	-2	-22	1318	0	0	0
244	SLE RA 18	-2	-24	1336	0	0	0
244	SLE RA 19	-2	-22	1348	0	0	0
244	SLE RA 20	-2	-25	1343	0	0	0
244	SLE RA 21	-2	-22	1355	0	0	0
244	SLE FR 1	-2	-22	1191	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
244	SLE FR 2	-2	-21	1195	0	0	0
244	SLE FR 3	-2	-22	1194	0	0	0
244	SLE FR 4	-2	-22	1239	0	0	0
244	SLE FR 5	-2	-23	1237	0	0	0
244	SLE FR 6	-2	-23	1264	0	0	0
244	SLE QP 1	-2	-22	1191	0	0	0
244	SLE QP 2	-2	-23	1235	0	0	0
244	SLD 1	106	18	1390	0	0	0
244	SLD 2	128	24	1398	0	0	0
244	SLD 3	103	-49	946	0	0	0
244	SLD 4	125	-42	954	0	0	0
244	SLD 5	31	90	1954	0	0	0
244	SLD 6	46	94	1959	0	0	0
244	SLD 7	21	-133	473	0	0	0
244	SLD 8	35	-129	478	0	0	0
244	SLD 9	-39	83	1991	0	0	0
244	SLD 10	-25	88	1996	0	0	0
244	SLD 11	-49	-139	511	0	0	0
244	SLD 12	-35	-135	516	0	0	0
244	SLD 13	-128	-3	1516	0	0	0
244	SLD 14	-106	4	1524	0	0	0
244	SLD 15	-131	-70	1071	0	0	0
244	SLD 16	-109	-63	1079	0	0	0
244	SLV 1	167	45	1506	0	0	0
244	SLV 2	201	55	1518	0	0	0
244	SLV 3	161	-68	755	0	0	0
244	SLV 4	196	-58	768	0	0	0
244	SLV 5	50	167	2452	0	0	0
244	SLV 6	73	174	2460	0	0	0
244	SLV 7	33	-209	-49	0	0	0
244	SLV 8	56	-202	-41	0	0	0
244	SLV 9	-60	157	2511	0	0	0
244	SLV 10	-36	164	2519	0	0	0
244	SLV 11	-77	-219	9	0	0	0
244	SLV 12	-54	-212	18	0	0	0
244	SLV 13	-200	12	1702	0	0	0
244	SLV 14	-165	23	1714	0	0	0
244	SLV 15	-205	-100	951	0	0	0
244	SLV 16	-170	-90	964	0	0	0
244	SLV FO 1	183	51	1533	0	0	0
244	SLV FO 2	222	63	1547	0	0	0
244	SLV FO 3	178	-73	708	0	0	0
244	SLV FO 4	216	-61	721	0	0	0
244	SLV FO 5	55	185	2574	0	0	0
244	SLV FO 6	81	193	2583	0	0	0
244	SLV FO 7	36	-228	-178	0	0	0
244	SLV FO 8	62	-220	-169	0	0	0
244	SLV FO 9	-66	175	2638	0	0	0
244	SLV FO 10	-40	183	2648	0	0	0
244	SLV FO 11	-85	-238	-113	0	0	0
244	SLV FO 12	-59	-231	-104	0	0	0
244	SLV FO 13	-219	16	1748	0	0	0
244	SLV FO 14	-181	27	1762	0	0	0
244	SLV FO 15	-225	-108	923	0	0	0
244	SLV FO 16	-187	-97	937	0	0	0
244	CRTFP Uy+	0	0	0	0	0	0
244	CRTFP Uy-	0	0	0	0	0	0
245	SLU 1	-1	-23	1134	0	0	0
245	SLU 2	-1	-18	1163	0	0	0
245	SLU 3	-1	-23	1151	0	0	0
245	SLU 4	-1	-20	1168	0	0	0
245	SLU 5	-1	-18	1173	0	0	0
245	SLU 6	-2	-24	1161	0	0	0
245	SLU 7	-1	-21	1178	0	0	0
245	SLU 8	-2	-23	1154	0	0	0
245	SLU 9	-2	-20	1171	0	0	0
245	SLU 10	-2	-20	1313	0	0	0
245	SLU 11	-2	-26	1301	0	0	0
245	SLU 12	-2	-23	1318	0	0	0
245	SLU 13	-2	-21	1323	0	0	0
245	SLU 14	-2	-26	1310	0	0	0
245	SLU 15	-2	-23	1328	0	0	0
245	SLU 16	-2	-26	1304	0	0	0
245	SLU 17	-2	-23	1321	0	0	0
245	SLU 18	-2	-27	1348	0	0	0
245	SLU 19	-2	-24	1366	0	0	0
245	SLU 20	-2	-27	1358	0	0	0
245	SLU 21	-2	-24	1376	0	0	0
245	SLU 22	-1	-26	1285	0	0	0
245	SLU 23	-1	-21	1314	0	0	0
245	SLU 24	-2	-26	1301	0	0	0
245	SLU 25	-2	-23	1319	0	0	0
245	SLU 26	-1	-21	1324	0	0	0
245	SLU 27	-2	-27	1311	0	0	0
245	SLU 28	-2	-24	1329	0	0	0
245	SLU 29	-2	-26	1304	0	0	0
245	SLU 30	-2	-23	1322	0	0	0
245	SLU 31	-2	-23	1464	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
245	SLU 32	-2	-29	1451	0	0	0
245	SLU 33	-2	-26	1469	0	0	0
245	SLU 34	-2	-24	1474	0	0	0
245	SLU 35	-3	-29	1461	0	0	0
245	SLU 36	-2	-26	1479	0	0	0
245	SLU 37	-3	-29	1454	0	0	0
245	SLU 38	-2	-26	1472	0	0	0
245	SLU 39	-3	-30	1499	0	0	0
245	SLU 40	-2	-27	1516	0	0	0
245	SLU 41	-3	-30	1509	0	0	0
245	SLU 42	-3	-27	1526	0	0	0
245	SLU 43	-2	-29	1423	0	0	0
245	SLU 44	-1	-24	1452	0	0	0
245	SLU 45	-2	-29	1439	0	0	0
245	SLU 46	-2	-26	1457	0	0	0
245	SLU 47	-1	-24	1462	0	0	0
245	SLU 48	-2	-29	1449	0	0	0
245	SLU 49	-2	-26	1467	0	0	0
245	SLU 50	-2	-29	1442	0	0	0
245	SLU 51	-2	-26	1460	0	0	0
245	SLU 52	-2	-26	1602	0	0	0
245	SLU 53	-2	-32	1589	0	0	0
245	SLU 54	-2	-29	1607	0	0	0
245	SLU 55	-2	-27	1612	0	0	0
245	SLU 56	-3	-32	1599	0	0	0
245	SLU 57	-3	-29	1617	0	0	0
245	SLU 58	-3	-32	1592	0	0	0
245	SLU 59	-3	-29	1610	0	0	0
245	SLU 60	-3	-32	1637	0	0	0
245	SLU 61	-2	-29	1654	0	0	0
245	SLU 62	-3	-33	1647	0	0	0
245	SLU 63	-3	-30	1664	0	0	0
245	SLU 64	-2	-31	1573	0	0	0
245	SLU 65	-1	-26	1602	0	0	0
245	SLU 66	-2	-32	1590	0	0	0
245	SLU 67	-2	-29	1607	0	0	0
245	SLU 68	-2	-27	1612	0	0	0
245	SLU 69	-2	-32	1600	0	0	0
245	SLU 70	-2	-29	1617	0	0	0
245	SLU 71	-2	-32	1593	0	0	0
245	SLU 72	-2	-29	1610	0	0	0
245	SLU 73	-2	-29	1752	0	0	0
245	SLU 74	-3	-35	1740	0	0	0
245	SLU 75	-3	-32	1757	0	0	0
245	SLU 76	-2	-30	1762	0	0	0
245	SLU 77	-3	-35	1750	0	0	0
245	SLU 78	-3	-32	1767	0	0	0
245	SLU 79	-3	-35	1743	0	0	0
245	SLU 80	-3	-32	1760	0	0	0
245	SLU 81	-3	-35	1787	0	0	0
245	SLU 82	-3	-32	1805	0	0	0
245	SLU 83	-3	-36	1797	0	0	0
245	SLU 84	-3	-33	1815	0	0	0
245	SLE RA 1	-1	-24	1177	0	0	0
245	SLE RA 2	-1	-20	1197	0	0	0
245	SLE RA 3	-1	-24	1188	0	0	0
245	SLE RA 4	-1	-22	1200	0	0	0
245	SLE RA 5	-1	-20	1203	0	0	0
245	SLE RA 6	-2	-24	1195	0	0	0
245	SLE RA 7	-1	-22	1206	0	0	0
245	SLE RA 8	-2	-24	1190	0	0	0
245	SLE RA 9	-1	-22	1202	0	0	0
245	SLE RA 10	-2	-22	1296	0	0	0
245	SLE RA 11	-2	-26	1288	0	0	0
245	SLE RA 12	-2	-24	1300	0	0	0
245	SLE RA 13	-2	-22	1303	0	0	0
245	SLE RA 14	-2	-26	1295	0	0	0
245	SLE RA 15	-2	-24	1306	0	0	0
245	SLE RA 16	-2	-26	1290	0	0	0
245	SLE RA 17	-2	-24	1302	0	0	0
245	SLE RA 18	-2	-26	1320	0	0	0
245	SLE RA 19	-2	-24	1332	0	0	0
245	SLE RA 20	-2	-26	1326	0	0	0
245	SLE RA 21	-2	-24	1338	0	0	0
245	SLE FR 1	-1	-24	1177	0	0	0
245	SLE FR 2	-1	-23	1181	0	0	0
245	SLE FR 3	-1	-24	1180	0	0	0
245	SLE FR 4	-1	-24	1224	0	0	0
245	SLE FR 5	-2	-24	1222	0	0	0
245	SLE FR 6	-2	-25	1248	0	0	0
245	SLE QP 1	-1	-24	1177	0	0	0
245	SLE QP 2	-2	-24	1220	0	0	0
245	SLD 1	105	16	1364	0	0	0
245	SLD 2	126	24	1372	0	0	0
245	SLD 3	102	-49	925	0	0	0
245	SLD 4	123	-41	934	0	0	0
245	SLD 5	31	85	1926	0	0	0
245	SLD 6	46	90	1932	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
245	SLD 7	21	-131	465	0	0	0
245	SLD 8	35	-126	471	0	0	0
245	SLD 9	-38	78	1969	0	0	0
245	SLD 10	-24	83	1975	0	0	0
245	SLD 11	-49	-138	508	0	0	0
245	SLD 12	-34	-134	513	0	0	0
245	SLD 13	-126	-8	1506	0	0	0
245	SLD 14	-105	0	1515	0	0	0
245	SLD 15	-129	-72	1067	0	0	0
245	SLD 16	-108	-65	1076	0	0	0
245	SLV 1	165	43	1472	0	0	0
245	SLV 2	199	55	1486	0	0	0
245	SLV 3	159	-67	732	0	0	0
245	SLV 4	194	-55	745	0	0	0
245	SLV 5	50	160	2417	0	0	0
245	SLV 6	73	168	2426	0	0	0
245	SLV 7	32	-205	-53	0	0	0
245	SLV 8	55	-197	-44	0	0	0
245	SLV 9	-58	149	2483	0	0	0
245	SLV 10	-35	157	2493	0	0	0
245	SLV 11	-76	-216	14	0	0	0
245	SLV 12	-53	-208	23	0	0	0
245	SLV 13	-197	6	1694	0	0	0
245	SLV 14	-162	18	1708	0	0	0
245	SLV 15	-202	-104	954	0	0	0
245	SLV 16	-168	-92	967	0	0	0
245	SLV FO 1	181	50	1498	0	0	0
245	SLV FO 2	219	63	1513	0	0	0
245	SLV FO 3	175	-71	683	0	0	0
245	SLV FO 4	213	-58	698	0	0	0
245	SLV FO 5	55	178	2536	0	0	0
245	SLV FO 6	81	187	2547	0	0	0
245	SLV FO 7	36	-223	-180	0	0	0
245	SLV FO 8	61	-215	-170	0	0	0
245	SLV FO 9	-64	166	2610	0	0	0
245	SLV FO 10	-39	175	2620	0	0	0
245	SLV FO 11	-84	-236	-107	0	0	0
245	SLV FO 12	-58	-227	-97	0	0	0
245	SLV FO 13	-216	9	1742	0	0	0
245	SLV FO 14	-178	22	1757	0	0	0
245	SLV FO 15	-222	-111	927	0	0	0
245	SLV FO 16	-184	-98	942	0	0	0
245	CRTFP Uy+	0	0	0	0	0	0
245	CRTFP Uy-	0	0	0	0	0	0
246	SLU 1	-1	-24	1116	0	0	0
246	SLU 2	-1	-19	1144	0	0	0
246	SLU 3	-1	-25	1132	0	0	0
246	SLU 4	-1	-22	1149	0	0	0
246	SLU 5	-1	-20	1154	0	0	0
246	SLU 6	-1	-25	1141	0	0	0
246	SLU 7	-1	-22	1159	0	0	0
246	SLU 8	-1	-25	1135	0	0	0
246	SLU 9	-1	-22	1152	0	0	0
246	SLU 10	-1	-22	1292	0	0	0
246	SLU 11	-2	-27	1279	0	0	0
246	SLU 12	-2	-25	1296	0	0	0
246	SLU 13	-2	-22	1301	0	0	0
246	SLU 14	-2	-28	1289	0	0	0
246	SLU 15	-2	-25	1306	0	0	0
246	SLU 16	-2	-28	1282	0	0	0
246	SLU 17	-2	-25	1299	0	0	0
246	SLU 18	-2	-28	1326	0	0	0
246	SLU 19	-2	-25	1343	0	0	0
246	SLU 20	-2	-29	1335	0	0	0
246	SLU 21	-2	-26	1353	0	0	0
246	SLU 22	-1	-27	1264	0	0	0
246	SLU 23	-1	-22	1293	0	0	0
246	SLU 24	-1	-28	1280	0	0	0
246	SLU 25	-1	-25	1298	0	0	0
246	SLU 26	-1	-23	1302	0	0	0
246	SLU 27	-1	-28	1290	0	0	0
246	SLU 28	-1	-25	1307	0	0	0
246	SLU 29	-1	-28	1283	0	0	0
246	SLU 30	-1	-25	1300	0	0	0
246	SLU 31	-1	-25	1440	0	0	0
246	SLU 32	-2	-31	1428	0	0	0
246	SLU 33	-2	-28	1445	0	0	0
246	SLU 34	-2	-26	1450	0	0	0
246	SLU 35	-2	-31	1437	0	0	0
246	SLU 36	-2	-28	1454	0	0	0
246	SLU 37	-2	-31	1430	0	0	0
246	SLU 38	-2	-28	1447	0	0	0
246	SLU 39	-2	-31	1474	0	0	0
246	SLU 40	-2	-28	1492	0	0	0
246	SLU 41	-2	-32	1484	0	0	0
246	SLU 42	-2	-29	1501	0	0	0
246	SLU 43	-1	-30	1399	0	0	0
246	SLU 44	-1	-25	1428	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLU 45	-1	-31	1416	0	0	0
246	SLU 46	-1	-28	1433	0	0	0
246	SLU 47	-1	-26	1438	0	0	0
246	SLU 48	-1	-31	1425	0	0	0
246	SLU 49	-1	-28	1443	0	0	0
246	SLU 50	-2	-31	1418	0	0	0
246	SLU 51	-1	-28	1436	0	0	0
246	SLU 52	-2	-28	1575	0	0	0
246	SLU 53	-2	-34	1563	0	0	0
246	SLU 54	-2	-31	1580	0	0	0
246	SLU 55	-2	-29	1585	0	0	0
246	SLU 56	-2	-34	1572	0	0	0
246	SLU 57	-2	-31	1590	0	0	0
246	SLU 58	-2	-34	1566	0	0	0
246	SLU 59	-2	-31	1583	0	0	0
246	SLU 60	-2	-34	1610	0	0	0
246	SLU 61	-2	-31	1627	0	0	0
246	SLU 62	-2	-35	1619	0	0	0
246	SLU 63	-2	-32	1637	0	0	0
246	SLU 64	-1	-33	1548	0	0	0
246	SLU 65	-1	-28	1577	0	0	0
246	SLU 66	-1	-34	1564	0	0	0
246	SLU 67	-1	-31	1581	0	0	0
246	SLU 68	-1	-29	1586	0	0	0
246	SLU 69	-2	-34	1574	0	0	0
246	SLU 70	-2	-31	1591	0	0	0
246	SLU 71	-2	-34	1567	0	0	0
246	SLU 72	-2	-31	1584	0	0	0
246	SLU 73	-2	-31	1724	0	0	0
246	SLU 74	-2	-37	1711	0	0	0
246	SLU 75	-2	-34	1729	0	0	0
246	SLU 76	-2	-32	1733	0	0	0
246	SLU 77	-2	-37	1721	0	0	0
246	SLU 78	-2	-34	1738	0	0	0
246	SLU 79	-2	-37	1714	0	0	0
246	SLU 80	-2	-34	1731	0	0	0
246	SLU 81	-2	-37	1758	0	0	0
246	SLU 82	-2	-35	1775	0	0	0
246	SLU 83	-2	-38	1768	0	0	0
246	SLU 84	-2	-35	1785	0	0	0
246	SLE RA 1	-1	-25	1158	0	0	0
246	SLE RA 2	-1	-22	1177	0	0	0
246	SLE RA 3	-1	-25	1169	0	0	0
246	SLE RA 4	-1	-23	1180	0	0	0
246	SLE RA 5	-1	-22	1184	0	0	0
246	SLE RA 6	-1	-25	1175	0	0	0
246	SLE RA 7	-1	-24	1187	0	0	0
246	SLE RA 8	-1	-25	1171	0	0	0
246	SLE RA 9	-1	-23	1182	0	0	0
246	SLE RA 10	-1	-24	1275	0	0	0
246	SLE RA 11	-2	-27	1267	0	0	0
246	SLE RA 12	-1	-25	1279	0	0	0
246	SLE RA 13	-1	-24	1282	0	0	0
246	SLE RA 14	-2	-27	1273	0	0	0
246	SLE RA 15	-2	-26	1285	0	0	0
246	SLE RA 16	-2	-27	1269	0	0	0
246	SLE RA 17	-2	-25	1280	0	0	0
246	SLE RA 18	-2	-28	1298	0	0	0
246	SLE RA 19	-1	-26	1310	0	0	0
246	SLE RA 20	-2	-28	1305	0	0	0
246	SLE RA 21	-2	-26	1316	0	0	0
246	SLE FR 1	-1	-25	1158	0	0	0
246	SLE FR 2	-1	-24	1162	0	0	0
246	SLE FR 3	-1	-25	1161	0	0	0
246	SLE FR 4	-1	-25	1204	0	0	0
246	SLE FR 5	-1	-26	1203	0	0	0
246	SLE FR 6	-1	-26	1228	0	0	0
246	SLE QP 1	-1	-25	1158	0	0	0
246	SLE QP 2	-1	-26	1200	0	0	0
246	SLD 1	103	14	1332	0	0	0
246	SLD 2	124	23	1341	0	0	0
246	SLD 3	99	-48	901	0	0	0
246	SLD 4	121	-40	910	0	0	0
246	SLD 5	31	80	1892	0	0	0
246	SLD 6	45	85	1898	0	0	0
246	SLD 7	20	-129	455	0	0	0
246	SLD 8	34	-123	461	0	0	0
246	SLD 9	-36	72	1939	0	0	0
246	SLD 10	-23	77	1945	0	0	0
246	SLD 11	-47	-136	502	0	0	0
246	SLD 12	-34	-131	508	0	0	0
246	SLD 13	-123	-12	1490	0	0	0
246	SLD 14	-102	-3	1499	0	0	0
246	SLD 15	-126	-74	1059	0	0	0
246	SLD 16	-105	-66	1068	0	0	0
246	SLV 1	161	41	1434	0	0	0
246	SLV 2	195	54	1448	0	0	0
246	SLV 3	156	-65	705	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLV 4	189	-52	720	0	0	0
246	SLV 5	50	152	2372	0	0	0
246	SLV 6	72	161	2382	0	0	0
246	SLV 7	31	-200	-56	0	0	0
246	SLV 8	54	-191	-46	0	0	0
246	SLV 9	-56	140	2446	0	0	0
246	SLV 10	-34	148	2456	0	0	0
246	SLV 11	-75	-212	18	0	0	0
246	SLV 12	-52	-203	28	0	0	0
246	SLV 13	-192	0	1680	0	0	0
246	SLV 14	-158	13	1695	0	0	0
246	SLV 15	-197	-105	952	0	0	0
246	SLV 16	-164	-92	966	0	0	0
246	SLV FO 1	178	48	1457	0	0	0
246	SLV FO 2	214	62	1473	0	0	0
246	SLV FO 3	171	-69	656	0	0	0
246	SLV FO 4	208	-54	672	0	0	0
246	SLV FO 5	55	170	2489	0	0	0
246	SLV FO 6	80	179	2500	0	0	0
246	SLV FO 7	35	-217	-182	0	0	0
246	SLV FO 8	59	-208	-171	0	0	0
246	SLV FO 9	-62	156	2571	0	0	0
246	SLV FO 10	-37	166	2582	0	0	0
246	SLV FO 11	-82	-231	-100	0	0	0
246	SLV FO 12	-57	-221	-89	0	0	0
246	SLV FO 13	-211	3	1728	0	0	0
246	SLV FO 14	-174	17	1744	0	0	0
246	SLV FO 15	-217	-113	927	0	0	0
246	SLV FO 16	-180	-99	943	0	0	0
246	CRTFP Uy+	0	0	0	0	0	0
246	CRTFP Uy-	0	0	0	0	0	0
247	SLU 1	-1	-25	1080	0	0	0
247	SLU 2	0	-20	1108	0	0	0
247	SLU 3	-1	-25	1096	0	0	0
247	SLU 4	-1	-23	1113	0	0	0
247	SLU 5	0	-21	1117	0	0	0
247	SLU 6	-1	-26	1105	0	0	0
247	SLU 7	-1	-23	1122	0	0	0
247	SLU 8	-1	-25	1098	0	0	0
247	SLU 9	-1	-23	1115	0	0	0
247	SLU 10	-1	-23	1251	0	0	0
247	SLU 11	-1	-28	1238	0	0	0
247	SLU 12	-1	-25	1255	0	0	0
247	SLU 13	-1	-24	1260	0	0	0
247	SLU 14	-2	-29	1247	0	0	0
247	SLU 15	-1	-26	1264	0	0	0
247	SLU 16	-2	-28	1241	0	0	0
247	SLU 17	-1	-26	1257	0	0	0
247	SLU 18	-1	-29	1283	0	0	0
247	SLU 19	-1	-26	1300	0	0	0
247	SLU 20	-2	-29	1293	0	0	0
247	SLU 21	-1	-27	1309	0	0	0
247	SLU 22	-1	-28	1224	0	0	0
247	SLU 23	0	-23	1252	0	0	0
247	SLU 24	-1	-28	1240	0	0	0
247	SLU 25	-1	-26	1257	0	0	0
247	SLU 26	-1	-24	1261	0	0	0
247	SLU 27	-1	-29	1249	0	0	0
247	SLU 28	-1	-26	1266	0	0	0
247	SLU 29	-1	-29	1242	0	0	0
247	SLU 30	-1	-26	1259	0	0	0
247	SLU 31	-1	-26	1395	0	0	0
247	SLU 32	-1	-31	1382	0	0	0
247	SLU 33	-1	-29	1399	0	0	0
247	SLU 34	-1	-27	1404	0	0	0
247	SLU 35	-2	-32	1391	0	0	0
247	SLU 36	-2	-29	1408	0	0	0
247	SLU 37	-2	-32	1385	0	0	0
247	SLU 38	-2	-29	1401	0	0	0
247	SLU 39	-2	-32	1427	0	0	0
247	SLU 40	-1	-29	1444	0	0	0
247	SLU 41	-2	-32	1437	0	0	0
247	SLU 42	-2	-30	1453	0	0	0
247	SLU 43	-1	-31	1355	0	0	0
247	SLU 44	0	-27	1383	0	0	0
247	SLU 45	-1	-32	1370	0	0	0
247	SLU 46	-1	-29	1387	0	0	0
247	SLU 47	-1	-27	1392	0	0	0
247	SLU 48	-1	-32	1380	0	0	0
247	SLU 49	-1	-29	1396	0	0	0
247	SLU 50	-1	-32	1373	0	0	0
247	SLU 51	-1	-29	1390	0	0	0
247	SLU 52	-1	-29	1525	0	0	0
247	SLU 53	-1	-35	1513	0	0	0
247	SLU 54	-1	-32	1530	0	0	0
247	SLU 55	-1	-30	1534	0	0	0
247	SLU 56	-2	-35	1522	0	0	0
247	SLU 57	-2	-32	1539	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
247	SLU 58	-2	-35	1515	0	0	0
247	SLU 59	-2	-32	1532	0	0	0
247	SLU 60	-2	-35	1558	0	0	0
247	SLU 61	-1	-33	1575	0	0	0
247	SLU 62	-2	-36	1567	0	0	0
247	SLU 63	-2	-33	1584	0	0	0
247	SLU 64	-1	-34	1499	0	0	0
247	SLU 65	-1	-30	1527	0	0	0
247	SLU 66	-1	-35	1514	0	0	0
247	SLU 67	-1	-32	1531	0	0	0
247	SLU 68	-1	-30	1536	0	0	0
247	SLU 69	-1	-35	1524	0	0	0
247	SLU 70	-1	-32	1540	0	0	0
247	SLU 71	-1	-35	1517	0	0	0
247	SLU 72	-1	-32	1534	0	0	0
247	SLU 73	-1	-33	1669	0	0	0
247	SLU 74	-2	-38	1657	0	0	0
247	SLU 75	-1	-35	1674	0	0	0
247	SLU 76	-1	-33	1678	0	0	0
247	SLU 77	-2	-38	1666	0	0	0
247	SLU 78	-2	-35	1683	0	0	0
247	SLU 79	-2	-38	1659	0	0	0
247	SLU 80	-2	-35	1676	0	0	0
247	SLU 81	-2	-38	1702	0	0	0
247	SLU 82	-2	-36	1719	0	0	0
247	SLU 83	-2	-39	1711	0	0	0
247	SLU 84	-2	-36	1728	0	0	0
247	SLE RA 1	-1	-26	1121	0	0	0
247	SLE RA 2	0	-23	1140	0	0	0
247	SLE RA 3	-1	-26	1132	0	0	0
247	SLE RA 4	-1	-24	1143	0	0	0
247	SLE RA 5	-1	-23	1146	0	0	0
247	SLE RA 6	-1	-26	1138	0	0	0
247	SLE RA 7	-1	-24	1149	0	0	0
247	SLE RA 8	-1	-26	1133	0	0	0
247	SLE RA 9	-1	-24	1145	0	0	0
247	SLE RA 10	-1	-25	1235	0	0	0
247	SLE RA 11	-1	-28	1227	0	0	0
247	SLE RA 12	-1	-26	1238	0	0	0
247	SLE RA 13	-1	-25	1241	0	0	0
247	SLE RA 14	-1	-28	1233	0	0	0
247	SLE RA 15	-1	-26	1244	0	0	0
247	SLE RA 16	-1	-28	1228	0	0	0
247	SLE RA 17	-1	-26	1239	0	0	0
247	SLE RA 18	-1	-28	1257	0	0	0
247	SLE RA 19	-1	-27	1268	0	0	0
247	SLE RA 20	-1	-29	1263	0	0	0
247	SLE RA 21	-1	-27	1274	0	0	0
247	SLE FR 1	-1	-26	1121	0	0	0
247	SLE FR 2	-1	-25	1125	0	0	0
247	SLE FR 3	-1	-26	1124	0	0	0
247	SLE FR 4	-1	-26	1166	0	0	0
247	SLE FR 5	-1	-27	1164	0	0	0
247	SLE FR 6	-1	-27	1189	0	0	0
247	SLE QP 1	-1	-26	1121	0	0	0
247	SLE QP 2	-1	-26	1162	0	0	0
247	SLD 1	99	12	1281	0	0	0
247	SLD 2	119	21	1291	0	0	0
247	SLD 3	95	-46	863	0	0	0
247	SLD 4	116	-38	873	0	0	0
247	SLD 5	30	73	1829	0	0	0
247	SLD 6	44	79	1835	0	0	0
247	SLD 7	20	-123	437	0	0	0
247	SLD 8	33	-118	444	0	0	0
247	SLD 9	-34	65	1880	0	0	0
247	SLD 10	-21	70	1886	0	0	0
247	SLD 11	-45	-132	488	0	0	0
247	SLD 12	-32	-126	495	0	0	0
247	SLD 13	-117	-15	1451	0	0	0
247	SLD 14	-97	-6	1461	0	0	0
247	SLD 15	-120	-74	1033	0	0	0
247	SLD 16	-100	-65	1043	0	0	0
247	SLV 1	155	38	1374	0	0	0
247	SLV 2	187	52	1390	0	0	0
247	SLV 3	149	-62	669	0	0	0
247	SLV 4	181	-48	684	0	0	0
247	SLV 5	48	141	2293	0	0	0
247	SLV 6	70	151	2303	0	0	0
247	SLV 7	30	-191	-59	0	0	0
247	SLV 8	51	-181	-48	0	0	0
247	SLV 9	-53	128	2372	0	0	0
247	SLV 10	-31	138	2383	0	0	0
247	SLV 11	-71	-204	21	0	0	0
247	SLV 12	-50	-194	31	0	0	0
247	SLV 13	-183	-5	1639	0	0	0
247	SLV 14	-151	9	1655	0	0	0
247	SLV 15	-188	-105	934	0	0	0
247	SLV 16	-156	-91	950	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
247	SLV FO 1	170	44	1395	0	0	0
247	SLV FO 2	205	60	1413	0	0	0
247	SLV FO 3	164	-65	619	0	0	0
247	SLV FO 4	199	-50	637	0	0	0
247	SLV FO 5	53	158	2406	0	0	0
247	SLV FO 6	77	168	2417	0	0	0
247	SLV FO 7	33	-207	-181	0	0	0
247	SLV FO 8	57	-197	-169	0	0	0
247	SLV FO 9	-58	144	2493	0	0	0
247	SLV FO 10	-35	154	2505	0	0	0
247	SLV FO 11	-78	-221	-93	0	0	0
247	SLV FO 12	-55	-211	-82	0	0	0
247	SLV FO 13	-201	-3	1687	0	0	0
247	SLV FO 14	-166	12	1704	0	0	0
247	SLV FO 15	-207	-113	911	0	0	0
247	SLV FO 16	-172	-97	928	0	0	0
247	CRTFP Ux+	0	0	0	0	0	0
247	CRTFP Ux-	0	0	0	0	0	0
247	CRTFP Uy+	0	0	0	0	0	0
247	CRTFP Uy-	0	0	0	0	0	0
248	SLU 1	0	-25	1039	0	0	0
248	SLU 2	0	-21	1067	0	0	0
248	SLU 3	-1	-26	1055	0	0	0
248	SLU 4	0	-23	1071	0	0	0
248	SLU 5	0	-21	1075	0	0	0
248	SLU 6	-1	-26	1063	0	0	0
248	SLU 7	-1	-24	1079	0	0	0
248	SLU 8	-1	-26	1057	0	0	0
248	SLU 9	-1	-24	1073	0	0	0
248	SLU 10	-1	-24	1204	0	0	0
248	SLU 11	-1	-29	1191	0	0	0
248	SLU 12	-1	-26	1208	0	0	0
248	SLU 13	-1	-25	1212	0	0	0
248	SLU 14	-1	-29	1200	0	0	0
248	SLU 15	-1	-27	1216	0	0	0
248	SLU 16	-1	-29	1194	0	0	0
248	SLU 17	-1	-27	1210	0	0	0
248	SLU 18	-1	-30	1235	0	0	0
248	SLU 19	-1	-27	1251	0	0	0
248	SLU 20	-1	-30	1244	0	0	0
248	SLU 21	-1	-27	1260	0	0	0
248	SLU 22	-1	-28	1178	0	0	0
248	SLU 23	0	-24	1206	0	0	0
248	SLU 24	-1	-29	1194	0	0	0
248	SLU 25	-1	-27	1210	0	0	0
248	SLU 26	-1	-25	1214	0	0	0
248	SLU 27	-1	-29	1202	0	0	0
248	SLU 28	-1	-27	1218	0	0	0
248	SLU 29	-1	-29	1196	0	0	0
248	SLU 30	-1	-27	1212	0	0	0
248	SLU 31	-1	-27	1343	0	0	0
248	SLU 32	-1	-32	1330	0	0	0
248	SLU 33	-1	-30	1347	0	0	0
248	SLU 34	-1	-28	1351	0	0	0
248	SLU 35	-2	-32	1339	0	0	0
248	SLU 36	-1	-30	1355	0	0	0
248	SLU 37	-2	-32	1333	0	0	0
248	SLU 38	-1	-30	1349	0	0	0
248	SLU 39	-1	-33	1374	0	0	0
248	SLU 40	-1	-30	1390	0	0	0
248	SLU 41	-2	-33	1383	0	0	0
248	SLU 42	-1	-31	1399	0	0	0
248	SLU 43	-1	-32	1304	0	0	0
248	SLU 44	0	-28	1331	0	0	0
248	SLU 45	-1	-32	1319	0	0	0
248	SLU 46	-1	-30	1335	0	0	0
248	SLU 47	0	-28	1339	0	0	0
248	SLU 48	-1	-33	1327	0	0	0
248	SLU 49	-1	-30	1344	0	0	0
248	SLU 50	-1	-33	1321	0	0	0
248	SLU 51	-1	-30	1337	0	0	0
248	SLU 52	-1	-31	1468	0	0	0
248	SLU 53	-1	-35	1456	0	0	0
248	SLU 54	-1	-33	1472	0	0	0
248	SLU 55	-1	-31	1476	0	0	0
248	SLU 56	-1	-36	1464	0	0	0
248	SLU 57	-1	-33	1481	0	0	0
248	SLU 58	-2	-36	1458	0	0	0
248	SLU 59	-1	-33	1474	0	0	0
248	SLU 60	-1	-36	1499	0	0	0
248	SLU 61	-1	-34	1516	0	0	0
248	SLU 62	-2	-36	1508	0	0	0
248	SLU 63	-1	-34	1524	0	0	0
248	SLU 64	-1	-35	1443	0	0	0
248	SLU 65	0	-31	1470	0	0	0
248	SLU 66	-1	-36	1458	0	0	0
248	SLU 67	-1	-33	1474	0	0	0
248	SLU 68	-1	-31	1478	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLU 69	-1	-36	1466	0	0	0
248	SLU 70	-1	-33	1483	0	0	0
248	SLU 71	-1	-36	1460	0	0	0
248	SLU 72	-1	-33	1476	0	0	0
248	SLU 73	-1	-34	1607	0	0	0
248	SLU 74	-1	-39	1595	0	0	0
248	SLU 75	-1	-36	1611	0	0	0
248	SLU 76	-1	-34	1615	0	0	0
248	SLU 77	-2	-39	1603	0	0	0
248	SLU 78	-1	-36	1620	0	0	0
248	SLU 79	-2	-39	1597	0	0	0
248	SLU 80	-1	-36	1613	0	0	0
248	SLU 81	-2	-39	1638	0	0	0
248	SLU 82	-1	-37	1655	0	0	0
248	SLU 83	-2	-40	1647	0	0	0
248	SLU 84	-2	-37	1663	0	0	0
248	SLE RA 1	0	-26	1079	0	0	0
248	SLE RA 2	0	-23	1097	0	0	0
248	SLE RA 3	-1	-27	1089	0	0	0
248	SLE RA 4	-1	-25	1100	0	0	0
248	SLE RA 5	0	-24	1103	0	0	0
248	SLE RA 6	-1	-27	1095	0	0	0
248	SLE RA 7	-1	-25	1106	0	0	0
248	SLE RA 8	-1	-27	1091	0	0	0
248	SLE RA 9	-1	-25	1102	0	0	0
248	SLE RA 10	-1	-25	1189	0	0	0
248	SLE RA 11	-1	-29	1181	0	0	0
248	SLE RA 12	-1	-27	1191	0	0	0
248	SLE RA 13	-1	-26	1194	0	0	0
248	SLE RA 14	-1	-29	1186	0	0	0
248	SLE RA 15	-1	-27	1197	0	0	0
248	SLE RA 16	-1	-29	1182	0	0	0
248	SLE RA 17	-1	-27	1193	0	0	0
248	SLE RA 18	-1	-29	1210	0	0	0
248	SLE RA 19	-1	-27	1220	0	0	0
248	SLE RA 20	-1	-29	1215	0	0	0
248	SLE RA 21	-1	-28	1226	0	0	0
248	SLE FR 1	0	-26	1079	0	0	0
248	SLE FR 2	0	-26	1083	0	0	0
248	SLE FR 3	-1	-26	1081	0	0	0
248	SLE FR 4	-1	-27	1122	0	0	0
248	SLE FR 5	-1	-27	1121	0	0	0
248	SLE FR 6	-1	-28	1144	0	0	0
248	SLE QP 1	0	-26	1079	0	0	0
248	SLE QP 2	-1	-27	1118	0	0	0
248	SLD 1	94	10	1225	0	0	0
248	SLD 2	113	20	1235	0	0	0
248	SLD 3	91	-45	823	0	0	0
248	SLD 4	110	-36	833	0	0	0
248	SLD 5	29	66	1758	0	0	0
248	SLD 6	42	72	1765	0	0	0
248	SLD 7	19	-118	418	0	0	0
248	SLD 8	31	-112	425	0	0	0
248	SLD 9	-32	57	1812	0	0	0
248	SLD 10	-20	63	1819	0	0	0
248	SLD 11	-43	-126	472	0	0	0
248	SLD 12	-30	-120	478	0	0	0
248	SLD 13	-111	-19	1404	0	0	0
248	SLD 14	-92	-9	1414	0	0	0
248	SLD 15	-114	-74	1002	0	0	0
248	SLD 16	-95	-65	1012	0	0	0
248	SLV 1	147	35	1310	0	0	0
248	SLV 2	177	49	1327	0	0	0
248	SLV 3	142	-58	631	0	0	0
248	SLV 4	172	-44	647	0	0	0
248	SLV 5	46	130	2203	0	0	0
248	SLV 6	66	140	2214	0	0	0
248	SLV 7	28	-180	-61	0	0	0
248	SLV 8	49	-171	-50	0	0	0
248	SLV 9	-50	117	2287	0	0	0
248	SLV 10	-30	126	2298	0	0	0
248	SLV 11	-68	-194	22	0	0	0
248	SLV 12	-47	-184	33	0	0	0
248	SLV 13	-173	-10	1589	0	0	0
248	SLV 14	-143	4	1606	0	0	0
248	SLV 15	-179	-104	910	0	0	0
248	SLV 16	-148	-89	926	0	0	0
248	SLV FO 1	162	41	1330	0	0	0
248	SLV FO 2	195	57	1347	0	0	0
248	SLV FO 3	156	-61	582	0	0	0
248	SLV FO 4	189	-45	600	0	0	0
248	SLV FO 5	51	146	2312	0	0	0
248	SLV FO 6	73	157	2324	0	0	0
248	SLV FO 7	31	-196	-179	0	0	0
248	SLV FO 8	54	-185	-167	0	0	0
248	SLV FO 9	-55	131	2404	0	0	0
248	SLV FO 10	-33	142	2416	0	0	0
248	SLV FO 11	-75	-211	-87	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLV FO 12	-52	-200	-75	0	0	0
248	SLV FO 13	-191	-9	1637	0	0	0
248	SLV FO 14	-157	7	1655	0	0	0
248	SLV FO 15	-197	-111	889	0	0	0
248	SLV FO 16	-163	-95	907	0	0	0
248	CRTFP Ux+	0	0	0	0	0	0
248	CRTFP Ux-	0	0	0	0	0	0
248	CRTFP Uy+	0	0	0	0	0	0
248	CRTFP Uy-	0	0	0	0	0	0
251	SLU 1	-7	-44	4567	-4.1	1379.59	12.58
251	SLU 2	-7	-22	4681	-4.44	1413.88	5.95
251	SLU 3	-8	-45	4639	-4.11	1401.49	12.92
251	SLU 4	-8	-32	4708	-4.32	1422.06	8.94
251	SLU 5	-7	-23	4724	-4.44	1427.03	6.23
251	SLU 6	-9	-46	4682	-4.11	1414.63	13.19
251	SLU 7	-9	-33	4751	-4.32	1435.21	9.22
251	SLU 8	-9	-46	4653	-4.1	1405.87	13.13
251	SLU 9	-9	-32	4722	-4.3	1426.45	9.15
251	SLU 10	-10	-27	5301	-5.05	1602.12	7.45
251	SLU 11	-11	-50	5259	-4.72	1589.72	14.41
251	SLU 12	-11	-37	5328	-4.93	1610.3	10.44
251	SLU 13	-10	-28	5344	-5.05	1615.26	7.72
251	SLU 14	-12	-51	5302	-4.72	1602.86	14.68
251	SLU 15	-11	-38	5370	-4.93	1623.44	10.71
251	SLU 16	-12	-51	5273	-4.71	1594.11	14.62
251	SLU 17	-12	-38	5342	-4.91	1614.68	10.64
251	SLU 18	-12	-51	5453	-4.97	1648.49	14.71
251	SLU 19	-11	-38	5521	-5.18	1669.07	10.74
251	SLU 20	-12	-52	5496	-4.97	1661.64	14.98
251	SLU 21	-12	-39	5564	-5.18	1682.21	11.01
251	SLU 22	-9	-50	5180	-4.53	1564.92	14.24
251	SLU 23	-8	-28	5294	-4.87	1599.21	7.62
251	SLU 24	-10	-51	5251	-4.54	1586.81	14.58
251	SLU 25	-9	-38	5320	-4.75	1607.39	10.61
251	SLU 26	-9	-29	5337	-4.87	1612.35	7.89
251	SLU 27	-10	-52	5294	-4.54	1599.96	14.86
251	SLU 28	-10	-39	5363	-4.75	1620.53	10.88
251	SLU 29	-10	-51	5265	-4.53	1591.2	14.79
251	SLU 30	-10	-38	5334	-4.73	1611.78	10.82
251	SLU 31	-11	-33	5913	-5.48	1787.44	9.11
251	SLU 32	-12	-56	5871	-5.15	1775.05	16.08
251	SLU 33	-12	-43	5940	-5.36	1795.62	12.1
251	SLU 34	-12	-34	5956	-5.48	1800.59	9.39
251	SLU 35	-13	-57	5914	-5.15	1788.19	16.35
251	SLU 36	-13	-44	5983	-5.36	1808.77	12.38
251	SLU 37	-13	-57	5885	-5.14	1779.43	16.28
251	SLU 38	-13	-43	5954	-5.34	1800.01	12.31
251	SLU 39	-13	-57	6065	-5.4	1833.82	16.38
251	SLU 40	-12	-44	6134	-5.61	1854.4	12.4
251	SLU 41	-14	-58	6108	-5.4	1846.96	16.65
251	SLU 42	-13	-45	6176	-5.61	1867.54	12.68
251	SLU 43	-9	-55	5728	-5.18	1729.93	15.78
251	SLU 44	-8	-33	5842	-5.52	1764.22	9.16
251	SLU 45	-10	-56	5800	-5.2	1751.82	16.12
251	SLU 46	-9	-43	5868	-5.4	1772.4	12.15
251	SLU 47	-9	-34	5885	-5.52	1777.36	9.43
251	SLU 48	-11	-57	5842	-5.2	1764.96	16.39
251	SLU 49	-10	-44	5911	-5.4	1785.54	12.42
251	SLU 50	-11	-57	5814	-5.18	1756.21	16.33
251	SLU 51	-10	-44	5882	-5.39	1776.79	12.35
251	SLU 52	-11	-38	6462	-6.13	1952.45	10.65
251	SLU 53	-13	-61	6419	-5.81	1940.06	17.61
251	SLU 54	-12	-48	6488	-6.01	1960.63	13.64
251	SLU 55	-12	-39	6505	-6.13	1965.6	10.92
251	SLU 56	-14	-62	6462	-5.81	1953.2	17.89
251	SLU 57	-13	-49	6531	-6.01	1973.78	13.91
251	SLU 58	-14	-62	6433	-5.79	1944.44	17.82
251	SLU 59	-13	-49	6502	-6	1965.02	13.85
251	SLU 60	-13	-62	6613	-6.06	1998.83	17.91
251	SLU 61	-13	-49	6682	-6.26	2019.41	13.94
251	SLU 62	-14	-63	6656	-6.05	2011.97	18.19
251	SLU 63	-14	-50	6725	-6.26	2032.55	14.21
251	SLU 64	-11	-61	6340	-5.61	1915.25	17.44
251	SLU 65	-10	-39	6454	-5.95	1949.55	10.82
251	SLU 66	-11	-62	6412	-5.63	1937.15	17.78
251	SLU 67	-11	-49	6480	-5.83	1957.73	13.81
251	SLU 68	-11	-40	6497	-5.95	1962.69	11.1
251	SLU 69	-12	-63	6455	-5.63	1950.29	18.06
251	SLU 70	-12	-50	6523	-5.83	1970.87	14.08
251	SLU 71	-12	-63	6426	-5.61	1941.54	17.99
251	SLU 72	-12	-49	6494	-5.82	1962.11	14.02
251	SLU 73	-13	-44	7074	-6.56	2137.78	12.31
251	SLU 74	-14	-67	7032	-6.24	2125.38	19.28
251	SLU 75	-14	-54	7100	-6.44	2145.96	15.3
251	SLU 76	-13	-45	7117	-6.56	2150.92	12.59
251	SLU 77	-15	-68	7074	-6.24	2138.52	19.55
251	SLU 78	-15	-55	7143	-6.44	2159.1	15.58
251	SLU 79	-15	-68	7046	-6.22	2129.77	19.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLU 80	-15	-55	7114	-6.43	2150.35	15.51
251	SLU 81	-15	-68	7225	-6.49	2184.16	19.58
251	SLU 82	-14	-55	7294	-6.69	2204.73	15.6
251	SLU 83	-16	-69	7268	-6.49	2197.3	19.85
251	SLU 84	-15	-56	7337	-6.69	2217.88	15.88
251	SLE RA 1	-8	-45	4742	-4.22	1432.54	13.05
251	SLE RA 2	-7	-31	4818	-4.45	1455.4	8.64
251	SLE RA 3	-8	-46	4790	-4.23	1447.14	13.28
251	SLE RA 4	-8	-37	4836	-4.37	1460.86	10.63
251	SLE RA 5	-8	-31	4847	-4.45	1464.16	8.82
251	SLE RA 6	-9	-47	4819	-4.23	1455.9	13.46
251	SLE RA 7	-9	-38	4864	-4.37	1469.62	10.81
251	SLE RA 8	-9	-47	4800	-4.22	1450.06	13.42
251	SLE RA 9	-9	-38	4845	-4.36	1463.78	10.77
251	SLE RA 10	-9	-34	5232	-4.86	1580.89	9.63
251	SLE RA 11	-10	-50	5203	-4.64	1572.63	14.27
251	SLE RA 12	-10	-41	5249	-4.77	1586.34	11.63
251	SLE RA 13	-10	-35	5260	-4.86	1589.65	9.82
251	SLE RA 14	-11	-50	5232	-4.64	1581.39	14.46
251	SLE RA 15	-11	-42	5278	-4.77	1595.11	11.81
251	SLE RA 16	-11	-50	5213	-4.63	1575.55	14.41
251	SLE RA 17	-11	-41	5258	-4.77	1589.27	11.76
251	SLE RA 18	-11	-50	5333	-4.81	1611.81	14.47
251	SLE RA 19	-10	-42	5378	-4.94	1625.53	11.83
251	SLE RA 20	-11	-51	5361	-4.8	1620.57	14.66
251	SLE RA 21	-11	-42	5407	-4.94	1634.29	12.01
251	SLE FR 1	-8	-45	4742	-4.22	1432.54	13.05
251	SLE FR 2	-8	-43	4758	-4.27	1437.11	12.17
251	SLE FR 3	-8	-46	4754	-4.22	1436.04	13.13
251	SLE FR 4	-9	-44	4935	-4.44	1490.89	12.6
251	SLE FR 5	-9	-47	4931	-4.4	1489.82	13.55
251	SLE FR 6	-9	-48	5037	-4.51	1522.17	13.76
251	SLE QP 1	-8	-45	4742	-4.22	1432.54	13.05
251	SLE QP 2	-9	-47	4919	-4.4	1486.32	13.48
251	SLD 1	407	95	5693	-6.22	1729.39	-26.23
251	SLD 2	492	100	5708	-6.23	1732.58	-27.41
251	SLD 3	396	-184	3940	-1.24	1199.79	57.73
251	SLD 4	481	-179	3954	-1.25	1202.98	56.55
251	SLD 5	117	417	7809	-12.49	2361.91	-125.56
251	SLD 6	172	420	7819	-12.5	2363.98	-126.33
251	SLD 7	82	-511	1963	4.1	596.58	154.29
251	SLD 8	137	-508	1972	4.09	598.65	153.53
251	SLD 9	-154	414	7867	-12.89	2373.99	-126.57
251	SLD 10	-99	417	7876	-12.9	2376.06	-127.33
251	SLD 11	-189	-514	2020	3.7	608.66	153.28
251	SLD 12	-135	-511	2030	3.69	610.73	152.52
251	SLD 13	-498	85	5885	-7.55	1769.66	-29.59
251	SLD 14	-414	90	5899	-7.56	1772.85	-30.77
251	SLD 15	-509	-194	4131	-2.57	1240.06	54.37
251	SLD 16	-424	-189	4145	-2.58	1243.25	53.19
251	SLV 1	641	193	6240	-7.55	1899.54	-53.73
251	SLV 2	775	201	6263	-7.58	1904.57	-55.6
251	SLV 3	624	-278	3276	0.86	1004.55	88.12
251	SLV 4	757	-270	3299	0.83	1009.58	86.26
251	SLV 5	188	737	9807	-18.1	2966.75	-221.48
251	SLV 6	278	743	9822	-18.12	2970.14	-222.73
251	SLV 7	129	-832	-73	9.94	-16.55	251.36
251	SLV 8	219	-826	-58	9.93	-13.17	250.11
251	SLV 9	-236	732	9897	-18.72	2985.81	-223.15
251	SLV 10	-146	738	9912	-18.74	2989.19	-224.4
251	SLV 11	-295	-837	17	9.32	2.5	249.69
251	SLV 12	-206	-831	32	9.3	5.89	248.44
251	SLV 13	-774	176	6540	-9.63	1963.06	-59.3
251	SLV 14	-641	184	6563	-9.66	1968.09	-61.16
251	SLV 15	-792	-294	3576	-1.22	1068.07	82.56
251	SLV 16	-659	-287	3599	-1.24	1073.1	80.69
251	SLV FO 1	706	217	6372	-7.87	1940.87	-60.45
251	SLV FO 2	853	225	6397	-7.9	1946.39	-62.5
251	SLV FO 3	687	-301	3112	1.38	956.37	95.58
251	SLV FO 4	834	-292	3137	1.36	961.9	93.53
251	SLV FO 5	208	816	10295	-19.47	3114.8	-244.98
251	SLV FO 6	307	822	10312	-19.49	3118.52	-246.36
251	SLV FO 7	143	-910	-572	11.38	-166.84	275.15
251	SLV FO 8	242	-904	-555	11.36	-163.12	273.77
251	SLV FO 9	-259	810	10394	-20.16	3135.76	-246.81
251	SLV FO 10	-160	816	10411	-20.17	3139.48	-248.19
251	SLV FO 11	-324	-916	-474	10.69	-145.88	273.31
251	SLV FO 12	-225	-910	-456	10.67	-142.16	271.93
251	SLV FO 13	-851	199	6702	-10.15	2010.74	-66.57
251	SLV FO 14	-704	207	6727	-10.18	2016.27	-68.62
251	SLV FO 15	-870	-319	3441	-0.9	1026.25	89.46
251	SLV FO 16	-724	-311	3467	-0.93	1031.78	87.41
251	CRTFP Ux+	0	0	0	0	0	0
251	CRTFP Ux-	0	0	0	0	0	0
251	CRTFP Uy+	0	0	0	0	-0.01	0
251	CRTFP Uy-	0	0	0	0	0.01	0
252	SLU 1	0	-13	515	-19.23	-64.43	-1.69
252	SLU 2	0	-11	529	-19.73	-66.12	-1.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
252	SLU 3	0	-14	523	-19.5	-65.36	-1.73
252	SLU 4	0	-13	531	-19.81	-66.37	-1.57
252	SLU 5	0	-12	533	-19.89	-66.65	-1.46
252	SLU 6	0	-14	527	-19.66	-65.89	-1.75
252	SLU 7	0	-13	535	-19.96	-66.9	-1.6
252	SLU 8	0	-14	524	-19.54	-65.49	-1.74
252	SLU 9	0	-13	532	-19.84	-66.5	-1.59
252	SLU 10	0	-13	597	-22.26	-74.61	-1.64
252	SLU 11	-1	-15	591	-22.04	-73.85	-1.94
252	SLU 12	-1	-14	599	-22.34	-74.86	-1.79
252	SLU 13	0	-13	601	-22.42	-75.14	-1.67
252	SLU 14	-1	-16	595	-22.19	-74.38	-1.97
252	SLU 15	-1	-14	603	-22.5	-75.39	-1.81
252	SLU 16	-1	-15	592	-22.08	-73.98	-1.95
252	SLU 17	-1	-14	600	-22.38	-74.99	-1.8
252	SLU 18	-1	-16	612	-22.85	-76.56	-1.99
252	SLU 19	-1	-15	621	-23.15	-77.57	-1.84
252	SLU 20	-1	-16	617	-23	-77.09	-2.02
252	SLU 21	-1	-15	625	-23.31	-78.1	-1.86
252	SLU 22	0	-15	585	-21.81	-73.07	-1.9
252	SLU 23	0	-13	598	-22.31	-74.76	-1.65
252	SLU 24	0	-15	592	-22.08	-74	-1.94
252	SLU 25	0	-14	600	-22.38	-75.01	-1.79
252	SLU 26	0	-13	602	-22.47	-75.29	-1.67
252	SLU 27	0	-16	596	-22.24	-74.53	-1.97
252	SLU 28	0	-14	604	-22.54	-75.54	-1.81
252	SLU 29	0	-16	593	-22.12	-74.13	-1.96
252	SLU 30	0	-14	601	-22.42	-75.15	-1.8
252	SLU 31	0	-15	666	-24.84	-83.25	-1.86
252	SLU 32	-1	-17	660	-24.62	-82.49	-2.15
252	SLU 33	-1	-16	668	-24.92	-83.5	-2
252	SLU 34	-1	-15	670	-25	-83.78	-1.89
252	SLU 35	-1	-17	664	-24.77	-83.02	-2.18
252	SLU 36	-1	-16	672	-25.08	-84.03	-2.03
252	SLU 37	-1	-17	661	-24.65	-82.62	-2.17
252	SLU 38	-1	-16	669	-24.96	-83.64	-2.01
252	SLU 39	-1	-17	682	-25.42	-85.2	-2.2
252	SLU 40	-1	-16	690	-25.73	-86.21	-2.05
252	SLU 41	-1	-18	686	-25.58	-85.73	-2.23
252	SLU 42	-1	-16	694	-25.88	-86.74	-2.08
252	SLU 43	0	-17	646	-24.11	-80.8	-2.12
252	SLU 44	0	-15	660	-24.61	-82.48	-1.86
252	SLU 45	0	-17	654	-24.39	-81.72	-2.16
252	SLU 46	0	-16	662	-24.69	-82.74	-2.01
252	SLU 47	0	-15	664	-24.77	-83.01	-1.89
252	SLU 48	0	-17	658	-24.54	-82.26	-2.19
252	SLU 49	0	-16	666	-24.85	-83.27	-2.03
252	SLU 50	0	-17	655	-24.43	-81.86	-2.17
252	SLU 51	0	-16	663	-24.73	-82.87	-2.02
252	SLU 52	0	-16	728	-27.15	-90.97	-2.08
252	SLU 53	-1	-19	722	-26.92	-90.21	-2.37
252	SLU 54	-1	-18	730	-27.22	-91.23	-2.22
252	SLU 55	-1	-17	732	-27.3	-91.5	-2.1
252	SLU 56	-1	-19	726	-27.08	-90.74	-2.4
252	SLU 57	-1	-18	734	-27.38	-91.76	-2.25
252	SLU 58	-1	-19	723	-26.96	-90.35	-2.39
252	SLU 59	-1	-18	731	-27.26	-91.36	-2.23
252	SLU 60	-1	-19	743	-27.73	-92.92	-2.42
252	SLU 61	-1	-18	751	-28.03	-93.94	-2.27
252	SLU 62	-1	-19	748	-27.89	-93.45	-2.45
252	SLU 63	-1	-18	756	-28.19	-94.47	-2.3
252	SLU 64	0	-19	716	-26.69	-89.44	-2.33
252	SLU 65	0	-17	729	-27.19	-91.13	-2.08
252	SLU 66	0	-19	723	-26.97	-90.37	-2.37
252	SLU 67	0	-18	731	-27.27	-91.38	-2.22
252	SLU 68	0	-17	733	-27.35	-91.66	-2.11
252	SLU 69	0	-19	727	-27.12	-90.9	-2.4
252	SLU 70	0	-18	735	-27.43	-91.91	-2.25
252	SLU 71	0	-19	724	-27.01	-90.5	-2.39
252	SLU 72	0	-18	732	-27.31	-91.51	-2.24
252	SLU 73	0	-18	797	-29.73	-99.62	-2.29
252	SLU 74	-1	-20	791	-29.5	-98.86	-2.59
252	SLU 75	-1	-19	799	-29.8	-99.87	-2.43
252	SLU 76	-1	-18	801	-29.88	-100.15	-2.32
252	SLU 77	-1	-21	795	-29.66	-99.39	-2.61
252	SLU 78	-1	-19	803	-29.96	-100.4	-2.46
252	SLU 79	-1	-21	792	-29.54	-98.99	-2.6
252	SLU 80	-1	-19	800	-29.84	-100	-2.45
252	SLU 81	-1	-21	813	-30.31	-101.57	-2.64
252	SLU 82	-1	-20	821	-30.61	-102.58	-2.48
252	SLU 83	-1	-21	817	-30.47	-102.1	-2.66
252	SLU 84	-1	-20	825	-30.77	-103.11	-2.51
252	SLE RA 1	0	-14	535	-19.96	-66.9	-1.75
252	SLE RA 2	0	-13	544	-20.3	-68.03	-1.58
252	SLE RA 3	0	-14	540	-20.15	-67.52	-1.77
252	SLE RA 4	0	-13	546	-20.35	-68.19	-1.67
252	SLE RA 5	0	-13	547	-20.4	-68.38	-1.6
252	SLE RA 6	0	-14	543	-20.25	-67.87	-1.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
252	SLE RA 7	0	-13	548	-20.45	-68.55	-1.69
252	SLE RA 8	0	-14	541	-20.17	-67.61	-1.78
252	SLE RA 9	0	-13	546	-20.38	-68.28	-1.68
252	SLE RA 10	0	-14	589	-21.99	-73.68	-1.72
252	SLE RA 11	0	-15	585	-21.84	-73.18	-1.92
252	SLE RA 12	0	-14	591	-22.04	-73.85	-1.81
252	SLE RA 13	0	-14	592	-22.09	-74.04	-1.74
252	SLE RA 14	-1	-15	588	-21.94	-73.53	-1.93
252	SLE RA 15	0	-15	594	-22.14	-74.21	-1.83
252	SLE RA 16	-1	-15	586	-21.86	-73.27	-1.93
252	SLE RA 17	0	-14	592	-22.06	-73.94	-1.82
252	SLE RA 18	-1	-15	600	-22.38	-74.99	-1.95
252	SLE RA 19	0	-15	605	-22.58	-75.66	-1.85
252	SLE RA 20	-1	-16	603	-22.48	-75.34	-1.97
252	SLE RA 21	-1	-15	608	-22.68	-76.01	-1.87
252	SLE FR 1	0	-14	535	-19.96	-66.9	-1.75
252	SLE FR 2	0	-14	537	-20.03	-67.13	-1.71
252	SLE FR 3	0	-14	536	-20.01	-67.04	-1.76
252	SLE FR 4	0	-14	556	-20.75	-69.55	-1.77
252	SLE FR 5	0	-14	556	-20.73	-69.47	-1.82
252	SLE FR 6	0	-15	568	-21.17	-70.94	-1.85
252	SLE QP 1	0	-14	535	-19.96	-66.9	-1.75
252	SLE QP 2	0	-14	555	-20.69	-69.33	-1.81
252	SLD 1	46	4	604	-22.52	-75.46	2.24
252	SLD 2	55	9	609	-22.72	-76.15	3.21
252	SLD 3	44	-22	404	-15.07	-50.5	-1.12
252	SLD 4	54	-17	410	-15.28	-51.19	-0.16
252	SLD 5	14	31	871	-32.49	-108.9	4.35
252	SLD 6	20	34	875	-32.63	-109.34	4.97
252	SLD 7	9	-58	206	-7.67	-25.71	-6.88
252	SLD 8	15	-55	209	-7.8	-26.15	-6.25
252	SLD 9	-16	26	900	-33.57	-112.5	2.63
252	SLD 10	-10	29	904	-33.7	-112.94	3.26
252	SLD 11	-21	-63	234	-8.75	-29.31	-8.59
252	SLD 12	-15	-59	238	-8.88	-29.75	-7.96
252	SLD 13	-54	-11	700	-26.1	-87.46	-3.46
252	SLD 14	-45	-7	705	-26.3	-88.15	-2.49
252	SLD 15	-56	-38	500	-18.65	-62.5	-6.83
252	SLD 16	-47	-33	506	-18.86	-63.19	-5.86
252	SLV 1	72	17	644	-24.02	-80.51	4.73
252	SLV 2	87	24	653	-24.35	-81.59	6.26
252	SLV 3	69	-28	307	-11.44	-38.34	-0.96
252	SLV 4	84	-21	315	-11.76	-39.42	0.56
252	SLV 5	23	61	1092	-40.71	-136.44	8.5
252	SLV 6	33	67	1097	-40.93	-137.17	9.52
252	SLV 7	14	-88	-33	1.23	4.13	-10.47
252	SLV 8	24	-83	-27	1.02	3.4	-9.44
252	SLV 9	-25	54	1136	-42.39	-142.05	5.83
252	SLV 10	-15	59	1142	-42.61	-142.79	6.85
252	SLV 11	-33	-95	12	-0.44	-1.48	-13.14
252	SLV 12	-23	-90	18	-0.66	-2.21	-12.12
252	SLV 13	-85	-8	794	-29.61	-99.23	-4.18
252	SLV 14	-70	0	803	-29.93	-100.31	-2.66
252	SLV 15	-87	-53	456	-17.03	-57.06	-9.87
252	SLV 16	-73	-45	465	-17.35	-58.14	-8.35
252	SLV FO 1	79	20	653	-24.36	-81.63	5.39
252	SLV FO 2	96	28	663	-24.71	-82.82	7.06
252	SLV FO 3	76	-30	282	-10.51	-35.24	-0.87
252	SLV FO 4	93	-21	291	-10.87	-36.43	0.8
252	SLV FO 5	25	69	1145	-42.72	-143.15	9.53
252	SLV FO 6	36	75	1152	-42.96	-143.95	10.66
252	SLV FO 7	15	-95	-92	3.43	11.48	-11.33
252	SLV FO 8	26	-90	-85	3.19	10.68	-10.21
252	SLV FO 9	-27	61	1195	-44.56	-149.33	6.59
252	SLV FO 10	-16	67	1201	-44.8	-150.13	7.72
252	SLV FO 11	-36	-103	-42	1.58	5.3	-14.28
252	SLV FO 12	-25	-98	-36	1.34	4.5	-13.15
252	SLV FO 13	-93	-8	818	-30.5	-102.22	-4.42
252	SLV FO 14	-77	1	827	-30.86	-103.41	-2.75
252	SLV FO 15	-96	-57	447	-16.66	-55.83	-10.68
252	SLV FO 16	-80	-48	456	-17.02	-57.03	-9.01
252	CRTFP Ux+	0	0	0	0	0	0
252	CRTFP Ux-	0	0	0	0	0	0
252	CRTFP Uy+	0	0	0	0	0	0
252	CRTFP Uy-	0	0	0	0	0	0
254	SLU 1	-9	-16	801	0	0	0
254	SLU 2	-10	-13	821	0	0	0
254	SLU 3	-9	-16	814	0	0	0
254	SLU 4	-10	-14	825	0	0	0
254	SLU 5	-10	-13	829	0	0	0
254	SLU 6	-9	-16	821	0	0	0
254	SLU 7	-10	-14	833	0	0	0
254	SLU 8	-9	-16	816	0	0	0
254	SLU 9	-10	-14	828	0	0	0
254	SLU 10	-10	-14	928	0	0	0
254	SLU 11	-10	-18	921	0	0	0
254	SLU 12	-10	-16	933	0	0	0
254	SLU 13	-10	-15	936	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
254	SLU 14	-10	-18	928	0	0	0
254	SLU 15	-10	-16	940	0	0	0
254	SLU 16	-10	-18	924	0	0	0
254	SLU 17	-10	-16	935	0	0	0
254	SLU 18	-10	-18	954	0	0	0
254	SLU 19	-10	-16	966	0	0	0
254	SLU 20	-10	-18	962	0	0	0
254	SLU 21	-10	-17	974	0	0	0
254	SLU 22	-10	-18	910	0	0	0
254	SLU 23	-11	-14	930	0	0	0
254	SLU 24	-11	-18	923	0	0	0
254	SLU 25	-11	-16	935	0	0	0
254	SLU 26	-11	-15	938	0	0	0
254	SLU 27	-11	-18	931	0	0	0
254	SLU 28	-11	-16	942	0	0	0
254	SLU 29	-11	-18	926	0	0	0
254	SLU 30	-11	-16	938	0	0	0
254	SLU 31	-11	-16	1037	0	0	0
254	SLU 32	-11	-20	1030	0	0	0
254	SLU 33	-11	-18	1042	0	0	0
254	SLU 34	-12	-16	1045	0	0	0
254	SLU 35	-11	-20	1038	0	0	0
254	SLU 36	-12	-18	1050	0	0	0
254	SLU 37	-11	-20	1033	0	0	0
254	SLU 38	-11	-18	1045	0	0	0
254	SLU 39	-11	-20	1063	0	0	0
254	SLU 40	-11	-18	1075	0	0	0
254	SLU 41	-11	-20	1071	0	0	0
254	SLU 42	-12	-18	1083	0	0	0
254	SLU 43	-11	-20	1004	0	0	0
254	SLU 44	-12	-17	1024	0	0	0
254	SLU 45	-12	-20	1016	0	0	0
254	SLU 46	-12	-18	1028	0	0	0
254	SLU 47	-12	-17	1031	0	0	0
254	SLU 48	-12	-20	1024	0	0	0
254	SLU 49	-12	-18	1036	0	0	0
254	SLU 50	-12	-20	1019	0	0	0
254	SLU 51	-12	-18	1031	0	0	0
254	SLU 52	-12	-18	1131	0	0	0
254	SLU 53	-12	-22	1124	0	0	0
254	SLU 54	-12	-20	1135	0	0	0
254	SLU 55	-12	-19	1138	0	0	0
254	SLU 56	-12	-22	1131	0	0	0
254	SLU 57	-13	-20	1143	0	0	0
254	SLU 58	-12	-22	1126	0	0	0
254	SLU 59	-12	-20	1138	0	0	0
254	SLU 60	-12	-22	1157	0	0	0
254	SLU 61	-12	-20	1169	0	0	0
254	SLU 62	-12	-23	1165	0	0	0
254	SLU 63	-13	-21	1176	0	0	0
254	SLU 64	-13	-22	1113	0	0	0
254	SLU 65	-13	-19	1133	0	0	0
254	SLU 66	-13	-22	1126	0	0	0
254	SLU 67	-13	-20	1138	0	0	0
254	SLU 68	-13	-19	1141	0	0	0
254	SLU 69	-13	-22	1133	0	0	0
254	SLU 70	-13	-20	1145	0	0	0
254	SLU 71	-13	-22	1129	0	0	0
254	SLU 72	-13	-20	1140	0	0	0
254	SLU 73	-14	-20	1240	0	0	0
254	SLU 74	-13	-24	1233	0	0	0
254	SLU 75	-14	-22	1245	0	0	0
254	SLU 76	-14	-20	1248	0	0	0
254	SLU 77	-14	-24	1241	0	0	0
254	SLU 78	-14	-22	1252	0	0	0
254	SLU 79	-13	-24	1236	0	0	0
254	SLU 80	-14	-22	1247	0	0	0
254	SLU 81	-13	-24	1266	0	0	0
254	SLU 82	-14	-22	1278	0	0	0
254	SLU 83	-14	-24	1274	0	0	0
254	SLU 84	-14	-23	1286	0	0	0
254	SLE RA 1	-9	-16	832	0	0	0
254	SLE RA 2	-10	-14	845	0	0	0
254	SLE RA 3	-10	-16	841	0	0	0
254	SLE RA 4	-10	-15	849	0	0	0
254	SLE RA 5	-10	-14	851	0	0	0
254	SLE RA 6	-10	-17	846	0	0	0
254	SLE RA 7	-10	-15	854	0	0	0
254	SLE RA 8	-10	-17	843	0	0	0
254	SLE RA 9	-10	-15	850	0	0	0
254	SLE RA 10	-10	-15	917	0	0	0
254	SLE RA 11	-10	-18	912	0	0	0
254	SLE RA 12	-10	-16	920	0	0	0
254	SLE RA 13	-10	-15	922	0	0	0
254	SLE RA 14	-10	-18	917	0	0	0
254	SLE RA 15	-10	-17	925	0	0	0
254	SLE RA 16	-10	-18	914	0	0	0
254	SLE RA 17	-10	-16	922	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
254	SLE RA 18	-10	-18	934	0	0	0
254	SLE RA 19	-10	-17	942	0	0	0
254	SLE RA 20	-10	-18	939	0	0	0
254	SLE RA 21	-10	-17	947	0	0	0
254	SLE FR 1	-9	-16	832	0	0	0
254	SLE FR 2	-10	-16	835	0	0	0
254	SLE FR 3	-10	-16	834	0	0	0
254	SLE FR 4	-10	-16	865	0	0	0
254	SLE FR 5	-10	-17	865	0	0	0
254	SLE FR 6	-10	-17	883	0	0	0
254	SLE QP 1	-9	-16	832	0	0	0
254	SLE QP 2	-10	-17	863	0	0	0
254	SLD 1	58	-2	1076	0	0	0
254	SLD 2	73	-9	1068	0	0	0
254	SLD 3	62	-42	781	0	0	0
254	SLD 4	77	-50	774	0	0	0
254	SLD 5	2	50	1375	0	0	0
254	SLD 6	12	45	1370	0	0	0
254	SLD 7	15	-84	393	0	0	0
254	SLD 8	25	-89	388	0	0	0
254	SLD 9	-44	55	1338	0	0	0
254	SLD 10	-34	50	1333	0	0	0
254	SLD 11	-31	-79	356	0	0	0
254	SLD 12	-22	-83	351	0	0	0
254	SLD 13	-96	16	952	0	0	0
254	SLD 14	-81	9	944	0	0	0
254	SLD 15	-92	-24	657	0	0	0
254	SLD 16	-78	-31	650	0	0	0
254	SLV 1	97	9	1215	0	0	0
254	SLV 2	120	-3	1203	0	0	0
254	SLV 3	103	-59	717	0	0	0
254	SLV 4	126	-71	705	0	0	0
254	SLV 5	8	96	1726	0	0	0
254	SLV 6	24	88	1718	0	0	0
254	SLV 7	30	-130	66	0	0	0
254	SLV 8	45	-138	58	0	0	0
254	SLV 9	-64	104	1668	0	0	0
254	SLV 10	-49	97	1660	0	0	0
254	SLV 11	-43	-122	8	0	0	0
254	SLV 12	-27	-129	0	0	0	0
254	SLV 13	-145	37	1021	0	0	0
254	SLV 14	-122	26	1009	0	0	0
254	SLV 15	-139	-31	523	0	0	0
254	SLV 16	-116	-42	511	0	0	0
254	SLV FO 1	107	11	1250	0	0	0
254	SLV FO 2	133	-1	1236	0	0	0
254	SLV FO 3	114	-63	702	0	0	0
254	SLV FO 4	140	-76	689	0	0	0
254	SLV FO 5	10	107	1812	0	0	0
254	SLV FO 6	27	99	1803	0	0	0
254	SLV FO 7	33	-141	-14	0	0	0
254	SLV FO 8	51	-150	-23	0	0	0
254	SLV FO 9	-70	116	1748	0	0	0
254	SLV FO 10	-53	108	1739	0	0	0
254	SLV FO 11	-46	-132	-78	0	0	0
254	SLV FO 12	-29	-141	-87	0	0	0
254	SLV FO 13	-159	42	1037	0	0	0
254	SLV FO 14	-133	30	1024	0	0	0
254	SLV FO 15	-152	-32	489	0	0	0
254	SLV FO 16	-126	-45	476	0	0	0
254	CRTFP Uy+	0	0	0	0	0	0
254	CRTFP Uy-	0	0	0	0	0	0
255	SLU 1	-9	-14	827	0	0	0
255	SLU 2	-10	-11	847	0	0	0
255	SLU 3	-10	-15	840	0	0	0
255	SLU 4	-10	-13	852	0	0	0
255	SLU 5	-10	-11	855	0	0	0
255	SLU 6	-10	-15	848	0	0	0
255	SLU 7	-10	-13	860	0	0	0
255	SLU 8	-10	-15	843	0	0	0
255	SLU 9	-10	-13	855	0	0	0
255	SLU 10	-10	-13	958	0	0	0
255	SLU 11	-10	-16	950	0	0	0
255	SLU 12	-10	-14	962	0	0	0
255	SLU 13	-11	-13	966	0	0	0
255	SLU 14	-10	-16	958	0	0	0
255	SLU 15	-11	-14	970	0	0	0
255	SLU 16	-10	-16	953	0	0	0
255	SLU 17	-11	-14	965	0	0	0
255	SLU 18	-10	-17	985	0	0	0
255	SLU 19	-10	-15	997	0	0	0
255	SLU 20	-10	-17	993	0	0	0
255	SLU 21	-11	-15	1005	0	0	0
255	SLU 22	-11	-16	939	0	0	0
255	SLU 23	-11	-13	959	0	0	0
255	SLU 24	-11	-16	952	0	0	0
255	SLU 25	-11	-14	964	0	0	0
255	SLU 26	-11	-13	967	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
255	SLU 27	-11	-17	960	0	0	0
255	SLU 28	-11	-15	972	0	0	0
255	SLU 29	-11	-16	955	0	0	0
255	SLU 30	-11	-14	967	0	0	0
255	SLU 31	-12	-14	1070	0	0	0
255	SLU 32	-11	-18	1063	0	0	0
255	SLU 33	-12	-16	1075	0	0	0
255	SLU 34	-12	-14	1078	0	0	0
255	SLU 35	-12	-18	1071	0	0	0
255	SLU 36	-12	-16	1083	0	0	0
255	SLU 37	-12	-18	1066	0	0	0
255	SLU 38	-12	-16	1078	0	0	0
255	SLU 39	-11	-18	1097	0	0	0
255	SLU 40	-12	-16	1109	0	0	0
255	SLU 41	-12	-19	1105	0	0	0
255	SLU 42	-12	-16	1117	0	0	0
255	SLU 43	-12	-18	1036	0	0	0
255	SLU 44	-12	-15	1057	0	0	0
255	SLU 45	-12	-18	1049	0	0	0
255	SLU 46	-12	-16	1061	0	0	0
255	SLU 47	-12	-15	1064	0	0	0
255	SLU 48	-12	-19	1057	0	0	0
255	SLU 49	-12	-17	1069	0	0	0
255	SLU 50	-12	-19	1052	0	0	0
255	SLU 51	-12	-16	1064	0	0	0
255	SLU 52	-13	-16	1167	0	0	0
255	SLU 53	-12	-20	1160	0	0	0
255	SLU 54	-13	-18	1172	0	0	0
255	SLU 55	-13	-17	1175	0	0	0
255	SLU 56	-13	-20	1168	0	0	0
255	SLU 57	-13	-18	1180	0	0	0
255	SLU 58	-13	-20	1163	0	0	0
255	SLU 59	-13	-18	1175	0	0	0
255	SLU 60	-12	-20	1194	0	0	0
255	SLU 61	-13	-18	1206	0	0	0
255	SLU 62	-13	-21	1202	0	0	0
255	SLU 63	-13	-19	1214	0	0	0
255	SLU 64	-13	-20	1149	0	0	0
255	SLU 65	-14	-16	1169	0	0	0
255	SLU 66	-13	-20	1161	0	0	0
255	SLU 67	-14	-18	1174	0	0	0
255	SLU 68	-14	-17	1177	0	0	0
255	SLU 69	-14	-20	1169	0	0	0
255	SLU 70	-14	-18	1182	0	0	0
255	SLU 71	-13	-20	1164	0	0	0
255	SLU 72	-14	-18	1177	0	0	0
255	SLU 73	-14	-18	1279	0	0	0
255	SLU 74	-14	-22	1272	0	0	0
255	SLU 75	-14	-20	1284	0	0	0
255	SLU 76	-14	-18	1287	0	0	0
255	SLU 77	-14	-22	1280	0	0	0
255	SLU 78	-14	-20	1292	0	0	0
255	SLU 79	-14	-22	1275	0	0	0
255	SLU 80	-14	-20	1287	0	0	0
255	SLU 81	-14	-22	1306	0	0	0
255	SLU 82	-14	-20	1319	0	0	0
255	SLU 83	-14	-22	1314	0	0	0
255	SLU 84	-14	-20	1327	0	0	0
255	SLE RA 1	-10	-15	859	0	0	0
255	SLE RA 2	-10	-13	872	0	0	0
255	SLE RA 3	-10	-15	867	0	0	0
255	SLE RA 4	-10	-14	876	0	0	0
255	SLE RA 5	-10	-13	878	0	0	0
255	SLE RA 6	-10	-15	873	0	0	0
255	SLE RA 7	-10	-14	881	0	0	0
255	SLE RA 8	-10	-15	869	0	0	0
255	SLE RA 9	-10	-14	878	0	0	0
255	SLE RA 10	-10	-14	946	0	0	0
255	SLE RA 11	-10	-16	941	0	0	0
255	SLE RA 12	-10	-15	949	0	0	0
255	SLE RA 13	-11	-14	951	0	0	0
255	SLE RA 14	-10	-16	946	0	0	0
255	SLE RA 15	-11	-15	955	0	0	0
255	SLE RA 16	-10	-16	943	0	0	0
255	SLE RA 17	-11	-15	951	0	0	0
255	SLE RA 18	-10	-16	964	0	0	0
255	SLE RA 19	-10	-15	972	0	0	0
255	SLE RA 20	-10	-16	969	0	0	0
255	SLE RA 21	-11	-15	978	0	0	0
255	SLE FR 1	-10	-15	859	0	0	0
255	SLE FR 2	-10	-14	861	0	0	0
255	SLE FR 3	-10	-15	861	0	0	0
255	SLE FR 4	-10	-15	893	0	0	0
255	SLE FR 5	-10	-15	893	0	0	0
255	SLE FR 6	-10	-16	911	0	0	0
255	SLE QP 1	-10	-15	859	0	0	0
255	SLE QP 2	-10	-15	890	0	0	0
255	SLD 1	62	1	1104	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
255	SLD 2	77	-6	1096	0	0	0
255	SLD 3	66	-42	800	0	0	0
255	SLD 4	81	-49	792	0	0	0
255	SLD 5	3	56	1417	0	0	0
255	SLD 6	13	52	1412	0	0	0
255	SLD 7	16	-87	403	0	0	0
255	SLD 8	26	-92	399	0	0	0
255	SLD 9	-46	61	1382	0	0	0
255	SLD 10	-36	57	1378	0	0	0
255	SLD 11	-33	-82	369	0	0	0
255	SLD 12	-23	-87	364	0	0	0
255	SLD 13	-101	18	988	0	0	0
255	SLD 14	-85	11	981	0	0	0
255	SLD 15	-97	-25	684	0	0	0
255	SLD 16	-81	-32	677	0	0	0
255	SLV 1	102	13	1243	0	0	0
255	SLV 2	126	2	1232	0	0	0
255	SLV 3	108	-59	729	0	0	0
255	SLV 4	132	-70	718	0	0	0
255	SLV 5	9	105	1778	0	0	0
255	SLV 6	25	98	1770	0	0	0
255	SLV 7	31	-137	65	0	0	0
255	SLV 8	47	-144	57	0	0	0
255	SLV 9	-67	113	1724	0	0	0
255	SLV 10	-51	106	1716	0	0	0
255	SLV 11	-45	-129	11	0	0	0
255	SLV 12	-29	-136	3	0	0	0
255	SLV 13	-152	40	1063	0	0	0
255	SLV 14	-128	29	1052	0	0	0
255	SLV 15	-146	-33	549	0	0	0
255	SLV 16	-121	-44	538	0	0	0
255	SLV FO 1	113	16	1278	0	0	0
255	SLV FO 2	139	4	1266	0	0	0
255	SLV FO 3	120	-64	713	0	0	0
255	SLV FO 4	147	-76	701	0	0	0
255	SLV FO 5	11	118	1866	0	0	0
255	SLV FO 6	29	109	1858	0	0	0
255	SLV FO 7	35	-149	-18	0	0	0
255	SLV FO 8	53	-157	-26	0	0	0
255	SLV FO 9	-73	126	1807	0	0	0
255	SLV FO 10	-55	118	1798	0	0	0
255	SLV FO 11	-49	-140	-77	0	0	0
255	SLV FO 12	-31	-148	-86	0	0	0
255	SLV FO 13	-167	45	1080	0	0	0
255	SLV FO 14	-140	33	1068	0	0	0
255	SLV FO 15	-159	-35	515	0	0	0
255	SLV FO 16	-133	-47	502	0	0	0
255	CRTFP Uy+	0	0	0	0	0	0
255	CRTFP Uy-	0	0	0	0	0	0
256	SLU 1	-10	-13	864	0	0	0
256	SLU 2	-10	-9	885	0	0	0
256	SLU 3	-10	-13	878	0	0	0
256	SLU 4	-10	-11	890	0	0	0
256	SLU 5	-10	-10	893	0	0	0
256	SLU 6	-10	-14	886	0	0	0
256	SLU 7	-10	-11	899	0	0	0
256	SLU 8	-10	-13	881	0	0	0
256	SLU 9	-10	-11	893	0	0	0
256	SLU 10	-11	-11	1001	0	0	0
256	SLU 11	-10	-15	993	0	0	0
256	SLU 12	-11	-13	1006	0	0	0
256	SLU 13	-11	-11	1009	0	0	0
256	SLU 14	-11	-15	1002	0	0	0
256	SLU 15	-11	-13	1014	0	0	0
256	SLU 16	-10	-15	996	0	0	0
256	SLU 17	-11	-13	1009	0	0	0
256	SLU 18	-10	-15	1029	0	0	0
256	SLU 19	-11	-13	1042	0	0	0
256	SLU 20	-10	-15	1038	0	0	0
256	SLU 21	-11	-13	1050	0	0	0
256	SLU 22	-11	-15	981	0	0	0
256	SLU 23	-12	-11	1002	0	0	0
256	SLU 24	-11	-15	995	0	0	0
256	SLU 25	-12	-13	1007	0	0	0
256	SLU 26	-12	-11	1010	0	0	0
256	SLU 27	-11	-15	1003	0	0	0
256	SLU 28	-12	-13	1016	0	0	0
256	SLU 29	-11	-15	998	0	0	0
256	SLU 30	-12	-13	1010	0	0	0
256	SLU 31	-12	-12	1118	0	0	0
256	SLU 32	-12	-16	1110	0	0	0
256	SLU 33	-12	-14	1123	0	0	0
256	SLU 34	-12	-12	1126	0	0	0
256	SLU 35	-12	-16	1119	0	0	0
256	SLU 36	-12	-14	1131	0	0	0
256	SLU 37	-12	-16	1113	0	0	0
256	SLU 38	-12	-14	1126	0	0	0
256	SLU 39	-12	-17	1146	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
256	SLU 40	-12	-14	1159	0	0	0
256	SLU 41	-12	-17	1155	0	0	0
256	SLU 42	-12	-15	1167	0	0	0
256	SLU 43	-12	-16	1083	0	0	0
256	SLU 44	-13	-13	1104	0	0	0
256	SLU 45	-12	-17	1097	0	0	0
256	SLU 46	-13	-15	1109	0	0	0
256	SLU 47	-13	-13	1113	0	0	0
256	SLU 48	-12	-17	1105	0	0	0
256	SLU 49	-13	-15	1118	0	0	0
256	SLU 50	-12	-17	1100	0	0	0
256	SLU 51	-13	-15	1112	0	0	0
256	SLU 52	-13	-14	1220	0	0	0
256	SLU 53	-13	-18	1212	0	0	0
256	SLU 54	-13	-16	1225	0	0	0
256	SLU 55	-13	-14	1228	0	0	0
256	SLU 56	-13	-18	1221	0	0	0
256	SLU 57	-13	-16	1233	0	0	0
256	SLU 58	-13	-18	1215	0	0	0
256	SLU 59	-13	-16	1228	0	0	0
256	SLU 60	-13	-19	1248	0	0	0
256	SLU 61	-13	-16	1261	0	0	0
256	SLU 62	-13	-19	1257	0	0	0
256	SLU 63	-13	-17	1269	0	0	0
256	SLU 64	-13	-18	1200	0	0	0
256	SLU 65	-14	-14	1221	0	0	0
256	SLU 66	-14	-18	1214	0	0	0
256	SLU 67	-14	-16	1226	0	0	0
256	SLU 68	-14	-14	1230	0	0	0
256	SLU 69	-14	-18	1222	0	0	0
256	SLU 70	-14	-16	1235	0	0	0
256	SLU 71	-14	-18	1217	0	0	0
256	SLU 72	-14	-16	1229	0	0	0
256	SLU 73	-14	-16	1337	0	0	0
256	SLU 74	-14	-20	1329	0	0	0
256	SLU 75	-14	-17	1342	0	0	0
256	SLU 76	-15	-16	1345	0	0	0
256	SLU 77	-14	-20	1338	0	0	0
256	SLU 78	-15	-18	1350	0	0	0
256	SLU 79	-14	-20	1332	0	0	0
256	SLU 80	-15	-18	1345	0	0	0
256	SLU 81	-14	-20	1365	0	0	0
256	SLU 82	-14	-18	1378	0	0	0
256	SLU 83	-14	-20	1374	0	0	0
256	SLU 84	-15	-18	1386	0	0	0
256	SLE RA 1	-10	-13	897	0	0	0
256	SLE RA 2	-10	-11	912	0	0	0
256	SLE RA 3	-10	-14	906	0	0	0
256	SLE RA 4	-10	-12	915	0	0	0
256	SLE RA 5	-10	-11	917	0	0	0
256	SLE RA 6	-10	-14	912	0	0	0
256	SLE RA 7	-10	-12	920	0	0	0
256	SLE RA 8	-10	-14	909	0	0	0
256	SLE RA 9	-10	-12	917	0	0	0
256	SLE RA 10	-11	-12	989	0	0	0
256	SLE RA 11	-11	-15	984	0	0	0
256	SLE RA 12	-11	-13	992	0	0	0
256	SLE RA 13	-11	-12	994	0	0	0
256	SLE RA 14	-11	-15	989	0	0	0
256	SLE RA 15	-11	-13	998	0	0	0
256	SLE RA 16	-11	-15	986	0	0	0
256	SLE RA 17	-11	-13	994	0	0	0
256	SLE RA 18	-10	-15	1008	0	0	0
256	SLE RA 19	-11	-13	1016	0	0	0
256	SLE RA 20	-11	-15	1013	0	0	0
256	SLE RA 21	-11	-13	1022	0	0	0
256	SLE FR 1	-10	-13	897	0	0	0
256	SLE FR 2	-10	-13	900	0	0	0
256	SLE FR 3	-10	-14	900	0	0	0
256	SLE FR 4	-10	-13	933	0	0	0
256	SLE FR 5	-10	-14	933	0	0	0
256	SLE FR 6	-10	-14	953	0	0	0
256	SLE QP 1	-10	-13	897	0	0	0
256	SLE QP 2	-10	-14	930	0	0	0
256	SLD 1	66	5	1146	0	0	0
256	SLD 2	82	-2	1139	0	0	0
256	SLD 3	70	-42	828	0	0	0
256	SLD 4	86	-48	821	0	0	0
256	SLD 5	4	63	1479	0	0	0
256	SLD 6	14	59	1474	0	0	0
256	SLD 7	17	-92	419	0	0	0
256	SLD 8	28	-96	414	0	0	0
256	SLD 9	-48	68	1447	0	0	0
256	SLD 10	-37	64	1442	0	0	0
256	SLD 11	-35	-87	387	0	0	0
256	SLD 12	-24	-91	382	0	0	0
256	SLD 13	-107	21	1040	0	0	0
256	SLD 14	-90	14	1033	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
256	SLD 15	-103	-26	722	0	0	0
256	SLD 16	-86	-33	715	0	0	0
256	SLV 1	108	18	1288	0	0	0
256	SLV 2	134	8	1277	0	0	0
256	SLV 3	115	-60	750	0	0	0
256	SLV 4	141	-71	739	0	0	0
256	SLV 5	10	117	1855	0	0	0
256	SLV 6	28	110	1848	0	0	0
256	SLV 7	33	-145	63	0	0	0
256	SLV 8	50	-152	56	0	0	0
256	SLV 9	-70	124	1805	0	0	0
256	SLV 10	-53	117	1798	0	0	0
256	SLV 11	-48	-138	13	0	0	0
256	SLV 12	-31	-145	6	0	0	0
256	SLV 13	-161	43	1122	0	0	0
256	SLV 14	-135	33	1111	0	0	0
256	SLV 15	-155	-36	584	0	0	0
256	SLV 16	-129	-46	573	0	0	0
256	SLV FO 1	120	22	1323	0	0	0
256	SLV FO 2	149	10	1312	0	0	0
256	SLV FO 3	128	-65	732	0	0	0
256	SLV FO 4	156	-76	720	0	0	0
256	SLV FO 5	13	130	1947	0	0	0
256	SLV FO 6	32	122	1939	0	0	0
256	SLV FO 7	37	-158	-23	0	0	0
256	SLV FO 8	56	-166	-31	0	0	0
256	SLV FO 9	-76	138	1892	0	0	0
256	SLV FO 10	-57	130	1884	0	0	0
256	SLV FO 11	-52	-150	-78	0	0	0
256	SLV FO 12	-33	-158	-86	0	0	0
256	SLV FO 13	-176	49	1141	0	0	0
256	SLV FO 14	-148	37	1129	0	0	0
256	SLV FO 15	-169	-38	549	0	0	0
256	SLV FO 16	-141	-49	538	0	0	0
256	CRTFP Uy+	0	0	0	0	0	0
256	CRTFP Uy-	0	0	0	0	0	0
257	SLU 1	-10	-11	882	0	0	0
257	SLU 2	-10	-7	903	0	0	0
257	SLU 3	-10	-11	896	0	0	0
257	SLU 4	-10	-9	909	0	0	0
257	SLU 5	-10	-7	912	0	0	0
257	SLU 6	-10	-11	904	0	0	0
257	SLU 7	-10	-9	917	0	0	0
257	SLU 8	-10	-11	899	0	0	0
257	SLU 9	-10	-9	912	0	0	0
257	SLU 10	-11	-8	1022	0	0	0
257	SLU 11	-10	-12	1014	0	0	0
257	SLU 12	-11	-10	1027	0	0	0
257	SLU 13	-11	-9	1030	0	0	0
257	SLU 14	-10	-13	1023	0	0	0
257	SLU 15	-11	-10	1036	0	0	0
257	SLU 16	-10	-13	1017	0	0	0
257	SLU 17	-11	-10	1030	0	0	0
257	SLU 18	-10	-13	1051	0	0	0
257	SLU 19	-11	-10	1064	0	0	0
257	SLU 20	-10	-13	1060	0	0	0
257	SLU 21	-11	-11	1073	0	0	0
257	SLU 22	-11	-12	1001	0	0	0
257	SLU 23	-11	-8	1023	0	0	0
257	SLU 24	-11	-12	1015	0	0	0
257	SLU 25	-12	-10	1028	0	0	0
257	SLU 26	-12	-8	1031	0	0	0
257	SLU 27	-11	-13	1023	0	0	0
257	SLU 28	-12	-10	1036	0	0	0
257	SLU 29	-11	-13	1018	0	0	0
257	SLU 30	-12	-10	1031	0	0	0
257	SLU 31	-12	-10	1141	0	0	0
257	SLU 32	-12	-14	1133	0	0	0
257	SLU 33	-12	-11	1146	0	0	0
257	SLU 34	-12	-10	1150	0	0	0
257	SLU 35	-12	-14	1142	0	0	0
257	SLU 36	-12	-11	1155	0	0	0
257	SLU 37	-12	-14	1137	0	0	0
257	SLU 38	-12	-11	1149	0	0	0
257	SLU 39	-12	-14	1170	0	0	0
257	SLU 40	-12	-12	1183	0	0	0
257	SLU 41	-12	-14	1179	0	0	0
257	SLU 42	-12	-12	1192	0	0	0
257	SLU 43	-12	-14	1106	0	0	0
257	SLU 44	-12	-10	1127	0	0	0
257	SLU 45	-12	-14	1120	0	0	0
257	SLU 46	-13	-12	1132	0	0	0
257	SLU 47	-13	-10	1136	0	0	0
257	SLU 48	-12	-14	1128	0	0	0
257	SLU 49	-13	-12	1141	0	0	0
257	SLU 50	-12	-14	1123	0	0	0
257	SLU 51	-13	-12	1136	0	0	0
257	SLU 52	-13	-11	1246	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLU 53	-13	-15	1238	0	0	0
257	SLU 54	-13	-13	1251	0	0	0
257	SLU 55	-13	-11	1254	0	0	0
257	SLU 56	-13	-16	1247	0	0	0
257	SLU 57	-13	-13	1259	0	0	0
257	SLU 58	-13	-15	1241	0	0	0
257	SLU 59	-13	-13	1254	0	0	0
257	SLU 60	-13	-16	1275	0	0	0
257	SLU 61	-13	-13	1288	0	0	0
257	SLU 62	-13	-16	1283	0	0	0
257	SLU 63	-13	-13	1296	0	0	0
257	SLU 64	-13	-15	1225	0	0	0
257	SLU 65	-14	-11	1246	0	0	0
257	SLU 66	-14	-15	1239	0	0	0
257	SLU 67	-14	-13	1252	0	0	0
257	SLU 68	-14	-11	1255	0	0	0
257	SLU 69	-14	-15	1247	0	0	0
257	SLU 70	-14	-13	1260	0	0	0
257	SLU 71	-14	-15	1242	0	0	0
257	SLU 72	-14	-13	1255	0	0	0
257	SLU 73	-14	-12	1365	0	0	0
257	SLU 74	-14	-17	1357	0	0	0
257	SLU 75	-14	-14	1370	0	0	0
257	SLU 76	-15	-13	1373	0	0	0
257	SLU 77	-14	-17	1366	0	0	0
257	SLU 78	-15	-14	1379	0	0	0
257	SLU 79	-14	-17	1360	0	0	0
257	SLU 80	-14	-14	1373	0	0	0
257	SLU 81	-14	-17	1394	0	0	0
257	SLU 82	-14	-14	1407	0	0	0
257	SLU 83	-14	-17	1403	0	0	0
257	SLU 84	-15	-15	1415	0	0	0
257	SLE RA 1	-10	-11	916	0	0	0
257	SLE RA 2	-10	-9	930	0	0	0
257	SLE RA 3	-10	-12	925	0	0	0
257	SLE RA 4	-10	-10	934	0	0	0
257	SLE RA 5	-10	-9	936	0	0	0
257	SLE RA 6	-10	-12	931	0	0	0
257	SLE RA 7	-10	-10	940	0	0	0
257	SLE RA 8	-10	-12	927	0	0	0
257	SLE RA 9	-10	-10	936	0	0	0
257	SLE RA 10	-11	-10	1009	0	0	0
257	SLE RA 11	-10	-12	1004	0	0	0
257	SLE RA 12	-11	-11	1013	0	0	0
257	SLE RA 13	-11	-10	1015	0	0	0
257	SLE RA 14	-11	-12	1010	0	0	0
257	SLE RA 15	-11	-11	1018	0	0	0
257	SLE RA 16	-11	-12	1006	0	0	0
257	SLE RA 17	-11	-11	1015	0	0	0
257	SLE RA 18	-10	-13	1029	0	0	0
257	SLE RA 19	-11	-11	1037	0	0	0
257	SLE RA 20	-11	-13	1034	0	0	0
257	SLE RA 21	-11	-11	1043	0	0	0
257	SLE FR 1	-10	-11	916	0	0	0
257	SLE FR 2	-10	-11	919	0	0	0
257	SLE FR 3	-10	-11	918	0	0	0
257	SLE FR 4	-10	-11	953	0	0	0
257	SLE FR 5	-10	-12	952	0	0	0
257	SLE FR 6	-10	-12	972	0	0	0
257	SLE QP 1	-10	-11	916	0	0	0
257	SLE QP 2	-10	-12	950	0	0	0
257	SLD 1	68	9	1162	0	0	0
257	SLD 2	85	3	1156	0	0	0
257	SLD 3	72	-40	837	0	0	0
257	SLD 4	89	-46	831	0	0	0
257	SLD 5	4	70	1508	0	0	0
257	SLD 6	15	66	1503	0	0	0
257	SLD 7	18	-93	424	0	0	0
257	SLD 8	29	-97	420	0	0	0
257	SLD 9	-49	74	1480	0	0	0
257	SLD 10	-38	70	1475	0	0	0
257	SLD 11	-36	-89	396	0	0	0
257	SLD 12	-25	-93	392	0	0	0
257	SLD 13	-109	23	1069	0	0	0
257	SLD 14	-92	17	1063	0	0	0
257	SLD 15	-105	-26	744	0	0	0
257	SLD 16	-88	-32	738	0	0	0
257	SLV 1	112	24	1302	0	0	0
257	SLV 2	139	14	1292	0	0	0
257	SLV 3	119	-59	753	0	0	0
257	SLV 4	145	-69	743	0	0	0
257	SLV 5	12	126	1890	0	0	0
257	SLV 6	29	119	1884	0	0	0
257	SLV 7	34	-149	59	0	0	0
257	SLV 8	51	-156	53	0	0	0
257	SLV 9	-72	132	1847	0	0	0
257	SLV 10	-54	126	1840	0	0	0
257	SLV 11	-50	-143	16	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLV 12	-32	-149	9	0	0	0
257	SLV 13	-166	45	1156	0	0	0
257	SLV 14	-139	36	1147	0	0	0
257	SLV 15	-159	-37	607	0	0	0
257	SLV 16	-132	-47	597	0	0	0
257	SLV FO 1	124	27	1337	0	0	0
257	SLV FO 2	154	17	1327	0	0	0
257	SLV FO 3	132	-64	733	0	0	0
257	SLV FO 4	161	-74	722	0	0	0
257	SLV FO 5	14	140	1985	0	0	0
257	SLV FO 6	33	133	1977	0	0	0
257	SLV FO 7	38	-163	-30	0	0	0
257	SLV FO 8	58	-170	-37	0	0	0
257	SLV FO 9	-78	147	1936	0	0	0
257	SLV FO 10	-58	140	1929	0	0	0
257	SLV FO 11	-54	-156	-78	0	0	0
257	SLV FO 12	-34	-163	-85	0	0	0
257	SLV FO 13	-181	51	1177	0	0	0
257	SLV FO 14	-152	40	1166	0	0	0
257	SLV FO 15	-174	-40	573	0	0	0
257	SLV FO 16	-145	-50	562	0	0	0
257	CRTFP Uy+	0	0	0	0	0	0
257	CRTFP Uy-	0	0	0	0	0	0
258	SLU 1	-10	-9	897	0	0	0
258	SLU 2	-10	-5	919	0	0	0
258	SLU 3	-10	-9	912	0	0	0
258	SLU 4	-10	-6	925	0	0	0
258	SLU 5	-10	-5	928	0	0	0
258	SLU 6	-10	-9	920	0	0	0
258	SLU 7	-10	-7	933	0	0	0
258	SLU 8	-10	-9	915	0	0	0
258	SLU 9	-10	-7	928	0	0	0
258	SLU 10	-10	-6	1040	0	0	0
258	SLU 11	-10	-10	1033	0	0	0
258	SLU 12	-11	-7	1046	0	0	0
258	SLU 13	-11	-6	1049	0	0	0
258	SLU 14	-10	-10	1041	0	0	0
258	SLU 15	-11	-7	1055	0	0	0
258	SLU 16	-10	-10	1036	0	0	0
258	SLU 17	-11	-7	1049	0	0	0
258	SLU 18	-10	-10	1070	0	0	0
258	SLU 19	-10	-8	1084	0	0	0
258	SLU 20	-10	-10	1079	0	0	0
258	SLU 21	-11	-8	1092	0	0	0
258	SLU 22	-11	-9	1019	0	0	0
258	SLU 23	-11	-5	1040	0	0	0
258	SLU 24	-11	-10	1033	0	0	0
258	SLU 25	-11	-7	1046	0	0	0
258	SLU 26	-12	-6	1049	0	0	0
258	SLU 27	-11	-10	1042	0	0	0
258	SLU 28	-12	-7	1055	0	0	0
258	SLU 29	-11	-10	1036	0	0	0
258	SLU 30	-12	-7	1049	0	0	0
258	SLU 31	-12	-6	1162	0	0	0
258	SLU 32	-12	-11	1154	0	0	0
258	SLU 33	-12	-8	1167	0	0	0
258	SLU 34	-12	-6	1170	0	0	0
258	SLU 35	-12	-11	1163	0	0	0
258	SLU 36	-12	-8	1176	0	0	0
258	SLU 37	-12	-11	1157	0	0	0
258	SLU 38	-12	-8	1170	0	0	0
258	SLU 39	-12	-11	1192	0	0	0
258	SLU 40	-12	-8	1205	0	0	0
258	SLU 41	-12	-11	1200	0	0	0
258	SLU 42	-12	-9	1213	0	0	0
258	SLU 43	-12	-11	1125	0	0	0
258	SLU 44	-12	-7	1147	0	0	0
258	SLU 45	-12	-11	1139	0	0	0
258	SLU 46	-12	-9	1152	0	0	0
258	SLU 47	-13	-7	1156	0	0	0
258	SLU 48	-12	-11	1148	0	0	0
258	SLU 49	-13	-9	1161	0	0	0
258	SLU 50	-12	-11	1143	0	0	0
258	SLU 51	-13	-9	1156	0	0	0
258	SLU 52	-13	-8	1268	0	0	0
258	SLU 53	-13	-12	1260	0	0	0
258	SLU 54	-13	-10	1274	0	0	0
258	SLU 55	-13	-8	1277	0	0	0
258	SLU 56	-13	-12	1269	0	0	0
258	SLU 57	-13	-10	1282	0	0	0
258	SLU 58	-13	-12	1264	0	0	0
258	SLU 59	-13	-10	1277	0	0	0
258	SLU 60	-13	-12	1298	0	0	0
258	SLU 61	-13	-10	1311	0	0	0
258	SLU 62	-13	-12	1307	0	0	0
258	SLU 63	-13	-10	1320	0	0	0
258	SLU 64	-13	-12	1246	0	0	0
258	SLU 65	-14	-8	1268	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
258	SLU 66	-14	-12	1261	0	0	0
258	SLU 67	-14	-10	1274	0	0	0
258	SLU 68	-14	-8	1277	0	0	0
258	SLU 69	-14	-12	1269	0	0	0
258	SLU 70	-14	-10	1282	0	0	0
258	SLU 71	-14	-12	1264	0	0	0
258	SLU 72	-14	-10	1277	0	0	0
258	SLU 73	-14	-9	1389	0	0	0
258	SLU 74	-14	-13	1382	0	0	0
258	SLU 75	-14	-10	1395	0	0	0
258	SLU 76	-14	-9	1398	0	0	0
258	SLU 77	-14	-13	1390	0	0	0
258	SLU 78	-14	-11	1403	0	0	0
258	SLU 79	-14	-13	1385	0	0	0
258	SLU 80	-14	-11	1398	0	0	0
258	SLU 81	-14	-13	1419	0	0	0
258	SLU 82	-14	-11	1432	0	0	0
258	SLU 83	-14	-13	1428	0	0	0
258	SLU 84	-14	-11	1441	0	0	0
258	SLE RA 1	-10	-9	932	0	0	0
258	SLE RA 2	-10	-6	947	0	0	0
258	SLE RA 3	-10	-9	942	0	0	0
258	SLE RA 4	-10	-7	950	0	0	0
258	SLE RA 5	-10	-6	952	0	0	0
258	SLE RA 6	-10	-9	947	0	0	0
258	SLE RA 7	-10	-7	956	0	0	0
258	SLE RA 8	-10	-9	944	0	0	0
258	SLE RA 9	-10	-7	952	0	0	0
258	SLE RA 10	-11	-7	1027	0	0	0
258	SLE RA 11	-10	-10	1022	0	0	0
258	SLE RA 12	-11	-8	1031	0	0	0
258	SLE RA 13	-11	-7	1033	0	0	0
258	SLE RA 14	-10	-10	1028	0	0	0
258	SLE RA 15	-11	-8	1037	0	0	0
258	SLE RA 16	-10	-10	1024	0	0	0
258	SLE RA 17	-11	-8	1033	0	0	0
258	SLE RA 18	-10	-10	1047	0	0	0
258	SLE RA 19	-11	-8	1056	0	0	0
258	SLE RA 20	-10	-10	1053	0	0	0
258	SLE RA 21	-11	-8	1062	0	0	0
258	SLE FR 1	-10	-9	932	0	0	0
258	SLE FR 2	-10	-8	935	0	0	0
258	SLE FR 3	-10	-9	934	0	0	0
258	SLE FR 4	-10	-9	970	0	0	0
258	SLE FR 5	-10	-9	969	0	0	0
258	SLE FR 6	-10	-9	990	0	0	0
258	SLE QP 1	-10	-9	932	0	0	0
258	SLE QP 2	-10	-9	967	0	0	0
258	SLD 1	70	13	1175	0	0	0
258	SLD 2	87	8	1169	0	0	0
258	SLD 3	74	-38	843	0	0	0
258	SLD 4	91	-43	838	0	0	0
258	SLD 5	5	76	1532	0	0	0
258	SLD 6	16	72	1529	0	0	0
258	SLD 7	18	-94	428	0	0	0
258	SLD 8	29	-97	425	0	0	0
258	SLD 9	-49	79	1508	0	0	0
258	SLD 10	-38	75	1505	0	0	0
258	SLD 11	-36	-90	405	0	0	0
258	SLD 12	-25	-94	401	0	0	0
258	SLD 13	-111	25	1095	0	0	0
258	SLD 14	-94	19	1090	0	0	0
258	SLD 15	-107	-26	764	0	0	0
258	SLD 16	-90	-32	759	0	0	0
258	SLV 1	114	29	1313	0	0	0
258	SLV 2	141	21	1304	0	0	0
258	SLV 3	121	-57	753	0	0	0
258	SLV 4	148	-65	744	0	0	0
258	SLV 5	12	134	1921	0	0	0
258	SLV 6	31	128	1915	0	0	0
258	SLV 7	34	-152	55	0	0	0
258	SLV 8	52	-158	50	0	0	0
258	SLV 9	-72	139	1884	0	0	0
258	SLV 10	-54	134	1878	0	0	0
258	SLV 11	-51	-147	18	0	0	0
258	SLV 12	-33	-152	13	0	0	0
258	SLV 13	-168	47	1189	0	0	0
258	SLV 14	-141	38	1180	0	0	0
258	SLV 15	-161	-39	629	0	0	0
258	SLV 16	-134	-47	621	0	0	0
258	SLV FO 1	127	33	1347	0	0	0
258	SLV FO 2	156	24	1338	0	0	0
258	SLV FO 3	134	-62	732	0	0	0
258	SLV FO 4	164	-71	722	0	0	0
258	SLV FO 5	15	148	2016	0	0	0
258	SLV FO 6	35	142	2010	0	0	0
258	SLV FO 7	38	-166	-36	0	0	0
258	SLV FO 8	58	-173	-42	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
258	SLV FO 9	-78	154	1975	0	0	0
258	SLV FO 10	-59	148	1969	0	0	0
258	SLV FO 11	-55	-160	-76	0	0	0
258	SLV FO 12	-35	-167	-83	0	0	0
258	SLV FO 13	-184	53	1211	0	0	0
258	SLV FO 14	-154	43	1202	0	0	0
258	SLV FO 15	-176	-42	596	0	0	0
258	SLV FO 16	-147	-51	586	0	0	0
258	CRTFP Uy+	0	0	0	0	0	0
258	CRTFP Uy-	0	0	0	0	0	0
259	SLU 1	-9	-6	920	0	0	0
259	SLU 2	-10	-2	943	0	0	0
259	SLU 3	-10	-6	935	0	0	0
259	SLU 4	-10	-4	948	0	0	0
259	SLU 5	-10	-2	952	0	0	0
259	SLU 6	-10	-6	944	0	0	0
259	SLU 7	-10	-4	957	0	0	0
259	SLU 8	-10	-6	938	0	0	0
259	SLU 9	-10	-4	952	0	0	0
259	SLU 10	-10	-3	1067	0	0	0
259	SLU 11	-10	-7	1060	0	0	0
259	SLU 12	-10	-4	1073	0	0	0
259	SLU 13	-11	-3	1076	0	0	0
259	SLU 14	-10	-7	1069	0	0	0
259	SLU 15	-11	-5	1082	0	0	0
259	SLU 16	-10	-7	1063	0	0	0
259	SLU 17	-11	-5	1077	0	0	0
259	SLU 18	-10	-7	1099	0	0	0
259	SLU 19	-10	-5	1112	0	0	0
259	SLU 20	-10	-7	1108	0	0	0
259	SLU 21	-11	-5	1121	0	0	0
259	SLU 22	-11	-7	1045	0	0	0
259	SLU 23	-11	-2	1067	0	0	0
259	SLU 24	-11	-7	1059	0	0	0
259	SLU 25	-11	-4	1073	0	0	0
259	SLU 26	-12	-3	1076	0	0	0
259	SLU 27	-11	-7	1068	0	0	0
259	SLU 28	-12	-4	1082	0	0	0
259	SLU 29	-11	-7	1063	0	0	0
259	SLU 30	-11	-4	1076	0	0	0
259	SLU 31	-12	-3	1192	0	0	0
259	SLU 32	-12	-7	1184	0	0	0
259	SLU 33	-12	-5	1198	0	0	0
259	SLU 34	-12	-3	1201	0	0	0
259	SLU 35	-12	-7	1193	0	0	0
259	SLU 36	-12	-5	1207	0	0	0
259	SLU 37	-12	-7	1188	0	0	0
259	SLU 38	-12	-5	1201	0	0	0
259	SLU 39	-11	-8	1223	0	0	0
259	SLU 40	-12	-5	1237	0	0	0
259	SLU 41	-12	-8	1232	0	0	0
259	SLU 42	-12	-5	1246	0	0	0
259	SLU 43	-12	-8	1154	0	0	0
259	SLU 44	-12	-4	1176	0	0	0
259	SLU 45	-12	-8	1168	0	0	0
259	SLU 46	-12	-5	1182	0	0	0
259	SLU 47	-13	-4	1185	0	0	0
259	SLU 48	-12	-8	1177	0	0	0
259	SLU 49	-13	-6	1191	0	0	0
259	SLU 50	-12	-8	1172	0	0	0
259	SLU 51	-12	-6	1185	0	0	0
259	SLU 52	-13	-4	1301	0	0	0
259	SLU 53	-13	-9	1293	0	0	0
259	SLU 54	-13	-6	1307	0	0	0
259	SLU 55	-13	-4	1310	0	0	0
259	SLU 56	-13	-9	1302	0	0	0
259	SLU 57	-13	-6	1316	0	0	0
259	SLU 58	-13	-9	1297	0	0	0
259	SLU 59	-13	-6	1310	0	0	0
259	SLU 60	-12	-9	1332	0	0	0
259	SLU 61	-13	-6	1346	0	0	0
259	SLU 62	-13	-9	1341	0	0	0
259	SLU 63	-13	-6	1355	0	0	0
259	SLU 64	-13	-8	1278	0	0	0
259	SLU 65	-14	-4	1300	0	0	0
259	SLU 66	-13	-8	1293	0	0	0
259	SLU 67	-14	-6	1306	0	0	0
259	SLU 68	-14	-4	1309	0	0	0
259	SLU 69	-14	-9	1302	0	0	0
259	SLU 70	-14	-6	1315	0	0	0
259	SLU 71	-14	-9	1296	0	0	0
259	SLU 72	-14	-6	1310	0	0	0
259	SLU 73	-14	-5	1425	0	0	0
259	SLU 74	-14	-9	1418	0	0	0
259	SLU 75	-14	-7	1431	0	0	0
259	SLU 76	-14	-5	1434	0	0	0
259	SLU 77	-14	-9	1427	0	0	0
259	SLU 78	-14	-7	1440	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
259	SLU 79	-14	-9	1421	0	0	0
259	SLU 80	-14	-7	1434	0	0	0
259	SLU 81	-14	-9	1457	0	0	0
259	SLU 82	-14	-7	1470	0	0	0
259	SLU 83	-14	-9	1466	0	0	0
259	SLU 84	-14	-7	1479	0	0	0
259	SLE RA 1	-10	-6	956	0	0	0
259	SLE RA 2	-10	-3	971	0	0	0
259	SLE RA 3	-10	-6	966	0	0	0
259	SLE RA 4	-10	-5	975	0	0	0
259	SLE RA 5	-10	-4	977	0	0	0
259	SLE RA 6	-10	-6	972	0	0	0
259	SLE RA 7	-10	-5	981	0	0	0
259	SLE RA 8	-10	-6	968	0	0	0
259	SLE RA 9	-10	-5	977	0	0	0
259	SLE RA 10	-11	-4	1054	0	0	0
259	SLE RA 11	-10	-7	1049	0	0	0
259	SLE RA 12	-11	-5	1058	0	0	0
259	SLE RA 13	-11	-4	1060	0	0	0
259	SLE RA 14	-10	-7	1055	0	0	0
259	SLE RA 15	-11	-5	1064	0	0	0
259	SLE RA 16	-10	-7	1051	0	0	0
259	SLE RA 17	-11	-5	1060	0	0	0
259	SLE RA 18	-10	-7	1075	0	0	0
259	SLE RA 19	-10	-5	1084	0	0	0
259	SLE RA 20	-10	-7	1081	0	0	0
259	SLE RA 21	-11	-5	1090	0	0	0
259	SLE FR 1	-10	-6	956	0	0	0
259	SLE FR 2	-10	-6	959	0	0	0
259	SLE FR 3	-10	-6	958	0	0	0
259	SLE FR 4	-10	-6	995	0	0	0
259	SLE FR 5	-10	-7	994	0	0	0
259	SLE FR 6	-10	-7	1015	0	0	0
259	SLE QP 1	-10	-6	956	0	0	0
259	SLE QP 2	-10	-6	992	0	0	0
259	SLD 1	71	18	1196	0	0	0
259	SLD 2	88	13	1191	0	0	0
259	SLD 3	75	-35	857	0	0	0
259	SLD 4	92	-39	852	0	0	0
259	SLD 5	5	81	1569	0	0	0
259	SLD 6	17	79	1566	0	0	0
259	SLD 7	18	-94	437	0	0	0
259	SLD 8	29	-97	434	0	0	0
259	SLD 9	-49	84	1549	0	0	0
259	SLD 10	-38	81	1546	0	0	0
259	SLD 11	-37	-91	417	0	0	0
259	SLD 12	-25	-94	414	0	0	0
259	SLD 13	-112	27	1131	0	0	0
259	SLD 14	-95	22	1126	0	0	0
259	SLD 15	-108	-26	792	0	0	0
259	SLD 16	-91	-31	787	0	0	0
259	SLV 1	116	35	1333	0	0	0
259	SLV 2	143	28	1326	0	0	0
259	SLV 3	122	-54	759	0	0	0
259	SLV 4	150	-61	752	0	0	0
259	SLV 5	13	142	1966	0	0	0
259	SLV 6	31	137	1961	0	0	0
259	SLV 7	34	-154	53	0	0	0
259	SLV 8	53	-159	48	0	0	0
259	SLV 9	-73	146	1935	0	0	0
259	SLV 10	-54	141	1930	0	0	0
259	SLV 11	-51	-150	22	0	0	0
259	SLV 12	-33	-155	17	0	0	0
259	SLV 13	-170	48	1232	0	0	0
259	SLV 14	-142	41	1224	0	0	0
259	SLV 15	-163	-41	658	0	0	0
259	SLV 16	-136	-48	650	0	0	0
259	SLV FO 1	129	39	1367	0	0	0
259	SLV FO 2	159	31	1359	0	0	0
259	SLV FO 3	136	-59	736	0	0	0
259	SLV FO 4	166	-67	728	0	0	0
259	SLV FO 5	15	157	2063	0	0	0
259	SLV FO 6	35	152	2058	0	0	0
259	SLV FO 7	39	-169	-41	0	0	0
259	SLV FO 8	59	-175	-47	0	0	0
259	SLV FO 9	-79	162	2030	0	0	0
259	SLV FO 10	-59	156	2024	0	0	0
259	SLV FO 11	-55	-165	-75	0	0	0
259	SLV FO 12	-35	-170	-80	0	0	0
259	SLV FO 13	-186	54	1255	0	0	0
259	SLV FO 14	-156	46	1247	0	0	0
259	SLV FO 15	-179	-44	624	0	0	0
259	SLV FO 16	-149	-52	616	0	0	0
259	CRTFP Uy+	0	0	0	0	0	0
259	CRTFP Uy-	0	0	0	0	0	0
260	SLU 1	-9	-4	957	0	0	0
260	SLU 2	-10	1	980	0	0	0
260	SLU 3	-10	-4	972	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
260	SLU 4	-10	-1	986	0	0	0
260	SLU 5	-10	1	989	0	0	0
260	SLU 6	-10	-4	982	0	0	0
260	SLU 7	-10	-1	995	0	0	0
260	SLU 8	-10	-4	976	0	0	0
260	SLU 9	-10	-1	989	0	0	0
260	SLU 10	-10	0	1111	0	0	0
260	SLU 11	-10	-4	1103	0	0	0
260	SLU 12	-10	-1	1117	0	0	0
260	SLU 13	-11	0	1120	0	0	0
260	SLU 14	-10	-4	1112	0	0	0
260	SLU 15	-11	-2	1126	0	0	0
260	SLU 16	-10	-4	1106	0	0	0
260	SLU 17	-11	-2	1120	0	0	0
260	SLU 18	-10	-4	1144	0	0	0
260	SLU 19	-10	-2	1157	0	0	0
260	SLU 20	-10	-4	1153	0	0	0
260	SLU 21	-11	-2	1167	0	0	0
260	SLU 22	-11	-4	1087	0	0	0
260	SLU 23	-11	1	1110	0	0	0
260	SLU 24	-11	-4	1102	0	0	0
260	SLU 25	-11	-1	1116	0	0	0
260	SLU 26	-12	1	1119	0	0	0
260	SLU 27	-11	-4	1111	0	0	0
260	SLU 28	-12	-1	1125	0	0	0
260	SLU 29	-11	-4	1105	0	0	0
260	SLU 30	-12	-1	1119	0	0	0
260	SLU 31	-12	0	1240	0	0	0
260	SLU 32	-12	-4	1233	0	0	0
260	SLU 33	-12	-1	1247	0	0	0
260	SLU 34	-12	0	1250	0	0	0
260	SLU 35	-12	-4	1242	0	0	0
260	SLU 36	-12	-2	1256	0	0	0
260	SLU 37	-12	-4	1236	0	0	0
260	SLU 38	-12	-2	1250	0	0	0
260	SLU 39	-11	-4	1273	0	0	0
260	SLU 40	-12	-2	1287	0	0	0
260	SLU 41	-12	-4	1283	0	0	0
260	SLU 42	-12	-2	1297	0	0	0
260	SLU 43	-12	-5	1199	0	0	0
260	SLU 44	-12	0	1222	0	0	0
260	SLU 45	-12	-5	1215	0	0	0
260	SLU 46	-12	-2	1229	0	0	0
260	SLU 47	-13	0	1232	0	0	0
260	SLU 48	-12	-5	1224	0	0	0
260	SLU 49	-13	-2	1238	0	0	0
260	SLU 50	-12	-5	1218	0	0	0
260	SLU 51	-12	-2	1232	0	0	0
260	SLU 52	-13	-1	1353	0	0	0
260	SLU 53	-13	-5	1346	0	0	0
260	SLU 54	-13	-2	1359	0	0	0
260	SLU 55	-13	-1	1363	0	0	0
260	SLU 56	-13	-5	1355	0	0	0
260	SLU 57	-13	-3	1369	0	0	0
260	SLU 58	-13	-5	1349	0	0	0
260	SLU 59	-13	-3	1363	0	0	0
260	SLU 60	-12	-5	1386	0	0	0
260	SLU 61	-13	-3	1400	0	0	0
260	SLU 62	-13	-5	1396	0	0	0
260	SLU 63	-13	-3	1409	0	0	0
260	SLU 64	-13	-5	1329	0	0	0
260	SLU 65	-14	0	1352	0	0	0
260	SLU 66	-13	-5	1345	0	0	0
260	SLU 67	-14	-2	1358	0	0	0
260	SLU 68	-14	0	1362	0	0	0
260	SLU 69	-14	-5	1354	0	0	0
260	SLU 70	-14	-2	1368	0	0	0
260	SLU 71	-14	-5	1348	0	0	0
260	SLU 72	-14	-2	1362	0	0	0
260	SLU 73	-14	-1	1483	0	0	0
260	SLU 74	-14	-5	1475	0	0	0
260	SLU 75	-14	-3	1489	0	0	0
260	SLU 76	-14	-1	1492	0	0	0
260	SLU 77	-14	-5	1485	0	0	0
260	SLU 78	-14	-3	1499	0	0	0
260	SLU 79	-14	-5	1479	0	0	0
260	SLU 80	-14	-3	1493	0	0	0
260	SLU 81	-14	-5	1516	0	0	0
260	SLU 82	-14	-3	1530	0	0	0
260	SLU 83	-14	-5	1525	0	0	0
260	SLU 84	-14	-3	1539	0	0	0
260	SLE RA 1	-10	-4	994	0	0	0
260	SLE RA 2	-10	-1	1009	0	0	0
260	SLE RA 3	-10	-4	1004	0	0	0
260	SLE RA 4	-10	-2	1013	0	0	0
260	SLE RA 5	-10	-1	1015	0	0	0
260	SLE RA 6	-10	-4	1010	0	0	0
260	SLE RA 7	-10	-2	1020	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
260	SLE RA 8	-10	-4	1006	0	0	0
260	SLE RA 9	-10	-2	1016	0	0	0
260	SLE RA 10	-11	-1	1096	0	0	0
260	SLE RA 11	-10	-4	1091	0	0	0
260	SLE RA 12	-11	-2	1101	0	0	0
260	SLE RA 13	-11	-1	1103	0	0	0
260	SLE RA 14	-10	-4	1098	0	0	0
260	SLE RA 15	-11	-2	1107	0	0	0
260	SLE RA 16	-10	-4	1094	0	0	0
260	SLE RA 17	-11	-2	1103	0	0	0
260	SLE RA 18	-10	-4	1118	0	0	0
260	SLE RA 19	-10	-2	1128	0	0	0
260	SLE RA 20	-10	-4	1125	0	0	0
260	SLE RA 21	-11	-2	1134	0	0	0
260	SLE FR 1	-10	-4	994	0	0	0
260	SLE FR 2	-10	-3	997	0	0	0
260	SLE FR 3	-10	-4	996	0	0	0
260	SLE FR 4	-10	-3	1034	0	0	0
260	SLE FR 5	-10	-4	1034	0	0	0
260	SLE FR 6	-10	-4	1056	0	0	0
260	SLE QP 1	-10	-4	994	0	0	0
260	SLE QP 2	-10	-4	1031	0	0	0
260	SLD 1	72	23	1235	0	0	0
260	SLD 2	90	19	1231	0	0	0
260	SLD 3	76	-32	883	0	0	0
260	SLD 4	93	-36	878	0	0	0
260	SLD 5	6	88	1628	0	0	0
260	SLD 6	17	86	1625	0	0	0
260	SLD 7	19	-95	452	0	0	0
260	SLD 8	30	-97	450	0	0	0
260	SLD 9	-50	90	1613	0	0	0
260	SLD 10	-39	87	1610	0	0	0
260	SLD 11	-37	-93	437	0	0	0
260	SLD 12	-26	-96	434	0	0	0
260	SLD 13	-113	28	1184	0	0	0
260	SLD 14	-96	25	1180	0	0	0
260	SLD 15	-110	-26	831	0	0	0
260	SLD 16	-92	-30	827	0	0	0
260	SLV 1	118	41	1373	0	0	0
260	SLV 2	146	35	1366	0	0	0
260	SLV 3	124	-52	777	0	0	0
260	SLV 4	152	-58	770	0	0	0
260	SLV 5	14	151	2039	0	0	0
260	SLV 6	32	147	2035	0	0	0
260	SLV 7	35	-158	52	0	0	0
260	SLV 8	53	-162	48	0	0	0
260	SLV 9	-73	154	2015	0	0	0
260	SLV 10	-55	150	2010	0	0	0
260	SLV 11	-52	-155	28	0	0	0
260	SLV 12	-34	-159	23	0	0	0
260	SLV 13	-172	50	1292	0	0	0
260	SLV 14	-144	44	1286	0	0	0
260	SLV 15	-166	-43	696	0	0	0
260	SLV 16	-138	-49	689	0	0	0
260	SLV FO 1	131	46	1407	0	0	0
260	SLV FO 2	161	39	1400	0	0	0
260	SLV FO 3	138	-56	751	0	0	0
260	SLV FO 4	168	-63	744	0	0	0
260	SLV FO 5	16	167	2140	0	0	0
260	SLV FO 6	36	162	2135	0	0	0
260	SLV FO 7	39	-173	-46	0	0	0
260	SLV FO 8	60	-177	-51	0	0	0
260	SLV FO 9	-80	170	2113	0	0	0
260	SLV FO 10	-59	165	2108	0	0	0
260	SLV FO 11	-56	-170	-72	0	0	0
260	SLV FO 12	-36	-174	-77	0	0	0
260	SLV FO 13	-188	55	1318	0	0	0
260	SLV FO 14	-158	49	1311	0	0	0
260	SLV FO 15	-181	-46	663	0	0	0
260	SLV FO 16	-151	-53	655	0	0	0
260	CRTFP Uy+	0	0	0	0	0	0
260	CRTFP Uy-	0	0	0	0	0	0
261	SLU 1	-10	-1	1015	0	0	0
261	SLU 2	-10	4	1039	0	0	0
261	SLU 3	-10	-1	1031	0	0	0
261	SLU 4	-10	2	1046	0	0	0
261	SLU 5	-10	3	1049	0	0	0
261	SLU 6	-10	-1	1041	0	0	0
261	SLU 7	-10	2	1056	0	0	0
261	SLU 8	-10	-1	1035	0	0	0
261	SLU 9	-10	2	1049	0	0	0
261	SLU 10	-11	3	1179	0	0	0
261	SLU 11	-10	-1	1171	0	0	0
261	SLU 12	-11	2	1185	0	0	0
261	SLU 13	-11	3	1189	0	0	0
261	SLU 14	-11	-1	1181	0	0	0
261	SLU 15	-11	1	1195	0	0	0
261	SLU 16	-10	-1	1174	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
261	SLU 17	-11	1	1189	0	0	0
261	SLU 18	-10	-1	1214	0	0	0
261	SLU 19	-11	2	1229	0	0	0
261	SLU 20	-10	-1	1224	0	0	0
261	SLU 21	-11	1	1239	0	0	0
261	SLU 22	-11	-1	1153	0	0	0
261	SLU 23	-12	4	1177	0	0	0
261	SLU 24	-11	-1	1169	0	0	0
261	SLU 25	-12	2	1184	0	0	0
261	SLU 26	-12	4	1187	0	0	0
261	SLU 27	-12	-1	1179	0	0	0
261	SLU 28	-12	2	1194	0	0	0
261	SLU 29	-11	-1	1173	0	0	0
261	SLU 30	-12	2	1188	0	0	0
261	SLU 31	-12	4	1317	0	0	0
261	SLU 32	-12	-1	1309	0	0	0
261	SLU 33	-12	2	1324	0	0	0
261	SLU 34	-12	4	1327	0	0	0
261	SLU 35	-12	-1	1319	0	0	0
261	SLU 36	-12	2	1334	0	0	0
261	SLU 37	-12	-1	1313	0	0	0
261	SLU 38	-12	2	1327	0	0	0
261	SLU 39	-12	-1	1352	0	0	0
261	SLU 40	-12	2	1367	0	0	0
261	SLU 41	-12	-1	1362	0	0	0
261	SLU 42	-12	2	1377	0	0	0
261	SLU 43	-12	-2	1272	0	0	0
261	SLU 44	-13	3	1296	0	0	0
261	SLU 45	-12	-2	1288	0	0	0
261	SLU 46	-13	1	1303	0	0	0
261	SLU 47	-13	3	1306	0	0	0
261	SLU 48	-13	-2	1298	0	0	0
261	SLU 49	-13	1	1313	0	0	0
261	SLU 50	-12	-2	1292	0	0	0
261	SLU 51	-13	1	1306	0	0	0
261	SLU 52	-13	3	1435	0	0	0
261	SLU 53	-13	-2	1428	0	0	0
261	SLU 54	-13	1	1442	0	0	0
261	SLU 55	-13	3	1446	0	0	0
261	SLU 56	-13	-2	1438	0	0	0
261	SLU 57	-13	1	1452	0	0	0
261	SLU 58	-13	-2	1431	0	0	0
261	SLU 59	-13	1	1446	0	0	0
261	SLU 60	-13	-2	1471	0	0	0
261	SLU 61	-13	1	1486	0	0	0
261	SLU 62	-13	-2	1481	0	0	0
261	SLU 63	-13	1	1496	0	0	0
261	SLU 64	-13	-1	1410	0	0	0
261	SLU 65	-14	3	1434	0	0	0
261	SLU 66	-14	-1	1426	0	0	0
261	SLU 67	-14	2	1441	0	0	0
261	SLU 68	-14	3	1444	0	0	0
261	SLU 69	-14	-1	1436	0	0	0
261	SLU 70	-14	1	1451	0	0	0
261	SLU 71	-14	-1	1430	0	0	0
261	SLU 72	-14	1	1445	0	0	0
261	SLU 73	-14	3	1574	0	0	0
261	SLU 74	-14	-1	1566	0	0	0
261	SLU 75	-14	1	1581	0	0	0
261	SLU 76	-15	3	1584	0	0	0
261	SLU 77	-14	-1	1576	0	0	0
261	SLU 78	-15	1	1591	0	0	0
261	SLU 79	-14	-1	1570	0	0	0
261	SLU 80	-15	1	1584	0	0	0
261	SLU 81	-14	-1	1609	0	0	0
261	SLU 82	-14	1	1624	0	0	0
261	SLU 83	-14	-1	1619	0	0	0
261	SLU 84	-15	1	1634	0	0	0
261	SLE RA 1	-10	-1	1054	0	0	0
261	SLE RA 2	-10	2	1070	0	0	0
261	SLE RA 3	-10	-1	1065	0	0	0
261	SLE RA 4	-10	1	1075	0	0	0
261	SLE RA 5	-11	2	1077	0	0	0
261	SLE RA 6	-10	-1	1072	0	0	0
261	SLE RA 7	-11	1	1082	0	0	0
261	SLE RA 8	-10	-1	1068	0	0	0
261	SLE RA 9	-11	1	1077	0	0	0
261	SLE RA 10	-11	2	1163	0	0	0
261	SLE RA 11	-11	-1	1158	0	0	0
261	SLE RA 12	-11	1	1168	0	0	0
261	SLE RA 13	-11	2	1170	0	0	0
261	SLE RA 14	-11	-1	1165	0	0	0
261	SLE RA 15	-11	1	1175	0	0	0
261	SLE RA 16	-11	-1	1161	0	0	0
261	SLE RA 17	-11	1	1170	0	0	0
261	SLE RA 18	-10	-1	1187	0	0	0
261	SLE RA 19	-11	1	1197	0	0	0
261	SLE RA 20	-11	-1	1194	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
261	SLE RA 21	-11	1	1204	0	0	0
261	SLE FR 1	-10	-1	1054	0	0	0
261	SLE FR 2	-10	0	1057	0	0	0
261	SLE FR 3	-10	-1	1057	0	0	0
261	SLE FR 4	-10	0	1097	0	0	0
261	SLE FR 5	-10	-1	1097	0	0	0
261	SLE FR 6	-10	-1	1121	0	0	0
261	SLE QP 1	-10	-1	1054	0	0	0
261	SLE QP 2	-10	-1	1094	0	0	0
261	SLD 1	74	28	1302	0	0	0
261	SLD 2	92	25	1298	0	0	0
261	SLD 3	78	-30	928	0	0	0
261	SLD 4	96	-33	925	0	0	0
261	SLD 5	6	96	1723	0	0	0
261	SLD 6	18	94	1721	0	0	0
261	SLD 7	19	-97	479	0	0	0
261	SLD 8	31	-99	476	0	0	0
261	SLD 9	-51	97	1712	0	0	0
261	SLD 10	-39	95	1709	0	0	0
261	SLD 11	-38	-96	467	0	0	0
261	SLD 12	-26	-98	465	0	0	0
261	SLD 13	-116	31	1263	0	0	0
261	SLD 14	-98	28	1260	0	0	0
261	SLD 15	-112	-27	890	0	0	0
261	SLD 16	-94	-30	886	0	0	0
261	SLV 1	121	48	1443	0	0	0
261	SLV 2	150	43	1437	0	0	0
261	SLV 3	128	-50	812	0	0	0
261	SLV 4	156	-55	806	0	0	0
261	SLV 5	14	163	2157	0	0	0
261	SLV 6	33	160	2153	0	0	0
261	SLV 7	36	-163	53	0	0	0
261	SLV 8	55	-166	49	0	0	0
261	SLV 9	-75	164	2139	0	0	0
261	SLV 10	-56	161	2135	0	0	0
261	SLV 11	-54	-162	35	0	0	0
261	SLV 12	-34	-165	31	0	0	0
261	SLV 13	-177	53	1382	0	0	0
261	SLV 14	-148	48	1376	0	0	0
261	SLV 15	-170	-45	751	0	0	0
261	SLV 16	-142	-50	745	0	0	0
261	SLV FO 1	134	53	1477	0	0	0
261	SLV FO 2	166	47	1471	0	0	0
261	SLV FO 3	142	-55	783	0	0	0
261	SLV FO 4	173	-60	777	0	0	0
261	SLV FO 5	17	179	2263	0	0	0
261	SLV FO 6	38	176	2259	0	0	0
261	SLV FO 7	40	-179	-51	0	0	0
261	SLV FO 8	61	-183	-55	0	0	0
261	SLV FO 9	-82	181	2243	0	0	0
261	SLV FO 10	-61	177	2239	0	0	0
261	SLV FO 11	-58	-178	-71	0	0	0
261	SLV FO 12	-37	-181	-75	0	0	0
261	SLV FO 13	-193	58	1411	0	0	0
261	SLV FO 14	-162	53	1405	0	0	0
261	SLV FO 15	-186	-50	717	0	0	0
261	SLV FO 16	-155	-55	710	0	0	0
261	CRTFP Uy+	0	0	0	0	0	0
261	CRTFP Uy-	0	0	0	0	0	0
262	SLU 1	-5	-9	403	-12.1	51.18	1
262	SLU 2	-5	-7	413	-12.4	52.45	0.8
262	SLU 3	-5	-9	410	-12.29	51.99	1.02
262	SLU 4	-5	-8	416	-12.47	52.75	0.9
262	SLU 5	-5	-8	417	-12.52	52.94	0.82
262	SLU 6	-5	-9	414	-12.41	52.48	1.04
262	SLU 7	-5	-8	420	-12.59	53.24	0.92
262	SLU 8	-5	-9	411	-12.34	52.17	1.03
262	SLU 9	-5	-8	417	-12.52	52.93	0.91
262	SLU 10	-5	-8	467	-14.02	59.29	0.92
262	SLU 11	-5	-10	464	-13.91	58.83	1.14
262	SLU 12	-5	-9	470	-14.09	59.59	1.02
262	SLU 13	-5	-9	471	-14.14	59.78	0.94
262	SLU 14	-5	-10	468	-14.03	59.32	1.16
262	SLU 15	-5	-9	474	-14.21	60.08	1.04
262	SLU 16	-5	-10	465	-13.95	59.01	1.15
262	SLU 17	-5	-9	471	-14.13	59.77	1.03
262	SLU 18	-5	-10	480	-14.41	60.95	1.17
262	SLU 19	-5	-9	486	-14.59	61.71	1.05
262	SLU 20	-5	-11	484	-14.53	61.45	1.19
262	SLU 21	-5	-10	490	-14.71	62.21	1.07
262	SLU 22	-5	-10	459	-13.76	58.19	1.12
262	SLU 23	-5	-9	469	-14.06	59.45	0.92
262	SLU 24	-5	-10	465	-13.95	58.99	1.14
262	SLU 25	-5	-9	471	-14.13	59.75	1.02
262	SLU 26	-5	-9	473	-14.18	59.95	0.94
262	SLU 27	-5	-10	469	-14.07	59.48	1.16
262	SLU 28	-5	-9	475	-14.25	60.24	1.04
262	SLU 29	-5	-10	466	-13.99	59.17	1.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
262	SLU 30	-5	-9	472	-14.17	59.93	1.03
262	SLU 31	-6	-10	523	-15.68	66.29	1.04
262	SLU 32	-6	-11	519	-15.57	65.83	1.26
262	SLU 33	-6	-10	525	-15.75	66.59	1.14
262	SLU 34	-6	-10	526	-15.79	66.79	1.06
262	SLU 35	-6	-11	523	-15.68	66.32	1.28
262	SLU 36	-6	-10	529	-15.86	67.08	1.16
262	SLU 37	-6	-11	520	-15.61	66.01	1.27
262	SLU 38	-6	-10	526	-15.79	66.77	1.15
262	SLU 39	-6	-12	536	-16.07	67.96	1.29
262	SLU 40	-6	-11	542	-16.25	68.72	1.17
262	SLU 41	-6	-12	540	-16.19	68.45	1.31
262	SLU 42	-6	-11	546	-16.37	69.21	1.19
262	SLU 43	-6	-11	506	-15.17	64.13	1.26
262	SLU 44	-6	-10	516	-15.47	65.4	1.06
262	SLU 45	-6	-11	512	-15.36	64.94	1.28
262	SLU 46	-6	-11	518	-15.54	65.7	1.16
262	SLU 47	-6	-10	519	-15.58	65.9	1.08
262	SLU 48	-6	-12	516	-15.47	65.43	1.3
262	SLU 49	-6	-11	522	-15.65	66.19	1.18
262	SLU 50	-6	-12	513	-15.4	65.12	1.29
262	SLU 51	-6	-11	519	-15.58	65.88	1.17
262	SLU 52	-6	-11	569	-17.08	72.24	1.18
262	SLU 53	-6	-12	566	-16.97	71.78	1.4
262	SLU 54	-6	-12	572	-17.15	72.54	1.28
262	SLU 55	-6	-11	573	-17.2	72.74	1.2
262	SLU 56	-6	-13	570	-17.09	72.27	1.42
262	SLU 57	-6	-12	576	-17.27	73.03	1.3
262	SLU 58	-6	-13	567	-17.02	71.96	1.41
262	SLU 59	-6	-12	573	-17.2	72.72	1.29
262	SLU 60	-6	-13	583	-17.48	73.91	1.43
262	SLU 61	-6	-12	589	-17.66	74.67	1.31
262	SLU 62	-6	-13	586	-17.59	74.4	1.45
262	SLU 63	-6	-12	592	-17.77	75.16	1.33
262	SLU 64	-6	-12	561	-16.82	71.14	1.38
262	SLU 65	-7	-11	571	-17.12	72.41	1.18
262	SLU 66	-6	-13	567	-17.01	71.94	1.4
262	SLU 67	-7	-12	573	-17.19	72.7	1.28
262	SLU 68	-7	-11	575	-17.24	72.9	1.2
262	SLU 69	-6	-13	571	-17.13	72.44	1.42
262	SLU 70	-7	-12	577	-17.31	73.2	1.3
262	SLU 71	-6	-13	568	-17.05	72.12	1.41
262	SLU 72	-7	-12	574	-17.23	72.89	1.29
262	SLU 73	-7	-12	625	-18.74	79.25	1.3
262	SLU 74	-7	-14	621	-18.63	78.78	1.52
262	SLU 75	-7	-13	627	-18.81	79.54	1.4
262	SLU 76	-7	-12	629	-18.86	79.74	1.32
262	SLU 77	-7	-14	625	-18.75	79.28	1.54
262	SLU 78	-7	-13	631	-18.93	80.04	1.42
262	SLU 79	-7	-14	622	-18.67	78.96	1.53
262	SLU 80	-7	-13	628	-18.85	79.73	1.41
262	SLU 81	-7	-14	638	-19.13	80.91	1.55
262	SLU 82	-7	-13	644	-19.31	81.67	1.43
262	SLU 83	-7	-14	642	-19.25	81.4	1.57
262	SLU 84	-7	-13	648	-19.43	82.16	1.45
262	SLE RA 1	-5	-9	419	-12.58	53.18	1.04
262	SLE RA 2	-5	-8	426	-12.78	54.03	0.9
262	SLE RA 3	-5	-9	423	-12.7	53.72	1.05
262	SLE RA 4	-5	-9	427	-12.82	54.23	0.97
262	SLE RA 5	-5	-8	428	-12.85	54.36	0.91
262	SLE RA 6	-5	-9	426	-12.78	54.05	1.06
262	SLE RA 7	-5	-9	430	-12.9	54.55	0.98
262	SLE RA 8	-5	-9	424	-12.73	53.84	1.06
262	SLE RA 9	-5	-9	428	-12.85	54.35	0.98
262	SLE RA 10	-5	-9	462	-13.85	58.59	0.98
262	SLE RA 11	-5	-10	459	-13.78	58.28	1.13
262	SLE RA 12	-5	-9	463	-13.9	58.79	1.05
262	SLE RA 13	-5	-9	464	-13.93	58.92	0.99
262	SLE RA 14	-5	-10	462	-13.86	58.61	1.14
262	SLE RA 15	-5	-10	466	-13.98	59.12	1.06
262	SLE RA 16	-5	-10	460	-13.81	58.4	1.14
262	SLE RA 17	-5	-10	464	-13.93	58.91	1.06
262	SLE RA 18	-5	-10	471	-14.12	59.7	1.15
262	SLE RA 19	-5	-10	475	-14.24	60.2	1.07
262	SLE RA 20	-5	-10	473	-14.19	60.03	1.16
262	SLE RA 21	-5	-10	477	-14.31	60.53	1.08
262	SLE FR 1	-5	-9	419	-12.58	53.18	1.04
262	SLE FR 2	-5	-9	421	-12.62	53.35	1.01
262	SLE FR 3	-5	-9	420	-12.61	53.31	1.04
262	SLE FR 4	-5	-9	436	-13.08	55.31	1.04
262	SLE FR 5	-5	-10	436	-13.07	55.27	1.07
262	SLE FR 6	-5	-10	445	-13.35	56.44	1.09
262	SLE QP 1	-5	-9	419	-12.58	53.18	1.04
262	SLE QP 2	-5	-10	435	-13.04	55.14	1.07
262	SLD 1	29	-3	545	-16.35	69.16	1.25
262	SLD 2	36	-7	541	-16.23	68.62	1.96
262	SLD 3	31	-22	397	-11.9	50.31	3.76
262	SLD 4	38	-26	392	-11.77	49.78	4.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
262	SLD 5	1	22	694	-20.81	88.02	-2.81
262	SLD 6	6	20	691	-20.73	87.67	-2.35
262	SLD 7	8	-42	199	-5.96	25.2	5.56
262	SLD 8	12	-45	196	-5.88	24.85	6.02
262	SLD 9	-22	25	673	-20.2	85.42	-3.88
262	SLD 10	-17	23	671	-20.12	85.07	-3.42
262	SLD 11	-15	-39	178	-5.34	22.6	4.49
262	SLD 12	-11	-42	175	-5.26	22.26	4.95
262	SLD 13	-48	7	477	-14.31	60.5	-2.33
262	SLD 14	-40	3	473	-14.18	59.96	-1.61
262	SLD 15	-46	-12	328	-9.85	41.65	0.18
262	SLD 16	-38	-16	324	-9.72	41.12	0.9
262	SLV 1	48	2	617	-18.5	78.24	1.18
262	SLV 2	59	-4	610	-18.3	77.4	2.3
262	SLV 3	51	-31	366	-10.97	46.39	5.42
262	SLV 4	62	-37	359	-10.77	45.55	6.55
262	SLV 5	4	45	871	-26.14	110.53	-5.54
262	SLV 6	12	41	867	-26	109.96	-4.78
262	SLV 7	15	-64	34	-1.03	4.37	8.6
262	SLV 8	22	-69	30	-0.9	3.8	9.36
262	SLV 9	-32	49	839	-25.18	106.47	-7.22
262	SLV 10	-24	45	835	-25.04	105.91	-6.46
262	SLV 11	-21	-60	2	-0.07	0.31	6.93
262	SLV 12	-14	-64	-2	0.06	-0.26	7.68
262	SLV 13	-72	18	510	-15.3	64.72	-4.4
262	SLV 14	-61	12	504	-15.11	63.88	-3.28
262	SLV 15	-69	-15	259	-7.77	32.87	-0.16
262	SLV 16	-57	-21	252	-7.57	32.03	0.96
262	SLV FO 1	53	3	635	-19.05	80.55	1.19
262	SLV FO 2	66	-4	628	-18.83	79.63	2.43
262	SLV FO 3	57	-33	359	-10.76	45.52	5.86
262	SLV FO 4	69	-40	351	-10.54	44.59	7.09
262	SLV FO 5	5	50	915	-27.45	116.07	-6.2
262	SLV FO 6	13	46	910	-27.3	115.44	-5.37
262	SLV FO 7	17	-70	-6	0.17	-0.71	9.36
262	SLV FO 8	25	-74	-11	0.32	-1.33	10.19
262	SLV FO 9	-35	55	880	-26.39	111.61	-8.05
262	SLV FO 10	-26	51	875	-26.24	110.98	-7.21
262	SLV FO 11	-23	-65	-41	1.22	-5.17	7.51
262	SLV FO 12	-14	-69	-46	1.37	-5.79	8.35
262	SLV FO 13	-79	21	518	-15.53	65.68	-4.95
262	SLV FO 14	-66	14	510	-15.31	64.75	-3.72
262	SLV FO 15	-75	-15	242	-7.25	30.65	-0.28
262	SLV FO 16	-63	-22	234	-7.03	29.72	0.95
262	CRTFP Ux+	0	0	0	0	0	0
262	CRTFP Ux-	0	0	0	0	0	0
262	CRTFP Uy+	0	0	0	0	0	0
262	CRTFP Uy-	0	0	0	0	0	0
263	SLU 1	-5	1	547	0	0	0
263	SLU 2	-5	3	560	0	0	0
263	SLU 3	-5	1	557	0	0	0
263	SLU 4	-5	2	564	0	0	0
263	SLU 5	-6	3	566	0	0	0
263	SLU 6	-5	1	562	0	0	0
263	SLU 7	-6	2	570	0	0	0
263	SLU 8	-5	1	559	0	0	0
263	SLU 9	-5	2	566	0	0	0
263	SLU 10	-6	3	636	0	0	0
263	SLU 11	-6	1	632	0	0	0
263	SLU 12	-6	2	640	0	0	0
263	SLU 13	-6	3	642	0	0	0
263	SLU 14	-6	1	638	0	0	0
263	SLU 15	-6	2	646	0	0	0
263	SLU 16	-6	1	634	0	0	0
263	SLU 17	-6	2	642	0	0	0
263	SLU 18	-6	1	656	0	0	0
263	SLU 19	-6	2	664	0	0	0
263	SLU 20	-6	1	662	0	0	0
263	SLU 21	-6	2	669	0	0	0
263	SLU 22	-6	1	622	0	0	0
263	SLU 23	-6	4	635	0	0	0
263	SLU 24	-6	1	632	0	0	0
263	SLU 25	-6	3	639	0	0	0
263	SLU 26	-6	4	641	0	0	0
263	SLU 27	-6	1	637	0	0	0
263	SLU 28	-6	3	645	0	0	0
263	SLU 29	-6	1	634	0	0	0
263	SLU 30	-6	3	641	0	0	0
263	SLU 31	-6	4	711	0	0	0
263	SLU 32	-6	1	707	0	0	0
263	SLU 33	-6	3	715	0	0	0
263	SLU 34	-7	4	717	0	0	0
263	SLU 35	-6	1	713	0	0	0
263	SLU 36	-7	3	721	0	0	0
263	SLU 37	-6	1	710	0	0	0
263	SLU 38	-6	3	717	0	0	0
263	SLU 39	-6	1	731	0	0	0
263	SLU 40	-6	3	739	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
263	SLU 41	-6	1	737	0	0	0
263	SLU 42	-7	3	744	0	0	0
263	SLU 43	-6	1	686	0	0	0
263	SLU 44	-7	3	699	0	0	0
263	SLU 45	-7	1	695	0	0	0
263	SLU 46	-7	2	703	0	0	0
263	SLU 47	-7	3	704	0	0	0
263	SLU 48	-7	1	701	0	0	0
263	SLU 49	-7	2	708	0	0	0
263	SLU 50	-7	1	697	0	0	0
263	SLU 51	-7	2	705	0	0	0
263	SLU 52	-7	3	775	0	0	0
263	SLU 53	-7	1	771	0	0	0
263	SLU 54	-7	2	779	0	0	0
263	SLU 55	-7	3	780	0	0	0
263	SLU 56	-7	1	777	0	0	0
263	SLU 57	-7	2	784	0	0	0
263	SLU 58	-7	1	773	0	0	0
263	SLU 59	-7	2	781	0	0	0
263	SLU 60	-7	1	795	0	0	0
263	SLU 61	-7	2	802	0	0	0
263	SLU 62	-7	1	800	0	0	0
263	SLU 63	-7	2	808	0	0	0
263	SLU 64	-7	1	761	0	0	0
263	SLU 65	-7	4	774	0	0	0
263	SLU 66	-7	1	770	0	0	0
263	SLU 67	-7	3	778	0	0	0
263	SLU 68	-8	4	779	0	0	0
263	SLU 69	-7	1	776	0	0	0
263	SLU 70	-8	3	783	0	0	0
263	SLU 71	-7	1	772	0	0	0
263	SLU 72	-8	3	780	0	0	0
263	SLU 73	-8	4	850	0	0	0
263	SLU 74	-8	1	846	0	0	0
263	SLU 75	-8	3	854	0	0	0
263	SLU 76	-8	4	855	0	0	0
263	SLU 77	-8	1	852	0	0	0
263	SLU 78	-8	3	859	0	0	0
263	SLU 79	-8	1	848	0	0	0
263	SLU 80	-8	3	856	0	0	0
263	SLU 81	-8	1	870	0	0	0
263	SLU 82	-8	3	877	0	0	0
263	SLU 83	-8	1	875	0	0	0
263	SLU 84	-8	3	883	0	0	0
263	SLE RA 1	-5	1	569	0	0	0
263	SLE RA 2	-6	3	578	0	0	0
263	SLE RA 3	-5	1	575	0	0	0
263	SLE RA 4	-6	2	580	0	0	0
263	SLE RA 5	-6	3	581	0	0	0
263	SLE RA 6	-6	1	579	0	0	0
263	SLE RA 7	-6	2	584	0	0	0
263	SLE RA 8	-5	1	576	0	0	0
263	SLE RA 9	-6	2	581	0	0	0
263	SLE RA 10	-6	3	628	0	0	0
263	SLE RA 11	-6	1	626	0	0	0
263	SLE RA 12	-6	2	631	0	0	0
263	SLE RA 13	-6	3	632	0	0	0
263	SLE RA 14	-6	1	629	0	0	0
263	SLE RA 15	-6	2	634	0	0	0
263	SLE RA 16	-6	1	627	0	0	0
263	SLE RA 17	-6	2	632	0	0	0
263	SLE RA 18	-6	1	641	0	0	0
263	SLE RA 19	-6	2	646	0	0	0
263	SLE RA 20	-6	1	645	0	0	0
263	SLE RA 21	-6	2	650	0	0	0
263	SLE FR 1	-5	1	569	0	0	0
263	SLE FR 2	-5	1	571	0	0	0
263	SLE FR 3	-5	1	570	0	0	0
263	SLE FR 4	-5	1	592	0	0	0
263	SLE FR 5	-5	1	592	0	0	0
263	SLE FR 6	-5	1	605	0	0	0
263	SLE QP 1	-5	1	569	0	0	0
263	SLE QP 2	-5	1	591	0	0	0
263	SLD 1	39	18	697	0	0	0
263	SLD 2	48	17	696	0	0	0
263	SLD 3	41	-13	498	0	0	0
263	SLD 4	50	-14	496	0	0	0
263	SLD 5	3	53	926	0	0	0
263	SLD 6	9	53	925	0	0	0
263	SLD 7	10	-50	260	0	0	0
263	SLD 8	16	-51	259	0	0	0
263	SLD 9	-27	53	922	0	0	0
263	SLD 10	-21	52	921	0	0	0
263	SLD 11	-20	-51	256	0	0	0
263	SLD 12	-14	-51	255	0	0	0
263	SLD 13	-61	16	685	0	0	0
263	SLD 14	-51	15	683	0	0	0
263	SLD 15	-59	-15	485	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
263	SLD 16	-49	-16	484	0	0	0
263	SLV 1	63	29	770	0	0	0
263	SLV 2	78	28	768	0	0	0
263	SLV 3	67	-23	433	0	0	0
263	SLV 4	81	-25	430	0	0	0
263	SLV 5	7	89	1157	0	0	0
263	SLV 6	17	88	1155	0	0	0
263	SLV 7	19	-86	32	0	0	0
263	SLV 8	29	-87	30	0	0	0
263	SLV 9	-39	88	1151	0	0	0
263	SLV 10	-30	87	1149	0	0	0
263	SLV 11	-28	-86	26	0	0	0
263	SLV 12	-18	-88	24	0	0	0
263	SLV 13	-92	27	751	0	0	0
263	SLV 14	-77	25	748	0	0	0
263	SLV 15	-89	-26	413	0	0	0
263	SLV 16	-74	-28	411	0	0	0
263	SLV FO 1	70	32	788	0	0	0
263	SLV FO 2	86	30	786	0	0	0
263	SLV FO 3	74	-26	417	0	0	0
263	SLV FO 4	90	-27	414	0	0	0
263	SLV FO 5	8	98	1214	0	0	0
263	SLV FO 6	19	97	1212	0	0	0
263	SLV FO 7	21	-94	-24	0	0	0
263	SLV FO 8	32	-95	-26	0	0	0
263	SLV FO 9	-43	97	1207	0	0	0
263	SLV FO 10	-32	96	1205	0	0	0
263	SLV FO 11	-30	-95	-30	0	0	0
263	SLV FO 12	-19	-96	-32	0	0	0
263	SLV FO 13	-101	29	767	0	0	0
263	SLV FO 14	-85	27	764	0	0	0
263	SLV FO 15	-97	-29	396	0	0	0
263	SLV FO 16	-81	-30	393	0	0	0
263	CRTFP Uy+	0	0	0	0	0	0
263	CRTFP Uy-	0	0	0	0	0	0
264	SLU 1	0	-17	1226	0	0	0
264	SLU 2	1	-11	1254	0	0	0
264	SLU 3	0	-17	1246	0	0	0
264	SLU 4	0	-13	1263	0	0	0
264	SLU 5	0	-11	1266	0	0	0
264	SLU 6	0	-17	1257	0	0	0
264	SLU 7	0	-14	1274	0	0	0
264	SLU 8	0	-17	1249	0	0	0
264	SLU 9	0	-14	1266	0	0	0
264	SLU 10	0	-13	1419	0	0	0
264	SLU 11	-1	-19	1410	0	0	0
264	SLU 12	0	-15	1427	0	0	0
264	SLU 13	0	-13	1430	0	0	0
264	SLU 14	-1	-19	1421	0	0	0
264	SLU 15	-1	-16	1438	0	0	0
264	SLU 16	-1	-19	1414	0	0	0
264	SLU 17	-1	-16	1431	0	0	0
264	SLU 18	-1	-19	1461	0	0	0
264	SLU 19	0	-16	1478	0	0	0
264	SLU 20	-1	-20	1472	0	0	0
264	SLU 21	-1	-16	1489	0	0	0
264	SLU 22	0	-19	1391	0	0	0
264	SLU 23	0	-13	1419	0	0	0
264	SLU 24	0	-19	1410	0	0	0
264	SLU 25	0	-16	1427	0	0	0
264	SLU 26	0	-13	1431	0	0	0
264	SLU 27	0	-20	1422	0	0	0
264	SLU 28	0	-16	1439	0	0	0
264	SLU 29	0	-19	1414	0	0	0
264	SLU 30	0	-16	1431	0	0	0
264	SLU 31	0	-15	1584	0	0	0
264	SLU 32	-1	-21	1575	0	0	0
264	SLU 33	0	-18	1592	0	0	0
264	SLU 34	0	-15	1595	0	0	0
264	SLU 35	-1	-22	1586	0	0	0
264	SLU 36	-1	-18	1603	0	0	0
264	SLU 37	-1	-21	1579	0	0	0
264	SLU 38	-1	-18	1596	0	0	0
264	SLU 39	-1	-22	1626	0	0	0
264	SLU 40	-1	-18	1643	0	0	0
264	SLU 41	-1	-22	1637	0	0	0
264	SLU 42	-1	-18	1654	0	0	0
264	SLU 43	0	-21	1537	0	0	0
264	SLU 44	1	-15	1566	0	0	0
264	SLU 45	0	-21	1557	0	0	0
264	SLU 46	0	-18	1574	0	0	0
264	SLU 47	0	-15	1577	0	0	0
264	SLU 48	0	-22	1569	0	0	0
264	SLU 49	0	-18	1585	0	0	0
264	SLU 50	0	-22	1561	0	0	0
264	SLU 51	0	-18	1578	0	0	0
264	SLU 52	0	-17	1730	0	0	0
264	SLU 53	-1	-23	1721	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
264	SLU 54	0	-20	1738	0	0	0
264	SLU 55	0	-17	1742	0	0	0
264	SLU 56	-1	-24	1733	0	0	0
264	SLU 57	-1	-20	1750	0	0	0
264	SLU 58	-1	-23	1725	0	0	0
264	SLU 59	-1	-20	1742	0	0	0
264	SLU 60	-1	-24	1772	0	0	0
264	SLU 61	0	-20	1789	0	0	0
264	SLU 62	-1	-24	1784	0	0	0
264	SLU 63	-1	-20	1801	0	0	0
264	SLU 64	0	-23	1702	0	0	0
264	SLU 65	1	-17	1731	0	0	0
264	SLU 66	0	-23	1722	0	0	0
264	SLU 67	0	-20	1739	0	0	0
264	SLU 68	0	-17	1742	0	0	0
264	SLU 69	0	-24	1733	0	0	0
264	SLU 70	0	-20	1750	0	0	0
264	SLU 71	0	-24	1726	0	0	0
264	SLU 72	0	-20	1743	0	0	0
264	SLU 73	0	-19	1895	0	0	0
264	SLU 74	-1	-25	1886	0	0	0
264	SLU 75	0	-22	1903	0	0	0
264	SLU 76	0	-19	1906	0	0	0
264	SLU 77	-1	-26	1898	0	0	0
264	SLU 78	-1	-22	1915	0	0	0
264	SLU 79	-1	-26	1890	0	0	0
264	SLU 80	-1	-22	1907	0	0	0
264	SLU 81	-1	-26	1937	0	0	0
264	SLU 82	0	-22	1954	0	0	0
264	SLU 83	-1	-26	1949	0	0	0
264	SLU 84	-1	-23	1966	0	0	0
264	SLE RA 1	0	-17	1273	0	0	0
264	SLE RA 2	0	-13	1292	0	0	0
264	SLE RA 3	0	-18	1286	0	0	0
264	SLE RA 4	0	-15	1297	0	0	0
264	SLE RA 5	0	-13	1300	0	0	0
264	SLE RA 6	0	-18	1294	0	0	0
264	SLE RA 7	0	-15	1305	0	0	0
264	SLE RA 8	0	-18	1289	0	0	0
264	SLE RA 9	0	-15	1300	0	0	0
264	SLE RA 10	0	-15	1402	0	0	0
264	SLE RA 11	0	-19	1396	0	0	0
264	SLE RA 12	0	-16	1407	0	0	0
264	SLE RA 13	0	-15	1409	0	0	0
264	SLE RA 14	-1	-19	1403	0	0	0
264	SLE RA 15	0	-17	1415	0	0	0
264	SLE RA 16	-1	-19	1398	0	0	0
264	SLE RA 17	0	-17	1410	0	0	0
264	SLE RA 18	0	-19	1430	0	0	0
264	SLE RA 19	0	-17	1441	0	0	0
264	SLE RA 20	-1	-19	1437	0	0	0
264	SLE RA 21	0	-17	1449	0	0	0
264	SLE FR 1	0	-17	1273	0	0	0
264	SLE FR 2	0	-16	1277	0	0	0
264	SLE FR 3	0	-17	1276	0	0	0
264	SLE FR 4	0	-17	1324	0	0	0
264	SLE FR 5	0	-18	1323	0	0	0
264	SLE FR 6	0	-18	1351	0	0	0
264	SLE QP 1	0	-17	1273	0	0	0
264	SLE QP 2	0	-18	1320	0	0	0
264	SLD 1	116	24	1501	0	0	0
264	SLD 2	139	27	1507	0	0	0
264	SLD 3	112	-53	1067	0	0	0
264	SLD 4	135	-49	1073	0	0	0
264	SLD 5	37	110	2032	0	0	0
264	SLD 6	52	112	2036	0	0	0
264	SLD 7	23	-145	585	0	0	0
264	SLD 8	38	-142	588	0	0	0
264	SLD 9	-38	107	2052	0	0	0
264	SLD 10	-23	109	2056	0	0	0
264	SLD 11	-52	-148	605	0	0	0
264	SLD 12	-37	-145	608	0	0	0
264	SLD 13	-135	13	1568	0	0	0
264	SLD 14	-112	17	1573	0	0	0
264	SLD 15	-139	-63	1133	0	0	0
264	SLD 16	-116	-59	1139	0	0	0
264	SLV 1	181	52	1631	0	0	0
264	SLV 2	217	58	1640	0	0	0
264	SLV 3	174	-77	897	0	0	0
264	SLV 4	210	-71	906	0	0	0
264	SLV 5	58	198	2525	0	0	0
264	SLV 6	83	202	2531	0	0	0
264	SLV 7	35	-232	79	0	0	0
264	SLV 8	59	-228	85	0	0	0
264	SLV 9	-59	193	2556	0	0	0
264	SLV 10	-35	197	2562	0	0	0
264	SLV 11	-83	-237	110	0	0	0
264	SLV 12	-59	-233	116	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
264	SLV 13	-210	36	1734	0	0	0
264	SLV 14	-174	42	1743	0	0	0
264	SLV 15	-217	-93	1001	0	0	0
264	SLV 16	-182	-87	1010	0	0	0
264	SLV FO 1	200	59	1662	0	0	0
264	SLV FO 2	239	65	1672	0	0	0
264	SLV FO 3	192	-83	855	0	0	0
264	SLV FO 4	231	-77	864	0	0	0
264	SLV FO 5	64	219	2645	0	0	0
264	SLV FO 6	91	223	2652	0	0	0
264	SLV FO 7	38	-254	-46	0	0	0
264	SLV FO 8	65	-249	-39	0	0	0
264	SLV FO 9	-65	214	2679	0	0	0
264	SLV FO 10	-38	218	2686	0	0	0
264	SLV FO 11	-91	-259	-11	0	0	0
264	SLV FO 12	-64	-255	-5	0	0	0
264	SLV FO 13	-231	41	1776	0	0	0
264	SLV FO 14	-192	48	1786	0	0	0
264	SLV FO 15	-239	-101	969	0	0	0
264	SLV FO 16	-200	-94	979	0	0	0
264	CRTFP Uy+	0	0	0	0	0	0
264	CRTFP Uy-	0	0	0	0	0	0
265	SLU 1	0	-18	1143	0	0	0
265	SLU 2	1	-12	1169	0	0	0
265	SLU 3	0	-18	1161	0	0	0
265	SLU 4	0	-15	1177	0	0	0
265	SLU 5	0	-13	1180	0	0	0
265	SLU 6	0	-19	1171	0	0	0
265	SLU 7	0	-15	1187	0	0	0
265	SLU 8	0	-18	1164	0	0	0
265	SLU 9	0	-15	1180	0	0	0
265	SLU 10	0	-14	1321	0	0	0
265	SLU 11	0	-20	1313	0	0	0
265	SLU 12	0	-17	1329	0	0	0
265	SLU 13	0	-15	1332	0	0	0
265	SLU 14	-1	-21	1324	0	0	0
265	SLU 15	0	-17	1339	0	0	0
265	SLU 16	-1	-21	1316	0	0	0
265	SLU 17	0	-17	1332	0	0	0
265	SLU 18	-1	-21	1360	0	0	0
265	SLU 19	0	-18	1376	0	0	0
265	SLU 20	-1	-21	1371	0	0	0
265	SLU 21	-1	-18	1387	0	0	0
265	SLU 22	0	-20	1296	0	0	0
265	SLU 23	1	-15	1322	0	0	0
265	SLU 24	0	-21	1314	0	0	0
265	SLU 25	0	-17	1330	0	0	0
265	SLU 26	0	-15	1333	0	0	0
265	SLU 27	0	-21	1325	0	0	0
265	SLU 28	0	-18	1341	0	0	0
265	SLU 29	0	-21	1317	0	0	0
265	SLU 30	0	-17	1333	0	0	0
265	SLU 31	0	-17	1475	0	0	0
265	SLU 32	-1	-23	1466	0	0	0
265	SLU 33	0	-19	1482	0	0	0
265	SLU 34	0	-17	1485	0	0	0
265	SLU 35	-1	-23	1477	0	0	0
265	SLU 36	-1	-20	1493	0	0	0
265	SLU 37	-1	-23	1470	0	0	0
265	SLU 38	-1	-20	1485	0	0	0
265	SLU 39	-1	-23	1513	0	0	0
265	SLU 40	0	-20	1529	0	0	0
265	SLU 41	-1	-24	1524	0	0	0
265	SLU 42	-1	-20	1540	0	0	0
265	SLU 43	0	-22	1433	0	0	0
265	SLU 44	1	-17	1459	0	0	0
265	SLU 45	0	-23	1451	0	0	0
265	SLU 46	0	-20	1467	0	0	0
265	SLU 47	0	-17	1470	0	0	0
265	SLU 48	0	-23	1462	0	0	0
265	SLU 49	0	-20	1477	0	0	0
265	SLU 50	0	-23	1454	0	0	0
265	SLU 51	0	-20	1470	0	0	0
265	SLU 52	0	-19	1612	0	0	0
265	SLU 53	0	-25	1603	0	0	0
265	SLU 54	0	-22	1619	0	0	0
265	SLU 55	0	-19	1622	0	0	0
265	SLU 56	-1	-25	1614	0	0	0
265	SLU 57	0	-22	1630	0	0	0
265	SLU 58	-1	-25	1607	0	0	0
265	SLU 59	0	-22	1622	0	0	0
265	SLU 60	0	-25	1650	0	0	0
265	SLU 61	0	-22	1666	0	0	0
265	SLU 62	-1	-26	1661	0	0	0
265	SLU 63	0	-22	1677	0	0	0
265	SLU 64	0	-25	1586	0	0	0
265	SLU 65	1	-19	1613	0	0	0
265	SLU 66	0	-25	1604	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
265	SLU 67	0	-22	1620	0	0	0
265	SLU 68	0	-20	1623	0	0	0
265	SLU 69	0	-25	1615	0	0	0
265	SLU 70	0	-22	1631	0	0	0
265	SLU 71	0	-25	1608	0	0	0
265	SLU 72	0	-22	1624	0	0	0
265	SLU 73	0	-21	1765	0	0	0
265	SLU 74	0	-27	1756	0	0	0
265	SLU 75	0	-24	1772	0	0	0
265	SLU 76	0	-22	1776	0	0	0
265	SLU 77	-1	-28	1767	0	0	0
265	SLU 78	0	-24	1783	0	0	0
265	SLU 79	-1	-27	1760	0	0	0
265	SLU 80	0	-24	1776	0	0	0
265	SLU 81	0	-28	1804	0	0	0
265	SLU 82	0	-24	1820	0	0	0
265	SLU 83	-1	-28	1814	0	0	0
265	SLU 84	0	-25	1830	0	0	0
265	SLE RA 1	0	-19	1187	0	0	0
265	SLE RA 2	0	-15	1204	0	0	0
265	SLE RA 3	0	-19	1198	0	0	0
265	SLE RA 4	0	-17	1209	0	0	0
265	SLE RA 5	0	-15	1211	0	0	0
265	SLE RA 6	0	-19	1206	0	0	0
265	SLE RA 7	0	-17	1216	0	0	0
265	SLE RA 8	0	-19	1201	0	0	0
265	SLE RA 9	0	-17	1211	0	0	0
265	SLE RA 10	0	-16	1306	0	0	0
265	SLE RA 11	0	-20	1300	0	0	0
265	SLE RA 12	0	-18	1311	0	0	0
265	SLE RA 13	0	-16	1313	0	0	0
265	SLE RA 14	0	-20	1307	0	0	0
265	SLE RA 15	0	-18	1318	0	0	0
265	SLE RA 16	0	-20	1302	0	0	0
265	SLE RA 17	0	-18	1313	0	0	0
265	SLE RA 18	0	-21	1331	0	0	0
265	SLE RA 19	0	-18	1342	0	0	0
265	SLE RA 20	0	-21	1339	0	0	0
265	SLE RA 21	0	-19	1349	0	0	0
265	SLE FR 1	0	-19	1187	0	0	0
265	SLE FR 2	0	-18	1190	0	0	0
265	SLE FR 3	0	-19	1189	0	0	0
265	SLE FR 4	0	-18	1234	0	0	0
265	SLE FR 5	0	-19	1233	0	0	0
265	SLE FR 6	0	-20	1259	0	0	0
265	SLE QP 1	0	-19	1187	0	0	0
265	SLE QP 2	0	-19	1230	0	0	0
265	SLD 1	110	21	1390	0	0	0
265	SLD 2	131	26	1396	0	0	0
265	SLD 3	106	-50	986	0	0	0
265	SLD 4	127	-45	992	0	0	0
265	SLD 5	35	100	1890	0	0	0
265	SLD 6	49	103	1894	0	0	0
265	SLD 7	22	-137	543	0	0	0
265	SLD 8	36	-134	547	0	0	0
265	SLD 9	-36	95	1913	0	0	0
265	SLD 10	-22	98	1917	0	0	0
265	SLD 11	-49	-141	566	0	0	0
265	SLD 12	-35	-138	570	0	0	0
265	SLD 13	-127	7	1468	0	0	0
265	SLD 14	-105	12	1474	0	0	0
265	SLD 15	-131	-64	1064	0	0	0
265	SLD 16	-110	-59	1070	0	0	0
265	SLV 1	172	48	1506	0	0	0
265	SLV 2	206	55	1516	0	0	0
265	SLV 3	165	-72	823	0	0	0
265	SLV 4	199	-64	833	0	0	0
265	SLV 5	56	181	2347	0	0	0
265	SLV 6	78	186	2353	0	0	0
265	SLV 7	33	-218	71	0	0	0
265	SLV 8	56	-213	77	0	0	0
265	SLV 9	-55	175	2383	0	0	0
265	SLV 10	-33	180	2389	0	0	0
265	SLV 11	-78	-225	107	0	0	0
265	SLV 12	-55	-220	113	0	0	0
265	SLV 13	-199	26	1627	0	0	0
265	SLV 14	-165	33	1637	0	0	0
265	SLV 15	-205	-94	944	0	0	0
265	SLV 16	-171	-86	954	0	0	0
265	SLV FO 1	189	55	1534	0	0	0
265	SLV FO 2	226	63	1544	0	0	0
265	SLV FO 3	181	-77	783	0	0	0
265	SLV FO 4	219	-69	793	0	0	0
265	SLV FO 5	61	201	2458	0	0	0
265	SLV FO 6	86	207	2465	0	0	0
265	SLV FO 7	36	-238	-45	0	0	0
265	SLV FO 8	61	-232	-38	0	0	0
265	SLV FO 9	-61	194	2498	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
265	SLV FO 10	-36	200	2505	0	0	0
265	SLV FO 11	-86	-245	-5	0	0	0
265	SLV FO 12	-61	-240	2	0	0	0
265	SLV FO 13	-218	31	1667	0	0	0
265	SLV FO 14	-181	39	1677	0	0	0
265	SLV FO 15	-226	-101	916	0	0	0
265	SLV FO 16	-189	-93	926	0	0	0
265	CRTFP Uy+	0	0	0	0	0	0
265	CRTFP Uy-	0	0	0	0	0	0
266	SLU 1	0	-20	1118	0	0	0
266	SLU 2	1	-14	1144	0	0	0
266	SLU 3	0	-20	1136	0	0	0
266	SLU 4	0	-17	1151	0	0	0
266	SLU 5	1	-15	1154	0	0	0
266	SLU 6	0	-21	1146	0	0	0
266	SLU 7	0	-17	1161	0	0	0
266	SLU 8	0	-20	1139	0	0	0
266	SLU 9	0	-17	1154	0	0	0
266	SLU 10	0	-17	1292	0	0	0
266	SLU 11	0	-23	1284	0	0	0
266	SLU 12	0	-19	1299	0	0	0
266	SLU 13	0	-17	1303	0	0	0
266	SLU 14	0	-23	1294	0	0	0
266	SLU 15	0	-20	1310	0	0	0
266	SLU 16	0	-23	1287	0	0	0
266	SLU 17	0	-20	1302	0	0	0
266	SLU 18	0	-23	1330	0	0	0
266	SLU 19	0	-20	1345	0	0	0
266	SLU 20	-1	-23	1340	0	0	0
266	SLU 21	0	-20	1356	0	0	0
266	SLU 22	0	-22	1268	0	0	0
266	SLU 23	1	-17	1294	0	0	0
266	SLU 24	0	-23	1285	0	0	0
266	SLU 25	0	-20	1301	0	0	0
266	SLU 26	1	-17	1304	0	0	0
266	SLU 27	0	-23	1296	0	0	0
266	SLU 28	0	-20	1311	0	0	0
266	SLU 29	0	-23	1288	0	0	0
266	SLU 30	0	-20	1304	0	0	0
266	SLU 31	0	-19	1442	0	0	0
266	SLU 32	0	-25	1433	0	0	0
266	SLU 33	0	-22	1449	0	0	0
266	SLU 34	0	-20	1452	0	0	0
266	SLU 35	0	-25	1444	0	0	0
266	SLU 36	0	-22	1459	0	0	0
266	SLU 37	-1	-25	1437	0	0	0
266	SLU 38	0	-22	1452	0	0	0
266	SLU 39	0	-26	1480	0	0	0
266	SLU 40	0	-23	1495	0	0	0
266	SLU 41	-1	-26	1490	0	0	0
266	SLU 42	0	-23	1505	0	0	0
266	SLU 43	1	-25	1402	0	0	0
266	SLU 44	1	-19	1428	0	0	0
266	SLU 45	0	-25	1420	0	0	0
266	SLU 46	1	-22	1435	0	0	0
266	SLU 47	1	-20	1439	0	0	0
266	SLU 48	0	-26	1430	0	0	0
266	SLU 49	0	-22	1445	0	0	0
266	SLU 50	0	-25	1423	0	0	0
266	SLU 51	0	-22	1438	0	0	0
266	SLU 52	0	-22	1576	0	0	0
266	SLU 53	0	-28	1568	0	0	0
266	SLU 54	0	-24	1583	0	0	0
266	SLU 55	0	-22	1587	0	0	0
266	SLU 56	0	-28	1578	0	0	0
266	SLU 57	0	-25	1594	0	0	0
266	SLU 58	0	-28	1571	0	0	0
266	SLU 59	0	-25	1587	0	0	0
266	SLU 60	0	-28	1614	0	0	0
266	SLU 61	0	-25	1629	0	0	0
266	SLU 62	0	-29	1624	0	0	0
266	SLU 63	0	-25	1640	0	0	0
266	SLU 64	1	-27	1552	0	0	0
266	SLU 65	1	-22	1578	0	0	0
266	SLU 66	0	-28	1569	0	0	0
266	SLU 67	1	-25	1585	0	0	0
266	SLU 68	1	-22	1588	0	0	0
266	SLU 69	0	-28	1580	0	0	0
266	SLU 70	0	-25	1595	0	0	0
266	SLU 71	0	-28	1573	0	0	0
266	SLU 72	0	-25	1588	0	0	0
266	SLU 73	0	-24	1726	0	0	0
266	SLU 74	0	-30	1717	0	0	0
266	SLU 75	0	-27	1733	0	0	0
266	SLU 76	0	-25	1736	0	0	0
266	SLU 77	0	-31	1728	0	0	0
266	SLU 78	0	-27	1743	0	0	0
266	SLU 79	0	-30	1721	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
266	SLU 80	0	-27	1736	0	0	0
266	SLU 81	0	-31	1764	0	0	0
266	SLU 82	0	-28	1779	0	0	0
266	SLU 83	0	-31	1774	0	0	0
266	SLU 84	0	-28	1789	0	0	0
266	SLE RA 1	0	-20	1161	0	0	0
266	SLE RA 2	1	-17	1178	0	0	0
266	SLE RA 3	0	-21	1172	0	0	0
266	SLE RA 4	0	-19	1183	0	0	0
266	SLE RA 5	1	-17	1185	0	0	0
266	SLE RA 6	0	-21	1179	0	0	0
266	SLE RA 7	0	-19	1190	0	0	0
266	SLE RA 8	0	-21	1175	0	0	0
266	SLE RA 9	0	-19	1185	0	0	0
266	SLE RA 10	0	-19	1277	0	0	0
266	SLE RA 11	0	-22	1271	0	0	0
266	SLE RA 12	0	-20	1282	0	0	0
266	SLE RA 13	0	-19	1284	0	0	0
266	SLE RA 14	0	-23	1278	0	0	0
266	SLE RA 15	0	-20	1289	0	0	0
266	SLE RA 16	0	-23	1273	0	0	0
266	SLE RA 17	0	-20	1284	0	0	0
266	SLE RA 18	0	-23	1302	0	0	0
266	SLE RA 19	0	-21	1312	0	0	0
266	SLE RA 20	0	-23	1309	0	0	0
266	SLE RA 21	0	-21	1319	0	0	0
266	SLE FR 1	0	-20	1161	0	0	0
266	SLE FR 2	0	-20	1164	0	0	0
266	SLE FR 3	0	-21	1164	0	0	0
266	SLE FR 4	0	-20	1207	0	0	0
266	SLE FR 5	0	-21	1206	0	0	0
266	SLE FR 6	0	-22	1231	0	0	0
266	SLE QP 1	0	-20	1161	0	0	0
266	SLE QP 2	0	-21	1203	0	0	0
266	SLD 1	109	19	1351	0	0	0
266	SLD 2	130	25	1358	0	0	0
266	SLD 3	105	-50	956	0	0	0
266	SLD 4	126	-44	963	0	0	0
266	SLD 5	35	95	1845	0	0	0
266	SLD 6	49	98	1849	0	0	0
266	SLD 7	22	-135	530	0	0	0
266	SLD 8	35	-132	534	0	0	0
266	SLD 9	-35	89	1873	0	0	0
266	SLD 10	-21	93	1877	0	0	0
266	SLD 11	-49	-141	557	0	0	0
266	SLD 12	-35	-137	562	0	0	0
266	SLD 13	-126	1	1443	0	0	0
266	SLD 14	-104	7	1450	0	0	0
266	SLD 15	-130	-68	1049	0	0	0
266	SLD 16	-108	-62	1055	0	0	0
266	SLV 1	170	47	1459	0	0	0
266	SLV 2	204	56	1470	0	0	0
266	SLV 3	163	-70	793	0	0	0
266	SLV 4	197	-61	803	0	0	0
266	SLV 5	56	174	2289	0	0	0
266	SLV 6	78	180	2297	0	0	0
266	SLV 7	32	-214	67	0	0	0
266	SLV 8	55	-208	74	0	0	0
266	SLV 9	-54	166	2333	0	0	0
266	SLV 10	-32	172	2340	0	0	0
266	SLV 11	-78	-223	110	0	0	0
266	SLV 12	-55	-217	117	0	0	0
266	SLV 13	-196	19	1603	0	0	0
266	SLV 14	-163	28	1614	0	0	0
266	SLV 15	-203	-98	936	0	0	0
266	SLV 16	-170	-89	947	0	0	0
266	SLV FO 1	187	53	1485	0	0	0
266	SLV FO 2	224	63	1497	0	0	0
266	SLV FO 3	180	-75	751	0	0	0
266	SLV FO 4	217	-65	763	0	0	0
266	SLV FO 5	61	194	2398	0	0	0
266	SLV FO 6	86	201	2406	0	0	0
266	SLV FO 7	35	-234	-47	0	0	0
266	SLV FO 8	60	-227	-39	0	0	0
266	SLV FO 9	-60	185	2445	0	0	0
266	SLV FO 10	-35	191	2453	0	0	0
266	SLV FO 11	-86	-243	1	0	0	0
266	SLV FO 12	-61	-236	9	0	0	0
266	SLV FO 13	-216	23	1643	0	0	0
266	SLV FO 14	-179	33	1655	0	0	0
266	SLV FO 15	-224	-106	910	0	0	0
266	SLV FO 16	-187	-96	922	0	0	0
266	CRTFP Uy+	0	0	0	0	0	0
266	CRTFP Uy-	0	0	0	0	0	0
267	SLU 1	1	-22	1103	0	0	0
267	SLU 2	1	-16	1129	0	0	0
267	SLU 3	1	-22	1120	0	0	0
267	SLU 4	1	-19	1136	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLU 5	1	-17	1139	0	0	0
267	SLU 6	0	-23	1130	0	0	0
267	SLU 7	1	-19	1146	0	0	0
267	SLU 8	0	-22	1123	0	0	0
267	SLU 9	1	-19	1139	0	0	0
267	SLU 10	1	-19	1274	0	0	0
267	SLU 11	0	-25	1266	0	0	0
267	SLU 12	0	-22	1281	0	0	0
267	SLU 13	0	-19	1284	0	0	0
267	SLU 14	0	-25	1276	0	0	0
267	SLU 15	0	-22	1291	0	0	0
267	SLU 16	0	-25	1269	0	0	0
267	SLU 17	0	-22	1284	0	0	0
267	SLU 18	0	-25	1311	0	0	0
267	SLU 19	0	-22	1327	0	0	0
267	SLU 20	0	-26	1321	0	0	0
267	SLU 21	0	-23	1337	0	0	0
267	SLU 22	1	-24	1251	0	0	0
267	SLU 23	1	-19	1277	0	0	0
267	SLU 24	1	-25	1268	0	0	0
267	SLU 25	1	-22	1283	0	0	0
267	SLU 26	1	-20	1287	0	0	0
267	SLU 27	0	-25	1278	0	0	0
267	SLU 28	1	-22	1293	0	0	0
267	SLU 29	0	-25	1271	0	0	0
267	SLU 30	1	-22	1286	0	0	0
267	SLU 31	1	-22	1422	0	0	0
267	SLU 32	0	-28	1413	0	0	0
267	SLU 33	0	-24	1429	0	0	0
267	SLU 34	0	-22	1432	0	0	0
267	SLU 35	0	-28	1423	0	0	0
267	SLU 36	0	-25	1439	0	0	0
267	SLU 37	0	-28	1416	0	0	0
267	SLU 38	0	-25	1432	0	0	0
267	SLU 39	0	-28	1459	0	0	0
267	SLU 40	0	-25	1474	0	0	0
267	SLU 41	0	-29	1469	0	0	0
267	SLU 42	0	-25	1484	0	0	0
267	SLU 43	1	-27	1384	0	0	0
267	SLU 44	1	-22	1409	0	0	0
267	SLU 45	1	-28	1400	0	0	0
267	SLU 46	1	-25	1416	0	0	0
267	SLU 47	1	-22	1419	0	0	0
267	SLU 48	1	-28	1410	0	0	0
267	SLU 49	1	-25	1426	0	0	0
267	SLU 50	0	-28	1404	0	0	0
267	SLU 51	1	-25	1419	0	0	0
267	SLU 52	1	-25	1555	0	0	0
267	SLU 53	0	-30	1546	0	0	0
267	SLU 54	0	-27	1561	0	0	0
267	SLU 55	1	-25	1565	0	0	0
267	SLU 56	0	-31	1556	0	0	0
267	SLU 57	0	-28	1571	0	0	0
267	SLU 58	0	-31	1549	0	0	0
267	SLU 59	0	-27	1564	0	0	0
267	SLU 60	0	-31	1591	0	0	0
267	SLU 61	0	-28	1607	0	0	0
267	SLU 62	0	-31	1601	0	0	0
267	SLU 63	0	-28	1617	0	0	0
267	SLU 64	1	-30	1531	0	0	0
267	SLU 65	1	-25	1557	0	0	0
267	SLU 66	1	-31	1548	0	0	0
267	SLU 67	1	-27	1564	0	0	0
267	SLU 68	1	-25	1567	0	0	0
267	SLU 69	1	-31	1558	0	0	0
267	SLU 70	1	-28	1574	0	0	0
267	SLU 71	0	-31	1551	0	0	0
267	SLU 72	1	-28	1567	0	0	0
267	SLU 73	1	-27	1702	0	0	0
267	SLU 74	0	-33	1694	0	0	0
267	SLU 75	0	-30	1709	0	0	0
267	SLU 76	1	-28	1712	0	0	0
267	SLU 77	0	-33	1704	0	0	0
267	SLU 78	0	-30	1719	0	0	0
267	SLU 79	0	-33	1697	0	0	0
267	SLU 80	0	-30	1712	0	0	0
267	SLU 81	0	-34	1739	0	0	0
267	SLU 82	0	-31	1754	0	0	0
267	SLU 83	0	-34	1749	0	0	0
267	SLU 84	0	-31	1764	0	0	0
267	SLE RA 1	1	-22	1145	0	0	0
267	SLE RA 2	1	-19	1162	0	0	0
267	SLE RA 3	1	-23	1157	0	0	0
267	SLE RA 4	1	-21	1167	0	0	0
267	SLE RA 5	1	-19	1169	0	0	0
267	SLE RA 6	0	-23	1163	0	0	0
267	SLE RA 7	1	-21	1174	0	0	0
267	SLE RA 8	0	-23	1159	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLE RA 9	1	-21	1169	0	0	0
267	SLE RA 10	1	-21	1260	0	0	0
267	SLE RA 11	0	-25	1254	0	0	0
267	SLE RA 12	0	-22	1264	0	0	0
267	SLE RA 13	0	-21	1266	0	0	0
267	SLE RA 14	0	-25	1260	0	0	0
267	SLE RA 15	0	-23	1271	0	0	0
267	SLE RA 16	0	-25	1256	0	0	0
267	SLE RA 17	0	-23	1266	0	0	0
267	SLE RA 18	0	-25	1284	0	0	0
267	SLE RA 19	0	-23	1294	0	0	0
267	SLE RA 20	0	-25	1291	0	0	0
267	SLE RA 21	0	-23	1301	0	0	0
267	SLE FR 1	1	-22	1145	0	0	0
267	SLE FR 2	1	-22	1149	0	0	0
267	SLE FR 3	1	-23	1148	0	0	0
267	SLE FR 4	1	-23	1190	0	0	0
267	SLE FR 5	0	-23	1190	0	0	0
267	SLE FR 6	0	-24	1215	0	0	0
267	SLE QP 1	1	-22	1145	0	0	0
267	SLE QP 2	1	-23	1187	0	0	0
267	SLD 1	108	18	1323	0	0	0
267	SLD 2	130	25	1331	0	0	0
267	SLD 3	104	-50	935	0	0	0
267	SLD 4	125	-43	942	0	0	0
267	SLD 5	36	90	1816	0	0	0
267	SLD 6	49	94	1821	0	0	0
267	SLD 7	21	-134	521	0	0	0
267	SLD 8	35	-130	526	0	0	0
267	SLD 9	-34	84	1848	0	0	0
267	SLD 10	-20	88	1853	0	0	0
267	SLD 11	-48	-141	553	0	0	0
267	SLD 12	-35	-136	558	0	0	0
267	SLD 13	-124	-4	1431	0	0	0
267	SLD 14	-103	3	1439	0	0	0
267	SLD 15	-129	-71	1043	0	0	0
267	SLD 16	-107	-64	1050	0	0	0
267	SLV 1	170	45	1425	0	0	0
267	SLV 2	203	56	1437	0	0	0
267	SLV 3	162	-69	769	0	0	0
267	SLV 4	196	-58	780	0	0	0
267	SLV 5	56	168	2252	0	0	0
267	SLV 6	78	175	2260	0	0	0
267	SLV 7	32	-211	63	0	0	0
267	SLV 8	54	-204	71	0	0	0
267	SLV 9	-53	158	2302	0	0	0
267	SLV 10	-31	165	2310	0	0	0
267	SLV 11	-77	-221	114	0	0	0
267	SLV 12	-55	-214	122	0	0	0
267	SLV 13	-195	12	1594	0	0	0
267	SLV 14	-161	22	1605	0	0	0
267	SLV 15	-202	-102	937	0	0	0
267	SLV 16	-168	-92	949	0	0	0
267	SLV FO 1	186	52	1449	0	0	0
267	SLV FO 2	223	64	1462	0	0	0
267	SLV FO 3	178	-73	727	0	0	0
267	SLV FO 4	215	-61	740	0	0	0
267	SLV FO 5	61	187	2358	0	0	0
267	SLV FO 6	86	195	2367	0	0	0
267	SLV FO 7	35	-230	-49	0	0	0
267	SLV FO 8	60	-222	-40	0	0	0
267	SLV FO 9	-59	176	2414	0	0	0
267	SLV FO 10	-34	184	2423	0	0	0
267	SLV FO 11	-85	-241	7	0	0	0
267	SLV FO 12	-60	-233	15	0	0	0
267	SLV FO 13	-214	15	1634	0	0	0
267	SLV FO 14	-177	27	1647	0	0	0
267	SLV FO 15	-222	-110	912	0	0	0
267	SLV FO 16	-185	-98	925	0	0	0
267	CRTFP Uy+	0	0	0	0	0	0
267	CRTFP Uy-	0	0	0	0	0	0
268	SLU 1	1	-23	1094	0	0	0
268	SLU 2	1	-18	1120	0	0	0
268	SLU 3	1	-24	1111	0	0	0
268	SLU 4	1	-21	1126	0	0	0
268	SLU 5	1	-19	1129	0	0	0
268	SLU 6	1	-24	1120	0	0	0
268	SLU 7	1	-21	1136	0	0	0
268	SLU 8	1	-24	1114	0	0	0
268	SLU 9	1	-21	1129	0	0	0
268	SLU 10	1	-21	1264	0	0	0
268	SLU 11	0	-27	1255	0	0	0
268	SLU 12	1	-24	1270	0	0	0
268	SLU 13	1	-22	1273	0	0	0
268	SLU 14	0	-27	1264	0	0	0
268	SLU 15	0	-24	1280	0	0	0
268	SLU 16	0	-27	1257	0	0	0
268	SLU 17	0	-24	1273	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
268	SLU 18	0	-27	1300	0	0	0
268	SLU 19	1	-24	1315	0	0	0
268	SLU 20	0	-28	1309	0	0	0
268	SLU 21	0	-25	1325	0	0	0
268	SLU 22	1	-26	1241	0	0	0
268	SLU 23	1	-21	1266	0	0	0
268	SLU 24	1	-27	1257	0	0	0
268	SLU 25	1	-24	1273	0	0	0
268	SLU 26	1	-22	1276	0	0	0
268	SLU 27	1	-27	1267	0	0	0
268	SLU 28	1	-24	1282	0	0	0
268	SLU 29	1	-27	1260	0	0	0
268	SLU 30	1	-24	1275	0	0	0
268	SLU 31	1	-24	1410	0	0	0
268	SLU 32	0	-30	1401	0	0	0
268	SLU 33	1	-27	1416	0	0	0
268	SLU 34	1	-25	1420	0	0	0
268	SLU 35	0	-30	1411	0	0	0
268	SLU 36	0	-27	1426	0	0	0
268	SLU 37	0	-30	1404	0	0	0
268	SLU 38	0	-27	1419	0	0	0
268	SLU 39	0	-30	1446	0	0	0
268	SLU 40	1	-27	1462	0	0	0
268	SLU 41	0	-31	1456	0	0	0
268	SLU 42	0	-28	1471	0	0	0
268	SLU 43	1	-29	1372	0	0	0
268	SLU 44	2	-24	1398	0	0	0
268	SLU 45	1	-30	1389	0	0	0
268	SLU 46	1	-27	1404	0	0	0
268	SLU 47	1	-25	1407	0	0	0
268	SLU 48	1	-30	1398	0	0	0
268	SLU 49	1	-27	1414	0	0	0
268	SLU 50	1	-30	1392	0	0	0
268	SLU 51	1	-27	1407	0	0	0
268	SLU 52	1	-27	1541	0	0	0
268	SLU 53	1	-33	1533	0	0	0
268	SLU 54	1	-30	1548	0	0	0
268	SLU 55	1	-28	1551	0	0	0
268	SLU 56	0	-33	1542	0	0	0
268	SLU 57	1	-30	1558	0	0	0
268	SLU 58	0	-33	1535	0	0	0
268	SLU 59	1	-30	1551	0	0	0
268	SLU 60	1	-33	1578	0	0	0
268	SLU 61	1	-30	1593	0	0	0
268	SLU 62	0	-34	1587	0	0	0
268	SLU 63	1	-31	1603	0	0	0
268	SLU 64	1	-32	1519	0	0	0
268	SLU 65	2	-27	1544	0	0	0
268	SLU 66	1	-33	1535	0	0	0
268	SLU 67	1	-30	1551	0	0	0
268	SLU 68	2	-28	1554	0	0	0
268	SLU 69	1	-33	1545	0	0	0
268	SLU 70	1	-30	1560	0	0	0
268	SLU 71	1	-33	1538	0	0	0
268	SLU 72	1	-30	1553	0	0	0
268	SLU 73	1	-30	1688	0	0	0
268	SLU 74	1	-36	1679	0	0	0
268	SLU 75	1	-33	1694	0	0	0
268	SLU 76	1	-31	1698	0	0	0
268	SLU 77	0	-36	1689	0	0	0
268	SLU 78	1	-33	1704	0	0	0
268	SLU 79	0	-36	1682	0	0	0
268	SLU 80	1	-33	1697	0	0	0
268	SLU 81	1	-36	1724	0	0	0
268	SLU 82	1	-33	1739	0	0	0
268	SLU 83	0	-37	1734	0	0	0
268	SLU 84	1	-34	1749	0	0	0
268	SLE RA 1	1	-24	1136	0	0	0
268	SLE RA 2	1	-21	1153	0	0	0
268	SLE RA 3	1	-25	1147	0	0	0
268	SLE RA 4	1	-23	1157	0	0	0
268	SLE RA 5	1	-21	1159	0	0	0
268	SLE RA 6	1	-25	1154	0	0	0
268	SLE RA 7	1	-23	1164	0	0	0
268	SLE RA 8	1	-25	1149	0	0	0
268	SLE RA 9	1	-23	1159	0	0	0
268	SLE RA 10	1	-23	1249	0	0	0
268	SLE RA 11	1	-27	1243	0	0	0
268	SLE RA 12	1	-25	1253	0	0	0
268	SLE RA 13	1	-23	1255	0	0	0
268	SLE RA 14	0	-27	1249	0	0	0
268	SLE RA 15	1	-25	1260	0	0	0
268	SLE RA 16	0	-27	1245	0	0	0
268	SLE RA 17	1	-25	1255	0	0	0
268	SLE RA 18	1	-27	1273	0	0	0
268	SLE RA 19	1	-25	1283	0	0	0
268	SLE RA 20	0	-27	1279	0	0	0
268	SLE RA 21	1	-25	1290	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
268	SLE FR 1	1	-24	1136	0	0	0
268	SLE FR 2	1	-24	1139	0	0	0
268	SLE FR 3	1	-24	1139	0	0	0
268	SLE FR 4	1	-24	1180	0	0	0
268	SLE FR 5	1	-25	1180	0	0	0
268	SLE FR 6	1	-26	1204	0	0	0
268	SLE QP 1	1	-24	1136	0	0	0
268	SLE QP 2	1	-25	1177	0	0	0
268	SLD 1	108	16	1303	0	0	0
268	SLD 2	129	24	1311	0	0	0
268	SLD 3	103	-49	918	0	0	0
268	SLD 4	124	-42	927	0	0	0
268	SLD 5	36	85	1797	0	0	0
268	SLD 6	50	90	1802	0	0	0
268	SLD 7	21	-133	514	0	0	0
268	SLD 8	35	-128	520	0	0	0
268	SLD 9	-33	78	1834	0	0	0
268	SLD 10	-20	83	1840	0	0	0
268	SLD 11	-48	-141	552	0	0	0
268	SLD 12	-34	-136	557	0	0	0
268	SLD 13	-123	-8	1428	0	0	0
268	SLD 14	-102	-1	1436	0	0	0
268	SLD 15	-127	-74	1043	0	0	0
268	SLD 16	-106	-66	1051	0	0	0
268	SLV 1	168	43	1398	0	0	0
268	SLV 2	201	56	1411	0	0	0
268	SLV 3	161	-67	748	0	0	0
268	SLV 4	194	-55	761	0	0	0
268	SLV 5	56	161	2227	0	0	0
268	SLV 6	78	169	2236	0	0	0
268	SLV 7	31	-208	60	0	0	0
268	SLV 8	54	-200	69	0	0	0
268	SLV 9	-52	150	2285	0	0	0
268	SLV 10	-30	158	2294	0	0	0
268	SLV 11	-77	-220	118	0	0	0
268	SLV 12	-54	-211	127	0	0	0
268	SLV 13	-192	5	1593	0	0	0
268	SLV 14	-159	17	1606	0	0	0
268	SLV 15	-200	-106	943	0	0	0
268	SLV 16	-167	-94	956	0	0	0
268	SLV FO 1	185	50	1420	0	0	0
268	SLV FO 2	221	64	1435	0	0	0
268	SLV FO 3	177	-72	705	0	0	0
268	SLV FO 4	213	-58	720	0	0	0
268	SLV FO 5	62	180	2332	0	0	0
268	SLV FO 6	86	189	2342	0	0	0
268	SLV FO 7	34	-226	-52	0	0	0
268	SLV FO 8	59	-217	-42	0	0	0
268	SLV FO 9	-57	167	2396	0	0	0
268	SLV FO 10	-33	176	2406	0	0	0
268	SLV FO 11	-84	-239	12	0	0	0
268	SLV FO 12	-60	-230	22	0	0	0
268	SLV FO 13	-211	8	1634	0	0	0
268	SLV FO 14	-175	21	1649	0	0	0
268	SLV FO 15	-220	-114	919	0	0	0
268	SLV FO 16	-183	-100	934	0	0	0
268	CRTFP Uy+	0	0	0	0	0	0
268	CRTFP Uy-	0	0	0	0	0	0
269	SLU 1	1	-25	1081	0	0	0
269	SLU 2	2	-20	1107	0	0	0
269	SLU 3	1	-25	1098	0	0	0
269	SLU 4	2	-22	1113	0	0	0
269	SLU 5	2	-20	1116	0	0	0
269	SLU 6	1	-26	1107	0	0	0
269	SLU 7	1	-23	1122	0	0	0
269	SLU 8	1	-26	1100	0	0	0
269	SLU 9	1	-23	1116	0	0	0
269	SLU 10	1	-23	1249	0	0	0
269	SLU 11	1	-28	1240	0	0	0
269	SLU 12	1	-25	1255	0	0	0
269	SLU 13	1	-23	1258	0	0	0
269	SLU 14	1	-29	1249	0	0	0
269	SLU 15	1	-26	1264	0	0	0
269	SLU 16	1	-29	1242	0	0	0
269	SLU 17	1	-26	1258	0	0	0
269	SLU 18	1	-29	1284	0	0	0
269	SLU 19	1	-26	1299	0	0	0
269	SLU 20	1	-29	1294	0	0	0
269	SLU 21	1	-27	1309	0	0	0
269	SLU 22	2	-28	1227	0	0	0
269	SLU 23	2	-23	1252	0	0	0
269	SLU 24	1	-28	1243	0	0	0
269	SLU 25	2	-26	1258	0	0	0
269	SLU 26	2	-23	1261	0	0	0
269	SLU 27	1	-29	1252	0	0	0
269	SLU 28	1	-26	1268	0	0	0
269	SLU 29	1	-29	1246	0	0	0
269	SLU 30	1	-26	1261	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLU 31	2	-26	1394	0	0	0
269	SLU 32	1	-31	1385	0	0	0
269	SLU 33	1	-29	1400	0	0	0
269	SLU 34	1	-26	1403	0	0	0
269	SLU 35	1	-32	1394	0	0	0
269	SLU 36	1	-29	1410	0	0	0
269	SLU 37	1	-32	1388	0	0	0
269	SLU 38	1	-29	1403	0	0	0
269	SLU 39	1	-32	1429	0	0	0
269	SLU 40	1	-29	1445	0	0	0
269	SLU 41	1	-33	1439	0	0	0
269	SLU 42	1	-30	1454	0	0	0
269	SLU 43	2	-31	1356	0	0	0
269	SLU 44	2	-26	1381	0	0	0
269	SLU 45	2	-32	1372	0	0	0
269	SLU 46	2	-29	1387	0	0	0
269	SLU 47	2	-27	1391	0	0	0
269	SLU 48	1	-32	1382	0	0	0
269	SLU 49	2	-29	1397	0	0	0
269	SLU 50	1	-32	1375	0	0	0
269	SLU 51	2	-29	1390	0	0	0
269	SLU 52	2	-29	1523	0	0	0
269	SLU 53	1	-35	1514	0	0	0
269	SLU 54	1	-32	1529	0	0	0
269	SLU 55	2	-30	1533	0	0	0
269	SLU 56	1	-35	1524	0	0	0
269	SLU 57	1	-32	1539	0	0	0
269	SLU 58	1	-35	1517	0	0	0
269	SLU 59	1	-32	1532	0	0	0
269	SLU 60	1	-35	1559	0	0	0
269	SLU 61	1	-32	1574	0	0	0
269	SLU 62	1	-36	1568	0	0	0
269	SLU 63	1	-33	1584	0	0	0
269	SLU 64	2	-34	1501	0	0	0
269	SLU 65	2	-29	1527	0	0	0
269	SLU 66	2	-35	1517	0	0	0
269	SLU 67	2	-32	1533	0	0	0
269	SLU 68	2	-30	1536	0	0	0
269	SLU 69	2	-35	1527	0	0	0
269	SLU 70	2	-32	1542	0	0	0
269	SLU 71	2	-35	1520	0	0	0
269	SLU 72	2	-32	1535	0	0	0
269	SLU 73	2	-32	1669	0	0	0
269	SLU 74	1	-38	1659	0	0	0
269	SLU 75	2	-35	1675	0	0	0
269	SLU 76	2	-33	1678	0	0	0
269	SLU 77	1	-38	1669	0	0	0
269	SLU 78	1	-35	1684	0	0	0
269	SLU 79	1	-38	1662	0	0	0
269	SLU 80	1	-35	1677	0	0	0
269	SLU 81	1	-39	1704	0	0	0
269	SLU 82	2	-36	1719	0	0	0
269	SLU 83	1	-39	1714	0	0	0
269	SLU 84	1	-36	1729	0	0	0
269	SLE RA 1	1	-26	1123	0	0	0
269	SLE RA 2	2	-22	1140	0	0	0
269	SLE RA 3	1	-26	1134	0	0	0
269	SLE RA 4	2	-24	1144	0	0	0
269	SLE RA 5	2	-23	1146	0	0	0
269	SLE RA 6	1	-26	1140	0	0	0
269	SLE RA 7	1	-24	1150	0	0	0
269	SLE RA 8	1	-26	1136	0	0	0
269	SLE RA 9	1	-24	1146	0	0	0
269	SLE RA 10	1	-24	1234	0	0	0
269	SLE RA 11	1	-28	1228	0	0	0
269	SLE RA 12	1	-26	1239	0	0	0
269	SLE RA 13	1	-25	1241	0	0	0
269	SLE RA 14	1	-28	1235	0	0	0
269	SLE RA 15	1	-26	1245	0	0	0
269	SLE RA 16	1	-28	1230	0	0	0
269	SLE RA 17	1	-26	1240	0	0	0
269	SLE RA 18	1	-29	1258	0	0	0
269	SLE RA 19	1	-27	1268	0	0	0
269	SLE RA 20	1	-29	1264	0	0	0
269	SLE RA 21	1	-27	1275	0	0	0
269	SLE FR 1	1	-26	1123	0	0	0
269	SLE FR 2	2	-25	1126	0	0	0
269	SLE FR 3	1	-26	1125	0	0	0
269	SLE FR 4	1	-26	1167	0	0	0
269	SLE FR 5	1	-27	1166	0	0	0
269	SLE FR 6	1	-27	1190	0	0	0
269	SLE QP 1	1	-26	1123	0	0	0
269	SLE QP 2	1	-27	1163	0	0	0
269	SLD 1	106	14	1279	0	0	0
269	SLD 2	126	23	1288	0	0	0
269	SLD 3	101	-49	899	0	0	0
269	SLD 4	122	-40	908	0	0	0
269	SLD 5	36	80	1773	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLD 6	49	86	1779	0	0	0
269	SLD 7	21	-131	506	0	0	0
269	SLD 8	34	-125	512	0	0	0
269	SLD 9	-32	72	1815	0	0	0
269	SLD 10	-18	77	1821	0	0	0
269	SLD 11	-47	-139	548	0	0	0
269	SLD 12	-33	-133	554	0	0	0
269	SLD 13	-119	-13	1419	0	0	0
269	SLD 14	-99	-4	1428	0	0	0
269	SLD 15	-124	-76	1039	0	0	0
269	SLD 16	-103	-67	1048	0	0	0
269	SLV 1	165	41	1368	0	0	0
269	SLV 2	197	55	1382	0	0	0
269	SLV 3	158	-66	726	0	0	0
269	SLV 4	190	-52	740	0	0	0
269	SLV 5	56	153	2196	0	0	0
269	SLV 6	78	162	2206	0	0	0
269	SLV 7	31	-203	56	0	0	0
269	SLV 8	52	-194	65	0	0	0
269	SLV 9	-50	141	2262	0	0	0
269	SLV 10	-28	150	2271	0	0	0
269	SLV 11	-75	-215	121	0	0	0
269	SLV 12	-53	-206	131	0	0	0
269	SLV 13	-187	-1	1587	0	0	0
269	SLV 14	-155	12	1601	0	0	0
269	SLV 15	-195	-108	945	0	0	0
269	SLV 16	-162	-94	959	0	0	0
269	SLV FO 1	181	48	1388	0	0	0
269	SLV FO 2	217	63	1404	0	0	0
269	SLV FO 3	173	-69	682	0	0	0
269	SLV FO 4	209	-55	698	0	0	0
269	SLV FO 5	61	171	2299	0	0	0
269	SLV FO 6	85	181	2310	0	0	0
269	SLV FO 7	34	-220	-55	0	0	0
269	SLV FO 8	57	-210	-45	0	0	0
269	SLV FO 9	-55	157	2371	0	0	0
269	SLV FO 10	-31	167	2382	0	0	0
269	SLV FO 11	-83	-234	17	0	0	0
269	SLV FO 12	-59	-224	28	0	0	0
269	SLV FO 13	-206	2	1629	0	0	0
269	SLV FO 14	-170	16	1645	0	0	0
269	SLV FO 15	-214	-116	923	0	0	0
269	SLV FO 16	-179	-101	939	0	0	0
269	CRTFP Uy+	0	0	0	0	0	0
269	CRTFP Uy-	0	0	0	0	0	0
270	SLU 1	2	-24	1017	0	0	0
270	SLU 2	2	-20	1041	0	0	0
270	SLU 3	2	-25	1032	0	0	0
270	SLU 4	2	-22	1047	0	0	0
270	SLU 5	2	-20	1050	0	0	0
270	SLU 6	2	-25	1041	0	0	0
270	SLU 7	2	-23	1055	0	0	0
270	SLU 8	2	-25	1035	0	0	0
270	SLU 9	2	-22	1049	0	0	0
270	SLU 10	2	-23	1174	0	0	0
270	SLU 11	1	-28	1166	0	0	0
270	SLU 12	2	-25	1180	0	0	0
270	SLU 13	2	-23	1183	0	0	0
270	SLU 14	1	-28	1175	0	0	0
270	SLU 15	1	-26	1189	0	0	0
270	SLU 16	1	-28	1168	0	0	0
270	SLU 17	1	-25	1183	0	0	0
270	SLU 18	1	-29	1208	0	0	0
270	SLU 19	2	-26	1222	0	0	0
270	SLU 20	1	-29	1217	0	0	0
270	SLU 21	1	-26	1231	0	0	0
270	SLU 22	2	-27	1154	0	0	0
270	SLU 23	2	-23	1178	0	0	0
270	SLU 24	2	-28	1169	0	0	0
270	SLU 25	2	-25	1184	0	0	0
270	SLU 26	2	-23	1187	0	0	0
270	SLU 27	2	-28	1178	0	0	0
270	SLU 28	2	-26	1192	0	0	0
270	SLU 29	2	-28	1172	0	0	0
270	SLU 30	2	-26	1186	0	0	0
270	SLU 31	2	-26	1311	0	0	0
270	SLU 32	2	-31	1303	0	0	0
270	SLU 33	2	-28	1317	0	0	0
270	SLU 34	2	-26	1320	0	0	0
270	SLU 35	1	-31	1312	0	0	0
270	SLU 36	2	-29	1326	0	0	0
270	SLU 37	1	-31	1305	0	0	0
270	SLU 38	2	-29	1320	0	0	0
270	SLU 39	2	-32	1345	0	0	0
270	SLU 40	2	-29	1359	0	0	0
270	SLU 41	1	-32	1354	0	0	0
270	SLU 42	2	-29	1368	0	0	0
270	SLU 43	2	-31	1275	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
270	SLU 44	3	-26	1299	0	0	0
270	SLU 45	2	-31	1290	0	0	0
270	SLU 46	2	-29	1305	0	0	0
270	SLU 47	3	-27	1308	0	0	0
270	SLU 48	2	-32	1299	0	0	0
270	SLU 49	2	-29	1314	0	0	0
270	SLU 50	2	-31	1293	0	0	0
270	SLU 51	2	-29	1307	0	0	0
270	SLU 52	2	-29	1433	0	0	0
270	SLU 53	2	-34	1424	0	0	0
270	SLU 54	2	-31	1438	0	0	0
270	SLU 55	2	-30	1441	0	0	0
270	SLU 56	2	-34	1433	0	0	0
270	SLU 57	2	-32	1447	0	0	0
270	SLU 58	2	-34	1426	0	0	0
270	SLU 59	2	-32	1441	0	0	0
270	SLU 60	2	-35	1466	0	0	0
270	SLU 61	2	-32	1480	0	0	0
270	SLU 62	2	-35	1475	0	0	0
270	SLU 63	2	-33	1489	0	0	0
270	SLU 64	3	-34	1412	0	0	0
270	SLU 65	3	-29	1436	0	0	0
270	SLU 66	2	-34	1427	0	0	0
270	SLU 67	3	-32	1442	0	0	0
270	SLU 68	3	-30	1445	0	0	0
270	SLU 69	2	-35	1436	0	0	0
270	SLU 70	2	-32	1451	0	0	0
270	SLU 71	2	-34	1430	0	0	0
270	SLU 72	2	-32	1444	0	0	0
270	SLU 73	3	-32	1570	0	0	0
270	SLU 74	2	-37	1561	0	0	0
270	SLU 75	2	-35	1575	0	0	0
270	SLU 76	2	-33	1578	0	0	0
270	SLU 77	2	-38	1570	0	0	0
270	SLU 78	2	-35	1584	0	0	0
270	SLU 79	2	-37	1563	0	0	0
270	SLU 80	2	-35	1578	0	0	0
270	SLU 81	2	-38	1603	0	0	0
270	SLU 82	2	-35	1617	0	0	0
270	SLU 83	2	-38	1612	0	0	0
270	SLU 84	2	-36	1626	0	0	0
270	SLE RA 1	2	-25	1056	0	0	0
270	SLE RA 2	2	-22	1072	0	0	0
270	SLE RA 3	2	-26	1066	0	0	0
270	SLE RA 4	2	-24	1076	0	0	0
270	SLE RA 5	2	-23	1078	0	0	0
270	SLE RA 6	2	-26	1072	0	0	0
270	SLE RA 7	2	-24	1082	0	0	0
270	SLE RA 8	2	-26	1068	0	0	0
270	SLE RA 9	2	-24	1077	0	0	0
270	SLE RA 10	2	-24	1161	0	0	0
270	SLE RA 11	2	-28	1155	0	0	0
270	SLE RA 12	2	-26	1165	0	0	0
270	SLE RA 13	2	-25	1167	0	0	0
270	SLE RA 14	2	-28	1161	0	0	0
270	SLE RA 15	2	-26	1171	0	0	0
270	SLE RA 16	1	-28	1157	0	0	0
270	SLE RA 17	2	-26	1166	0	0	0
270	SLE RA 18	2	-28	1183	0	0	0
270	SLE RA 19	2	-26	1193	0	0	0
270	SLE RA 20	2	-28	1189	0	0	0
270	SLE RA 21	2	-27	1199	0	0	0
270	SLE FR 1	2	-25	1056	0	0	0
270	SLE FR 2	2	-25	1059	0	0	0
270	SLE FR 3	2	-25	1058	0	0	0
270	SLE FR 4	2	-26	1097	0	0	0
270	SLE FR 5	2	-26	1097	0	0	0
270	SLE FR 6	2	-27	1120	0	0	0
270	SLE QP 1	2	-25	1056	0	0	0
270	SLE QP 2	2	-26	1094	0	0	0
270	SLD 1	99	12	1194	0	0	0
270	SLD 2	118	21	1204	0	0	0
270	SLD 3	94	-46	837	0	0	0
270	SLD 4	113	-37	846	0	0	0
270	SLD 5	34	71	1665	0	0	0
270	SLD 6	46	77	1671	0	0	0
270	SLD 7	20	-121	473	0	0	0
270	SLD 8	32	-115	479	0	0	0
270	SLD 9	-28	63	1709	0	0	0
270	SLD 10	-16	69	1715	0	0	0
270	SLD 11	-43	-129	517	0	0	0
270	SLD 12	-31	-124	523	0	0	0
270	SLD 13	-109	-15	1342	0	0	0
270	SLD 14	-91	-7	1352	0	0	0
270	SLD 15	-114	-73	985	0	0	0
270	SLD 16	-95	-64	994	0	0	0
270	SLV 1	153	37	1274	0	0	0
270	SLV 2	183	51	1288	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
270	SLV 3	146	-60	669	0	0	0
270	SLV 4	176	-47	684	0	0	0
270	SLV 5	53	138	2062	0	0	0
270	SLV 6	73	148	2072	0	0	0
270	SLV 7	28	-187	48	0	0	0
270	SLV 8	48	-178	58	0	0	0
270	SLV 9	-45	125	2131	0	0	0
270	SLV 10	-25	135	2141	0	0	0
270	SLV 11	-69	-200	117	0	0	0
270	SLV 12	-49	-190	127	0	0	0
270	SLV 13	-172	-6	1504	0	0	0
270	SLV 14	-142	8	1519	0	0	0
270	SLV 15	-180	-103	900	0	0	0
270	SLV 16	-150	-89	915	0	0	0
270	SLV FO 1	168	43	1292	0	0	0
270	SLV FO 2	201	59	1308	0	0	0
270	SLV FO 3	160	-64	627	0	0	0
270	SLV FO 4	193	-49	643	0	0	0
270	SLV FO 5	58	155	2159	0	0	0
270	SLV FO 6	80	165	2169	0	0	0
270	SLV FO 7	31	-203	-57	0	0	0
270	SLV FO 8	53	-193	-46	0	0	0
270	SLV FO 9	-49	141	2235	0	0	0
270	SLV FO 10	-27	151	2246	0	0	0
270	SLV FO 11	-77	-217	19	0	0	0
270	SLV FO 12	-54	-207	30	0	0	0
270	SLV FO 13	-189	-4	1545	0	0	0
270	SLV FO 14	-157	12	1562	0	0	0
270	SLV FO 15	-198	-111	881	0	0	0
270	SLV FO 16	-165	-96	897	0	0	0
270	CRTFP Uy+	0	0	0	0	0	0
270	CRTFP Uy-	0	0	0	0	0	0
271	SLU 1	2	-23	909	0	0	0
271	SLU 2	2	-19	931	0	0	0
271	SLU 3	2	-23	923	0	0	0
271	SLU 4	2	-21	935	0	0	0
271	SLU 5	2	-19	938	0	0	0
271	SLU 6	2	-23	930	0	0	0
271	SLU 7	2	-21	943	0	0	0
271	SLU 8	2	-23	925	0	0	0
271	SLU 9	2	-21	938	0	0	0
271	SLU 10	2	-21	1050	0	0	0
271	SLU 11	2	-26	1042	0	0	0
271	SLU 12	2	-23	1055	0	0	0
271	SLU 13	2	-22	1058	0	0	0
271	SLU 14	2	-26	1050	0	0	0
271	SLU 15	2	-24	1063	0	0	0
271	SLU 16	2	-26	1044	0	0	0
271	SLU 17	2	-24	1057	0	0	0
271	SLU 18	2	-26	1079	0	0	0
271	SLU 19	2	-24	1092	0	0	0
271	SLU 20	2	-27	1087	0	0	0
271	SLU 21	2	-24	1100	0	0	0
271	SLU 22	2	-25	1032	0	0	0
271	SLU 23	3	-22	1053	0	0	0
271	SLU 24	2	-26	1045	0	0	0
271	SLU 25	2	-24	1058	0	0	0
271	SLU 26	3	-22	1061	0	0	0
271	SLU 27	2	-26	1053	0	0	0
271	SLU 28	2	-24	1066	0	0	0
271	SLU 29	2	-26	1048	0	0	0
271	SLU 30	2	-24	1060	0	0	0
271	SLU 31	2	-24	1173	0	0	0
271	SLU 32	2	-29	1165	0	0	0
271	SLU 33	2	-26	1178	0	0	0
271	SLU 34	2	-25	1181	0	0	0
271	SLU 35	2	-29	1173	0	0	0
271	SLU 36	2	-27	1186	0	0	0
271	SLU 37	2	-29	1167	0	0	0
271	SLU 38	2	-26	1180	0	0	0
271	SLU 39	2	-29	1202	0	0	0
271	SLU 40	2	-27	1215	0	0	0
271	SLU 41	2	-30	1210	0	0	0
271	SLU 42	2	-27	1223	0	0	0
271	SLU 43	3	-28	1140	0	0	0
271	SLU 44	3	-25	1161	0	0	0
271	SLU 45	3	-29	1153	0	0	0
271	SLU 46	3	-27	1166	0	0	0
271	SLU 47	3	-25	1169	0	0	0
271	SLU 48	2	-29	1161	0	0	0
271	SLU 49	3	-27	1174	0	0	0
271	SLU 50	2	-29	1155	0	0	0
271	SLU 51	3	-27	1168	0	0	0
271	SLU 52	3	-27	1280	0	0	0
271	SLU 53	2	-32	1272	0	0	0
271	SLU 54	3	-29	1285	0	0	0
271	SLU 55	3	-28	1288	0	0	0
271	SLU 56	2	-32	1280	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLU 57	2	-30	1293	0	0	0
271	SLU 58	2	-32	1275	0	0	0
271	SLU 59	2	-29	1287	0	0	0
271	SLU 60	2	-32	1310	0	0	0
271	SLU 61	3	-30	1323	0	0	0
271	SLU 62	2	-33	1318	0	0	0
271	SLU 63	2	-30	1331	0	0	0
271	SLU 64	3	-31	1262	0	0	0
271	SLU 65	3	-27	1284	0	0	0
271	SLU 66	3	-32	1276	0	0	0
271	SLU 67	3	-29	1289	0	0	0
271	SLU 68	3	-28	1292	0	0	0
271	SLU 69	3	-32	1284	0	0	0
271	SLU 70	3	-30	1297	0	0	0
271	SLU 71	3	-32	1278	0	0	0
271	SLU 72	3	-30	1291	0	0	0
271	SLU 73	3	-30	1403	0	0	0
271	SLU 74	3	-34	1395	0	0	0
271	SLU 75	3	-32	1408	0	0	0
271	SLU 76	3	-30	1411	0	0	0
271	SLU 77	2	-35	1403	0	0	0
271	SLU 78	3	-32	1416	0	0	0
271	SLU 79	2	-35	1397	0	0	0
271	SLU 80	3	-32	1410	0	0	0
271	SLU 81	3	-35	1433	0	0	0
271	SLU 82	3	-33	1446	0	0	0
271	SLU 83	2	-35	1441	0	0	0
271	SLU 84	3	-33	1454	0	0	0
271	SLE RA 1	2	-23	944	0	0	0
271	SLE RA 2	2	-21	958	0	0	0
271	SLE RA 3	2	-24	953	0	0	0
271	SLE RA 4	2	-22	962	0	0	0
271	SLE RA 5	2	-21	964	0	0	0
271	SLE RA 6	2	-24	958	0	0	0
271	SLE RA 7	2	-22	967	0	0	0
271	SLE RA 8	2	-24	955	0	0	0
271	SLE RA 9	2	-22	963	0	0	0
271	SLE RA 10	2	-23	1038	0	0	0
271	SLE RA 11	2	-26	1033	0	0	0
271	SLE RA 12	2	-24	1041	0	0	0
271	SLE RA 13	2	-23	1043	0	0	0
271	SLE RA 14	2	-26	1038	0	0	0
271	SLE RA 15	2	-24	1047	0	0	0
271	SLE RA 16	2	-26	1034	0	0	0
271	SLE RA 17	2	-24	1043	0	0	0
271	SLE RA 18	2	-26	1058	0	0	0
271	SLE RA 19	2	-24	1066	0	0	0
271	SLE RA 20	2	-26	1063	0	0	0
271	SLE RA 21	2	-25	1072	0	0	0
271	SLE FR 1	2	-23	944	0	0	0
271	SLE FR 2	2	-23	947	0	0	0
271	SLE FR 3	2	-23	946	0	0	0
271	SLE FR 4	2	-24	981	0	0	0
271	SLE FR 5	2	-24	980	0	0	0
271	SLE FR 6	2	-25	1001	0	0	0
271	SLE QP 1	2	-23	944	0	0	0
271	SLE QP 2	2	-24	978	0	0	0
271	SLD 1	87	10	1061	0	0	0
271	SLD 2	104	18	1070	0	0	0
271	SLD 3	83	-41	741	0	0	0
271	SLD 4	100	-32	750	0	0	0
271	SLD 5	31	61	1487	0	0	0
271	SLD 6	42	66	1493	0	0	0
271	SLD 7	17	-107	420	0	0	0
271	SLD 8	28	-101	426	0	0	0
271	SLD 9	-24	53	1531	0	0	0
271	SLD 10	-13	58	1537	0	0	0
271	SLD 11	-37	-114	463	0	0	0
271	SLD 12	-27	-109	469	0	0	0
271	SLD 13	-95	-16	1206	0	0	0
271	SLD 14	-79	-8	1215	0	0	0
271	SLD 15	-100	-66	886	0	0	0
271	SLD 16	-83	-58	895	0	0	0
271	SLV 1	135	32	1129	0	0	0
271	SLV 2	161	45	1143	0	0	0
271	SLV 3	128	-53	588	0	0	0
271	SLV 4	155	-40	602	0	0	0
271	SLV 5	48	119	1842	0	0	0
271	SLV 6	65	128	1851	0	0	0
271	SLV 7	25	-164	38	0	0	0
271	SLV 8	42	-155	47	0	0	0
271	SLV 9	-38	107	1909	0	0	0
271	SLV 10	-20	116	1919	0	0	0
271	SLV 11	-61	-176	105	0	0	0
271	SLV 12	-43	-167	115	0	0	0
271	SLV 13	-150	-8	1355	0	0	0
271	SLV 14	-124	5	1369	0	0	0
271	SLV 15	-157	-93	813	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLV 16	-131	-80	828	0	0	0
271	SLV FO 1	148	37	1144	0	0	0
271	SLV FO 2	177	52	1160	0	0	0
271	SLV FO 3	141	-56	549	0	0	0
271	SLV FO 4	170	-42	564	0	0	0
271	SLV FO 5	52	133	1928	0	0	0
271	SLV FO 6	71	143	1938	0	0	0
271	SLV FO 7	27	-178	-57	0	0	0
271	SLV FO 8	46	-168	-46	0	0	0
271	SLV FO 9	-42	120	2002	0	0	0
271	SLV FO 10	-23	130	2013	0	0	0
271	SLV FO 11	-67	-191	18	0	0	0
271	SLV FO 12	-48	-182	28	0	0	0
271	SLV FO 13	-166	-7	1392	0	0	0
271	SLV FO 14	-137	8	1408	0	0	0
271	SLV FO 15	-173	-100	797	0	0	0
271	SLV FO 16	-144	-86	812	0	0	0
271	CRTFP Uy+	0	0	0	0	0	0
271	CRTFP Uy-	0	0	0	0	0	0
274	SLU 1	0	-38	3815	-91.81	1125.26	10.65
274	SLU 2	2	-19	3902	-94.06	1151.1	5.09
274	SLU 3	0	-39	3876	-93.26	1143.6	10.92
274	SLU 4	1	-28	3929	-94.62	1159.1	7.59
274	SLU 5	1	-20	3940	-94.93	1162.18	5.3
274	SLU 6	-1	-40	3913	-94.13	1154.68	11.14
274	SLU 7	0	-28	3966	-95.49	1170.18	7.8
274	SLU 8	-1	-40	3889	-93.55	1147.42	11.08
274	SLU 9	0	-28	3942	-94.9	1162.92	7.74
274	SLU 10	0	-23	4418	-106.52	1304.14	6.31
274	SLU 11	-2	-43	4392	-105.72	1296.65	12.15
274	SLU 12	-1	-32	4445	-107.08	1312.15	8.81
274	SLU 13	-1	-24	4455	-107.4	1315.22	6.53
274	SLU 14	-2	-44	4429	-106.59	1307.73	12.37
274	SLU 15	-2	-33	4482	-107.95	1323.23	9.03
274	SLU 16	-3	-44	4405	-106.01	1300.47	12.31
274	SLU 17	-2	-33	4457	-107.36	1315.97	8.97
274	SLU 18	-2	-44	4552	-109.61	1343.9	12.4
274	SLU 19	-1	-33	4604	-110.96	1359.4	9.06
274	SLU 20	-3	-45	4589	-110.48	1354.98	12.62
274	SLU 21	-2	-34	4642	-111.83	1370.48	9.28
274	SLU 22	0	-43	4330	-104.14	1277.49	12.06
274	SLU 23	1	-24	4417	-106.39	1303.32	6.5
274	SLU 24	0	-44	4391	-105.59	1295.83	12.33
274	SLU 25	0	-33	4444	-106.94	1311.33	9
274	SLU 26	1	-25	4455	-107.26	1314.4	6.71
274	SLU 27	-1	-45	4428	-106.46	1306.9	12.55
274	SLU 28	0	-33	4481	-107.81	1322.4	9.21
274	SLU 29	-1	-45	4404	-105.88	1299.64	12.49
274	SLU 30	0	-33	4457	-107.23	1315.14	9.15
274	SLU 31	0	-28	4933	-118.85	1456.37	7.72
274	SLU 32	-2	-49	4907	-118.05	1448.87	13.56
274	SLU 33	-1	-37	4960	-119.4	1464.37	10.22
274	SLU 34	-1	-29	4970	-119.72	1467.45	7.94
274	SLU 35	-3	-49	4944	-118.92	1459.95	13.78
274	SLU 36	-2	-38	4997	-120.27	1475.45	10.44
274	SLU 37	-3	-49	4920	-118.34	1452.69	13.72
274	SLU 38	-2	-38	4972	-119.69	1468.19	10.38
274	SLU 39	-2	-49	5067	-121.94	1496.13	13.81
274	SLU 40	-2	-38	5119	-123.29	1511.63	10.47
274	SLU 41	-3	-50	5104	-122.81	1507.21	14.03
274	SLU 42	-2	-39	5157	-124.16	1522.71	10.69
274	SLU 43	1	-48	4783	-115.13	1410.65	13.36
274	SLU 44	2	-29	4870	-117.38	1436.48	7.8
274	SLU 45	0	-49	4844	-116.58	1428.99	13.63
274	SLU 46	1	-37	4897	-117.93	1444.49	10.3
274	SLU 47	1	-29	4907	-118.25	1447.56	8.01
274	SLU 48	-1	-49	4881	-117.45	1440.07	13.85
274	SLU 49	0	-38	4934	-118.8	1455.57	10.51
274	SLU 50	-1	-49	4857	-116.87	1432.81	13.79
274	SLU 51	0	-38	4909	-118.22	1448.31	10.45
274	SLU 52	0	-33	5386	-129.84	1589.53	9.02
274	SLU 53	-2	-53	5360	-129.04	1582.04	14.86
274	SLU 54	-1	-42	5413	-130.39	1597.54	11.52
274	SLU 55	-1	-34	5423	-130.71	1600.61	9.24
274	SLU 56	-2	-54	5397	-129.91	1593.12	15.08
274	SLU 57	-2	-43	5450	-131.26	1608.62	11.74
274	SLU 58	-2	-54	5373	-129.33	1585.86	15.02
274	SLU 59	-2	-42	5425	-130.68	1601.36	11.68
274	SLU 60	-2	-54	5520	-132.93	1629.29	15.11
274	SLU 61	-1	-43	5572	-134.28	1644.79	11.78
274	SLU 62	-2	-55	5557	-133.8	1640.37	15.33
274	SLU 63	-2	-43	5609	-135.15	1655.87	11.99
274	SLU 64	0	-53	5298	-127.45	1562.87	14.77
274	SLU 65	1	-34	5385	-129.71	1588.71	9.21
274	SLU 66	0	-54	5359	-128.91	1581.21	15.04
274	SLU 67	1	-42	5412	-130.26	1596.71	11.71
274	SLU 68	1	-34	5422	-130.58	1599.79	9.42
274	SLU 69	-1	-54	5396	-129.78	1592.29	15.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLU 70	0	-43	5449	-131.13	1607.79	11.92
274	SLU 71	-1	-54	5372	-129.2	1585.03	15.2
274	SLU 72	0	-43	5424	-130.55	1600.53	11.86
274	SLU 73	0	-38	5901	-142.17	1741.75	10.43
274	SLU 74	-2	-58	5875	-141.37	1734.26	16.27
274	SLU 75	-1	-47	5928	-142.72	1749.76	12.93
274	SLU 76	-1	-39	5938	-143.04	1752.83	10.65
274	SLU 77	-3	-59	5912	-142.24	1745.34	16.49
274	SLU 78	-2	-48	5965	-143.59	1760.84	13.15
274	SLU 79	-3	-59	5888	-141.66	1738.08	16.43
274	SLU 80	-2	-47	5940	-143.01	1753.58	13.09
274	SLU 81	-2	-59	6035	-145.26	1781.51	16.52
274	SLU 82	-1	-48	6087	-146.61	1797.01	13.18
274	SLU 83	-3	-60	6072	-146.13	1792.59	16.74
274	SLU 84	-2	-48	6124	-147.48	1808.09	13.4
274	SLE RA 1	0	-39	3962	-95.33	1168.75	11.05
274	SLE RA 2	1	-27	4020	-96.83	1185.98	7.34
274	SLE RA 3	0	-40	4003	-96.3	1180.98	11.23
274	SLE RA 4	0	-32	4038	-97.2	1191.31	9.01
274	SLE RA 5	1	-27	4045	-97.42	1193.36	7.49
274	SLE RA 6	0	-41	4028	-96.88	1188.37	11.38
274	SLE RA 7	0	-33	4063	-97.78	1198.7	9.15
274	SLE RA 8	0	-40	4011	-96.49	1183.53	11.34
274	SLE RA 9	0	-33	4046	-97.39	1193.86	9.11
274	SLE RA 10	0	-30	4364	-105.14	1288.01	8.16
274	SLE RA 11	-1	-43	4347	-104.61	1283.01	12.05
274	SLE RA 12	-1	-35	4382	-105.51	1293.35	9.83
274	SLE RA 13	0	-30	4389	-105.72	1295.4	8.31
274	SLE RA 14	-2	-44	4372	-105.19	1290.4	12.2
274	SLE RA 15	-1	-36	4407	-106.09	1300.73	9.97
274	SLE RA 16	-2	-43	4355	-104.8	1285.56	12.16
274	SLE RA 17	-1	-36	4390	-105.7	1295.89	9.93
274	SLE RA 18	-1	-44	4453	-107.2	1314.51	12.22
274	SLE RA 19	-1	-36	4488	-108.1	1324.85	9.99
274	SLE RA 20	-2	-44	4478	-107.78	1321.9	12.36
274	SLE RA 21	-1	-37	4513	-108.68	1332.23	10.14
274	SLE FR 1	0	-39	3962	-95.33	1168.75	11.05
274	SLE FR 2	1	-37	3974	-95.63	1172.2	10.31
274	SLE FR 3	0	-40	3972	-95.56	1171.71	11.11
274	SLE FR 4	0	-38	4121	-99.19	1215.93	10.66
274	SLE FR 5	0	-41	4119	-99.12	1215.44	11.46
274	SLE FR 6	0	-42	4208	-101.27	1241.63	11.63
274	SLE QP 1	0	-39	3962	-95.33	1168.75	11.05
274	SLE QP 2	0	-41	4109	-98.89	1212.48	11.4
274	SLD 1	355	82	4719	-114.35	1400.11	-14.43
274	SLD 2	425	86	4731	-114.63	1402.72	-13.8
274	SLD 3	342	-159	3363	-79.62	998.98	56.09
274	SLD 4	412	-155	3375	-79.91	1001.59	56.72
274	SLD 5	113	361	6347	-156.14	1876.7	-103.41
274	SLD 6	159	364	6355	-156.32	1878.39	-103
274	SLD 7	71	-443	1827	-40.4	539.59	131.65
274	SLD 8	116	-440	1834	-40.59	541.29	132.06
274	SLD 9	-117	359	6384	-157.2	1883.68	-109.26
274	SLD 10	-72	361	6392	-157.38	1885.37	-108.85
274	SLD 11	-159	-445	1864	-41.46	546.57	125.8
274	SLD 12	-114	-443	1872	-41.65	548.27	126.21
274	SLD 13	-412	74	4844	-117.87	1423.37	-33.92
274	SLD 14	-342	78	4856	-118.16	1425.99	-33.29
274	SLD 15	-425	-168	3488	-83.15	1022.24	36.6
274	SLD 16	-355	-163	3500	-83.44	1024.86	37.23
274	SLV 1	555	167	5147	-125.24	1530.85	-33.43
274	SLV 2	665	174	5167	-125.69	1534.96	-32.43
274	SLV 3	534	-241	2856	-66.56	852.95	85.72
274	SLV 4	644	-234	2875	-67.01	857.07	86.71
274	SLV 5	178	638	7893	-195.7	2335.37	-182.94
274	SLV 6	252	643	7906	-196.01	2338.14	-182.27
274	SLV 7	107	-720	254	-0.12	75.71	214.21
274	SLV 8	181	-715	267	-0.42	78.48	214.88
274	SLV 9	-181	634	7952	-197.37	2346.48	-192.09
274	SLV 10	-107	639	7965	-197.67	2349.25	-191.41
274	SLV 11	-253	-724	313	-1.78	86.83	205.07
274	SLV 12	-179	-720	326	-2.08	89.6	205.74
274	SLV 13	-644	153	5344	-130.77	1567.9	-63.92
274	SLV 14	-534	159	5363	-131.22	1572.01	-62.92
274	SLV 15	-666	-255	3052	-72.1	890	55.23
274	SLV 16	-556	-248	3071	-72.55	894.12	56.23
274	SLV FO 1	611	188	5251	-127.87	1562.68	-37.91
274	SLV FO 2	732	195	5272	-128.37	1567.21	-36.81
274	SLV FO 3	587	-261	2730	-63.33	817	93.15
274	SLV FO 4	708	-253	2752	-63.82	821.53	94.25
274	SLV FO 5	196	706	8271	-205.39	2447.66	-202.37
274	SLV FO 6	278	711	8285	-205.72	2450.7	-201.63
274	SLV FO 7	118	-788	-132	9.76	-37.97	234.49
274	SLV FO 8	199	-783	-117	9.43	-34.92	235.23
274	SLV FO 9	-200	702	8336	-207.21	2459.88	-212.43
274	SLV FO 10	-118	707	8350	-207.55	2462.93	-211.7
274	SLV FO 11	-278	-793	-67	7.93	-25.74	224.43
274	SLV FO 12	-196	-788	-53	7.6	-22.69	225.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLV FO 13	-709	172	5467	-133.96	1603.44	-71.45
274	SLV FO 14	-588	179	5488	-134.46	1607.97	-70.35
274	SLV FO 15	-732	-276	2946	-69.42	857.75	59.61
274	SLV FO 16	-611	-269	2967	-69.91	862.28	60.71
274	CRTFP Ux+	0	0	0	0	0	0
274	CRTFP Ux-	0	0	0	0	0	0
274	CRTFP Uy+	0	0	0	0	-0.01	0
274	CRTFP Uy-	0	0	0	0	0.01	0
275	SLU 1	1	-12	452	-8.38	-56.5	-1.48
275	SLU 2	1	-10	463	-8.58	-57.85	-1.25
275	SLU 3	1	-12	459	-8.51	-57.34	-1.51
275	SLU 4	1	-11	465	-8.63	-58.15	-1.37
275	SLU 5	1	-10	467	-8.66	-58.33	-1.27
275	SLU 6	1	-12	463	-8.58	-57.82	-1.53
275	SLU 7	1	-11	469	-8.7	-58.63	-1.39
275	SLU 8	1	-12	460	-8.53	-57.46	-1.52
275	SLU 9	1	-11	466	-8.65	-58.27	-1.38
275	SLU 10	1	-12	522	-9.69	-65.26	-1.43
275	SLU 11	1	-14	518	-9.61	-64.76	-1.69
275	SLU 12	1	-13	525	-9.73	-65.56	-1.55
275	SLU 13	1	-12	526	-9.76	-65.75	-1.45
275	SLU 14	1	-14	522	-9.68	-65.24	-1.71
275	SLU 15	1	-13	528	-9.8	-66.05	-1.58
275	SLU 16	1	-14	519	-9.63	-64.88	-1.7
275	SLU 17	1	-13	526	-9.75	-65.69	-1.56
275	SLU 18	1	-14	537	-9.96	-67.1	-1.74
275	SLU 19	1	-13	543	-10.08	-67.91	-1.6
275	SLU 20	1	-14	541	-10.03	-67.58	-1.76
275	SLU 21	1	-13	547	-10.15	-68.39	-1.62
275	SLU 22	1	-13	513	-9.52	-64.16	-1.66
275	SLU 23	1	-12	524	-9.72	-65.51	-1.43
275	SLU 24	1	-14	520	-9.65	-65	-1.7
275	SLU 25	1	-13	526	-9.77	-65.81	-1.56
275	SLU 26	1	-12	528	-9.79	-65.99	-1.46
275	SLU 27	1	-14	524	-9.72	-65.48	-1.72
275	SLU 28	1	-13	530	-9.84	-66.29	-1.58
275	SLU 29	1	-14	521	-9.66	-65.12	-1.71
275	SLU 30	1	-13	527	-9.78	-65.93	-1.57
275	SLU 31	1	-13	583	-10.82	-72.93	-1.61
275	SLU 32	1	-15	579	-10.75	-72.42	-1.88
275	SLU 33	1	-14	586	-10.87	-73.23	-1.74
275	SLU 34	1	-13	587	-10.89	-73.41	-1.64
275	SLU 35	1	-15	583	-10.82	-72.9	-1.9
275	SLU 36	1	-14	590	-10.94	-73.71	-1.76
275	SLU 37	1	-15	580	-10.77	-72.54	-1.89
275	SLU 38	1	-14	587	-10.89	-73.35	-1.75
275	SLU 39	1	-16	598	-11.09	-74.76	-1.92
275	SLU 40	1	-14	605	-11.21	-75.57	-1.78
275	SLU 41	1	-16	602	-11.17	-75.24	-1.95
275	SLU 42	1	-15	608	-11.29	-76.05	-1.81
275	SLU 43	1	-15	567	-10.51	-70.82	-1.86
275	SLU 44	1	-13	577	-10.71	-72.17	-1.62
275	SLU 45	1	-15	573	-10.63	-71.66	-1.89
275	SLU 46	1	-14	580	-10.75	-72.47	-1.75
275	SLU 47	1	-13	581	-10.78	-72.65	-1.65
275	SLU 48	1	-15	577	-10.71	-72.14	-1.91
275	SLU 49	1	-14	584	-10.83	-72.95	-1.77
275	SLU 50	1	-15	574	-10.65	-71.79	-1.9
275	SLU 51	1	-14	581	-10.77	-72.59	-1.76
275	SLU 52	1	-15	637	-11.81	-79.59	-1.81
275	SLU 53	1	-17	633	-11.74	-79.08	-2.07
275	SLU 54	1	-16	639	-11.86	-79.89	-1.93
275	SLU 55	1	-15	641	-11.88	-80.07	-1.83
275	SLU 56	1	-17	636	-11.81	-79.56	-2.09
275	SLU 57	1	-16	643	-11.93	-80.37	-1.95
275	SLU 58	1	-17	634	-11.75	-79.2	-2.08
275	SLU 59	1	-16	640	-11.87	-80.01	-1.94
275	SLU 60	1	-17	651	-12.08	-81.42	-2.11
275	SLU 61	1	-16	658	-12.2	-82.23	-1.98
275	SLU 62	1	-17	655	-12.15	-81.9	-2.14
275	SLU 63	1	-16	662	-12.27	-82.71	-2
275	SLU 64	1	-17	628	-11.65	-78.48	-2.04
275	SLU 65	2	-15	639	-11.85	-79.83	-1.81
275	SLU 66	1	-17	635	-11.77	-79.32	-2.08
275	SLU 67	1	-16	641	-11.89	-80.13	-1.94
275	SLU 68	1	-15	642	-11.92	-80.31	-1.83
275	SLU 69	1	-17	638	-11.84	-79.8	-2.1
275	SLU 70	1	-16	645	-11.96	-80.61	-1.96
275	SLU 71	1	-17	636	-11.79	-79.45	-2.09
275	SLU 72	1	-16	642	-11.91	-80.26	-1.95
275	SLU 73	1	-16	698	-12.95	-87.25	-1.99
275	SLU 74	1	-18	694	-12.87	-86.74	-2.26
275	SLU 75	1	-17	700	-12.99	-87.55	-2.12
275	SLU 76	1	-16	702	-13.02	-87.73	-2.02
275	SLU 77	1	-18	698	-12.94	-87.22	-2.28
275	SLU 78	1	-17	704	-13.06	-88.03	-2.14
275	SLU 79	1	-18	695	-12.89	-86.87	-2.27
275	SLU 80	1	-17	701	-13.01	-87.68	-2.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	SLU 81	1	-19	713	-13.22	-89.08	-2.3
275	SLU 82	1	-18	719	-13.34	-89.89	-2.16
275	SLU 83	1	-19	717	-13.29	-89.56	-2.32
275	SLU 84	1	-18	723	-13.41	-90.37	-2.19
275	SLE RA 1	1	-12	469	-8.71	-58.69	-1.53
275	SLE RA 2	1	-11	477	-8.84	-59.58	-1.38
275	SLE RA 3	1	-13	474	-8.79	-59.25	-1.55
275	SLE RA 4	1	-12	478	-8.87	-59.78	-1.46
275	SLE RA 5	1	-11	479	-8.89	-59.91	-1.39
275	SLE RA 6	1	-13	477	-8.84	-59.57	-1.57
275	SLE RA 7	1	-12	481	-8.92	-60.11	-1.48
275	SLE RA 8	1	-13	475	-8.8	-59.33	-1.56
275	SLE RA 9	1	-12	479	-8.88	-59.87	-1.47
275	SLE RA 10	1	-12	516	-9.58	-64.53	-1.5
275	SLE RA 11	1	-14	514	-9.53	-64.19	-1.67
275	SLE RA 12	1	-13	518	-9.61	-64.73	-1.58
275	SLE RA 13	1	-12	519	-9.62	-64.85	-1.51
275	SLE RA 14	1	-14	516	-9.57	-64.51	-1.69
275	SLE RA 15	1	-13	520	-9.65	-65.05	-1.6
275	SLE RA 16	1	-14	514	-9.54	-64.28	-1.68
275	SLE RA 17	1	-13	519	-9.62	-64.82	-1.59
275	SLE RA 18	1	-14	526	-9.76	-65.75	-1.7
275	SLE RA 19	1	-13	530	-9.84	-66.29	-1.61
275	SLE RA 20	1	-14	529	-9.81	-66.07	-1.72
275	SLE RA 21	1	-13	533	-9.89	-66.61	-1.63
275	SLE FR 1	1	-12	469	-8.71	-58.69	-1.53
275	SLE FR 2	1	-12	471	-8.74	-58.87	-1.5
275	SLE FR 3	1	-12	471	-8.73	-58.81	-1.54
275	SLE FR 4	1	-13	488	-9.05	-60.99	-1.55
275	SLE FR 5	1	-13	487	-9.04	-60.93	-1.59
275	SLE FR 6	1	-13	498	-9.23	-62.22	-1.62
275	SLE QP 1	1	-12	469	-8.71	-58.69	-1.53
275	SLE QP 2	1	-13	486	-9.02	-60.81	-1.58
275	SLD 1	43	4	525	-9.74	-65.62	1.28
275	SLD 2	51	8	530	-9.83	-66.22	1.99
275	SLD 3	41	-20	365	-6.78	-45.65	-1.77
275	SLD 4	49	-16	370	-6.86	-46.25	-1.07
275	SLD 5	15	28	739	-13.72	-92.43	3.79
275	SLD 6	20	31	743	-13.77	-92.82	4.24
275	SLD 7	8	-52	207	-3.84	-25.87	-6.39
275	SLD 8	14	-50	210	-3.9	-26.26	-5.94
275	SLD 9	-12	24	763	-14.15	-95.35	2.77
275	SLD 10	-6	27	766	-14.21	-95.74	3.23
275	SLD 11	-18	-57	230	-4.27	-28.79	-7.41
275	SLD 12	-13	-54	233	-4.33	-29.18	-6.95
275	SLD 13	-47	-10	603	-11.18	-75.36	-2.1
275	SLD 14	-39	-5	608	-11.27	-75.96	-1.4
275	SLD 15	-49	-34	443	-8.22	-55.39	-5.15
275	SLD 16	-41	-30	448	-8.31	-55.99	-4.45
275	SLV 1	66	15	557	-10.33	-69.61	3.09
275	SLV 2	79	22	564	-10.47	-70.55	4.2
275	SLV 3	63	-26	287	-5.32	-35.87	-2.07
275	SLV 4	76	-19	295	-5.46	-36.81	-0.97
275	SLV 5	23	56	916	-16.98	-114.44	7.44
275	SLV 6	32	61	921	-17.08	-115.08	8.19
275	SLV 7	12	-80	16	-0.29	-1.98	-9.76
275	SLV 8	21	-75	21	-0.39	-2.61	-9.02
275	SLV 9	-19	50	952	-17.66	-119	5.85
275	SLV 10	-10	54	957	-17.75	-119.64	6.6
275	SLV 11	-30	-86	52	-0.97	-6.53	-11.35
275	SLV 12	-21	-82	57	-1.06	-7.17	-10.61
275	SLV 13	-74	-7	678	-12.58	-84.8	-2.2
275	SLV 14	-61	0	686	-12.72	-85.74	-1.09
275	SLV 15	-77	-48	408	-7.58	-51.06	-7.36
275	SLV 16	-64	-41	416	-7.72	-52	-6.25
275	SLV FO 1	73	18	564	-10.46	-70.49	3.56
275	SLV FO 2	87	25	572	-10.61	-71.53	4.77
275	SLV FO 3	69	-27	267	-4.95	-33.38	-2.12
275	SLV FO 4	83	-20	275	-5.11	-34.41	-0.9
275	SLV FO 5	26	63	958	-17.78	-119.81	8.34
275	SLV FO 6	35	68	964	-17.88	-120.51	9.16
275	SLV FO 7	13	-87	-31	0.58	3.91	-10.58
275	SLV FO 8	23	-81	-26	0.48	3.21	-9.76
275	SLV FO 9	-21	56	999	-18.52	-124.82	6.6
275	SLV FO 10	-11	61	1004	-18.63	-125.52	7.42
275	SLV FO 11	-33	-94	9	-0.16	-1.1	-12.33
275	SLV FO 12	-23	-89	14	-0.27	-1.8	-11.51
275	SLV FO 13	-81	-6	698	-12.94	-87.2	-2.26
275	SLV FO 14	-67	2	706	-13.09	-88.24	-1.04
275	SLV FO 15	-85	-51	401	-7.43	-50.08	-7.94
275	SLV FO 16	-71	-43	409	-7.59	-51.12	-6.72
275	CRTFP Ux+	0	0	0	0	0	0
275	CRTFP Ux-	0	0	0	0	0	0
275	CRTFP Uy+	0	0	0	0	0	0
275	CRTFP Uy-	0	0	0	0	0	0
278	SLU 1	-11	-14	715	0	0	0
278	SLU 2	-11	-11	731	0	0	0
278	SLU 3	-11	-15	726	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
278	SLU 4	-11	-13	736	0	0	0
278	SLU 5	-11	-12	738	0	0	0
278	SLU 6	-11	-15	733	0	0	0
278	SLU 7	-11	-13	743	0	0	0
278	SLU 8	-11	-15	729	0	0	0
278	SLU 9	-11	-13	739	0	0	0
278	SLU 10	-12	-13	826	0	0	0
278	SLU 11	-12	-16	821	0	0	0
278	SLU 12	-12	-14	831	0	0	0
278	SLU 13	-12	-13	833	0	0	0
278	SLU 14	-12	-16	829	0	0	0
278	SLU 15	-12	-15	838	0	0	0
278	SLU 16	-12	-16	824	0	0	0
278	SLU 17	-12	-15	834	0	0	0
278	SLU 18	-12	-17	851	0	0	0
278	SLU 19	-12	-15	861	0	0	0
278	SLU 20	-12	-17	858	0	0	0
278	SLU 21	-12	-15	868	0	0	0
278	SLU 22	-12	-16	813	0	0	0
278	SLU 23	-13	-13	829	0	0	0
278	SLU 24	-13	-16	824	0	0	0
278	SLU 25	-13	-15	834	0	0	0
278	SLU 26	-13	-13	836	0	0	0
278	SLU 27	-13	-17	832	0	0	0
278	SLU 28	-13	-15	841	0	0	0
278	SLU 29	-13	-16	827	0	0	0
278	SLU 30	-13	-15	837	0	0	0
278	SLU 31	-13	-15	925	0	0	0
278	SLU 32	-13	-18	920	0	0	0
278	SLU 33	-14	-16	929	0	0	0
278	SLU 34	-14	-15	932	0	0	0
278	SLU 35	-13	-18	927	0	0	0
278	SLU 36	-14	-16	937	0	0	0
278	SLU 37	-13	-18	922	0	0	0
278	SLU 38	-14	-16	932	0	0	0
278	SLU 39	-13	-18	949	0	0	0
278	SLU 40	-14	-16	959	0	0	0
278	SLU 41	-13	-18	956	0	0	0
278	SLU 42	-14	-17	966	0	0	0
278	SLU 43	-13	-18	895	0	0	0
278	SLU 44	-14	-15	912	0	0	0
278	SLU 45	-14	-18	907	0	0	0
278	SLU 46	-14	-17	917	0	0	0
278	SLU 47	-14	-15	919	0	0	0
278	SLU 48	-14	-18	914	0	0	0
278	SLU 49	-14	-17	924	0	0	0
278	SLU 50	-14	-18	910	0	0	0
278	SLU 51	-14	-17	919	0	0	0
278	SLU 52	-15	-17	1007	0	0	0
278	SLU 53	-14	-20	1002	0	0	0
278	SLU 54	-15	-18	1012	0	0	0
278	SLU 55	-15	-17	1014	0	0	0
278	SLU 56	-15	-20	1009	0	0	0
278	SLU 57	-15	-18	1019	0	0	0
278	SLU 58	-14	-20	1005	0	0	0
278	SLU 59	-15	-18	1015	0	0	0
278	SLU 60	-14	-20	1032	0	0	0
278	SLU 61	-15	-18	1041	0	0	0
278	SLU 62	-15	-20	1039	0	0	0
278	SLU 63	-15	-19	1048	0	0	0
278	SLU 64	-15	-20	994	0	0	0
278	SLU 65	-15	-17	1010	0	0	0
278	SLU 66	-15	-20	1005	0	0	0
278	SLU 67	-16	-18	1015	0	0	0
278	SLU 68	-16	-17	1017	0	0	0
278	SLU 69	-15	-20	1012	0	0	0
278	SLU 70	-16	-18	1022	0	0	0
278	SLU 71	-15	-20	1008	0	0	0
278	SLU 72	-16	-18	1018	0	0	0
278	SLU 73	-16	-18	1105	0	0	0
278	SLU 74	-16	-22	1100	0	0	0
278	SLU 75	-16	-20	1110	0	0	0
278	SLU 76	-16	-19	1112	0	0	0
278	SLU 77	-16	-22	1108	0	0	0
278	SLU 78	-16	-20	1117	0	0	0
278	SLU 79	-16	-22	1103	0	0	0
278	SLU 80	-16	-20	1113	0	0	0
278	SLU 81	-16	-22	1130	0	0	0
278	SLU 82	-16	-20	1140	0	0	0
278	SLU 83	-16	-22	1137	0	0	0
278	SLU 84	-16	-20	1147	0	0	0
278	SLE RA 1	-11	-15	743	0	0	0
278	SLE RA 2	-12	-13	754	0	0	0
278	SLE RA 3	-11	-15	750	0	0	0
278	SLE RA 4	-12	-14	757	0	0	0
278	SLE RA 5	-12	-13	758	0	0	0
278	SLE RA 6	-11	-15	755	0	0	0
278	SLE RA 7	-12	-14	762	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
278	SLE RA 8	-11	-15	752	0	0	0
278	SLE RA 9	-12	-14	759	0	0	0
278	SLE RA 10	-12	-14	817	0	0	0
278	SLE RA 11	-12	-16	814	0	0	0
278	SLE RA 12	-12	-15	820	0	0	0
278	SLE RA 13	-12	-14	822	0	0	0
278	SLE RA 14	-12	-16	819	0	0	0
278	SLE RA 15	-12	-15	825	0	0	0
278	SLE RA 16	-12	-16	816	0	0	0
278	SLE RA 17	-12	-15	822	0	0	0
278	SLE RA 18	-12	-16	834	0	0	0
278	SLE RA 19	-12	-15	840	0	0	0
278	SLE RA 20	-12	-16	838	0	0	0
278	SLE RA 21	-12	-15	845	0	0	0
278	SLE FR 1	-11	-15	743	0	0	0
278	SLE FR 2	-11	-14	745	0	0	0
278	SLE FR 3	-11	-15	745	0	0	0
278	SLE FR 4	-11	-15	772	0	0	0
278	SLE FR 5	-11	-15	772	0	0	0
278	SLE FR 6	-11	-16	788	0	0	0
278	SLE QP 1	-11	-15	743	0	0	0
278	SLE QP 2	-11	-15	770	0	0	0
278	SLD 1	50	-1	947	0	0	0
278	SLD 2	63	-8	941	0	0	0
278	SLD 3	55	-39	705	0	0	0
278	SLD 4	68	-45	698	0	0	0
278	SLD 5	-2	47	1192	0	0	0
278	SLD 6	6	42	1188	0	0	0
278	SLD 7	13	-78	384	0	0	0
278	SLD 8	22	-82	379	0	0	0
278	SLD 9	-44	52	1161	0	0	0
278	SLD 10	-36	47	1156	0	0	0
278	SLD 11	-29	-73	352	0	0	0
278	SLD 12	-21	-77	348	0	0	0
278	SLD 13	-91	15	842	0	0	0
278	SLD 14	-78	8	835	0	0	0
278	SLD 15	-86	-22	600	0	0	0
278	SLD 16	-73	-29	593	0	0	0
278	SLV 1	85	9	1063	0	0	0
278	SLV 2	105	-2	1052	0	0	0
278	SLV 3	92	-54	653	0	0	0
278	SLV 4	113	-65	642	0	0	0
278	SLV 5	2	90	1482	0	0	0
278	SLV 6	16	82	1474	0	0	0
278	SLV 7	28	-121	115	0	0	0
278	SLV 8	42	-128	108	0	0	0
278	SLV 9	-64	97	1432	0	0	0
278	SLV 10	-50	90	1425	0	0	0
278	SLV 11	-38	-113	66	0	0	0
278	SLV 12	-25	-120	58	0	0	0
278	SLV 13	-136	34	898	0	0	0
278	SLV 14	-115	24	887	0	0	0
278	SLV 15	-128	-29	488	0	0	0
278	SLV 16	-107	-39	477	0	0	0
278	SLV FO 1	94	11	1092	0	0	0
278	SLV FO 2	117	0	1080	0	0	0
278	SLV FO 3	103	-58	641	0	0	0
278	SLV FO 4	125	-70	629	0	0	0
278	SLV FO 5	3	100	1553	0	0	0
278	SLV FO 6	18	92	1545	0	0	0
278	SLV FO 7	32	-131	50	0	0	0
278	SLV FO 8	47	-139	42	0	0	0
278	SLV FO 9	-70	108	1499	0	0	0
278	SLV FO 10	-54	101	1490	0	0	0
278	SLV FO 11	-41	-123	-5	0	0	0
278	SLV FO 12	-26	-130	-13	0	0	0
278	SLV FO 13	-148	39	911	0	0	0
278	SLV FO 14	-126	28	899	0	0	0
278	SLV FO 15	-140	-30	460	0	0	0
278	SLV FO 16	-117	-42	448	0	0	0
278	CRTFP Uy+	0	0	0	0	0	0
278	CRTFP Uy-	0	0	0	0	0	0
279	SLU 1	-11	-14	764	0	0	0
279	SLU 2	-12	-11	781	0	0	0
279	SLU 3	-11	-14	776	0	0	0
279	SLU 4	-12	-12	787	0	0	0
279	SLU 5	-12	-11	789	0	0	0
279	SLU 6	-12	-15	784	0	0	0
279	SLU 7	-12	-13	794	0	0	0
279	SLU 8	-12	-14	779	0	0	0
279	SLU 9	-12	-13	789	0	0	0
279	SLU 10	-12	-12	883	0	0	0
279	SLU 11	-12	-16	878	0	0	0
279	SLU 12	-12	-14	888	0	0	0
279	SLU 13	-13	-13	891	0	0	0
279	SLU 14	-12	-16	886	0	0	0
279	SLU 15	-13	-14	896	0	0	0
279	SLU 16	-12	-16	881	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLU 17	-13	-14	891	0	0	0
279	SLU 18	-12	-16	909	0	0	0
279	SLU 19	-12	-14	920	0	0	0
279	SLU 20	-12	-17	917	0	0	0
279	SLU 21	-13	-15	927	0	0	0
279	SLU 22	-13	-16	869	0	0	0
279	SLU 23	-13	-12	886	0	0	0
279	SLU 24	-13	-16	881	0	0	0
279	SLU 25	-13	-14	891	0	0	0
279	SLU 26	-13	-13	893	0	0	0
279	SLU 27	-13	-16	888	0	0	0
279	SLU 28	-14	-14	899	0	0	0
279	SLU 29	-13	-16	884	0	0	0
279	SLU 30	-13	-14	894	0	0	0
279	SLU 31	-14	-14	988	0	0	0
279	SLU 32	-14	-18	983	0	0	0
279	SLU 33	-14	-16	993	0	0	0
279	SLU 34	-14	-14	995	0	0	0
279	SLU 35	-14	-18	990	0	0	0
279	SLU 36	-14	-16	1001	0	0	0
279	SLU 37	-14	-18	986	0	0	0
279	SLU 38	-14	-16	996	0	0	0
279	SLU 39	-14	-18	1014	0	0	0
279	SLU 40	-14	-16	1024	0	0	0
279	SLU 41	-14	-18	1022	0	0	0
279	SLU 42	-14	-16	1032	0	0	0
279	SLU 43	-14	-18	957	0	0	0
279	SLU 44	-15	-14	975	0	0	0
279	SLU 45	-14	-18	970	0	0	0
279	SLU 46	-15	-16	980	0	0	0
279	SLU 47	-15	-15	982	0	0	0
279	SLU 48	-14	-18	977	0	0	0
279	SLU 49	-15	-16	987	0	0	0
279	SLU 50	-14	-18	972	0	0	0
279	SLU 51	-15	-16	983	0	0	0
279	SLU 52	-15	-16	1076	0	0	0
279	SLU 53	-15	-20	1071	0	0	0
279	SLU 54	-15	-18	1082	0	0	0
279	SLU 55	-15	-16	1084	0	0	0
279	SLU 56	-15	-20	1079	0	0	0
279	SLU 57	-15	-18	1089	0	0	0
279	SLU 58	-15	-20	1074	0	0	0
279	SLU 59	-15	-18	1085	0	0	0
279	SLU 60	-15	-20	1103	0	0	0
279	SLU 61	-15	-18	1113	0	0	0
279	SLU 62	-15	-20	1110	0	0	0
279	SLU 63	-15	-18	1121	0	0	0
279	SLU 64	-16	-19	1062	0	0	0
279	SLU 65	-16	-16	1079	0	0	0
279	SLU 66	-16	-20	1074	0	0	0
279	SLU 67	-16	-18	1085	0	0	0
279	SLU 68	-16	-16	1087	0	0	0
279	SLU 69	-16	-20	1082	0	0	0
279	SLU 70	-16	-18	1092	0	0	0
279	SLU 71	-16	-20	1077	0	0	0
279	SLU 72	-16	-18	1087	0	0	0
279	SLU 73	-17	-18	1181	0	0	0
279	SLU 74	-17	-21	1176	0	0	0
279	SLU 75	-17	-19	1186	0	0	0
279	SLU 76	-17	-18	1189	0	0	0
279	SLU 77	-17	-21	1184	0	0	0
279	SLU 78	-17	-20	1194	0	0	0
279	SLU 79	-17	-21	1179	0	0	0
279	SLU 80	-17	-19	1189	0	0	0
279	SLU 81	-17	-22	1207	0	0	0
279	SLU 82	-17	-20	1218	0	0	0
279	SLU 83	-17	-22	1215	0	0	0
279	SLU 84	-17	-20	1225	0	0	0
279	SLE RA 1	-12	-15	794	0	0	0
279	SLE RA 2	-12	-12	805	0	0	0
279	SLE RA 3	-12	-15	802	0	0	0
279	SLE RA 4	-12	-13	809	0	0	0
279	SLE RA 5	-12	-13	810	0	0	0
279	SLE RA 6	-12	-15	807	0	0	0
279	SLE RA 7	-12	-14	814	0	0	0
279	SLE RA 8	-12	-15	804	0	0	0
279	SLE RA 9	-12	-14	811	0	0	0
279	SLE RA 10	-12	-13	873	0	0	0
279	SLE RA 11	-12	-16	870	0	0	0
279	SLE RA 12	-12	-14	877	0	0	0
279	SLE RA 13	-13	-14	878	0	0	0
279	SLE RA 14	-12	-16	875	0	0	0
279	SLE RA 15	-13	-15	882	0	0	0
279	SLE RA 16	-12	-16	872	0	0	0
279	SLE RA 17	-13	-15	879	0	0	0
279	SLE RA 18	-12	-16	891	0	0	0
279	SLE RA 19	-13	-15	898	0	0	0
279	SLE RA 20	-12	-16	896	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLE RA 21	-13	-15	903	0	0	0
279	SLE FR 1	-12	-15	794	0	0	0
279	SLE FR 2	-12	-14	796	0	0	0
279	SLE FR 3	-12	-15	796	0	0	0
279	SLE FR 4	-12	-15	825	0	0	0
279	SLE FR 5	-12	-15	825	0	0	0
279	SLE FR 6	-12	-15	842	0	0	0
279	SLE QP 1	-12	-15	794	0	0	0
279	SLE QP 2	-12	-15	823	0	0	0
279	SLD 1	56	1	1007	0	0	0
279	SLD 2	70	-6	1000	0	0	0
279	SLD 3	61	-40	748	0	0	0
279	SLD 4	75	-47	741	0	0	0
279	SLD 5	-1	54	1272	0	0	0
279	SLD 6	8	49	1268	0	0	0
279	SLD 7	15	-84	409	0	0	0
279	SLD 8	24	-88	404	0	0	0
279	SLD 9	-48	58	1241	0	0	0
279	SLD 10	-38	54	1237	0	0	0
279	SLD 11	-32	-79	378	0	0	0
279	SLD 12	-22	-84	374	0	0	0
279	SLD 13	-98	17	905	0	0	0
279	SLD 14	-84	10	898	0	0	0
279	SLD 15	-94	-24	646	0	0	0
279	SLD 16	-79	-31	639	0	0	0
279	SLV 1	94	12	1126	0	0	0
279	SLV 2	116	2	1116	0	0	0
279	SLV 3	102	-57	689	0	0	0
279	SLV 4	124	-68	678	0	0	0
279	SLV 5	3	101	1580	0	0	0
279	SLV 6	19	94	1573	0	0	0
279	SLV 7	30	-132	121	0	0	0
279	SLV 8	45	-139	114	0	0	0
279	SLV 9	-69	109	1532	0	0	0
279	SLV 10	-54	102	1525	0	0	0
279	SLV 11	-42	-124	73	0	0	0
279	SLV 12	-27	-131	66	0	0	0
279	SLV 13	-148	38	968	0	0	0
279	SLV 14	-125	27	957	0	0	0
279	SLV 15	-140	-32	530	0	0	0
279	SLV 16	-117	-42	520	0	0	0
279	SLV FO 1	104	15	1157	0	0	0
279	SLV FO 2	129	3	1145	0	0	0
279	SLV FO 3	113	-62	675	0	0	0
279	SLV FO 4	138	-73	664	0	0	0
279	SLV FO 5	5	113	1655	0	0	0
279	SLV FO 6	22	105	1647	0	0	0
279	SLV FO 7	34	-143	51	0	0	0
279	SLV FO 8	51	-151	43	0	0	0
279	SLV FO 9	-75	121	1603	0	0	0
279	SLV FO 10	-58	113	1595	0	0	0
279	SLV FO 11	-45	-135	-2	0	0	0
279	SLV FO 12	-29	-143	-9	0	0	0
279	SLV FO 13	-161	43	982	0	0	0
279	SLV FO 14	-137	32	971	0	0	0
279	SLV FO 15	-152	-33	501	0	0	0
279	SLV FO 16	-128	-45	489	0	0	0
279	CRTFP Uy+	0	0	0	0	0	0
279	CRTFP Uy-	0	0	0	0	0	0
280	SLU 1	-12	-14	846	0	0	0
280	SLU 2	-13	-10	865	0	0	0
280	SLU 3	-12	-14	860	0	0	0
280	SLU 4	-13	-12	871	0	0	0
280	SLU 5	-13	-10	874	0	0	0
280	SLU 6	-13	-14	868	0	0	0
280	SLU 7	-13	-12	880	0	0	0
280	SLU 8	-12	-14	863	0	0	0
280	SLU 9	-13	-12	875	0	0	0
280	SLU 10	-13	-12	978	0	0	0
280	SLU 11	-13	-16	973	0	0	0
280	SLU 12	-13	-13	984	0	0	0
280	SLU 13	-14	-12	987	0	0	0
280	SLU 14	-13	-16	981	0	0	0
280	SLU 15	-14	-14	993	0	0	0
280	SLU 16	-13	-16	976	0	0	0
280	SLU 17	-14	-13	988	0	0	0
280	SLU 18	-13	-16	1008	0	0	0
280	SLU 19	-13	-14	1019	0	0	0
280	SLU 20	-13	-16	1016	0	0	0
280	SLU 21	-14	-14	1028	0	0	0
280	SLU 22	-14	-15	962	0	0	0
280	SLU 23	-14	-12	981	0	0	0
280	SLU 24	-14	-16	975	0	0	0
280	SLU 25	-14	-13	987	0	0	0
280	SLU 26	-15	-12	989	0	0	0
280	SLU 27	-14	-16	984	0	0	0
280	SLU 28	-15	-14	995	0	0	0
280	SLU 29	-14	-16	979	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLU 30	-15	-14	990	0	0	0
280	SLU 31	-15	-13	1094	0	0	0
280	SLU 32	-15	-17	1088	0	0	0
280	SLU 33	-15	-15	1100	0	0	0
280	SLU 34	-15	-13	1102	0	0	0
280	SLU 35	-15	-17	1097	0	0	0
280	SLU 36	-15	-15	1108	0	0	0
280	SLU 37	-15	-17	1092	0	0	0
280	SLU 38	-15	-15	1103	0	0	0
280	SLU 39	-15	-18	1123	0	0	0
280	SLU 40	-15	-15	1135	0	0	0
280	SLU 41	-15	-18	1132	0	0	0
280	SLU 42	-15	-16	1143	0	0	0
280	SLU 43	-15	-17	1061	0	0	0
280	SLU 44	-16	-14	1080	0	0	0
280	SLU 45	-15	-18	1074	0	0	0
280	SLU 46	-16	-15	1086	0	0	0
280	SLU 47	-16	-14	1088	0	0	0
280	SLU 48	-16	-18	1083	0	0	0
280	SLU 49	-16	-16	1094	0	0	0
280	SLU 50	-15	-18	1078	0	0	0
280	SLU 51	-16	-16	1089	0	0	0
280	SLU 52	-16	-15	1193	0	0	0
280	SLU 53	-16	-19	1187	0	0	0
280	SLU 54	-16	-17	1199	0	0	0
280	SLU 55	-17	-15	1201	0	0	0
280	SLU 56	-16	-19	1196	0	0	0
280	SLU 57	-17	-17	1207	0	0	0
280	SLU 58	-16	-19	1190	0	0	0
280	SLU 59	-17	-17	1202	0	0	0
280	SLU 60	-16	-20	1222	0	0	0
280	SLU 61	-16	-17	1234	0	0	0
280	SLU 62	-16	-20	1231	0	0	0
280	SLU 63	-17	-18	1242	0	0	0
280	SLU 64	-17	-19	1176	0	0	0
280	SLU 65	-17	-15	1195	0	0	0
280	SLU 66	-17	-19	1190	0	0	0
280	SLU 67	-17	-17	1201	0	0	0
280	SLU 68	-18	-15	1204	0	0	0
280	SLU 69	-17	-19	1198	0	0	0
280	SLU 70	-18	-17	1210	0	0	0
280	SLU 71	-17	-19	1193	0	0	0
280	SLU 72	-18	-17	1204	0	0	0
280	SLU 73	-18	-17	1308	0	0	0
280	SLU 74	-18	-21	1303	0	0	0
280	SLU 75	-18	-19	1314	0	0	0
280	SLU 76	-18	-17	1317	0	0	0
280	SLU 77	-18	-21	1311	0	0	0
280	SLU 78	-18	-19	1323	0	0	0
280	SLU 79	-18	-21	1306	0	0	0
280	SLU 80	-18	-19	1317	0	0	0
280	SLU 81	-18	-21	1338	0	0	0
280	SLU 82	-18	-19	1349	0	0	0
280	SLU 83	-18	-21	1346	0	0	0
280	SLU 84	-18	-19	1357	0	0	0
280	SLE RA 1	-13	-14	879	0	0	0
280	SLE RA 2	-13	-12	892	0	0	0
280	SLE RA 3	-13	-14	888	0	0	0
280	SLE RA 4	-13	-13	896	0	0	0
280	SLE RA 5	-13	-12	898	0	0	0
280	SLE RA 6	-13	-15	894	0	0	0
280	SLE RA 7	-13	-13	902	0	0	0
280	SLE RA 8	-13	-15	891	0	0	0
280	SLE RA 9	-13	-13	898	0	0	0
280	SLE RA 10	-13	-13	967	0	0	0
280	SLE RA 11	-13	-15	964	0	0	0
280	SLE RA 12	-13	-14	971	0	0	0
280	SLE RA 13	-14	-13	973	0	0	0
280	SLE RA 14	-13	-16	969	0	0	0
280	SLE RA 15	-14	-14	977	0	0	0
280	SLE RA 16	-13	-16	966	0	0	0
280	SLE RA 17	-14	-14	974	0	0	0
280	SLE RA 18	-13	-16	987	0	0	0
280	SLE RA 19	-13	-14	995	0	0	0
280	SLE RA 20	-13	-16	993	0	0	0
280	SLE RA 21	-14	-14	1000	0	0	0
280	SLE FR 1	-13	-14	879	0	0	0
280	SLE FR 2	-13	-14	882	0	0	0
280	SLE FR 3	-13	-14	882	0	0	0
280	SLE FR 4	-13	-14	914	0	0	0
280	SLE FR 5	-13	-15	914	0	0	0
280	SLE FR 6	-13	-15	933	0	0	0
280	SLE QP 1	-13	-14	879	0	0	0
280	SLE QP 2	-13	-15	912	0	0	0
280	SLD 1	64	4	1108	0	0	0
280	SLD 2	80	-3	1101	0	0	0
280	SLD 3	69	-43	821	0	0	0
280	SLD 4	85	-50	814	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLD 5	0	64	1407	0	0	0
280	SLD 6	10	60	1403	0	0	0
280	SLD 7	17	-94	450	0	0	0
280	SLD 8	27	-99	446	0	0	0
280	SLD 9	-53	69	1377	0	0	0
280	SLD 10	-42	65	1373	0	0	0
280	SLD 11	-36	-89	421	0	0	0
280	SLD 12	-25	-94	416	0	0	0
280	SLD 13	-111	21	1009	0	0	0
280	SLD 14	-95	14	1002	0	0	0
280	SLD 15	-106	-27	722	0	0	0
280	SLD 16	-89	-34	715	0	0	0
280	SLV 1	107	18	1237	0	0	0
280	SLV 2	132	7	1226	0	0	0
280	SLV 3	115	-62	752	0	0	0
280	SLV 4	141	-73	741	0	0	0
280	SLV 5	5	119	1747	0	0	0
280	SLV 6	22	112	1740	0	0	0
280	SLV 7	34	-149	130	0	0	0
280	SLV 8	51	-156	123	0	0	0
280	SLV 9	-77	127	1701	0	0	0
280	SLV 10	-59	119	1693	0	0	0
280	SLV 11	-48	-141	84	0	0	0
280	SLV 12	-31	-148	77	0	0	0
280	SLV 13	-166	44	1082	0	0	0
280	SLV 14	-141	33	1072	0	0	0
280	SLV 15	-158	-36	597	0	0	0
280	SLV 16	-132	-47	587	0	0	0
280	SLV FO 1	119	21	1269	0	0	0
280	SLV FO 2	147	9	1257	0	0	0
280	SLV FO 3	128	-67	736	0	0	0
280	SLV FO 4	156	-79	724	0	0	0
280	SLV FO 5	7	132	1830	0	0	0
280	SLV FO 6	26	124	1823	0	0	0
280	SLV FO 7	39	-162	52	0	0	0
280	SLV FO 8	57	-170	44	0	0	0
280	SLV FO 9	-83	141	1779	0	0	0
280	SLV FO 10	-64	133	1772	0	0	0
280	SLV FO 11	-51	-154	1	0	0	0
280	SLV FO 12	-33	-162	-7	0	0	0
280	SLV FO 13	-182	50	1099	0	0	0
280	SLV FO 14	-154	38	1088	0	0	0
280	SLV FO 15	-172	-39	566	0	0	0
280	SLV FO 16	-144	-51	554	0	0	0
280	CRTFP Uy+	0	0	0	0	0	0
280	CRTFP Uy-	0	0	0	0	0	0
281	SLU 1	-12	-12	852	0	0	0
281	SLU 2	-12	-8	871	0	0	0
281	SLU 3	-12	-12	865	0	0	0
281	SLU 4	-13	-9	877	0	0	0
281	SLU 5	-13	-8	879	0	0	0
281	SLU 6	-12	-12	874	0	0	0
281	SLU 7	-13	-10	885	0	0	0
281	SLU 8	-12	-12	868	0	0	0
281	SLU 9	-13	-10	880	0	0	0
281	SLU 10	-13	-9	985	0	0	0
281	SLU 11	-13	-13	979	0	0	0
281	SLU 12	-13	-11	991	0	0	0
281	SLU 13	-13	-9	993	0	0	0
281	SLU 14	-13	-13	988	0	0	0
281	SLU 15	-13	-11	999	0	0	0
281	SLU 16	-13	-13	982	0	0	0
281	SLU 17	-13	-11	994	0	0	0
281	SLU 18	-13	-13	1014	0	0	0
281	SLU 19	-13	-11	1026	0	0	0
281	SLU 20	-13	-14	1023	0	0	0
281	SLU 21	-13	-11	1034	0	0	0
281	SLU 22	-14	-13	967	0	0	0
281	SLU 23	-14	-9	987	0	0	0
281	SLU 24	-14	-13	981	0	0	0
281	SLU 25	-14	-11	993	0	0	0
281	SLU 26	-14	-9	995	0	0	0
281	SLU 27	-14	-13	990	0	0	0
281	SLU 28	-14	-11	1001	0	0	0
281	SLU 29	-14	-13	984	0	0	0
281	SLU 30	-14	-11	996	0	0	0
281	SLU 31	-15	-10	1100	0	0	0
281	SLU 32	-15	-14	1095	0	0	0
281	SLU 33	-15	-12	1107	0	0	0
281	SLU 34	-15	-10	1109	0	0	0
281	SLU 35	-15	-14	1104	0	0	0
281	SLU 36	-15	-12	1115	0	0	0
281	SLU 37	-15	-14	1098	0	0	0
281	SLU 38	-15	-12	1110	0	0	0
281	SLU 39	-15	-15	1130	0	0	0
281	SLU 40	-15	-12	1142	0	0	0
281	SLU 41	-15	-15	1139	0	0	0
281	SLU 42	-15	-12	1150	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
281	SLU 43	-15	-15	1067	0	0	0
281	SLU 44	-15	-11	1086	0	0	0
281	SLU 45	-15	-15	1081	0	0	0
281	SLU 46	-15	-13	1093	0	0	0
281	SLU 47	-16	-11	1095	0	0	0
281	SLU 48	-15	-15	1090	0	0	0
281	SLU 49	-16	-13	1101	0	0	0
281	SLU 50	-15	-15	1084	0	0	0
281	SLU 51	-16	-13	1096	0	0	0
281	SLU 52	-16	-12	1200	0	0	0
281	SLU 53	-16	-16	1195	0	0	0
281	SLU 54	-16	-14	1206	0	0	0
281	SLU 55	-16	-12	1209	0	0	0
281	SLU 56	-16	-16	1203	0	0	0
281	SLU 57	-16	-14	1215	0	0	0
281	SLU 58	-16	-16	1198	0	0	0
281	SLU 59	-16	-14	1210	0	0	0
281	SLU 60	-16	-16	1230	0	0	0
281	SLU 61	-16	-14	1242	0	0	0
281	SLU 62	-16	-17	1239	0	0	0
281	SLU 63	-16	-14	1250	0	0	0
281	SLU 64	-17	-16	1183	0	0	0
281	SLU 65	-17	-12	1202	0	0	0
281	SLU 66	-17	-16	1197	0	0	0
281	SLU 67	-17	-14	1208	0	0	0
281	SLU 68	-17	-12	1211	0	0	0
281	SLU 69	-17	-16	1205	0	0	0
281	SLU 70	-17	-14	1217	0	0	0
281	SLU 71	-17	-16	1200	0	0	0
281	SLU 72	-17	-14	1212	0	0	0
281	SLU 73	-18	-13	1316	0	0	0
281	SLU 74	-18	-17	1311	0	0	0
281	SLU 75	-18	-15	1322	0	0	0
281	SLU 76	-18	-13	1325	0	0	0
281	SLU 77	-18	-18	1319	0	0	0
281	SLU 78	-18	-15	1331	0	0	0
281	SLU 79	-18	-17	1314	0	0	0
281	SLU 80	-18	-15	1325	0	0	0
281	SLU 81	-18	-18	1346	0	0	0
281	SLU 82	-18	-15	1357	0	0	0
281	SLU 83	-18	-18	1354	0	0	0
281	SLU 84	-18	-15	1366	0	0	0
281	SLE RA 1	-12	-12	885	0	0	0
281	SLE RA 2	-13	-9	897	0	0	0
281	SLE RA 3	-13	-12	894	0	0	0
281	SLE RA 4	-13	-11	901	0	0	0
281	SLE RA 5	-13	-9	903	0	0	0
281	SLE RA 6	-13	-12	899	0	0	0
281	SLE RA 7	-13	-11	907	0	0	0
281	SLE RA 8	-13	-12	896	0	0	0
281	SLE RA 9	-13	-11	904	0	0	0
281	SLE RA 10	-13	-10	973	0	0	0
281	SLE RA 11	-13	-13	970	0	0	0
281	SLE RA 12	-13	-11	977	0	0	0
281	SLE RA 13	-13	-10	979	0	0	0
281	SLE RA 14	-13	-13	975	0	0	0
281	SLE RA 15	-13	-11	983	0	0	0
281	SLE RA 16	-13	-13	972	0	0	0
281	SLE RA 17	-13	-11	980	0	0	0
281	SLE RA 18	-13	-13	993	0	0	0
281	SLE RA 19	-13	-12	1001	0	0	0
281	SLE RA 20	-13	-13	999	0	0	0
281	SLE RA 21	-13	-12	1006	0	0	0
281	SLE FR 1	-12	-12	885	0	0	0
281	SLE FR 2	-12	-11	887	0	0	0
281	SLE FR 3	-12	-12	887	0	0	0
281	SLE FR 4	-13	-12	920	0	0	0
281	SLE FR 5	-13	-12	919	0	0	0
281	SLE FR 6	-13	-13	939	0	0	0
281	SLE QP 1	-12	-12	885	0	0	0
281	SLE QP 2	-13	-12	917	0	0	0
281	SLD 1	66	8	1107	0	0	0
281	SLD 2	82	2	1101	0	0	0
281	SLD 3	71	-41	818	0	0	0
281	SLD 4	87	-47	812	0	0	0
281	SLD 5	0	70	1414	0	0	0
281	SLD 6	11	66	1410	0	0	0
281	SLD 7	17	-95	450	0	0	0
281	SLD 8	28	-99	446	0	0	0
281	SLD 9	-53	74	1389	0	0	0
281	SLD 10	-42	70	1385	0	0	0
281	SLD 11	-36	-91	424	0	0	0
281	SLD 12	-26	-95	420	0	0	0
281	SLD 13	-112	23	1023	0	0	0
281	SLD 14	-96	17	1017	0	0	0
281	SLD 15	-107	-27	733	0	0	0
281	SLD 16	-91	-33	727	0	0	0
281	SLV 1	109	23	1232	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
281	SLV 2	135	13	1223	0	0	0
281	SLV 3	118	-60	743	0	0	0
281	SLV 4	144	-70	734	0	0	0
281	SLV 5	6	127	1755	0	0	0
281	SLV 6	24	120	1749	0	0	0
281	SLV 7	35	-152	125	0	0	0
281	SLV 8	52	-158	119	0	0	0
281	SLV 9	-77	134	1716	0	0	0
281	SLV 10	-60	127	1709	0	0	0
281	SLV 11	-49	-145	86	0	0	0
281	SLV 12	-32	-152	79	0	0	0
281	SLV 13	-169	46	1100	0	0	0
281	SLV 14	-143	36	1091	0	0	0
281	SLV 15	-160	-38	611	0	0	0
281	SLV 16	-135	-48	602	0	0	0
281	SLV FO 1	122	27	1264	0	0	0
281	SLV FO 2	150	16	1254	0	0	0
281	SLV FO 3	131	-65	726	0	0	0
281	SLV FO 4	159	-76	716	0	0	0
281	SLV FO 5	8	141	1839	0	0	0
281	SLV FO 6	28	134	1832	0	0	0
281	SLV FO 7	39	-166	46	0	0	0
281	SLV FO 8	58	-173	39	0	0	0
281	SLV FO 9	-83	148	1795	0	0	0
281	SLV FO 10	-64	141	1788	0	0	0
281	SLV FO 11	-53	-158	2	0	0	0
281	SLV FO 12	-33	-166	-4	0	0	0
281	SLV FO 13	-184	52	1119	0	0	0
281	SLV FO 14	-156	41	1108	0	0	0
281	SLV FO 15	-175	-40	581	0	0	0
281	SLV FO 16	-147	-51	570	0	0	0
281	CRTFP Uy+	0	0	0	0	0	0
281	CRTFP Uy-	0	0	0	0	0	0
282	SLU 1	-12	-9	860	0	0	0
282	SLU 2	-12	-5	879	0	0	0
282	SLU 3	-12	-9	874	0	0	0
282	SLU 4	-12	-7	886	0	0	0
282	SLU 5	-13	-5	888	0	0	0
282	SLU 6	-12	-9	883	0	0	0
282	SLU 7	-13	-7	894	0	0	0
282	SLU 8	-12	-9	877	0	0	0
282	SLU 9	-12	-7	889	0	0	0
282	SLU 10	-13	-6	995	0	0	0
282	SLU 11	-13	-10	990	0	0	0
282	SLU 12	-13	-8	1001	0	0	0
282	SLU 13	-13	-6	1004	0	0	0
282	SLU 14	-13	-10	998	0	0	0
282	SLU 15	-13	-8	1010	0	0	0
282	SLU 16	-13	-10	993	0	0	0
282	SLU 17	-13	-8	1004	0	0	0
282	SLU 18	-13	-10	1025	0	0	0
282	SLU 19	-13	-8	1037	0	0	0
282	SLU 20	-13	-11	1034	0	0	0
282	SLU 21	-13	-8	1045	0	0	0
282	SLU 22	-13	-10	977	0	0	0
282	SLU 23	-14	-6	996	0	0	0
282	SLU 24	-14	-10	991	0	0	0
282	SLU 25	-14	-8	1002	0	0	0
282	SLU 26	-14	-6	1005	0	0	0
282	SLU 27	-14	-10	999	0	0	0
282	SLU 28	-14	-8	1011	0	0	0
282	SLU 29	-14	-10	994	0	0	0
282	SLU 30	-14	-8	1006	0	0	0
282	SLU 31	-15	-7	1112	0	0	0
282	SLU 32	-14	-11	1107	0	0	0
282	SLU 33	-15	-9	1118	0	0	0
282	SLU 34	-15	-7	1120	0	0	0
282	SLU 35	-15	-11	1115	0	0	0
282	SLU 36	-15	-9	1127	0	0	0
282	SLU 37	-15	-11	1110	0	0	0
282	SLU 38	-15	-9	1121	0	0	0
282	SLU 39	-14	-11	1142	0	0	0
282	SLU 40	-15	-9	1154	0	0	0
282	SLU 41	-15	-11	1151	0	0	0
282	SLU 42	-15	-9	1162	0	0	0
282	SLU 43	-15	-11	1078	0	0	0
282	SLU 44	-15	-7	1097	0	0	0
282	SLU 45	-15	-12	1092	0	0	0
282	SLU 46	-15	-9	1104	0	0	0
282	SLU 47	-15	-8	1106	0	0	0
282	SLU 48	-15	-12	1101	0	0	0
282	SLU 49	-16	-9	1112	0	0	0
282	SLU 50	-15	-12	1095	0	0	0
282	SLU 51	-15	-9	1107	0	0	0
282	SLU 52	-16	-8	1213	0	0	0
282	SLU 53	-16	-13	1208	0	0	0
282	SLU 54	-16	-10	1219	0	0	0
282	SLU 55	-16	-9	1221	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
282	SLU 56	-16	-13	1216	0	0	0
282	SLU 57	-16	-10	1228	0	0	0
282	SLU 58	-16	-13	1211	0	0	0
282	SLU 59	-16	-10	1222	0	0	0
282	SLU 60	-16	-13	1243	0	0	0
282	SLU 61	-16	-10	1255	0	0	0
282	SLU 62	-16	-13	1252	0	0	0
282	SLU 63	-16	-11	1263	0	0	0
282	SLU 64	-16	-12	1195	0	0	0
282	SLU 65	-17	-8	1214	0	0	0
282	SLU 66	-17	-13	1209	0	0	0
282	SLU 67	-17	-10	1220	0	0	0
282	SLU 68	-17	-8	1223	0	0	0
282	SLU 69	-17	-13	1217	0	0	0
282	SLU 70	-17	-10	1229	0	0	0
282	SLU 71	-17	-13	1212	0	0	0
282	SLU 72	-17	-10	1224	0	0	0
282	SLU 73	-18	-9	1330	0	0	0
282	SLU 74	-17	-14	1324	0	0	0
282	SLU 75	-18	-11	1336	0	0	0
282	SLU 76	-18	-9	1338	0	0	0
282	SLU 77	-18	-14	1333	0	0	0
282	SLU 78	-18	-11	1345	0	0	0
282	SLU 79	-17	-14	1328	0	0	0
282	SLU 80	-18	-11	1339	0	0	0
282	SLU 81	-17	-14	1360	0	0	0
282	SLU 82	-18	-11	1372	0	0	0
282	SLU 83	-18	-14	1369	0	0	0
282	SLU 84	-18	-11	1380	0	0	0
282	SLE RA 1	-12	-9	894	0	0	0
282	SLE RA 2	-13	-7	906	0	0	0
282	SLE RA 3	-12	-9	903	0	0	0
282	SLE RA 4	-13	-8	910	0	0	0
282	SLE RA 5	-13	-7	912	0	0	0
282	SLE RA 6	-13	-10	909	0	0	0
282	SLE RA 7	-13	-8	916	0	0	0
282	SLE RA 8	-12	-10	905	0	0	0
282	SLE RA 9	-13	-8	913	0	0	0
282	SLE RA 10	-13	-7	983	0	0	0
282	SLE RA 11	-13	-10	980	0	0	0
282	SLE RA 12	-13	-8	988	0	0	0
282	SLE RA 13	-13	-7	989	0	0	0
282	SLE RA 14	-13	-10	986	0	0	0
282	SLE RA 15	-13	-9	993	0	0	0
282	SLE RA 16	-13	-10	982	0	0	0
282	SLE RA 17	-13	-9	990	0	0	0
282	SLE RA 18	-13	-10	1004	0	0	0
282	SLE RA 19	-13	-9	1011	0	0	0
282	SLE RA 20	-13	-10	1009	0	0	0
282	SLE RA 21	-13	-9	1017	0	0	0
282	SLE FR 1	-12	-9	894	0	0	0
282	SLE FR 2	-12	-9	896	0	0	0
282	SLE FR 3	-12	-9	896	0	0	0
282	SLE FR 4	-12	-9	929	0	0	0
282	SLE FR 5	-12	-10	929	0	0	0
282	SLE FR 6	-13	-10	949	0	0	0
282	SLE QP 1	-12	-9	894	0	0	0
282	SLE QP 2	-12	-10	927	0	0	0
282	SLD 1	67	13	1111	0	0	0
282	SLD 2	83	7	1106	0	0	0
282	SLD 3	72	-38	818	0	0	0
282	SLD 4	88	-44	813	0	0	0
282	SLD 5	1	76	1427	0	0	0
282	SLD 6	12	72	1424	0	0	0
282	SLD 7	17	-95	450	0	0	0
282	SLD 8	28	-99	447	0	0	0
282	SLD 9	-53	79	1406	0	0	0
282	SLD 10	-42	76	1403	0	0	0
282	SLD 11	-36	-91	429	0	0	0
282	SLD 12	-26	-95	426	0	0	0
282	SLD 13	-113	25	1041	0	0	0
282	SLD 14	-96	19	1035	0	0	0
282	SLD 15	-108	-26	748	0	0	0
282	SLD 16	-92	-32	742	0	0	0
282	SLV 1	111	29	1233	0	0	0
282	SLV 2	137	20	1225	0	0	0
282	SLV 3	119	-58	738	0	0	0
282	SLV 4	145	-66	730	0	0	0
282	SLV 5	7	135	1771	0	0	0
282	SLV 6	25	129	1766	0	0	0
282	SLV 7	35	-154	120	0	0	0
282	SLV 8	52	-160	115	0	0	0
282	SLV 9	-77	140	1738	0	0	0
282	SLV 10	-60	135	1733	0	0	0
282	SLV 11	-50	-148	87	0	0	0
282	SLV 12	-32	-154	82	0	0	0
282	SLV 13	-170	47	1123	0	0	0
282	SLV 14	-144	39	1115	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
282	SLV 15	-162	-39	628	0	0	0
282	SLV 16	-136	-48	620	0	0	0
282	SLV FO 1	123	33	1264	0	0	0
282	SLV FO 2	152	23	1255	0	0	0
282	SLV FO 3	132	-63	719	0	0	0
282	SLV FO 4	161	-72	710	0	0	0
282	SLV FO 5	9	149	1856	0	0	0
282	SLV FO 6	28	143	1850	0	0	0
282	SLV FO 7	40	-168	40	0	0	0
282	SLV FO 8	59	-175	34	0	0	0
282	SLV FO 9	-84	155	1819	0	0	0
282	SLV FO 10	-64	149	1813	0	0	0
282	SLV FO 11	-53	-162	4	0	0	0
282	SLV FO 12	-34	-168	-3	0	0	0
282	SLV FO 13	-186	53	1143	0	0	0
282	SLV FO 14	-157	43	1134	0	0	0
282	SLV FO 15	-177	-42	598	0	0	0
282	SLV FO 16	-148	-52	589	0	0	0
282	CRTFP Uy+	0	0	0	0	0	0
282	CRTFP Uy-	0	0	0	0	0	0
283	SLU 1	-12	-6	879	0	0	0
283	SLU 2	-12	-2	899	0	0	0
283	SLU 3	-12	-7	894	0	0	0
283	SLU 4	-12	-4	906	0	0	0
283	SLU 5	-12	-2	908	0	0	0
283	SLU 6	-12	-7	903	0	0	0
283	SLU 7	-12	-4	914	0	0	0
283	SLU 8	-12	-7	897	0	0	0
283	SLU 9	-12	-4	909	0	0	0
283	SLU 10	-13	-3	1018	0	0	0
283	SLU 11	-13	-7	1013	0	0	0
283	SLU 12	-13	-5	1025	0	0	0
283	SLU 13	-13	-3	1027	0	0	0
283	SLU 14	-13	-7	1022	0	0	0
283	SLU 15	-13	-5	1033	0	0	0
283	SLU 16	-13	-7	1016	0	0	0
283	SLU 17	-13	-5	1028	0	0	0
283	SLU 18	-13	-7	1049	0	0	0
283	SLU 19	-13	-5	1061	0	0	0
283	SLU 20	-13	-8	1058	0	0	0
283	SLU 21	-13	-5	1070	0	0	0
283	SLU 22	-13	-7	999	0	0	0
283	SLU 23	-14	-3	1019	0	0	0
283	SLU 24	-14	-7	1013	0	0	0
283	SLU 25	-14	-5	1025	0	0	0
283	SLU 26	-14	-3	1028	0	0	0
283	SLU 27	-14	-7	1022	0	0	0
283	SLU 28	-14	-5	1034	0	0	0
283	SLU 29	-14	-7	1017	0	0	0
283	SLU 30	-14	-5	1029	0	0	0
283	SLU 31	-15	-3	1138	0	0	0
283	SLU 32	-14	-8	1132	0	0	0
283	SLU 33	-15	-5	1144	0	0	0
283	SLU 34	-15	-4	1147	0	0	0
283	SLU 35	-15	-8	1141	0	0	0
283	SLU 36	-15	-5	1153	0	0	0
283	SLU 37	-14	-8	1136	0	0	0
283	SLU 38	-15	-5	1148	0	0	0
283	SLU 39	-14	-8	1169	0	0	0
283	SLU 40	-15	-5	1181	0	0	0
283	SLU 41	-15	-8	1178	0	0	0
283	SLU 42	-15	-6	1190	0	0	0
283	SLU 43	-15	-8	1102	0	0	0
283	SLU 44	-15	-4	1122	0	0	0
283	SLU 45	-15	-8	1117	0	0	0
283	SLU 46	-15	-6	1128	0	0	0
283	SLU 47	-15	-4	1131	0	0	0
283	SLU 48	-15	-8	1125	0	0	0
283	SLU 49	-15	-6	1137	0	0	0
283	SLU 50	-15	-8	1120	0	0	0
283	SLU 51	-15	-6	1132	0	0	0
283	SLU 52	-16	-5	1241	0	0	0
283	SLU 53	-16	-9	1236	0	0	0
283	SLU 54	-16	-7	1247	0	0	0
283	SLU 55	-16	-5	1250	0	0	0
283	SLU 56	-16	-9	1244	0	0	0
283	SLU 57	-16	-7	1256	0	0	0
283	SLU 58	-16	-9	1239	0	0	0
283	SLU 59	-16	-7	1251	0	0	0
283	SLU 60	-16	-9	1272	0	0	0
283	SLU 61	-16	-7	1284	0	0	0
283	SLU 62	-16	-9	1281	0	0	0
283	SLU 63	-16	-7	1293	0	0	0
283	SLU 64	-16	-9	1222	0	0	0
283	SLU 65	-17	-4	1242	0	0	0
283	SLU 66	-17	-9	1236	0	0	0
283	SLU 67	-17	-6	1248	0	0	0
283	SLU 68	-17	-5	1250	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLU 69	-17	-9	1245	0	0	0
283	SLU 70	-17	-6	1257	0	0	0
283	SLU 71	-17	-9	1240	0	0	0
283	SLU 72	-17	-6	1251	0	0	0
283	SLU 73	-18	-5	1361	0	0	0
283	SLU 74	-17	-10	1355	0	0	0
283	SLU 75	-18	-7	1367	0	0	0
283	SLU 76	-18	-5	1369	0	0	0
283	SLU 77	-17	-10	1364	0	0	0
283	SLU 78	-18	-7	1376	0	0	0
283	SLU 79	-17	-10	1359	0	0	0
283	SLU 80	-18	-7	1370	0	0	0
283	SLU 81	-17	-10	1392	0	0	0
283	SLU 82	-18	-7	1404	0	0	0
283	SLU 83	-17	-10	1401	0	0	0
283	SLU 84	-18	-7	1412	0	0	0
283	SLE RA 1	-12	-7	914	0	0	0
283	SLE RA 2	-13	-4	927	0	0	0
283	SLE RA 3	-12	-7	923	0	0	0
283	SLE RA 4	-13	-5	931	0	0	0
283	SLE RA 5	-13	-4	933	0	0	0
283	SLE RA 6	-12	-7	929	0	0	0
283	SLE RA 7	-13	-5	937	0	0	0
283	SLE RA 8	-12	-7	925	0	0	0
283	SLE RA 9	-13	-5	933	0	0	0
283	SLE RA 10	-13	-4	1006	0	0	0
283	SLE RA 11	-13	-7	1003	0	0	0
283	SLE RA 12	-13	-5	1010	0	0	0
283	SLE RA 13	-13	-4	1012	0	0	0
283	SLE RA 14	-13	-7	1008	0	0	0
283	SLE RA 15	-13	-6	1016	0	0	0
283	SLE RA 16	-13	-7	1005	0	0	0
283	SLE RA 17	-13	-6	1013	0	0	0
283	SLE RA 18	-13	-7	1027	0	0	0
283	SLE RA 19	-13	-6	1035	0	0	0
283	SLE RA 20	-13	-7	1033	0	0	0
283	SLE RA 21	-13	-6	1041	0	0	0
283	SLE FR 1	-12	-7	914	0	0	0
283	SLE FR 2	-12	-6	916	0	0	0
283	SLE FR 3	-12	-7	916	0	0	0
283	SLE FR 4	-12	-6	950	0	0	0
283	SLE FR 5	-12	-7	950	0	0	0
283	SLE FR 6	-12	-7	970	0	0	0
283	SLE QP 1	-12	-7	914	0	0	0
283	SLE QP 2	-12	-7	948	0	0	0
283	SLD 1	67	18	1128	0	0	0
283	SLD 2	84	13	1124	0	0	0
283	SLD 3	72	-35	828	0	0	0
283	SLD 4	89	-40	823	0	0	0
283	SLD 5	1	82	1458	0	0	0
283	SLD 6	12	79	1455	0	0	0
283	SLD 7	18	-95	457	0	0	0
283	SLD 8	28	-98	454	0	0	0
283	SLD 9	-53	84	1441	0	0	0
283	SLD 10	-42	81	1438	0	0	0
283	SLD 11	-37	-92	440	0	0	0
283	SLD 12	-26	-95	437	0	0	0
283	SLD 13	-114	27	1072	0	0	0
283	SLD 14	-97	22	1067	0	0	0
283	SLD 15	-109	-26	772	0	0	0
283	SLD 16	-92	-31	767	0	0	0
283	SLV 1	112	35	1249	0	0	0
283	SLV 2	138	27	1242	0	0	0
283	SLV 3	120	-55	742	0	0	0
283	SLV 4	147	-62	734	0	0	0
283	SLV 5	8	143	1810	0	0	0
283	SLV 6	25	138	1805	0	0	0
283	SLV 7	35	-156	117	0	0	0
283	SLV 8	53	-161	112	0	0	0
283	SLV 9	-77	147	1783	0	0	0
283	SLV 10	-60	142	1778	0	0	0
283	SLV 11	-50	-151	91	0	0	0
283	SLV 12	-32	-156	86	0	0	0
283	SLV 13	-171	49	1161	0	0	0
283	SLV 14	-145	41	1154	0	0	0
283	SLV 15	-163	-41	653	0	0	0
283	SLV 16	-137	-48	646	0	0	0
283	SLV FO 1	125	39	1279	0	0	0
283	SLV FO 2	154	31	1272	0	0	0
283	SLV FO 3	134	-60	721	0	0	0
283	SLV FO 4	163	-68	713	0	0	0
283	SLV FO 5	10	158	1896	0	0	0
283	SLV FO 6	29	152	1890	0	0	0
283	SLV FO 7	40	-170	34	0	0	0
283	SLV FO 8	59	-176	29	0	0	0
283	SLV FO 9	-84	162	1867	0	0	0
283	SLV FO 10	-64	157	1861	0	0	0
283	SLV FO 11	-54	-166	5	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLV FO 12	-34	-171	0	0	0	0
283	SLV FO 13	-187	54	1182	0	0	0
283	SLV FO 14	-158	46	1174	0	0	0
283	SLV FO 15	-178	-44	624	0	0	0
283	SLV FO 16	-149	-52	616	0	0	0
283	CRTFP Uy+	0	0	0	0	0	0
283	CRTFP Uy-	0	0	0	0	0	0
284	SLU 1	-12	-4	916	0	0	0
284	SLU 2	-12	1	937	0	0	0
284	SLU 3	-12	-4	931	0	0	0
284	SLU 4	-12	-1	944	0	0	0
284	SLU 5	-12	0	946	0	0	0
284	SLU 6	-12	-4	941	0	0	0
284	SLU 7	-12	-1	953	0	0	0
284	SLU 8	-12	-4	935	0	0	0
284	SLU 9	-12	-1	947	0	0	0
284	SLU 10	-13	0	1062	0	0	0
284	SLU 11	-13	-4	1056	0	0	0
284	SLU 12	-13	-2	1069	0	0	0
284	SLU 13	-13	0	1071	0	0	0
284	SLU 14	-13	-4	1066	0	0	0
284	SLU 15	-13	-2	1078	0	0	0
284	SLU 16	-13	-4	1060	0	0	0
284	SLU 17	-13	-2	1072	0	0	0
284	SLU 18	-13	-4	1095	0	0	0
284	SLU 19	-13	-2	1107	0	0	0
284	SLU 20	-13	-5	1104	0	0	0
284	SLU 21	-13	-2	1116	0	0	0
284	SLU 22	-13	-4	1041	0	0	0
284	SLU 23	-14	0	1062	0	0	0
284	SLU 24	-14	-4	1056	0	0	0
284	SLU 25	-14	-1	1069	0	0	0
284	SLU 26	-14	0	1071	0	0	0
284	SLU 27	-14	-4	1066	0	0	0
284	SLU 28	-14	-1	1078	0	0	0
284	SLU 29	-14	-4	1060	0	0	0
284	SLU 30	-14	-1	1072	0	0	0
284	SLU 31	-15	0	1187	0	0	0
284	SLU 32	-14	-4	1181	0	0	0
284	SLU 33	-15	-2	1194	0	0	0
284	SLU 34	-15	0	1196	0	0	0
284	SLU 35	-14	-5	1191	0	0	0
284	SLU 36	-15	-2	1203	0	0	0
284	SLU 37	-14	-5	1185	0	0	0
284	SLU 38	-15	-2	1197	0	0	0
284	SLU 39	-14	-5	1220	0	0	0
284	SLU 40	-15	-2	1232	0	0	0
284	SLU 41	-14	-5	1229	0	0	0
284	SLU 42	-15	-2	1241	0	0	0
284	SLU 43	-15	-5	1148	0	0	0
284	SLU 44	-15	-1	1169	0	0	0
284	SLU 45	-15	-5	1163	0	0	0
284	SLU 46	-15	-2	1176	0	0	0
284	SLU 47	-15	-1	1178	0	0	0
284	SLU 48	-15	-5	1173	0	0	0
284	SLU 49	-15	-2	1185	0	0	0
284	SLU 50	-15	-5	1167	0	0	0
284	SLU 51	-15	-3	1179	0	0	0
284	SLU 52	-16	-1	1294	0	0	0
284	SLU 53	-16	-5	1288	0	0	0
284	SLU 54	-16	-3	1301	0	0	0
284	SLU 55	-16	-1	1303	0	0	0
284	SLU 56	-16	-6	1298	0	0	0
284	SLU 57	-16	-3	1310	0	0	0
284	SLU 58	-16	-6	1292	0	0	0
284	SLU 59	-16	-3	1304	0	0	0
284	SLU 60	-16	-6	1327	0	0	0
284	SLU 61	-16	-3	1339	0	0	0
284	SLU 62	-16	-6	1336	0	0	0
284	SLU 63	-16	-3	1348	0	0	0
284	SLU 64	-16	-5	1273	0	0	0
284	SLU 65	-17	-1	1294	0	0	0
284	SLU 66	-17	-5	1288	0	0	0
284	SLU 67	-17	-2	1301	0	0	0
284	SLU 68	-17	-1	1303	0	0	0
284	SLU 69	-17	-5	1298	0	0	0
284	SLU 70	-17	-3	1310	0	0	0
284	SLU 71	-17	-5	1292	0	0	0
284	SLU 72	-17	-3	1304	0	0	0
284	SLU 73	-18	-1	1419	0	0	0
284	SLU 74	-17	-6	1413	0	0	0
284	SLU 75	-18	-3	1426	0	0	0
284	SLU 76	-18	-1	1428	0	0	0
284	SLU 77	-17	-6	1423	0	0	0
284	SLU 78	-18	-3	1435	0	0	0
284	SLU 79	-17	-6	1417	0	0	0
284	SLU 80	-18	-3	1429	0	0	0
284	SLU 81	-17	-6	1452	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
284	SLU 82	-18	-3	1464	0	0	0
284	SLU 83	-17	-6	1461	0	0	0
284	SLU 84	-18	-3	1473	0	0	0
284	SLE RA 1	-12	-4	952	0	0	0
284	SLE RA 2	-13	-1	966	0	0	0
284	SLE RA 3	-12	-4	962	0	0	0
284	SLE RA 4	-13	-2	970	0	0	0
284	SLE RA 5	-13	-1	972	0	0	0
284	SLE RA 6	-12	-4	968	0	0	0
284	SLE RA 7	-13	-2	976	0	0	0
284	SLE RA 8	-12	-4	964	0	0	0
284	SLE RA 9	-13	-2	973	0	0	0
284	SLE RA 10	-13	-1	1049	0	0	0
284	SLE RA 11	-13	-4	1045	0	0	0
284	SLE RA 12	-13	-2	1054	0	0	0
284	SLE RA 13	-13	-1	1055	0	0	0
284	SLE RA 14	-13	-4	1052	0	0	0
284	SLE RA 15	-13	-2	1060	0	0	0
284	SLE RA 16	-13	-4	1048	0	0	0
284	SLE RA 17	-13	-3	1056	0	0	0
284	SLE RA 18	-13	-4	1071	0	0	0
284	SLE RA 19	-13	-3	1079	0	0	0
284	SLE RA 20	-13	-4	1077	0	0	0
284	SLE RA 21	-13	-3	1085	0	0	0
284	SLE FR 1	-12	-4	952	0	0	0
284	SLE FR 2	-12	-3	955	0	0	0
284	SLE FR 3	-12	-4	955	0	0	0
284	SLE FR 4	-12	-3	990	0	0	0
284	SLE FR 5	-12	-4	990	0	0	0
284	SLE FR 6	-12	-4	1012	0	0	0
284	SLE QP 1	-12	-4	952	0	0	0
284	SLE QP 2	-12	-4	988	0	0	0
284	SLD 1	69	22	1168	0	0	0
284	SLD 2	85	19	1164	0	0	0
284	SLD 3	73	-33	855	0	0	0
284	SLD 4	90	-36	851	0	0	0
284	SLD 5	2	88	1518	0	0	0
284	SLD 6	12	86	1515	0	0	0
284	SLD 7	18	-95	473	0	0	0
284	SLD 8	29	-98	471	0	0	0
284	SLD 9	-54	90	1505	0	0	0
284	SLD 10	-43	87	1502	0	0	0
284	SLD 11	-37	-94	460	0	0	0
284	SLD 12	-26	-96	458	0	0	0
284	SLD 13	-115	28	1125	0	0	0
284	SLD 14	-98	25	1121	0	0	0
284	SLD 15	-110	-27	811	0	0	0
284	SLD 16	-93	-30	807	0	0	0
284	SLV 1	114	41	1290	0	0	0
284	SLV 2	140	35	1283	0	0	0
284	SLV 3	122	-52	760	0	0	0
284	SLV 4	149	-58	754	0	0	0
284	SLV 5	8	152	1883	0	0	0
284	SLV 6	26	148	1879	0	0	0
284	SLV 7	36	-158	117	0	0	0
284	SLV 8	54	-162	113	0	0	0
284	SLV 9	-78	154	1862	0	0	0
284	SLV 10	-60	150	1858	0	0	0
284	SLV 11	-51	-156	97	0	0	0
284	SLV 12	-33	-160	93	0	0	0
284	SLV 13	-173	50	1222	0	0	0
284	SLV 14	-147	44	1215	0	0	0
284	SLV 15	-165	-43	692	0	0	0
284	SLV 16	-138	-49	686	0	0	0
284	SLV FO 1	126	45	1320	0	0	0
284	SLV FO 2	156	39	1313	0	0	0
284	SLV FO 3	136	-57	737	0	0	0
284	SLV FO 4	165	-64	730	0	0	0
284	SLV FO 5	10	167	1972	0	0	0
284	SLV FO 6	30	163	1968	0	0	0
284	SLV FO 7	40	-174	30	0	0	0
284	SLV FO 8	60	-178	26	0	0	0
284	SLV FO 9	-85	170	1950	0	0	0
284	SLV FO 10	-65	166	1945	0	0	0
284	SLV FO 11	-54	-171	8	0	0	0
284	SLV FO 12	-35	-175	3	0	0	0
284	SLV FO 13	-190	56	1245	0	0	0
284	SLV FO 14	-160	49	1238	0	0	0
284	SLV FO 15	-180	-47	662	0	0	0
284	SLV FO 16	-151	-53	656	0	0	0
284	CRTFP Uy+	0	0	0	0	0	0
284	CRTFP Uy-	0	0	0	0	0	0
285	SLU 1	-12	-1	988	0	0	0
285	SLU 2	-13	4	1010	0	0	0
285	SLU 3	-12	-1	1005	0	0	0
285	SLU 4	-13	2	1018	0	0	0
285	SLU 5	-13	3	1020	0	0	0
285	SLU 6	-12	-1	1015	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
285	SLU 7	-13	2	1028	0	0	0
285	SLU 8	-12	-1	1009	0	0	0
285	SLU 9	-13	2	1022	0	0	0
285	SLU 10	-13	3	1146	0	0	0
285	SLU 11	-13	-1	1141	0	0	0
285	SLU 12	-13	2	1154	0	0	0
285	SLU 13	-13	3	1156	0	0	0
285	SLU 14	-13	-1	1151	0	0	0
285	SLU 15	-13	1	1164	0	0	0
285	SLU 16	-13	-1	1144	0	0	0
285	SLU 17	-13	1	1158	0	0	0
285	SLU 18	-13	-1	1182	0	0	0
285	SLU 19	-13	2	1196	0	0	0
285	SLU 20	-13	-1	1193	0	0	0
285	SLU 21	-13	1	1206	0	0	0
285	SLU 22	-14	-1	1124	0	0	0
285	SLU 23	-14	4	1146	0	0	0
285	SLU 24	-14	-1	1140	0	0	0
285	SLU 25	-14	2	1153	0	0	0
285	SLU 26	-14	4	1156	0	0	0
285	SLU 27	-14	-1	1150	0	0	0
285	SLU 28	-15	2	1164	0	0	0
285	SLU 29	-14	-1	1144	0	0	0
285	SLU 30	-14	2	1157	0	0	0
285	SLU 31	-15	4	1282	0	0	0
285	SLU 32	-15	-1	1276	0	0	0
285	SLU 33	-15	2	1289	0	0	0
285	SLU 34	-15	4	1292	0	0	0
285	SLU 35	-15	-1	1286	0	0	0
285	SLU 36	-15	2	1299	0	0	0
285	SLU 37	-15	-1	1280	0	0	0
285	SLU 38	-15	2	1293	0	0	0
285	SLU 39	-15	-1	1318	0	0	0
285	SLU 40	-15	2	1331	0	0	0
285	SLU 41	-15	-1	1328	0	0	0
285	SLU 42	-15	2	1341	0	0	0
285	SLU 43	-15	-2	1238	0	0	0
285	SLU 44	-16	3	1260	0	0	0
285	SLU 45	-15	-2	1255	0	0	0
285	SLU 46	-16	1	1268	0	0	0
285	SLU 47	-16	3	1270	0	0	0
285	SLU 48	-15	-2	1265	0	0	0
285	SLU 49	-16	1	1278	0	0	0
285	SLU 50	-15	-2	1258	0	0	0
285	SLU 51	-16	1	1272	0	0	0
285	SLU 52	-16	3	1396	0	0	0
285	SLU 53	-16	-2	1391	0	0	0
285	SLU 54	-16	1	1404	0	0	0
285	SLU 55	-16	3	1406	0	0	0
285	SLU 56	-16	-2	1401	0	0	0
285	SLU 57	-16	1	1414	0	0	0
285	SLU 58	-16	-2	1394	0	0	0
285	SLU 59	-16	1	1407	0	0	0
285	SLU 60	-16	-2	1432	0	0	0
285	SLU 61	-16	1	1445	0	0	0
285	SLU 62	-16	-2	1443	0	0	0
285	SLU 63	-16	1	1456	0	0	0
285	SLU 64	-17	-1	1374	0	0	0
285	SLU 65	-17	3	1396	0	0	0
285	SLU 66	-17	-1	1390	0	0	0
285	SLU 67	-17	2	1403	0	0	0
285	SLU 68	-17	3	1406	0	0	0
285	SLU 69	-17	-1	1400	0	0	0
285	SLU 70	-18	1	1414	0	0	0
285	SLU 71	-17	-1	1394	0	0	0
285	SLU 72	-17	1	1407	0	0	0
285	SLU 73	-18	3	1532	0	0	0
285	SLU 74	-18	-1	1526	0	0	0
285	SLU 75	-18	1	1539	0	0	0
285	SLU 76	-18	3	1542	0	0	0
285	SLU 77	-18	-1	1536	0	0	0
285	SLU 78	-18	1	1549	0	0	0
285	SLU 79	-18	-2	1530	0	0	0
285	SLU 80	-18	1	1543	0	0	0
285	SLU 81	-18	-1	1568	0	0	0
285	SLU 82	-18	1	1581	0	0	0
285	SLU 83	-18	-2	1578	0	0	0
285	SLU 84	-18	1	1591	0	0	0
285	SLE RA 1	-12	-1	1027	0	0	0
285	SLE RA 2	-13	2	1042	0	0	0
285	SLE RA 3	-13	-1	1038	0	0	0
285	SLE RA 4	-13	1	1047	0	0	0
285	SLE RA 5	-13	2	1048	0	0	0
285	SLE RA 6	-13	-1	1045	0	0	0
285	SLE RA 7	-13	1	1053	0	0	0
285	SLE RA 8	-13	-1	1040	0	0	0
285	SLE RA 9	-13	1	1049	0	0	0
285	SLE RA 10	-13	2	1132	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
285	SLE RA 11	-13	-1	1129	0	0	0
285	SLE RA 12	-13	1	1137	0	0	0
285	SLE RA 13	-13	2	1139	0	0	0
285	SLE RA 14	-13	-1	1135	0	0	0
285	SLE RA 15	-13	1	1144	0	0	0
285	SLE RA 16	-13	-1	1131	0	0	0
285	SLE RA 17	-13	1	1140	0	0	0
285	SLE RA 18	-13	-1	1156	0	0	0
285	SLE RA 19	-13	1	1165	0	0	0
285	SLE RA 20	-13	-1	1163	0	0	0
285	SLE RA 21	-13	1	1172	0	0	0
285	SLE FR 1	-12	-1	1027	0	0	0
285	SLE FR 2	-12	0	1030	0	0	0
285	SLE FR 3	-12	-1	1030	0	0	0
285	SLE FR 4	-13	0	1069	0	0	0
285	SLE FR 5	-13	-1	1069	0	0	0
285	SLE FR 6	-13	-1	1092	0	0	0
285	SLE QP 1	-12	-1	1027	0	0	0
285	SLE QP 2	-13	-1	1066	0	0	0
285	SLD 1	71	28	1252	0	0	0
285	SLD 2	89	25	1249	0	0	0
285	SLD 3	76	-30	914	0	0	0
285	SLD 4	94	-33	911	0	0	0
285	SLD 5	2	97	1635	0	0	0
285	SLD 6	13	95	1633	0	0	0
285	SLD 7	19	-98	508	0	0	0
285	SLD 8	30	-100	506	0	0	0
285	SLD 9	-55	98	1626	0	0	0
285	SLD 10	-44	96	1623	0	0	0
285	SLD 11	-38	-97	499	0	0	0
285	SLD 12	-27	-99	497	0	0	0
285	SLD 13	-119	31	1221	0	0	0
285	SLD 14	-102	28	1218	0	0	0
285	SLD 15	-114	-27	883	0	0	0
285	SLD 16	-97	-30	880	0	0	0
285	SLV 1	118	48	1379	0	0	0
285	SLV 2	146	43	1373	0	0	0
285	SLV 3	127	-51	807	0	0	0
285	SLV 4	154	-56	802	0	0	0
285	SLV 5	9	165	2027	0	0	0
285	SLV 6	27	161	2023	0	0	0
285	SLV 7	37	-165	123	0	0	0
285	SLV 8	55	-168	119	0	0	0
285	SLV 9	-81	166	2012	0	0	0
285	SLV 10	-62	163	2009	0	0	0
285	SLV 11	-52	-164	108	0	0	0
285	SLV 12	-34	-167	104	0	0	0
285	SLV 13	-180	53	1330	0	0	0
285	SLV 14	-152	49	1324	0	0	0
285	SLV 15	-171	-46	758	0	0	0
285	SLV 16	-143	-50	753	0	0	0
285	SLV FO 1	131	53	1410	0	0	0
285	SLV FO 2	162	48	1404	0	0	0
285	SLV FO 3	141	-56	782	0	0	0
285	SLV FO 4	171	-61	776	0	0	0
285	SLV FO 5	11	181	2123	0	0	0
285	SLV FO 6	31	178	2119	0	0	0
285	SLV FO 7	42	-182	29	0	0	0
285	SLV FO 8	62	-185	25	0	0	0
285	SLV FO 9	-87	183	2107	0	0	0
285	SLV FO 10	-67	179	2103	0	0	0
285	SLV FO 11	-56	-180	12	0	0	0
285	SLV FO 12	-36	-183	8	0	0	0
285	SLV FO 13	-196	59	1356	0	0	0
285	SLV FO 14	-166	54	1350	0	0	0
285	SLV FO 15	-187	-50	728	0	0	0
285	SLV FO 16	-157	-55	722	0	0	0
285	CRTFP Uy+	0	0	0	0	0	0
285	CRTFP Uy-	0	0	0	0	0	0
286	SLU 1	-5	-8	361	-5.42	46	0.94
286	SLU 2	-6	-7	369	-5.54	47.06	0.76
286	SLU 3	-5	-8	367	-5.51	46.74	0.96
286	SLU 4	-6	-7	372	-5.58	47.38	0.85
286	SLU 5	-6	-7	373	-5.6	47.51	0.77
286	SLU 6	-6	-8	371	-5.56	47.2	0.98
286	SLU 7	-6	-7	376	-5.63	47.83	0.87
286	SLU 8	-6	-8	368	-5.53	46.91	0.97
286	SLU 9	-6	-7	373	-5.6	47.55	0.86
286	SLU 10	-6	-8	418	-6.26	53.19	0.87
286	SLU 11	-6	-9	415	-6.23	52.88	1.07
286	SLU 12	-6	-8	420	-6.3	53.51	0.96
286	SLU 13	-6	-8	421	-6.32	53.65	0.88
286	SLU 14	-6	-9	419	-6.28	53.33	1.09
286	SLU 15	-6	-8	424	-6.36	53.96	0.98
286	SLU 16	-6	-9	416	-6.25	53.05	1.08
286	SLU 17	-6	-8	421	-6.32	53.68	0.97
286	SLU 18	-6	-9	430	-6.45	54.76	1.1
286	SLU 19	-6	-8	435	-6.52	55.4	0.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
286	SLU 20	-6	-9	434	-6.5	55.22	1.11
286	SLU 21	-6	-9	439	-6.58	55.85	1
286	SLU 22	-6	-9	411	-6.17	52.35	1.06
286	SLU 23	-6	-8	419	-6.29	53.41	0.88
286	SLU 24	-6	-9	417	-6.25	53.09	1.08
286	SLU 25	-6	-8	422	-6.33	53.73	0.97
286	SLU 26	-6	-8	423	-6.34	53.86	0.89
286	SLU 27	-6	-9	420	-6.31	53.55	1.09
286	SLU 28	-6	-8	425	-6.38	54.18	0.98
286	SLU 29	-6	-9	418	-6.27	53.26	1.09
286	SLU 30	-6	-8	423	-6.35	53.9	0.98
286	SLU 31	-7	-9	467	-7.01	59.54	0.98
286	SLU 32	-7	-10	465	-6.97	59.22	1.19
286	SLU 33	-7	-9	470	-7.05	59.86	1.08
286	SLU 34	-7	-9	471	-7.07	59.99	1
286	SLU 35	-7	-10	469	-7.03	59.68	1.2
286	SLU 36	-7	-9	474	-7.1	60.31	1.09
286	SLU 37	-7	-10	466	-6.99	59.39	1.19
286	SLU 38	-7	-9	471	-7.07	60.03	1.08
286	SLU 39	-7	-10	480	-7.2	61.11	1.21
286	SLU 40	-7	-9	485	-7.27	61.75	1.1
286	SLU 41	-7	-10	483	-7.25	61.57	1.23
286	SLU 42	-7	-10	488	-7.33	62.2	1.12
286	SLU 43	-7	-10	452	-6.79	57.63	1.19
286	SLU 44	-7	-9	461	-6.91	58.68	1
286	SLU 45	-7	-10	458	-6.87	58.37	1.21
286	SLU 46	-7	-9	463	-6.95	59	1.1
286	SLU 47	-7	-9	464	-6.96	59.14	1.02
286	SLU 48	-7	-10	462	-6.93	58.82	1.22
286	SLU 49	-7	-10	467	-7	59.46	1.11
286	SLU 50	-7	-10	460	-6.89	58.54	1.22
286	SLU 51	-7	-10	465	-6.97	59.17	1.1
286	SLU 52	-7	-10	509	-7.63	64.82	1.11
286	SLU 53	-7	-11	506	-7.6	64.5	1.32
286	SLU 54	-7	-10	511	-7.67	65.13	1.21
286	SLU 55	-7	-10	512	-7.69	65.27	1.13
286	SLU 56	-7	-11	510	-7.65	64.96	1.33
286	SLU 57	-7	-10	515	-7.72	65.59	1.22
286	SLU 58	-7	-11	508	-7.62	64.67	1.32
286	SLU 59	-7	-10	513	-7.69	65.3	1.21
286	SLU 60	-7	-11	521	-7.82	66.39	1.34
286	SLU 61	-7	-11	526	-7.89	67.02	1.23
286	SLU 62	-7	-12	525	-7.87	66.84	1.36
286	SLU 63	-7	-11	530	-7.95	67.48	1.25
286	SLU 64	-7	-11	502	-7.53	63.98	1.3
286	SLU 65	-8	-10	511	-7.66	65.03	1.12
286	SLU 66	-8	-11	508	-7.62	64.72	1.32
286	SLU 67	-8	-10	513	-7.7	65.35	1.21
286	SLU 68	-8	-10	514	-7.71	65.49	1.13
286	SLU 69	-8	-11	512	-7.68	65.17	1.34
286	SLU 70	-8	-11	517	-7.75	65.81	1.23
286	SLU 71	-8	-11	509	-7.64	64.89	1.33
286	SLU 72	-8	-10	514	-7.72	65.52	1.22
286	SLU 73	-8	-11	559	-8.38	71.16	1.23
286	SLU 74	-8	-12	556	-8.34	70.85	1.43
286	SLU 75	-8	-11	561	-8.42	71.48	1.32
286	SLU 76	-8	-11	562	-8.43	71.62	1.24
286	SLU 77	-8	-12	560	-8.4	71.3	1.45
286	SLU 78	-8	-11	565	-8.47	71.94	1.33
286	SLU 79	-8	-12	558	-8.36	71.02	1.44
286	SLU 80	-8	-11	563	-8.44	71.65	1.33
286	SLU 81	-8	-12	571	-8.57	72.74	1.46
286	SLU 82	-8	-12	576	-8.64	73.37	1.35
286	SLU 83	-8	-13	575	-8.62	73.19	1.47
286	SLU 84	-8	-12	580	-8.69	73.82	1.36
286	SLE RA 1	-6	-8	375	-5.63	47.82	0.98
286	SLE RA 2	-6	-7	381	-5.71	48.52	0.85
286	SLE RA 3	-6	-8	379	-5.69	48.31	0.99
286	SLE RA 4	-6	-8	383	-5.74	48.73	0.92
286	SLE RA 5	-6	-7	383	-5.75	48.82	0.86
286	SLE RA 6	-6	-9	382	-5.73	48.62	1
286	SLE RA 7	-6	-8	385	-5.78	49.04	0.93
286	SLE RA 8	-6	-8	380	-5.7	48.42	1
286	SLE RA 9	-6	-8	384	-5.75	48.85	0.92
286	SLE RA 10	-6	-8	413	-6.2	52.61	0.93
286	SLE RA 11	-6	-9	411	-6.17	52.4	1.06
286	SLE RA 12	-6	-8	415	-6.22	52.82	0.99
286	SLE RA 13	-6	-8	415	-6.23	52.91	0.94
286	SLE RA 14	-6	-9	414	-6.21	52.7	1.07
286	SLE RA 15	-6	-9	417	-6.26	53.12	1
286	SLE RA 16	-6	-9	412	-6.18	52.51	1.07
286	SLE RA 17	-6	-9	416	-6.23	52.93	0.99
286	SLE RA 18	-6	-9	421	-6.32	53.66	1.08
286	SLE RA 19	-6	-9	425	-6.37	54.08	1.01
286	SLE RA 20	-6	-9	424	-6.36	53.96	1.09
286	SLE RA 21	-6	-9	427	-6.4	54.38	1.02
286	SLE FR 1	-6	-8	375	-5.63	47.82	0.98
286	SLE FR 2	-6	-8	377	-5.65	47.96	0.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
286	SLE FR 3	-6	-8	376	-5.65	47.94	0.98
286	SLE FR 4	-6	-8	390	-5.85	49.71	0.98
286	SLE FR 5	-6	-9	390	-5.85	49.69	1.01
286	SLE FR 6	-6	-9	398	-5.98	50.74	1.03
286	SLE QP 1	-6	-8	375	-5.63	47.82	0.98
286	SLE QP 2	-6	-9	389	-5.84	49.57	1.01
286	SLD 1	25	-2	482	-7.22	61.34	0.66
286	SLD 2	31	-6	478	-7.17	60.86	1.21
286	SLD 3	27	-20	359	-5.38	45.68	2.99
286	SLD 4	34	-24	355	-5.32	45.2	3.55
286	SLD 5	-1	21	604	-9.06	76.93	-2.73
286	SLD 6	3	19	602	-9.02	76.62	-2.38
286	SLD 7	7	-39	194	-2.91	24.74	5.05
286	SLD 8	11	-41	192	-2.88	24.43	5.41
286	SLD 9	-22	24	587	-8.8	74.71	-3.39
286	SLD 10	-18	22	584	-8.76	74.4	-3.03
286	SLD 11	-14	-36	177	-2.65	22.52	4.39
286	SLD 12	-10	-39	174	-2.62	22.21	4.75
286	SLD 13	-45	7	423	-6.35	53.94	-1.53
286	SLD 14	-39	3	420	-6.3	53.46	-0.97
286	SLD 15	-43	-11	301	-4.51	38.28	0.81
286	SLD 16	-36	-15	297	-4.45	37.8	1.36
286	SLV 1	42	2	541	-8.12	68.96	0.31
286	SLV 2	52	-3	535	-8.03	68.2	1.18
286	SLV 3	46	-28	334	-5	42.5	4.25
286	SLV 4	56	-34	328	-4.92	41.74	5.12
286	SLV 5	1	42	751	-11.27	95.66	-5.35
286	SLV 6	8	38	747	-11.21	95.15	-4.76
286	SLV 7	14	-60	59	-0.88	7.45	7.8
286	SLV 8	21	-63	55	-0.82	6.95	8.39
286	SLV 9	-32	46	724	-10.86	92.2	-6.37
286	SLV 10	-25	42	720	-10.8	91.69	-5.78
286	SLV 11	-19	-55	31	-0.47	3.99	6.78
286	SLV 12	-12	-59	27	-0.41	3.48	7.37
286	SLV 13	-67	17	451	-6.76	57.4	-3.11
286	SLV 14	-57	11	445	-6.67	56.65	-2.23
286	SLV 15	-64	-14	243	-3.64	30.94	0.84
286	SLV 16	-53	-20	237	-3.55	30.18	1.71
286	SLV FO 1	47	4	557	-8.35	70.9	0.24
286	SLV FO 2	58	-3	550	-8.25	70.07	1.19
286	SLV FO 3	51	-30	328	-4.92	41.79	4.58
286	SLV FO 4	62	-36	322	-4.82	40.96	5.53
286	SLV FO 5	2	47	787	-11.81	100.27	-5.98
286	SLV FO 6	9	43	783	-11.74	99.71	-5.34
286	SLV FO 7	16	-65	25	-0.38	3.24	8.48
286	SLV FO 8	23	-69	21	-0.32	2.68	9.13
286	SLV FO 9	-35	52	757	-11.36	96.46	-7.11
286	SLV FO 10	-27	48	753	-11.29	95.9	-6.46
286	SLV FO 11	-20	-60	-4	0.07	-0.57	7.36
286	SLV FO 12	-13	-64	-9	0.13	-1.13	8
286	SLV FO 13	-74	19	457	-6.85	58.18	-3.52
286	SLV FO 14	-62	13	450	-6.75	57.35	-2.56
286	SLV FO 15	-69	-15	228	-3.42	29.07	0.82
286	SLV FO 16	-58	-21	222	-3.33	28.24	1.78
286	CRTFP Ux+	0	0	0	0	0	0
286	CRTFP Ux-	0	0	0	0	0	0
286	CRTFP Uy+	0	0	0	0	0	0
286	CRTFP Uy-	0	0	0	0	0	0
287	SLU 1	-6	1	539	0	0	0
287	SLU 2	-7	3	551	0	0	0
287	SLU 3	-6	1	548	0	0	0
287	SLU 4	-7	2	555	0	0	0
287	SLU 5	-7	3	556	0	0	0
287	SLU 6	-7	1	554	0	0	0
287	SLU 7	-7	2	561	0	0	0
287	SLU 8	-6	1	550	0	0	0
287	SLU 9	-7	2	557	0	0	0
287	SLU 10	-7	3	626	0	0	0
287	SLU 11	-7	1	623	0	0	0
287	SLU 12	-7	2	630	0	0	0
287	SLU 13	-7	3	631	0	0	0
287	SLU 14	-7	1	629	0	0	0
287	SLU 15	-7	2	636	0	0	0
287	SLU 16	-7	1	625	0	0	0
287	SLU 17	-7	2	632	0	0	0
287	SLU 18	-7	1	646	0	0	0
287	SLU 19	-7	2	653	0	0	0
287	SLU 20	-7	1	652	0	0	0
287	SLU 21	-7	2	659	0	0	0
287	SLU 22	-7	1	614	0	0	0
287	SLU 23	-7	4	625	0	0	0
287	SLU 24	-7	1	623	0	0	0
287	SLU 25	-8	3	630	0	0	0
287	SLU 26	-8	4	631	0	0	0
287	SLU 27	-7	1	628	0	0	0
287	SLU 28	-8	3	635	0	0	0
287	SLU 29	-7	1	625	0	0	0
287	SLU 30	-8	3	632	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLU 31	-8	4	700	0	0	0
287	SLU 32	-8	1	697	0	0	0
287	SLU 33	-8	3	705	0	0	0
287	SLU 34	-8	4	706	0	0	0
287	SLU 35	-8	1	703	0	0	0
287	SLU 36	-8	3	710	0	0	0
287	SLU 37	-8	1	700	0	0	0
287	SLU 38	-8	3	707	0	0	0
287	SLU 39	-8	1	720	0	0	0
287	SLU 40	-8	3	727	0	0	0
287	SLU 41	-8	1	726	0	0	0
287	SLU 42	-8	3	733	0	0	0
287	SLU 43	-8	1	675	0	0	0
287	SLU 44	-8	4	687	0	0	0
287	SLU 45	-8	1	684	0	0	0
287	SLU 46	-8	3	691	0	0	0
287	SLU 47	-8	3	693	0	0	0
287	SLU 48	-8	1	690	0	0	0
287	SLU 49	-8	2	697	0	0	0
287	SLU 50	-8	1	686	0	0	0
287	SLU 51	-8	2	694	0	0	0
287	SLU 52	-8	4	762	0	0	0
287	SLU 53	-8	1	759	0	0	0
287	SLU 54	-9	3	766	0	0	0
287	SLU 55	-9	4	767	0	0	0
287	SLU 56	-8	1	765	0	0	0
287	SLU 57	-9	3	772	0	0	0
287	SLU 58	-8	1	761	0	0	0
287	SLU 59	-9	3	768	0	0	0
287	SLU 60	-8	1	782	0	0	0
287	SLU 61	-8	3	789	0	0	0
287	SLU 62	-8	1	788	0	0	0
287	SLU 63	-9	3	795	0	0	0
287	SLU 64	-9	1	750	0	0	0
287	SLU 65	-9	4	762	0	0	0
287	SLU 66	-9	1	759	0	0	0
287	SLU 67	-9	3	766	0	0	0
287	SLU 68	-9	4	767	0	0	0
287	SLU 69	-9	1	764	0	0	0
287	SLU 70	-9	3	771	0	0	0
287	SLU 71	-9	1	761	0	0	0
287	SLU 72	-9	3	768	0	0	0
287	SLU 73	-9	4	836	0	0	0
287	SLU 74	-9	1	834	0	0	0
287	SLU 75	-9	3	841	0	0	0
287	SLU 76	-9	4	842	0	0	0
287	SLU 77	-9	1	839	0	0	0
287	SLU 78	-10	3	846	0	0	0
287	SLU 79	-9	1	836	0	0	0
287	SLU 80	-9	3	843	0	0	0
287	SLU 81	-9	1	857	0	0	0
287	SLU 82	-9	3	864	0	0	0
287	SLU 83	-9	1	862	0	0	0
287	SLU 84	-10	3	869	0	0	0
287	SLE RA 1	-7	1	560	0	0	0
287	SLE RA 2	-7	3	568	0	0	0
287	SLE RA 3	-7	1	566	0	0	0
287	SLE RA 4	-7	2	571	0	0	0
287	SLE RA 5	-7	3	572	0	0	0
287	SLE RA 6	-7	1	570	0	0	0
287	SLE RA 7	-7	2	575	0	0	0
287	SLE RA 8	-7	1	568	0	0	0
287	SLE RA 9	-7	2	573	0	0	0
287	SLE RA 10	-7	3	618	0	0	0
287	SLE RA 11	-7	1	616	0	0	0
287	SLE RA 12	-7	2	621	0	0	0
287	SLE RA 13	-7	3	622	0	0	0
287	SLE RA 14	-7	1	620	0	0	0
287	SLE RA 15	-7	2	625	0	0	0
287	SLE RA 16	-7	1	618	0	0	0
287	SLE RA 17	-7	2	622	0	0	0
287	SLE RA 18	-7	1	632	0	0	0
287	SLE RA 19	-7	2	636	0	0	0
287	SLE RA 20	-7	1	635	0	0	0
287	SLE RA 21	-7	2	640	0	0	0
287	SLE FR 1	-7	1	560	0	0	0
287	SLE FR 2	-7	1	562	0	0	0
287	SLE FR 3	-7	1	562	0	0	0
287	SLE FR 4	-7	1	583	0	0	0
287	SLE FR 5	-7	1	583	0	0	0
287	SLE FR 6	-7	1	596	0	0	0
287	SLE QP 1	-7	1	560	0	0	0
287	SLE QP 2	-7	1	582	0	0	0
287	SLD 1	37	18	679	0	0	0
287	SLD 2	46	17	677	0	0	0
287	SLD 3	40	-13	495	0	0	0
287	SLD 4	49	-14	494	0	0	0
287	SLD 5	1	54	890	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLD 6	7	53	889	0	0	0
287	SLD 7	10	-51	277	0	0	0
287	SLD 8	16	-51	276	0	0	0
287	SLD 9	-29	53	887	0	0	0
287	SLD 10	-23	53	886	0	0	0
287	SLD 11	-20	-51	275	0	0	0
287	SLD 12	-14	-52	274	0	0	0
287	SLD 13	-62	16	670	0	0	0
287	SLD 14	-53	15	668	0	0	0
287	SLD 15	-59	-15	486	0	0	0
287	SLD 16	-50	-16	485	0	0	0
287	SLV 1	61	30	745	0	0	0
287	SLV 2	76	28	743	0	0	0
287	SLV 3	66	-23	435	0	0	0
287	SLV 4	80	-25	433	0	0	0
287	SLV 5	4	90	1102	0	0	0
287	SLV 6	14	89	1101	0	0	0
287	SLV 7	19	-86	67	0	0	0
287	SLV 8	29	-88	66	0	0	0
287	SLV 9	-42	89	1098	0	0	0
287	SLV 10	-32	88	1096	0	0	0
287	SLV 11	-27	-87	63	0	0	0
287	SLV 12	-18	-88	61	0	0	0
287	SLV 13	-93	27	731	0	0	0
287	SLV 14	-79	25	729	0	0	0
287	SLV 15	-89	-26	420	0	0	0
287	SLV 16	-75	-28	418	0	0	0
287	SLV FO 1	68	33	762	0	0	0
287	SLV FO 2	84	31	759	0	0	0
287	SLV FO 3	73	-26	420	0	0	0
287	SLV FO 4	89	-28	418	0	0	0
287	SLV FO 5	5	99	1154	0	0	0
287	SLV FO 6	16	98	1152	0	0	0
287	SLV FO 7	22	-95	16	0	0	0
287	SLV FO 8	32	-96	14	0	0	0
287	SLV FO 9	-46	98	1149	0	0	0
287	SLV FO 10	-35	97	1148	0	0	0
287	SLV FO 11	-29	-96	11	0	0	0
287	SLV FO 12	-19	-97	9	0	0	0
287	SLV FO 13	-102	29	746	0	0	0
287	SLV FO 14	-86	28	743	0	0	0
287	SLV FO 15	-97	-29	404	0	0	0
287	SLV FO 16	-81	-31	402	0	0	0
287	CRTFP Uy+	0	0	0	0	0	0
287	CRTFP Uy-	0	0	0	0	0	0
288	SLU 1	-135	33	5319	1210.28	-897.38	38.48
288	SLU 2	-140	61	5448	1236.84	-919.52	44.82
288	SLU 3	-138	33	5415	1232.64	-913.28	39.39
288	SLU 4	-141	50	5492	1248.58	-926.57	43.2
288	SLU 5	-142	61	5507	1250.72	-929.31	45.42
288	SLU 6	-140	34	5474	1246.52	-923.08	40
288	SLU 7	-143	51	5551	1262.46	-936.37	43.8
288	SLU 8	-139	34	5437	1238.04	-916.97	39.69
288	SLU 9	-142	51	5515	1253.98	-930.26	43.49
288	SLU 10	-151	66	6116	1388.07	-1031.89	48.49
288	SLU 11	-149	39	6084	1383.87	-1025.66	43.07
288	SLU 12	-152	56	6161	1399.8	-1038.94	46.87
288	SLU 13	-153	67	6175	1401.95	-1041.69	49.1
288	SLU 14	-151	39	6143	1397.75	-1035.46	43.67
288	SLU 15	-154	56	6220	1413.68	-1048.74	47.48
288	SLU 16	-150	39	6106	1389.27	-1029.35	43.36
288	SLU 17	-153	56	6183	1405.2	-1042.63	47.17
288	SLU 18	-151	40	6274	1426.32	-1057.92	43.72
288	SLU 19	-154	57	6351	1442.26	-1071.2	47.53
288	SLU 20	-153	41	6333	1440.2	-1067.71	44.33
288	SLU 21	-156	58	6411	1456.14	-1081	48.13
288	SLU 22	-154	36	6074	1382.6	-1023.71	43.61
288	SLU 23	-159	64	6202	1409.16	-1045.84	49.95
288	SLU 24	-157	36	6170	1404.95	-1039.61	44.53
288	SLU 25	-160	53	6247	1420.89	-1052.9	48.33
288	SLU 26	-161	64	6262	1423.04	-1055.64	50.56
288	SLU 27	-159	37	6229	1418.83	-1049.41	45.13
288	SLU 28	-162	54	6306	1434.77	-1062.69	48.94
288	SLU 29	-158	37	6192	1410.36	-1043.3	44.82
288	SLU 30	-161	54	6269	1426.29	-1056.59	48.62
288	SLU 31	-170	69	6871	1560.39	-1158.22	53.62
288	SLU 32	-168	42	6838	1556.18	-1151.99	48.2
288	SLU 33	-171	59	6916	1572.12	-1165.27	52
288	SLU 34	-172	70	6930	1574.26	-1168.02	54.23
288	SLU 35	-170	42	6898	1570.06	-1161.79	48.81
288	SLU 36	-173	59	6975	1586	-1175.07	52.61
288	SLU 37	-169	42	6861	1561.58	-1155.68	48.49
288	SLU 38	-172	59	6938	1577.52	-1168.96	52.3
288	SLU 39	-169	44	7029	1598.63	-1184.24	48.86
288	SLU 40	-172	60	7106	1614.57	-1197.53	52.66
288	SLU 41	-172	44	7088	1612.51	-1194.04	49.46
288	SLU 42	-175	61	7165	1628.45	-1207.32	53.27
288	SLU 43	-169	41	6656	1514.29	-1123.28	48.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
288	SLU 44	-174	70	6784	1540.85	-1145.42	54.6
288	SLU 45	-172	42	6752	1536.65	-1139.19	49.18
288	SLU 46	-175	59	6829	1552.58	-1152.47	52.98
288	SLU 47	-176	70	6844	1554.73	-1155.21	55.21
288	SLU 48	-174	42	6811	1550.52	-1148.98	49.78
288	SLU 49	-177	59	6888	1566.46	-1162.27	53.59
288	SLU 50	-173	42	6774	1542.05	-1142.88	49.47
288	SLU 51	-176	59	6851	1557.98	-1156.16	53.27
288	SLU 52	-185	75	7453	1692.08	-1257.79	58.27
288	SLU 53	-183	47	7420	1687.87	-1251.56	52.85
288	SLU 54	-186	64	7498	1703.81	-1264.84	56.65
288	SLU 55	-187	76	7512	1705.95	-1267.59	58.88
288	SLU 56	-185	48	7480	1701.75	-1261.36	53.46
288	SLU 57	-188	65	7557	1717.69	-1274.64	57.26
288	SLU 58	-184	48	7443	1693.27	-1255.25	53.14
288	SLU 59	-187	65	7520	1709.21	-1268.53	56.95
288	SLU 60	-184	49	7611	1730.32	-1283.82	53.51
288	SLU 61	-187	66	7688	1746.26	-1297.1	57.31
288	SLU 62	-187	50	7670	1744.2	-1293.62	54.11
288	SLU 63	-190	67	7748	1760.14	-1306.9	57.92
288	SLU 64	-188	44	7411	1686.6	-1249.61	53.39
288	SLU 65	-193	73	7539	1713.16	-1271.74	59.73
288	SLU 66	-191	45	7506	1708.96	-1265.51	54.31
288	SLU 67	-194	62	7584	1724.9	-1278.8	58.11
288	SLU 68	-195	73	7598	1727.04	-1281.54	60.34
288	SLU 69	-193	45	7566	1722.84	-1275.31	54.92
288	SLU 70	-196	62	7643	1738.78	-1288.59	58.72
288	SLU 71	-192	45	7529	1714.36	-1269.2	54.6
288	SLU 72	-195	62	7606	1730.3	-1282.49	58.41
288	SLU 73	-204	78	8208	1864.39	-1384.12	63.41
288	SLU 74	-202	50	8175	1860.19	-1377.89	57.98
288	SLU 75	-205	67	8252	1876.12	-1391.17	61.79
288	SLU 76	-206	79	8267	1878.27	-1393.92	64.01
288	SLU 77	-204	51	8234	1874.07	-1387.69	58.59
288	SLU 78	-207	68	8312	1890	-1400.97	62.39
288	SLU 79	-203	51	8198	1865.59	-1381.58	58.28
288	SLU 80	-206	68	8275	1881.53	-1394.86	62.08
288	SLU 81	-203	52	8366	1902.64	-1410.14	58.64
288	SLU 82	-206	69	8443	1918.58	-1423.43	62.44
288	SLU 83	-206	53	8425	1916.52	-1419.94	59.25
288	SLU 84	-209	70	8502	1932.46	-1433.23	63.05
288	SLE RA 1	-140	33	5535	1259.52	-933.47	39.94
288	SLE RA 2	-143	52	5620	1277.22	-948.23	44.17
288	SLE RA 3	-142	34	5599	1274.42	-944.08	40.55
288	SLE RA 4	-144	45	5650	1285.04	-952.93	43.09
288	SLE RA 5	-145	53	5660	1286.48	-954.76	44.57
288	SLE RA 6	-144	34	5638	1283.67	-950.61	40.96
288	SLE RA 7	-146	45	5689	1294.3	-959.46	43.49
288	SLE RA 8	-143	34	5613	1278.02	-946.54	40.75
288	SLE RA 9	-145	45	5665	1288.65	-955.39	43.29
288	SLE RA 10	-151	56	6066	1378.04	-1023.15	46.62
288	SLE RA 11	-150	37	6044	1375.24	-1018.99	43
288	SLE RA 12	-152	49	6096	1385.86	-1027.85	45.54
288	SLE RA 13	-152	56	6106	1387.29	-1029.68	47.02
288	SLE RA 14	-151	38	6084	1384.49	-1025.53	43.41
288	SLE RA 15	-153	49	6135	1395.12	-1034.38	45.94
288	SLE RA 16	-150	38	6059	1378.84	-1021.45	43.2
288	SLE RA 17	-152	49	6111	1389.46	-1030.31	45.74
288	SLE RA 18	-151	39	6171	1403.54	-1040.5	43.44
288	SLE RA 19	-153	50	6223	1414.16	-1049.35	45.98
288	SLE RA 20	-152	39	6211	1412.79	-1047.03	43.84
288	SLE RA 21	-154	50	6262	1423.42	-1055.88	46.38
288	SLE FR 1	-140	33	5535	1259.52	-933.47	39.94
288	SLE FR 2	-141	37	5552	1263.06	-936.42	40.79
288	SLE FR 3	-141	34	5550	1263.22	-936.08	40.1
288	SLE FR 4	-144	39	5743	1306.26	-968.53	41.84
288	SLE FR 5	-144	35	5741	1306.42	-968.19	41.15
288	SLE FR 6	-145	36	5853	1331.53	-986.98	41.69
288	SLE QP 1	-140	33	5535	1259.52	-933.47	39.94
288	SLE QP 2	-143	35	5726	1302.72	-965.58	40.99
288	SLD 1	232	249	8312	1873.39	-1396.54	-9.53
288	SLD 2	318	104	8156	1840.88	-1370.16	-56.33
288	SLD 3	301	-122	6498	1495.41	-1087.66	-92.81
288	SLD 4	386	-266	6342	1462.9	-1061.28	-139.61
288	SLD 5	-149	686	9280	2052.83	-1567.91	160.26
288	SLD 6	-94	593	9178	2031.8	-1550.84	129.98
288	SLD 7	79	-549	3234	792.9	-538.32	-117.34
288	SLD 8	134	-642	3132	771.87	-521.25	-147.61
288	SLD 9	-421	713	8319	1833.58	-1409.91	229.6
288	SLD 10	-366	619	8217	1812.54	-1392.84	199.32
288	SLD 11	-193	-523	2273	573.65	-380.32	-48
288	SLD 12	-137	-616	2172	552.62	-363.25	-78.28
288	SLD 13	-673	336	5109	1142.54	-869.88	221.59
288	SLD 14	-587	192	4953	1110.03	-843.5	174.79
288	SLD 15	-604	-34	3296	764.56	-561	138.31
288	SLD 16	-519	-179	3139	732.06	-534.62	91.52
288	SLV 1	440	393	9880	2217.84	-1658.2	-32.63
288	SLV 2	575	166	9634	2166.65	-1616.66	-106.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
288	SLV 3	555	-234	6815	1579.17	-1136.29	-173.28
288	SLV 4	690	-460	6569	1527.98	-1094.76	-246.96
288	SLV 5	-169	1135	11666	2555.46	-1972.68	245.99
288	SLV 6	-78	982	11500	2521	-1944.71	196.38
288	SLV 7	216	-953	1450	426.56	-232.99	-222.87
288	SLV 8	307	-1106	1284	392.1	-205.02	-272.48
288	SLV 9	-594	1176	10167	2213.35	-1726.14	354.46
288	SLV 10	-503	1023	10001	2178.89	-1698.17	304.86
288	SLV 11	-209	-912	-49	84.44	13.55	-114.4
288	SLV 12	-118	-1065	-215	49.98	41.52	-164.01
288	SLV 13	-977	530	4882	1077.46	-836.4	328.95
288	SLV 14	-842	304	4636	1026.28	-794.87	255.27
288	SLV 15	-861	-96	1818	438.79	-314.5	188.29
288	SLV 16	-726	-323	1571	387.61	-272.96	114.61
288	SLV FO 1	498	429	10296	2309.35	-1727.46	-39.99
288	SLV FO 2	646	179	10024	2253.05	-1681.77	-121.03
288	SLV FO 3	625	-260	6924	1606.81	-1153.36	-194.71
288	SLV FO 4	774	-510	6653	1550.51	-1107.67	-275.76
288	SLV FO 5	-171	1245	12260	2680.74	-2073.39	266.49
288	SLV FO 6	-71	1077	12078	2642.83	-2042.62	211.92
288	SLV FO 7	252	-1052	1023	338.94	-159.73	-249.26
288	SLV FO 8	352	-1220	840	301.03	-128.97	-303.83
288	SLV FO 9	-639	1290	10611	2304.41	-1802.19	385.81
288	SLV FO 10	-539	1122	10428	2266.51	-1771.43	331.24
288	SLV FO 11	-215	-1007	-626	-37.38	111.47	-129.94
288	SLV FO 12	-115	-1175	-809	-75.29	142.23	-184.51
288	SLV FO 13	-1060	580	4798	1054.94	-823.48	357.74
288	SLV FO 14	-912	330	4527	998.63	-777.79	276.7
288	SLV FO 15	-933	-109	1427	352.4	-249.39	203.02
288	SLV FO 16	-785	-359	1156	296.1	-203.7	121.97
288	CRTFP Ux+	0	0	0	0	0	0
288	CRTFP Ux-	0	0	0	0	0	0
288	CRTFP Uy+	0	0	0	0	0	0
288	CRTFP Uy-	0	0	0	0	0	0
290	SLU 1	-93	18	3469	966.57	-89.41	32.8
290	SLU 2	-96	38	3551	986.7	-91.54	34.49
290	SLU 3	-95	19	3531	984.29	-91	33.62
290	SLU 4	-97	30	3580	996.36	-92.28	34.64
290	SLU 5	-98	38	3589	997.72	-92.52	35
290	SLU 6	-97	19	3569	995.31	-91.98	34.13
290	SLU 7	-99	31	3619	1007.39	-93.25	35.15
290	SLU 8	-96	19	3546	988.62	-91.37	33.82
290	SLU 9	-98	31	3595	1000.7	-92.65	34.83
290	SLU 10	-104	41	3985	1104.98	-102.69	37.22
290	SLU 11	-103	22	3965	1102.57	-102.14	36.35
290	SLU 12	-105	34	4014	1114.65	-103.42	37.37
290	SLU 13	-105	41	4023	1116.01	-103.67	37.73
290	SLU 14	-104	22	4004	1113.6	-103.12	36.86
290	SLU 15	-106	34	4053	1125.67	-104.4	37.88
290	SLU 16	-103	22	3980	1106.91	-102.52	36.55
290	SLU 17	-105	34	4029	1118.98	-103.79	37.56
290	SLU 18	-104	23	4089	1135.55	-105.34	36.7
290	SLU 19	-106	35	4138	1147.63	-106.61	37.71
290	SLU 20	-105	23	4127	1146.58	-106.31	37.21
290	SLU 21	-107	35	4177	1158.65	-107.59	38.22
290	SLU 22	-106	20	3959	1101.94	-101.96	37.39
290	SLU 23	-109	39	4041	1122.06	-104.09	39.08
290	SLU 24	-108	20	4021	1119.65	-103.55	38.21
290	SLU 25	-110	32	4071	1131.73	-104.83	39.22
290	SLU 26	-111	40	4080	1133.09	-105.07	39.59
290	SLU 27	-110	20	4060	1130.68	-104.53	38.72
290	SLU 28	-112	32	4109	1142.75	-105.8	39.73
290	SLU 29	-109	20	4036	1123.99	-103.92	38.41
290	SLU 30	-111	32	4085	1136.07	-105.2	39.42
290	SLU 31	-117	43	4475	1240.35	-115.24	41.81
290	SLU 32	-116	24	4456	1237.94	-114.7	40.94
290	SLU 33	-118	35	4505	1250.01	-115.97	41.95
290	SLU 34	-118	43	4514	1251.38	-116.22	42.32
290	SLU 35	-117	24	4494	1248.97	-115.67	41.45
290	SLU 36	-119	35	4543	1261.04	-116.95	42.46
290	SLU 37	-116	24	4470	1242.28	-115.07	41.14
290	SLU 38	-118	36	4519	1254.35	-116.34	42.15
290	SLU 39	-117	25	4579	1270.92	-117.89	41.29
290	SLU 40	-119	36	4629	1283	-119.17	42.3
290	SLU 41	-118	25	4618	1281.95	-118.87	41.8
290	SLU 42	-120	37	4667	1294.02	-120.14	42.81
290	SLU 43	-116	23	4341	1210.13	-111.93	41.07
290	SLU 44	-119	43	4423	1230.26	-114.06	42.76
290	SLU 45	-118	24	4403	1227.84	-113.52	41.89
290	SLU 46	-120	35	4453	1239.92	-114.8	42.9
290	SLU 47	-121	43	4462	1241.28	-115.04	43.27
290	SLU 48	-120	24	4442	1238.87	-114.5	42.4
290	SLU 49	-122	36	4491	1250.94	-115.77	43.41
290	SLU 50	-119	24	4418	1232.18	-113.89	42.09
290	SLU 51	-121	36	4467	1244.26	-115.17	43.1
290	SLU 52	-127	46	4857	1348.54	-125.21	45.49
290	SLU 53	-126	27	4838	1346.13	-124.67	44.62
290	SLU 54	-128	39	4887	1358.21	-125.94	45.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLU 55	-128	46	4896	1359.57	-126.19	46
290	SLU 56	-127	27	4876	1357.16	-125.64	45.13
290	SLU 57	-129	39	4925	1369.23	-126.92	46.14
290	SLU 58	-127	27	4852	1350.47	-125.04	44.82
290	SLU 59	-129	39	4902	1362.54	-126.31	45.83
290	SLU 60	-127	28	4961	1379.11	-127.86	44.97
290	SLU 61	-129	40	5011	1391.19	-129.13	45.98
290	SLU 62	-128	28	5000	1390.14	-128.84	45.48
290	SLU 63	-130	40	5049	1402.21	-130.11	46.49
290	SLU 64	-129	25	4831	1345.5	-124.49	45.66
290	SLU 65	-132	44	4913	1365.62	-126.61	47.35
290	SLU 66	-131	25	4894	1363.21	-126.07	46.48
290	SLU 67	-133	37	4943	1375.29	-127.35	47.49
290	SLU 68	-134	45	4952	1376.65	-127.59	47.85
290	SLU 69	-133	25	4932	1374.24	-127.05	46.99
290	SLU 70	-135	37	4982	1386.31	-128.33	48
290	SLU 71	-132	25	4908	1367.55	-126.44	46.68
290	SLU 72	-134	37	4958	1379.63	-127.72	47.69
290	SLU 73	-140	48	5348	1483.91	-137.76	50.08
290	SLU 74	-139	29	5328	1481.5	-137.22	49.21
290	SLU 75	-141	40	5377	1493.57	-138.49	50.22
290	SLU 76	-141	48	5386	1494.94	-138.74	50.58
290	SLU 77	-141	29	5367	1492.52	-138.19	49.72
290	SLU 78	-142	40	5416	1504.6	-139.47	50.73
290	SLU 79	-140	29	5343	1485.84	-137.59	49.41
290	SLU 80	-142	41	5392	1497.91	-138.87	50.42
290	SLU 81	-140	30	5452	1514.48	-140.41	49.56
290	SLU 82	-142	41	5501	1526.56	-141.69	50.57
290	SLU 83	-141	30	5490	1525.51	-141.39	50.07
290	SLU 84	-143	42	5539	1537.58	-142.66	51.08
290	SLE RA 1	-96	19	3609	1005.25	-93	34.12
290	SLE RA 2	-99	32	3663	1018.66	-94.42	35.24
290	SLE RA 3	-98	19	3650	1017.06	-94.06	34.66
290	SLE RA 4	-99	27	3683	1025.11	-94.91	35.34
290	SLE RA 5	-100	32	3689	1026.02	-95.07	35.58
290	SLE RA 6	-99	19	3676	1024.41	-94.71	35
290	SLE RA 7	-100	27	3709	1032.46	-95.56	35.68
290	SLE RA 8	-98	19	3660	1019.95	-94.3	34.79
290	SLE RA 9	-100	27	3693	1028	-95.16	35.47
290	SLE RA 10	-104	34	3953	1097.52	-101.85	37.06
290	SLE RA 11	-103	21	3940	1095.92	-101.49	36.48
290	SLE RA 12	-104	29	3973	1103.96	-102.34	37.16
290	SLE RA 13	-105	34	3979	1104.87	-102.5	37.4
290	SLE RA 14	-104	21	3965	1103.27	-102.14	36.82
290	SLE RA 15	-105	29	3998	1111.32	-102.99	37.5
290	SLE RA 16	-103	21	3950	1098.81	-101.73	36.61
290	SLE RA 17	-105	29	3982	1106.86	-102.59	37.29
290	SLE RA 18	-104	22	4022	1117.9	-103.62	36.72
290	SLE RA 19	-105	30	4055	1125.95	-104.47	37.39
290	SLE RA 20	-105	22	4048	1125.25	-104.27	37.06
290	SLE RA 21	-106	30	4081	1133.3	-105.12	37.73
290	SLE FR 1	-96	19	3609	1005.25	-93	34.12
290	SLE FR 2	-97	21	3620	1007.93	-93.28	34.34
290	SLE FR 3	-97	19	3619	1008.19	-93.26	34.25
290	SLE FR 4	-99	22	3744	1041.73	-96.47	35.12
290	SLE FR 5	-99	20	3743	1041.98	-96.45	35.03
290	SLE FR 6	-100	20	3815	1061.58	-98.31	35.42
290	SLE QP 1	-96	19	3609	1005.25	-93	34.12
290	SLE QP 2	-99	20	3733	1039.04	-96.18	34.9
290	SLD 1	168	165	5381	1483.5	-137.75	-54.39
290	SLD 2	227	68	5283	1458.84	-135.27	-77.23
290	SLD 3	212	-87	4229	1197.45	-108.21	-76.31
290	SLD 4	270	-183	4131	1172.79	-105.73	-99.15
290	SLD 5	-95	461	5991	1610.51	-153.88	45.32
290	SLD 6	-57	398	5927	1594.56	-152.28	30.55
290	SLD 7	51	-376	2152	656.99	-55.42	-27.76
290	SLD 8	89	-439	2088	641.04	-53.82	-42.53
290	SLD 9	-286	478	5377	1437.05	-138.55	112.32
290	SLD 10	-248	416	5313	1421.1	-136.95	97.55
290	SLD 11	-140	-359	1538	483.53	-40.09	39.24
290	SLD 12	-102	-421	1474	467.58	-38.49	24.47
290	SLD 13	-468	223	3334	905.3	-86.63	168.94
290	SLD 14	-410	126	3236	880.64	-84.16	146.1
290	SLD 15	-424	-28	2183	619.25	-57.1	147.02
290	SLD 16	-366	-125	2084	594.58	-54.62	124.18
290	SLV 1	317	262	6380	1751.22	-162.97	-103.4
290	SLV 2	408	110	6225	1712.39	-159.07	-139.35
290	SLV 3	390	-162	4434	1267.88	-113.06	-140.38
290	SLV 4	482	-314	4279	1229.05	-109.16	-176.33
290	SLV 5	-103	765	7507	1993.01	-192.64	56.2
290	SLV 6	-42	662	7403	1966.87	-190.02	31.99
290	SLV 7	143	-650	1020	381.88	-26.28	-67.06
290	SLV 8	205	-752	916	355.73	-23.65	-91.27
290	SLV 9	-402	792	6549	1722.36	-168.72	161.06
290	SLV 10	-340	690	6445	1696.21	-166.09	136.85
290	SLV 11	-156	-623	62	111.22	-2.35	37.8
290	SLV 12	-94	-725	-42	85.08	0.27	13.59
290	SLV 13	-679	354	3186	849.04	-83.21	246.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLV 14	-588	202	3031	810.21	-79.31	210.17
290	SLV 15	-605	-71	1240	365.7	-33.3	209.14
290	SLV 16	-514	-223	1085	326.87	-29.4	173.19
290	SLV FO 1	358	287	6645	1822.44	-169.64	-117.23
290	SLV FO 2	459	119	6475	1779.73	-165.36	-156.78
290	SLV FO 3	439	-180	4504	1290.76	-114.74	-157.9
290	SLV FO 4	540	-347	4334	1248.05	-110.46	-197.45
290	SLV FO 5	-104	839	7885	2088.41	-202.29	58.33
290	SLV FO 6	-36	726	7770	2059.65	-199.4	31.7
290	SLV FO 7	167	-717	749	316.16	-19.29	-77.25
290	SLV FO 8	235	-830	635	287.4	-16.4	-103.88
290	SLV FO 9	-432	869	6831	1790.69	-175.97	173.67
290	SLV FO 10	-365	757	6716	1761.93	-173.08	147.04
290	SLV FO 11	-161	-687	-305	18.44	7.03	38.09
290	SLV FO 12	-94	-799	-419	-10.32	9.92	11.46
290	SLV FO 13	-737	387	3131	830.04	-81.91	267.24
290	SLV FO 14	-637	220	2961	787.33	-77.62	227.69
290	SLV FO 15	-656	-80	991	298.36	-27.01	226.57
290	SLV FO 16	-555	-247	821	255.65	-22.72	187.02
290	CRTFP Ux+	0	0	0	0	0	0
290	CRTFP Ux-	0	0	0	0	0	0
290	CRTFP Uy+	0	0	0	0	0	0
290	CRTFP Uy-	0	0	0	0	0	0
291	SLU 1	-109	14	3732	896.96	10.45	37.81
291	SLU 2	-113	36	3820	915.4	10.67	39.14
291	SLU 3	-111	14	3798	912.92	10.67	38.76
291	SLU 4	-114	27	3851	923.98	10.81	39.56
291	SLU 5	-114	36	3861	925.33	10.81	39.73
291	SLU 6	-113	15	3838	922.86	10.81	39.35
291	SLU 7	-115	28	3892	933.92	10.94	40.15
291	SLU 8	-112	15	3813	916.83	10.72	38.99
291	SLU 9	-114	28	3866	927.9	10.86	39.78
291	SLU 10	-121	39	4286	1022.23	12.04	42.23
291	SLU 11	-120	17	4263	1019.76	12.04	41.85
291	SLU 12	-123	31	4316	1030.82	12.18	42.65
291	SLU 13	-123	39	4326	1032.17	12.18	42.82
291	SLU 14	-122	18	4303	1029.69	12.18	42.44
291	SLU 15	-124	31	4357	1040.76	12.31	43.24
291	SLU 16	-121	18	4278	1023.67	12.09	42.07
291	SLU 17	-123	31	4331	1034.73	12.23	42.87
291	SLU 18	-121	19	4396	1049.58	12.4	42.22
291	SLU 19	-124	32	4449	1060.65	12.54	43.02
291	SLU 20	-123	19	4437	1059.52	12.54	42.81
291	SLU 21	-125	32	4490	1070.58	12.68	43.61
291	SLU 22	-124	15	4255	1019.18	12.05	43.14
291	SLU 23	-128	37	4344	1037.61	12.28	44.47
291	SLU 24	-127	15	4321	1035.14	12.27	44.09
291	SLU 25	-129	28	4374	1046.2	12.41	44.89
291	SLU 26	-130	37	4385	1047.55	12.42	45.06
291	SLU 27	-128	15	4362	1045.07	12.41	44.68
291	SLU 28	-131	29	4415	1056.13	12.55	45.48
291	SLU 29	-127	16	4337	1039.05	12.33	44.31
291	SLU 30	-130	29	4390	1050.11	12.46	45.11
291	SLU 31	-137	40	4809	1144.45	13.65	47.56
291	SLU 32	-136	18	4786	1141.97	13.64	47.18
291	SLU 33	-138	31	4840	1153.03	13.78	47.98
291	SLU 34	-138	40	4850	1154.38	13.79	48.15
291	SLU 35	-137	19	4827	1151.91	13.78	47.77
291	SLU 36	-140	32	4880	1162.97	13.92	48.56
291	SLU 37	-136	19	4802	1145.88	13.7	47.4
291	SLU 38	-139	32	4855	1156.95	13.83	48.2
291	SLU 39	-137	20	4919	1171.8	14.01	47.55
291	SLU 40	-139	33	4973	1182.86	14.14	48.35
291	SLU 41	-138	20	4960	1181.73	14.15	48.14
291	SLU 42	-141	33	5014	1192.8	14.28	48.94
291	SLU 43	-136	18	4671	1124.15	13.03	47.33
291	SLU 44	-140	40	4760	1142.58	13.26	48.66
291	SLU 45	-139	18	4738	1140.11	13.25	48.28
291	SLU 46	-141	31	4791	1151.17	13.39	49.08
291	SLU 47	-142	40	4801	1152.52	13.4	49.25
291	SLU 48	-140	18	4778	1150.04	13.39	48.87
291	SLU 49	-143	32	4832	1161.11	13.53	49.67
291	SLU 50	-139	19	4753	1144.02	13.31	48.5
291	SLU 51	-142	32	4806	1155.08	13.44	49.3
291	SLU 52	-149	43	5225	1249.42	14.63	51.75
291	SLU 53	-148	21	5203	1246.94	14.62	51.37
291	SLU 54	-150	35	5256	1258.01	14.76	52.17
291	SLU 55	-150	43	5266	1259.36	14.77	52.34
291	SLU 56	-149	22	5243	1256.88	14.76	51.96
291	SLU 57	-152	35	5297	1267.94	14.9	52.75
291	SLU 58	-148	22	5218	1250.86	14.68	51.59
291	SLU 59	-151	35	5271	1261.92	14.81	52.39
291	SLU 60	-149	23	5336	1276.77	14.99	51.74
291	SLU 61	-151	36	5389	1287.83	15.12	52.54
291	SLU 62	-150	23	5377	1286.71	15.13	52.33
291	SLU 63	-153	36	5430	1297.77	15.26	53.13
291	SLU 64	-151	19	5195	1246.36	14.63	52.66
291	SLU 65	-155	41	5284	1264.8	14.86	53.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLU 66	-154	19	5261	1262.32	14.86	53.61
291	SLU 67	-156	32	5314	1273.38	14.99	54.41
291	SLU 68	-157	41	5325	1274.74	15	54.58
291	SLU 69	-156	19	5302	1272.26	14.99	54.2
291	SLU 70	-158	33	5355	1283.32	15.13	54.99
291	SLU 71	-155	20	5277	1266.23	14.91	53.83
291	SLU 72	-157	33	5330	1277.3	15.05	54.63
291	SLU 73	-164	44	5749	1371.63	16.23	57.08
291	SLU 74	-163	22	5726	1369.16	16.23	56.7
291	SLU 75	-165	35	5780	1380.22	16.36	57.5
291	SLU 76	-166	44	5790	1381.57	16.37	57.66
291	SLU 77	-165	23	5767	1379.09	16.36	57.28
291	SLU 78	-167	36	5820	1390.16	16.5	58.08
291	SLU 79	-164	23	5742	1373.07	16.28	56.92
291	SLU 80	-166	36	5795	1384.13	16.42	57.72
291	SLU 81	-164	24	5859	1398.98	16.59	57.07
291	SLU 82	-166	37	5913	1410.05	16.73	57.87
291	SLU 83	-166	24	5900	1408.92	16.73	57.65
291	SLU 84	-168	37	5954	1419.98	16.87	58.45
291	SLE RA 1	-113	15	3881	931.88	10.9	39.33
291	SLE RA 2	-116	29	3940	944.17	11.06	40.22
291	SLE RA 3	-115	15	3925	942.52	11.05	39.97
291	SLE RA 4	-116	23	3961	949.89	11.14	40.5
291	SLE RA 5	-117	29	3968	950.8	11.15	40.61
291	SLE RA 6	-116	15	3952	949.14	11.14	40.36
291	SLE RA 7	-118	23	3988	956.52	11.24	40.89
291	SLE RA 8	-115	15	3935	945.13	11.09	40.12
291	SLE RA 9	-117	24	3971	952.5	11.18	40.65
291	SLE RA 10	-122	31	4250	1015.39	11.97	42.28
291	SLE RA 11	-121	17	4235	1013.74	11.97	42.03
291	SLE RA 12	-122	25	4271	1021.12	12.06	42.56
291	SLE RA 13	-123	31	4278	1022.02	12.06	42.67
291	SLE RA 14	-122	17	4262	1020.37	12.06	42.42
291	SLE RA 15	-123	26	4298	1027.74	12.15	42.95
291	SLE RA 16	-121	17	4246	1016.35	12	42.17
291	SLE RA 17	-123	26	4281	1023.73	12.09	42.71
291	SLE RA 18	-122	18	4324	1033.63	12.21	42.28
291	SLE RA 19	-123	26	4360	1041	12.3	42.81
291	SLE RA 20	-123	18	4351	1040.25	12.3	42.67
291	SLE RA 21	-124	26	4387	1047.63	12.39	43.2
291	SLE FR 1	-113	15	3881	931.88	10.9	39.33
291	SLE FR 2	-114	18	3893	934.34	10.93	39.51
291	SLE FR 3	-113	15	3892	934.53	10.94	39.49
291	SLE FR 4	-116	18	4026	964.86	11.33	40.39
291	SLE FR 5	-116	16	4025	965.05	11.33	40.37
291	SLE FR 6	-117	16	4103	982.75	11.56	40.81
291	SLE QP 1	-113	15	3881	931.88	10.9	39.33
291	SLE QP 2	-116	15	4014	962.4	11.3	40.22
291	SLD 1	198	237	5744	1365.04	17.72	-69.93
291	SLD 2	266	133	5641	1342.75	17.34	-93.45
291	SLD 3	249	-39	4512	1105.84	14.01	-87.21
291	SLD 4	317	-143	4409	1083.55	13.62	-110.73
291	SLD 5	-111	519	6419	1480.18	18.93	37.46
291	SLD 6	-67	451	6352	1465.76	18.68	22.24
291	SLD 7	59	-401	2313	616.18	6.54	-20.14
291	SLD 8	104	-469	2246	601.76	6.29	-35.35
291	SLD 9	-335	500	5782	1323.05	16.3	115.79
291	SLD 10	-291	432	5715	1308.63	16.05	100.57
291	SLD 11	-164	-420	1676	459.05	3.91	58.19
291	SLD 12	-120	-488	1609	444.63	3.66	42.97
291	SLD 13	-548	174	3619	841.26	8.97	191.16
291	SLD 14	-480	70	3516	818.97	8.58	167.64
291	SLD 15	-497	-102	2387	582.06	5.25	173.88
291	SLD 16	-429	-206	2284	559.77	4.87	150.36
291	SLV 1	372	380	6793	1607.55	21.57	-131.02
291	SLV 2	479	216	6631	1572.47	20.96	-168.06
291	SLV 3	458	-86	4712	1169.6	15.29	-160.15
291	SLV 4	565	-250	4550	1134.51	14.68	-197.18
291	SLV 5	-120	863	8035	1826.72	24.02	39.92
291	SLV 6	-48	752	7925	1803.1	23.61	14.99
291	SLV 7	167	-692	1097	366.89	3.08	-57.15
291	SLV 8	239	-802	988	343.26	2.67	-82.08
291	SLV 9	-470	833	7040	1581.55	19.92	162.52
291	SLV 10	-398	723	6931	1557.92	19.51	137.58
291	SLV 11	-183	-721	103	121.71	-1.02	65.45
291	SLV 12	-111	-832	-7	98.09	-1.43	40.51
291	SLV 13	-796	281	3478	790.29	7.91	277.62
291	SLV 14	-689	117	3316	755.21	7.3	240.58
291	SLV 15	-710	-185	1397	352.34	1.63	248.49
291	SLV 16	-603	-349	1235	317.26	1.02	211.46
291	SLV FO 1	420	417	7071	1672.07	22.6	-148.15
291	SLV FO 2	538	236	6893	1633.47	21.93	-188.89
291	SLV FO 3	515	-96	4782	1190.32	15.69	-180.18
291	SLV FO 4	633	-277	4603	1151.72	15.02	-220.92
291	SLV FO 5	-120	948	8437	1913.15	25.29	39.89
291	SLV FO 6	-41	826	8317	1887.17	24.84	12.47
291	SLV FO 7	195	-762	805	307.33	2.26	-66.88
291	SLV FO 8	275	-884	685	281.35	1.81	-94.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLV FO 9	-506	915	7343	1643.46	20.78	174.75
291	SLV FO 10	-426	793	7223	1617.48	20.33	147.32
291	SLV FO 11	-190	-795	-289	37.64	-2.25	67.97
291	SLV FO 12	-111	-917	-409	11.65	-2.7	40.54
291	SLV FO 13	-864	308	3425	773.08	7.57	301.36
291	SLV FO 14	-746	127	3246	734.49	6.9	260.62
291	SLV FO 15	-769	-205	1135	291.34	0.66	269.32
291	SLV FO 16	-652	-386	957	252.74	-0.01	228.58
291	CRTFP Ux+	0	0	0	0	0	0
291	CRTFP Ux-	0	0	0	0	0	0
291	CRTFP Uy+	0	0	0	0	0	0
291	CRTFP Uy-	0	0	0	0	0	0
292	SLU 1	-108	8	3426	692.11	8.68	37.77
292	SLU 2	-112	29	3508	706.05	8.87	39.11
292	SLU 3	-111	8	3485	703.88	8.86	38.72
292	SLU 4	-113	20	3535	712.25	8.98	39.52
292	SLU 5	-114	29	3545	713.38	8.98	39.69
292	SLU 6	-113	8	3522	711.22	8.98	39.3
292	SLU 7	-115	20	3571	719.58	9.1	40.11
292	SLU 8	-112	8	3499	706.77	8.91	38.94
292	SLU 9	-114	21	3549	715.14	9.03	39.74
292	SLU 10	-121	31	3933	785.29	10	42.19
292	SLU 11	-120	10	3911	783.12	10	41.8
292	SLU 12	-122	23	3960	791.49	10.11	42.61
292	SLU 13	-123	31	3970	792.62	10.12	42.78
292	SLU 14	-122	10	3947	790.45	10.11	42.39
292	SLU 15	-124	23	3997	798.82	10.23	43.19
292	SLU 16	-121	10	3924	786.01	10.04	42.02
292	SLU 17	-123	23	3974	794.38	10.16	42.83
292	SLU 18	-121	11	4033	805.3	10.29	42.18
292	SLU 19	-123	24	4083	813.67	10.41	42.98
292	SLU 20	-123	11	4070	812.64	10.41	42.76
292	SLU 21	-125	24	4119	821	10.52	43.56
292	SLU 22	-124	8	3903	782.66	10.01	43.1
292	SLU 23	-128	29	3985	796.6	10.2	44.43
292	SLU 24	-126	8	3962	794.44	10.2	44.04
292	SLU 25	-129	21	4011	802.8	10.31	44.85
292	SLU 26	-129	29	4021	803.94	10.32	45.02
292	SLU 27	-128	8	3999	801.77	10.31	44.63
292	SLU 28	-130	21	4048	810.14	10.43	45.43
292	SLU 29	-127	8	3976	797.33	10.24	44.26
292	SLU 30	-129	21	4025	805.69	10.36	45.07
292	SLU 31	-136	31	4410	875.84	11.33	47.52
292	SLU 32	-135	10	4387	873.67	11.33	47.13
292	SLU 33	-138	23	4436	882.04	11.44	47.93
292	SLU 34	-138	32	4447	883.17	11.45	48.1
292	SLU 35	-137	10	4424	881.01	11.44	47.71
292	SLU 36	-139	23	4473	889.37	11.56	48.52
292	SLU 37	-136	11	4401	876.56	11.37	47.35
292	SLU 38	-138	23	4450	884.93	11.49	48.15
292	SLU 39	-136	12	4510	895.86	11.62	47.5
292	SLU 40	-139	24	4559	904.22	11.74	48.31
292	SLU 41	-138	12	4547	903.19	11.74	48.09
292	SLU 42	-140	24	4596	911.56	11.86	48.89
292	SLU 43	-136	10	4290	868.69	10.83	47.28
292	SLU 44	-140	31	4372	882.63	11.02	48.61
292	SLU 45	-138	10	4350	880.47	11.01	48.22
292	SLU 46	-141	23	4399	888.83	11.13	49.03
292	SLU 47	-141	31	4409	889.97	11.13	49.2
292	SLU 48	-140	10	4386	887.8	11.13	48.81
292	SLU 49	-142	23	4436	896.17	11.24	49.61
292	SLU 50	-139	10	4364	883.36	11.06	48.44
292	SLU 51	-141	23	4413	891.72	11.17	49.25
292	SLU 52	-148	34	4798	961.87	12.15	51.7
292	SLU 53	-147	13	4775	959.71	12.14	51.31
292	SLU 54	-150	25	4824	968.07	12.26	52.11
292	SLU 55	-150	34	4834	969.21	12.26	52.28
292	SLU 56	-149	13	4812	967.04	12.26	51.89
292	SLU 57	-151	25	4861	975.4	12.37	52.7
292	SLU 58	-148	13	4789	962.6	12.19	51.53
292	SLU 59	-150	25	4838	970.96	12.3	52.33
292	SLU 60	-148	14	4898	981.89	12.44	51.68
292	SLU 61	-151	26	4947	990.25	12.56	52.49
292	SLU 62	-150	14	4934	989.22	12.56	52.27
292	SLU 63	-152	26	4984	997.59	12.67	53.07
292	SLU 64	-151	11	4767	959.25	12.16	52.6
292	SLU 65	-155	31	4849	973.19	12.35	53.94
292	SLU 66	-154	10	4826	971.02	12.34	53.55
292	SLU 67	-156	23	4876	979.39	12.46	54.35
292	SLU 68	-157	32	4886	980.52	12.46	54.52
292	SLU 69	-155	10	4863	978.36	12.46	54.13
292	SLU 70	-158	23	4912	986.72	12.57	54.94
292	SLU 71	-154	11	4840	973.91	12.39	53.77
292	SLU 72	-157	23	4890	982.28	12.5	54.57
292	SLU 73	-164	34	5274	1052.43	13.48	57.02
292	SLU 74	-163	13	5252	1050.26	13.47	56.63
292	SLU 75	-165	25	5301	1058.63	13.59	57.44
292	SLU 76	-165	34	5311	1059.76	13.59	57.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	SLU 77	-164	13	5288	1057.59	13.59	57.22
292	SLU 78	-167	25	5337	1065.96	13.7	58.02
292	SLU 79	-163	13	5265	1053.15	13.52	56.85
292	SLU 80	-166	26	5315	1061.52	13.63	57.66
292	SLU 81	-164	14	5374	1072.44	13.77	57.01
292	SLU 82	-166	27	5424	1080.81	13.89	57.81
292	SLU 83	-165	14	5411	1079.77	13.89	57.59
292	SLU 84	-168	27	5460	1088.14	14	58.4
292	SLE RA 1	-113	8	3562	717.98	9.06	39.29
292	SLE RA 2	-115	22	3617	727.27	9.19	40.18
292	SLE RA 3	-115	8	3602	725.83	9.18	39.92
292	SLE RA 4	-116	16	3635	731.41	9.26	40.46
292	SLE RA 5	-116	22	3641	732.16	9.26	40.57
292	SLE RA 6	-116	8	3626	730.72	9.26	40.31
292	SLE RA 7	-117	16	3659	736.3	9.34	40.85
292	SLE RA 8	-115	8	3611	727.76	9.21	40.07
292	SLE RA 9	-117	16	3644	733.33	9.29	40.61
292	SLE RA 10	-121	24	3900	780.1	9.94	42.24
292	SLE RA 11	-121	10	3885	778.66	9.94	41.98
292	SLE RA 12	-122	18	3918	784.23	10.01	42.52
292	SLE RA 13	-122	24	3925	784.99	10.02	42.63
292	SLE RA 14	-122	10	3910	783.54	10.01	42.37
292	SLE RA 15	-123	18	3942	789.12	10.09	42.91
292	SLE RA 16	-121	10	3894	780.58	9.97	42.13
292	SLE RA 17	-122	18	3927	786.16	10.04	42.66
292	SLE RA 18	-121	10	3967	793.44	10.14	42.23
292	SLE RA 19	-123	19	4000	799.02	10.21	42.77
292	SLE RA 20	-122	10	3991	798.33	10.21	42.62
292	SLE RA 21	-124	19	4024	803.91	10.29	43.15
292	SLE FR 1	-113	8	3562	717.98	9.06	39.29
292	SLE FR 2	-113	11	3573	719.84	9.08	39.47
292	SLE FR 3	-113	8	3572	719.93	9.09	39.45
292	SLE FR 4	-116	12	3694	742.48	9.41	40.35
292	SLE FR 5	-116	9	3693	742.57	9.41	40.33
292	SLE FR 6	-117	9	3765	755.71	9.6	40.76
292	SLE QP 1	-113	8	3562	717.98	9.06	39.29
292	SLE QP 2	-115	9	3684	740.62	9.38	40.17
292	SLD 1	199	156	5222	1039.29	14.93	-70.29
292	SLD 2	267	61	5130	1022.9	14.59	-93.83
292	SLD 3	250	-101	4099	846.54	11.81	-87.47
292	SLD 4	318	-197	4008	830.15	11.47	-111.02
292	SLD 5	-110	459	5863	1125.39	15.84	37.18
292	SLD 6	-66	398	5804	1114.79	15.62	21.95
292	SLD 7	59	-398	2122	482.91	5.43	-20.1
292	SLD 8	103	-459	2063	472.31	5.22	-35.33
292	SLD 9	-334	477	5304	1008.93	13.55	115.68
292	SLD 10	-290	415	5245	998.32	13.33	100.45
292	SLD 11	-165	-380	1563	366.45	3.14	58.4
292	SLD 12	-121	-442	1504	355.85	2.92	43.16
292	SLD 13	-548	214	3359	651.08	7.29	191.37
292	SLD 14	-480	119	3268	634.69	6.96	167.82
292	SLD 15	-498	-43	2237	458.34	4.17	174.18
292	SLD 16	-430	-138	2145	441.95	3.83	150.63
292	SLV 1	373	255	6157	1219.2	18.24	-131.57
292	SLV 2	481	105	6013	1193.4	17.72	-168.64
292	SLV 3	459	-180	4261	893.55	12.97	-160.53
292	SLV 4	566	-329	4116	867.74	12.44	-197.6
292	SLV 5	-118	770	7329	1382.92	20.14	39.5
292	SLV 6	-46	669	7232	1365.55	19.79	14.53
292	SLV 7	167	-679	1007	297.4	2.55	-57.04
292	SLV 8	239	-780	910	280.03	2.2	-82
292	SLV 9	-469	797	6457	1201.21	16.56	162.35
292	SLV 10	-397	696	6360	1183.83	16.21	137.39
292	SLV 11	-184	-651	135	115.69	-1.02	65.81
292	SLV 12	-112	-752	38	98.32	-1.38	40.85
292	SLV 13	-797	347	3251	613.49	6.32	277.95
292	SLV 14	-689	197	3107	587.69	5.8	240.87
292	SLV 15	-711	-88	1354	287.84	1.05	248.99
292	SLV 16	-604	-237	1210	262.03	0.52	211.91
292	SLV FO 1	422	280	6404	1267.06	19.13	-148.74
292	SLV FO 2	540	115	6246	1238.68	18.55	-189.52
292	SLV FO 3	516	-198	4318	908.84	13.32	-180.6
292	SLV FO 4	634	-363	4160	880.46	12.75	-221.38
292	SLV FO 5	-119	846	7693	1447.15	21.22	39.43
292	SLV FO 6	-39	735	7587	1428.04	20.83	11.97
292	SLV FO 7	195	-748	739	253.08	1.87	-66.76
292	SLV FO 8	274	-859	633	233.97	1.48	-94.22
292	SLV FO 9	-505	876	6734	1247.27	17.28	174.57
292	SLV FO 10	-425	765	6628	1228.15	16.89	147.11
292	SLV FO 11	-191	-717	-220	53.2	-2.06	68.38
292	SLV FO 12	-112	-828	-326	34.09	-2.45	40.92
292	SLV FO 13	-865	381	3207	600.78	6.02	301.73
292	SLV FO 14	-747	216	3049	572.39	5.44	260.94
292	SLV FO 15	-771	-97	1121	242.56	0.21	269.87
292	SLV FO 16	-653	-262	963	214.17	-0.36	229.09
292	CRTFP Ux+	0	0	0	0	0	0
292	CRTFP Ux-	0	0	0	0	0	0
292	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	CRTFP Uy-	0	0	0	0	0	0
293	SLU 1	-108	3	3178	532.39	6.82	37.59
293	SLU 2	-112	23	3255	542.84	6.97	38.94
293	SLU 3	-110	3	3232	540.88	6.97	38.54
293	SLU 4	-113	15	3279	547.16	7.06	39.35
293	SLU 5	-113	23	3288	548.13	7.07	39.52
293	SLU 6	-112	3	3266	546.18	7.07	39.12
293	SLU 7	-114	15	3312	552.45	7.16	39.92
293	SLU 8	-111	3	3245	542.97	7.01	38.75
293	SLU 9	-113	15	3291	549.24	7.1	39.56
293	SLU 10	-121	25	3648	600.6	7.85	42.01
293	SLU 11	-119	5	3625	598.65	7.85	41.6
293	SLU 12	-122	17	3672	604.92	7.94	42.41
293	SLU 13	-122	25	3681	605.89	7.95	42.59
293	SLU 14	-121	5	3659	603.94	7.95	42.18
293	SLU 15	-123	17	3705	610.21	8.04	42.99
293	SLU 16	-120	5	3638	600.73	7.89	41.82
293	SLU 17	-122	17	3684	607.01	7.98	42.63
293	SLU 18	-120	6	3740	614.9	8.08	41.98
293	SLU 19	-123	18	3786	621.18	8.17	42.79
293	SLU 20	-122	6	3773	620.2	8.17	42.56
293	SLU 21	-124	18	3819	626.47	8.26	43.37
293	SLU 22	-123	3	3617	598.25	7.87	42.9
293	SLU 23	-127	23	3694	608.71	8.02	44.25
293	SLU 24	-126	3	3671	606.75	8.02	43.84
293	SLU 25	-128	15	3717	613.02	8.11	44.65
293	SLU 26	-129	23	3727	614	8.11	44.83
293	SLU 27	-127	3	3705	612.04	8.11	44.42
293	SLU 28	-130	15	3751	618.32	8.2	45.23
293	SLU 29	-126	3	3684	608.84	8.05	44.06
293	SLU 30	-129	15	3730	615.11	8.14	44.87
293	SLU 31	-136	25	4087	666.47	8.9	47.32
293	SLU 32	-134	4	4064	664.51	8.9	46.91
293	SLU 33	-137	16	4110	670.79	8.99	47.72
293	SLU 34	-137	25	4120	671.76	8.99	47.9
293	SLU 35	-136	4	4098	669.81	8.99	47.49
293	SLU 36	-139	16	4144	676.08	9.08	48.3
293	SLU 37	-135	5	4077	666.6	8.93	47.13
293	SLU 38	-137	17	4123	672.87	9.02	47.94
293	SLU 39	-136	6	4178	680.77	9.13	47.28
293	SLU 40	-138	18	4225	687.04	9.22	48.09
293	SLU 41	-137	5	4212	686.06	9.22	47.86
293	SLU 42	-140	17	4258	692.34	9.31	48.67
293	SLU 43	-135	4	3981	669.52	8.51	47.05
293	SLU 44	-139	24	4058	679.97	8.66	48.4
293	SLU 45	-138	4	4036	678.02	8.66	48
293	SLU 46	-140	16	4082	684.29	8.75	48.8
293	SLU 47	-140	24	4091	685.26	8.76	48.98
293	SLU 48	-139	4	4069	683.31	8.75	48.57
293	SLU 49	-142	16	4115	689.58	8.84	49.38
293	SLU 50	-138	4	4048	680.1	8.7	48.21
293	SLU 51	-141	16	4094	686.38	8.79	49.02
293	SLU 52	-148	26	4451	737.73	9.54	51.47
293	SLU 53	-146	6	4429	735.78	9.54	51.06
293	SLU 54	-149	18	4475	742.05	9.63	51.87
293	SLU 55	-149	26	4484	743.03	9.64	52.05
293	SLU 56	-148	6	4462	741.07	9.63	51.64
293	SLU 57	-150	18	4508	747.34	9.72	52.45
293	SLU 58	-147	6	4441	737.87	9.58	51.28
293	SLU 59	-149	18	4487	744.14	9.67	52.09
293	SLU 60	-147	7	4543	752.04	9.77	51.44
293	SLU 61	-150	19	4589	758.31	9.86	52.25
293	SLU 62	-149	7	4576	757.33	9.86	52.02
293	SLU 63	-152	19	4622	763.6	9.95	52.83
293	SLU 64	-150	4	4420	735.39	9.56	52.36
293	SLU 65	-154	24	4497	745.84	9.71	53.71
293	SLU 66	-153	4	4474	743.89	9.71	53.3
293	SLU 67	-155	16	4520	750.16	9.8	54.11
293	SLU 68	-156	24	4530	751.13	9.8	54.29
293	SLU 69	-154	4	4508	749.18	9.8	53.88
293	SLU 70	-157	16	4554	755.45	9.89	54.69
293	SLU 71	-153	4	4487	745.97	9.74	53.52
293	SLU 72	-156	16	4533	752.24	9.83	54.33
293	SLU 73	-163	26	4890	803.6	10.59	56.78
293	SLU 74	-162	6	4867	801.65	10.59	56.37
293	SLU 75	-164	18	4913	807.92	10.68	57.18
293	SLU 76	-164	26	4923	808.89	10.68	57.36
293	SLU 77	-163	5	4901	806.94	10.68	56.95
293	SLU 78	-166	17	4947	813.21	10.77	57.76
293	SLU 79	-162	6	4880	803.73	10.62	56.59
293	SLU 80	-165	18	4926	810.01	10.71	57.4
293	SLU 81	-163	7	4982	817.9	10.81	56.74
293	SLU 82	-165	19	5028	824.18	10.9	57.55
293	SLU 83	-164	7	5015	823.2	10.91	57.32
293	SLU 84	-167	19	5061	829.47	11	58.13
293	SLE RA 1	-112	3	3304	551.21	7.12	39.11
293	SLE RA 2	-115	17	3355	558.17	7.22	40.01
293	SLE RA 3	-114	3	3340	556.87	7.22	39.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
293	SLE RA 4	-115	11	3370	561.05	7.28	40.28
293	SLE RA 5	-116	17	3377	561.7	7.28	40.4
293	SLE RA 6	-115	3	3362	560.4	7.28	40.12
293	SLE RA 7	-117	11	3393	564.58	7.34	40.66
293	SLE RA 8	-114	3	3348	558.26	7.25	39.88
293	SLE RA 9	-116	11	3379	562.44	7.31	40.42
293	SLE RA 10	-121	18	3617	596.68	7.81	42.06
293	SLE RA 11	-120	4	3602	595.38	7.81	41.78
293	SLE RA 12	-121	12	3632	599.56	7.87	42.32
293	SLE RA 13	-122	18	3639	600.21	7.87	42.44
293	SLE RA 14	-121	4	3624	598.91	7.87	42.17
293	SLE RA 15	-122	12	3655	603.09	7.93	42.71
293	SLE RA 16	-120	4	3610	596.77	7.83	41.93
293	SLE RA 17	-122	12	3641	600.95	7.89	42.47
293	SLE RA 18	-121	5	3678	606.22	7.96	42.03
293	SLE RA 19	-122	13	3709	610.4	8.02	42.57
293	SLE RA 20	-122	5	3700	609.75	8.02	42.42
293	SLE RA 21	-123	13	3731	613.93	8.08	42.96
293	SLE FR 1	-112	3	3304	551.21	7.12	39.11
293	SLE FR 2	-113	6	3314	552.6	7.14	39.29
293	SLE FR 3	-113	3	3313	552.62	7.15	39.26
293	SLE FR 4	-115	6	3426	569.1	7.39	40.17
293	SLE FR 5	-115	4	3425	569.12	7.4	40.14
293	SLE FR 6	-116	4	3491	578.71	7.54	40.57
293	SLE QP 1	-112	3	3304	551.21	7.12	39.11
293	SLE QP 2	-115	4	3416	567.71	7.37	39.99
293	SLD 1	201	140	4792	783.9	12	-70.81
293	SLD 2	269	53	4710	772.17	11.73	-94.39
293	SLD 3	251	-101	3759	642.87	9.52	-87.88
293	SLD 4	319	-187	3677	631.13	9.24	-111.46
293	SLD 5	-108	424	5409	848.51	12.58	36.73
293	SLD 6	-64	368	5356	840.91	12.4	21.48
293	SLD 7	59	-377	1967	378.39	4.29	-20.18
293	SLD 8	103	-433	1914	370.8	4.11	-35.43
293	SLD 9	-333	440	4918	764.62	10.64	115.41
293	SLD 10	-289	384	4865	757.03	10.46	100.15
293	SLD 11	-165	-360	1475	294.51	2.34	58.5
293	SLD 12	-121	-416	1423	286.91	2.16	43.24
293	SLD 13	-548	195	3155	504.29	5.51	191.44
293	SLD 14	-480	108	3073	492.55	5.23	167.86
293	SLD 15	-498	-45	2122	363.25	3.02	174.36
293	SLD 16	-430	-132	2040	351.52	2.74	150.78
293	SLV 1	376	232	5630	914.23	14.76	-132.28
293	SLV 2	483	95	5501	895.75	14.32	-169.41
293	SLV 3	460	-174	3885	675.94	10.56	-161.06
293	SLV 4	567	-311	3756	657.47	10.12	-198.18
293	SLV 5	-116	713	6751	1036.51	16.05	38.87
293	SLV 6	-44	621	6664	1024.06	15.75	13.88
293	SLV 7	166	-640	934	242.24	2.03	-57.03
293	SLV 8	238	-732	847	229.8	1.74	-82.03
293	SLV 9	-468	739	5985	905.62	13.01	162
293	SLV 10	-395	647	5898	893.18	12.72	137.01
293	SLV 11	-186	-614	168	111.35	-1.01	66.1
293	SLV 12	-113	-706	81	98.91	-1.3	41.1
293	SLV 13	-797	319	3076	477.95	4.63	278.16
293	SLV 14	-690	182	2947	459.47	4.19	241.03
293	SLV 15	-712	-87	1330	239.67	0.43	249.38
293	SLV 16	-605	-224	1202	221.19	-0.01	212.26
293	SLV FO 1	425	254	5852	948.88	15.5	-149.51
293	SLV FO 2	543	104	5710	928.55	15.02	-190.35
293	SLV FO 3	518	-192	3932	686.77	10.87	-181.16
293	SLV FO 4	636	-343	3790	666.44	10.39	-222
293	SLV FO 5	-116	784	7084	1083.39	16.92	38.76
293	SLV FO 6	-37	683	6989	1069.7	16.59	11.27
293	SLV FO 7	194	-704	686	209.69	1.5	-66.74
293	SLV FO 8	274	-805	590	196	1.17	-94.23
293	SLV FO 9	-503	813	6241	939.42	13.57	174.21
293	SLV FO 10	-423	711	6146	925.73	13.25	146.71
293	SLV FO 11	-193	-675	-157	65.72	-1.84	68.71
293	SLV FO 12	-113	-776	-253	52.03	-2.17	41.21
293	SLV FO 13	-865	350	3042	468.98	4.36	301.97
293	SLV FO 14	-747	200	2900	448.65	3.87	261.13
293	SLV FO 15	-772	-96	1122	206.87	-0.27	270.32
293	SLV FO 16	-654	-247	980	186.54	-0.75	229.49
293	CRTFP Ux+	0	0	0	0	0	0
293	CRTFP Ux-	0	0	0	0	0	0
293	CRTFP Uy+	0	0	0	0	0	0
293	CRTFP Uy-	0	0	0	0	0	0
294	SLU 1	-107	0	2990	417.1	4.97	37.29
294	SLU 2	-111	19	3063	425.05	5.08	38.65
294	SLU 3	-109	0	3040	423.21	5.08	38.22
294	SLU 4	-112	11	3084	427.98	5.15	39.04
294	SLU 5	-112	19	3093	428.85	5.15	39.22
294	SLU 6	-111	-1	3071	427.01	5.15	38.79
294	SLU 7	-113	11	3114	431.78	5.22	39.61
294	SLU 8	-110	0	3052	424.7	5.11	38.43
294	SLU 9	-112	11	3095	429.48	5.18	39.25
294	SLU 10	-119	21	3432	467.38	5.71	41.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
294	SLU 11	-118	1	3409	465.54	5.71	41.26
294	SLU 12	-121	12	3453	470.31	5.78	42.07
294	SLU 13	-121	20	3462	471.18	5.78	42.26
294	SLU 14	-120	1	3440	469.34	5.78	41.83
294	SLU 15	-122	12	3483	474.11	5.85	42.65
294	SLU 16	-119	1	3420	467.04	5.74	41.47
294	SLU 17	-121	13	3464	471.81	5.81	42.29
294	SLU 18	-119	2	3517	477.57	5.87	41.63
294	SLU 19	-122	13	3561	482.34	5.94	42.45
294	SLU 20	-121	2	3548	481.38	5.94	42.2
294	SLU 21	-123	13	3591	486.15	6.01	43.02
294	SLU 22	-122	-1	3400	465.15	5.73	42.56
294	SLU 23	-126	19	3473	473.1	5.84	43.92
294	SLU 24	-125	-1	3450	471.26	5.84	43.49
294	SLU 25	-127	11	3494	476.03	5.91	44.3
294	SLU 26	-127	18	3503	476.91	5.91	44.49
294	SLU 27	-126	-1	3481	475.07	5.91	44.06
294	SLU 28	-129	10	3524	479.84	5.98	44.88
294	SLU 29	-125	-1	3462	472.76	5.87	43.7
294	SLU 30	-127	11	3505	477.53	5.94	44.52
294	SLU 31	-135	20	3842	515.44	6.47	46.96
294	SLU 32	-133	0	3819	513.6	6.47	46.52
294	SLU 33	-136	12	3863	518.37	6.54	47.34
294	SLU 34	-136	20	3872	519.24	6.54	47.53
294	SLU 35	-135	0	3850	517.4	6.54	47.1
294	SLU 36	-137	12	3893	522.17	6.61	47.91
294	SLU 37	-134	0	3830	515.09	6.5	46.74
294	SLU 38	-136	12	3874	519.86	6.56	47.56
294	SLU 39	-134	1	3927	525.63	6.63	46.9
294	SLU 40	-137	13	3971	530.4	6.69	47.71
294	SLU 41	-136	1	3958	529.43	6.7	47.47
294	SLU 42	-138	13	4001	534.2	6.76	48.28
294	SLU 43	-134	0	3747	525.75	6.21	46.67
294	SLU 44	-138	20	3819	533.7	6.32	48.03
294	SLU 45	-136	0	3797	531.86	6.32	47.6
294	SLU 46	-139	11	3840	536.63	6.38	48.42
294	SLU 47	-139	19	3850	537.5	6.38	48.61
294	SLU 48	-138	0	3827	535.66	6.38	48.17
294	SLU 49	-140	11	3871	540.43	6.45	48.99
294	SLU 50	-137	0	3808	533.36	6.34	47.82
294	SLU 51	-139	11	3852	538.13	6.41	48.63
294	SLU 52	-146	21	4188	576.03	6.94	51.07
294	SLU 53	-145	1	4165	574.19	6.94	50.64
294	SLU 54	-147	13	4209	578.96	7.01	51.46
294	SLU 55	-148	21	4219	579.84	7.01	51.64
294	SLU 56	-147	1	4196	578	7.01	51.21
294	SLU 57	-149	13	4240	582.77	7.08	52.03
294	SLU 58	-146	1	4177	575.69	6.97	50.85
294	SLU 59	-148	13	4221	580.46	7.04	51.67
294	SLU 60	-146	2	4274	586.22	7.1	51.01
294	SLU 61	-148	14	4317	591	7.17	51.83
294	SLU 62	-148	2	4304	590.03	7.17	51.58
294	SLU 63	-150	14	4348	594.8	7.24	52.4
294	SLU 64	-149	0	4156	573.8	6.96	51.94
294	SLU 65	-153	19	4229	581.76	7.07	53.3
294	SLU 66	-151	-1	4207	579.92	7.07	52.87
294	SLU 67	-154	11	4250	584.69	7.14	53.68
294	SLU 68	-154	19	4260	585.56	7.14	53.87
294	SLU 69	-153	-1	4237	583.72	7.14	53.44
294	SLU 70	-155	11	4281	588.49	7.21	54.26
294	SLU 71	-152	-1	4218	581.41	7.1	53.08
294	SLU 72	-154	11	4262	586.18	7.17	53.9
294	SLU 73	-161	20	4598	624.09	7.7	56.34
294	SLU 74	-160	1	4575	622.25	7.7	55.9
294	SLU 75	-162	12	4619	627.02	7.77	56.72
294	SLU 76	-163	20	4629	627.89	7.77	56.91
294	SLU 77	-162	0	4606	626.05	7.77	56.48
294	SLU 78	-164	12	4650	630.82	7.84	57.29
294	SLU 79	-161	1	4587	623.75	7.73	56.12
294	SLU 80	-163	12	4630	628.52	7.8	56.94
294	SLU 81	-161	2	4684	634.28	7.86	56.28
294	SLU 82	-164	13	4727	639.05	7.93	57.09
294	SLU 83	-163	1	4714	638.08	7.93	56.85
294	SLU 84	-165	13	4758	642.86	8	57.67
294	SLE RA 1	-111	0	3107	430.83	5.19	38.79
294	SLE RA 2	-114	13	3156	436.13	5.26	39.7
294	SLE RA 3	-113	0	3141	434.9	5.26	39.41
294	SLE RA 4	-114	7	3170	438.08	5.31	39.96
294	SLE RA 5	-115	13	3176	438.66	5.31	40.08
294	SLE RA 6	-114	-1	3161	437.44	5.31	39.8
294	SLE RA 7	-116	7	3190	440.62	5.35	40.34
294	SLE RA 8	-113	0	3148	435.9	5.28	39.56
294	SLE RA 9	-115	7	3177	439.08	5.33	40.1
294	SLE RA 10	-120	14	3402	464.35	5.68	41.73
294	SLE RA 11	-119	0	3387	463.12	5.68	41.44
294	SLE RA 12	-120	8	3416	466.3	5.73	41.98
294	SLE RA 13	-121	13	3422	466.89	5.73	42.11
294	SLE RA 14	-120	0	3407	465.66	5.73	41.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
294	SLE RA 15	-121	8	3436	468.84	5.77	42.37
294	SLE RA 16	-119	1	3394	464.12	5.7	41.58
294	SLE RA 17	-121	8	3423	467.3	5.74	42.13
294	SLE RA 18	-119	1	3459	471.14	5.79	41.69
294	SLE RA 19	-121	9	3488	474.32	5.83	42.23
294	SLE RA 20	-120	1	3479	473.68	5.83	42.07
294	SLE RA 21	-122	9	3508	476.86	5.88	42.61
294	SLE FR 1	-111	0	3107	430.83	5.19	38.79
294	SLE FR 2	-112	2	3117	431.89	5.2	38.98
294	SLE FR 3	-112	0	3115	431.84	5.21	38.95
294	SLE FR 4	-114	3	3222	443.98	5.38	39.84
294	SLE FR 5	-114	0	3221	443.94	5.39	39.81
294	SLE FR 6	-115	1	3283	450.98	5.49	40.24
294	SLE QP 1	-111	0	3107	430.83	5.19	38.79
294	SLE QP 2	-114	0	3213	442.92	5.37	39.66
294	SLD 1	203	126	4455	597.14	9.1	-71.49
294	SLD 2	271	47	4381	588.82	8.88	-95.1
294	SLD 3	253	-100	3491	493.25	7.25	-88.43
294	SLD 4	321	-179	3418	484.92	7.03	-112.04
294	SLD 5	-106	394	5060	648.21	9.33	36.1
294	SLD 6	-61	343	5012	642.82	9.19	20.82
294	SLD 7	60	-358	1848	301.89	3.17	-20.36
294	SLD 8	104	-410	1800	296.51	3.02	-35.63
294	SLD 9	-331	410	4625	589.34	7.71	114.96
294	SLD 10	-287	359	4578	583.95	7.57	99.68
294	SLD 11	-166	-342	1413	243.02	1.55	58.5
294	SLD 12	-122	-394	1366	237.64	1.41	43.22
294	SLD 13	-548	180	3007	400.92	3.71	191.36
294	SLD 14	-480	100	2934	392.59	3.49	167.75
294	SLD 15	-498	-46	2044	297.02	1.86	174.43
294	SLD 16	-430	-126	1970	288.7	1.64	150.81
294	SLV 1	379	212	5214	690.32	11.31	-133.17
294	SLV 2	486	87	5098	677.21	10.96	-170.35
294	SLV 3	462	-170	3586	514.8	8.19	-161.71
294	SLV 4	569	-295	3470	501.69	7.84	-198.89
294	SLV 5	-112	666	6304	785.79	11.96	38.04
294	SLV 6	-40	582	6226	776.97	11.72	13.01
294	SLV 7	166	-606	877	200.72	1.54	-57.1
294	SLV 8	238	-690	799	191.9	1.31	-82.13
294	SLV 9	-465	691	5626	693.94	9.43	161.45
294	SLV 10	-393	607	5548	685.12	9.2	136.42
294	SLV 11	-187	-581	199	108.88	-0.98	66.32
294	SLV 12	-115	-665	121	100.05	-1.22	41.29
294	SLV 13	-796	295	2955	384.16	2.9	278.22
294	SLV 14	-689	170	2839	371.05	2.55	241.04
294	SLV 15	-713	-86	1327	208.64	-0.22	249.68
294	SLV 16	-606	-211	1211	195.53	-0.57	212.5
294	SLV FO 1	428	233	5414	715.06	11.91	-150.46
294	SLV FO 2	546	95	5287	700.64	11.52	-191.35
294	SLV FO 3	520	-187	3623	521.98	8.47	-181.85
294	SLV FO 4	638	-324	3496	507.56	8.08	-222.75
294	SLV FO 5	-112	732	6613	820.08	12.61	37.88
294	SLV FO 6	-33	640	6527	810.37	12.35	10.34
294	SLV FO 7	194	-667	643	176.51	1.16	-66.77
294	SLV FO 8	273	-759	557	166.8	0.9	-94.31
294	SLV FO 9	-500	760	5868	719.05	9.84	173.63
294	SLV FO 10	-421	667	5782	709.34	9.58	146.1
294	SLV FO 11	-194	-639	-102	75.47	-1.62	68.98
294	SLV FO 12	-115	-732	-188	65.76	-1.88	41.45
294	SLV FO 13	-865	325	2930	378.28	2.65	302.07
294	SLV FO 14	-747	187	2802	363.86	2.27	261.17
294	SLV FO 15	-773	-95	1139	185.21	-0.78	270.68
294	SLV FO 16	-655	-232	1011	170.79	-1.17	229.78
294	CRTFP Ux+	0	0	0	0	0	0
294	CRTFP Ux-	0	0	0	0	0	0
294	CRTFP Uy+	0	0	0	0	0	0
294	CRTFP Uy-	0	0	0	0	0	0
295	SLU 1	-105	-2	2860	344.39	3.2	36.86
295	SLU 2	-109	17	2930	350.78	3.27	38.23
295	SLU 3	-108	-2	2907	348.97	3.27	37.77
295	SLU 4	-110	9	2949	352.8	3.31	38.6
295	SLU 5	-111	17	2958	353.62	3.32	38.8
295	SLU 6	-110	-3	2936	351.82	3.32	38.34
295	SLU 7	-112	9	2978	355.65	3.36	39.16
295	SLU 8	-109	-2	2918	350.09	3.29	37.99
295	SLU 9	-111	9	2959	353.92	3.33	38.81
295	SLU 10	-118	18	3282	383.48	3.66	41.23
295	SLU 11	-117	-1	3260	381.68	3.66	40.77
295	SLU 12	-119	10	3302	385.51	3.7	41.59
295	SLU 13	-120	18	3311	386.33	3.7	41.79
295	SLU 14	-118	-2	3289	384.52	3.7	41.33
295	SLU 15	-121	10	3330	388.35	3.75	42.16
295	SLU 16	-117	-1	3270	382.79	3.68	40.98
295	SLU 17	-120	10	3312	386.62	3.72	41.8
295	SLU 18	-118	0	3364	391.12	3.75	41.13
295	SLU 19	-120	11	3406	394.95	3.79	41.96
295	SLU 20	-119	-1	3393	393.96	3.8	41.7
295	SLU 21	-122	11	3434	397.79	3.84	42.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
295	SLU 22	-120	-3	3250	381.22	3.68	42.07
295	SLU 23	-124	16	3320	387.6	3.75	43.45
295	SLU 24	-123	-3	3297	385.8	3.75	42.99
295	SLU 25	-125	8	3339	389.63	3.8	43.81
295	SLU 26	-126	16	3349	390.45	3.8	44.01
295	SLU 27	-125	-3	3326	388.64	3.8	43.55
295	SLU 28	-127	8	3368	392.47	3.85	44.38
295	SLU 29	-124	-3	3308	386.91	3.77	43.2
295	SLU 30	-126	8	3350	390.74	3.82	44.02
295	SLU 31	-133	17	3672	420.31	4.14	46.44
295	SLU 32	-132	-2	3650	418.5	4.14	45.98
295	SLU 33	-134	9	3692	422.33	4.18	46.8
295	SLU 34	-134	17	3701	423.15	4.19	47
295	SLU 35	-133	-2	3679	421.35	4.19	46.54
295	SLU 36	-136	9	3721	425.18	4.23	47.37
295	SLU 37	-132	-2	3661	419.62	4.16	46.19
295	SLU 38	-134	9	3702	423.45	4.2	47.02
295	SLU 39	-133	-1	3754	427.94	4.23	46.34
295	SLU 40	-135	10	3796	431.77	4.28	47.17
295	SLU 41	-134	-1	3783	430.79	4.28	46.91
295	SLU 42	-137	10	3825	434.62	4.32	47.73
295	SLU 43	-132	-2	3584	435.09	3.99	46.13
295	SLU 44	-136	16	3654	441.47	4.06	47.51
295	SLU 45	-135	-3	3631	439.66	4.06	47.05
295	SLU 46	-137	9	3673	443.49	4.11	47.87
295	SLU 47	-138	16	3683	444.31	4.11	48.07
295	SLU 48	-136	-3	3660	442.51	4.11	47.61
295	SLU 49	-139	8	3702	446.34	4.15	48.44
295	SLU 50	-135	-3	3642	440.78	4.08	47.26
295	SLU 51	-138	9	3684	444.61	4.13	48.08
295	SLU 52	-144	17	4006	474.17	4.45	50.5
295	SLU 53	-143	-2	3984	472.37	4.45	50.04
295	SLU 54	-146	10	4026	476.2	4.49	50.86
295	SLU 55	-146	17	4035	477.02	4.5	51.06
295	SLU 56	-145	-2	4013	475.21	4.5	50.6
295	SLU 57	-147	9	4055	479.04	4.54	51.43
295	SLU 58	-144	-2	3995	473.48	4.47	50.25
295	SLU 59	-146	10	4036	477.31	4.51	51.08
295	SLU 60	-144	-1	4088	481.81	4.54	50.4
295	SLU 61	-147	10	4130	485.64	4.59	51.23
295	SLU 62	-146	-1	4117	484.65	4.59	50.97
295	SLU 63	-148	10	4159	488.48	4.63	51.79
295	SLU 64	-147	-3	3974	471.91	4.47	51.34
295	SLU 65	-151	16	4044	478.3	4.55	52.72
295	SLU 66	-149	-3	4021	476.49	4.55	52.26
295	SLU 67	-152	8	4063	480.32	4.59	53.08
295	SLU 68	-152	16	4073	481.14	4.59	53.28
295	SLU 69	-151	-4	4050	479.34	4.59	52.82
295	SLU 70	-153	8	4092	483.17	4.64	53.65
295	SLU 71	-150	-3	4032	477.6	4.57	52.47
295	SLU 72	-152	8	4074	481.43	4.61	53.29
295	SLU 73	-159	17	4397	511	4.93	55.71
295	SLU 74	-158	-2	4374	509.2	4.93	55.25
295	SLU 75	-160	9	4416	513.03	4.98	56.07
295	SLU 76	-161	17	4426	513.85	4.98	56.27
295	SLU 77	-160	-3	4403	512.04	4.98	55.81
295	SLU 78	-162	9	4445	515.87	5.02	56.64
295	SLU 79	-159	-2	4385	510.31	4.95	55.46
295	SLU 80	-161	9	4427	514.14	5	56.29
295	SLU 81	-159	-1	4478	518.64	5.03	55.62
295	SLU 82	-161	10	4520	522.46	5.07	56.44
295	SLU 83	-161	-2	4507	521.48	5.07	56.18
295	SLU 84	-163	10	4549	525.31	5.12	57.01
295	SLE RA 1	-110	-2	2971	354.92	3.34	38.35
295	SLE RA 2	-112	10	3018	359.17	3.38	39.26
295	SLE RA 3	-111	-2	3003	357.97	3.38	38.96
295	SLE RA 4	-113	5	3031	360.52	3.41	39.51
295	SLE RA 5	-113	10	3037	361.07	3.42	39.64
295	SLE RA 6	-113	-3	3022	359.87	3.42	39.33
295	SLE RA 7	-114	5	3050	362.42	3.44	39.88
295	SLE RA 8	-112	-2	3010	358.71	3.4	39.1
295	SLE RA 9	-113	5	3038	361.26	3.43	39.65
295	SLE RA 10	-118	11	3253	380.98	3.64	41.26
295	SLE RA 11	-117	-2	3238	379.77	3.64	40.95
295	SLE RA 12	-119	6	3266	382.32	3.67	41.5
295	SLE RA 13	-119	11	3272	382.87	3.67	41.64
295	SLE RA 14	-118	-2	3257	381.67	3.67	41.33
295	SLE RA 15	-120	6	3285	384.22	3.7	41.88
295	SLE RA 16	-118	-2	3245	380.51	3.65	41.09
295	SLE RA 17	-119	6	3273	383.07	3.68	41.64
295	SLE RA 18	-118	-1	3307	386.06	3.7	41.2
295	SLE RA 19	-119	6	3335	388.62	3.73	41.75
295	SLE RA 20	-119	-1	3327	387.96	3.73	41.57
295	SLE RA 21	-121	6	3354	390.51	3.76	42.12
295	SLE FR 1	-110	-2	2971	354.92	3.34	38.35
295	SLE FR 2	-110	0	2981	355.77	3.35	38.53
295	SLE FR 3	-110	-2	2979	355.68	3.35	38.5
295	SLE FR 4	-113	1	3081	365.11	3.46	39.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
295	SLE FR 5	-113	-2	3080	365.02	3.46	39.35
295	SLE FR 6	-114	-2	3139	370.49	3.52	39.77
295	SLE QP 1	-110	-2	2971	354.92	3.34	38.35
295	SLE QP 2	-112	-2	3072	364.26	3.45	39.2
295	SLD 1	206	116	4209	475.68	6.34	-72.32
295	SLD 2	274	43	4142	469.6	6.17	-95.97
295	SLD 3	254	-99	3295	394.93	5.11	-89.09
295	SLD 4	323	-172	3227	388.85	4.94	-112.74
295	SLD 5	-103	372	4812	521.2	6.21	35.28
295	SLD 6	-58	325	4768	517.27	6.1	19.98
295	SLD 7	60	-344	1763	252.05	2.11	-20.62
295	SLD 8	104	-391	1720	248.12	2	-35.92
295	SLD 9	-328	388	4424	480.4	4.89	114.32
295	SLD 10	-284	340	4381	476.47	4.78	99.02
295	SLD 11	-166	-328	1376	211.25	0.79	58.42
295	SLD 12	-122	-375	1332	207.32	0.68	43.12
295	SLD 13	-547	168	2917	339.67	1.95	191.14
295	SLD 14	-479	95	2850	333.59	1.78	167.5
295	SLD 15	-498	-46	2003	258.93	0.72	174.37
295	SLD 16	-430	-119	1935	252.84	0.55	150.73
295	SLV 1	382	196	4906	543.35	8.04	-134.22
295	SLV 2	489	81	4800	533.77	7.77	-171.46
295	SLV 3	464	-167	3361	406.95	5.96	-162.48
295	SLV 4	571	-282	3254	397.37	5.69	-199.71
295	SLV 5	-108	629	5986	626.66	8.03	36.98
295	SLV 6	-36	552	5914	620.21	7.85	11.91
295	SLV 7	165	-580	835	171.98	1.1	-57.21
295	SLV 8	238	-657	763	165.53	0.92	-82.28
295	SLV 9	-462	654	5381	562.99	5.97	160.68
295	SLV 10	-390	576	5309	556.55	5.79	135.61
295	SLV 11	-188	-555	230	108.31	-0.95	66.49
295	SLV 12	-116	-633	159	101.87	-1.14	41.43
295	SLV 13	-796	278	2890	331.15	1.2	278.12
295	SLV 14	-688	163	2784	321.57	0.93	240.88
295	SLV 15	-714	-84	1345	194.75	-0.88	249.86
295	SLV 16	-606	-199	1238	185.17	-1.15	212.63
295	SLV FO 1	431	216	5089	561.26	8.5	-151.57
295	SLV FO 2	549	89	4972	550.73	8.2	-192.52
295	SLV FO 3	522	-183	3389	411.22	6.21	-182.65
295	SLV FO 4	640	-310	3273	400.68	5.92	-223.6
295	SLV FO 5	-108	692	6277	652.9	8.48	36.76
295	SLV FO 6	-29	607	6198	645.8	8.29	9.18
295	SLV FO 7	193	-638	611	152.75	0.86	-66.85
295	SLV FO 8	272	-723	532	145.65	0.66	-94.42
295	SLV FO 9	-497	719	5612	582.87	6.23	172.83
295	SLV FO 10	-417	634	5533	575.77	6.03	145.26
295	SLV FO 11	-196	-611	-54	82.72	-1.39	69.22
295	SLV FO 12	-116	-696	-133	75.63	-1.59	41.65
295	SLV FO 13	-864	306	2872	327.84	0.97	302.01
295	SLV FO 14	-746	180	2755	317.3	0.68	261.05
295	SLV FO 15	-774	-93	1172	177.8	-1.31	270.93
295	SLV FO 16	-656	-219	1055	167.26	-1.61	229.97
295	CRTFP Ux+	0	0	0	0	0	0
295	CRTFP Ux-	0	0	0	0	0	0
295	CRTFP Uy+	0	0	0	0	0	0
295	CRTFP Uy-	0	0	0	0	0	0
296	SLU 1	-104	-3	2785	311.01	1.52	36.31
296	SLU 2	-108	16	2853	316.68	1.56	37.7
296	SLU 3	-106	-3	2830	314.84	1.56	37.21
296	SLU 4	-109	8	2871	318.24	1.58	38.04
296	SLU 5	-109	15	2880	319.05	1.58	38.25
296	SLU 6	-108	-3	2858	317.22	1.58	37.76
296	SLU 7	-110	8	2899	320.62	1.61	38.59
296	SLU 8	-107	-3	2840	315.76	1.57	37.41
296	SLU 9	-109	8	2881	319.16	1.59	38.25
296	SLU 10	-116	17	3197	345.14	1.72	40.63
296	SLU 11	-115	-2	3174	343.3	1.72	40.14
296	SLU 12	-117	9	3215	346.7	1.74	40.97
296	SLU 13	-118	16	3225	347.51	1.74	41.19
296	SLU 14	-116	-2	3202	345.68	1.74	40.69
296	SLU 15	-119	9	3243	349.08	1.76	41.53
296	SLU 16	-115	-2	3184	344.22	1.73	40.35
296	SLU 17	-118	9	3225	347.62	1.75	41.18
296	SLU 18	-116	-1	3276	351.67	1.74	40.5
296	SLU 19	-118	10	3317	355.07	1.77	41.33
296	SLU 20	-117	-2	3304	354.04	1.77	41.05
296	SLU 21	-120	9	3345	357.44	1.79	41.89
296	SLU 22	-118	-3	3164	342.69	1.74	41.44
296	SLU 23	-122	15	3232	348.36	1.78	42.83
296	SLU 24	-121	-4	3209	346.52	1.78	42.34
296	SLU 25	-123	7	3250	349.92	1.81	43.18
296	SLU 26	-124	15	3259	350.73	1.81	43.39
296	SLU 27	-123	-4	3237	348.9	1.81	42.9
296	SLU 28	-125	7	3277	352.3	1.83	43.73
296	SLU 29	-122	-4	3219	347.44	1.79	42.55
296	SLU 30	-124	7	3260	350.84	1.82	43.39
296	SLU 31	-131	16	3576	376.82	1.94	45.77
296	SLU 32	-129	-3	3553	374.98	1.94	45.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
296	SLU 33	-132	8	3594	378.38	1.96	46.11
296	SLU 34	-132	16	3603	379.19	1.96	46.32
296	SLU 35	-131	-3	3581	377.36	1.96	45.83
296	SLU 36	-133	8	3622	380.76	1.99	46.67
296	SLU 37	-130	-3	3563	375.9	1.95	45.49
296	SLU 38	-132	8	3604	379.3	1.97	46.32
296	SLU 39	-130	-2	3655	383.35	1.97	45.64
296	SLU 40	-133	9	3696	386.75	1.99	46.47
296	SLU 41	-132	-2	3683	385.72	1.99	46.19
296	SLU 42	-134	9	3724	389.12	2.02	47.02
296	SLU 43	-130	-3	3490	393.46	1.9	45.44
296	SLU 44	-134	15	3558	399.12	1.94	46.83
296	SLU 45	-132	-4	3536	397.29	1.94	46.34
296	SLU 46	-135	7	3576	400.68	1.96	47.17
296	SLU 47	-135	15	3586	401.49	1.96	47.38
296	SLU 48	-134	-4	3563	399.66	1.96	46.89
296	SLU 49	-136	7	3604	403.06	1.99	47.72
296	SLU 50	-133	-4	3546	398.2	1.95	46.54
296	SLU 51	-135	7	3587	401.6	1.97	47.38
296	SLU 52	-142	16	3902	427.58	2.09	49.76
296	SLU 53	-141	-3	3880	425.74	2.09	49.27
296	SLU 54	-143	8	3920	429.14	2.12	50.1
296	SLU 55	-144	16	3930	429.95	2.12	50.32
296	SLU 56	-142	-3	3907	428.12	2.12	49.82
296	SLU 57	-145	8	3948	431.52	2.14	50.66
296	SLU 58	-141	-3	3890	426.66	2.11	49.48
296	SLU 59	-144	8	3931	430.06	2.13	50.31
296	SLU 60	-142	-2	3982	434.11	2.12	49.63
296	SLU 61	-144	9	4023	437.51	2.15	50.46
296	SLU 62	-143	-2	4010	436.48	2.15	50.18
296	SLU 63	-146	9	4050	439.88	2.17	51.02
296	SLU 64	-145	-4	3869	425.14	2.12	50.57
296	SLU 65	-149	14	3937	430.8	2.16	51.97
296	SLU 66	-147	-4	3914	428.97	2.16	51.47
296	SLU 67	-149	7	3955	432.37	2.19	52.31
296	SLU 68	-150	14	3965	433.18	2.19	52.52
296	SLU 69	-149	-4	3942	431.34	2.19	52.03
296	SLU 70	-151	6	3983	434.74	2.21	52.86
296	SLU 71	-148	-4	3925	429.89	2.17	51.68
296	SLU 72	-150	7	3965	433.28	2.2	52.52
296	SLU 73	-157	15	4281	459.26	2.32	54.9
296	SLU 74	-155	-3	4259	457.42	2.32	54.41
296	SLU 75	-158	8	4299	460.82	2.34	55.24
296	SLU 76	-158	15	4309	461.63	2.34	55.45
296	SLU 77	-157	-4	4286	459.8	2.34	54.96
296	SLU 78	-159	7	4327	463.2	2.37	55.8
296	SLU 79	-156	-3	4269	458.34	2.33	54.62
296	SLU 80	-158	8	4310	461.74	2.35	55.45
296	SLU 81	-156	-2	4361	465.79	2.35	54.77
296	SLU 82	-159	8	4402	469.19	2.37	55.6
296	SLU 83	-158	-3	4389	468.16	2.37	55.32
296	SLU 84	-160	8	4429	471.56	2.4	56.15
296	SLE RA 1	-108	-3	2893	320.06	1.58	37.77
296	SLE RA 2	-111	9	2938	323.84	1.61	38.7
296	SLE RA 3	-110	-3	2923	322.62	1.61	38.37
296	SLE RA 4	-111	4	2950	324.88	1.63	38.93
296	SLE RA 5	-112	9	2957	325.42	1.63	39.07
296	SLE RA 6	-111	-3	2942	324.2	1.63	38.74
296	SLE RA 7	-112	4	2969	326.47	1.64	39.3
296	SLE RA 8	-110	-3	2930	323.23	1.62	38.51
296	SLE RA 9	-112	4	2957	325.5	1.63	39.07
296	SLE RA 10	-116	10	3168	342.81	1.71	40.66
296	SLE RA 11	-115	-2	3153	341.59	1.71	40.33
296	SLE RA 12	-117	5	3180	343.86	1.73	40.89
296	SLE RA 13	-117	10	3186	344.4	1.73	41.03
296	SLE RA 14	-116	-3	3171	343.17	1.73	40.7
296	SLE RA 15	-118	5	3198	345.44	1.75	41.26
296	SLE RA 16	-116	-2	3159	342.2	1.72	40.47
296	SLE RA 17	-117	5	3187	344.47	1.74	41.02
296	SLE RA 18	-116	-2	3221	347.17	1.73	40.57
296	SLE RA 19	-118	5	3248	349.43	1.75	41.13
296	SLE RA 20	-117	-2	3239	348.75	1.75	40.94
296	SLE RA 21	-119	5	3266	351.02	1.77	41.49
296	SLE FR 1	-108	-3	2893	320.06	1.58	37.77
296	SLE FR 2	-108	0	2902	320.82	1.59	37.96
296	SLE FR 3	-108	-3	2900	320.7	1.59	37.92
296	SLE FR 4	-111	0	3000	328.95	1.63	38.8
296	SLE FR 5	-111	-3	2999	328.83	1.64	38.76
296	SLE FR 6	-112	-2	3057	333.62	1.66	39.17
296	SLE QP 1	-108	-3	2893	320.06	1.58	37.77
296	SLE QP 2	-110	-2	2991	328.2	1.63	38.61
296	SLD 1	209	109	4048	414.07	3.75	-73.3
296	SLD 2	277	41	3986	409.19	3.63	-96.97
296	SLD 3	257	-98	3164	343.57	3.11	-89.86
296	SLD 4	325	-166	3101	338.69	2.99	-113.54
296	SLD 5	-99	357	4661	461.73	3.26	34.27
296	SLD 6	-55	313	4621	458.57	3.19	18.95
296	SLD 7	61	-334	1712	226.73	1.12	-20.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
296	SLD 8	105	-377	1671	223.57	1.04	-36.26
296	SLD 9	-325	373	4311	432.82	2.22	113.49
296	SLD 10	-281	329	4271	429.66	2.14	98.17
296	SLD 11	-166	-318	1362	197.82	0.07	58.27
296	SLD 12	-122	-362	1321	194.66	-0.01	42.96
296	SLD 13	-545	161	2882	317.7	0.27	190.76
296	SLD 14	-477	93	2819	312.83	0.15	167.09
296	SLD 15	-498	-46	1997	247.2	-0.38	174.2
296	SLD 16	-429	-114	1934	242.33	-0.5	150.52
296	SLV 1	386	185	4698	466.76	4.99	-135.43
296	SLV 2	493	78	4600	459.08	4.8	-172.7
296	SLV 3	467	-165	3204	347.66	3.9	-163.34
296	SLV 4	574	-272	3105	339.99	3.71	-200.61
296	SLV 5	-104	604	5789	551.82	4.32	35.69
296	SLV 6	-32	533	5723	546.65	4.19	10.59
296	SLV 7	165	-562	806	154.84	0.7	-57.34
296	SLV 8	237	-634	740	149.68	0.57	-82.44
296	SLV 9	-458	629	5243	506.72	2.69	159.67
296	SLV 10	-386	557	5176	501.55	2.56	134.57
296	SLV 11	-189	-537	260	109.74	-0.94	66.64
296	SLV 12	-117	-609	194	104.57	-1.07	41.54
296	SLV 13	-794	267	2878	316.4	-0.45	277.84
296	SLV 14	-687	160	2779	308.73	-0.64	240.56
296	SLV 15	-714	-83	1383	197.31	-1.54	249.93
296	SLV 16	-607	-190	1284	189.63	-1.73	212.65
296	SLV FO 1	436	204	4869	480.61	5.32	-152.83
296	SLV FO 2	553	86	4760	472.17	5.11	-193.84
296	SLV FO 3	524	-181	3225	349.61	4.13	-183.53
296	SLV FO 4	642	-299	3116	341.17	3.92	-224.53
296	SLV FO 5	-103	665	6069	574.18	4.59	35.39
296	SLV FO 6	-24	586	5996	568.5	4.45	7.79
296	SLV FO 7	192	-618	588	137.51	0.6	-66.94
296	SLV FO 8	272	-697	515	131.82	0.46	-94.54
296	SLV FO 9	-493	692	5468	524.57	2.8	171.77
296	SLV FO 10	-413	613	5395	518.88	2.65	144.16
296	SLV FO 11	-197	-591	-13	87.89	-1.19	69.44
296	SLV FO 12	-118	-670	-86	82.21	-1.34	41.83
296	SLV FO 13	-863	294	2867	315.22	-0.66	301.76
296	SLV FO 14	-745	177	2758	306.78	-0.87	260.76
296	SLV FO 15	-774	-91	1222	184.22	-1.86	271.06
296	SLV FO 16	-656	-208	1114	175.78	-2.07	230.06
296	CRTFP Ux+	0	0	0	0	0	0
296	CRTFP Ux-	0	0	0	0	0	0
296	CRTFP Uy+	0	0	0	0	0	0
296	CRTFP Uy-	0	0	0	0	0	0
297	SLU 1	-102	-2	2762	314.13	-0.06	35.64
297	SLU 2	-106	16	2829	319.85	-0.05	37.05
297	SLU 3	-104	-3	2806	317.94	-0.05	36.52
297	SLU 4	-107	8	2847	321.38	-0.05	37.37
297	SLU 5	-107	15	2856	322.21	-0.05	37.59
297	SLU 6	-106	-3	2834	320.29	-0.05	37.06
297	SLU 7	-108	8	2874	323.73	-0.04	37.91
297	SLU 8	-105	-3	2816	318.84	-0.05	36.73
297	SLU 9	-107	8	2857	322.27	-0.04	37.57
297	SLU 10	-114	17	3171	349.09	-0.11	39.91
297	SLU 11	-112	-2	3149	347.18	-0.11	39.39
297	SLU 12	-115	9	3189	350.61	-0.11	40.23
297	SLU 13	-116	16	3199	351.45	-0.11	40.46
297	SLU 14	-114	-2	3176	349.53	-0.11	39.93
297	SLU 15	-116	9	3216	352.97	-0.1	40.77
297	SLU 16	-113	-2	3159	348.07	-0.11	39.59
297	SLU 17	-115	9	3199	351.51	-0.1	40.43
297	SLU 18	-113	-1	3251	355.89	-0.15	39.74
297	SLU 19	-116	10	3291	359.33	-0.14	40.58
297	SLU 20	-115	-1	3278	358.25	-0.14	40.28
297	SLU 21	-117	9	3319	361.68	-0.14	41.12
297	SLU 22	-116	-3	3137	346.31	-0.08	40.69
297	SLU 23	-120	15	3205	352.04	-0.07	42.1
297	SLU 24	-119	-3	3182	350.13	-0.07	41.57
297	SLU 25	-121	8	3222	353.56	-0.07	42.42
297	SLU 26	-122	15	3232	354.4	-0.07	42.64
297	SLU 27	-120	-3	3209	352.48	-0.07	42.11
297	SLU 28	-123	7	3249	355.92	-0.06	42.96
297	SLU 29	-119	-3	3192	351.02	-0.07	41.78
297	SLU 30	-122	8	3232	354.46	-0.06	42.62
297	SLU 31	-128	16	3547	381.28	-0.13	44.96
297	SLU 32	-127	-2	3525	379.36	-0.13	44.44
297	SLU 33	-129	8	3565	382.8	-0.13	45.28
297	SLU 34	-130	16	3574	383.63	-0.13	45.5
297	SLU 35	-128	-3	3552	381.72	-0.13	44.98
297	SLU 36	-131	8	3592	385.15	-0.12	45.82
297	SLU 37	-127	-2	3535	380.26	-0.13	44.64
297	SLU 38	-130	8	3575	383.7	-0.12	45.48
297	SLU 39	-128	-1	3627	388.08	-0.17	44.79
297	SLU 40	-130	9	3667	391.52	-0.16	45.63
297	SLU 41	-129	-2	3654	390.44	-0.16	45.33
297	SLU 42	-132	9	3694	393.87	-0.16	46.17
297	SLU 43	-127	-3	3461	397.33	-0.07	44.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
297	SLU 44	-131	15	3529	403.06	-0.06	46.01
297	SLU 45	-130	-3	3506	401.14	-0.06	45.49
297	SLU 46	-132	8	3546	404.58	-0.06	46.33
297	SLU 47	-133	15	3556	405.41	-0.06	46.55
297	SLU 48	-131	-3	3533	403.5	-0.06	46.03
297	SLU 49	-134	7	3574	406.93	-0.05	46.87
297	SLU 50	-130	-3	3516	402.04	-0.06	45.69
297	SLU 51	-133	8	3556	405.48	-0.06	46.53
297	SLU 52	-140	16	3871	432.29	-0.12	48.88
297	SLU 53	-138	-2	3849	430.38	-0.12	48.35
297	SLU 54	-140	8	3889	433.81	-0.12	49.19
297	SLU 55	-141	16	3898	434.65	-0.12	49.42
297	SLU 56	-140	-3	3876	432.73	-0.12	48.89
297	SLU 57	-142	8	3916	436.17	-0.11	49.73
297	SLU 58	-139	-2	3859	431.28	-0.12	48.55
297	SLU 59	-141	8	3899	434.71	-0.12	49.4
297	SLU 60	-139	-2	3951	439.1	-0.16	48.7
297	SLU 61	-141	9	3991	442.53	-0.15	49.54
297	SLU 62	-141	-2	3978	441.45	-0.15	49.24
297	SLU 63	-143	9	4018	444.89	-0.15	50.08
297	SLU 64	-142	-3	3837	429.52	-0.09	49.66
297	SLU 65	-146	15	3904	435.24	-0.08	51.06
297	SLU 66	-144	-4	3882	433.33	-0.08	50.53
297	SLU 67	-147	7	3922	436.77	-0.08	51.38
297	SLU 68	-147	14	3931	437.6	-0.08	51.6
297	SLU 69	-146	-4	3909	435.68	-0.08	51.08
297	SLU 70	-148	7	3949	439.12	-0.07	51.92
297	SLU 71	-145	-4	3892	434.23	-0.08	50.74
297	SLU 72	-147	7	3932	437.66	-0.08	51.58
297	SLU 73	-154	16	4247	464.48	-0.14	53.93
297	SLU 74	-152	-3	4224	462.57	-0.14	53.4
297	SLU 75	-155	8	4265	466	-0.14	54.24
297	SLU 76	-156	15	4274	466.84	-0.14	54.47
297	SLU 77	-154	-3	4251	464.92	-0.14	53.94
297	SLU 78	-156	8	4292	468.36	-0.13	54.78
297	SLU 79	-153	-3	4234	463.46	-0.14	53.6
297	SLU 80	-155	8	4275	466.9	-0.14	54.45
297	SLU 81	-153	-2	4327	471.28	-0.18	53.75
297	SLU 82	-156	9	4367	474.72	-0.17	54.59
297	SLU 83	-155	-2	4354	473.64	-0.17	54.29
297	SLU 84	-157	9	4394	477.07	-0.17	55.13
297	SLE RA 1	-106	-2	2869	323.32	-0.07	37.09
297	SLE RA 2	-109	10	2914	327.14	-0.06	38.02
297	SLE RA 3	-108	-3	2899	325.86	-0.06	37.67
297	SLE RA 4	-109	5	2926	328.16	-0.06	38.23
297	SLE RA 5	-110	9	2932	328.71	-0.06	38.38
297	SLE RA 6	-109	-3	2917	327.43	-0.06	38.03
297	SLE RA 7	-110	4	2944	329.73	-0.05	38.6
297	SLE RA 8	-108	-3	2905	326.46	-0.06	37.81
297	SLE RA 9	-110	4	2932	328.75	-0.06	38.37
297	SLE RA 10	-114	10	3142	346.63	-0.1	39.93
297	SLE RA 11	-113	-2	3127	345.36	-0.1	39.58
297	SLE RA 12	-115	5	3154	347.65	-0.1	40.15
297	SLE RA 13	-115	10	3160	348.2	-0.1	40.29
297	SLE RA 14	-114	-2	3145	346.93	-0.1	39.94
297	SLE RA 15	-116	5	3172	349.22	-0.09	40.51
297	SLE RA 16	-113	-2	3134	345.95	-0.1	39.72
297	SLE RA 17	-115	5	3161	348.25	-0.1	40.28
297	SLE RA 18	-114	-2	3195	351.17	-0.12	39.82
297	SLE RA 19	-115	6	3222	353.46	-0.12	40.38
297	SLE RA 20	-115	-2	3213	352.74	-0.12	40.18
297	SLE RA 21	-116	5	3240	355.03	-0.12	40.74
297	SLE FR 1	-106	-2	2869	323.32	-0.07	37.09
297	SLE FR 2	-106	0	2878	324.09	-0.06	37.27
297	SLE FR 3	-106	-2	2876	323.95	-0.06	37.23
297	SLE FR 4	-109	0	2976	332.44	-0.08	38.09
297	SLE FR 5	-109	-2	2974	332.3	-0.08	38.05
297	SLE FR 6	-110	-2	3032	337.25	-0.09	38.45
297	SLE QP 1	-106	-2	2869	323.32	-0.07	37.09
297	SLE QP 2	-108	-2	2967	331.68	-0.08	37.91
297	SLD 1	212	105	3967	407.47	1.35	-74.4
297	SLD 2	280	41	3908	402.91	1.28	-98.1
297	SLD 3	259	-98	3094	335.37	1.26	-90.72
297	SLD 4	327	-162	3035	330.81	1.18	-114.42
297	SLD 5	-95	349	4601	464.55	0.51	33.07
297	SLD 6	-51	308	4563	461.61	0.46	17.74
297	SLD 7	61	-328	1691	224.23	0.19	-21.32
297	SLD 8	105	-369	1653	221.28	0.14	-36.65
297	SLD 9	-322	365	4281	442.08	-0.3	112.46
297	SLD 10	-278	324	4242	439.13	-0.35	97.13
297	SLD 11	-166	-312	1371	201.75	-0.62	58.07
297	SLD 12	-122	-353	1332	198.8	-0.67	42.74
297	SLD 13	-544	158	2899	332.54	-1.35	190.23
297	SLD 14	-476	94	2839	327.99	-1.42	166.53
297	SLD 15	-497	-45	2026	260.44	-1.44	173.91
297	SLD 16	-429	-109	1966	255.89	-1.52	150.22
297	SLV 1	390	178	4585	454.62	2.17	-136.77
297	SLV 2	497	78	4491	447.44	2.04	-174.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
297	SLV 3	469	-165	3110	332.82	2	-164.26
297	SLV 4	576	-265	3016	325.64	1.88	-201.57
297	SLV 5	-98	591	5707	554.62	0.86	34.16
297	SLV 6	-26	524	5644	549.79	0.78	9.04
297	SLV 7	165	-553	790	148.63	0.32	-57.47
297	SLV 8	237	-620	727	143.8	0.24	-82.59
297	SLV 9	-453	616	5207	519.55	-0.4	158.4
297	SLV 10	-381	549	5144	514.72	-0.49	133.29
297	SLV 11	-190	-528	290	113.56	-0.94	66.77
297	SLV 12	-118	-595	227	108.73	-1.03	41.65
297	SLV 13	-793	261	2918	337.71	-2.05	277.38
297	SLV 14	-686	161	2824	330.54	-2.17	240.07
297	SLV 15	-714	-82	1443	215.91	-2.21	249.89
297	SLV 16	-607	-182	1349	208.74	-2.33	212.58
297	SLV FO 1	440	196	4747	466.91	2.39	-154.24
297	SLV FO 2	558	86	4643	459.02	2.26	-195.28
297	SLV FO 3	527	-182	3124	332.93	2.21	-184.48
297	SLV FO 4	645	-292	3021	325.04	2.08	-225.51
297	SLV FO 5	-97	650	5981	576.92	0.96	33.78
297	SLV FO 6	-18	576	5911	571.61	0.86	6.16
297	SLV FO 7	192	-608	572	130.33	0.36	-67.01
297	SLV FO 8	271	-682	503	125.01	0.27	-94.64
297	SLV FO 9	-488	678	5431	538.34	-0.44	170.45
297	SLV FO 10	-408	604	5361	533.03	-0.53	142.82
297	SLV FO 11	-198	-580	22	91.75	-1.03	69.66
297	SLV FO 12	-119	-655	-47	86.44	-1.12	42.03
297	SLV FO 13	-861	287	2913	338.31	-2.24	301.33
297	SLV FO 14	-743	177	2810	330.42	-2.38	260.29
297	SLV FO 15	-774	-90	1290	204.34	-2.42	271.09
297	SLV FO 16	-657	-200	1187	196.44	-2.56	230.05
297	CRTFP Ux+	0	0	0	0	0	0
297	CRTFP Ux-	0	0	0	0	0	0
297	CRTFP Uy+	0	0	0	0	0	0
297	CRTFP Uy-	0	0	0	0	0	0
298	SLU 1	-100	-1	2787	351.57	-1.53	34.89
298	SLU 2	-104	16	2855	358.07	-1.55	36.3
298	SLU 3	-102	-2	2832	356.04	-1.56	35.74
298	SLU 4	-104	9	2873	359.94	-1.57	36.59
298	SLU 5	-105	16	2882	360.83	-1.57	36.83
298	SLU 6	-104	-2	2860	358.8	-1.57	36.27
298	SLU 7	-106	9	2900	362.7	-1.58	37.12
298	SLU 8	-103	-2	2842	357.08	-1.56	35.94
298	SLU 9	-105	9	2883	360.98	-1.57	36.79
298	SLU 10	-112	17	3203	392.85	-1.82	39.09
298	SLU 11	-110	-1	3180	390.81	-1.82	38.53
298	SLU 12	-112	10	3220	394.72	-1.83	39.38
298	SLU 13	-113	17	3230	395.6	-1.83	39.62
298	SLU 14	-111	-1	3207	393.57	-1.84	39.06
298	SLU 15	-114	10	3248	397.47	-1.85	39.91
298	SLU 16	-111	-1	3190	391.86	-1.83	38.73
298	SLU 17	-113	10	3230	395.76	-1.84	39.58
298	SLU 18	-111	0	3284	401.25	-1.91	38.87
298	SLU 19	-113	11	3325	405.15	-1.92	39.72
298	SLU 20	-112	0	3312	404	-1.93	39.39
298	SLU 21	-115	10	3352	407.91	-1.94	40.24
298	SLU 22	-114	-1	3167	389.59	-1.78	39.84
298	SLU 23	-118	16	3235	396.09	-1.8	41.25
298	SLU 24	-116	-2	3212	394.06	-1.81	40.69
298	SLU 25	-119	9	3253	397.96	-1.82	41.54
298	SLU 26	-119	16	3262	398.85	-1.82	41.78
298	SLU 27	-118	-2	3240	396.82	-1.82	41.22
298	SLU 28	-120	9	3280	400.72	-1.83	42.07
298	SLU 29	-117	-2	3222	395.1	-1.81	40.89
298	SLU 30	-119	9	3263	399.01	-1.82	41.74
298	SLU 31	-126	17	3583	430.87	-2.07	44.04
298	SLU 32	-124	-1	3560	428.84	-2.07	43.48
298	SLU 33	-127	10	3600	432.74	-2.08	44.33
298	SLU 34	-127	17	3610	433.63	-2.08	44.56
298	SLU 35	-126	-1	3587	431.6	-2.08	44
298	SLU 36	-128	9	3628	435.5	-2.1	44.85
298	SLU 37	-125	-1	3570	429.88	-2.07	43.68
298	SLU 38	-127	10	3610	433.78	-2.09	44.53
298	SLU 39	-125	0	3664	439.27	-2.16	43.82
298	SLU 40	-127	10	3705	443.17	-2.17	44.67
298	SLU 41	-127	0	3692	442.03	-2.17	44.34
298	SLU 42	-129	10	3732	445.93	-2.18	45.19
298	SLU 43	-125	-2	3493	444	-1.91	43.66
298	SLU 44	-129	16	3561	450.5	-1.93	45.07
298	SLU 45	-127	-2	3538	448.47	-1.93	44.51
298	SLU 46	-129	9	3579	452.37	-1.94	45.36
298	SLU 47	-130	16	3588	453.26	-1.94	45.6
298	SLU 48	-129	-2	3566	451.23	-1.95	45.04
298	SLU 49	-131	8	3606	455.13	-1.96	45.89
298	SLU 50	-128	-2	3548	449.51	-1.94	44.71
298	SLU 51	-130	9	3589	453.42	-1.95	45.56
298	SLU 52	-137	17	3909	485.28	-2.19	47.86
298	SLU 53	-135	-1	3886	483.25	-2.2	47.3
298	SLU 54	-137	9	3926	487.15	-2.21	48.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
298	SLU 55	-138	17	3936	488.04	-2.21	48.39
298	SLU 56	-137	-1	3913	486	-2.21	47.83
298	SLU 57	-139	9	3954	489.91	-2.22	48.68
298	SLU 58	-136	-1	3896	484.29	-2.2	47.5
298	SLU 59	-138	9	3936	488.19	-2.21	48.35
298	SLU 60	-136	0	3990	493.68	-2.29	47.64
298	SLU 61	-138	10	4031	497.58	-2.3	48.49
298	SLU 62	-137	-1	4018	496.44	-2.3	48.16
298	SLU 63	-140	10	4058	500.34	-2.31	49.01
298	SLU 64	-139	-2	3873	482.02	-2.16	48.61
298	SLU 65	-143	16	3941	488.53	-2.18	50.02
298	SLU 66	-141	-2	3918	486.49	-2.18	49.46
298	SLU 67	-144	8	3959	490.4	-2.19	50.31
298	SLU 68	-144	16	3968	491.28	-2.19	50.55
298	SLU 69	-143	-2	3946	489.25	-2.2	49.99
298	SLU 70	-145	8	3986	493.15	-2.21	50.84
298	SLU 71	-142	-2	3928	487.54	-2.19	49.66
298	SLU 72	-144	8	3969	491.44	-2.2	50.51
298	SLU 73	-151	17	4289	523.3	-2.44	52.81
298	SLU 74	-149	-1	4266	521.27	-2.45	52.25
298	SLU 75	-152	9	4306	525.17	-2.46	53.1
298	SLU 76	-152	17	4316	526.06	-2.45	53.33
298	SLU 77	-151	-2	4293	524.03	-2.46	52.77
298	SLU 78	-153	9	4334	527.93	-2.47	53.62
298	SLU 79	-150	-1	4276	522.31	-2.45	52.45
298	SLU 80	-152	9	4316	526.22	-2.46	53.3
298	SLU 81	-150	-1	4370	531.7	-2.54	52.59
298	SLU 82	-153	10	4411	535.61	-2.55	53.43
298	SLU 83	-152	-1	4398	534.46	-2.55	53.11
298	SLU 84	-154	10	4438	538.36	-2.56	53.96
298	SLE RA 1	-104	-1	2896	362.43	-1.61	36.3
298	SLE RA 2	-106	10	2941	366.77	-1.62	37.25
298	SLE RA 3	-105	-2	2926	365.41	-1.62	36.87
298	SLE RA 4	-107	5	2953	368.01	-1.63	37.44
298	SLE RA 5	-107	10	2959	368.6	-1.63	37.6
298	SLE RA 6	-106	-2	2944	367.25	-1.63	37.22
298	SLE RA 7	-108	5	2971	369.85	-1.64	37.79
298	SLE RA 8	-106	-2	2933	366.1	-1.62	37
298	SLE RA 9	-107	5	2959	368.71	-1.63	37.57
298	SLE RA 10	-112	11	3173	389.95	-1.79	39.1
298	SLE RA 11	-111	-1	3158	388.6	-1.8	38.73
298	SLE RA 12	-112	6	3185	391.2	-1.8	39.3
298	SLE RA 13	-113	11	3191	391.79	-1.8	39.45
298	SLE RA 14	-112	-1	3176	390.43	-1.81	39.08
298	SLE RA 15	-113	6	3203	393.04	-1.81	39.65
298	SLE RA 16	-111	-1	3164	389.29	-1.8	38.86
298	SLE RA 17	-113	6	3191	391.89	-1.81	39.43
298	SLE RA 18	-111	-1	3227	395.55	-1.86	38.95
298	SLE RA 19	-113	7	3254	398.15	-1.86	39.52
298	SLE RA 20	-112	-1	3246	397.39	-1.87	39.31
298	SLE RA 21	-114	6	3272	399.99	-1.87	39.87
298	SLE FR 1	-104	-1	2896	362.43	-1.61	36.3
298	SLE FR 2	-104	1	2905	363.3	-1.61	36.49
298	SLE FR 3	-104	-1	2903	363.16	-1.61	36.44
298	SLE FR 4	-106	1	3004	373.23	-1.68	37.29
298	SLE FR 5	-106	-1	3003	373.1	-1.68	37.24
298	SLE FR 6	-107	-1	3062	378.99	-1.73	37.63
298	SLE QP 1	-104	-1	2896	362.43	-1.61	36.3
298	SLE QP 2	-106	-1	2995	372.37	-1.68	37.1
298	SLD 1	216	103	3960	451.97	-0.85	-75.62
298	SLD 2	284	43	3902	446.99	-0.89	-99.32
298	SLD 3	262	-99	3082	367.39	-0.45	-91.65
298	SLD 4	330	-160	3024	362.4	-0.48	-115.35
298	SLD 5	-90	348	4627	525.4	-2.05	31.7
298	SLD 6	-46	309	4589	522.18	-2.07	16.37
298	SLD 7	62	-327	1699	243.45	-0.68	-21.72
298	SLD 8	106	-367	1662	240.22	-0.71	-37.06
298	SLD 9	-318	364	4329	504.51	-2.65	111.25
298	SLD 10	-274	325	4291	501.28	-2.68	95.92
298	SLD 11	-165	-311	1401	222.55	-1.29	57.83
298	SLD 12	-121	-350	1364	219.33	-1.32	42.49
298	SLD 13	-541	158	2967	382.33	-2.88	189.55
298	SLD 14	-473	97	2909	377.34	-2.92	165.84
298	SLD 15	-496	-45	2089	297.74	-2.47	173.52
298	SLD 16	-428	-105	2031	292.76	-2.51	149.82
298	SLV 1	395	175	4558	502.08	-0.42	-138.23
298	SLV 2	502	80	4467	494.23	-0.48	-175.56
298	SLV 3	472	-167	3074	359.17	0.27	-165.23
298	SLV 4	579	-262	2983	351.33	0.21	-202.55
298	SLV 5	-92	589	5731	629.48	-2.34	32.41
298	SLV 6	-20	525	5670	624.2	-2.38	7.28
298	SLV 7	164	-552	786	153.13	-0.04	-57.58
298	SLV 8	236	-616	724	147.85	-0.08	-82.71
298	SLV 9	-448	614	5266	596.88	-3.28	156.9
298	SLV 10	-376	550	5205	591.6	-3.33	131.78
298	SLV 11	-191	-527	321	120.53	-0.98	66.91
298	SLV 12	-119	-591	259	115.25	-1.02	41.79
298	SLV 13	-790	260	3008	393.4	-3.57	276.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
298	SLV 14	-683	165	2917	385.56	-3.64	239.43
298	SLV 15	-714	-82	1524	250.5	-2.88	249.75
298	SLV 16	-607	-177	1433	242.65	-2.94	212.43
298	SLV FO 1	445	193	4714	515.05	-0.29	-155.77
298	SLV FO 2	563	88	4614	506.42	-0.36	-196.82
298	SLV FO 3	529	-184	3082	357.86	0.47	-185.46
298	SLV FO 4	647	-289	2982	349.22	0.4	-226.52
298	SLV FO 5	-91	648	6005	655.19	-2.4	31.94
298	SLV FO 6	-12	577	5938	649.38	-2.45	4.3
298	SLV FO 7	191	-607	565	131.21	0.13	-67.05
298	SLV FO 8	270	-678	497	125.4	0.08	-94.69
298	SLV FO 9	-482	676	5493	619.33	-3.45	168.88
298	SLV FO 10	-403	605	5426	613.52	-3.49	141.25
298	SLV FO 11	-200	-579	53	95.35	-0.91	69.89
298	SLV FO 12	-121	-650	-14	89.54	-0.96	42.25
298	SLV FO 13	-859	286	3009	395.51	-3.76	300.71
298	SLV FO 14	-741	182	2909	386.87	-3.83	259.66
298	SLV FO 15	-774	-90	1377	238.31	-3	271.02
298	SLV FO 16	-657	-195	1277	229.68	-3.07	229.96
298	CRTFP Ux+	0	0	0	0	0	0
298	CRTFP Ux-	0	0	0	0	0	0
298	CRTFP Uy+	0	0	0	0	0	0
298	CRTFP Uy-	0	0	0	0	0	0
299	SLU 1	-97	0	2858	420.81	-2.87	34.05
299	SLU 2	-101	17	2926	428.75	-2.92	35.47
299	SLU 3	-100	-1	2904	426.58	-2.92	34.88
299	SLU 4	-102	10	2945	431.34	-2.95	35.73
299	SLU 5	-103	17	2955	432.3	-2.95	35.98
299	SLU 6	-101	-1	2932	430.12	-2.95	35.39
299	SLU 7	-103	10	2973	434.89	-2.98	36.24
299	SLU 8	-100	-1	2914	427.91	-2.93	35.07
299	SLU 9	-103	10	2955	432.67	-2.96	35.93
299	SLU 10	-109	18	3286	473.53	-3.36	38.17
299	SLU 11	-107	0	3263	471.35	-3.37	37.58
299	SLU 12	-110	11	3304	476.11	-3.4	38.43
299	SLU 13	-110	18	3314	477.07	-3.4	38.68
299	SLU 14	-109	0	3292	474.9	-3.4	38.09
299	SLU 15	-111	11	3333	479.66	-3.43	38.94
299	SLU 16	-108	0	3274	472.69	-3.38	37.77
299	SLU 17	-110	11	3315	477.45	-3.41	38.62
299	SLU 18	-108	1	3371	484.78	-3.51	37.9
299	SLU 19	-111	12	3412	489.54	-3.54	38.76
299	SLU 20	-110	1	3400	488.33	-3.55	38.41
299	SLU 21	-112	11	3441	493.09	-3.57	39.27
299	SLU 22	-111	0	3249	469.63	-3.33	38.88
299	SLU 23	-115	18	3318	477.57	-3.37	40.31
299	SLU 24	-113	-1	3295	475.39	-3.38	39.71
299	SLU 25	-116	10	3336	480.16	-3.4	40.57
299	SLU 26	-117	17	3346	481.12	-3.4	40.82
299	SLU 27	-115	-1	3324	478.94	-3.41	40.23
299	SLU 28	-117	10	3365	483.7	-3.43	41.08
299	SLU 29	-114	-1	3306	476.73	-3.39	39.91
299	SLU 30	-116	10	3347	481.49	-3.41	40.76
299	SLU 31	-123	18	3677	522.34	-3.82	43.01
299	SLU 32	-121	0	3655	520.17	-3.83	42.41
299	SLU 33	-124	11	3696	524.93	-3.85	43.27
299	SLU 34	-124	18	3705	525.89	-3.85	43.52
299	SLU 35	-123	0	3683	523.72	-3.86	42.92
299	SLU 36	-125	11	3724	528.48	-3.88	43.78
299	SLU 37	-122	0	3665	521.5	-3.84	42.61
299	SLU 38	-124	11	3706	526.27	-3.86	43.46
299	SLU 39	-122	1	3763	533.6	-3.97	42.74
299	SLU 40	-124	12	3804	538.36	-3.99	43.59
299	SLU 41	-123	1	3791	537.14	-4	43.25
299	SLU 42	-126	12	3832	541.91	-4.03	44.1
299	SLU 43	-122	-1	3581	530.32	-3.58	42.6
299	SLU 44	-126	17	3650	538.26	-3.62	44.03
299	SLU 45	-124	-1	3627	536.08	-3.63	43.43
299	SLU 46	-126	10	3668	540.85	-3.65	44.29
299	SLU 47	-127	17	3678	541.81	-3.65	44.54
299	SLU 48	-125	-1	3656	539.63	-3.66	43.95
299	SLU 49	-128	10	3697	544.39	-3.69	44.8
299	SLU 50	-125	-1	3638	537.42	-3.64	43.63
299	SLU 51	-127	10	3679	542.18	-3.67	44.48
299	SLU 52	-133	18	4009	583.03	-4.07	46.72
299	SLU 53	-132	0	3987	580.86	-4.08	46.13
299	SLU 54	-134	11	4028	585.62	-4.1	46.99
299	SLU 55	-135	18	4037	586.58	-4.1	47.24
299	SLU 56	-133	0	4015	584.41	-4.11	46.64
299	SLU 57	-136	11	4056	589.17	-4.14	47.5
299	SLU 58	-132	0	3997	582.19	-4.09	46.33
299	SLU 59	-135	11	4038	586.96	-4.12	47.18
299	SLU 60	-133	1	4095	594.29	-4.22	46.46
299	SLU 61	-135	11	4136	599.05	-4.25	47.31
299	SLU 62	-134	1	4123	597.83	-4.25	46.97
299	SLU 63	-137	11	4164	602.6	-4.28	47.82
299	SLU 64	-135	0	3973	579.14	-4.03	47.44
299	SLU 65	-139	17	4041	587.08	-4.08	48.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
299	SLU 66	-138	-1	4019	584.9	-4.08	48.27
299	SLU 67	-140	10	4060	589.66	-4.11	49.13
299	SLU 68	-141	17	4069	590.62	-4.11	49.38
299	SLU 69	-139	-1	4047	588.45	-4.12	48.78
299	SLU 70	-142	10	4088	593.21	-4.14	49.64
299	SLU 71	-138	-1	4029	586.23	-4.1	48.46
299	SLU 72	-141	10	4070	591	-4.12	49.32
299	SLU 73	-147	18	4400	631.85	-4.53	51.56
299	SLU 74	-146	0	4378	629.68	-4.53	50.97
299	SLU 75	-148	11	4419	634.44	-4.56	51.82
299	SLU 76	-149	18	4428	635.4	-4.56	52.07
299	SLU 77	-147	0	4406	633.22	-4.56	51.48
299	SLU 78	-149	11	4447	637.99	-4.59	52.34
299	SLU 79	-146	0	4388	631.01	-4.54	51.16
299	SLU 80	-149	11	4429	635.77	-4.57	52.02
299	SLU 81	-146	1	4486	643.1	-4.68	51.29
299	SLU 82	-149	12	4527	647.87	-4.7	52.15
299	SLU 83	-148	1	4514	646.65	-4.71	51.81
299	SLU 84	-150	11	4555	651.41	-4.73	52.66
299	SLE RA 1	-101	0	2970	434.76	-3	35.43
299	SLE RA 2	-104	12	3015	440.05	-3.03	36.38
299	SLE RA 3	-103	-1	3001	438.6	-3.04	35.98
299	SLE RA 4	-104	7	3028	441.78	-3.05	36.55
299	SLE RA 5	-105	11	3034	442.42	-3.05	36.72
299	SLE RA 6	-104	-1	3019	440.97	-3.06	36.32
299	SLE RA 7	-105	6	3047	444.14	-3.07	36.89
299	SLE RA 8	-103	-1	3007	439.49	-3.04	36.11
299	SLE RA 9	-105	7	3035	442.67	-3.06	36.68
299	SLE RA 10	-109	12	3255	469.9	-3.33	38.18
299	SLE RA 11	-108	0	3240	468.45	-3.34	37.78
299	SLE RA 12	-109	7	3267	471.63	-3.35	38.35
299	SLE RA 13	-110	12	3274	472.27	-3.35	38.52
299	SLE RA 14	-109	0	3259	470.82	-3.36	38.12
299	SLE RA 15	-110	7	3286	473.99	-3.37	38.69
299	SLE RA 16	-108	0	3247	469.34	-3.34	37.91
299	SLE RA 17	-110	7	3274	472.52	-3.36	38.48
299	SLE RA 18	-108	1	3312	477.4	-3.43	38
299	SLE RA 19	-110	8	3339	480.58	-3.45	38.57
299	SLE RA 20	-109	0	3331	479.77	-3.45	38.34
299	SLE RA 21	-111	8	3358	482.95	-3.47	38.91
299	SLE FR 1	-101	0	2970	434.76	-3	35.43
299	SLE FR 2	-102	2	2979	435.82	-3.01	35.62
299	SLE FR 3	-102	0	2977	435.71	-3.01	35.57
299	SLE FR 4	-104	2	3082	448.61	-3.14	36.39
299	SLE FR 5	-104	0	3080	448.5	-3.14	36.34
299	SLE FR 6	-105	0	3141	456.08	-3.22	36.71
299	SLE QP 1	-101	0	2970	434.76	-3	35.43
299	SLE QP 2	-103	0	3073	447.55	-3.13	36.2
299	SLD 1	220	104	4019	543.05	-2.82	-76.94
299	SLD 2	288	45	3962	537.03	-2.83	-100.64
299	SLD 3	264	-102	3121	436.26	-1.97	-92.63
299	SLD 4	332	-160	3064	430.25	-1.98	-116.33
299	SLD 5	-86	352	4729	639.2	-4.33	30.17
299	SLD 6	-42	315	4692	635.31	-4.33	14.84
299	SLD 7	63	-332	1734	283.25	-1.49	-22.14
299	SLD 8	107	-369	1697	279.36	-1.5	-37.47
299	SLD 9	-313	369	4448	615.75	-4.76	109.87
299	SLD 10	-269	331	4411	611.86	-4.77	94.54
299	SLD 11	-165	-315	1453	259.8	-1.93	57.56
299	SLD 12	-121	-352	1416	255.9	-1.94	42.23
299	SLD 13	-539	160	3081	464.86	-4.28	188.73
299	SLD 14	-471	101	3024	458.85	-4.29	165.03
299	SLD 15	-494	-46	2183	358.08	-3.43	173.04
299	SLD 16	-427	-104	2126	352.06	-3.44	149.34
299	SLV 1	399	175	4608	603.51	-2.7	-139.81
299	SLV 2	506	84	4518	594.03	-2.71	-177.12
299	SLV 3	474	-171	3090	423.08	-1.27	-166.23
299	SLV 4	581	-263	3000	413.61	-1.28	-203.55
299	SLV 5	-86	595	5852	769.75	-5.18	30.44
299	SLV 6	-14	533	5792	763.37	-5.19	5.32
299	SLV 7	164	-560	792	168.34	-0.39	-57.65
299	SLV 8	236	-622	732	161.96	-0.4	-82.77
299	SLV 9	-442	621	5413	733.15	-5.86	155.17
299	SLV 10	-370	560	5353	726.77	-5.87	130.05
299	SLV 11	-193	-534	353	131.74	-1.08	67.08
299	SLV 12	-121	-595	293	125.36	-1.08	41.96
299	SLV 13	-788	263	3145	481.5	-4.98	275.95
299	SLV 14	-681	171	3055	472.02	-4.99	238.63
299	SLV 15	-713	-84	1627	301.08	-3.55	249.52
299	SLV 16	-606	-175	1537	291.6	-3.56	212.21
299	SLV FO 1	450	193	4762	619.1	-2.66	-157.41
299	SLV FO 2	567	92	4663	608.68	-2.67	-198.45
299	SLV FO 3	532	-188	3092	420.64	-1.08	-186.48
299	SLV FO 4	650	-289	2993	410.22	-1.09	-227.52
299	SLV FO 5	-84	655	6130	801.97	-5.38	29.87
299	SLV FO 6	-5	587	6064	794.95	-5.39	2.23
299	SLV FO 7	190	-616	564	140.42	-0.12	-67.03
299	SLV FO 8	270	-684	498	133.4	-0.13	-94.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
299	SLV FO 9	-476	684	5647	761.71	-6.14	167.07
299	SLV FO 10	-397	616	5581	754.69	-6.14	139.43
299	SLV FO 11	-201	-587	81	100.16	-0.87	70.17
299	SLV FO 12	-122	-655	15	93.14	-0.88	42.53
299	SLV FO 13	-856	289	3152	484.89	-5.17	299.92
299	SLV FO 14	-739	188	3053	474.47	-5.18	258.88
299	SLV FO 15	-774	-92	1482	286.43	-3.59	270.85
299	SLV FO 16	-656	-193	1383	276.01	-3.6	229.81
299	CRTFP Ux+	0	0	0	0	0	0
299	CRTFP Ux-	0	0	0	0	0	0
299	CRTFP Uy+	0	0	0	0	0	0
299	CRTFP Uy-	0	0	0	0	0	0
300	SLU 1	-95	0	2969	518.79	-4.01	33.14
300	SLU 2	-99	18	3039	528.72	-4.07	34.57
300	SLU 3	-97	0	3017	526.41	-4.09	33.95
300	SLU 4	-99	10	3059	532.37	-4.12	34.8
300	SLU 5	-100	18	3068	533.41	-4.12	35.06
300	SLU 6	-98	0	3046	531.1	-4.13	34.44
300	SLU 7	-101	10	3088	537.06	-4.17	35.3
300	SLU 8	-98	0	3027	528.17	-4.11	34.13
300	SLU 9	-100	10	3069	534.13	-4.14	34.99
300	SLU 10	-106	19	3415	587.55	-4.68	37.17
300	SLU 11	-104	1	3393	585.24	-4.7	36.55
300	SLU 12	-107	11	3435	591.2	-4.73	37.4
300	SLU 13	-108	19	3444	592.24	-4.73	37.67
300	SLU 14	-106	0	3422	589.93	-4.74	37.04
300	SLU 15	-108	11	3464	595.89	-4.78	37.9
300	SLU 16	-105	1	3404	587	-4.71	36.74
300	SLU 17	-107	11	3446	592.96	-4.75	37.59
300	SLU 18	-105	1	3506	602.83	-4.88	36.86
300	SLU 19	-108	12	3548	608.79	-4.92	37.72
300	SLU 20	-107	1	3535	607.52	-4.93	37.36
300	SLU 21	-109	12	3577	613.48	-4.96	38.21
300	SLU 22	-108	0	3377	582.89	-4.64	37.86
300	SLU 23	-112	18	3447	592.82	-4.7	39.28
300	SLU 24	-110	0	3425	590.51	-4.72	38.66
300	SLU 25	-113	11	3467	596.47	-4.76	39.52
300	SLU 26	-114	18	3477	597.52	-4.75	39.78
300	SLU 27	-112	0	3455	595.2	-4.76	39.16
300	SLU 28	-114	11	3497	601.16	-4.8	40.01
300	SLU 29	-111	0	3436	592.28	-4.74	38.85
300	SLU 30	-113	11	3478	598.23	-4.77	39.7
300	SLU 31	-120	19	3824	651.65	-5.31	41.89
300	SLU 32	-118	1	3802	649.34	-5.33	41.26
300	SLU 33	-120	12	3844	655.3	-5.36	42.12
300	SLU 34	-121	19	3853	656.34	-5.36	42.38
300	SLU 35	-119	1	3831	654.03	-5.37	41.76
300	SLU 36	-122	11	3873	659.99	-5.41	42.62
300	SLU 37	-118	1	3812	651.11	-5.34	41.45
300	SLU 38	-121	12	3854	657.06	-5.38	42.31
300	SLU 39	-119	2	3915	666.93	-5.51	41.57
300	SLU 40	-121	12	3957	672.89	-5.55	42.43
300	SLU 41	-120	1	3944	671.62	-5.56	42.07
300	SLU 42	-123	12	3986	677.58	-5.6	42.93
300	SLU 43	-119	0	3719	652.45	-5	41.47
300	SLU 44	-123	18	3789	662.38	-5.06	42.89
300	SLU 45	-121	0	3767	660.07	-5.08	42.27
300	SLU 46	-123	10	3809	666.03	-5.11	43.13
300	SLU 47	-124	18	3818	667.07	-5.11	43.39
300	SLU 48	-122	-1	3796	664.76	-5.12	42.77
300	SLU 49	-125	10	3838	670.72	-5.16	43.62
300	SLU 50	-121	0	3778	661.83	-5.09	42.46
300	SLU 51	-124	10	3820	667.79	-5.13	43.31
300	SLU 52	-130	19	4165	721.21	-5.67	45.5
300	SLU 53	-128	0	4143	718.9	-5.68	44.87
300	SLU 54	-131	11	4185	724.86	-5.72	45.73
300	SLU 55	-131	18	4195	725.9	-5.72	45.99
300	SLU 56	-130	0	4173	723.59	-5.73	45.37
300	SLU 57	-132	11	4215	729.55	-5.77	46.23
300	SLU 58	-129	0	4154	720.66	-5.7	45.06
300	SLU 59	-131	11	4196	726.62	-5.74	45.92
300	SLU 60	-129	1	4257	736.49	-5.87	45.18
300	SLU 61	-132	12	4299	742.45	-5.91	46.04
300	SLU 62	-131	1	4286	741.18	-5.92	45.68
300	SLU 63	-133	12	4328	747.14	-5.95	46.54
300	SLU 64	-132	0	4128	716.55	-5.63	46.18
300	SLU 65	-136	18	4198	726.48	-5.69	47.61
300	SLU 66	-134	0	4176	724.17	-5.71	46.99
300	SLU 67	-137	11	4218	730.13	-5.74	47.84
300	SLU 68	-137	18	4227	731.17	-5.74	48.1
300	SLU 69	-136	0	4205	728.86	-5.75	47.48
300	SLU 70	-138	10	4247	734.82	-5.79	48.34
300	SLU 71	-135	0	4186	725.93	-5.72	47.17
300	SLU 72	-137	11	4228	731.89	-5.76	48.03
300	SLU 73	-143	19	4574	785.31	-6.3	50.21
300	SLU 74	-142	1	4552	783	-6.32	49.59
300	SLU 75	-144	12	4594	788.96	-6.35	50.45
300	SLU 76	-145	19	4603	790	-6.35	50.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
300	SLU 77	-143	1	4581	787.69	-6.36	50.09
300	SLU 78	-146	11	4623	793.65	-6.4	50.94
300	SLU 79	-142	1	4563	784.76	-6.33	49.78
300	SLU 80	-145	11	4605	790.72	-6.37	50.63
300	SLU 81	-143	1	4665	800.59	-6.5	49.9
300	SLU 82	-145	12	4707	806.55	-6.54	50.76
300	SLU 83	-144	1	4695	805.28	-6.55	50.4
300	SLU 84	-146	12	4737	811.24	-6.58	51.25
300	SLE RA 1	-99	0	3085	537.1	-4.19	34.49
300	SLE RA 2	-101	12	3132	543.72	-4.23	35.44
300	SLE RA 3	-100	0	3117	542.18	-4.24	35.02
300	SLE RA 4	-102	7	3145	546.16	-4.27	35.59
300	SLE RA 5	-102	12	3152	546.85	-4.26	35.77
300	SLE RA 6	-101	0	3137	545.31	-4.27	35.35
300	SLE RA 7	-103	7	3165	549.28	-4.3	35.93
300	SLE RA 8	-100	0	3125	543.36	-4.25	35.15
300	SLE RA 9	-102	7	3153	547.33	-4.28	35.72
300	SLE RA 10	-106	13	3383	582.94	-4.64	37.17
300	SLE RA 11	-105	0	3368	581.4	-4.65	36.76
300	SLE RA 12	-107	8	3396	585.38	-4.67	37.33
300	SLE RA 13	-107	12	3402	586.07	-4.67	37.5
300	SLE RA 14	-106	0	3388	584.53	-4.68	37.09
300	SLE RA 15	-108	8	3416	588.5	-4.7	37.66
300	SLE RA 16	-105	0	3375	582.58	-4.66	36.88
300	SLE RA 17	-107	8	3403	586.55	-4.68	37.46
300	SLE RA 18	-106	1	3444	593.13	-4.77	36.97
300	SLE RA 19	-107	8	3472	597.1	-4.8	37.54
300	SLE RA 20	-107	1	3463	596.26	-4.8	37.3
300	SLE RA 21	-108	8	3491	600.23	-4.83	37.87
300	SLE FR 1	-99	0	3085	537.1	-4.19	34.49
300	SLE FR 2	-99	2	3095	538.43	-4.2	34.68
300	SLE FR 3	-99	0	3093	538.35	-4.21	34.62
300	SLE FR 4	-101	3	3202	555.24	-4.38	35.42
300	SLE FR 5	-101	0	3201	555.16	-4.38	35.36
300	SLE FR 6	-102	0	3265	565.12	-4.48	35.73
300	SLE QP 1	-99	0	3085	537.1	-4.19	34.49
300	SLE QP 2	-101	0	3193	553.91	-4.37	35.23
300	SLD 1	224	105	4137	675.21	-4.47	-78.34
300	SLD 2	292	48	4079	667.67	-4.45	-102.02
300	SLD 3	267	-105	3205	537.95	-3.27	-93.65
300	SLD 4	335	-162	3148	530.41	-3.25	-117.33
300	SLD 5	-81	360	4898	799.79	-6.22	28.49
300	SLD 6	-37	323	4861	794.92	-6.21	13.17
300	SLD 7	63	-340	1794	342.25	-2.22	-22.54
300	SLD 8	107	-376	1757	337.37	-2.21	-37.86
300	SLD 9	-309	377	4629	770.45	-6.53	108.33
300	SLD 10	-265	340	4592	765.58	-6.52	93.01
300	SLD 11	-165	-323	1524	312.91	-2.52	57.29
300	SLD 12	-121	-359	1487	308.03	-2.51	41.97
300	SLD 13	-536	162	3238	577.41	-5.49	187.79
300	SLD 14	-468	106	3180	569.88	-5.47	164.11
300	SLD 15	-493	-48	2306	440.15	-4.29	172.48
300	SLD 16	-425	-104	2249	432.61	-4.27	148.8
300	SLV 1	404	177	4726	752.12	-4.6	-141.47
300	SLV 2	511	88	4636	740.25	-4.57	-178.75
300	SLV 3	477	-178	3152	520.19	-2.57	-167.25
300	SLV 4	584	-267	3062	508.32	-2.54	-204.53
300	SLV 5	-80	608	6056	967.35	-7.52	28.28
300	SLV 6	-8	548	5996	959.36	-7.51	3.18
300	SLV 7	163	-574	811	194.25	-0.75	-57.65
300	SLV 8	235	-634	750	186.26	-0.73	-82.76
300	SLV 9	-436	635	5636	921.57	-8	153.22
300	SLV 10	-365	575	5575	913.58	-7.98	128.12
300	SLV 11	-194	-547	390	148.46	-1.23	67.28
300	SLV 12	-122	-607	329	140.47	-1.21	42.18
300	SLV 13	-785	267	3323	599.5	-6.19	274.99
300	SLV 14	-678	178	3233	587.63	-6.16	237.71
300	SLV 15	-712	-87	1750	367.57	-4.16	249.21
300	SLV 16	-606	-176	1660	355.7	-4.13	211.93
300	SLV FO 1	455	195	4879	771.94	-4.63	-159.13
300	SLV FO 2	572	97	4780	758.89	-4.59	-200.15
300	SLV FO 3	535	-195	3148	516.82	-2.39	-187.49
300	SLV FO 4	652	-293	3049	503.76	-2.36	-228.51
300	SLV FO 5	-77	668	6343	1008.7	-7.84	27.59
300	SLV FO 6	2	602	6276	999.91	-7.82	-0.03
300	SLV FO 7	190	-632	573	158.28	-0.39	-66.94
300	SLV FO 8	269	-698	506	149.49	-0.37	-94.56
300	SLV FO 9	-470	698	5880	958.33	-8.36	165.02
300	SLV FO 10	-391	632	5813	949.54	-8.34	137.4
300	SLV FO 11	-203	-602	110	107.91	-0.92	70.49
300	SLV FO 12	-124	-668	43	99.12	-0.9	42.88
300	SLV FO 13	-854	294	3337	604.06	-6.37	298.97
300	SLV FO 14	-736	196	3237	591.01	-6.34	257.95
300	SLV FO 15	-774	-96	1606	348.93	-4.14	270.61
300	SLV FO 16	-656	-194	1506	335.88	-4.11	229.6
300	CRTFP Ux+	0	0	0	0	0	0
300	CRTFP Ux-	0	0	0	0	0	0
300	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
300	CRTFP Uy-	0	0	0	0	0	0
301	SLU 1	-92	-1	3111	641.16	-4.87	32.17
301	SLU 2	-96	17	3183	653.51	-4.95	33.6
301	SLU 3	-94	-1	3162	651.12	-4.97	32.95
301	SLU 4	-97	9	3205	658.53	-5.01	33.8
301	SLU 5	-98	17	3214	659.65	-5	34.07
301	SLU 6	-96	-2	3193	657.26	-5.02	33.43
301	SLU 7	-98	9	3236	664.67	-5.07	34.28
301	SLU 8	-95	-1	3173	653.44	-4.99	33.13
301	SLU 9	-97	9	3217	660.85	-5.03	33.98
301	SLU 10	-103	18	3581	729.85	-5.67	36.1
301	SLU 11	-102	-1	3560	727.46	-5.69	35.45
301	SLU 12	-104	10	3603	734.87	-5.74	36.31
301	SLU 13	-105	17	3612	735.99	-5.73	36.58
301	SLU 14	-103	-1	3591	733.6	-5.75	35.93
301	SLU 15	-105	10	3634	741.01	-5.79	36.79
301	SLU 16	-102	-1	3571	729.78	-5.72	35.63
301	SLU 17	-104	10	3614	737.19	-5.76	36.49
301	SLU 18	-102	0	3679	750.22	-5.91	35.75
301	SLU 19	-105	11	3723	757.63	-5.96	36.6
301	SLU 20	-104	0	3710	756.36	-5.97	36.23
301	SLU 21	-106	11	3754	763.77	-6.01	37.08
301	SLU 22	-105	-1	3542	724.36	-5.64	36.76
301	SLU 23	-109	17	3614	736.71	-5.71	38.18
301	SLU 24	-107	-1	3593	734.32	-5.73	37.54
301	SLU 25	-110	10	3636	741.73	-5.77	38.39
301	SLU 26	-111	17	3645	742.85	-5.76	38.66
301	SLU 27	-109	-1	3624	740.46	-5.79	38.01
301	SLU 28	-111	10	3667	747.87	-5.83	38.87
301	SLU 29	-108	-1	3604	736.64	-5.75	37.72
301	SLU 30	-110	10	3648	744.05	-5.79	38.57
301	SLU 31	-116	18	4012	813.05	-6.44	40.68
301	SLU 32	-115	0	3991	810.66	-6.46	40.04
301	SLU 33	-117	10	4034	818.07	-6.5	40.89
301	SLU 34	-118	18	4043	819.19	-6.49	41.16
301	SLU 35	-116	-1	4022	816.8	-6.51	40.52
301	SLU 36	-118	10	4065	824.21	-6.56	41.37
301	SLU 37	-115	0	4002	812.98	-6.48	40.22
301	SLU 38	-118	10	4045	820.39	-6.52	41.07
301	SLU 39	-115	0	4110	833.42	-6.68	40.33
301	SLU 40	-118	11	4154	840.83	-6.72	41.19
301	SLU 41	-117	0	4141	839.56	-6.73	40.81
301	SLU 42	-119	11	4185	846.97	-6.78	41.67
301	SLU 43	-115	-2	3897	804.98	-6.07	40.25
301	SLU 44	-119	16	3969	817.33	-6.15	41.67
301	SLU 45	-117	-2	3948	814.94	-6.17	41.03
301	SLU 46	-120	9	3991	822.35	-6.21	41.88
301	SLU 47	-121	16	4000	823.47	-6.2	42.15
301	SLU 48	-119	-2	3979	821.08	-6.22	41.51
301	SLU 49	-121	9	4022	828.49	-6.27	42.36
301	SLU 50	-118	-2	3959	817.26	-6.19	41.21
301	SLU 51	-120	9	4002	824.67	-6.23	42.06
301	SLU 52	-126	17	4367	893.68	-6.87	44.18
301	SLU 53	-125	-1	4345	891.28	-6.89	43.53
301	SLU 54	-127	10	4389	898.69	-6.94	44.39
301	SLU 55	-128	17	4398	899.81	-6.93	44.66
301	SLU 56	-126	-1	4376	897.42	-6.95	44.01
301	SLU 57	-128	10	4420	904.83	-7	44.87
301	SLU 58	-125	-1	4357	893.6	-6.92	43.71
301	SLU 59	-128	10	4400	901.01	-6.96	44.57
301	SLU 60	-125	-1	4465	914.04	-7.11	43.83
301	SLU 61	-128	10	4508	921.45	-7.16	44.68
301	SLU 62	-127	-1	4496	920.18	-7.17	44.31
301	SLU 63	-129	10	4539	927.59	-7.21	45.16
301	SLU 64	-128	-1	4328	888.18	-6.84	44.84
301	SLU 65	-132	17	4400	900.53	-6.91	46.26
301	SLU 66	-131	-2	4379	898.14	-6.93	45.61
301	SLU 67	-133	9	4422	905.55	-6.97	46.47
301	SLU 68	-134	17	4431	906.67	-6.97	46.74
301	SLU 69	-132	-2	4410	904.28	-6.99	46.09
301	SLU 70	-134	9	4453	911.69	-7.03	46.95
301	SLU 71	-131	-2	4390	900.46	-6.95	45.8
301	SLU 72	-134	9	4433	907.87	-6.99	46.65
301	SLU 73	-140	17	4798	976.88	-7.64	48.76
301	SLU 74	-138	-1	4776	974.48	-7.66	48.12
301	SLU 75	-140	10	4820	981.89	-7.7	48.97
301	SLU 76	-141	17	4829	983.02	-7.69	49.24
301	SLU 77	-139	-1	4807	980.62	-7.71	48.6
301	SLU 78	-142	10	4851	988.03	-7.76	49.45
301	SLU 79	-138	-1	4788	976.8	-7.68	48.3
301	SLU 80	-141	10	4831	984.21	-7.72	49.15
301	SLU 81	-139	0	4896	997.24	-7.88	48.41
301	SLU 82	-141	10	4939	1004.65	-7.92	49.27
301	SLU 83	-140	0	4927	1003.38	-7.93	48.89
301	SLU 84	-142	10	4970	1010.79	-7.98	49.75
301	SLE RA 1	-96	-1	3234	664.93	-5.09	33.48
301	SLE RA 2	-99	11	3282	673.16	-5.14	34.43
301	SLE RA 3	-97	-1	3268	671.57	-5.15	34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
301	SLE RA 4	-99	6	3297	676.51	-5.18	34.57
301	SLE RA 5	-99	11	3303	677.26	-5.18	34.75
301	SLE RA 6	-98	-1	3289	675.66	-5.19	34.32
301	SLE RA 7	-100	6	3318	680.6	-5.22	34.89
301	SLE RA 8	-98	-1	3276	673.11	-5.17	34.12
301	SLE RA 9	-99	6	3305	678.06	-5.2	34.69
301	SLE RA 10	-103	11	3548	724.06	-5.62	36.1
301	SLE RA 11	-102	-1	3533	722.46	-5.64	35.67
301	SLE RA 12	-104	6	3562	727.41	-5.67	36.24
301	SLE RA 13	-104	11	3568	728.15	-5.66	36.42
301	SLE RA 14	-103	-1	3554	726.56	-5.68	35.99
301	SLE RA 15	-105	6	3583	731.5	-5.71	36.56
301	SLE RA 16	-102	-1	3541	724.01	-5.65	35.79
301	SLE RA 17	-104	6	3570	728.95	-5.68	36.36
301	SLE RA 18	-103	0	3613	737.64	-5.79	35.87
301	SLE RA 19	-104	7	3642	742.58	-5.81	36.44
301	SLE RA 20	-104	-1	3634	741.73	-5.82	36.19
301	SLE RA 21	-105	7	3663	746.67	-5.85	36.75
301	SLE FR 1	-96	-1	3234	664.93	-5.09	33.48
301	SLE FR 2	-96	1	3244	666.58	-5.1	33.67
301	SLE FR 3	-96	-1	3243	666.57	-5.11	33.61
301	SLE FR 4	-98	1	3358	688.39	-5.31	34.39
301	SLE FR 5	-98	-1	3356	688.38	-5.31	34.32
301	SLE FR 6	-99	-1	3424	701.28	-5.44	34.67
301	SLE QP 1	-96	-1	3234	664.93	-5.09	33.48
301	SLE QP 2	-98	-1	3348	686.74	-5.3	34.2
301	SLD 1	228	105	4300	841.27	-5.68	-79.81
301	SLD 2	296	50	4242	831.86	-5.65	-103.45
301	SLD 3	270	-111	3326	667.21	-4.25	-94.69
301	SLD 4	338	-166	3268	657.81	-4.22	-118.33
301	SLD 5	-75	368	5120	998.72	-7.59	26.66
301	SLD 6	-32	332	5083	992.63	-7.57	11.36
301	SLD 7	64	-352	1875	418.53	-2.82	-22.93
301	SLD 8	108	-388	1837	412.44	-2.8	-38.23
301	SLD 9	-304	386	4859	961.04	-7.8	106.62
301	SLD 10	-260	350	4821	954.95	-7.78	91.32
301	SLD 11	-164	-334	1613	380.85	-3.03	57.03
301	SLD 12	-120	-370	1576	374.76	-3.01	41.73
301	SLD 13	-533	164	3428	715.67	-6.38	186.72
301	SLD 14	-466	109	3370	706.27	-6.35	163.08
301	SLD 15	-491	-52	2454	541.62	-4.95	171.85
301	SLD 16	-424	-107	2396	532.21	-4.92	148.2
301	SLV 1	409	179	4897	939.2	-5.99	-143.21
301	SLV 2	516	92	4805	924.39	-5.94	-180.44
301	SLV 3	480	-186	3251	645.09	-3.57	-168.26
301	SLV 4	586	-273	3160	630.28	-3.52	-205.49
301	SLV 5	-73	623	6325	1211.31	-9.18	25.91
301	SLV 6	-1	564	6263	1201.34	-9.15	0.85
301	SLV 7	163	-593	841	230.94	-1.12	-57.58
301	SLV 8	234	-652	779	220.97	-1.09	-82.65
301	SLV 9	-430	650	5917	1152.51	-9.51	151.04
301	SLV 10	-358	592	5855	1142.54	-9.48	125.97
301	SLV 11	-195	-566	433	172.14	-1.45	67.55
301	SLV 12	-123	-624	371	162.17	-1.42	42.48
301	SLV 13	-782	271	3536	743.2	-7.08	273.88
301	SLV 14	-676	184	3445	728.39	-7.03	236.65
301	SLV 15	-712	-93	1891	449.09	-4.66	248.83
301	SLV 16	-605	-181	1799	434.28	-4.61	211.6
301	SLV FO 1	460	197	5052	964.44	-6.05	-160.95
301	SLV FO 2	577	101	4951	948.16	-6	-201.9
301	SLV FO 3	538	-204	3242	640.92	-3.39	-188.5
301	SLV FO 4	655	-300	3141	624.63	-3.34	-229.45
301	SLV FO 5	-70	685	6623	1263.77	-9.57	25.09
301	SLV FO 6	9	620	6555	1252.8	-9.53	-2.49
301	SLV FO 7	189	-653	590	185.36	-0.7	-66.76
301	SLV FO 8	268	-717	522	174.39	-0.67	-94.33
301	SLV FO 9	-463	715	6174	1199.09	-9.93	162.72
301	SLV FO 10	-384	651	6106	1188.12	-9.89	135.15
301	SLV FO 11	-204	-622	141	120.68	-1.07	70.88
301	SLV FO 12	-126	-687	73	109.71	-1.03	43.31
301	SLV FO 13	-851	299	3555	748.85	-7.26	297.85
301	SLV FO 14	-733	203	3454	732.56	-7.2	256.89
301	SLV FO 15	-773	-103	1745	425.32	-4.6	270.29
301	SLV FO 16	-656	-199	1645	409.04	-4.55	229.34
301	CRTFP Ux+	0	0	0	0	0	0
301	CRTFP Ux-	0	0	0	0	0	0
301	CRTFP Uy+	0	0	0	0	0	0
301	CRTFP Uy-	0	0	0	0	0	0
302	SLU 1	-89	-5	3275	781.86	-5.3	31.14
302	SLU 2	-93	14	3349	796.9	-5.37	32.56
302	SLU 3	-92	-5	3329	794.53	-5.4	31.89
302	SLU 4	-94	6	3373	803.55	-5.44	32.74
302	SLU 5	-95	13	3382	804.72	-5.44	33.02
302	SLU 6	-93	-5	3362	802.35	-5.47	32.35
302	SLU 7	-95	6	3406	811.37	-5.51	33.2
302	SLU 8	-92	-5	3341	797.5	-5.43	32.07
302	SLU 9	-94	6	3385	806.52	-5.47	32.91
302	SLU 10	-100	14	3771	893.38	-6.16	34.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
302	SLU 11	-98	-4	3751	891.01	-6.19	34.29
302	SLU 12	-101	6	3795	900.03	-6.23	35.14
302	SLU 13	-102	14	3804	901.19	-6.22	35.41
302	SLU 14	-100	-5	3784	898.83	-6.25	34.75
302	SLU 15	-102	6	3828	907.85	-6.3	35.6
302	SLU 16	-99	-5	3763	893.97	-6.21	34.46
302	SLU 17	-101	6	3808	903	-6.26	35.31
302	SLU 18	-99	-4	3878	919.69	-6.43	34.56
302	SLU 19	-102	7	3922	928.71	-6.47	35.41
302	SLU 20	-101	-4	3911	927.5	-6.49	35.03
302	SLU 21	-103	7	3955	936.53	-6.53	35.88
302	SLU 22	-102	-5	3731	887.04	-6.13	35.59
302	SLU 23	-106	13	3806	902.08	-6.2	37
302	SLU 24	-104	-5	3785	899.71	-6.23	36.34
302	SLU 25	-107	6	3830	908.74	-6.27	37.19
302	SLU 26	-108	13	3839	909.9	-6.26	37.47
302	SLU 27	-106	-5	3818	907.53	-6.29	36.8
302	SLU 28	-108	6	3863	916.55	-6.34	37.65
302	SLU 29	-105	-5	3797	902.68	-6.25	36.51
302	SLU 30	-107	6	3842	911.7	-6.3	37.36
302	SLU 31	-113	14	4228	998.56	-6.99	39.4
302	SLU 32	-111	-5	4207	996.19	-7.02	38.74
302	SLU 33	-114	6	4252	1005.21	-7.06	39.58
302	SLU 34	-114	14	4261	1006.38	-7.05	39.86
302	SLU 35	-113	-5	4240	1004.01	-7.08	39.2
302	SLU 36	-115	6	4285	1013.03	-7.12	40.05
302	SLU 37	-112	-5	4219	999.15	-7.04	38.91
302	SLU 38	-114	6	4264	1008.18	-7.08	39.76
302	SLU 39	-112	-4	4334	1024.87	-7.25	39.01
302	SLU 40	-114	7	4379	1033.89	-7.3	39.86
302	SLU 41	-113	-4	4367	1032.68	-7.32	39.48
302	SLU 42	-116	6	4412	1041.71	-7.36	40.32
302	SLU 43	-112	-6	4101	980.36	-6.61	38.96
302	SLU 44	-116	12	4175	995.4	-6.68	40.37
302	SLU 45	-114	-6	4155	993.03	-6.71	39.71
302	SLU 46	-116	5	4199	1002.05	-6.75	40.56
302	SLU 47	-117	12	4208	1003.21	-6.74	40.83
302	SLU 48	-115	-6	4188	1000.85	-6.77	40.17
302	SLU 49	-118	5	4232	1009.87	-6.81	41.02
302	SLU 50	-114	-6	4167	995.99	-6.73	39.88
302	SLU 51	-117	5	4211	1005.02	-6.78	40.73
302	SLU 52	-123	13	4597	1091.87	-7.47	42.77
302	SLU 53	-121	-6	4577	1089.5	-7.5	42.1
302	SLU 54	-123	5	4621	1098.53	-7.54	42.95
302	SLU 55	-124	12	4630	1099.69	-7.53	43.23
302	SLU 56	-122	-6	4610	1097.32	-7.56	42.57
302	SLU 57	-125	5	4654	1106.35	-7.6	43.41
302	SLU 58	-121	-6	4589	1092.47	-7.52	42.28
302	SLU 59	-124	5	4633	1101.49	-7.56	43.13
302	SLU 60	-122	-5	4704	1118.18	-7.73	42.38
302	SLU 61	-124	5	4748	1127.2	-7.77	43.23
302	SLU 62	-123	-6	4737	1126	-7.79	42.84
302	SLU 63	-125	5	4781	1135.02	-7.84	43.69
302	SLU 64	-125	-6	4557	1085.54	-7.43	43.41
302	SLU 65	-129	12	4632	1100.58	-7.51	44.82
302	SLU 66	-127	-6	4611	1098.21	-7.54	44.16
302	SLU 67	-129	5	4656	1107.23	-7.58	45
302	SLU 68	-130	12	4665	1108.39	-7.57	45.28
302	SLU 69	-128	-6	4644	1106.03	-7.6	44.62
302	SLU 70	-130	5	4689	1115.05	-7.64	45.47
302	SLU 71	-127	-6	4623	1101.17	-7.56	44.33
302	SLU 72	-130	5	4668	1110.2	-7.6	45.18
302	SLU 73	-136	12	5054	1197.05	-8.29	47.22
302	SLU 74	-134	-6	5033	1194.69	-8.32	46.55
302	SLU 75	-136	5	5078	1203.71	-8.37	47.4
302	SLU 76	-137	12	5087	1204.87	-8.36	47.68
302	SLU 77	-135	-6	5066	1202.5	-8.39	47.01
302	SLU 78	-137	5	5111	1211.53	-8.43	47.86
302	SLU 79	-134	-6	5045	1197.65	-8.35	46.73
302	SLU 80	-137	5	5090	1206.67	-8.39	47.58
302	SLU 81	-134	-6	5160	1223.36	-8.56	46.83
302	SLU 82	-137	5	5205	1232.39	-8.6	47.68
302	SLU 83	-136	-6	5193	1231.18	-8.62	47.29
302	SLU 84	-138	5	5238	1240.2	-8.67	48.14
302	SLE RA 1	-93	-5	3405	811.91	-5.54	32.41
302	SLE RA 2	-96	8	3455	821.94	-5.58	33.35
302	SLE RA 3	-94	-5	3441	820.36	-5.6	32.91
302	SLE RA 4	-96	3	3471	826.38	-5.63	33.48
302	SLE RA 5	-97	7	3477	827.15	-5.63	33.66
302	SLE RA 6	-95	-5	3463	825.57	-5.65	33.22
302	SLE RA 7	-97	2	3493	831.59	-5.68	33.79
302	SLE RA 8	-95	-5	3449	822.34	-5.62	33.03
302	SLE RA 9	-96	2	3479	828.35	-5.65	33.59
302	SLE RA 10	-100	8	3736	886.26	-6.11	34.95
302	SLE RA 11	-99	-5	3723	884.68	-6.13	34.51
302	SLE RA 12	-101	3	3752	890.69	-6.16	35.07
302	SLE RA 13	-101	8	3758	891.47	-6.15	35.26
302	SLE RA 14	-100	-5	3745	889.89	-6.17	34.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
302	SLE RA 15	-102	3	3774	895.91	-6.2	35.38
302	SLE RA 16	-99	-5	3731	886.65	-6.15	34.63
302	SLE RA 17	-101	3	3760	892.67	-6.17	35.19
302	SLE RA 18	-100	-4	3807	903.8	-6.29	34.69
302	SLE RA 19	-101	3	3837	909.81	-6.32	35.26
302	SLE RA 20	-100	-4	3829	909.01	-6.33	35
302	SLE RA 21	-102	3	3859	915.02	-6.36	35.57
302	SLE FR 1	-93	-5	3405	811.91	-5.54	32.41
302	SLE FR 2	-94	-2	3415	813.92	-5.55	32.6
302	SLE FR 3	-93	-5	3414	814	-5.55	32.53
302	SLE FR 4	-96	-2	3536	841.48	-5.77	33.28
302	SLE FR 5	-95	-5	3535	841.56	-5.78	33.22
302	SLE FR 6	-96	-4	3606	857.85	-5.91	33.55
302	SLE QP 1	-93	-5	3405	811.91	-5.54	32.41
302	SLE QP 2	-95	-5	3526	839.48	-5.76	33.1
302	SLD 1	232	104	4492	1031.8	-6.25	-81.36
302	SLD 2	300	49	4433	1020.35	-6.22	-104.95
302	SLD 3	273	-119	3472	817.27	-4.77	-95.75
302	SLD 4	340	-173	3413	805.82	-4.74	-119.34
302	SLD 5	-70	374	5374	1224.53	-8.15	24.68
302	SLD 6	-26	339	5336	1217.12	-8.13	9.41
302	SLD 7	65	-366	1972	509.43	-3.23	-23.29
302	SLD 8	109	-401	1934	502.03	-3.21	-38.55
302	SLD 9	-299	392	5118	1176.93	-8.31	104.74
302	SLD 10	-255	357	5080	1169.53	-8.29	89.48
302	SLD 11	-164	-348	1716	461.83	-3.39	56.78
302	SLD 12	-120	-383	1678	454.43	-3.37	41.52
302	SLD 13	-530	164	3639	873.13	-6.78	185.53
302	SLD 14	-463	110	3580	861.69	-6.75	161.94
302	SLD 15	-490	-58	2619	658.6	-5.3	171.14
302	SLD 16	-422	-113	2560	647.16	-5.27	147.55
302	SLV 1	414	179	5100	1153.55	-6.62	-145.04
302	SLV 2	520	93	5007	1135.53	-6.57	-182.18
302	SLV 3	483	-196	3376	791.04	-4.12	-169.26
302	SLV 4	589	-282	3283	773.01	-4.07	-206.4
302	SLV 5	-66	636	6631	1486.87	-9.82	23.33
302	SLV 6	6	578	6568	1474.74	-9.78	-1.68
302	SLV 7	162	-615	883	278.5	-1.49	-57.41
302	SLV 8	234	-673	820	266.36	-1.46	-82.42
302	SLV 9	-424	664	6232	1412.59	-10.07	148.62
302	SLV 10	-352	606	6169	1400.46	-10.03	123.61
302	SLV 11	-196	-587	483	204.22	-1.74	67.88
302	SLV 12	-124	-645	421	192.08	-1.71	42.87
302	SLV 13	-779	273	3769	905.94	-7.45	272.6
302	SLV 14	-673	187	3676	887.92	-7.4	235.45
302	SLV 15	-711	-102	2045	543.43	-4.95	248.38
302	SLV 16	-604	-188	1952	525.41	-4.91	211.23
302	SLV FO 1	465	197	5258	1184.96	-6.7	-162.85
302	SLV FO 2	582	103	5155	1165.13	-6.65	-203.71
302	SLV FO 3	540	-216	3361	786.19	-3.95	-189.49
302	SLV FO 4	657	-310	3258	766.37	-3.9	-230.35
302	SLV FO 5	-63	700	6942	1551.61	-10.22	22.35
302	SLV FO 6	16	636	6873	1538.27	-10.19	-5.16
302	SLV FO 7	188	-676	618	222.4	-1.06	-66.46
302	SLV FO 8	266	-740	550	209.05	-1.03	-93.98
302	SLV FO 9	-457	731	6502	1469.9	-10.5	160.17
302	SLV FO 10	-378	667	6433	1456.56	-10.46	132.66
302	SLV FO 11	-206	-645	179	140.69	-1.34	71.35
302	SLV FO 12	-127	-709	110	127.34	-1.3	43.84
302	SLV FO 13	-847	301	3794	912.59	-7.62	296.55
302	SLV FO 14	-730	207	3691	892.76	-7.57	255.68
302	SLV FO 15	-772	-112	1897	513.82	-4.87	269.9
302	SLV FO 16	-655	-206	1794	494	-4.82	229.04
302	CRTFP Ux+	0	0	0	0	0	0
302	CRTFP Ux-	0	0	0	0	0	0
302	CRTFP Uy+	0	0	0	0	0	0
302	CRTFP Uy-	0	0	0	0	0	0
303	SLU 1	-87	-11	3442	931.9	-5.06	30.04
303	SLU 2	-91	7	3519	949.65	-5.12	31.43
303	SLU 3	-89	-11	3499	947.47	-5.16	30.76
303	SLU 4	-91	0	3545	958.13	-5.19	31.59
303	SLU 5	-92	7	3554	959.27	-5.18	31.88
303	SLU 6	-90	-11	3534	957.1	-5.22	31.2
303	SLU 7	-92	0	3580	967.75	-5.26	32.04
303	SLU 8	-89	-11	3512	951.14	-5.18	30.92
303	SLU 9	-91	0	3558	961.8	-5.22	31.76
303	SLU 10	-97	7	3966	1067.63	-5.87	33.71
303	SLU 11	-95	-12	3946	1065.45	-5.91	33.04
303	SLU 12	-98	-1	3992	1076.1	-5.95	33.87
303	SLU 13	-98	7	4001	1077.25	-5.93	34.16
303	SLU 14	-96	-12	3981	1075.07	-5.98	33.48
303	SLU 15	-99	-1	4027	1085.72	-6.01	34.32
303	SLU 16	-96	-12	3959	1069.12	-5.94	33.21
303	SLU 17	-98	-1	4005	1079.77	-5.97	34.04
303	SLU 18	-96	-12	4081	1100.43	-6.14	33.29
303	SLU 19	-98	-1	4126	1111.09	-6.17	34.13
303	SLU 20	-97	-12	4116	1110.06	-6.2	33.74
303	SLU 21	-100	-1	4161	1120.71	-6.23	34.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
303	SLU 22	-99	-12	3925	1060.55	-5.85	34.34
303	SLU 23	-103	6	4001	1078.3	-5.91	35.73
303	SLU 24	-101	-12	3982	1076.12	-5.95	35.06
303	SLU 25	-103	-1	4028	1086.78	-5.98	35.89
303	SLU 26	-104	6	4036	1087.92	-5.97	36.18
303	SLU 27	-102	-12	4017	1085.75	-6.01	35.5
303	SLU 28	-105	-1	4063	1096.4	-6.04	36.34
303	SLU 29	-101	-12	3995	1079.79	-5.97	35.23
303	SLU 30	-104	-1	4041	1090.45	-6.01	36.06
303	SLU 31	-110	6	4448	1196.28	-6.66	38.02
303	SLU 32	-108	-13	4429	1194.1	-6.7	37.34
303	SLU 33	-110	-2	4475	1204.75	-6.74	38.18
303	SLU 34	-111	6	4483	1205.9	-6.72	38.46
303	SLU 35	-109	-13	4464	1203.72	-6.76	37.78
303	SLU 36	-111	-2	4510	1214.37	-6.8	38.62
303	SLU 37	-108	-13	4442	1197.77	-6.73	37.51
303	SLU 38	-110	-2	4488	1208.42	-6.76	38.35
303	SLU 39	-108	-13	4563	1229.08	-6.93	37.6
303	SLU 40	-111	-2	4609	1239.74	-6.96	38.43
303	SLU 41	-110	-13	4598	1238.71	-6.99	38.04
303	SLU 42	-112	-2	4644	1249.36	-7.02	38.88
303	SLU 43	-108	-14	4309	1167.36	-6.31	37.57
303	SLU 44	-112	5	4386	1185.11	-6.36	38.97
303	SLU 45	-110	-14	4366	1182.93	-6.41	38.29
303	SLU 46	-113	-3	4412	1193.59	-6.44	39.13
303	SLU 47	-114	4	4421	1194.73	-6.43	39.41
303	SLU 48	-112	-14	4401	1192.56	-6.47	38.74
303	SLU 49	-114	-3	4447	1203.21	-6.5	39.57
303	SLU 50	-111	-14	4379	1186.6	-6.43	38.46
303	SLU 51	-113	-3	4425	1197.26	-6.47	39.3
303	SLU 52	-119	4	4833	1303.09	-7.12	41.25
303	SLU 53	-117	-15	4813	1300.91	-7.16	40.57
303	SLU 54	-119	-4	4859	1311.56	-7.19	41.41
303	SLU 55	-120	4	4868	1312.71	-7.18	41.69
303	SLU 56	-118	-15	4848	1310.53	-7.22	41.02
303	SLU 57	-121	-4	4894	1321.19	-7.26	41.86
303	SLU 58	-117	-15	4826	1304.58	-7.19	40.74
303	SLU 59	-120	-4	4872	1315.23	-7.22	41.58
303	SLU 60	-118	-14	4948	1335.89	-7.39	40.83
303	SLU 61	-120	-4	4994	1346.55	-7.42	41.67
303	SLU 62	-119	-15	4983	1345.52	-7.45	41.27
303	SLU 63	-121	-4	5029	1356.17	-7.48	42.11
303	SLU 64	-121	-15	4792	1296.01	-7.1	41.87
303	SLU 65	-125	3	4868	1313.76	-7.15	43.27
303	SLU 66	-123	-15	4849	1311.58	-7.2	42.59
303	SLU 67	-125	-4	4895	1322.24	-7.23	43.43
303	SLU 68	-126	3	4903	1323.38	-7.22	43.71
303	SLU 69	-124	-15	4884	1321.21	-7.26	43.04
303	SLU 70	-126	-4	4930	1331.86	-7.29	43.87
303	SLU 71	-123	-15	4862	1315.25	-7.22	42.76
303	SLU 72	-126	-4	4908	1325.91	-7.25	43.6
303	SLU 73	-131	3	5315	1431.74	-7.91	45.55
303	SLU 74	-129	-16	5296	1429.56	-7.95	44.87
303	SLU 75	-132	-5	5342	1440.21	-7.98	45.71
303	SLU 76	-132	3	5350	1441.36	-7.97	46
303	SLU 77	-131	-16	5331	1439.18	-8.01	45.32
303	SLU 78	-133	-5	5377	1449.84	-8.05	46.16
303	SLU 79	-130	-16	5309	1433.23	-7.97	45.04
303	SLU 80	-132	-5	5355	1443.88	-8.01	45.88
303	SLU 81	-130	-15	5430	1464.54	-8.17	45.13
303	SLU 82	-132	-5	5476	1475.2	-8.21	45.97
303	SLU 83	-131	-16	5465	1474.17	-8.24	45.58
303	SLU 84	-134	-5	5511	1484.82	-8.27	46.41
303	SLE RA 1	-90	-11	3580	968.65	-5.29	31.26
303	SLE RA 2	-93	1	3631	980.49	-5.32	32.2
303	SLE RA 3	-91	-11	3618	979.04	-5.35	31.74
303	SLE RA 4	-93	-4	3649	986.14	-5.37	32.3
303	SLE RA 5	-94	1	3654	986.91	-5.36	32.49
303	SLE RA 6	-92	-11	3641	985.45	-5.39	32.04
303	SLE RA 7	-94	-4	3672	992.56	-5.42	32.6
303	SLE RA 8	-92	-11	3627	981.49	-5.37	31.86
303	SLE RA 9	-93	-4	3657	988.59	-5.39	32.42
303	SLE RA 10	-97	1	3929	1059.14	-5.83	33.72
303	SLE RA 11	-96	-12	3916	1057.69	-5.85	33.27
303	SLE RA 12	-97	-4	3947	1064.79	-5.88	33.82
303	SLE RA 13	-98	1	3952	1065.56	-5.87	34.01
303	SLE RA 14	-97	-12	3939	1064.1	-5.9	33.56
303	SLE RA 15	-98	-4	3970	1071.21	-5.92	34.12
303	SLE RA 16	-96	-12	3925	1060.14	-5.87	33.38
303	SLE RA 17	-98	-4	3955	1067.24	-5.89	33.94
303	SLE RA 18	-96	-12	4006	1081.01	-6	33.44
303	SLE RA 19	-98	-4	4036	1088.11	-6.03	34
303	SLE RA 20	-97	-12	4029	1087.43	-6.05	33.73
303	SLE RA 21	-99	-4	4060	1094.53	-6.07	34.29
303	SLE FR 1	-90	-11	3580	968.65	-5.29	31.26
303	SLE FR 2	-91	-9	3590	971.02	-5.29	31.45
303	SLE FR 3	-90	-11	3589	971.22	-5.3	31.38
303	SLE FR 4	-92	-9	3718	1004.73	-5.51	32.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
303	SLE FR 5	-92	-11	3717	1004.93	-5.52	32.03
303	SLE FR 6	-93	-11	3793	1024.83	-5.64	32.35
303	SLE QP 1	-90	-11	3580	968.65	-5.29	31.26
303	SLE QP 2	-92	-11	3708	1002.36	-5.5	31.92
303	SLD 1	236	98	4688	1233.33	-5.85	-83
303	SLD 2	304	45	4628	1219.86	-5.84	-106.52
303	SLD 3	276	-129	3623	978.26	-4.59	-96.84
303	SLD 4	343	-181	3563	964.8	-4.58	-120.36
303	SLD 5	-65	375	5627	1460.84	-7.52	22.5
303	SLD 6	-21	341	5589	1452.13	-7.52	7.29
303	SLD 7	66	-381	2077	610.62	-3.31	-23.61
303	SLD 8	110	-416	2039	601.91	-3.31	-38.83
303	SLD 9	-294	393	5377	1402.81	-7.69	102.66
303	SLD 10	-250	359	5338	1394.1	-7.69	87.45
303	SLD 11	-163	-363	1827	552.6	-3.49	56.54
303	SLD 12	-119	-397	1788	543.89	-3.48	41.33
303	SLD 13	-527	159	3852	1039.92	-6.42	184.19
303	SLD 14	-460	106	3792	1026.46	-6.41	160.67
303	SLD 15	-488	-68	2787	784.86	-5.16	170.35
303	SLD 16	-420	-121	2727	771.39	-5.15	146.83
303	SLV 1	419	175	5307	1379.38	-6.13	-146.97
303	SLV 2	525	91	5213	1358.18	-6.12	-184
303	SLV 3	485	-209	3507	948.36	-4	-170.26
303	SLV 4	591	-292	3413	927.16	-3.98	-207.29
303	SLV 5	-58	642	6934	1773.14	-8.93	20.48
303	SLV 6	13	586	6871	1758.87	-8.92	-4.46
303	SLV 7	162	-636	936	336.4	-1.82	-57.14
303	SLV 8	233	-692	872	322.13	-1.8	-82.07
303	SLV 9	-417	670	6543	1682.59	-9.2	145.9
303	SLV 10	-345	614	6480	1668.32	-9.19	120.97
303	SLV 11	-197	-608	544	245.86	-2.08	68.29
303	SLV 12	-125	-664	481	231.58	-2.07	43.36
303	SLV 13	-775	269	4002	1077.56	-7.02	271.12
303	SLV 14	-669	186	3908	1056.36	-7	234.09
303	SLV 15	-709	-114	2203	646.54	-4.89	247.84
303	SLV 16	-603	-197	2108	625.34	-4.87	210.8
303	SLV FO 1	470	193	5467	1417.08	-6.2	-164.86
303	SLV FO 2	587	102	5363	1393.76	-6.18	-205.6
303	SLV FO 3	543	-228	3487	942.96	-3.85	-190.47
303	SLV FO 4	660	-320	3384	919.64	-3.83	-231.21
303	SLV FO 5	-55	707	7257	1850.21	-9.27	19.33
303	SLV FO 6	23	645	7187	1834.52	-9.26	-8.09
303	SLV FO 7	187	-699	659	269.81	-1.45	-66.05
303	SLV FO 8	265	-761	589	254.11	-1.43	-93.47
303	SLV FO 9	-449	738	6826	1750.62	-9.57	157.3
303	SLV FO 10	-371	676	6757	1734.92	-9.56	129.88
303	SLV FO 11	-207	-668	228	170.21	-1.74	71.92
303	SLV FO 12	-129	-729	158	154.51	-1.73	44.5
303	SLV FO 13	-844	298	4032	1085.08	-7.17	295.04
303	SLV FO 14	-727	206	3928	1061.76	-7.15	254.31
303	SLV FO 15	-771	-124	2052	610.96	-4.82	269.43
303	SLV FO 16	-654	-216	1948	587.64	-4.81	228.69
303	CRTFP Ux+	0	0	0	0	0	0
303	CRTFP Ux-	0	0	0	0	0	0
303	CRTFP Uy+	0	0	0	0	0	0
303	CRTFP Uy-	0	0	0	0	0	0
304	SLU 1	-75	-18	3232	970.89	57.26	26.47
304	SLU 2	-79	-2	3302	989.1	58.55	27.4
304	SLU 3	-77	-18	3286	987.49	58.2	27.1
304	SLU 4	-79	-8	3328	998.41	58.98	27.66
304	SLU 5	-80	-2	3335	999.37	59.13	27.79
304	SLU 6	-78	-19	3319	997.76	58.78	27.49
304	SLU 7	-80	-9	3361	1008.68	59.56	28.05
304	SLU 8	-78	-18	3298	991.43	58.42	27.25
304	SLU 9	-80	-9	3340	1002.36	59.19	27.81
304	SLU 10	-85	-3	3724	1114.23	65.97	29.38
304	SLU 11	-83	-20	3708	1112.62	65.62	29.08
304	SLU 12	-85	-10	3750	1123.55	66.4	29.64
304	SLU 13	-86	-3	3758	1124.5	66.55	29.78
304	SLU 14	-84	-20	3741	1122.89	66.2	29.47
304	SLU 15	-86	-10	3784	1133.81	66.98	30.03
304	SLU 16	-83	-20	3721	1116.56	65.84	29.23
304	SLU 17	-85	-10	3763	1127.49	66.61	29.79
304	SLU 18	-84	-20	3835	1149.65	67.86	29.3
304	SLU 19	-86	-10	3877	1160.58	68.63	29.86
304	SLU 20	-85	-20	3868	1159.92	68.44	29.69
304	SLU 21	-87	-10	3910	1170.85	69.21	30.25
304	SLU 22	-86	-20	3687	1107.36	65.28	30.25
304	SLU 23	-90	-4	3757	1125.57	66.57	31.19
304	SLU 24	-88	-20	3741	1123.95	66.23	30.89
304	SLU 25	-90	-11	3783	1134.88	67	31.45
304	SLU 26	-91	-4	3791	1135.84	67.15	31.58
304	SLU 27	-89	-21	3774	1134.22	66.81	31.28
304	SLU 28	-91	-11	3817	1145.15	67.58	31.84
304	SLU 29	-88	-20	3754	1127.9	66.44	31.04
304	SLU 30	-91	-11	3796	1138.82	67.21	31.6
304	SLU 31	-95	-5	4180	1250.7	73.99	33.17
304	SLU 32	-94	-22	4163	1249.09	73.64	32.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
304	SLU 33	-96	-12	4206	1260.01	74.42	33.43
304	SLU 34	-97	-5	4213	1260.97	74.57	33.56
304	SLU 35	-95	-22	4197	1259.35	74.22	33.26
304	SLU 36	-97	-12	4239	1270.28	75	33.82
304	SLU 37	-94	-22	4176	1253.03	73.86	33.02
304	SLU 38	-96	-12	4218	1263.95	74.63	33.58
304	SLU 39	-94	-22	4290	1286.12	75.88	33.09
304	SLU 40	-96	-12	4332	1297.04	76.65	33.65
304	SLU 41	-95	-22	4324	1296.39	76.46	33.48
304	SLU 42	-98	-12	4366	1307.31	77.23	34.04
304	SLU 43	-94	-23	4046	1215.37	71.68	33.11
304	SLU 44	-98	-6	4116	1233.58	72.97	34.04
304	SLU 45	-96	-23	4100	1231.97	72.63	33.74
304	SLU 46	-98	-13	4142	1242.89	73.41	34.3
304	SLU 47	-99	-6	4149	1243.85	73.55	34.43
304	SLU 48	-97	-23	4133	1242.23	73.21	34.13
304	SLU 49	-99	-13	4175	1253.16	73.99	34.69
304	SLU 50	-97	-23	4112	1235.91	72.84	33.89
304	SLU 51	-99	-13	4154	1246.83	73.62	34.45
304	SLU 52	-104	-8	4538	1358.71	80.39	36.02
304	SLU 53	-102	-24	4522	1357.1	80.05	35.72
304	SLU 54	-104	-15	4564	1368.02	80.82	36.28
304	SLU 55	-105	-8	4571	1368.98	80.97	36.42
304	SLU 56	-103	-25	4555	1367.37	80.63	36.11
304	SLU 57	-105	-15	4597	1378.29	81.4	36.67
304	SLU 58	-102	-25	4534	1361.04	80.26	35.87
304	SLU 59	-104	-15	4576	1371.97	81.04	36.43
304	SLU 60	-102	-25	4649	1394.13	82.28	35.94
304	SLU 61	-105	-15	4691	1405.06	83.06	36.5
304	SLU 62	-104	-25	4682	1404.4	82.86	36.33
304	SLU 63	-106	-15	4724	1415.32	83.64	36.89
304	SLU 64	-105	-25	4501	1351.84	79.71	36.89
304	SLU 65	-109	-8	4571	1370.05	81	37.83
304	SLU 66	-107	-25	4555	1368.43	80.65	37.53
304	SLU 67	-109	-15	4597	1379.36	81.43	38.09
304	SLU 68	-110	-8	4604	1380.32	81.58	38.22
304	SLU 69	-108	-25	4588	1378.7	81.23	37.92
304	SLU 70	-110	-15	4630	1389.63	82.01	38.48
304	SLU 71	-107	-25	4567	1372.38	80.87	37.68
304	SLU 72	-109	-15	4609	1383.3	81.64	38.24
304	SLU 73	-114	-10	4993	1495.18	88.42	39.81
304	SLU 74	-113	-26	4977	1493.56	88.07	39.51
304	SLU 75	-115	-17	5019	1504.49	88.85	40.07
304	SLU 76	-115	-10	5026	1505.45	89	40.2
304	SLU 77	-114	-27	5010	1503.83	88.65	39.9
304	SLU 78	-116	-17	5052	1514.76	89.43	40.46
304	SLU 79	-113	-27	4989	1497.51	88.28	39.66
304	SLU 80	-115	-17	5031	1508.43	89.06	40.22
304	SLU 81	-113	-27	5104	1530.6	90.3	39.73
304	SLU 82	-115	-17	5146	1541.52	91.08	40.29
304	SLU 83	-114	-27	5137	1540.87	90.88	40.12
304	SLU 84	-116	-17	5179	1551.79	91.66	40.68
304	SLE RA 1	-78	-18	3362	1009.88	59.55	27.55
304	SLE RA 2	-81	-8	3409	1022.02	60.41	28.17
304	SLE RA 3	-80	-19	3398	1020.95	60.18	27.97
304	SLE RA 4	-81	-12	3426	1028.23	60.7	28.34
304	SLE RA 5	-82	-8	3431	1028.87	60.8	28.43
304	SLE RA 6	-80	-19	3420	1027.79	60.57	28.23
304	SLE RA 7	-82	-12	3448	1035.08	61.08	28.6
304	SLE RA 8	-80	-19	3406	1023.57	60.32	28.07
304	SLE RA 9	-81	-12	3434	1030.86	60.84	28.44
304	SLE RA 10	-85	-9	3690	1105.44	65.36	29.49
304	SLE RA 11	-83	-20	3680	1104.37	65.13	29.29
304	SLE RA 12	-85	-13	3708	1111.65	65.64	29.67
304	SLE RA 13	-85	-9	3712	1112.29	65.74	29.75
304	SLE RA 14	-84	-20	3702	1111.21	65.51	29.55
304	SLE RA 15	-86	-13	3730	1118.5	66.03	29.93
304	SLE RA 16	-84	-20	3688	1106.99	65.27	29.39
304	SLE RA 17	-85	-13	3716	1114.28	65.78	29.77
304	SLE RA 18	-84	-20	3764	1129.05	66.61	29.44
304	SLE RA 19	-85	-13	3792	1136.34	67.13	29.81
304	SLE RA 20	-85	-20	3786	1135.9	67	29.7
304	SLE RA 21	-86	-13	3814	1143.19	67.52	30.07
304	SLE FR 1	-78	-18	3362	1009.88	59.55	27.55
304	SLE FR 2	-79	-16	3371	1012.31	59.72	27.67
304	SLE FR 3	-79	-19	3371	1012.62	59.7	27.65
304	SLE FR 4	-81	-17	3492	1048.06	61.84	28.24
304	SLE FR 5	-80	-19	3492	1048.37	61.82	28.22
304	SLE FR 6	-81	-19	3563	1069.47	63.08	28.49
304	SLE QP 1	-78	-18	3362	1009.88	59.55	27.55
304	SLE QP 2	-80	-19	3483	1045.63	61.67	28.11
304	SLD 1	217	80	4372	1285.28	78.28	-77.89
304	SLD 2	278	34	4318	1271.54	77.26	-98.19
304	SLD 3	251	-126	3383	1023.12	60.4	-86.06
304	SLD 4	312	-172	3329	1009.38	59.38	-106.36
304	SLD 5	-53	332	5259	1517.51	93.95	12.22
304	SLD 6	-14	302	5224	1508.62	93.29	-0.91
304	SLD 7	61	-356	1962	643.67	34.35	-15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
304	SLD 8	100	-386	1927	634.78	33.69	-28.13
304	SLD 9	-260	348	5038	1456.49	89.65	84.36
304	SLD 10	-221	319	5004	1447.6	88.99	71.23
304	SLD 11	-146	-340	1741	582.65	30.05	57.14
304	SLD 12	-107	-370	1706	573.76	29.39	44.01
304	SLD 13	-472	134	3636	1081.89	63.96	162.59
304	SLD 14	-412	88	3583	1068.14	62.94	142.29
304	SLD 15	-438	-72	2647	819.73	46.08	154.42
304	SLD 16	-378	-118	2593	805.99	45.06	134.12
304	SLV 1	383	150	4935	1436.66	88.76	-137.19
304	SLV 2	478	77	4850	1415.02	87.15	-169.16
304	SLV 3	440	-199	3264	993.65	58.54	-150.9
304	SLV 4	536	-272	3179	972.02	56.93	-182.87
304	SLV 5	-46	574	6469	1838.87	115.92	5.29
304	SLV 6	18	526	6412	1824.3	114.84	-16.23
304	SLV 7	145	-589	898	362.19	15.21	-40.42
304	SLV 8	210	-638	841	347.62	14.12	-61.95
304	SLV 9	-370	600	6125	1743.65	109.21	118.18
304	SLV 10	-306	551	6068	1729.08	108.13	96.65
304	SLV 11	-178	-563	553	266.97	8.5	72.46
304	SLV 12	-114	-612	496	252.4	7.42	50.94
304	SLV 13	-696	234	3787	1119.25	66.4	239.1
304	SLV 14	-601	162	3702	1097.62	64.79	207.13
304	SLV 15	-639	-115	2115	676.25	36.19	225.39
304	SLV 16	-543	-187	2030	654.61	34.58	193.42
304	SLV FO 1	429	166	5080	1475.76	91.47	-153.72
304	SLV FO 2	534	87	4987	1451.96	89.7	-188.88
304	SLV FO 3	492	-217	3242	988.45	58.23	-168.81
304	SLV FO 4	597	-297	3148	964.65	56.46	-203.97
304	SLV FO 5	-43	634	6768	1918.19	121.35	3.01
304	SLV FO 6	28	580	6705	1902.17	120.15	-20.67
304	SLV FO 7	168	-646	639	293.84	10.56	-47.28
304	SLV FO 8	239	-699	576	277.82	9.37	-70.95
304	SLV FO 9	-399	662	6389	1813.45	113.97	127.18
304	SLV FO 10	-328	608	6326	1797.43	112.78	103.51
304	SLV FO 11	-188	-618	260	189.1	3.18	76.9
304	SLV FO 12	-118	-672	198	173.08	1.99	53.22
304	SLV FO 13	-758	259	3817	1126.62	66.88	260.2
304	SLV FO 14	-653	180	3724	1102.82	65.11	225.04
304	SLV FO 15	-695	-125	1978	639.31	33.64	245.11
304	SLV FO 16	-590	-204	1885	615.51	31.87	209.95
304	CRTFP Ux+	0	0	0	0	0	0
304	CRTFP Ux-	0	0	0	0	0	0
304	CRTFP Uy+	0	0	0	0	0	0
304	CRTFP Uy-	0	0	0	0	0	0
306	SLU 1	-193	-75	8497	1934.65	6.07	42.2
306	SLU 2	-202	-34	8682	1972.26	7.44	44.06
306	SLU 3	-198	-77	8639	1967.85	6.01	43.21
306	SLU 4	-203	-52	8750	1990.41	6.83	44.32
306	SLU 5	-205	-36	8769	1992.77	7.36	44.68
306	SLU 6	-200	-78	8726	1988.36	5.94	43.84
306	SLU 7	-206	-53	8837	2010.93	6.76	44.95
306	SLU 8	-199	-77	8671	1975.68	5.92	43.45
306	SLU 9	-204	-53	8782	1998.24	6.74	44.56
306	SLU 10	-217	-42	9799	2225.42	7.25	47.1
306	SLU 11	-212	-84	9755	2221.01	5.82	46.26
306	SLU 12	-218	-59	9866	2243.57	6.65	47.37
306	SLU 13	-220	-43	9886	2245.93	7.17	47.72
306	SLU 14	-215	-85	9842	2241.52	5.75	46.88
306	SLU 15	-221	-61	9953	2264.09	6.57	47.99
306	SLU 16	-213	-84	9787	2228.84	5.73	46.49
306	SLU 17	-219	-60	9898	2251.4	6.55	47.61
306	SLU 18	-214	-85	10092	2296.31	5.8	46.55
306	SLU 19	-220	-61	10203	2318.87	6.62	47.66
306	SLU 20	-217	-86	10179	2316.82	5.72	47.18
306	SLU 21	-222	-62	10290	2339.39	6.54	48.29
306	SLU 22	-221	-84	9694	2209.22	6.49	48.27
306	SLU 23	-230	-44	9879	2246.83	7.85	50.13
306	SLU 24	-225	-86	9836	2242.42	6.43	49.28
306	SLU 25	-231	-62	9947	2264.98	7.25	50.39
306	SLU 26	-233	-45	9966	2267.34	7.78	50.75
306	SLU 27	-228	-87	9922	2262.93	6.36	49.91
306	SLU 28	-234	-63	10033	2285.5	7.18	51.02
306	SLU 29	-226	-86	9868	2250.25	6.33	49.52
306	SLU 30	-232	-62	9979	2272.81	7.16	50.63
306	SLU 31	-245	-51	10996	2499.99	7.66	53.17
306	SLU 32	-240	-93	10952	2495.58	6.24	52.33
306	SLU 33	-246	-69	11063	2518.14	7.06	53.44
306	SLU 34	-247	-52	11082	2520.5	7.59	53.79
306	SLU 35	-243	-94	11039	2516.09	6.17	52.95
306	SLU 36	-248	-70	11150	2538.66	6.99	54.06
306	SLU 37	-241	-94	10984	2503.41	6.15	52.57
306	SLU 38	-247	-69	11095	2525.97	6.97	53.68
306	SLU 39	-242	-94	11289	2570.88	6.22	52.62
306	SLU 40	-247	-70	11400	2593.44	7.04	53.73
306	SLU 41	-245	-96	11376	2591.39	6.14	53.25
306	SLU 42	-250	-71	11487	2613.96	6.96	54.36
306	SLU 43	-241	-94	10636	2420.91	7.74	52.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
306	SLU 44	-251	-54	10821	2458.52	9.11	54.64
306	SLU 45	-246	-96	10778	2454.1	7.69	53.79
306	SLU 46	-252	-72	10889	2476.67	8.51	54.9
306	SLU 47	-253	-55	10908	2479.03	9.04	55.26
306	SLU 48	-249	-97	10864	2474.62	7.61	54.42
306	SLU 49	-254	-73	10975	2497.18	8.44	55.53
306	SLU 50	-247	-96	10810	2461.94	7.59	54.03
306	SLU 51	-253	-72	10921	2484.5	8.41	55.14
306	SLU 52	-265	-61	11938	2711.68	8.92	57.68
306	SLU 53	-261	-103	11894	2707.26	7.5	56.84
306	SLU 54	-266	-79	12005	2729.83	8.32	57.95
306	SLU 55	-268	-62	12024	2732.19	8.85	58.3
306	SLU 56	-264	-104	11981	2727.78	7.43	57.46
306	SLU 57	-269	-80	12092	2750.34	8.25	58.57
306	SLU 58	-262	-104	11926	2715.1	7.4	57.08
306	SLU 59	-267	-79	12037	2737.66	8.22	58.19
306	SLU 60	-262	-104	12231	2782.56	7.47	57.13
306	SLU 61	-268	-80	12342	2805.13	8.29	58.24
306	SLU 62	-265	-106	12318	2803.08	7.4	57.76
306	SLU 63	-271	-81	12429	2825.64	8.22	58.87
306	SLU 64	-269	-103	11833	2695.48	8.16	58.85
306	SLU 65	-278	-63	12018	2733.09	9.53	60.71
306	SLU 66	-274	-105	11974	2728.67	8.11	59.86
306	SLU 67	-279	-81	12086	2751.24	8.93	60.97
306	SLU 68	-281	-64	12105	2753.6	9.45	61.33
306	SLU 69	-277	-106	12061	2749.19	8.03	60.49
306	SLU 70	-282	-82	12172	2771.75	8.85	61.6
306	SLU 71	-275	-106	12007	2736.51	8.01	60.1
306	SLU 72	-280	-81	12118	2759.07	8.83	61.21
306	SLU 73	-293	-70	13134	2986.25	9.34	63.75
306	SLU 74	-288	-112	13091	2981.83	7.92	62.91
306	SLU 75	-294	-88	13202	3004.4	8.74	64.02
306	SLU 76	-296	-71	13221	3006.76	9.27	64.37
306	SLU 77	-291	-113	13178	3002.35	7.84	63.53
306	SLU 78	-297	-89	13289	3024.91	8.67	64.64
306	SLU 79	-290	-113	13123	2989.67	7.82	63.15
306	SLU 80	-295	-89	13234	3012.23	8.64	64.26
306	SLU 81	-290	-114	13428	3057.13	7.89	63.2
306	SLU 82	-296	-89	13539	3079.7	8.71	64.31
306	SLU 83	-293	-115	13514	3077.65	7.82	63.83
306	SLU 84	-298	-91	13626	3100.21	8.64	64.94
306	SLE RA 1	-201	-78	8839	2013.1	6.19	43.94
306	SLE RA 2	-207	-51	8963	2038.17	7.1	45.17
306	SLE RA 3	-204	-79	8934	2035.23	6.15	44.61
306	SLE RA 4	-208	-62	9008	2050.27	6.7	45.35
306	SLE RA 5	-209	-51	9021	2051.85	7.05	45.59
306	SLE RA 6	-206	-79	8991	2048.91	6.1	45.03
306	SLE RA 7	-210	-63	9065	2063.95	6.65	45.77
306	SLE RA 8	-205	-79	8955	2040.45	6.09	44.77
306	SLE RA 9	-208	-63	9029	2055.5	6.63	45.51
306	SLE RA 10	-217	-55	9707	2206.94	6.97	47.2
306	SLE RA 11	-214	-83	9678	2204	6.02	46.64
306	SLE RA 12	-217	-67	9752	2219.05	6.57	47.38
306	SLE RA 13	-219	-56	9765	2220.62	6.92	47.62
306	SLE RA 14	-216	-84	9736	2217.68	5.97	47.06
306	SLE RA 15	-219	-68	9810	2232.72	6.52	47.8
306	SLE RA 16	-215	-84	9699	2209.22	5.96	46.8
306	SLE RA 17	-218	-68	9773	2224.27	6.51	47.54
306	SLE RA 18	-215	-84	9902	2254.2	6.01	46.84
306	SLE RA 19	-219	-68	9976	2269.25	6.55	47.58
306	SLE RA 20	-217	-85	9960	2267.88	5.96	47.25
306	SLE RA 21	-221	-69	10034	2282.92	6.5	47.99
306	SLE FR 1	-201	-78	8839	2013.1	6.19	43.94
306	SLE FR 2	-202	-72	8864	2018.11	6.37	44.19
306	SLE FR 3	-202	-78	8862	2018.57	6.17	44.11
306	SLE FR 4	-206	-74	9183	2090.44	6.31	45.06
306	SLE FR 5	-206	-80	9181	2090.9	6.11	44.97
306	SLE FR 6	-208	-81	9371	2133.65	6.1	45.39
306	SLE QP 1	-201	-78	8839	2013.1	6.19	43.94
306	SLE QP 2	-205	-80	9158	2085.43	6.13	44.81
306	SLD 1	546	167	11446	2570.93	29.87	-137.62
306	SLD 2	702	58	11309	2542.71	27.83	-173.13
306	SLD 3	633	-349	8811	2032.29	16.05	-154.52
306	SLD 4	788	-458	8674	2004.07	14	-190.03
306	SLD 5	-137	796	13864	3052.91	34.58	21.87
306	SLD 6	-37	726	13775	3034.65	33.25	-1.1
306	SLD 7	150	-925	5082	1257.46	-11.51	-34.46
306	SLD 8	251	-995	4994	1239.2	-12.83	-57.43
306	SLD 9	-661	836	13323	2931.66	25.09	147.05
306	SLD 10	-560	765	13234	2913.4	23.77	124.08
306	SLD 11	-373	-885	4541	1136.21	-20.99	90.72
306	SLD 12	-273	-955	4453	1117.95	-22.31	67.75
306	SLD 13	-1198	299	9642	2166.79	-1.74	279.65
306	SLD 14	-1043	190	9505	2138.57	-3.78	244.14
306	SLD 15	-1112	-218	7008	1628.15	-15.56	262.75
306	SLD 16	-957	-326	6871	1599.93	-17.61	227.24
306	SLV 1	965	339	12900	2878.12	44.07	-239.48
306	SLV 2	1209	168	12684	2833.68	40.85	-295.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
306	SLV 3	1110	-533	8448	1967.9	20.73	-267.89
306	SLV 4	1354	-704	8232	1923.46	17.51	-323.8
306	SLV 5	-120	1401	17073	3712.04	53.52	13.04
306	SLV 6	45	1286	16927	3682.12	51.35	-24.6
306	SLV 7	364	-1507	2234	677.95	-24.29	-81.65
306	SLV 8	528	-1622	2088	648.04	-26.46	-119.29
306	SLV 9	-939	1463	16228	3522.82	38.72	208.91
306	SLV 10	-774	1347	16083	3492.91	36.55	171.27
306	SLV 11	-455	-1445	1389	488.74	-39.08	114.22
306	SLV 12	-290	-1560	1244	458.82	-41.25	76.58
306	SLV 13	-1765	545	10084	2247.4	-5.25	413.41
306	SLV 14	-1520	374	9868	2202.96	-8.47	357.5
306	SLV 15	-1620	-327	5633	1337.18	-28.59	385.01
306	SLV 16	-1375	-498	5417	1292.74	-31.81	329.1
306	SLV FO 1	1082	381	13274	2957.39	47.87	-267.91
306	SLV FO 2	1351	193	13036	2908.51	44.33	-329.41
306	SLV FO 3	1242	-578	8377	1956.14	22.19	-299.15
306	SLV FO 4	1510	-767	8139	1907.26	18.65	-360.66
306	SLV FO 5	-111	1549	17864	3874.7	58.25	9.86
306	SLV FO 6	70	1422	17704	3841.79	55.87	-31.54
306	SLV FO 7	421	-1649	1541	537.21	-27.33	-94.29
306	SLV FO 8	602	-1776	1381	504.3	-29.71	-135.7
306	SLV FO 9	-1012	1617	16935	3666.56	41.98	225.32
306	SLV FO 10	-831	1490	16775	3633.65	39.59	183.91
306	SLV FO 11	-480	-1581	612	329.07	-43.61	121.16
306	SLV FO 12	-299	-1708	452	296.16	-45.99	79.75
306	SLV FO 13	-1921	607	10177	2263.6	-6.38	450.27
306	SLV FO 14	-1652	419	9939	2214.72	-9.93	388.77
306	SLV FO 15	-1761	-352	5280	1262.35	-32.06	419.03
306	SLV FO 16	-1492	-540	5043	1213.47	-35.6	357.52
306	CRTFP Ux+	0	0	0	0	0	0
306	CRTFP Ux-	0	0	0	0	0	0
306	CRTFP Uy+	0	0	0	-0.01	0	0
306	CRTFP Uy-	0	0	0	0.01	0	0
308	SLU 1	-63	-39	3000	967.64	-56.05	21.05
308	SLU 2	-66	-25	3061	984.72	-57.15	22.37
308	SLU 3	-64	-39	3050	984.51	-57	21.55
308	SLU 4	-66	-31	3087	994.76	-57.66	22.34
308	SLU 5	-67	-25	3092	995.2	-57.73	22.68
308	SLU 6	-65	-40	3081	994.99	-57.58	21.86
308	SLU 7	-67	-32	3118	1005.24	-58.24	22.66
308	SLU 8	-65	-40	3062	988.6	-57.22	21.67
308	SLU 9	-67	-31	3099	998.85	-57.88	22.46
308	SLU 10	-71	-29	3456	1111.12	-64.55	23.87
308	SLU 11	-69	-43	3445	1110.91	-64.4	23.05
308	SLU 12	-71	-35	3482	1121.16	-65.06	23.85
308	SLU 13	-72	-29	3487	1121.6	-65.13	24.18
308	SLU 14	-70	-44	3476	1121.39	-64.98	23.36
308	SLU 15	-72	-36	3513	1131.64	-65.64	24.16
308	SLU 16	-69	-44	3457	1115	-64.62	23.17
308	SLU 17	-71	-35	3494	1125.24	-65.28	23.97
308	SLU 18	-70	-44	3564	1148.21	-66.62	23.19
308	SLU 19	-71	-36	3601	1158.46	-67.28	23.99
308	SLU 20	-70	-45	3595	1158.69	-67.2	23.5
308	SLU 21	-72	-36	3632	1168.94	-67.86	24.3
308	SLU 22	-72	-43	3424	1105.45	-63.97	24.1
308	SLU 23	-75	-30	3485	1122.52	-65.07	25.42
308	SLU 24	-74	-44	3474	1122.32	-64.91	24.6
308	SLU 25	-75	-36	3511	1132.56	-65.57	25.39
308	SLU 26	-76	-30	3516	1133	-65.65	25.73
308	SLU 27	-74	-45	3505	1132.79	-65.5	24.91
308	SLU 28	-76	-37	3542	1143.04	-66.16	25.71
308	SLU 29	-74	-45	3486	1126.4	-65.14	24.72
308	SLU 30	-76	-36	3523	1136.65	-65.8	25.51
308	SLU 31	-80	-34	3880	1248.92	-72.47	26.92
308	SLU 32	-78	-48	3869	1248.71	-72.31	26.1
308	SLU 33	-80	-40	3906	1258.96	-72.97	26.9
308	SLU 34	-81	-34	3911	1259.4	-73.05	27.24
308	SLU 35	-79	-49	3900	1259.19	-72.9	26.42
308	SLU 36	-81	-40	3937	1269.44	-73.56	27.21
308	SLU 37	-79	-49	3881	1252.8	-72.54	26.22
308	SLU 38	-80	-40	3918	1263.05	-73.2	27.02
308	SLU 39	-79	-49	3988	1286.01	-74.54	26.24
308	SLU 40	-80	-41	4025	1296.26	-75.2	27.04
308	SLU 41	-80	-50	4019	1296.49	-75.12	26.56
308	SLU 42	-81	-41	4056	1306.74	-75.78	27.35
308	SLU 43	-79	-48	3754	1210.69	-70.15	26.31
308	SLU 44	-82	-35	3816	1227.77	-71.25	27.64
308	SLU 45	-80	-49	3805	1227.56	-71.1	26.82
308	SLU 46	-82	-41	3842	1237.81	-71.76	27.61
308	SLU 47	-83	-35	3847	1238.24	-71.83	27.95
308	SLU 48	-81	-50	3836	1238.04	-71.68	27.13
308	SLU 49	-83	-42	3873	1248.29	-72.34	27.92
308	SLU 50	-81	-50	3817	1231.65	-71.32	26.94
308	SLU 51	-82	-41	3853	1241.89	-71.98	27.73
308	SLU 52	-86	-39	4211	1354.16	-78.65	29.14
308	SLU 53	-85	-53	4200	1353.96	-78.5	28.32
308	SLU 54	-87	-45	4237	1364.2	-79.16	29.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
308	SLU 55	-87	-39	4242	1364.64	-79.23	29.45
308	SLU 56	-86	-54	4231	1364.44	-79.08	28.63
308	SLU 57	-88	-45	4268	1374.68	-79.74	29.43
308	SLU 58	-85	-54	4212	1358.04	-78.72	28.44
308	SLU 59	-87	-45	4248	1368.29	-79.38	29.23
308	SLU 60	-85	-54	4318	1391.26	-80.72	28.46
308	SLU 61	-87	-46	4355	1401.5	-81.38	29.26
308	SLU 62	-86	-55	4350	1401.74	-81.3	28.77
308	SLU 63	-88	-46	4386	1411.98	-81.96	29.57
308	SLU 64	-88	-53	4178	1348.49	-78.07	29.36
308	SLU 65	-91	-39	4239	1365.57	-79.17	30.69
308	SLU 66	-89	-54	4229	1365.36	-79.01	29.87
308	SLU 67	-91	-46	4266	1375.61	-79.67	30.66
308	SLU 68	-92	-40	4271	1376.05	-79.75	31
308	SLU 69	-90	-55	4260	1375.84	-79.6	30.18
308	SLU 70	-92	-46	4297	1386.09	-80.26	30.97
308	SLU 71	-90	-54	4241	1369.45	-79.24	29.99
308	SLU 72	-92	-46	4277	1379.7	-79.9	30.78
308	SLU 73	-95	-43	4634	1491.97	-86.57	32.19
308	SLU 74	-94	-58	4624	1491.76	-86.41	31.37
308	SLU 75	-96	-50	4660	1502.01	-87.07	32.17
308	SLU 76	-96	-44	4666	1502.45	-87.15	32.5
308	SLU 77	-95	-59	4655	1502.24	-87	31.68
308	SLU 78	-97	-50	4692	1512.49	-87.66	32.48
308	SLU 79	-94	-58	4635	1495.85	-86.64	31.49
308	SLU 80	-96	-50	4672	1506.09	-87.3	32.29
308	SLU 81	-94	-59	4742	1529.06	-88.64	31.51
308	SLU 82	-96	-51	4779	1539.31	-89.3	32.31
308	SLU 83	-95	-60	4774	1539.54	-89.22	31.82
308	SLU 84	-97	-51	4810	1549.78	-89.88	32.62
308	SLE RA 1	-66	-40	3121	1007.02	-58.31	21.92
308	SLE RA 2	-68	-31	3162	1018.4	-59.04	22.8
308	SLE RA 3	-67	-41	3155	1018.26	-58.94	22.25
308	SLE RA 4	-68	-35	3179	1025.09	-59.38	22.78
308	SLE RA 5	-68	-31	3182	1025.39	-59.43	23.01
308	SLE RA 6	-67	-41	3175	1025.25	-59.33	22.46
308	SLE RA 7	-68	-35	3200	1032.08	-59.77	22.99
308	SLE RA 8	-67	-41	3162	1020.99	-59.09	22.33
308	SLE RA 9	-68	-35	3187	1027.82	-59.53	22.86
308	SLE RA 10	-71	-33	3425	1102.66	-63.98	23.8
308	SLE RA 11	-70	-43	3418	1102.53	-63.87	23.26
308	SLE RA 12	-71	-38	3442	1109.36	-64.32	23.79
308	SLE RA 13	-71	-34	3446	1109.65	-64.37	24.01
308	SLE RA 14	-70	-44	3439	1109.51	-64.27	23.46
308	SLE RA 15	-71	-38	3463	1116.34	-64.71	23.99
308	SLE RA 16	-70	-43	3426	1105.25	-64.02	23.33
308	SLE RA 17	-71	-38	3450	1112.08	-64.46	23.86
308	SLE RA 18	-70	-44	3497	1127.39	-65.36	23.35
308	SLE RA 19	-71	-38	3521	1134.22	-65.8	23.88
308	SLE RA 20	-71	-44	3518	1134.38	-65.75	23.56
308	SLE RA 21	-72	-39	3542	1141.21	-66.19	24.09
308	SLE FR 1	-66	-40	3121	1007.02	-58.31	21.92
308	SLE FR 2	-66	-38	3129	1009.29	-58.46	22.09
308	SLE FR 3	-66	-40	3129	1009.81	-58.47	22
308	SLE FR 4	-67	-39	3242	1045.41	-60.57	22.52
308	SLE FR 5	-67	-41	3242	1045.92	-60.58	22.43
308	SLE FR 6	-68	-42	3309	1067.2	-61.83	22.63
308	SLE QP 1	-66	-40	3121	1007.02	-58.31	21.92
308	SLE QP 2	-67	-41	3234	1043.13	-60.42	22.35
308	SLD 1	201	42	3990	1266.21	-73.76	-70.17
308	SLD 2	256	6	3946	1253.15	-73.02	-89.75
308	SLD 3	230	-136	3108	1019.69	-57.72	-83.34
308	SLD 4	284	-172	3064	1006.63	-56.98	-102.93
308	SLD 5	-39	260	4806	1486.21	-88.88	17.98
308	SLD 6	-4	237	4778	1477.76	-88.4	5.31
308	SLD 7	56	-334	1866	664.47	-35.41	-25.95
308	SLD 8	91	-357	1837	656.02	-34.94	-38.62
308	SLD 9	-225	275	4630	1430.24	-85.91	83.31
308	SLD 10	-190	252	4602	1421.79	-85.43	70.64
308	SLD 11	-130	-319	1690	608.49	-32.44	39.39
308	SLD 12	-95	-343	1661	600.04	-31.97	26.72
308	SLD 13	-418	90	3403	1079.63	-63.86	147.62
308	SLD 14	-364	54	3359	1066.57	-63.13	128.04
308	SLD 15	-389	-88	2521	833.11	-47.82	134.44
308	SLD 16	-335	-124	2477	820.05	-47.09	114.86
308	SLV 1	351	100	4471	1407.3	-82.29	-121.52
308	SLV 2	436	43	4403	1386.74	-81.12	-152.35
308	SLV 3	399	-201	2981	990.7	-55.18	-143.71
308	SLV 4	484	-258	2912	970.14	-54.02	-174.54
308	SLV 5	-30	469	5879	1788.07	-108.31	18.6
308	SLV 6	27	431	5832	1774.23	-107.53	-2.16
308	SLV 7	130	-535	910	399.38	-17.95	-55.37
308	SLV 8	187	-574	863	385.54	-17.17	-76.13
308	SLV 9	-321	491	5604	1700.72	-103.68	120.82
308	SLV 10	-264	453	5558	1686.87	-102.89	100.06
308	SLV 11	-161	-513	635	312.03	-13.32	46.86
308	SLV 12	-103	-551	589	298.19	-12.54	26.09
308	SLV 13	-618	176	3555	1116.12	-66.83	219.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
308	SLV 14	-533	119	3487	1095.56	-65.67	188.4
308	SLV 15	-570	-126	2065	699.52	-39.73	197.05
308	SLV 16	-485	-182	1996	678.95	-38.56	166.21
308	SLV FO 1	393	114	4595	1443.72	-84.47	-135.9
308	SLV FO 2	487	52	4519	1421.1	-83.19	-169.82
308	SLV FO 3	446	-217	2955	985.45	-54.65	-160.31
308	SLV FO 4	540	-279	2880	962.84	-53.37	-194.23
308	SLV FO 5	-27	520	6143	1862.57	-113.1	18.22
308	SLV FO 6	36	478	6092	1847.34	-112.24	-4.61
308	SLV FO 7	150	-585	677	335.01	-13.71	-63.14
308	SLV FO 8	213	-627	626	319.78	-12.85	-85.98
308	SLV FO 9	-347	545	5841	1766.48	-108	130.67
308	SLV FO 10	-283	503	5790	1751.25	-107.14	107.83
308	SLV FO 11	-170	-560	375	238.92	-8.61	49.31
308	SLV FO 12	-107	-602	324	223.69	-7.75	26.47
308	SLV FO 13	-673	197	3588	1123.42	-67.47	238.93
308	SLV FO 14	-580	135	3512	1100.8	-66.19	205
308	SLV FO 15	-620	-134	1948	665.15	-37.66	214.52
308	SLV FO 16	-527	-196	1872	642.54	-36.38	180.59
308	CRTFP Ux+	0	0	0	0	0	0
308	CRTFP Ux-	0	0	0	0	0	0
308	CRTFP Uy+	0	0	0	0	0	0
308	CRTFP Uy-	0	0	0	0	0	0
309	SLU 1	-69	-56	3357	1070.36	0.58	23.62
309	SLU 2	-72	-41	3423	1088.54	0.66	24.79
309	SLU 3	-70	-57	3413	1089.04	0.59	24.18
309	SLU 4	-72	-48	3453	1099.94	0.64	24.88
309	SLU 5	-73	-42	3458	1100.15	0.66	25.14
309	SLU 6	-71	-58	3448	1100.65	0.6	24.53
309	SLU 7	-73	-49	3488	1111.56	0.64	25.24
309	SLU 8	-71	-58	3427	1093.59	0.59	24.32
309	SLU 9	-73	-49	3466	1104.5	0.64	25.02
309	SLU 10	-77	-47	3866	1228.29	0.72	26.48
309	SLU 11	-75	-63	3856	1228.79	0.65	25.87
309	SLU 12	-77	-54	3896	1239.7	0.7	26.58
309	SLU 13	-78	-48	3901	1239.91	0.72	26.83
309	SLU 14	-76	-64	3891	1240.41	0.66	26.22
309	SLU 15	-78	-55	3931	1251.31	0.7	26.93
309	SLU 16	-76	-64	3869	1233.35	0.65	26.01
309	SLU 17	-78	-55	3909	1244.25	0.7	26.71
309	SLU 18	-76	-65	3989	1270.01	0.67	26.03
309	SLU 19	-78	-56	4029	1280.92	0.72	26.74
309	SLU 20	-77	-65	4024	1281.63	0.67	26.38
309	SLU 21	-79	-56	4064	1292.53	0.72	27.09
309	SLU 22	-78	-63	3830	1222.6	0.69	27.04
309	SLU 23	-82	-48	3897	1240.78	0.76	28.21
309	SLU 24	-80	-64	3887	1241.28	0.7	27.61
309	SLU 25	-82	-55	3927	1252.18	0.74	28.31
309	SLU 26	-83	-49	3932	1252.39	0.77	28.57
309	SLU 27	-81	-65	3922	1252.89	0.7	27.96
309	SLU 28	-83	-56	3962	1263.8	0.75	28.66
309	SLU 29	-80	-65	3900	1245.83	0.7	27.74
309	SLU 30	-83	-56	3940	1256.74	0.74	28.45
309	SLU 31	-87	-54	4340	1380.53	0.83	29.91
309	SLU 32	-85	-70	4330	1381.03	0.76	29.3
309	SLU 33	-87	-61	4370	1391.94	0.8	30
309	SLU 34	-88	-55	4375	1392.15	0.83	30.26
309	SLU 35	-86	-71	4365	1392.65	0.76	29.65
309	SLU 36	-88	-62	4405	1403.55	0.81	30.35
309	SLU 37	-85	-71	4343	1385.59	0.76	29.44
309	SLU 38	-87	-62	4383	1396.49	0.8	30.14
309	SLU 39	-86	-72	4463	1422.25	0.78	29.46
309	SLU 40	-88	-63	4503	1433.16	0.82	30.16
309	SLU 41	-87	-73	4498	1433.87	0.78	29.81
309	SLU 42	-89	-64	4538	1444.77	0.82	30.51
309	SLU 43	-86	-71	4201	1339.27	0.72	29.53
309	SLU 44	-89	-56	4268	1357.45	0.8	30.7
309	SLU 45	-87	-72	4258	1357.95	0.73	30.09
309	SLU 46	-89	-63	4298	1368.85	0.78	30.8
309	SLU 47	-90	-56	4303	1369.07	0.8	31.05
309	SLU 48	-88	-73	4293	1369.56	0.73	30.44
309	SLU 49	-90	-64	4333	1380.47	0.78	31.15
309	SLU 50	-88	-72	4271	1362.51	0.73	30.23
309	SLU 51	-90	-63	4311	1373.41	0.77	30.93
309	SLU 52	-94	-61	4710	1497.2	0.86	32.39
309	SLU 53	-92	-78	4700	1497.7	0.79	31.78
309	SLU 54	-94	-69	4740	1508.61	0.84	32.49
309	SLU 55	-95	-62	4745	1508.82	0.86	32.74
309	SLU 56	-93	-79	4735	1509.32	0.8	32.13
309	SLU 57	-95	-69	4775	1520.22	0.84	32.84
309	SLU 58	-93	-78	4714	1502.26	0.79	31.92
309	SLU 59	-95	-69	4754	1513.17	0.84	32.62
309	SLU 60	-93	-79	4833	1538.92	0.81	31.94
309	SLU 61	-95	-70	4873	1549.83	0.85	32.65
309	SLU 62	-94	-80	4868	1550.54	0.81	32.29
309	SLU 63	-96	-71	4908	1561.44	0.86	33
309	SLU 64	-96	-78	4675	1491.51	0.83	32.95
309	SLU 65	-99	-63	4741	1509.69	0.9	34.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
309	SLU 66	-97	-79	4732	1510.19	0.84	33.52
309	SLU 67	-99	-70	4771	1521.09	0.88	34.22
309	SLU 68	-100	-63	4776	1521.31	0.91	34.48
309	SLU 69	-98	-80	4767	1521.8	0.84	33.87
309	SLU 70	-100	-71	4807	1532.71	0.89	34.57
309	SLU 71	-98	-79	4745	1514.75	0.83	33.66
309	SLU 72	-100	-70	4785	1525.65	0.88	34.36
309	SLU 73	-104	-69	5184	1649.44	0.96	35.82
309	SLU 74	-102	-85	5174	1649.94	0.9	35.21
309	SLU 75	-104	-76	5214	1660.85	0.94	35.91
309	SLU 76	-105	-69	5219	1661.06	0.97	36.17
309	SLU 77	-103	-86	5209	1661.56	0.9	35.56
309	SLU 78	-105	-77	5249	1672.46	0.95	36.26
309	SLU 79	-103	-85	5188	1654.5	0.9	35.35
309	SLU 80	-105	-76	5227	1665.41	0.94	36.05
309	SLU 81	-103	-86	5307	1691.16	0.91	35.37
309	SLU 82	-105	-77	5347	1702.07	0.96	36.07
309	SLU 83	-104	-87	5342	1702.78	0.92	35.72
309	SLU 84	-106	-78	5382	1713.68	0.96	36.42
309	SLE RA 1	-71	-58	3492	1113.86	0.61	24.6
309	SLE RA 2	-74	-48	3536	1125.98	0.66	25.38
309	SLE RA 3	-72	-59	3530	1126.31	0.62	24.97
309	SLE RA 4	-74	-53	3556	1133.58	0.65	25.44
309	SLE RA 5	-74	-49	3560	1133.72	0.67	25.61
309	SLE RA 6	-73	-60	3553	1134.05	0.62	25.21
309	SLE RA 7	-74	-54	3580	1141.32	0.65	25.67
309	SLE RA 8	-73	-59	3539	1129.35	0.62	25.06
309	SLE RA 9	-74	-53	3565	1136.62	0.65	25.53
309	SLE RA 10	-77	-52	3831	1219.15	0.7	26.5
309	SLE RA 11	-76	-63	3825	1219.48	0.66	26.1
309	SLE RA 12	-77	-57	3851	1226.75	0.69	26.57
309	SLE RA 13	-78	-53	3855	1226.89	0.71	26.74
309	SLE RA 14	-76	-63	3848	1227.22	0.66	26.33
309	SLE RA 15	-78	-57	3875	1234.49	0.69	26.8
309	SLE RA 16	-76	-63	3834	1222.52	0.66	26.19
309	SLE RA 17	-77	-57	3860	1229.79	0.69	26.66
309	SLE RA 18	-76	-64	3914	1246.96	0.67	26.21
309	SLE RA 19	-77	-58	3940	1254.23	0.7	26.67
309	SLE RA 20	-77	-64	3937	1254.7	0.67	26.44
309	SLE RA 21	-78	-58	3963	1261.97	0.7	26.91
309	SLE FR 1	-71	-58	3492	1113.86	0.61	24.6
309	SLE FR 2	-72	-56	3501	1116.28	0.62	24.75
309	SLE FR 3	-72	-58	3501	1116.96	0.61	24.69
309	SLE FR 4	-73	-58	3627	1156.21	0.64	25.24
309	SLE FR 5	-73	-60	3628	1156.89	0.63	25.17
309	SLE FR 6	-74	-61	3703	1180.41	0.64	25.4
309	SLE QP 1	-71	-58	3492	1113.86	0.61	24.6
309	SLE QP 2	-73	-60	3618	1153.79	0.63	25.08
309	SLD 1	230	25	4426	1387.44	1.97	-81.01
309	SLD 2	290	-14	4381	1373.6	1.84	-102.24
309	SLD 3	261	-169	3460	1123.52	1.15	-91.7
309	SLD 4	321	-208	3415	1109.68	1.02	-112.93
309	SLD 5	-40	267	5333	1626.56	2.3	13.16
309	SLD 6	0	242	5304	1617.61	2.21	-0.58
309	SLD 7	64	-380	2114	746.83	-0.43	-22.49
309	SLD 8	103	-405	2085	737.88	-0.52	-36.23
309	SLD 9	-249	285	5152	1569.7	1.78	86.39
309	SLD 10	-209	260	5123	1560.75	1.69	72.65
309	SLD 11	-145	-361	1933	689.97	-0.95	50.74
309	SLD 12	-106	-386	1904	681.02	-1.04	37
309	SLD 13	-467	88	3822	1197.9	0.24	163.09
309	SLD 14	-406	49	3777	1184.06	0.11	141.86
309	SLD 15	-436	-106	2856	933.98	-0.57	152.4
309	SLD 16	-375	-145	2811	920.14	-0.71	131.17
309	SLV 1	398	85	4942	1535.6	2.77	-140.17
309	SLV 2	494	25	4871	1513.81	2.56	-173.6
309	SLV 3	450	-243	3310	1089.59	1.39	-158.16
309	SLV 4	546	-303	3239	1067.8	1.18	-191.59
309	SLV 5	-29	492	6504	1948.85	3.41	9.02
309	SLV 6	36	451	6456	1934.18	3.27	-13.49
309	SLV 7	145	-601	1064	462.15	-1.2	-50.93
309	SLV 8	210	-642	1016	447.48	-1.34	-73.43
309	SLV 9	-355	522	6221	1860.1	2.6	123.59
309	SLV 10	-291	481	6173	1845.43	2.46	101.08
309	SLV 11	-181	-571	781	373.4	-2.01	63.65
309	SLV 12	-117	-612	733	358.73	-2.15	41.14
309	SLV 13	-692	184	3998	1239.78	0.08	241.74
309	SLV 14	-596	123	3927	1217.99	-0.13	208.32
309	SLV 15	-639	-144	2366	793.77	-1.3	223.76
309	SLV 16	-544	-205	2295	771.98	-1.51	190.33
309	SLV FO 1	445	100	5074	1573.78	2.99	-156.7
309	SLV FO 2	550	33	4996	1549.81	2.76	-193.47
309	SLV FO 3	503	-261	3279	1083.17	1.47	-176.48
309	SLV FO 4	608	-328	3201	1059.2	1.24	-213.25
309	SLV FO 5	-24	548	6792	2028.36	3.69	7.41
309	SLV FO 6	47	503	6740	2012.22	3.53	-17.35
309	SLV FO 7	167	-655	808	392.98	-1.38	-58.53
309	SLV FO 8	238	-700	756	376.84	-1.54	-83.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
309	SLV FO 9	-384	580	6481	1930.74	2.8	133.44
309	SLV FO 10	-313	535	6428	1914.6	2.64	108.69
309	SLV FO 11	-192	-622	497	295.36	-2.27	67.51
309	SLV FO 12	-121	-667	445	279.22	-2.43	42.75
309	SLV FO 13	-753	208	4036	1248.38	0.03	263.41
309	SLV FO 14	-648	141	3958	1224.41	-0.2	226.64
309	SLV FO 15	-696	-153	2241	757.77	-1.49	243.63
309	SLV FO 16	-591	-220	2163	733.8	-1.72	206.86
309	CRTFP Ux+	0	0	0	0	0	0
309	CRTFP Ux-	0	0	0	0	0	0
309	CRTFP Uy+	0	0	0	0	0	0
309	CRTFP Uy-	0	0	0	0	0	0
310	SLU 1	-56	-56	2789	884.78	78.6	21.07
310	SLU 2	-59	-43	2842	899.17	80.14	21.69
310	SLU 3	-57	-57	2836	900.23	79.93	21.57
310	SLU 4	-59	-50	2868	908.86	80.85	21.94
310	SLU 5	-60	-44	2872	908.79	80.96	22.01
310	SLU 6	-58	-58	2865	909.84	80.75	21.88
310	SLU 7	-60	-50	2897	918.48	81.67	22.25
310	SLU 8	-58	-57	2847	904.02	80.24	21.69
310	SLU 9	-59	-50	2879	912.65	81.17	22.07
310	SLU 10	-63	-49	3211	1014.7	90.51	23.26
310	SLU 11	-62	-63	3204	1015.76	90.3	23.13
310	SLU 12	-63	-56	3236	1024.39	91.22	23.51
310	SLU 13	-64	-50	3240	1024.32	91.33	23.57
310	SLU 14	-62	-64	3233	1025.38	91.12	23.45
310	SLU 15	-64	-56	3265	1034.01	92.04	23.82
310	SLU 16	-62	-63	3215	1019.55	90.61	23.26
310	SLU 17	-64	-56	3247	1028.18	91.54	23.63
310	SLU 18	-62	-64	3315	1049.83	93.41	23.3
310	SLU 19	-64	-57	3347	1058.46	94.34	23.68
310	SLU 20	-63	-65	3344	1059.44	94.23	23.62
310	SLU 21	-64	-58	3376	1068.08	95.16	23.99
310	SLU 22	-64	-63	3182	1010.45	89.69	24.1
310	SLU 23	-67	-50	3235	1024.84	91.24	24.72
310	SLU 24	-66	-64	3229	1025.9	91.02	24.6
310	SLU 25	-67	-57	3261	1034.53	91.95	24.97
310	SLU 26	-68	-51	3265	1034.46	92.06	25.04
310	SLU 27	-66	-65	3258	1035.52	91.84	24.91
310	SLU 28	-68	-57	3290	1044.15	92.77	25.29
310	SLU 29	-66	-64	3240	1029.69	91.34	24.73
310	SLU 30	-68	-57	3272	1038.32	92.26	25.1
310	SLU 31	-71	-56	3603	1140.37	101.61	26.29
310	SLU 32	-70	-70	3597	1141.43	101.39	26.16
310	SLU 33	-71	-63	3629	1150.06	102.32	26.54
310	SLU 34	-72	-57	3633	1149.99	102.43	26.6
310	SLU 35	-71	-71	3626	1151.05	102.21	26.48
310	SLU 36	-72	-63	3658	1159.68	103.14	26.85
310	SLU 37	-70	-70	3608	1145.22	101.71	26.29
310	SLU 38	-72	-63	3640	1153.85	102.63	26.67
310	SLU 39	-70	-71	3708	1175.5	104.51	26.34
310	SLU 40	-72	-64	3740	1184.13	105.43	26.71
310	SLU 41	-71	-72	3737	1185.11	105.33	26.65
310	SLU 42	-73	-65	3769	1193.75	106.26	27.02
310	SLU 43	-70	-70	3491	1107.13	98.38	26.35
310	SLU 44	-73	-58	3544	1121.52	99.92	26.97
310	SLU 45	-72	-71	3538	1122.57	99.7	26.85
310	SLU 46	-73	-64	3570	1131.21	100.63	27.22
310	SLU 47	-74	-59	3574	1131.14	100.74	27.29
310	SLU 48	-72	-72	3567	1132.19	100.52	27.16
310	SLU 49	-74	-65	3599	1140.83	101.45	27.54
310	SLU 50	-72	-72	3549	1126.36	100.02	26.97
310	SLU 51	-74	-64	3581	1135	100.94	27.35
310	SLU 52	-77	-64	3913	1237.05	110.29	28.54
310	SLU 53	-76	-77	3906	1238.11	110.07	28.41
310	SLU 54	-77	-70	3938	1246.74	111	28.79
310	SLU 55	-78	-65	3942	1246.67	111.11	28.85
310	SLU 56	-76	-78	3935	1247.72	110.89	28.73
310	SLU 57	-78	-71	3967	1256.36	111.82	29.1
310	SLU 58	-76	-78	3917	1241.9	110.39	28.54
310	SLU 59	-78	-70	3949	1250.53	111.31	28.92
310	SLU 60	-76	-79	4017	1272.17	113.19	28.59
310	SLU 61	-78	-71	4049	1280.81	114.12	28.96
310	SLU 62	-77	-80	4046	1281.79	114.01	28.9
310	SLU 63	-78	-72	4078	1290.43	114.94	29.27
310	SLU 64	-78	-77	3884	1232.8	109.47	29.38
310	SLU 65	-81	-65	3937	1247.19	111.01	30
310	SLU 66	-80	-78	3931	1248.24	110.8	29.88
310	SLU 67	-81	-71	3963	1256.88	111.72	30.25
310	SLU 68	-82	-66	3966	1256.81	111.83	30.32
310	SLU 69	-81	-79	3960	1257.86	111.62	30.19
310	SLU 70	-82	-72	3992	1266.5	112.54	30.57
310	SLU 71	-80	-79	3942	1252.04	111.11	30.01
310	SLU 72	-82	-71	3974	1260.67	112.04	30.38
310	SLU 73	-85	-71	4305	1362.72	121.38	31.57
310	SLU 74	-84	-84	4299	1363.78	121.17	31.45
310	SLU 75	-85	-77	4331	1372.41	122.09	31.82
310	SLU 76	-86	-72	4335	1372.34	122.2	31.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
310	SLU 77	-85	-85	4328	1373.39	121.99	31.76
310	SLU 78	-86	-78	4360	1382.03	122.91	32.13
310	SLU 79	-84	-85	4310	1367.57	121.48	31.57
310	SLU 80	-86	-77	4342	1376.2	122.41	31.95
310	SLU 81	-84	-86	4410	1397.84	124.28	31.62
310	SLU 82	-86	-78	4442	1406.48	125.21	31.99
310	SLU 83	-85	-87	4439	1407.46	125.11	31.93
310	SLU 84	-87	-79	4471	1416.1	126.03	32.3
310	SLE RA 1	-58	-58	2901	920.69	81.77	21.93
310	SLE RA 2	-60	-50	2937	930.28	82.8	22.35
310	SLE RA 3	-59	-59	2933	930.98	82.65	22.27
310	SLE RA 4	-60	-54	2954	936.74	83.27	22.52
310	SLE RA 5	-61	-50	2956	936.69	83.35	22.56
310	SLE RA 6	-60	-59	2952	937.4	83.2	22.48
310	SLE RA 7	-61	-54	2973	943.15	83.82	22.73
310	SLE RA 8	-60	-59	2940	933.51	82.86	22.35
310	SLE RA 9	-61	-54	2961	939.27	83.48	22.6
310	SLE RA 10	-63	-54	3182	1007.3	89.71	23.39
310	SLE RA 11	-62	-63	3178	1008	89.57	23.31
310	SLE RA 12	-63	-58	3199	1013.76	90.19	23.56
310	SLE RA 13	-64	-54	3202	1013.71	90.26	23.6
310	SLE RA 14	-63	-63	3197	1014.42	90.12	23.52
310	SLE RA 15	-64	-58	3219	1020.17	90.73	23.77
310	SLE RA 16	-62	-63	3185	1010.53	89.78	23.4
310	SLE RA 17	-63	-58	3207	1016.29	90.39	23.64
310	SLE RA 18	-62	-64	3252	1030.72	91.65	23.43
310	SLE RA 19	-63	-59	3273	1036.47	92.26	23.67
310	SLE RA 20	-63	-64	3271	1037.13	92.19	23.63
310	SLE RA 21	-64	-59	3293	1042.88	92.81	23.88
310	SLE FR 1	-58	-58	2901	920.69	81.77	21.93
310	SLE FR 2	-59	-56	2908	922.61	81.98	22.02
310	SLE FR 3	-59	-58	2909	923.25	81.99	22.02
310	SLE FR 4	-60	-58	3013	955.61	84.94	22.46
310	SLE FR 5	-60	-60	3014	956.26	84.95	22.46
310	SLE FR 6	-60	-61	3076	975.7	86.71	22.68
310	SLE QP 1	-58	-58	2901	920.69	81.77	21.93
310	SLE QP 2	-60	-60	3006	953.7	84.73	22.38
310	SLD 1	195	5	3645	1134.66	103.43	-68.59
310	SLD 2	246	-26	3611	1123.9	102.4	-85.54
310	SLD 3	220	-154	2859	924.25	80.95	-73.05
310	SLD 4	271	-185	2825	913.48	79.92	-90
310	SLD 5	-30	206	4395	1328.99	124.62	4.8
310	SLD 6	3	186	4373	1322.02	123.95	-6.16
310	SLD 7	54	-323	1777	627.6	49.68	-10.08
310	SLD 8	87	-343	1755	620.63	49.01	-21.05
310	SLD 9	-206	224	4258	1286.76	120.45	65.81
310	SLD 10	-173	204	4236	1279.79	119.79	54.84
310	SLD 11	-122	-305	1639	585.37	45.52	50.93
310	SLD 12	-89	-325	1617	578.41	44.85	39.96
310	SLD 13	-390	66	3187	993.91	89.55	134.76
310	SLD 14	-339	35	3153	983.15	88.52	117.81
310	SLD 15	-365	-93	2402	783.5	67.07	130.3
310	SLD 16	-314	-124	2368	772.73	66.04	113.35
310	SLV 1	337	52	4054	1249.82	115.37	-119.63
310	SLV 2	417	2	4001	1232.87	113.75	-146.32
310	SLV 3	379	-217	2727	894.22	77.38	-127.1
310	SLV 4	460	-266	2673	877.26	75.76	-153.78
310	SLV 5	-20	390	5344	1585.03	151.85	-3.92
310	SLV 6	34	357	5308	1573.62	150.75	-21.88
310	SLV 7	121	-504	919	399.68	25.21	-28.81
310	SLV 8	175	-537	883	388.27	24.12	-46.77
310	SLV 9	-295	418	5130	1519.12	145.35	91.54
310	SLV 10	-241	385	5094	1507.71	144.26	73.57
310	SLV 11	-153	-476	705	333.78	18.71	66.65
310	SLV 12	-99	-509	669	322.36	17.62	48.68
310	SLV 13	-579	147	3339	1030.13	93.71	198.55
310	SLV 14	-499	98	3286	1013.17	92.08	171.86
310	SLV 15	-536	-121	2012	674.52	55.72	191.08
310	SLV 16	-456	-171	1958	657.57	54.09	164.39
310	SLV FO 1	376	63	4159	1279.43	118.44	-133.83
310	SLV FO 2	465	9	4100	1260.79	116.65	-163.19
310	SLV FO 3	423	-232	2699	888.27	76.64	-142.04
310	SLV FO 4	511	-286	2640	869.62	74.86	-171.4
310	SLV FO 5	-16	435	5578	1648.16	158.56	-6.55
310	SLV FO 6	43	398	5538	1635.61	157.36	-26.31
310	SLV FO 7	139	-549	710	344.28	19.26	-33.93
310	SLV FO 8	199	-585	671	331.73	18.06	-53.69
310	SLV FO 9	-318	466	5342	1575.66	151.41	98.45
310	SLV FO 10	-259	430	5302	1563.11	150.21	78.69
310	SLV FO 11	-163	-517	474	271.78	12.11	71.07
310	SLV FO 12	-103	-554	435	259.23	10.91	51.31
310	SLV FO 13	-631	167	3373	1037.77	94.61	216.16
310	SLV FO 14	-542	113	3314	1019.12	92.82	186.81
310	SLV FO 15	-584	-128	1913	646.61	52.81	207.95
310	SLV FO 16	-496	-182	1854	627.96	51.03	178.59
310	CRTFP Ux+	0	0	0	0	0	0
310	CRTFP Ux-	0	0	0	0	0	0
310	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
310	CRTFP Uy-	0	0	0	0	0	0
311	SLU 1	-82	-89	4101	1270.02	83.38	29.46
311	SLU 2	-87	-71	4178	1289.65	85.02	30.48
311	SLU 3	-84	-91	4170	1292.24	84.79	30.16
311	SLU 4	-87	-80	4216	1304.02	85.78	30.77
311	SLU 5	-88	-72	4220	1303.5	85.89	30.91
311	SLU 6	-86	-92	4213	1306.08	85.66	30.6
311	SLU 7	-88	-81	4259	1317.86	86.65	31.21
311	SLU 8	-85	-91	4187	1297.71	85.13	30.34
311	SLU 9	-87	-80	4233	1309.49	86.11	30.95
311	SLU 10	-92	-80	4719	1456.01	96.03	32.65
311	SLU 11	-90	-101	4712	1458.6	95.8	32.33
311	SLU 12	-93	-90	4758	1470.38	96.78	32.94
311	SLU 13	-94	-82	4762	1469.86	96.9	33.09
311	SLU 14	-92	-102	4754	1472.45	96.67	32.77
311	SLU 15	-94	-91	4801	1484.23	97.66	33.38
311	SLU 16	-91	-101	4728	1464.07	96.13	32.51
311	SLU 17	-93	-90	4774	1475.85	97.12	33.12
311	SLU 18	-91	-103	4874	1507.68	99.11	32.57
311	SLU 19	-93	-92	4921	1519.46	100.09	33.18
311	SLU 20	-92	-104	4917	1521.52	99.98	33.01
311	SLU 21	-95	-93	4963	1533.3	100.96	33.62
311	SLU 22	-94	-100	4676	1450.45	95.18	33.71
311	SLU 23	-99	-82	4753	1470.08	96.82	34.73
311	SLU 24	-96	-102	4746	1472.67	96.59	34.41
311	SLU 25	-99	-91	4792	1484.45	97.57	35.02
311	SLU 26	-100	-83	4796	1483.93	97.69	35.17
311	SLU 27	-98	-103	4788	1486.52	97.46	34.85
311	SLU 28	-100	-92	4835	1498.3	98.44	35.46
311	SLU 29	-97	-102	4762	1478.14	96.92	34.59
311	SLU 30	-99	-91	4808	1489.92	97.9	35.2
311	SLU 31	-104	-91	5295	1636.44	107.82	36.91
311	SLU 32	-102	-112	5287	1639.03	107.59	36.59
311	SLU 33	-105	-101	5333	1650.81	108.58	37.2
311	SLU 34	-106	-93	5338	1650.29	108.69	37.35
311	SLU 35	-104	-113	5330	1652.88	108.47	37.03
311	SLU 36	-106	-102	5376	1664.66	109.45	37.64
311	SLU 37	-103	-112	5304	1644.5	107.93	36.77
311	SLU 38	-105	-101	5350	1656.28	108.91	37.38
311	SLU 39	-103	-114	5450	1688.11	110.9	36.82
311	SLU 40	-105	-103	5496	1699.89	111.89	37.43
311	SLU 41	-104	-115	5493	1701.95	111.77	37.26
311	SLU 42	-107	-104	5539	1713.73	112.76	37.87
311	SLU 43	-103	-112	5134	1589.16	104.36	36.83
311	SLU 44	-107	-94	5211	1608.79	106	37.85
311	SLU 45	-105	-114	5203	1611.38	105.77	37.53
311	SLU 46	-107	-103	5249	1623.16	106.75	38.15
311	SLU 47	-108	-95	5253	1622.64	106.87	38.29
311	SLU 48	-106	-115	5246	1625.23	106.64	37.97
311	SLU 49	-109	-104	5292	1637.01	107.62	38.59
311	SLU 50	-106	-114	5219	1616.85	106.1	37.71
311	SLU 51	-108	-103	5266	1628.63	107.08	38.33
311	SLU 52	-113	-103	5752	1775.15	117	40.03
311	SLU 53	-111	-124	5744	1777.74	116.77	39.71
311	SLU 54	-113	-113	5791	1789.52	117.76	40.32
311	SLU 55	-114	-105	5795	1789	117.87	40.47
311	SLU 56	-112	-125	5787	1791.59	117.64	40.15
311	SLU 57	-115	-114	5833	1803.37	118.63	40.76
311	SLU 58	-111	-124	5761	1783.21	117.11	39.89
311	SLU 59	-114	-113	5807	1794.99	118.09	40.5
311	SLU 60	-112	-126	5907	1826.82	120.08	39.94
311	SLU 61	-114	-115	5953	1838.6	121.06	40.56
311	SLU 62	-113	-127	5950	1840.66	120.95	40.38
311	SLU 63	-115	-116	5996	1852.44	121.94	41
311	SLU 64	-115	-123	5709	1769.59	116.15	41.09
311	SLU 65	-119	-104	5786	1789.22	117.79	42.11
311	SLU 66	-117	-125	5778	1791.81	117.56	41.79
311	SLU 67	-119	-114	5825	1803.59	118.54	42.4
311	SLU 68	-120	-106	5829	1803.07	118.66	42.55
311	SLU 69	-118	-126	5821	1805.66	118.43	42.23
311	SLU 70	-121	-115	5867	1817.44	119.41	42.84
311	SLU 71	-118	-125	5795	1797.28	117.89	41.97
311	SLU 72	-120	-114	5841	1809.06	118.87	42.58
311	SLU 73	-125	-114	6328	1955.59	128.8	44.29
311	SLU 74	-123	-134	6320	1958.17	128.57	43.97
311	SLU 75	-125	-123	6366	1969.95	129.55	44.58
311	SLU 76	-126	-115	6370	1969.43	129.67	44.73
311	SLU 77	-124	-136	6363	1972.02	129.44	44.41
311	SLU 78	-127	-125	6409	1983.8	130.42	45.02
311	SLU 79	-123	-135	6337	1963.64	128.9	44.15
311	SLU 80	-126	-124	6383	1975.42	129.88	44.76
311	SLU 81	-124	-137	6483	2007.25	131.87	44.2
311	SLU 82	-126	-126	6529	2019.03	132.86	44.81
311	SLU 83	-125	-138	6526	2021.1	132.75	44.64
311	SLU 84	-127	-127	6572	2032.88	133.73	45.25
311	SLE RA 1	-86	-92	4265	1321.57	86.75	30.67
311	SLE RA 2	-89	-80	4316	1334.66	87.85	31.35
311	SLE RA 3	-87	-93	4311	1336.38	87.69	31.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
311	SLE RA 4	-89	-86	4342	1344.24	88.35	31.55
311	SLE RA 5	-89	-81	4345	1343.89	88.43	31.65
311	SLE RA 6	-88	-94	4340	1345.61	88.27	31.43
311	SLE RA 7	-90	-87	4371	1353.47	88.93	31.84
311	SLE RA 8	-88	-94	4322	1340.03	87.92	31.26
311	SLE RA 9	-89	-86	4353	1347.88	88.57	31.67
311	SLE RA 10	-93	-86	4677	1445.56	95.18	32.8
311	SLE RA 11	-91	-100	4672	1447.29	95.03	32.59
311	SLE RA 12	-93	-92	4703	1455.14	95.69	33
311	SLE RA 13	-93	-87	4706	1454.8	95.77	33.1
311	SLE RA 14	-92	-101	4701	1456.52	95.61	32.88
311	SLE RA 15	-94	-93	4732	1464.37	96.27	33.29
311	SLE RA 16	-91	-100	4683	1450.94	95.25	32.71
311	SLE RA 17	-93	-93	4714	1458.79	95.91	33.12
311	SLE RA 18	-92	-101	4781	1480.01	97.24	32.75
311	SLE RA 19	-93	-94	4812	1487.86	97.89	33.15
311	SLE RA 20	-92	-102	4810	1489.24	97.82	33.04
311	SLE RA 21	-94	-95	4840	1497.09	98.47	33.45
311	SLE FR 1	-86	-92	4265	1321.57	86.75	30.67
311	SLE FR 2	-86	-90	4275	1324.19	86.97	30.81
311	SLE FR 3	-86	-92	4277	1325.26	86.99	30.79
311	SLE FR 4	-88	-92	4430	1371.72	90.12	31.43
311	SLE FR 5	-88	-95	4431	1372.79	90.13	31.41
311	SLE FR 6	-89	-97	4523	1400.79	92	31.71
311	SLE QP 1	-86	-92	4265	1321.57	86.75	30.67
311	SLE QP 2	-88	-95	4420	1369.1	89.9	31.3
311	SLD 1	293	-5	5311	1607.12	109.94	-99.09
311	SLD 2	369	-49	5267	1592.92	108.83	-123.79
311	SLD 3	330	-239	4173	1317.2	86.1	-106.95
311	SLD 4	406	-283	4129	1302.99	84.98	-131.65
311	SLD 5	-42	295	6421	1882.69	132.27	8.39
311	SLD 6	7	266	6392	1873.5	131.55	-7.59
311	SLD 7	80	-486	2628	916.27	52.79	-17.82
311	SLD 8	129	-514	2599	907.09	52.07	-33.8
311	SLD 9	-305	325	6241	1831.12	127.73	96.39
311	SLD 10	-255	296	6212	1821.93	127.01	80.41
311	SLD 11	-182	-456	2448	864.7	48.25	70.18
311	SLD 12	-133	-485	2419	855.51	47.53	54.2
311	SLD 13	-581	94	4711	1435.21	94.81	194.24
311	SLD 14	-505	49	4666	1421	93.7	169.54
311	SLD 15	-545	-141	3573	1145.28	70.97	186.38
311	SLD 16	-468	-185	3528	1131.08	69.86	161.68
311	SLV 1	506	61	5885	1759.47	122.73	-172.14
311	SLV 2	626	-9	5815	1737.11	120.98	-211.04
311	SLV 3	567	-335	3962	1269.48	82.43	-185.32
311	SLV 4	687	-405	3892	1247.12	80.68	-224.21
311	SLV 5	-26	565	7789	2233.53	161.2	-2.49
311	SLV 6	55	518	7742	2218.48	160.01	-28.68
311	SLV 7	180	-754	1379	600.24	26.87	-46.41
311	SLV 8	261	-801	1332	585.18	25.69	-72.6
311	SLV 9	-436	612	7508	2153.02	154.11	135.19
311	SLV 10	-355	565	7461	2137.96	152.93	109
311	SLV 11	-230	-708	1098	519.72	19.78	91.27
311	SLV 12	-150	-755	1051	504.67	18.6	65.08
311	SLV 13	-863	215	4948	1491.08	99.12	286.8
311	SLV 14	-743	145	4878	1468.72	97.36	247.91
311	SLV 15	-801	-181	3025	1001.09	58.82	273.63
311	SLV 16	-681	-251	2955	978.73	57.07	234.73
311	SLV FO 1	565	77	6032	1798.51	126.02	-192.48
311	SLV FO 2	697	0	5955	1773.91	124.09	-235.27
311	SLV FO 3	633	-359	3916	1259.52	81.69	-206.98
311	SLV FO 4	765	-436	3839	1234.92	79.76	-249.76
311	SLV FO 5	-19	631	8126	2319.98	168.32	-5.87
311	SLV FO 6	69	580	8074	2303.42	167.03	-34.68
311	SLV FO 7	207	-820	1075	523.35	20.57	-54.18
311	SLV FO 8	296	-872	1023	506.79	19.27	-82.99
311	SLV FO 9	-471	682	7817	2231.41	160.53	145.58
311	SLV FO 10	-382	631	7765	2214.85	159.23	116.77
311	SLV FO 11	-245	-769	766	434.78	12.77	97.27
311	SLV FO 12	-156	-821	714	418.22	11.47	68.46
311	SLV FO 13	-940	246	5001	1503.28	100.04	312.35
311	SLV FO 14	-808	169	4923	1478.68	98.11	269.57
311	SLV FO 15	-872	-190	2885	964.29	55.71	297.86
311	SLV FO 16	-740	-266	2808	939.69	53.78	255.07
311	CRTFP Ux+	0	0	0	0	0	0
311	CRTFP Ux-	0	0	0	0	0	0
311	CRTFP Uy+	0	0	0	0	0	0
311	CRTFP Uy-	0	0	0	0	0	0
313	SLU 1	-46	-50	2260	626.08	-53.59	12.72
313	SLU 2	-48	-39	2302	635.39	-54.56	13.65
313	SLU 3	-47	-51	2298	637.03	-54.49	13.03
313	SLU 4	-48	-44	2323	642.62	-55.08	13.59
313	SLU 5	-49	-40	2326	642.23	-55.12	13.84
313	SLU 6	-47	-51	2322	643.87	-55.06	13.22
313	SLU 7	-49	-45	2347	649.46	-55.64	13.78
313	SLU 8	-47	-51	2307	639.75	-54.71	13.1
313	SLU 9	-48	-45	2333	645.34	-55.29	13.66
313	SLU 10	-51	-45	2601	717.44	-61.63	14.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
313	SLU 11	-50	-56	2597	719.08	-61.57	13.9
313	SLU 12	-51	-50	2622	724.67	-62.15	14.46
313	SLU 13	-52	-46	2624	724.28	-62.19	14.72
313	SLU 14	-51	-57	2620	725.92	-62.13	14.09
313	SLU 15	-52	-51	2646	731.51	-62.71	14.65
313	SLU 16	-50	-56	2606	721.8	-61.79	13.98
313	SLU 17	-52	-50	2631	727.39	-62.37	14.54
313	SLU 18	-50	-57	2687	743.29	-63.7	13.97
313	SLU 19	-52	-51	2712	748.88	-64.28	14.53
313	SLU 20	-51	-58	2710	750.13	-64.26	14.16
313	SLU 21	-52	-52	2736	755.72	-64.84	14.72
313	SLU 22	-52	-56	2576	714.74	-61.07	14.6
313	SLU 23	-55	-45	2618	724.06	-62.04	15.53
313	SLU 24	-53	-57	2614	725.7	-61.98	14.91
313	SLU 25	-55	-50	2639	731.29	-62.56	15.47
313	SLU 26	-55	-46	2642	730.9	-62.6	15.72
313	SLU 27	-54	-57	2638	732.54	-62.54	15.1
313	SLU 28	-55	-51	2663	738.13	-63.12	15.66
313	SLU 29	-54	-57	2623	728.42	-62.2	14.98
313	SLU 30	-55	-51	2648	734.01	-62.78	15.54
313	SLU 31	-58	-51	2917	806.11	-69.12	16.41
313	SLU 32	-57	-62	2913	807.75	-69.06	15.78
313	SLU 33	-58	-56	2938	813.34	-69.64	16.34
313	SLU 34	-58	-51	2940	812.95	-69.68	16.6
313	SLU 35	-57	-63	2936	814.59	-69.62	15.97
313	SLU 36	-59	-57	2961	820.18	-70.2	16.53
313	SLU 37	-57	-62	2922	810.47	-69.27	15.86
313	SLU 38	-58	-56	2947	816.06	-69.85	16.42
313	SLU 39	-57	-63	3003	831.96	-71.18	15.85
313	SLU 40	-58	-57	3028	837.55	-71.76	16.41
313	SLU 41	-58	-64	3026	838.8	-71.74	16.04
313	SLU 42	-59	-58	3051	844.38	-72.32	16.6
313	SLU 43	-57	-62	2830	783.5	-67.1	15.89
313	SLU 44	-59	-52	2872	792.81	-68.07	16.82
313	SLU 45	-58	-63	2868	794.46	-68	16.2
313	SLU 46	-60	-57	2893	800.04	-68.59	16.76
313	SLU 47	-60	-53	2896	799.65	-68.63	17.02
313	SLU 48	-59	-64	2892	801.3	-68.57	16.39
313	SLU 49	-60	-58	2917	806.88	-69.15	16.95
313	SLU 50	-58	-64	2877	797.17	-68.22	16.27
313	SLU 51	-60	-58	2902	802.76	-68.8	16.83
313	SLU 52	-63	-58	3171	874.86	-75.14	17.7
313	SLU 53	-61	-69	3167	876.51	-75.08	17.07
313	SLU 54	-63	-63	3192	882.09	-75.66	17.63
313	SLU 55	-63	-58	3194	881.7	-75.7	17.89
313	SLU 56	-62	-70	3190	883.34	-75.64	17.26
313	SLU 57	-63	-63	3215	888.93	-76.22	17.82
313	SLU 58	-62	-69	3176	879.22	-75.3	17.15
313	SLU 59	-63	-63	3201	884.81	-75.88	17.71
313	SLU 60	-62	-70	3257	900.71	-77.21	17.14
313	SLU 61	-63	-64	3282	906.3	-77.79	17.7
313	SLU 62	-62	-71	3280	907.55	-77.77	17.33
313	SLU 63	-64	-65	3305	913.14	-78.35	17.89
313	SLU 64	-64	-68	3146	872.17	-74.58	17.77
313	SLU 65	-66	-58	3188	881.48	-75.55	18.7
313	SLU 66	-65	-69	3184	883.12	-75.49	18.08
313	SLU 67	-66	-63	3209	888.71	-76.07	18.64
313	SLU 68	-67	-59	3211	888.32	-76.11	18.9
313	SLU 69	-65	-70	3207	889.96	-76.05	18.27
313	SLU 70	-67	-64	3233	895.55	-76.63	18.83
313	SLU 71	-65	-70	3193	885.84	-75.71	18.15
313	SLU 72	-66	-64	3218	891.43	-76.29	18.71
313	SLU 73	-69	-64	3486	963.53	-82.63	19.58
313	SLU 74	-68	-75	3482	965.17	-82.57	18.95
313	SLU 75	-69	-69	3508	970.76	-83.15	19.51
313	SLU 76	-70	-64	3510	970.37	-83.19	19.77
313	SLU 77	-69	-76	3506	972.01	-83.13	19.14
313	SLU 78	-70	-69	3531	977.6	-83.71	19.7
313	SLU 79	-68	-75	3492	967.89	-82.78	19.03
313	SLU 80	-70	-69	3517	973.48	-83.36	19.59
313	SLU 81	-68	-76	3572	989.38	-84.69	19.02
313	SLU 82	-70	-70	3598	994.97	-85.27	19.58
313	SLU 83	-69	-77	3596	996.22	-85.25	19.21
313	SLU 84	-70	-71	3621	1001.81	-85.83	19.77
313	SLE RA 1	-48	-51	2350	651.41	-55.73	13.26
313	SLE RA 2	-49	-44	2378	657.62	-56.37	13.88
313	SLE RA 3	-48	-52	2376	658.72	-56.33	13.46
313	SLE RA 4	-49	-48	2393	662.44	-56.72	13.83
313	SLE RA 5	-49	-45	2394	662.18	-56.75	14.01
313	SLE RA 6	-49	-52	2392	663.27	-56.71	13.59
313	SLE RA 7	-50	-48	2408	667	-57.09	13.96
313	SLE RA 8	-48	-52	2382	660.53	-56.48	13.51
313	SLE RA 9	-49	-48	2399	664.25	-56.86	13.89
313	SLE RA 10	-51	-48	2578	712.32	-61.09	14.46
313	SLE RA 11	-50	-56	2575	713.41	-61.05	14.04
313	SLE RA 12	-51	-52	2592	717.14	-61.44	14.42
313	SLE RA 13	-52	-49	2593	716.88	-61.46	14.59
313	SLE RA 14	-51	-56	2591	717.97	-61.42	14.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
313	SLE RA 15	-52	-52	2607	721.7	-61.81	14.55
313	SLE RA 16	-51	-56	2581	715.23	-61.19	14.09
313	SLE RA 17	-52	-52	2598	718.95	-61.58	14.47
313	SLE RA 18	-51	-57	2635	729.55	-62.47	14.09
313	SLE RA 19	-52	-52	2652	733.28	-62.85	14.46
313	SLE RA 20	-51	-57	2651	734.11	-62.84	14.22
313	SLE RA 21	-52	-53	2667	737.84	-63.23	14.59
313	SLE FR 1	-48	-51	2350	651.41	-55.73	13.26
313	SLE FR 2	-48	-50	2356	652.65	-55.86	13.38
313	SLE FR 3	-48	-51	2357	653.23	-55.88	13.31
313	SLE FR 4	-49	-51	2441	676.09	-57.88	13.63
313	SLE FR 5	-49	-53	2442	676.68	-57.9	13.56
313	SLE FR 6	-49	-54	2493	690.48	-59.1	13.67
313	SLE QP 1	-48	-51	2350	651.41	-55.73	13.26
313	SLE QP 2	-48	-53	2436	674.85	-57.75	13.51
313	SLD 1	164	-4	2909	784.34	-68.55	-49.64
313	SLD 2	207	-27	2887	778.14	-68.05	-63.02
313	SLD 3	184	-135	2282	645.15	-54.06	-58.92
313	SLD 4	227	-158	2260	638.95	-53.56	-72.31
313	SLD 5	-23	164	3532	919.87	-83.06	10.96
313	SLD 6	5	149	3518	915.86	-82.74	2.3
313	SLD 7	45	-272	1443	455.91	-34.75	-19.98
313	SLD 8	72	-287	1428	451.91	-34.42	-28.64
313	SLD 9	-169	181	3443	897.8	-81.08	55.65
313	SLD 10	-141	166	3429	893.79	-80.75	46.99
313	SLD 11	-102	-255	1353	433.84	-32.76	24.71
313	SLD 12	-74	-270	1339	429.83	-32.44	16.05
313	SLD 13	-324	52	2612	710.75	-61.94	99.32
313	SLD 14	-281	29	2590	704.56	-61.44	85.93
313	SLD 15	-304	-78	1985	571.56	-47.45	90.04
313	SLD 16	-261	-102	1963	565.37	-46.95	76.65
313	SLV 1	283	32	3215	854.8	-75.55	-84.66
313	SLV 2	350	-5	3180	845.05	-74.77	-105.73
313	SLV 3	317	-189	2155	619.56	-51.06	-100.29
313	SLV 4	384	-226	2121	609.8	-50.27	-121.37
313	SLV 5	-13	315	4283	1087.44	-100.39	11.7
313	SLV 6	32	290	4259	1080.87	-99.86	-2.49
313	SLV 7	100	-422	751	303.3	-18.74	-40.41
313	SLV 8	145	-447	728	296.73	-18.21	-54.6
313	SLV 9	-242	341	4144	1052.97	-97.29	81.61
313	SLV 10	-197	316	4120	1046.4	-96.76	67.42
313	SLV 11	-129	-396	612	268.83	-15.64	29.5
313	SLV 12	-84	-420	589	262.26	-15.11	15.31
313	SLV 13	-481	120	2751	739.9	-65.23	148.38
313	SLV 14	-413	83	2716	730.14	-64.44	127.3
313	SLV 15	-447	-101	1691	504.66	-40.73	132.75
313	SLV 16	-380	-138	1657	494.9	-39.95	111.67
313	SLV FO 1	316	41	3293	872.8	-77.33	-94.47
313	SLV FO 2	390	0	3255	862.06	-76.47	-117.66
313	SLV FO 3	353	-202	2127	614.03	-50.39	-111.67
313	SLV FO 4	427	-243	2089	603.3	-49.52	-134.85
313	SLV FO 5	-10	351	4468	1128.7	-104.65	11.52
313	SLV FO 6	40	324	4442	1121.47	-104.07	-4.09
313	SLV FO 7	115	-459	583	266.15	-14.83	-45.8
313	SLV FO 8	164	-486	557	258.92	-14.25	-61.41
313	SLV FO 9	-261	380	4314	1090.78	-101.25	88.42
313	SLV FO 10	-212	353	4289	1083.56	-100.66	72.81
313	SLV FO 11	-137	-430	430	228.23	-11.43	31.1
313	SLV FO 12	-87	-457	404	221	-10.84	15.49
313	SLV FO 13	-524	137	2782	746.4	-65.98	161.86
313	SLV FO 14	-450	97	2744	735.67	-65.11	138.68
313	SLV FO 15	-486	-106	1617	487.64	-39.03	144.67
313	SLV FO 16	-413	-147	1579	476.91	-38.17	121.48
313	CRTFP Ux+	0	0	0	0	0	0
313	CRTFP Ux-	0	0	0	0	0	0
313	CRTFP Uy+	0	0	0	0	0	0
313	CRTFP Uy-	0	0	0	0	0	0
314	SLU 1	-68	-70	3315	950.04	-83.34	19.88
314	SLU 2	-72	-54	3375	963.83	-84.81	21.34
314	SLU 3	-70	-72	3371	966.67	-84.75	20.36
314	SLU 4	-72	-62	3407	974.95	-85.63	21.24
314	SLU 5	-73	-56	3410	974.22	-85.69	21.64
314	SLU 6	-71	-73	3405	977.06	-85.62	20.66
314	SLU 7	-73	-63	3442	985.34	-86.51	21.54
314	SLU 8	-70	-72	3384	970.82	-85.09	20.48
314	SLU 9	-72	-63	3421	979.09	-85.97	21.36
314	SLU 10	-76	-62	3813	1088.34	-95.81	22.73
314	SLU 11	-75	-79	3809	1091.18	-95.75	21.74
314	SLU 12	-77	-70	3845	1099.46	-96.63	22.62
314	SLU 13	-78	-63	3848	1098.73	-96.69	23.03
314	SLU 14	-76	-80	3843	1101.57	-96.63	22.04
314	SLU 15	-78	-71	3880	1109.85	-97.51	22.92
314	SLU 16	-75	-80	3822	1095.33	-96.09	21.86
314	SLU 17	-77	-71	3858	1103.61	-96.98	22.74
314	SLU 18	-75	-81	3941	1127.91	-99.06	21.86
314	SLU 19	-77	-72	3977	1136.19	-99.94	22.74
314	SLU 20	-76	-82	3975	1138.3	-99.93	22.16
314	SLU 21	-78	-73	4012	1146.58	-100.82	23.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
314	SLU 22	-78	-78	3777	1084.11	-94.91	22.82
314	SLU 23	-81	-63	3837	1097.91	-96.38	24.28
314	SLU 24	-80	-80	3833	1100.75	-96.32	23.3
314	SLU 25	-82	-70	3869	1109.02	-97.2	24.18
314	SLU 26	-82	-64	3872	1108.3	-97.26	24.58
314	SLU 27	-81	-81	3867	1111.14	-97.2	23.6
314	SLU 28	-83	-72	3903	1119.41	-98.08	24.48
314	SLU 29	-80	-80	3846	1104.9	-96.66	23.42
314	SLU 30	-82	-71	3882	1113.17	-97.55	24.3
314	SLU 31	-86	-71	4275	1222.42	-107.39	25.67
314	SLU 32	-85	-88	4270	1225.26	-107.33	24.68
314	SLU 33	-87	-78	4307	1233.53	-108.21	25.56
314	SLU 34	-87	-72	4310	1232.81	-108.26	25.97
314	SLU 35	-86	-89	4305	1235.65	-108.2	24.98
314	SLU 36	-88	-79	4341	1243.93	-109.08	25.86
314	SLU 37	-85	-88	4284	1229.41	-107.67	24.8
314	SLU 38	-87	-79	4320	1237.68	-108.55	25.68
314	SLU 39	-85	-89	4402	1261.99	-110.63	24.8
314	SLU 40	-87	-80	4439	1270.26	-111.52	25.68
314	SLU 41	-86	-90	4437	1272.38	-111.51	25.1
314	SLU 42	-88	-81	4473	1280.66	-112.39	25.98
314	SLU 43	-85	-88	4151	1189.08	-104.37	24.83
314	SLU 44	-89	-73	4212	1202.87	-105.84	26.3
314	SLU 45	-87	-90	4207	1205.71	-105.78	25.31
314	SLU 46	-89	-80	4243	1213.99	-106.66	26.19
314	SLU 47	-90	-74	4246	1213.26	-106.72	26.6
314	SLU 48	-88	-91	4242	1216.1	-106.66	25.61
314	SLU 49	-90	-81	4278	1224.38	-107.54	26.49
314	SLU 50	-87	-90	4220	1209.86	-106.12	25.43
314	SLU 51	-89	-81	4257	1218.14	-107.01	26.31
314	SLU 52	-94	-80	4650	1327.38	-116.85	27.69
314	SLU 53	-92	-97	4645	1330.22	-116.79	26.7
314	SLU 54	-94	-88	4681	1338.5	-117.67	27.58
314	SLU 55	-95	-81	4684	1337.78	-117.72	27.99
314	SLU 56	-93	-99	4680	1340.61	-117.66	27
314	SLU 57	-95	-89	4716	1348.89	-118.54	27.88
314	SLU 58	-92	-98	4658	1334.37	-117.13	26.82
314	SLU 59	-94	-89	4695	1342.65	-118.01	27.7
314	SLU 60	-92	-99	4777	1366.95	-120.09	26.81
314	SLU 61	-94	-90	4813	1375.23	-120.98	27.69
314	SLU 62	-93	-100	4811	1377.34	-120.97	27.11
314	SLU 63	-95	-91	4848	1385.62	-121.85	27.99
314	SLU 64	-95	-97	4613	1323.16	-115.95	27.77
314	SLU 65	-99	-81	4673	1336.95	-117.42	29.24
314	SLU 66	-97	-98	4669	1339.79	-117.36	28.25
314	SLU 67	-99	-89	4705	1348.06	-118.24	29.13
314	SLU 68	-100	-82	4708	1347.34	-118.29	29.54
314	SLU 69	-98	-99	4703	1350.18	-118.23	28.55
314	SLU 70	-100	-90	4740	1358.46	-119.11	29.43
314	SLU 71	-97	-99	4682	1343.94	-117.7	28.37
314	SLU 72	-99	-89	4718	1352.21	-118.58	29.25
314	SLU 73	-103	-89	5111	1461.46	-128.42	30.62
314	SLU 74	-102	-106	5107	1464.3	-128.36	29.64
314	SLU 75	-104	-96	5143	1472.58	-129.24	30.52
314	SLU 76	-104	-90	5146	1471.85	-129.3	30.92
314	SLU 77	-103	-107	5141	1474.69	-129.23	29.94
314	SLU 78	-105	-97	5178	1482.97	-130.12	30.82
314	SLU 79	-102	-106	5120	1468.45	-128.7	29.76
314	SLU 80	-104	-97	5156	1476.73	-129.58	30.64
314	SLU 81	-102	-108	5238	1501.03	-131.67	29.75
314	SLU 82	-104	-98	5275	1509.31	-132.55	30.63
314	SLU 83	-103	-109	5273	1511.42	-132.54	30.05
314	SLU 84	-105	-99	5309	1519.7	-133.42	30.93
314	SLE RA 1	-71	-72	3447	988.34	-86.65	20.72
314	SLE RA 2	-73	-62	3487	997.54	-87.63	21.69
314	SLE RA 3	-72	-73	3484	999.43	-87.59	21.04
314	SLE RA 4	-73	-67	3508	1004.95	-88.17	21.62
314	SLE RA 5	-74	-63	3510	1004.47	-88.21	21.89
314	SLE RA 6	-73	-74	3507	1006.36	-88.17	21.24
314	SLE RA 7	-74	-68	3531	1011.88	-88.76	21.82
314	SLE RA 8	-72	-74	3493	1002.2	-87.81	21.12
314	SLE RA 9	-74	-68	3517	1007.72	-88.4	21.7
314	SLE RA 10	-77	-67	3779	1080.55	-94.96	22.62
314	SLE RA 11	-75	-79	3776	1082.44	-94.92	21.96
314	SLE RA 12	-77	-72	3800	1087.96	-95.51	22.55
314	SLE RA 13	-77	-68	3802	1087.48	-95.55	22.82
314	SLE RA 14	-76	-79	3799	1089.37	-95.5	22.16
314	SLE RA 15	-77	-73	3823	1094.89	-96.09	22.75
314	SLE RA 16	-76	-79	3785	1085.21	-95.15	22.04
314	SLE RA 17	-77	-73	3809	1090.72	-95.74	22.63
314	SLE RA 18	-76	-80	3864	1106.93	-97.13	22.04
314	SLE RA 19	-77	-74	3888	1112.44	-97.71	22.62
314	SLE RA 20	-76	-81	3887	1113.85	-97.71	22.24
314	SLE RA 21	-78	-74	3911	1119.37	-98.3	22.82
314	SLE FR 1	-71	-72	3447	988.34	-86.65	20.72
314	SLE FR 2	-71	-70	3455	990.18	-86.84	20.91
314	SLE FR 3	-71	-73	3456	991.12	-86.88	20.8
314	SLE FR 4	-73	-73	3580	1025.76	-89.99	21.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
314	SLE FR 5	-73	-75	3581	1026.69	-90.02	21.19
314	SLE FR 6	-73	-76	3655	1047.64	-91.89	21.38
314	SLE QP 1	-71	-72	3447	988.34	-86.65	20.72
314	SLE QP 2	-72	-75	3572	1023.92	-89.79	21.11
314	SLD 1	246	0	4236	1181.3	-105.49	-76.16
314	SLD 2	309	-33	4207	1172.84	-104.83	-96.74
314	SLD 3	276	-198	3328	973.18	-83.22	-90.77
314	SLD 4	339	-231	3299	964.72	-82.55	-111.35
314	SLD 5	-34	254	5154	1388.24	-128.4	17.66
314	SLD 6	8	232	5135	1382.77	-127.97	4.35
314	SLD 7	66	-406	2127	694.52	-54.15	-31.04
314	SLD 8	108	-427	2107	689.05	-53.72	-44.36
314	SLD 9	-252	278	5037	1358.79	-125.86	86.59
314	SLD 10	-211	256	5017	1353.32	-125.43	73.27
314	SLD 11	-153	-381	2009	665.07	-51.61	37.88
314	SLD 12	-111	-403	1990	659.6	-51.18	24.56
314	SLD 13	-484	81	3845	1083.12	-97.03	153.58
314	SLD 14	-421	48	3816	1074.66	-96.36	132.99
314	SLD 15	-454	-117	2937	875	-74.75	138.97
314	SLD 16	-391	-150	2908	866.54	-74.09	118.38
314	SLV 1	423	55	4668	1283.12	-115.75	-130.08
314	SLV 2	523	3	4621	1269.8	-114.7	-162.5
314	SLV 3	474	-279	3133	931.38	-78.1	-154.69
314	SLV 4	574	-331	3086	918.05	-77.06	-187.1
314	SLV 5	-19	481	6237	1637.65	-154.87	19.13
314	SLV 6	49	446	6206	1628.68	-154.17	-2.69
314	SLV 7	149	-633	1121	465.16	-29.38	-62.9
314	SLV 8	217	-668	1090	456.19	-28.68	-84.73
314	SLV 9	-361	519	6054	1591.65	-150.9	126.95
314	SLV 10	-294	484	6023	1582.68	-150.2	105.13
314	SLV 11	-193	-595	938	419.16	-25.41	44.92
314	SLV 12	-126	-630	907	410.19	-24.71	23.1
314	SLV 13	-719	182	4058	1129.78	-102.52	229.33
314	SLV 14	-618	130	4011	1116.46	-101.48	196.92
314	SLV 15	-668	-153	2523	778.04	-64.88	204.72
314	SLV 16	-568	-205	2476	764.72	-63.83	172.31
314	SLV FO 1	473	68	4777	1309.04	-118.35	-145.2
314	SLV FO 2	583	11	4726	1294.39	-117.2	-180.86
314	SLV FO 3	528	-299	3089	922.12	-76.93	-172.27
314	SLV FO 4	638	-357	3038	907.47	-75.78	-207.93
314	SLV FO 5	-14	537	6504	1699.02	-161.38	18.93
314	SLV FO 6	61	498	6469	1689.15	-160.6	-5.08
314	SLV FO 7	171	-689	876	409.29	-23.34	-71.3
314	SLV FO 8	245	-728	842	399.42	-22.57	-95.31
314	SLV FO 9	-390	578	6302	1648.42	-157.01	137.54
314	SLV FO 10	-316	540	6268	1638.55	-156.24	113.53
314	SLV FO 11	-206	-647	675	358.69	-18.97	47.3
314	SLV FO 12	-131	-686	640	348.82	-18.2	23.3
314	SLV FO 13	-783	207	4106	1140.37	-103.8	250.15
314	SLV FO 14	-673	150	4055	1125.72	-102.65	214.5
314	SLV FO 15	-728	-160	2418	753.45	-62.38	223.08
314	SLV FO 16	-618	-218	2367	738.8	-61.23	187.43
314	CRTFP Ux+	0	0	0	0	0	0
314	CRTFP Ux-	0	0	0	0	0	0
314	CRTFP Uy+	0	0	0	0	0	0
314	CRTFP Uy-	0	0	0	0	0	0
315	SLU 1	-79	-72	3785	1091.79	2.54	25.71
315	SLU 2	-83	-53	3853	1107.24	2.6	26.96
315	SLU 3	-81	-73	3849	1110.93	2.58	26.33
315	SLU 4	-84	-62	3890	1120.2	2.62	27.08
315	SLU 5	-85	-54	3893	1119.21	2.63	27.35
315	SLU 6	-83	-74	3889	1122.9	2.6	26.71
315	SLU 7	-85	-63	3930	1132.17	2.64	27.47
315	SLU 8	-82	-74	3865	1115.73	2.58	26.49
315	SLU 9	-84	-63	3905	1125	2.62	27.24
315	SLU 10	-89	-61	4354	1250.39	2.92	28.86
315	SLU 11	-87	-81	4349	1254.09	2.89	28.22
315	SLU 12	-89	-70	4390	1263.35	2.93	28.97
315	SLU 13	-90	-62	4393	1262.36	2.95	29.25
315	SLU 14	-88	-82	4389	1266.06	2.92	28.61
315	SLU 15	-91	-71	4430	1275.33	2.96	29.36
315	SLU 16	-88	-82	4365	1258.89	2.9	28.39
315	SLU 17	-90	-71	4406	1268.16	2.94	29.14
315	SLU 18	-88	-83	4500	1296.3	2.99	28.42
315	SLU 19	-90	-72	4541	1305.57	3.03	29.17
315	SLU 20	-89	-84	4540	1308.27	3.01	28.81
315	SLU 21	-91	-73	4581	1317.54	3.05	29.56
315	SLU 22	-91	-80	4310	1245.15	2.96	29.44
315	SLU 23	-95	-61	4378	1260.6	3.02	30.7
315	SLU 24	-93	-81	4374	1264.29	3	30.06
315	SLU 25	-95	-70	4415	1273.56	3.04	30.81
315	SLU 26	-96	-62	4418	1272.57	3.05	31.09
315	SLU 27	-94	-83	4414	1276.26	3.02	30.45
315	SLU 28	-96	-71	4454	1285.53	3.06	31.2
315	SLU 29	-93	-82	4389	1269.09	3	30.22
315	SLU 30	-96	-71	4430	1278.36	3.04	30.97
315	SLU 31	-101	-69	4879	1403.75	3.34	32.59
315	SLU 32	-99	-89	4874	1407.44	3.31	31.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
315	SLU 33	-101	-78	4915	1416.71	3.35	32.71
315	SLU 34	-102	-70	4918	1415.72	3.37	32.98
315	SLU 35	-100	-90	4914	1419.41	3.34	32.34
315	SLU 36	-102	-79	4955	1428.68	3.38	33.09
315	SLU 37	-99	-90	4890	1412.24	3.32	32.12
315	SLU 38	-101	-79	4931	1421.51	3.36	32.87
315	SLU 39	-99	-91	5025	1449.65	3.41	32.15
315	SLU 40	-102	-80	5066	1458.92	3.45	32.91
315	SLU 41	-100	-92	5065	1461.62	3.43	32.54
315	SLU 42	-103	-81	5105	1470.89	3.47	33.29
315	SLU 43	-99	-90	4741	1366.75	3.15	32.15
315	SLU 44	-103	-72	4809	1382.2	3.22	33.4
315	SLU 45	-101	-92	4805	1385.89	3.19	32.76
315	SLU 46	-104	-81	4846	1395.16	3.23	33.51
315	SLU 47	-104	-73	4849	1394.17	3.24	33.79
315	SLU 48	-102	-93	4844	1397.86	3.22	33.15
315	SLU 49	-105	-82	4885	1407.13	3.26	33.9
315	SLU 50	-102	-93	4820	1390.69	3.2	32.92
315	SLU 51	-104	-81	4861	1399.96	3.24	33.67
315	SLU 52	-109	-80	5309	1525.35	3.54	35.3
315	SLU 53	-107	-100	5305	1529.04	3.51	34.66
315	SLU 54	-109	-89	5346	1538.31	3.55	35.41
315	SLU 55	-110	-81	5349	1537.32	3.56	35.68
315	SLU 56	-108	-101	5345	1541.02	3.53	35.04
315	SLU 57	-111	-90	5386	1550.28	3.57	35.8
315	SLU 58	-108	-101	5321	1533.85	3.52	34.82
315	SLU 59	-110	-89	5361	1543.12	3.56	35.57
315	SLU 60	-108	-102	5456	1571.26	3.61	34.86
315	SLU 61	-110	-91	5497	1580.52	3.65	35.61
315	SLU 62	-109	-103	5495	1583.23	3.63	35.24
315	SLU 63	-111	-92	5536	1592.5	3.67	36
315	SLU 64	-111	-99	5266	1520.11	3.57	35.88
315	SLU 65	-115	-80	5334	1535.55	3.64	37.13
315	SLU 66	-113	-100	5330	1539.25	3.61	36.49
315	SLU 67	-115	-89	5370	1548.51	3.65	37.24
315	SLU 68	-116	-81	5373	1547.52	3.66	37.52
315	SLU 69	-114	-101	5369	1551.22	3.64	36.88
315	SLU 70	-116	-90	5410	1560.49	3.68	37.63
315	SLU 71	-113	-101	5345	1544.05	3.62	36.65
315	SLU 72	-116	-90	5386	1553.32	3.66	37.41
315	SLU 73	-121	-88	5834	1678.71	3.96	39.03
315	SLU 74	-119	-108	5830	1682.4	3.93	38.39
315	SLU 75	-121	-97	5871	1691.67	3.97	39.14
315	SLU 76	-122	-89	5874	1690.68	3.98	39.42
315	SLU 77	-120	-109	5870	1694.37	3.95	38.78
315	SLU 78	-122	-98	5910	1703.64	3.99	39.53
315	SLU 79	-119	-109	5845	1687.2	3.94	38.55
315	SLU 80	-121	-98	5886	1696.47	3.98	39.3
315	SLU 81	-119	-110	5981	1724.61	4.03	38.59
315	SLU 82	-121	-99	6021	1733.88	4.07	39.34
315	SLU 83	-120	-111	6020	1736.58	4.05	38.98
315	SLU 84	-123	-100	6061	1745.85	4.09	39.73
315	SLE RA 1	-83	-74	3935	1135.61	2.66	26.78
315	SLE RA 2	-85	-62	3981	1145.91	2.7	27.61
315	SLE RA 3	-84	-75	3978	1148.37	2.68	27.19
315	SLE RA 4	-86	-68	4005	1154.55	2.71	27.69
315	SLE RA 5	-86	-62	4007	1153.89	2.72	27.87
315	SLE RA 6	-85	-76	4004	1156.35	2.7	27.45
315	SLE RA 7	-86	-68	4031	1162.53	2.73	27.95
315	SLE RA 8	-84	-76	3988	1151.57	2.69	27.3
315	SLE RA 9	-86	-68	4015	1157.75	2.72	27.8
315	SLE RA 10	-89	-67	4314	1241.34	2.91	28.88
315	SLE RA 11	-88	-80	4311	1243.8	2.89	28.45
315	SLE RA 12	-89	-73	4339	1249.98	2.92	28.95
315	SLE RA 13	-90	-68	4341	1249.32	2.93	29.14
315	SLE RA 14	-89	-81	4338	1251.78	2.91	28.71
315	SLE RA 15	-90	-74	4365	1257.96	2.94	29.21
315	SLE RA 16	-88	-81	4322	1247.01	2.9	28.56
315	SLE RA 17	-90	-73	4349	1253.18	2.93	29.06
315	SLE RA 18	-88	-82	4412	1271.95	2.96	28.58
315	SLE RA 19	-90	-74	4439	1278.12	2.99	29.09
315	SLE RA 20	-89	-82	4438	1279.93	2.97	28.84
315	SLE RA 21	-91	-75	4465	1286.11	3	29.34
315	SLE FR 1	-83	-74	3935	1135.61	2.66	26.78
315	SLE FR 2	-83	-72	3944	1137.67	2.67	26.95
315	SLE FR 3	-83	-74	3946	1138.8	2.66	26.88
315	SLE FR 4	-85	-74	4087	1178.57	2.76	27.49
315	SLE FR 5	-85	-77	4089	1179.7	2.75	27.42
315	SLE FR 6	-85	-78	4174	1203.78	2.81	27.68
315	SLE QP 1	-83	-74	3935	1135.61	2.66	26.78
315	SLE QP 2	-84	-76	4078	1176.51	2.75	27.32
315	SLD 1	288	17	4798	1345.18	4.31	-89.41
315	SLD 2	362	-19	4768	1336.76	4.17	-112.58
315	SLD 3	322	-220	3768	1109.35	3.53	-100.68
315	SLD 4	397	-255	3739	1100.94	3.39	-123.85
315	SLD 5	-38	316	5861	1586.24	4.43	13.42
315	SLD 6	10	293	5842	1580.8	4.34	-1.57
315	SLD 7	78	-472	2429	800.15	1.82	-24.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
315	SLD 8	126	-494	2409	794.7	1.73	-39.15
315	SLD 9	-294	342	5747	1558.31	3.77	93.79
315	SLD 10	-246	319	5728	1552.87	3.68	78.8
315	SLD 11	-178	-446	2314	772.22	1.16	56.21
315	SLD 12	-130	-469	2295	766.77	1.07	41.22
315	SLD 13	-565	102	4418	1252.08	2.1	178.49
315	SLD 14	-491	67	4388	1243.67	1.97	155.32
315	SLD 15	-531	-134	3388	1016.25	1.32	167.22
315	SLD 16	-456	-169	3358	1007.84	1.18	144.05
315	SLV 1	495	84	5269	1455.16	5.24	-154.53
315	SLV 2	612	29	5222	1441.9	5.02	-191.02
315	SLV 3	554	-315	3529	1056.57	3.92	-173.48
315	SLV 4	671	-371	3482	1043.31	3.7	-209.96
315	SLV 5	-21	588	7084	1867.1	5.54	8.31
315	SLV 6	58	550	7052	1858.18	5.39	-16.25
315	SLV 7	174	-743	1282	538.47	1.13	-54.85
315	SLV 8	253	-780	1251	529.55	0.99	-79.41
315	SLV 9	-421	628	6906	1823.47	4.51	134.05
315	SLV 10	-343	590	6874	1814.55	4.36	109.49
315	SLV 11	-226	-703	1104	494.84	0.1	70.89
315	SLV 12	-148	-740	1073	485.91	-0.05	46.33
315	SLV 13	-839	218	4675	1309.71	1.8	264.6
315	SLV 14	-722	162	4628	1296.45	1.58	228.12
315	SLV 15	-781	-181	2934	911.12	0.47	245.66
315	SLV 16	-664	-237	2887	897.86	0.26	209.17
315	SLV FO 1	553	100	5388	1483.02	5.49	-172.72
315	SLV FO 2	682	39	5337	1468.44	5.25	-212.85
315	SLV FO 3	617	-339	3474	1044.57	4.03	-193.56
315	SLV FO 4	746	-400	3422	1029.99	3.79	-233.69
315	SLV FO 5	-15	654	7384	1936.16	5.82	6.41
315	SLV FO 6	72	613	7350	1926.35	5.66	-20.61
315	SLV FO 7	200	-810	1003	474.67	0.97	-63.07
315	SLV FO 8	286	-851	968	464.85	0.81	-90.09
315	SLV FO 9	-455	698	7188	1888.17	4.68	144.73
315	SLV FO 10	-368	657	7154	1878.35	4.52	117.71
315	SLV FO 11	-241	-766	807	426.67	-0.17	75.25
315	SLV FO 12	-154	-807	772	416.85	-0.33	48.23
315	SLV FO 13	-915	247	4734	1323.03	1.7	288.33
315	SLV FO 14	-786	186	4683	1308.45	1.46	248.2
315	SLV FO 15	-851	-192	2820	884.58	0.25	267.49
315	SLV FO 16	-722	-253	2768	870	0.01	227.36
315	CRTFP Ux+	0	0	0	0	0	0
315	CRTFP Ux-	0	0	0	0	0	0
315	CRTFP Uy+	0	0	0	0	0	0
315	CRTFP Uy-	0	0	0	0	0	0
316	SLU 1	-79	-59	3724	1067.63	1.27	25.57
316	SLU 2	-83	-40	3790	1082.48	1.3	26.82
316	SLU 3	-81	-60	3787	1086.4	1.29	26.18
316	SLU 4	-83	-49	3827	1095.32	1.31	26.93
316	SLU 5	-84	-41	3829	1094.24	1.31	27.21
316	SLU 6	-82	-61	3826	1098.15	1.3	26.57
316	SLU 7	-84	-50	3866	1107.07	1.32	27.32
316	SLU 8	-81	-61	3802	1091.13	1.29	26.34
316	SLU 9	-84	-49	3842	1100.05	1.31	27.09
316	SLU 10	-89	-46	4283	1222.77	1.43	28.7
316	SLU 11	-87	-67	4280	1226.68	1.41	28.07
316	SLU 12	-89	-55	4320	1235.6	1.43	28.82
316	SLU 13	-90	-47	4323	1234.52	1.44	29.09
316	SLU 14	-88	-68	4319	1238.44	1.42	28.45
316	SLU 15	-90	-56	4359	1247.35	1.44	29.2
316	SLU 16	-87	-67	4295	1231.42	1.41	28.23
316	SLU 17	-89	-56	4335	1240.33	1.43	28.98
316	SLU 18	-87	-68	4428	1268.03	1.45	28.27
316	SLU 19	-89	-57	4468	1276.95	1.47	29.01
316	SLU 20	-88	-69	4468	1279.79	1.46	28.65
316	SLU 21	-91	-58	4507	1288.7	1.48	29.4
316	SLU 22	-90	-65	4238	1216.93	1.5	29.28
316	SLU 23	-94	-46	4304	1231.78	1.53	30.53
316	SLU 24	-92	-66	4301	1235.7	1.51	29.89
316	SLU 25	-95	-55	4341	1244.62	1.53	30.64
316	SLU 26	-95	-47	4344	1243.54	1.54	30.91
316	SLU 27	-93	-67	4340	1247.45	1.52	30.28
316	SLU 28	-96	-56	4380	1256.37	1.54	31.02
316	SLU 29	-93	-67	4316	1240.43	1.51	30.05
316	SLU 30	-95	-56	4356	1249.35	1.53	30.8
316	SLU 31	-100	-52	4798	1372.07	1.65	32.41
316	SLU 32	-98	-73	4794	1375.99	1.63	31.77
316	SLU 33	-100	-61	4834	1384.9	1.65	32.52
316	SLU 34	-101	-53	4837	1383.82	1.66	32.8
316	SLU 35	-99	-74	4833	1387.74	1.64	32.16
316	SLU 36	-102	-62	4873	1396.65	1.66	32.91
316	SLU 37	-99	-74	4810	1380.72	1.64	31.94
316	SLU 38	-101	-62	4849	1389.63	1.65	32.69
316	SLU 39	-99	-75	4943	1417.33	1.67	31.97
316	SLU 40	-101	-63	4983	1426.25	1.69	32.72
316	SLU 41	-100	-75	4982	1429.09	1.68	32.36
316	SLU 42	-102	-64	5022	1438	1.7	33.11
316	SLU 43	-99	-74	4665	1336.73	1.58	31.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
316	SLU 44	-103	-55	4731	1351.58	1.61	33.22
316	SLU 45	-101	-76	4727	1355.5	1.6	32.58
316	SLU 46	-103	-64	4767	1364.41	1.61	33.33
316	SLU 47	-104	-56	4770	1363.34	1.62	33.6
316	SLU 48	-102	-77	4767	1367.25	1.6	32.97
316	SLU 49	-104	-65	4806	1376.17	1.62	33.72
316	SLU 50	-101	-76	4743	1360.23	1.6	32.74
316	SLU 51	-103	-65	4783	1369.15	1.62	33.49
316	SLU 52	-108	-62	5224	1491.87	1.73	35.1
316	SLU 53	-106	-82	5221	1495.78	1.72	34.47
316	SLU 54	-109	-71	5261	1504.7	1.74	35.22
316	SLU 55	-110	-63	5263	1503.62	1.74	35.49
316	SLU 56	-108	-83	5260	1507.54	1.73	34.85
316	SLU 57	-110	-72	5300	1516.45	1.74	35.6
316	SLU 58	-107	-83	5236	1500.52	1.72	34.63
316	SLU 59	-109	-71	5276	1509.43	1.74	35.38
316	SLU 60	-107	-84	5369	1537.13	1.75	34.67
316	SLU 61	-109	-72	5409	1546.05	1.77	35.41
316	SLU 62	-108	-85	5408	1548.88	1.76	35.05
316	SLU 63	-110	-73	5448	1557.8	1.78	35.8
316	SLU 64	-110	-81	5179	1486.03	1.8	35.68
316	SLU 65	-114	-62	5245	1500.88	1.83	36.93
316	SLU 66	-112	-82	5242	1504.8	1.82	36.29
316	SLU 67	-114	-70	5282	1513.72	1.84	37.04
316	SLU 68	-115	-62	5284	1512.64	1.84	37.31
316	SLU 69	-113	-83	5281	1516.55	1.83	36.67
316	SLU 70	-116	-71	5321	1525.47	1.84	37.42
316	SLU 71	-113	-83	5257	1509.53	1.82	36.45
316	SLU 72	-115	-71	5297	1518.45	1.84	37.2
316	SLU 73	-120	-68	5739	1641.17	1.95	38.81
316	SLU 74	-118	-88	5735	1645.08	1.94	38.17
316	SLU 75	-120	-77	5775	1654	1.96	38.92
316	SLU 76	-121	-69	5778	1652.92	1.96	39.2
316	SLU 77	-119	-89	5774	1656.84	1.95	38.56
316	SLU 78	-121	-78	5814	1665.75	1.97	39.31
316	SLU 79	-118	-89	5750	1649.82	1.94	38.34
316	SLU 80	-121	-78	5790	1658.73	1.96	39.09
316	SLU 81	-118	-90	5884	1686.43	1.98	38.37
316	SLU 82	-121	-78	5923	1695.35	1.99	39.12
316	SLU 83	-120	-91	5923	1698.18	1.99	38.76
316	SLU 84	-122	-79	5963	1707.1	2	39.51
316	SLE RA 1	-82	-61	3871	1110.28	1.34	26.63
316	SLE RA 2	-85	-48	3915	1120.19	1.36	27.46
316	SLE RA 3	-83	-62	3913	1122.8	1.35	27.04
316	SLE RA 4	-85	-54	3939	1128.74	1.36	27.53
316	SLE RA 5	-86	-49	3941	1128.02	1.36	27.72
316	SLE RA 6	-84	-62	3939	1130.64	1.35	27.29
316	SLE RA 7	-86	-54	3965	1136.58	1.37	27.79
316	SLE RA 8	-84	-62	3923	1125.95	1.35	27.15
316	SLE RA 9	-85	-54	3949	1131.9	1.36	27.65
316	SLE RA 10	-89	-52	4244	1213.71	1.44	28.72
316	SLE RA 11	-87	-66	4242	1216.32	1.43	28.29
316	SLE RA 12	-89	-58	4268	1222.27	1.44	28.79
316	SLE RA 13	-89	-53	4270	1221.55	1.45	28.98
316	SLE RA 14	-88	-67	4268	1224.16	1.43	28.55
316	SLE RA 15	-90	-59	4294	1230.1	1.45	29.05
316	SLE RA 16	-88	-66	4252	1219.48	1.43	28.4
316	SLE RA 17	-89	-59	4278	1225.42	1.44	28.9
316	SLE RA 18	-88	-67	4341	1243.89	1.45	28.43
316	SLE RA 19	-89	-59	4367	1249.83	1.47	28.93
316	SLE RA 20	-88	-68	4367	1251.72	1.46	28.68
316	SLE RA 21	-90	-60	4393	1257.67	1.47	29.18
316	SLE FR 1	-82	-61	3871	1110.28	1.34	26.63
316	SLE FR 2	-83	-58	3880	1112.26	1.34	26.8
316	SLE FR 3	-83	-61	3881	1113.42	1.34	26.73
316	SLE FR 4	-84	-60	4020	1152.35	1.38	27.33
316	SLE FR 5	-84	-63	4022	1153.5	1.37	27.27
316	SLE FR 6	-85	-64	4106	1177.09	1.4	27.53
316	SLE QP 1	-82	-61	3871	1110.28	1.34	26.63
316	SLE QP 2	-84	-63	4012	1150.36	1.37	27.17
316	SLD 1	288	38	4684	1304.16	2.55	-89.33
316	SLD 2	362	6	4659	1297.21	2.43	-112.43
316	SLD 3	323	-205	3671	1074.57	2.31	-100.55
316	SLD 4	397	-236	3645	1067.62	2.19	-123.65
316	SLD 5	-38	341	5755	1545.92	2.11	13.24
316	SLD 6	10	321	5739	1541.43	2.03	-1.7
316	SLD 7	78	-468	2376	780.62	1.31	-24.16
316	SLD 8	126	-488	2360	776.12	1.23	-39.1
316	SLD 9	-293	363	5663	1524.61	1.51	93.44
316	SLD 10	-245	343	5647	1520.11	1.43	78.49
316	SLD 11	-178	-446	2284	759.3	0.71	56.04
316	SLD 12	-130	-466	2268	754.81	0.64	41.09
316	SLD 13	-565	111	4378	1233.11	0.56	177.99
316	SLD 14	-491	80	4353	1226.16	0.44	154.89
316	SLD 15	-530	-132	3364	1003.52	0.32	166.77
316	SLD 16	-456	-163	3339	996.57	0.2	143.67
316	SLV 1	496	110	5127	1405.39	3.22	-154.33
316	SLV 2	613	60	5088	1394.45	3.03	-190.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
316	SLV 3	554	-300	3414	1017.33	2.82	-173.19
316	SLV 4	671	-350	3375	1006.39	2.63	-209.56
316	SLV 5	-20	620	6952	1817.46	2.57	8.12
316	SLV 6	59	587	6925	1810.09	2.45	-16.37
316	SLV 7	174	-746	1242	523.95	1.23	-54.76
316	SLV 8	253	-780	1215	516.58	1.1	-79.25
316	SLV 9	-420	654	6808	1784.15	1.64	133.59
316	SLV 10	-342	621	6782	1776.78	1.52	109.1
316	SLV 11	-227	-712	1098	490.64	0.3	70.71
316	SLV 12	-148	-745	1071	483.27	0.17	46.22
316	SLV 13	-839	224	4648	1294.34	0.12	263.9
316	SLV 14	-722	175	4609	1283.39	-0.07	227.53
316	SLV 15	-781	-186	2935	906.28	-0.29	245.04
316	SLV 16	-664	-235	2896	895.34	-0.48	208.66
316	SLV FO 1	554	127	5239	1430.89	3.4	-172.48
316	SLV FO 2	682	73	5195	1418.85	3.2	-212.49
316	SLV FO 3	618	-324	3355	1004.03	2.96	-193.23
316	SLV FO 4	746	-378	3311	992	2.75	-233.24
316	SLV FO 5	-13	688	7246	1884.17	2.69	6.21
316	SLV FO 6	73	652	7217	1876.07	2.55	-20.72
316	SLV FO 7	200	-815	965	461.31	1.22	-62.95
316	SLV FO 8	286	-851	935	453.21	1.08	-89.89
316	SLV FO 9	-454	726	7088	1847.52	1.67	144.23
316	SLV FO 10	-367	690	7059	1839.42	1.53	117.29
316	SLV FO 11	-241	-777	807	424.66	0.19	75.06
316	SLV FO 12	-154	-814	777	416.56	0.05	48.12
316	SLV FO 13	-914	253	4712	1308.73	-0.01	287.57
316	SLV FO 14	-786	199	4669	1296.7	-0.22	247.56
316	SLV FO 15	-850	-198	2828	881.88	-0.45	266.82
316	SLV FO 16	-722	-252	2784	869.84	-0.66	226.81
316	CRTFP Ux+	0	0	0	0	0	0
316	CRTFP Ux-	0	0	0	0	0	0
316	CRTFP Uy+	0	0	0	0	0	0
316	CRTFP Uy-	0	0	0	0	0	0
317	SLU 1	-78	-46	3711	1060.04	-0.41	25.32
317	SLU 2	-82	-26	3778	1074.79	-0.43	26.56
317	SLU 3	-80	-47	3775	1078.77	-0.43	25.92
317	SLU 4	-82	-35	3814	1087.62	-0.44	26.66
317	SLU 5	-83	-27	3817	1086.52	-0.44	26.94
317	SLU 6	-81	-47	3814	1090.5	-0.44	26.3
317	SLU 7	-84	-35	3853	1099.35	-0.45	27.05
317	SLU 8	-81	-47	3790	1083.5	-0.43	26.08
317	SLU 9	-83	-35	3829	1092.35	-0.44	26.83
317	SLU 10	-88	-31	4272	1214.76	-0.56	28.42
317	SLU 11	-86	-52	4269	1218.74	-0.57	27.78
317	SLU 12	-88	-40	4308	1227.59	-0.57	28.52
317	SLU 13	-89	-32	4311	1226.49	-0.57	28.8
317	SLU 14	-87	-52	4308	1230.47	-0.58	28.16
317	SLU 15	-89	-40	4347	1239.32	-0.59	28.91
317	SLU 16	-86	-52	4284	1223.47	-0.57	27.94
317	SLU 17	-89	-40	4324	1232.32	-0.58	28.69
317	SLU 18	-86	-53	4417	1259.99	-0.61	27.97
317	SLU 19	-89	-41	4457	1268.84	-0.62	28.72
317	SLU 20	-87	-54	4456	1271.72	-0.62	28.36
317	SLU 21	-90	-42	4496	1280.57	-0.63	29.1
317	SLU 22	-90	-50	4223	1207.87	-0.46	28.98
317	SLU 23	-93	-30	4289	1222.63	-0.47	30.23
317	SLU 24	-91	-51	4286	1226.6	-0.47	29.59
317	SLU 25	-94	-39	4326	1235.45	-0.48	30.33
317	SLU 26	-95	-31	4328	1234.36	-0.48	30.61
317	SLU 27	-93	-52	4325	1238.33	-0.48	29.97
317	SLU 28	-95	-40	4365	1247.18	-0.49	30.72
317	SLU 29	-92	-52	4301	1231.33	-0.48	29.75
317	SLU 30	-94	-40	4341	1240.18	-0.48	30.5
317	SLU 31	-99	-35	4783	1362.59	-0.6	32.09
317	SLU 32	-97	-56	4780	1366.57	-0.61	31.45
317	SLU 33	-99	-44	4820	1375.42	-0.62	32.19
317	SLU 34	-100	-36	4822	1374.32	-0.62	32.47
317	SLU 35	-98	-57	4819	1378.3	-0.62	31.83
317	SLU 36	-101	-45	4859	1387.15	-0.63	32.58
317	SLU 37	-98	-57	4795	1371.3	-0.61	31.61
317	SLU 38	-100	-45	4835	1380.15	-0.62	32.36
317	SLU 39	-98	-57	4929	1407.83	-0.65	31.64
317	SLU 40	-100	-45	4968	1416.68	-0.66	32.39
317	SLU 41	-99	-58	4968	1419.56	-0.66	32.02
317	SLU 42	-101	-46	5008	1428.41	-0.67	32.77
317	SLU 43	-98	-58	4650	1327.37	-0.52	31.65
317	SLU 44	-102	-38	4716	1342.12	-0.54	32.89
317	SLU 45	-100	-59	4713	1346.1	-0.54	32.26
317	SLU 46	-102	-47	4752	1354.95	-0.55	33
317	SLU 47	-103	-39	4755	1353.85	-0.55	33.28
317	SLU 48	-101	-60	4752	1357.83	-0.55	32.64
317	SLU 49	-103	-48	4791	1366.68	-0.56	33.38
317	SLU 50	-100	-59	4728	1350.83	-0.54	32.42
317	SLU 51	-102	-47	4768	1359.68	-0.55	33.17
317	SLU 52	-107	-43	5210	1482.09	-0.67	34.75
317	SLU 53	-105	-64	5207	1486.07	-0.68	34.11
317	SLU 54	-108	-52	5246	1494.92	-0.68	34.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
317	SLU 55	-108	-44	5249	1493.82	-0.68	35.14
317	SLU 56	-106	-65	5246	1497.79	-0.69	34.5
317	SLU 57	-109	-53	5285	1506.65	-0.69	35.24
317	SLU 58	-106	-64	5222	1490.8	-0.68	34.28
317	SLU 59	-108	-52	5262	1499.65	-0.69	35.02
317	SLU 60	-106	-65	5355	1527.32	-0.72	34.31
317	SLU 61	-108	-53	5395	1536.17	-0.73	35.05
317	SLU 62	-107	-66	5394	1539.05	-0.73	34.69
317	SLU 63	-109	-54	5434	1547.9	-0.74	35.44
317	SLU 64	-109	-62	5161	1475.2	-0.57	35.32
317	SLU 65	-113	-42	5227	1489.95	-0.58	36.56
317	SLU 66	-111	-63	5224	1493.93	-0.58	35.92
317	SLU 67	-113	-51	5264	1502.78	-0.59	36.67
317	SLU 68	-114	-43	5266	1501.68	-0.59	36.95
317	SLU 69	-112	-64	5263	1505.66	-0.59	36.31
317	SLU 70	-114	-52	5303	1514.51	-0.6	37.05
317	SLU 71	-111	-64	5239	1498.66	-0.59	36.09
317	SLU 72	-114	-52	5279	1507.51	-0.59	36.84
317	SLU 73	-119	-47	5721	1629.92	-0.71	38.42
317	SLU 74	-117	-68	5718	1633.9	-0.72	37.78
317	SLU 75	-119	-56	5758	1642.75	-0.73	38.53
317	SLU 76	-120	-48	5760	1641.65	-0.72	38.81
317	SLU 77	-118	-69	5757	1645.63	-0.73	38.17
317	SLU 78	-120	-57	5797	1654.48	-0.74	38.91
317	SLU 79	-117	-69	5733	1638.63	-0.72	37.95
317	SLU 80	-119	-57	5773	1647.48	-0.73	38.69
317	SLU 81	-117	-69	5867	1675.15	-0.76	37.98
317	SLU 82	-119	-57	5906	1684	-0.77	38.72
317	SLU 83	-118	-70	5906	1686.88	-0.77	38.36
317	SLU 84	-121	-58	5946	1695.73	-0.78	39.11
317	SLE RA 1	-81	-47	3858	1102.28	-0.43	26.36
317	SLE RA 2	-84	-34	3902	1112.11	-0.43	27.19
317	SLE RA 3	-83	-48	3900	1114.77	-0.44	26.77
317	SLE RA 4	-84	-40	3926	1120.67	-0.44	27.26
317	SLE RA 5	-85	-34	3928	1119.93	-0.44	27.45
317	SLE RA 6	-83	-48	3926	1122.59	-0.44	27.02
317	SLE RA 7	-85	-40	3952	1128.49	-0.45	27.52
317	SLE RA 8	-83	-48	3910	1117.92	-0.44	26.88
317	SLE RA 9	-85	-40	3936	1123.82	-0.44	27.37
317	SLE RA 10	-88	-37	4231	1205.42	-0.52	28.43
317	SLE RA 11	-86	-51	4229	1208.08	-0.53	28.01
317	SLE RA 12	-88	-43	4255	1213.98	-0.53	28.5
317	SLE RA 13	-89	-38	4257	1213.24	-0.53	28.69
317	SLE RA 14	-87	-51	4255	1215.9	-0.54	28.26
317	SLE RA 15	-89	-43	4282	1221.8	-0.54	28.76
317	SLE RA 16	-87	-51	4239	1211.23	-0.53	28.12
317	SLE RA 17	-88	-43	4266	1217.13	-0.54	28.61
317	SLE RA 18	-87	-52	4328	1235.58	-0.56	28.13
317	SLE RA 19	-88	-44	4355	1241.48	-0.56	28.63
317	SLE RA 20	-88	-52	4354	1243.4	-0.56	28.39
317	SLE RA 21	-89	-44	4381	1249.3	-0.57	28.89
317	SLE FR 1	-81	-47	3858	1102.28	-0.43	26.36
317	SLE FR 2	-82	-44	3866	1104.25	-0.43	26.53
317	SLE FR 3	-82	-47	3868	1105.41	-0.43	26.47
317	SLE FR 4	-84	-46	4008	1144.24	-0.47	27.06
317	SLE FR 5	-83	-49	4009	1145.4	-0.47	27
317	SLE FR 6	-84	-49	4093	1168.93	-0.49	27.25
317	SLE QP 1	-81	-47	3858	1102.28	-0.43	26.36
317	SLE QP 2	-83	-48	3999	1142.27	-0.46	26.89
317	SLD 1	289	60	4638	1286.19	0.29	-89.42
317	SLD 2	363	33	4617	1280.47	0.18	-112.46
317	SLD 3	323	-189	3620	1055.76	0.68	-100.58
317	SLD 4	397	-216	3599	1050.04	0.58	-123.62
317	SLD 5	-36	367	5737	1535.92	-0.83	12.91
317	SLD 6	12	349	5723	1532.22	-0.89	-1.99
317	SLD 7	78	-464	2346	767.82	0.5	-24.27
317	SLD 8	126	-481	2332	764.12	0.44	-39.17
317	SLD 9	-292	385	5665	1520.42	-1.37	92.96
317	SLD 10	-244	367	5652	1516.72	-1.43	78.06
317	SLD 11	-178	-446	2274	752.32	-0.04	55.78
317	SLD 12	-130	-464	2260	748.62	-0.1	40.88
317	SLD 13	-563	120	4398	1234.51	-1.51	177.41
317	SLD 14	-489	92	4377	1228.79	-1.61	154.37
317	SLD 15	-529	-130	3381	1004.08	-1.11	166.25
317	SLD 16	-455	-157	3360	998.35	-1.22	143.21
317	SLV 1	497	137	5062	1381.94	0.68	-154.32
317	SLV 2	613	94	5029	1372.93	0.52	-190.6
317	SLV 3	554	-284	3343	992.47	1.36	-173.07
317	SLV 4	671	-327	3310	983.46	1.2	-209.35
317	SLV 5	-19	654	6932	1806.55	-1.11	7.74
317	SLV 6	60	625	6909	1800.49	-1.22	-16.69
317	SLV 7	174	-749	1201	508.32	1.13	-54.76
317	SLV 8	252	-778	1178	502.25	1.03	-79.19
317	SLV 9	-419	682	6820	1782.29	-1.96	132.98
317	SLV 10	-340	653	6797	1776.23	-2.06	108.55
317	SLV 11	-226	-722	1088	484.06	0.29	70.48
317	SLV 12	-148	-751	1066	477.99	0.18	46.05
317	SLV 13	-837	230	4688	1301.08	-2.13	263.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
317	SLV 14	-720	187	4655	1292.07	-2.28	226.86
317	SLV 15	-779	-191	2969	911.61	-1.45	244.39
317	SLV 16	-663	-234	2935	902.6	-1.61	208.11
317	SLV FO 1	554	156	5169	1405.91	0.8	-172.44
317	SLV FO 2	683	108	5132	1396	0.62	-212.35
317	SLV FO 3	618	-307	3277	977.49	1.54	-193.07
317	SLV FO 4	746	-355	3241	967.58	1.36	-232.98
317	SLV FO 5	-12	724	7225	1872.98	-1.18	5.82
317	SLV FO 6	74	692	7200	1866.31	-1.3	-21.04
317	SLV FO 7	200	-820	921	444.92	1.29	-62.93
317	SLV FO 8	286	-851	896	438.25	1.17	-89.8
317	SLV FO 9	-452	755	7102	1846.29	-2.1	143.59
317	SLV FO 10	-366	723	7077	1839.62	-2.22	116.72
317	SLV FO 11	-240	-789	797	418.23	0.37	74.83
317	SLV FO 12	-154	-821	772	411.56	0.25	47.97
317	SLV FO 13	-912	258	4757	1316.96	-2.29	286.76
317	SLV FO 14	-784	211	4720	1307.05	-2.47	246.86
317	SLV FO 15	-849	-205	2866	888.54	-1.55	266.14
317	SLV FO 16	-721	-252	2829	878.63	-1.73	226.23
317	CRTFP Ux+	0	0	0	0	0	0
317	CRTFP Ux-	0	0	0	0	0	0
317	CRTFP Uy+	0	0	0	0	0	0
317	CRTFP Uy-	0	0	0	0	0	0
318	SLU 1	-77	-33	3761	1072.78	-2.23	25.02
318	SLU 2	-81	-12	3829	1087.93	-2.28	26.26
318	SLU 3	-79	-33	3826	1091.85	-2.28	25.62
318	SLU 4	-81	-21	3866	1100.94	-2.31	26.36
318	SLU 5	-82	-13	3869	1099.88	-2.32	26.64
318	SLU 6	-80	-34	3866	1103.79	-2.31	26
318	SLU 7	-83	-21	3906	1112.88	-2.35	26.74
318	SLU 8	-80	-34	3841	1096.66	-2.29	25.78
318	SLU 9	-82	-21	3882	1105.75	-2.33	26.52
318	SLU 10	-87	-16	4333	1230.68	-2.7	28.08
318	SLU 11	-85	-37	4330	1234.59	-2.7	27.44
318	SLU 12	-87	-24	4370	1243.69	-2.73	28.18
318	SLU 13	-88	-16	4373	1242.62	-2.73	28.46
318	SLU 14	-86	-37	4370	1246.53	-2.73	27.82
318	SLU 15	-88	-25	4410	1255.63	-2.76	28.56
318	SLU 16	-85	-37	4345	1239.41	-2.71	27.6
318	SLU 17	-88	-25	4386	1248.5	-2.74	28.35
318	SLU 18	-85	-38	4482	1276.7	-2.82	27.62
318	SLU 19	-88	-25	4522	1285.8	-2.85	28.37
318	SLU 20	-86	-38	4522	1288.64	-2.85	28
318	SLU 21	-89	-26	4562	1297.74	-2.89	28.75
318	SLU 22	-89	-35	4280	1222.31	-2.56	28.65
318	SLU 23	-92	-15	4347	1237.47	-2.61	29.88
318	SLU 24	-90	-36	4344	1241.38	-2.61	29.24
318	SLU 25	-93	-23	4384	1250.47	-2.64	29.98
318	SLU 26	-94	-15	4387	1249.41	-2.64	30.26
318	SLU 27	-92	-36	4384	1253.32	-2.64	29.62
318	SLU 28	-94	-24	4424	1262.41	-2.67	30.36
318	SLU 29	-91	-36	4360	1246.19	-2.62	29.41
318	SLU 30	-93	-24	4400	1255.29	-2.65	30.15
318	SLU 31	-98	-18	4851	1380.21	-3.03	31.71
318	SLU 32	-96	-39	4848	1384.12	-3.02	31.07
318	SLU 33	-98	-27	4889	1393.22	-3.06	31.81
318	SLU 34	-99	-19	4891	1392.15	-3.06	32.09
318	SLU 35	-97	-40	4888	1396.07	-3.06	31.45
318	SLU 36	-99	-28	4929	1405.16	-3.09	32.19
318	SLU 37	-96	-40	4864	1388.94	-3.04	31.23
318	SLU 38	-99	-28	4904	1398.03	-3.07	31.97
318	SLU 39	-96	-40	5000	1426.23	-3.15	31.25
318	SLU 40	-99	-28	5040	1435.33	-3.18	31.99
318	SLU 41	-98	-41	5040	1438.17	-3.18	31.63
318	SLU 42	-100	-28	5080	1447.27	-3.21	32.37
318	SLU 43	-97	-41	4712	1343.34	-2.79	31.28
318	SLU 44	-101	-21	4779	1358.5	-2.84	32.52
318	SLU 45	-99	-42	4776	1362.41	-2.84	31.88
318	SLU 46	-101	-30	4817	1371.5	-2.87	32.62
318	SLU 47	-102	-22	4819	1370.44	-2.87	32.9
318	SLU 48	-100	-43	4816	1374.35	-2.87	32.26
318	SLU 49	-102	-30	4857	1383.45	-2.9	33
318	SLU 50	-99	-43	4792	1367.22	-2.85	32.04
318	SLU 51	-101	-30	4832	1376.32	-2.88	32.78
318	SLU 52	-106	-24	5283	1501.25	-3.25	34.34
318	SLU 53	-104	-46	5280	1505.16	-3.25	33.7
318	SLU 54	-106	-33	5321	1514.25	-3.28	34.44
318	SLU 55	-107	-25	5323	1513.19	-3.29	34.72
318	SLU 56	-105	-46	5320	1517.1	-3.28	34.08
318	SLU 57	-108	-34	5361	1526.19	-3.32	34.82
318	SLU 58	-105	-46	5296	1509.97	-3.26	33.87
318	SLU 59	-107	-34	5336	1519.06	-3.3	34.61
318	SLU 60	-105	-46	5432	1547.26	-3.38	33.89
318	SLU 61	-107	-34	5473	1556.36	-3.41	34.63
318	SLU 62	-106	-47	5472	1559.21	-3.41	34.27
318	SLU 63	-108	-35	5513	1568.3	-3.44	35.01
318	SLU 64	-108	-44	5230	1492.87	-3.11	34.91
318	SLU 65	-112	-23	5298	1508.03	-3.17	36.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
318	SLU 66	-110	-45	5295	1511.94	-3.17	35.51
318	SLU 67	-112	-32	5335	1521.04	-3.2	36.25
318	SLU 68	-113	-24	5338	1519.97	-3.2	36.53
318	SLU 69	-111	-45	5335	1523.88	-3.2	35.89
318	SLU 70	-113	-33	5375	1532.98	-3.23	36.63
318	SLU 71	-110	-45	5310	1516.76	-3.18	35.67
318	SLU 72	-113	-33	5351	1525.85	-3.21	36.41
318	SLU 73	-117	-27	5802	1650.78	-3.58	37.97
318	SLU 74	-115	-48	5799	1654.69	-3.58	37.33
318	SLU 75	-118	-36	5839	1663.78	-3.61	38.07
318	SLU 76	-118	-28	5842	1662.72	-3.61	38.35
318	SLU 77	-116	-49	5839	1666.63	-3.61	37.71
318	SLU 78	-119	-36	5879	1675.72	-3.64	38.45
318	SLU 79	-116	-49	5815	1659.5	-3.59	37.49
318	SLU 80	-118	-36	5855	1668.6	-3.62	38.23
318	SLU 81	-116	-49	5951	1696.8	-3.71	37.51
318	SLU 82	-118	-37	5991	1705.89	-3.74	38.26
318	SLU 83	-117	-50	5991	1708.74	-3.74	37.89
318	SLU 84	-119	-37	6031	1717.83	-3.77	38.64
318	SLE RA 1	-81	-33	3909	1115.5	-2.32	26.06
318	SLE RA 2	-83	-20	3954	1125.61	-2.36	26.88
318	SLE RA 3	-82	-34	3952	1128.21	-2.36	26.45
318	SLE RA 4	-83	-25	3979	1134.28	-2.38	26.95
318	SLE RA 5	-84	-20	3981	1133.57	-2.38	27.13
318	SLE RA 6	-83	-34	3979	1136.17	-2.38	26.71
318	SLE RA 7	-84	-26	4006	1142.24	-2.4	27.2
318	SLE RA 8	-82	-34	3963	1131.42	-2.37	26.56
318	SLE RA 9	-84	-26	3990	1137.48	-2.39	27.06
318	SLE RA 10	-87	-22	4290	1220.77	-2.64	28.1
318	SLE RA 11	-85	-36	4288	1223.38	-2.63	27.67
318	SLE RA 12	-87	-28	4315	1229.44	-2.66	28.16
318	SLE RA 13	-88	-22	4317	1228.73	-2.66	28.35
318	SLE RA 14	-86	-36	4315	1231.34	-2.66	27.92
318	SLE RA 15	-88	-28	4342	1237.4	-2.68	28.42
318	SLE RA 16	-86	-36	4299	1226.59	-2.64	27.78
318	SLE RA 17	-87	-28	4326	1232.65	-2.66	28.27
318	SLE RA 18	-86	-37	4390	1251.45	-2.72	27.79
318	SLE RA 19	-87	-28	4417	1257.51	-2.74	28.29
318	SLE RA 20	-87	-37	4416	1259.41	-2.74	28.05
318	SLE RA 21	-88	-29	4443	1265.47	-2.76	28.54
318	SLE FR 1	-81	-33	3909	1115.5	-2.32	26.06
318	SLE FR 2	-81	-31	3918	1117.52	-2.33	26.22
318	SLE FR 3	-81	-33	3920	1118.68	-2.33	26.16
318	SLE FR 4	-83	-32	4062	1158.31	-2.45	26.74
318	SLE FR 5	-82	-34	4064	1159.47	-2.45	26.68
318	SLE FR 6	-83	-35	4150	1183.47	-2.52	26.92
318	SLE QP 1	-81	-33	3909	1115.5	-2.32	26.06
318	SLE QP 2	-82	-34	4053	1156.28	-2.44	26.58
318	SLD 1	290	83	4674	1295.43	-2.09	-89.57
318	SLD 2	364	60	4656	1290.72	-2.18	-112.55
318	SLD 3	324	-173	3630	1056.43	-1.05	-100.65
318	SLD 4	398	-196	3612	1051.73	-1.14	-123.63
318	SLD 5	-35	393	5825	1561.32	-3.89	12.52
318	SLD 6	13	378	5814	1558.28	-3.95	-2.35
318	SLD 7	78	-460	2347	764.67	-0.44	-24.4
318	SLD 8	126	-475	2335	761.62	-0.49	-39.27
318	SLD 9	-291	406	5772	1550.94	-4.39	92.43
318	SLD 10	-243	391	5760	1547.9	-4.45	77.56
318	SLD 11	-177	-446	2293	754.29	-0.94	55.5
318	SLD 12	-129	-461	2282	751.25	-0.99	40.63
318	SLD 13	-562	128	4495	1260.84	-3.75	176.78
318	SLD 14	-488	105	4477	1256.14	-3.83	153.8
318	SLD 15	-528	-128	3451	1021.85	-2.71	165.7
318	SLD 16	-454	-151	3433	1017.14	-2.8	142.72
318	SLV 1	497	165	5089	1389.09	-1.96	-154.38
318	SLV 2	614	128	5061	1381.68	-2.09	-190.56
318	SLV 3	554	-267	3326	985.14	-0.21	-173
318	SLV 4	671	-304	3297	977.74	-0.34	-209.18
318	SLV 5	-17	688	7045	1840.16	-4.93	7.29
318	SLV 6	61	663	7026	1835.17	-5.02	-17.07
318	SLV 7	174	-753	1165	493.68	0.91	-54.79
318	SLV 8	252	-778	1146	488.69	0.82	-79.15
318	SLV 9	-417	709	6961	1823.88	-5.7	132.3
318	SLV 10	-338	684	6942	1818.89	-5.79	107.94
318	SLV 11	-226	-732	1081	477.4	0.13	70.23
318	SLV 12	-147	-756	1062	472.41	0.04	45.87
318	SLV 13	-835	235	4810	1334.83	-4.54	262.34
318	SLV 14	-719	199	4781	1327.43	-4.68	226.15
318	SLV 15	-778	-197	3046	930.89	-2.79	243.71
318	SLV 16	-661	-233	3018	923.48	-2.93	207.53
318	SLV FO 1	555	185	5193	1412.37	-1.91	-172.47
318	SLV FO 2	683	145	5162	1404.22	-2.06	-212.27
318	SLV FO 3	618	-291	3253	968.03	0.02	-192.96
318	SLV FO 4	746	-331	3222	959.88	-0.13	-232.76
318	SLV FO 5	-11	760	7344	1908.54	-5.18	5.36
318	SLV FO 6	76	733	7323	1903.06	-5.28	-21.44
318	SLV FO 7	200	-825	876	427.41	1.24	-62.92
318	SLV FO 8	286	-852	856	421.93	1.14	-89.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
318	SLV FO 9	-450	783	7251	1890.64	-6.03	142.87
318	SLV FO 10	-364	756	7230	1885.15	-6.13	116.08
318	SLV FO 11	-240	-802	784	409.51	0.39	74.59
318	SLV FO 12	-154	-829	763	404.03	0.29	47.8
318	SLV FO 13	-910	262	4885	1352.69	-4.75	285.91
318	SLV FO 14	-782	222	4854	1344.54	-4.9	246.11
318	SLV FO 15	-847	-213	2945	908.35	-2.83	265.43
318	SLV FO 16	-719	-253	2914	900.2	-2.97	225.63
318	CRTFP Ux+	0	0	0	0	0	0
318	CRTFP Ux-	0	0	0	0	0	0
318	CRTFP Uy+	0	0	0	0	0	0
318	CRTFP Uy-	0	0	0	0	0	0
319	SLU 1	-76	-20	3875	1105.21	-3.92	24.73
319	SLU 2	-80	1	3945	1121.24	-4.01	25.96
319	SLU 3	-78	-20	3942	1124.99	-4.01	25.32
319	SLU 4	-81	-7	3984	1134.6	-4.06	26.06
319	SLU 5	-81	1	3987	1133.62	-4.06	26.33
319	SLU 6	-79	-20	3984	1137.36	-4.06	25.7
319	SLU 7	-82	-8	4026	1146.98	-4.11	26.43
319	SLU 8	-79	-21	3958	1129.97	-4.03	25.48
319	SLU 9	-81	-8	4000	1139.58	-4.08	26.22
319	SLU 10	-86	-1	4469	1269.76	-4.68	27.75
319	SLU 11	-84	-22	4466	1273.51	-4.68	27.11
319	SLU 12	-86	-9	4508	1283.12	-4.73	27.84
319	SLU 13	-87	-1	4511	1282.14	-4.73	28.12
319	SLU 14	-85	-23	4508	1285.88	-4.73	27.49
319	SLU 15	-87	-10	4550	1295.5	-4.78	28.22
319	SLU 16	-84	-23	4482	1278.49	-4.7	27.27
319	SLU 17	-87	-10	4524	1288.1	-4.75	28.01
319	SLU 18	-84	-23	4624	1317.38	-4.88	27.29
319	SLU 19	-87	-10	4666	1327	-4.93	28.02
319	SLU 20	-85	-23	4666	1329.76	-4.93	27.66
319	SLU 21	-88	-10	4708	1339.38	-4.98	28.4
319	SLU 22	-88	-20	4411	1259.52	-4.52	28.31
319	SLU 23	-91	1	4481	1275.55	-4.6	29.54
319	SLU 24	-89	-21	4478	1279.29	-4.6	28.9
319	SLU 25	-92	-8	4520	1288.91	-4.65	29.64
319	SLU 26	-93	0	4522	1287.92	-4.66	29.92
319	SLU 27	-91	-21	4519	1291.67	-4.65	29.28
319	SLU 28	-93	-8	4561	1301.29	-4.7	30.02
319	SLU 29	-90	-21	4494	1284.27	-4.62	29.07
319	SLU 30	-92	-9	4536	1293.89	-4.67	29.8
319	SLU 31	-97	-1	5005	1424.07	-5.28	31.33
319	SLU 32	-95	-23	5002	1427.81	-5.27	30.69
319	SLU 33	-97	-10	5044	1437.43	-5.32	31.43
319	SLU 34	-98	-2	5046	1436.44	-5.33	31.71
319	SLU 35	-96	-23	5043	1440.19	-5.32	31.07
319	SLU 36	-98	-11	5085	1449.81	-5.38	31.81
319	SLU 37	-95	-23	5018	1432.79	-5.29	30.86
319	SLU 38	-98	-11	5060	1442.41	-5.34	31.59
319	SLU 39	-95	-23	5160	1471.69	-5.47	30.87
319	SLU 40	-98	-11	5202	1481.31	-5.53	31.61
319	SLU 41	-97	-24	5201	1484.07	-5.53	31.25
319	SLU 42	-99	-11	5243	1493.68	-5.58	31.98
319	SLU 43	-96	-25	4854	1383.87	-4.89	30.92
319	SLU 44	-99	-4	4924	1399.9	-4.98	32.15
319	SLU 45	-97	-26	4921	1403.64	-4.98	31.51
319	SLU 46	-100	-13	4963	1413.26	-5.03	32.25
319	SLU 47	-101	-5	4966	1412.27	-5.04	32.52
319	SLU 48	-99	-26	4963	1416.02	-5.03	31.89
319	SLU 49	-101	-13	5005	1425.64	-5.08	32.62
319	SLU 50	-98	-26	4937	1408.62	-5	31.67
319	SLU 51	-100	-14	4979	1418.24	-5.05	32.41
319	SLU 52	-105	-6	5448	1548.42	-5.65	33.94
319	SLU 53	-103	-28	5445	1552.16	-5.65	33.3
319	SLU 54	-105	-15	5487	1561.78	-5.7	34.04
319	SLU 55	-106	-7	5490	1560.79	-5.71	34.31
319	SLU 56	-104	-28	5487	1564.54	-5.7	33.68
319	SLU 57	-106	-16	5529	1574.16	-5.75	34.41
319	SLU 58	-103	-28	5461	1557.14	-5.67	33.46
319	SLU 59	-106	-16	5503	1566.76	-5.72	34.2
319	SLU 60	-103	-28	5603	1596.04	-5.85	33.48
319	SLU 61	-106	-16	5645	1605.66	-5.91	34.21
319	SLU 62	-105	-29	5645	1608.42	-5.9	33.85
319	SLU 63	-107	-16	5687	1618.03	-5.96	34.59
319	SLU 64	-107	-26	5390	1538.17	-5.49	34.51
319	SLU 65	-111	-5	5460	1554.2	-5.58	35.73
319	SLU 66	-109	-26	5457	1557.95	-5.57	35.09
319	SLU 67	-111	-14	5499	1567.57	-5.63	35.83
319	SLU 68	-112	-5	5501	1566.58	-5.63	36.11
319	SLU 69	-110	-27	5498	1570.33	-5.62	35.47
319	SLU 70	-112	-14	5540	1579.95	-5.68	36.21
319	SLU 71	-109	-27	5473	1562.93	-5.59	35.26
319	SLU 72	-111	-14	5515	1572.55	-5.65	35.99
319	SLU 73	-116	-7	5984	1702.72	-6.25	37.52
319	SLU 74	-114	-28	5981	1706.47	-6.24	36.88
319	SLU 75	-116	-16	6023	1716.09	-6.3	37.62
319	SLU 76	-117	-7	6025	1715.1	-6.3	37.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
319	SLU 77	-115	-29	6022	1718.85	-6.29	37.26
319	SLU 78	-117	-16	6064	1728.47	-6.35	38
319	SLU 79	-115	-29	5997	1711.45	-6.26	37.05
319	SLU 80	-117	-16	6039	1721.07	-6.32	37.78
319	SLU 81	-114	-29	6139	1750.34	-6.45	37.06
319	SLU 82	-117	-16	6181	1759.96	-6.5	37.8
319	SLU 83	-116	-29	6180	1762.72	-6.5	37.44
319	SLU 84	-118	-17	6222	1772.34	-6.55	38.17
319	SLE RA 1	-80	-20	4028	1149.3	-4.09	25.75
319	SLE RA 2	-82	-6	4075	1159.98	-4.15	26.57
319	SLE RA 3	-81	-20	4073	1162.48	-4.15	26.15
319	SLE RA 4	-82	-12	4101	1168.89	-4.18	26.64
319	SLE RA 5	-83	-6	4103	1168.24	-4.19	26.82
319	SLE RA 6	-82	-20	4101	1170.73	-4.18	26.4
319	SLE RA 7	-83	-12	4129	1177.15	-4.22	26.89
319	SLE RA 8	-81	-20	4084	1165.8	-4.16	26.26
319	SLE RA 9	-83	-12	4112	1172.21	-4.2	26.75
319	SLE RA 10	-86	-7	4424	1259	-4.6	27.77
319	SLE RA 11	-84	-21	4422	1261.5	-4.59	27.34
319	SLE RA 12	-86	-13	4450	1267.91	-4.63	27.83
319	SLE RA 13	-87	-7	4452	1267.25	-4.63	28.02
319	SLE RA 14	-85	-22	4450	1269.75	-4.63	27.59
319	SLE RA 15	-87	-13	4478	1276.16	-4.66	28.08
319	SLE RA 16	-85	-22	4433	1264.81	-4.61	27.45
319	SLE RA 17	-86	-13	4461	1271.23	-4.64	27.94
319	SLE RA 18	-85	-22	4528	1290.74	-4.73	27.46
319	SLE RA 19	-86	-13	4556	1297.16	-4.77	27.95
319	SLE RA 20	-86	-22	4555	1299	-4.76	27.71
319	SLE RA 21	-87	-14	4583	1305.41	-4.8	28.2
319	SLE FR 1	-80	-20	4028	1149.3	-4.09	25.75
319	SLE FR 2	-80	-17	4038	1151.43	-4.1	25.92
319	SLE FR 3	-80	-20	4039	1152.6	-4.11	25.86
319	SLE FR 4	-82	-18	4187	1193.87	-4.29	26.43
319	SLE FR 5	-82	-21	4189	1195.03	-4.3	26.37
319	SLE FR 6	-82	-21	4278	1220.02	-4.41	26.61
319	SLE QP 1	-80	-20	4028	1149.3	-4.09	25.75
319	SLE QP 2	-81	-20	4178	1191.73	-4.28	26.27
319	SLD 1	290	105	4793	1330.66	-4.24	-89.7
319	SLD 2	364	86	4778	1326.81	-4.32	-112.61
319	SLD 3	324	-157	3701	1076.07	-2.66	-100.69
319	SLD 4	398	-176	3686	1072.22	-2.74	-123.6
319	SLD 5	-34	419	6021	1620.22	-6.66	12.11
319	SLD 6	14	407	6011	1617.72	-6.71	-2.72
319	SLD 7	79	-456	2382	771.57	-1.38	-24.5
319	SLD 8	127	-469	2372	769.07	-1.43	-39.32
319	SLD 9	-289	428	5984	1614.39	-7.13	91.86
319	SLD 10	-241	416	5974	1611.9	-7.18	77.03
319	SLD 11	-176	-447	2345	765.74	-1.86	55.25
319	SLD 12	-129	-460	2336	763.25	-1.91	40.43
319	SLD 13	-560	135	4670	1311.25	-5.83	176.13
319	SLD 14	-487	116	4655	1307.39	-5.9	153.22
319	SLD 15	-527	-127	3579	1056.65	-4.25	165.15
319	SLD 16	-453	-146	3563	1052.8	-4.32	142.24
319	SLV 1	498	193	5209	1425.3	-4.32	-154.42
319	SLV 2	614	163	5185	1419.23	-4.44	-190.49
319	SLV 3	555	-251	3364	995	-1.65	-172.88
319	SLV 4	671	-281	3340	988.93	-1.77	-208.95
319	SLV 5	-15	722	7290	1915.56	-8.33	6.79
319	SLV 6	63	702	7274	1911.48	-8.41	-17.49
319	SLV 7	174	-757	1141	481.21	0.58	-54.74
319	SLV 8	252	-777	1124	477.13	0.51	-79.03
319	SLV 9	-415	736	7232	1906.33	-9.07	131.56
319	SLV 10	-336	716	7216	1902.25	-9.15	107.28
319	SLV 11	-225	-743	1083	471.98	-0.16	70.03
319	SLV 12	-147	-763	1067	467.9	-0.24	45.74
319	SLV 13	-833	240	5016	1394.53	-6.8	261.48
319	SLV 14	-717	210	4992	1388.46	-6.92	225.41
319	SLV 15	-776	-204	3171	964.23	-4.13	243.02
319	SLV 16	-660	-234	3147	958.16	-4.24	206.95
319	SLV FO 1	556	214	5312	1448.66	-4.33	-172.48
319	SLV FO 2	683	181	5286	1441.98	-4.46	-212.17
319	SLV FO 3	618	-274	3283	975.32	-1.39	-192.79
319	SLV FO 4	746	-307	3256	968.65	-1.51	-232.47
319	SLV FO 5	-9	796	7601	1987.95	-8.73	4.85
319	SLV FO 6	77	774	7583	1983.45	-8.82	-21.87
319	SLV FO 7	200	-831	837	410.16	1.07	-62.85
319	SLV FO 8	286	-853	819	405.67	0.99	-89.56
319	SLV FO 9	-448	812	7537	1977.79	-9.55	142.09
319	SLV FO 10	-362	790	7519	1973.3	-9.64	115.38
319	SLV FO 11	-240	-815	773	400.01	0.25	74.4
319	SLV FO 12	-154	-837	756	395.51	0.17	47.68
319	SLV FO 13	-908	266	5100	1414.81	-7.05	285.01
319	SLV FO 14	-780	233	5074	1408.14	-7.18	245.32
319	SLV FO 15	-846	-222	3071	941.48	-4.11	264.7
319	SLV FO 16	-718	-255	3044	934.8	-4.24	225.02
319	CRTFP Ux+	0	0	0	0	0	0
319	CRTFP Ux-	0	0	0	0	0	0
319	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
319	CRTFP Uy-	0	0	0	0	0	0
320	SLU 1	-219	-13	11520	4000.87	-908.78	82.42
320	SLU 2	-229	49	11727	4066.42	-925.25	90.84
320	SLU 3	-224	-13	11721	4071.98	-925	84.37
320	SLU 4	-230	24	11845	4111.31	-934.88	89.43
320	SLU 5	-233	48	11852	4110.75	-935.31	92.04
320	SLU 6	-227	-14	11846	4116.31	-935.07	85.57
320	SLU 7	-233	23	11970	4155.64	-944.95	90.63
320	SLU 8	-225	-15	11770	4089.53	-928.92	84.81
320	SLU 9	-232	23	11894	4128.86	-938.8	89.86
320	SLU 10	-245	48	13302	4611.86	-1052.16	96.83
320	SLU 11	-239	-14	13296	4617.41	-1051.92	90.36
320	SLU 12	-246	23	13420	4656.74	-1061.8	95.42
320	SLU 13	-248	47	13427	4656.18	-1062.23	98.03
320	SLU 14	-243	-15	13421	4661.74	-1061.99	91.56
320	SLU 15	-249	22	13545	4701.07	-1071.86	96.62
320	SLU 16	-241	-16	13345	4634.96	-1055.83	90.8
320	SLU 17	-247	21	13469	4674.29	-1065.71	95.85
320	SLU 18	-241	-15	13770	4780.06	-1090.09	90.97
320	SLU 19	-247	22	13894	4819.39	-1099.97	96.03
320	SLU 20	-244	-16	13895	4824.39	-1100.15	92.17
320	SLU 21	-250	22	14019	4863.72	-1110.03	97.22
320	SLU 22	-250	-9	13121	4559.14	-1036.45	94.72
320	SLU 23	-261	53	13328	4624.69	-1052.91	103.15
320	SLU 24	-255	-9	13322	4630.24	-1052.67	96.68
320	SLU 25	-262	28	13446	4669.57	-1062.55	101.74
320	SLU 26	-264	53	13453	4669.01	-1062.98	104.35
320	SLU 27	-259	-10	13447	4674.57	-1062.74	97.88
320	SLU 28	-265	28	13571	4713.9	-1072.62	102.94
320	SLU 29	-257	-10	13371	4647.79	-1056.58	97.12
320	SLU 30	-263	27	13495	4687.12	-1066.46	102.17
320	SLU 31	-276	52	14903	5170.12	-1179.83	109.14
320	SLU 32	-271	-10	14897	5175.67	-1179.58	102.67
320	SLU 33	-277	27	15021	5215	-1189.46	107.73
320	SLU 34	-280	51	15028	5214.44	-1189.89	110.34
320	SLU 35	-274	-11	15022	5220	-1189.65	103.87
320	SLU 36	-281	26	15146	5259.33	-1199.53	108.92
320	SLU 37	-272	-12	14946	5193.22	-1183.5	103.1
320	SLU 38	-279	26	15070	5232.55	-1193.38	108.16
320	SLU 39	-272	-11	15371	5338.33	-1217.75	103.28
320	SLU 40	-279	27	15495	5377.65	-1227.63	108.34
320	SLU 41	-276	-12	15496	5382.65	-1227.82	104.47
320	SLU 42	-282	26	15620	5421.98	-1237.7	109.53
320	SLU 43	-273	-18	14427	5009.73	-1137.64	102.92
320	SLU 44	-284	44	14634	5075.28	-1154.11	111.35
320	SLU 45	-278	-18	14628	5080.84	-1153.87	104.88
320	SLU 46	-285	19	14753	5120.17	-1163.74	109.94
320	SLU 47	-287	43	14759	5119.61	-1164.18	112.54
320	SLU 48	-282	-19	14753	5125.16	-1163.93	106.08
320	SLU 49	-288	18	14878	5164.49	-1173.81	111.13
320	SLU 50	-280	-20	14677	5098.39	-1157.78	105.31
320	SLU 51	-286	17	14801	5137.71	-1167.66	110.37
320	SLU 52	-299	43	16209	5620.71	-1281.02	117.34
320	SLU 53	-294	-20	16203	5626.27	-1280.78	110.87
320	SLU 54	-300	18	16328	5665.6	-1290.66	115.92
320	SLU 55	-303	42	16334	5665.04	-1291.09	118.53
320	SLU 56	-297	-21	16328	5670.6	-1290.85	112.06
320	SLU 57	-304	17	16453	5709.93	-1300.73	117.12
320	SLU 58	-295	-21	16252	5643.82	-1284.69	111.3
320	SLU 59	-302	16	16376	5683.15	-1294.57	116.36
320	SLU 60	-295	-20	16677	5788.92	-1318.95	111.47
320	SLU 61	-302	17	16801	5828.25	-1328.83	116.53
320	SLU 62	-299	-21	16802	5833.25	-1329.02	112.67
320	SLU 63	-305	16	16926	5872.58	-1338.9	117.73
320	SLU 64	-305	-14	16028	5567.99	-1265.31	115.23
320	SLU 65	-316	48	16235	5633.54	-1281.77	123.66
320	SLU 66	-310	-14	16229	5639.1	-1281.53	117.19
320	SLU 67	-316	23	16353	5678.43	-1291.41	122.24
320	SLU 68	-319	47	16360	5677.87	-1291.84	124.85
320	SLU 69	-313	-15	16354	5683.43	-1291.6	118.38
320	SLU 70	-320	22	16478	5722.76	-1301.48	123.44
320	SLU 71	-311	-16	16278	5656.65	-1285.44	117.62
320	SLU 72	-318	22	16402	5695.98	-1295.32	122.68
320	SLU 73	-331	47	17810	6178.98	-1408.69	129.64
320	SLU 74	-326	-16	17804	6184.53	-1408.45	123.18
320	SLU 75	-332	22	17928	6223.86	-1418.33	128.23
320	SLU 76	-334	46	17935	6223.3	-1418.76	130.84
320	SLU 77	-329	-16	17929	6228.86	-1418.51	124.37
320	SLU 78	-335	21	18053	6268.19	-1428.39	129.43
320	SLU 79	-327	-17	17853	6202.08	-1412.36	123.61
320	SLU 80	-333	20	17977	6241.41	-1422.24	128.67
320	SLU 81	-327	-16	18278	6347.18	-1446.62	123.78
320	SLU 82	-333	21	18402	6386.51	-1456.49	128.84
320	SLU 83	-330	-17	18403	6391.51	-1456.68	124.98
320	SLU 84	-337	20	18527	6430.84	-1466.56	130.04
320	SLE RA 1	-228	-12	11977	4160.38	-945.26	85.93
320	SLE RA 2	-235	30	12115	4204.08	-956.23	91.55
320	SLE RA 3	-231	-12	12111	4207.78	-956.07	87.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
320	SLE RA 4	-235	13	12194	4234	-962.66	90.61
320	SLE RA 5	-237	29	12199	4233.63	-962.95	92.35
320	SLE RA 6	-233	-12	12195	4237.33	-962.78	88.04
320	SLE RA 7	-238	13	12278	4263.55	-969.37	91.41
320	SLE RA 8	-232	-13	12144	4219.48	-958.68	87.53
320	SLE RA 9	-236	12	12227	4245.7	-965.27	90.9
320	SLE RA 10	-245	29	13165	4567.7	-1040.84	95.54
320	SLE RA 11	-241	-13	13161	4571.4	-1040.68	91.23
320	SLE RA 12	-246	12	13244	4597.62	-1047.27	94.6
320	SLE RA 13	-247	28	13249	4597.25	-1047.55	96.34
320	SLE RA 14	-244	-13	13245	4600.95	-1047.39	92.03
320	SLE RA 15	-248	12	13328	4627.17	-1053.98	95.4
320	SLE RA 16	-242	-14	13194	4583.1	-1043.29	91.52
320	SLE RA 17	-247	11	13277	4609.32	-1049.88	94.89
320	SLE RA 18	-242	-13	13477	4679.84	-1066.13	91.63
320	SLE RA 19	-247	12	13560	4706.06	-1072.71	95.01
320	SLE RA 20	-245	-14	13561	4709.39	-1072.84	92.43
320	SLE RA 21	-249	11	13643	4735.61	-1079.43	95.8
320	SLE FR 1	-228	-12	11977	4160.38	-945.26	85.93
320	SLE FR 2	-229	-3	12005	4169.12	-947.45	87.06
320	SLE FR 3	-228	-12	12011	4172.2	-947.94	86.25
320	SLE FR 4	-233	-4	12455	4324.96	-983.71	88.77
320	SLE FR 5	-233	-12	12461	4328.04	-984.2	87.96
320	SLE FR 6	-235	-12	12727	4420.11	-1005.69	88.78
320	SLE QP 1	-228	-12	11977	4160.38	-945.26	85.93
320	SLE QP 2	-232	-12	12427	4316.22	-981.52	87.64
320	SLD 1	827	375	14155	4860.33	-1102.6	-267.16
320	SLD 2	1035	336	14121	4849.44	-1101.37	-343.95
320	SLD 3	922	-398	10899	3821.02	-840.11	-357.76
320	SLD 4	1130	-437	10865	3810.13	-838.89	-434.55
320	SLD 5	-94	1283	17890	6057.63	-1416.16	131.93
320	SLD 6	40	1258	17868	6050.58	-1415.36	82.25
320	SLD 7	222	-1293	7036	2593.26	-541.21	-170.06
320	SLD 8	357	-1318	7014	2586.21	-540.41	-219.74
320	SLD 9	-821	1294	17840	6046.22	-1422.62	395.03
320	SLD 10	-686	1269	17818	6039.18	-1421.83	345.35
320	SLD 11	-504	-1282	6986	2581.85	-547.67	93.04
320	SLD 12	-370	-1307	6964	2574.8	-546.88	43.36
320	SLD 13	-1594	413	13989	4822.3	-1124.15	609.84
320	SLD 14	-1386	374	13955	4811.41	-1122.92	533.04
320	SLD 15	-1499	-360	10733	3782.99	-861.66	519.24
320	SLD 16	-1291	-399	10699	3772.1	-860.44	442.45
320	SLV 1	1418	640	15339	5234.42	-1187.32	-461.52
320	SLV 2	1745	579	15286	5217.27	-1185.39	-582.43
320	SLV 3	1577	-666	9836	3477.88	-743.7	-614.3
320	SLV 4	1905	-727	9783	3460.74	-741.77	-735.21
320	SLV 5	-40	2175	21657	7258.96	-1716.43	177.18
320	SLV 6	180	2134	21621	7247.42	-1715.14	95.78
320	SLV 7	492	-2177	3313	1403.83	-237.71	-332.1
320	SLV 8	712	-2218	3277	1392.29	-236.42	-413.5
320	SLV 9	-1176	2194	21577	7240.14	-1726.62	588.79
320	SLV 10	-956	2153	21541	7228.6	-1725.32	507.38
320	SLV 11	-644	-2158	3233	1385.01	-247.9	79.51
320	SLV 12	-424	-2199	3197	1373.47	-246.6	-1.9
320	SLV 13	-2369	703	15072	5171.7	-1221.26	910.5
320	SLV 14	-2041	642	15018	5154.55	-1219.34	789.59
320	SLV 15	-2209	-603	9569	3415.16	-777.64	757.72
320	SLV 16	-1882	-664	9515	3398.02	-775.72	636.81
320	SLV FO 1	1583	705	15630	5326.24	-1207.89	-516.44
320	SLV FO 2	1943	638	15572	5307.38	-1205.78	-649.44
320	SLV FO 3	1758	-731	9577	3394.04	-719.92	-684.5
320	SLV FO 4	2118	-799	9518	3375.19	-717.8	-817.5
320	SLV FO 5	-21	2394	22580	7553.23	-1789.93	186.14
320	SLV FO 6	222	2349	22541	7540.54	-1788.5	96.59
320	SLV FO 7	564	-2394	2402	1112.59	-163.33	-374.07
320	SLV FO 8	807	-2439	2362	1099.9	-161.91	-463.62
320	SLV FO 9	-1270	2415	22492	7532.53	-1801.13	638.9
320	SLV FO 10	-1028	2369	22453	7519.84	-1799.7	549.36
320	SLV FO 11	-686	-2373	2314	1091.89	-174.54	78.7
320	SLV FO 12	-443	-2418	2274	1079.2	-173.11	-10.85
320	SLV FO 13	-2582	774	15336	5257.24	-1245.23	992.79
320	SLV FO 14	-2222	707	15278	5238.39	-1243.12	859.78
320	SLV FO 15	-2407	-662	9283	3325.05	-757.26	824.72
320	SLV FO 16	-2047	-729	9224	3306.2	-755.14	691.72
320	CRTFP Ux+	0	0	0	0	0	0
320	CRTFP Ux-	0	0	0	0	0	0
320	CRTFP Uy+	0	0	0	-0.01	0	0
320	CRTFP Uy-	0	0	0	0.01	0	0
322	SLU 1	-52	4	2877	843.71	347.11	16.58
322	SLU 2	-54	19	2929	856.48	353.36	15.59
322	SLU 3	-53	4	2927	859.04	353.21	16.98
322	SLU 4	-55	13	2959	866.7	356.96	16.38
322	SLU 5	-55	19	2960	866.06	357.15	15.86
322	SLU 6	-54	4	2958	868.62	357	17.25
322	SLU 7	-55	13	2990	876.28	360.75	16.65
322	SLU 8	-53	3	2939	862.87	354.68	17.13
322	SLU 9	-55	12	2971	870.53	358.44	16.53
322	SLU 10	-58	19	3325	972.23	401.12	16.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
322	SLU 11	-57	4	3324	974.79	400.97	18.15
322	SLU 12	-58	13	3355	982.45	404.72	17.55
322	SLU 13	-59	19	3357	981.81	404.91	17.03
322	SLU 14	-57	4	3355	984.37	404.76	18.42
322	SLU 15	-59	13	3386	992.03	408.51	17.82
322	SLU 16	-57	4	3336	978.62	402.44	18.3
322	SLU 17	-59	13	3367	986.28	406.19	17.7
322	SLU 18	-57	4	3443	1009.06	415.33	18.26
322	SLU 19	-59	13	3474	1016.72	419.09	17.66
322	SLU 20	-58	4	3474	1018.65	419.12	18.53
322	SLU 21	-59	13	3506	1026.3	422.87	17.93
322	SLU 22	-59	6	3278	962.46	395.52	18.81
322	SLU 23	-62	21	3330	975.22	401.77	17.81
322	SLU 24	-61	6	3328	977.79	401.62	19.2
322	SLU 25	-62	15	3360	985.44	405.37	18.6
322	SLU 26	-63	21	3362	984.8	405.56	18.09
322	SLU 27	-61	6	3360	987.37	405.41	19.48
322	SLU 28	-63	15	3391	995.03	409.16	18.88
322	SLU 29	-61	5	3341	981.62	403.09	19.36
322	SLU 30	-62	14	3372	989.28	406.85	18.76
322	SLU 31	-66	21	3727	1090.97	449.53	18.98
322	SLU 32	-64	6	3725	1093.53	449.38	20.38
322	SLU 33	-66	15	3756	1101.19	453.13	19.78
322	SLU 34	-66	21	3758	1100.55	453.32	19.26
322	SLU 35	-65	6	3756	1103.11	453.17	20.65
322	SLU 36	-67	15	3788	1110.77	456.92	20.05
322	SLU 37	-65	6	3737	1097.36	450.85	20.53
322	SLU 38	-66	15	3768	1105.02	454.6	19.93
322	SLU 39	-65	6	3844	1127.81	463.74	20.49
322	SLU 40	-66	15	3876	1135.47	467.5	19.89
322	SLU 41	-65	6	3876	1137.39	467.53	20.76
322	SLU 42	-67	15	3907	1145.05	471.28	20.16
322	SLU 43	-65	4	3602	1056.11	434.64	20.8
322	SLU 44	-67	19	3654	1068.88	440.9	19.8
322	SLU 45	-66	4	3652	1071.44	440.74	21.19
322	SLU 46	-67	13	3684	1079.1	444.5	20.59
322	SLU 47	-68	19	3686	1078.46	444.68	20.07
322	SLU 48	-67	4	3684	1081.02	444.53	21.46
322	SLU 49	-68	13	3715	1088.68	448.28	20.86
322	SLU 50	-66	4	3665	1075.28	442.22	21.34
322	SLU 51	-68	13	3696	1082.93	445.97	20.74
322	SLU 52	-71	20	4051	1184.63	488.65	20.97
322	SLU 53	-70	5	4049	1187.19	488.5	22.36
322	SLU 54	-71	14	4080	1194.85	492.25	21.76
322	SLU 55	-72	19	4082	1194.21	492.44	21.24
322	SLU 56	-70	4	4080	1196.77	492.29	22.63
322	SLU 57	-72	13	4112	1204.43	496.04	22.04
322	SLU 58	-70	4	4061	1191.02	489.98	22.52
322	SLU 59	-72	13	4093	1198.68	493.73	21.92
322	SLU 60	-70	5	4168	1221.47	502.87	22.47
322	SLU 61	-72	14	4200	1229.13	506.62	21.87
322	SLU 62	-71	5	4200	1231.05	506.66	22.74
322	SLU 63	-72	14	4231	1238.71	510.41	22.15
322	SLU 64	-72	6	4003	1174.86	483.05	23.02
322	SLU 65	-75	21	4056	1187.63	489.31	22.02
322	SLU 66	-73	6	4054	1190.19	489.15	23.41
322	SLU 67	-75	15	4085	1197.85	492.91	22.82
322	SLU 68	-76	21	4087	1197.21	493.09	22.3
322	SLU 69	-74	6	4085	1199.77	492.94	23.69
322	SLU 70	-76	15	4117	1207.43	496.69	23.09
322	SLU 71	-74	6	4066	1194.02	490.63	23.57
322	SLU 72	-75	15	4097	1201.68	494.38	22.97
322	SLU 73	-78	22	4452	1303.37	537.06	23.2
322	SLU 74	-77	7	4450	1305.93	536.91	24.59
322	SLU 75	-79	16	4482	1313.59	540.66	23.99
322	SLU 76	-79	21	4483	1312.95	540.85	23.47
322	SLU 77	-78	6	4482	1315.51	540.7	24.86
322	SLU 78	-79	15	4513	1323.17	544.45	24.26
322	SLU 79	-77	6	4462	1309.77	538.39	24.74
322	SLU 80	-79	15	4494	1317.43	542.14	24.14
322	SLU 81	-77	7	4570	1340.21	551.28	24.7
322	SLU 82	-79	16	4601	1347.87	555.03	24.1
322	SLU 83	-78	7	4601	1349.79	555.07	24.97
322	SLU 84	-80	16	4632	1357.45	558.82	24.37
322	SLE RA 1	-54	4	2991	877.64	360.94	17.22
322	SLE RA 2	-56	14	3026	886.15	365.11	16.55
322	SLE RA 3	-55	4	3025	887.86	365.01	17.48
322	SLE RA 4	-56	10	3046	892.96	367.51	17.08
322	SLE RA 5	-56	14	3047	892.54	367.63	16.74
322	SLE RA 6	-55	4	3046	894.25	367.53	17.66
322	SLE RA 7	-56	10	3067	899.35	370.03	17.26
322	SLE RA 8	-55	4	3033	890.41	365.99	17.58
322	SLE RA 9	-56	10	3054	895.52	368.49	17.19
322	SLE RA 10	-58	15	3290	963.31	396.95	17.34
322	SLE RA 11	-57	5	3289	965.02	396.85	18.26
322	SLE RA 12	-58	11	3310	970.13	399.35	17.86
322	SLE RA 13	-59	14	3311	969.7	399.47	17.52
322	SLE RA 14	-58	4	3310	971.41	399.37	18.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
322	SLE RA 15	-59	10	3331	976.52	401.87	18.05
322	SLE RA 16	-57	4	3297	967.58	397.83	18.37
322	SLE RA 17	-58	10	3318	972.68	400.33	17.97
322	SLE RA 18	-57	5	3369	987.87	406.42	18.34
322	SLE RA 19	-58	11	3390	992.98	408.92	17.94
322	SLE RA 20	-58	5	3390	994.26	408.95	18.52
322	SLE RA 21	-59	11	3411	999.37	411.45	18.12
322	SLE FR 1	-54	4	2991	877.64	360.94	17.22
322	SLE FR 2	-54	6	2998	879.34	361.77	17.09
322	SLE FR 3	-54	4	3000	880.19	361.95	17.29
322	SLE FR 4	-55	6	3111	912.41	375.42	17.42
322	SLE FR 5	-55	4	3113	913.27	375.59	17.63
322	SLE FR 6	-56	4	3180	932.76	383.68	17.78
322	SLE QP 1	-54	4	2991	877.64	360.94	17.22
322	SLE QP 2	-55	4	3104	910.71	374.58	17.55
322	SLD 1	198	106	3535	1008.35	426.08	-75.52
322	SLD 2	248	99	3528	1006.61	425.19	-90.63
322	SLD 3	221	-81	2708	803.21	327.34	-60.05
322	SLD 4	271	-89	2701	801.46	326.45	-75.16
322	SLD 5	-23	320	4490	1251.44	539.95	-31.21
322	SLD 6	10	316	4485	1250.31	539.37	-40.98
322	SLD 7	54	-304	1732	567.63	210.8	20.36
322	SLD 8	86	-309	1727	566.5	210.23	10.58
322	SLD 9	-196	318	4482	1254.92	538.94	24.53
322	SLD 10	-164	313	4477	1253.79	538.36	14.75
322	SLD 11	-120	-307	1724	571.11	209.79	76.09
322	SLD 12	-87	-312	1719	569.98	209.22	66.32
322	SLD 13	-381	97	3508	1019.96	422.72	110.27
322	SLD 14	-330	90	3501	1018.21	421.83	95.16
322	SLD 15	-358	-90	2681	814.81	323.97	125.74
322	SLD 16	-307	-97	2674	813.07	323.08	110.63
322	SLV 1	338	176	3832	1076.2	461.52	-129
322	SLV 2	417	164	3821	1073.46	460.12	-152.78
322	SLV 3	377	-141	2434	729.48	294.64	-102.81
322	SLV 4	456	-152	2422	726.74	293.24	-126.59
322	SLV 5	-10	538	5446	1486.73	654.03	-61.69
322	SLV 6	43	530	5438	1484.88	653.09	-77.7
322	SLV 7	119	-517	784	331	97.76	25.6
322	SLV 8	172	-525	777	329.15	96.81	9.59
322	SLV 9	-282	533	5432	1492.28	652.35	25.52
322	SLV 10	-228	526	5425	1490.42	651.41	9.51
322	SLV 11	-153	-522	771	336.54	96.08	112.81
322	SLV 12	-100	-529	763	334.69	95.13	96.8
322	SLV 13	-566	161	3787	1094.69	455.93	161.7
322	SLV 14	-487	150	3775	1091.94	454.53	137.92
322	SLV 15	-527	-156	2388	747.97	289.04	187.89
322	SLV 16	-448	-167	2377	745.22	287.64	164.11
322	SLV FO 1	378	193	3905	1092.75	470.22	-143.65
322	SLV FO 2	465	180	3892	1089.73	468.68	-169.81
322	SLV FO 3	420	-156	2367	711.36	286.65	-114.85
322	SLV FO 4	507	-168	2354	708.34	285.11	-141.01
322	SLV FO 5	-6	591	5680	1544.33	681.98	-69.61
322	SLV FO 6	53	583	5672	1542.3	680.94	-87.22
322	SLV FO 7	136	-569	552	273.02	70.07	26.4
322	SLV FO 8	194	-578	544	270.99	69.04	8.79
322	SLV FO 9	-304	586	5665	1550.43	680.13	26.32
322	SLV FO 10	-246	578	5657	1548.4	679.09	8.71
322	SLV FO 11	-163	-574	537	279.12	68.23	122.33
322	SLV FO 12	-104	-583	529	277.09	67.19	104.72
322	SLV FO 13	-617	176	3855	1113.08	464.06	176.12
322	SLV FO 14	-530	164	3842	1110.06	462.52	149.96
322	SLV FO 15	-574	-172	2317	731.69	280.49	204.92
322	SLV FO 16	-488	-184	2304	728.67	278.95	178.76
322	CRTFP Ux+	0	0	0	0	0	0
322	CRTFP Ux-	0	0	0	0	0	0
322	CRTFP Uy+	0	0	0	0	0	0
322	CRTFP Uy-	0	0	0	0	0	0
324	SLU 1	22	-88	7949	914.3	1414.29	8.88
324	SLU 2	25	-46	8106	927.95	1444.24	1
324	SLU 3	21	-91	8082	930.48	1437.96	9.33
324	SLU 4	23	-65	8177	938.67	1455.93	4.6
324	SLU 5	24	-48	8187	937.9	1458.64	1.44
324	SLU 6	20	-92	8163	940.42	1452.36	9.77
324	SLU 7	22	-67	8258	948.62	1470.33	5.04
324	SLU 8	19	-92	8111	934.19	1443.09	9.75
324	SLU 9	21	-67	8205	942.38	1461.06	5.03
324	SLU 10	24	-57	9173	1049.03	1636.32	2.57
324	SLU 11	19	-101	9149	1051.56	1630.04	10.9
324	SLU 12	21	-76	9244	1059.75	1648.01	6.17
324	SLU 13	23	-59	9254	1058.98	1650.72	3
324	SLU 14	18	-103	9230	1061.5	1644.44	11.33
324	SLU 15	20	-78	9325	1069.7	1662.41	6.6
324	SLU 16	18	-102	9178	1055.27	1635.17	11.32
324	SLU 17	20	-77	9272	1063.46	1653.14	6.59
324	SLU 18	20	-103	9473	1087.27	1688.69	11.12
324	SLU 19	22	-78	9568	1095.46	1706.66	6.39
324	SLU 20	18	-105	9554	1097.21	1703.09	11.56
324	SLU 21	21	-80	9649	1105.41	1721.06	6.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
324	SLU 22	24	-100	9033	1040.93	1606.69	10.2
324	SLU 23	27	-58	9191	1054.59	1636.64	2.32
324	SLU 24	23	-102	9167	1057.12	1630.35	10.65
324	SLU 25	25	-77	9261	1065.31	1648.32	5.92
324	SLU 26	26	-60	9272	1064.53	1651.04	2.76
324	SLU 27	22	-104	9248	1067.06	1644.75	11.09
324	SLU 28	24	-79	9342	1075.25	1662.72	6.36
324	SLU 29	21	-104	9195	1060.83	1635.49	11.07
324	SLU 30	23	-79	9290	1069.02	1653.46	6.35
324	SLU 31	26	-69	10258	1175.67	1828.72	3.89
324	SLU 32	21	-113	10234	1178.19	1822.43	12.22
324	SLU 33	23	-88	10328	1186.39	1840.4	7.49
324	SLU 34	25	-70	10339	1185.61	1843.12	4.32
324	SLU 35	20	-115	10315	1188.14	1836.83	12.65
324	SLU 36	22	-90	10409	1196.33	1854.8	7.92
324	SLU 37	20	-114	10262	1181.9	1827.57	12.64
324	SLU 38	22	-89	10357	1190.1	1845.54	7.91
324	SLU 39	22	-115	10557	1213.9	1881.09	12.44
324	SLU 40	24	-90	10652	1222.1	1899.06	7.71
324	SLU 41	20	-117	10638	1223.85	1895.49	12.88
324	SLU 42	23	-92	10733	1232.04	1913.46	8.15
324	SLU 43	27	-111	9962	1145.17	1772.61	11.1
324	SLU 44	31	-69	10119	1158.82	1802.56	3.21
324	SLU 45	27	-113	10095	1161.35	1796.28	11.54
324	SLU 46	29	-88	10189	1169.54	1814.25	6.81
324	SLU 47	30	-71	10200	1168.77	1816.96	3.65
324	SLU 48	25	-115	10176	1171.29	1810.68	11.98
324	SLU 49	27	-90	10270	1179.49	1828.65	7.25
324	SLU 50	25	-114	10124	1165.06	1801.41	11.97
324	SLU 51	27	-89	10218	1173.25	1819.38	7.24
324	SLU 52	30	-79	11186	1279.9	1994.65	4.78
324	SLU 53	25	-124	11162	1282.43	1988.36	13.11
324	SLU 54	27	-98	11256	1290.62	2006.33	8.38
324	SLU 55	28	-81	11267	1289.85	2009.05	5.22
324	SLU 56	24	-125	11243	1292.37	2002.76	13.54
324	SLU 57	26	-100	11337	1300.57	2020.73	8.82
324	SLU 58	24	-125	11191	1286.14	1993.5	13.53
324	SLU 59	26	-100	11285	1294.33	2011.47	8.8
324	SLU 60	25	-126	11486	1318.14	2047.02	13.33
324	SLU 61	28	-101	11580	1326.33	2064.99	8.6
324	SLU 62	24	-128	11567	1328.08	2061.42	13.77
324	SLU 63	26	-102	11661	1336.28	2079.39	9.04
324	SLU 64	29	-122	11046	1271.81	1965.01	12.42
324	SLU 65	33	-81	11203	1285.46	1994.96	4.53
324	SLU 66	29	-125	11179	1287.99	1988.67	12.86
324	SLU 67	31	-100	11274	1296.18	2006.65	8.13
324	SLU 68	32	-82	11284	1295.4	2009.36	4.97
324	SLU 69	27	-127	11260	1297.93	2003.07	13.3
324	SLU 70	29	-101	11355	1306.12	2021.05	8.57
324	SLU 71	27	-126	11208	1291.7	1993.81	13.29
324	SLU 72	29	-101	11302	1299.89	2011.78	8.56
324	SLU 73	32	-91	12270	1406.54	2187.04	6.1
324	SLU 74	27	-135	12246	1409.07	2180.76	14.43
324	SLU 75	29	-110	12341	1417.26	2198.73	9.7
324	SLU 76	30	-93	12351	1416.48	2201.44	6.54
324	SLU 77	26	-137	12327	1419.01	2195.16	14.86
324	SLU 78	28	-112	12422	1427.2	2213.13	10.14
324	SLU 79	26	-137	12275	1412.78	2185.89	14.85
324	SLU 80	28	-112	12370	1420.97	2203.86	10.12
324	SLU 81	27	-137	12570	1444.78	2239.41	14.65
324	SLU 82	30	-112	12665	1452.97	2257.38	9.92
324	SLU 83	26	-139	12651	1454.72	2253.81	15.09
324	SLU 84	28	-114	12746	1462.91	2271.78	10.36
324	SLE RA 1	22	-92	8259	950.48	1469.26	9.26
324	SLE RA 2	25	-64	8364	959.58	1489.23	4.01
324	SLE RA 3	22	-93	8347	961.27	1485.04	9.56
324	SLE RA 4	23	-76	8410	966.73	1497.02	6.41
324	SLE RA 5	24	-65	8418	966.21	1498.83	4.3
324	SLE RA 6	21	-94	8401	967.9	1494.64	9.85
324	SLE RA 7	22	-78	8464	973.36	1506.62	6.7
324	SLE RA 8	21	-94	8367	963.74	1488.46	9.84
324	SLE RA 9	22	-77	8430	969.2	1500.44	6.69
324	SLE RA 10	24	-71	9075	1040.3	1617.28	5.05
324	SLE RA 11	21	-100	9059	1041.99	1613.09	10.6
324	SLE RA 12	22	-83	9122	1047.45	1625.07	7.45
324	SLE RA 13	23	-72	9129	1046.93	1626.88	5.34
324	SLE RA 14	20	-101	9113	1048.62	1622.69	10.89
324	SLE RA 15	21	-85	9176	1054.08	1634.67	7.74
324	SLE RA 16	20	-101	9078	1044.46	1616.52	10.89
324	SLE RA 17	21	-84	9141	1049.92	1628.5	7.73
324	SLE RA 18	21	-102	9275	1065.79	1652.2	10.75
324	SLE RA 19	22	-85	9338	1071.25	1664.18	7.6
324	SLE RA 20	20	-103	9329	1072.42	1661.8	11.04
324	SLE RA 21	21	-86	9392	1077.88	1673.78	7.89
324	SLE FR 1	22	-92	8259	950.48	1469.26	9.26
324	SLE FR 2	23	-86	8280	952.3	1473.25	8.21
324	SLE FR 3	22	-92	8280	953.13	1473.1	9.38
324	SLE FR 4	22	-89	8584	986.89	1528.13	8.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
324	SLE FR 5	21	-95	8585	987.73	1527.98	9.82
324	SLE FR 6	22	-97	8767	1008.14	1560.73	10.01
324	SLE QP 1	22	-92	8259	950.48	1469.26	9.26
324	SLE QP 2	22	-95	8563	985.07	1524.14	9.71
324	SLD 1	793	176	9691	1086.67	1749.77	-130.48
324	SLD 2	936	188	9718	1090.11	1752.37	-148.37
324	SLD 3	753	-356	7235	869.66	1281.22	-31.7
324	SLD 4	896	-344	7261	873.11	1283.83	-49.59
324	SLD 5	289	791	12623	1344.07	2302	-179.06
324	SLD 6	381	799	12640	1346.3	2303.69	-190.63
324	SLD 7	156	-982	4434	620.73	740.19	150.2
324	SLD 8	249	-974	4451	622.96	741.87	138.63
324	SLD 9	-205	785	12675	1347.19	2306.41	-119.21
324	SLD 10	-113	792	12693	1349.41	2308.09	-130.78
324	SLD 11	-337	-988	4486	623.84	744.6	210.05
324	SLD 12	-245	-980	4504	626.07	746.28	198.47
324	SLD 13	-853	155	9866	1097.04	1764.45	69.01
324	SLD 14	-710	167	9892	1100.48	1767.06	51.12
324	SLD 15	-892	-377	7409	880.04	1295.91	167.79
324	SLD 16	-750	-365	7435	883.48	1298.51	149.9
324	SLV 1	1230	363	10481	1157.22	1905.64	-215.71
324	SLV 2	1455	382	10522	1162.64	1909.74	-243.88
324	SLV 3	1163	-536	6329	790.47	1113.81	-48.79
324	SLV 4	1388	-517	6371	795.9	1117.91	-76.96
324	SLV 5	444	1402	15428	1591.94	2838.77	-305.81
324	SLV 6	595	1414	15456	1595.59	2841.53	-324.78
324	SLV 7	220	-1593	1588	369.45	199.33	250.57
324	SLV 8	372	-1580	1617	373.1	202.09	231.6
324	SLV 9	-328	1391	15510	1597.05	2846.19	-212.19
324	SLV 10	-177	1404	15538	1600.7	2848.95	-231.15
324	SLV 11	-552	-1604	1671	374.56	206.75	344.19
324	SLV 12	-400	-1591	1699	378.21	209.51	325.23
324	SLV 13	-1344	327	10756	1174.25	1930.37	96.38
324	SLV 14	-1119	347	10798	1179.67	1934.47	68.21
324	SLV 15	-1411	-571	6605	807.5	1138.54	263.29
324	SLV 16	-1186	-552	6646	812.93	1142.64	235.13
324	SLV FO 1	1351	408	10672	1174.44	1943.79	-238.25
324	SLV FO 2	1598	429	10718	1180.4	1948.3	-269.24
324	SLV FO 3	1277	-580	6105	771.01	1072.78	-54.65
324	SLV FO 4	1524	-559	6151	776.98	1077.29	-85.63
324	SLV FO 5	486	1551	16114	1652.63	2970.23	-337.37
324	SLV FO 6	653	1565	16145	1656.64	2973.27	-358.23
324	SLV FO 7	240	-1743	891	307.89	66.85	274.65
324	SLV FO 8	407	-1729	922	311.9	69.89	253.79
324	SLV FO 9	-363	1540	16205	1658.25	2978.4	-234.38
324	SLV FO 10	-197	1554	16236	1662.26	2981.43	-255.24
324	SLV FO 11	-609	-1755	982	313.5	75.01	377.64
324	SLV FO 12	-443	-1740	1013	317.52	78.05	356.78
324	SLV FO 13	-1481	370	10976	1193.17	1971	105.05
324	SLV FO 14	-1233	391	11021	1199.13	1975.51	74.06
324	SLV FO 15	-1554	-619	6409	789.75	1099.98	288.65
324	SLV FO 16	-1307	-598	6455	795.71	1104.49	257.67
324	CRTFP Ux+	0	0	0	0	0	0
324	CRTFP Ux-	0	0	0	0	0	0
324	CRTFP Uy+	0	0	0	0	-0.01	0
324	CRTFP Uy-	0	0	0	0	0.01	0
326	SLU 1	16	-63	4250	1217.94	3.85	-5.46
326	SLU 2	18	-41	4328	1236.41	3.94	-6.18
326	SLU 3	16	-65	4321	1239.24	3.94	-5.34
326	SLU 4	17	-51	4368	1250.32	3.99	-5.78
326	SLU 5	18	-42	4372	1249.46	3.99	-5.99
326	SLU 6	15	-66	4364	1252.28	3.99	-5.15
326	SLU 7	16	-53	4412	1263.37	4.04	-5.58
326	SLU 8	15	-66	4336	1244.03	3.96	-5.07
326	SLU 9	16	-52	4384	1255.11	4.01	-5.51
326	SLU 10	18	-48	4892	1396.96	4.54	-6.15
326	SLU 11	15	-73	4885	1399.78	4.54	-5.31
326	SLU 12	17	-59	4932	1410.87	4.59	-5.74
326	SLU 13	17	-50	4936	1410	4.6	-5.95
326	SLU 14	15	-74	4928	1412.83	4.6	-5.12
326	SLU 15	16	-60	4976	1423.91	4.65	-5.55
326	SLU 16	15	-73	4900	1404.57	4.57	-5.04
326	SLU 17	16	-60	4948	1415.66	4.62	-5.47
326	SLU 18	16	-74	5055	1447.28	4.72	-5.41
326	SLU 19	17	-61	5103	1458.37	4.77	-5.84
326	SLU 20	15	-75	5099	1460.33	4.77	-5.22
326	SLU 21	16	-62	5146	1471.41	4.82	-5.65
326	SLU 22	18	-72	4830	1386.21	4.41	-6.02
326	SLU 23	20	-49	4909	1404.69	4.49	-6.74
326	SLU 24	17	-73	4902	1407.51	4.5	-5.91
326	SLU 25	19	-60	4949	1418.6	4.54	-6.34
326	SLU 26	19	-50	4952	1417.73	4.55	-6.55
326	SLU 27	17	-74	4945	1420.56	4.55	-5.72
326	SLU 28	18	-61	4992	1431.64	4.6	-6.15
326	SLU 29	16	-74	4917	1412.3	4.52	-5.64
326	SLU 30	18	-60	4964	1423.39	4.57	-6.07
326	SLU 31	20	-57	5473	1565.23	5.1	-6.71
326	SLU 32	17	-81	5466	1568.06	5.1	-5.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
326	SLU 33	18	-67	5513	1579.14	5.15	-6.31
326	SLU 34	19	-58	5516	1578.28	5.15	-6.52
326	SLU 35	16	-82	5509	1581.1	5.16	-5.68
326	SLU 36	18	-68	5556	1592.19	5.2	-6.11
326	SLU 37	16	-82	5481	1572.85	5.13	-5.6
326	SLU 38	18	-68	5528	1583.93	5.18	-6.04
326	SLU 39	17	-83	5636	1615.56	5.28	-5.98
326	SLU 40	19	-69	5683	1626.65	5.33	-6.41
326	SLU 41	17	-84	5679	1628.61	5.33	-5.78
326	SLU 42	18	-70	5726	1639.69	5.38	-6.22
326	SLU 43	20	-80	5326	1525.62	4.82	-6.9
326	SLU 44	23	-57	5404	1544.1	4.9	-7.62
326	SLU 45	20	-81	5397	1546.92	4.9	-6.79
326	SLU 46	21	-68	5444	1558.01	4.95	-7.22
326	SLU 47	22	-58	5448	1557.14	4.95	-7.43
326	SLU 48	19	-82	5440	1559.97	4.96	-6.59
326	SLU 49	21	-69	5488	1571.05	5	-7.03
326	SLU 50	19	-82	5412	1551.71	4.93	-6.52
326	SLU 51	20	-68	5460	1562.8	4.98	-6.95
326	SLU 52	22	-65	5968	1704.64	5.51	-7.59
326	SLU 53	20	-89	5961	1707.47	5.51	-6.75
326	SLU 54	21	-75	6008	1718.55	5.56	-7.19
326	SLU 55	22	-66	6012	1717.69	5.56	-7.4
326	SLU 56	19	-90	6004	1720.51	5.56	-6.56
326	SLU 57	20	-76	6052	1731.6	5.61	-6.99
326	SLU 58	19	-89	5976	1712.26	5.53	-6.48
326	SLU 59	20	-76	6023	1723.34	5.58	-6.92
326	SLU 60	20	-90	6131	1754.97	5.68	-6.86
326	SLU 61	21	-77	6179	1766.06	5.73	-7.29
326	SLU 62	19	-92	6175	1768.02	5.74	-6.66
326	SLU 63	21	-78	6222	1779.1	5.79	-7.09
326	SLU 64	22	-88	5906	1693.9	5.38	-7.47
326	SLU 65	24	-65	5985	1712.38	5.46	-8.19
326	SLU 66	22	-89	5978	1715.2	5.46	-7.35
326	SLU 67	23	-76	6025	1726.29	5.51	-7.78
326	SLU 68	24	-66	6028	1725.42	5.51	-8
326	SLU 69	21	-91	6021	1728.24	5.51	-7.16
326	SLU 70	22	-77	6068	1739.33	5.56	-7.59
326	SLU 71	21	-90	5993	1719.99	5.49	-7.08
326	SLU 72	22	-77	6040	1731.08	5.53	-7.51
326	SLU 73	24	-73	6549	1872.92	6.06	-8.15
326	SLU 74	21	-97	6542	1875.74	6.07	-7.32
326	SLU 75	23	-83	6589	1886.83	6.11	-7.75
326	SLU 76	23	-74	6592	1885.96	6.12	-7.96
326	SLU 77	21	-98	6585	1888.79	6.12	-7.13
326	SLU 78	22	-85	6632	1899.87	6.17	-7.56
326	SLU 79	20	-98	6557	1880.53	6.09	-7.05
326	SLU 80	22	-84	6604	1891.62	6.14	-7.48
326	SLU 81	22	-99	6712	1923.25	6.24	-7.42
326	SLU 82	23	-85	6759	1934.33	6.29	-7.85
326	SLU 83	21	-100	6755	1936.29	6.3	-7.23
326	SLU 84	22	-86	6802	1947.38	6.35	-7.66
326	SLE RA 1	17	-66	4416	1266.02	4.01	-5.62
326	SLE RA 2	18	-51	4468	1278.33	4.07	-6.1
326	SLE RA 3	16	-67	4463	1280.22	4.07	-5.54
326	SLE RA 4	17	-58	4495	1287.61	4.1	-5.83
326	SLE RA 5	18	-51	4497	1287.03	4.1	-5.97
326	SLE RA 6	16	-68	4492	1288.91	4.1	-5.42
326	SLE RA 7	17	-59	4524	1296.3	4.14	-5.7
326	SLE RA 8	16	-67	4473	1283.41	4.09	-5.36
326	SLE RA 9	17	-58	4505	1290.8	4.12	-5.65
326	SLE RA 10	18	-56	4844	1385.36	4.47	-6.08
326	SLE RA 11	16	-72	4839	1387.24	4.47	-5.52
326	SLE RA 12	17	-63	4871	1394.64	4.51	-5.81
326	SLE RA 13	17	-57	4873	1394.06	4.51	-5.95
326	SLE RA 14	16	-73	4868	1395.94	4.51	-5.39
326	SLE RA 15	17	-64	4900	1403.33	4.54	-5.68
326	SLE RA 16	16	-72	4849	1390.44	4.49	-5.34
326	SLE RA 17	16	-63	4881	1397.83	4.52	-5.63
326	SLE RA 18	16	-73	4953	1418.91	4.59	-5.59
326	SLE RA 19	17	-64	4984	1426.3	4.62	-5.88
326	SLE RA 20	16	-74	4982	1427.61	4.63	-5.46
326	SLE RA 21	17	-65	5013	1435	4.66	-5.75
326	SLE FR 1	17	-66	4416	1266.02	4.01	-5.62
326	SLE FR 2	17	-63	4426	1268.48	4.02	-5.72
326	SLE FR 3	16	-66	4427	1269.49	4.03	-5.57
326	SLE FR 4	17	-65	4587	1314.35	4.2	-5.71
326	SLE FR 5	16	-68	4588	1315.36	4.2	-5.56
326	SLE FR 6	16	-69	4684	1342.46	4.3	-5.6
326	SLE QP 1	17	-66	4416	1266.02	4.01	-5.62
326	SLE QP 2	17	-68	4577	1311.89	4.19	-5.61
326	SLD 1	445	89	5107	1443.48	5.52	-135.76
326	SLD 2	523	104	5126	1448.85	5.45	-159.04
326	SLD 3	421	-199	3882	1151.36	4.11	-127.79
326	SLD 4	498	-184	3901	1156.74	4.04	-151.07
326	SLD 5	169	414	6590	1793.47	6.74	-52.71
326	SLD 6	219	423	6602	1796.94	6.69	-67.77
326	SLD 7	87	-547	2508	819.76	2.03	-26.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
326	SLD 8	137	-537	2520	823.24	1.99	-41.19
326	SLD 9	-104	401	6633	1800.53	6.38	29.97
326	SLD 10	-54	411	6646	1804.01	6.34	14.91
326	SLD 11	-186	-559	2551	826.83	1.68	56.55
326	SLD 12	-136	-549	2564	830.3	1.64	41.49
326	SLD 13	-465	48	5252	1467.03	4.33	139.84
326	SLD 14	-388	63	5271	1472.41	4.27	116.56
326	SLD 15	-490	-240	4027	1174.92	2.92	147.82
326	SLD 16	-412	-225	4047	1180.29	2.86	124.54
326	SLV 1	689	196	5483	1535.79	6.35	-209.57
326	SLV 2	811	219	5513	1544.25	6.25	-246.22
326	SLV 3	647	-291	3413	1042.11	3.97	-196.08
326	SLV 4	769	-267	3443	1050.57	3.87	-232.73
326	SLV 5	259	745	7982	2126.23	8.47	-80.42
326	SLV 6	341	761	8002	2131.93	8.4	-105.09
326	SLV 7	119	-877	1083	480.62	0.52	-35.45
326	SLV 8	202	-862	1103	486.32	0.46	-60.13
326	SLV 9	-168	726	8050	2137.46	7.92	48.91
326	SLV 10	-86	741	8070	2143.15	7.85	24.23
326	SLV 11	-308	-897	1151	491.85	-0.03	93.87
326	SLV 12	-226	-881	1172	497.54	-0.1	69.19
326	SLV 13	-736	132	5710	1573.2	4.5	221.51
326	SLV 14	-614	155	5741	1581.66	4.4	184.86
326	SLV 15	-778	-355	3641	1079.52	2.12	235
326	SLV 16	-656	-332	3671	1087.98	2.02	198.35
326	SLV FO 1	756	222	5573	1558.18	6.57	-229.96
326	SLV FO 2	890	248	5606	1567.49	6.46	-270.28
326	SLV FO 3	710	-313	3297	1015.13	3.95	-215.13
326	SLV FO 4	844	-287	3330	1024.43	3.84	-255.45
326	SLV FO 5	283	826	8322	2207.67	8.9	-87.9
326	SLV FO 6	374	844	8345	2213.93	8.83	-115.04
326	SLV FO 7	130	-958	734	397.49	0.16	-38.44
326	SLV FO 8	220	-941	756	403.76	0.08	-65.58
326	SLV FO 9	-187	805	8397	2220.01	8.29	54.36
326	SLV FO 10	-97	822	8420	2226.28	8.22	27.21
326	SLV FO 11	-340	-979	809	409.84	-0.45	103.82
326	SLV FO 12	-250	-962	831	416.11	-0.53	76.67
326	SLV FO 13	-811	152	5824	1599.34	4.54	244.22
326	SLV FO 14	-677	177	5857	1608.64	4.42	203.9
326	SLV FO 15	-857	-384	3547	1056.29	1.91	259.06
326	SLV FO 16	-723	-358	3580	1065.59	1.8	218.74
326	CRTFP Ux+	0	0	0	0	0	0
326	CRTFP Ux-	0	0	0	0	0	0
326	CRTFP Uy+	0	0	0	0	0	0
326	CRTFP Uy-	0	0	0	0	0	0
327	SLU 1	18	-94	3499	999.78	87.82	-3.19
327	SLU 2	20	-77	3564	1015.06	89.43	-4.27
327	SLU 3	17	-96	3554	1016.28	89.23	-3.05
327	SLU 4	19	-86	3594	1025.45	90.19	-3.7
327	SLU 5	19	-79	3597	1024.86	90.26	-4.06
327	SLU 6	17	-97	3587	1026.08	90.06	-2.85
327	SLU 7	18	-87	3626	1035.25	91.02	-3.49
327	SLU 8	16	-97	3564	1019.38	89.49	-2.78
327	SLU 9	18	-87	3603	1028.55	90.45	-3.43
327	SLU 10	20	-89	4019	1143.99	100.83	-4
327	SLU 11	17	-107	4009	1145.22	100.63	-2.78
327	SLU 12	19	-97	4048	1154.38	101.59	-3.43
327	SLU 13	19	-90	4052	1153.79	101.66	-3.79
327	SLU 14	17	-108	4041	1155.02	101.46	-2.58
327	SLU 15	18	-99	4081	1164.18	102.42	-3.23
327	SLU 16	16	-108	4019	1148.31	100.89	-2.51
327	SLU 17	18	-98	4058	1157.48	101.85	-3.16
327	SLU 18	18	-110	4148	1183.97	104.11	-2.8
327	SLU 19	19	-100	4188	1193.14	105.07	-3.45
327	SLU 20	17	-111	4181	1193.77	104.94	-2.6
327	SLU 21	18	-101	4220	1202.94	105.9	-3.25
327	SLU 22	20	-106	3979	1139.06	99.87	-3.52
327	SLU 23	22	-89	4045	1154.33	101.47	-4.6
327	SLU 24	19	-108	4035	1155.56	101.27	-3.38
327	SLU 25	21	-98	4074	1164.72	102.24	-4.03
327	SLU 26	21	-91	4078	1164.13	102.3	-4.39
327	SLU 27	19	-109	4067	1165.36	102.11	-3.18
327	SLU 28	20	-99	4107	1174.52	103.07	-3.83
327	SLU 29	18	-108	4045	1158.65	101.53	-3.11
327	SLU 30	20	-99	4084	1167.82	102.49	-3.76
327	SLU 31	22	-100	4500	1283.27	112.87	-4.33
327	SLU 32	19	-119	4490	1284.49	112.68	-3.11
327	SLU 33	21	-109	4529	1293.66	113.64	-3.76
327	SLU 34	21	-102	4533	1293.07	113.7	-4.13
327	SLU 35	19	-120	4522	1294.29	113.51	-2.91
327	SLU 36	20	-110	4562	1303.45	114.47	-3.56
327	SLU 37	18	-120	4499	1287.59	112.93	-2.84
327	SLU 38	20	-110	4539	1296.75	113.9	-3.49
327	SLU 39	20	-122	4629	1323.25	116.16	-3.14
327	SLU 40	21	-112	4668	1332.41	117.12	-3.78
327	SLU 41	19	-123	4662	1333.05	116.99	-2.93
327	SLU 42	20	-113	4701	1342.21	117.95	-3.58
327	SLU 43	22	-118	4383	1251.97	110.04	-4.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
327	SLU 44	24	-101	4449	1267.24	111.64	-5.11
327	SLU 45	22	-120	4439	1268.47	111.45	-3.9
327	SLU 46	23	-110	4478	1277.63	112.41	-4.54
327	SLU 47	24	-103	4482	1277.04	112.48	-4.91
327	SLU 48	21	-121	4471	1278.27	112.28	-3.69
327	SLU 49	23	-111	4511	1287.43	113.24	-4.34
327	SLU 50	21	-121	4449	1271.56	111.71	-3.62
327	SLU 51	22	-111	4488	1280.73	112.67	-4.27
327	SLU 52	24	-113	4904	1396.18	123.04	-4.84
327	SLU 53	22	-131	4893	1397.4	122.85	-3.63
327	SLU 54	23	-121	4933	1406.57	123.81	-4.27
327	SLU 55	24	-114	4937	1405.98	123.88	-4.64
327	SLU 56	21	-132	4926	1407.2	123.68	-3.42
327	SLU 57	23	-123	4966	1416.36	124.64	-4.07
327	SLU 58	21	-132	4903	1400.5	123.11	-3.35
327	SLU 59	22	-122	4943	1409.66	124.07	-4
327	SLU 60	22	-134	5033	1436.16	126.33	-3.65
327	SLU 61	23	-124	5072	1445.32	127.29	-4.3
327	SLU 62	22	-135	5066	1445.96	127.16	-3.44
327	SLU 63	23	-125	5105	1455.12	128.12	-4.09
327	SLU 64	24	-130	4864	1391.24	122.09	-4.36
327	SLU 65	26	-113	4930	1406.52	123.69	-5.44
327	SLU 66	24	-132	4920	1407.74	123.49	-4.23
327	SLU 67	25	-122	4959	1416.91	124.45	-4.87
327	SLU 68	26	-115	4963	1416.32	124.52	-5.24
327	SLU 69	23	-133	4952	1417.54	124.32	-4.02
327	SLU 70	25	-123	4992	1426.7	125.28	-4.67
327	SLU 71	23	-132	4929	1410.84	123.75	-3.96
327	SLU 72	24	-123	4969	1420	124.71	-4.6
327	SLU 73	26	-124	5385	1535.45	135.09	-5.17
327	SLU 74	24	-143	5374	1536.67	134.89	-3.96
327	SLU 75	25	-133	5414	1545.84	135.85	-4.6
327	SLU 76	26	-126	5417	1545.25	135.92	-4.97
327	SLU 77	23	-144	5407	1546.47	135.73	-3.75
327	SLU 78	25	-135	5446	1555.64	136.69	-4.4
327	SLU 79	23	-144	5384	1539.77	135.15	-3.69
327	SLU 80	24	-134	5424	1548.94	136.11	-4.33
327	SLU 81	24	-146	5514	1575.43	138.37	-3.98
327	SLU 82	25	-136	5553	1584.6	139.34	-4.63
327	SLU 83	24	-147	5546	1585.23	139.21	-3.78
327	SLU 84	25	-137	5586	1594.4	140.17	-4.42
327	SLE RA 1	18	-97	3636	1039.58	91.27	-3.28
327	SLE RA 2	20	-86	3680	1049.76	92.33	-4
327	SLE RA 3	18	-99	3673	1050.58	92.2	-3.19
327	SLE RA 4	19	-92	3699	1056.69	92.84	-3.62
327	SLE RA 5	19	-87	3702	1056.29	92.89	-3.87
327	SLE RA 6	18	-99	3695	1057.11	92.76	-3.06
327	SLE RA 7	18	-93	3721	1063.22	93.4	-3.49
327	SLE RA 8	17	-99	3679	1052.64	92.38	-3.01
327	SLE RA 9	18	-92	3706	1058.75	93.02	-3.44
327	SLE RA 10	20	-94	3983	1135.72	99.93	-3.82
327	SLE RA 11	18	-106	3976	1136.53	99.8	-3.01
327	SLE RA 12	19	-99	4002	1142.64	100.44	-3.44
327	SLE RA 13	19	-95	4005	1142.25	100.49	-3.69
327	SLE RA 14	18	-107	3998	1143.06	100.36	-2.88
327	SLE RA 15	18	-100	4024	1149.17	101	-3.31
327	SLE RA 16	17	-107	3983	1138.6	99.98	-2.83
327	SLE RA 17	18	-100	4009	1144.71	100.62	-3.26
327	SLE RA 18	18	-108	4069	1162.37	102.12	-3.03
327	SLE RA 19	19	-101	4095	1168.48	102.76	-3.46
327	SLE RA 20	18	-109	4091	1168.9	102.68	-2.89
327	SLE RA 21	19	-102	4117	1175.01	103.32	-3.32
327	SLE FR 1	18	-97	3636	1039.58	91.27	-3.28
327	SLE FR 2	18	-95	3645	1041.61	91.48	-3.43
327	SLE FR 3	18	-98	3645	1042.19	91.49	-3.23
327	SLE FR 4	18	-98	3775	1078.45	94.74	-3.35
327	SLE FR 5	18	-101	3775	1079.03	94.75	-3.15
327	SLE FR 6	18	-103	3852	1100.97	96.7	-3.16
327	SLE QP 1	18	-97	3636	1039.58	91.27	-3.28
327	SLE QP 2	18	-100	3766	1076.41	94.52	-3.21
327	SLD 1	382	44	4030	1135.73	101.59	-118.2
327	SLD 2	447	77	4063	1145.03	102.33	-139.05
327	SLD 3	359	-173	3042	904.76	77.4	-105.59
327	SLD 4	425	-140	3074	914.06	78.14	-126.44
327	SLD 5	150	266	5339	1442.9	133.2	-53.2
327	SLD 6	193	288	5360	1448.92	133.68	-66.69
327	SLD 7	74	-457	2043	673	52.57	-11.19
327	SLD 8	117	-435	2064	679.02	53.05	-24.68
327	SLD 9	-81	235	5467	1473.81	136	18.26
327	SLD 10	-38	256	5488	1479.83	136.48	4.77
327	SLD 11	-157	-489	2171	703.91	55.36	60.28
327	SLD 12	-114	-467	2192	709.93	55.85	46.79
327	SLD 13	-388	-61	4458	1238.76	110.9	120.03
327	SLD 14	-323	-28	4490	1248.07	111.65	99.18
327	SLD 15	-411	-278	3469	1007.79	86.71	132.63
327	SLD 16	-345	-245	3501	1017.1	87.46	111.78
327	SLV 1	588	139	4243	1183.85	107.11	-183.76
327	SLV 2	691	191	4294	1198.51	108.28	-216.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
327	SLV 3	549	-228	2572	793.53	66.23	-162.44
327	SLV 4	653	-175	2623	808.18	67.41	-195.27
327	SLV 5	228	518	6434	1697.9	160.08	-83.58
327	SLV 6	298	553	6468	1707.77	160.87	-105.68
327	SLV 7	100	-705	864	396.82	23.82	-12.52
327	SLV 8	169	-669	898	406.69	24.61	-34.62
327	SLV 9	-133	468	6633	1746.14	164.44	28.21
327	SLV 10	-63	504	6668	1756.01	165.23	6.1
327	SLV 11	-262	-754	1064	445.06	28.18	99.26
327	SLV 12	-192	-718	1098	454.92	28.97	77.16
327	SLV 13	-617	-25	4909	1344.64	121.64	188.85
327	SLV 14	-513	27	4960	1359.3	122.82	156.02
327	SLV 15	-655	-392	3238	954.32	80.76	210.17
327	SLV 16	-552	-339	3289	968.97	81.94	177.34
327	SLV FO 1	645	162	4290	1194.6	108.36	-201.81
327	SLV FO 2	759	221	4347	1210.72	109.66	-237.92
327	SLV FO 3	602	-241	2452	765.24	63.4	-178.36
327	SLV FO 4	716	-183	2509	781.36	64.69	-214.47
327	SLV FO 5	249	579	6700	1760.05	166.63	-91.61
327	SLV FO 6	326	619	6738	1770.9	167.51	-115.93
327	SLV FO 7	108	-765	574	328.86	16.74	-13.45
327	SLV FO 8	185	-726	612	339.71	17.62	-37.76
327	SLV FO 9	-148	525	6920	1813.11	171.43	31.35
327	SLV FO 10	-72	564	6958	1823.96	172.3	7.03
327	SLV FO 11	-290	-819	793	381.92	21.54	109.51
327	SLV FO 12	-213	-780	831	392.78	22.41	85.2
327	SLV FO 13	-680	-18	5023	1371.47	124.35	208.06
327	SLV FO 14	-566	40	5079	1387.59	125.65	171.95
327	SLV FO 15	-722	-421	3185	942.11	79.39	231.51
327	SLV FO 16	-608	-363	3241	958.23	80.68	195.4
327	CRTFP Ux+	0	0	0	0	0	0
327	CRTFP Ux-	0	0	0	0	0	0
327	CRTFP Uy+	0	0	0	0	0	0
327	CRTFP Uy-	0	0	0	0	0	0
328	SLU 1	12	-65	2406	652.77	55.11	-2.08
328	SLU 2	14	-54	2452	662.95	56.14	-2.76
328	SLU 3	12	-66	2444	663.49	55.99	-1.99
328	SLU 4	13	-59	2471	669.6	56.6	-2.4
328	SLU 5	13	-55	2474	669.28	56.65	-2.63
328	SLU 6	12	-67	2466	669.83	56.5	-1.86
328	SLU 7	13	-60	2494	675.93	57.12	-2.27
328	SLU 8	11	-67	2450	665.44	56.14	-1.81
328	SLU 9	12	-60	2478	671.55	56.76	-2.22
328	SLU 10	14	-61	2765	747.17	63.3	-2.58
328	SLU 11	12	-74	2757	747.71	63.15	-1.81
328	SLU 12	13	-67	2784	753.82	63.76	-2.22
328	SLU 13	13	-62	2787	753.5	63.81	-2.45
328	SLU 14	12	-75	2779	754.04	63.66	-1.68
328	SLU 15	13	-68	2806	760.15	64.28	-2.09
328	SLU 16	11	-74	2763	749.66	63.3	-1.64
328	SLU 17	12	-68	2791	755.76	63.92	-2.05
328	SLU 18	12	-76	2853	773.08	65.34	-1.83
328	SLU 19	13	-69	2880	779.19	65.96	-2.24
328	SLU 20	12	-77	2875	779.41	65.85	-1.69
328	SLU 21	13	-70	2903	785.52	66.47	-2.1
328	SLU 22	14	-73	2737	743.97	62.71	-2.3
328	SLU 23	15	-62	2783	754.15	63.73	-2.98
328	SLU 24	13	-74	2775	754.69	63.58	-2.21
328	SLU 25	14	-68	2803	760.8	64.2	-2.62
328	SLU 26	15	-63	2806	760.48	64.25	-2.85
328	SLU 27	13	-75	2797	761.03	64.1	-2.08
328	SLU 28	14	-69	2825	767.13	64.71	-2.49
328	SLU 29	13	-75	2782	756.64	63.73	-2.04
328	SLU 30	14	-68	2809	762.75	64.35	-2.45
328	SLU 31	15	-70	3096	838.37	70.89	-2.81
328	SLU 32	13	-82	3088	838.91	70.74	-2.04
328	SLU 33	14	-75	3116	845.02	71.36	-2.45
328	SLU 34	15	-71	3118	844.7	71.41	-2.67
328	SLU 35	13	-83	3110	845.24	71.25	-1.9
328	SLU 36	14	-76	3138	851.35	71.87	-2.31
328	SLU 37	13	-82	3094	840.86	70.89	-1.86
328	SLU 38	14	-76	3122	846.96	71.51	-2.27
328	SLU 39	14	-84	3184	864.28	72.93	-2.05
328	SLU 40	14	-77	3212	870.39	73.55	-2.46
328	SLU 41	13	-85	3206	870.61	73.45	-1.92
328	SLU 42	14	-78	3234	876.72	74.06	-2.32
328	SLU 43	15	-81	3014	817.34	69.04	-2.63
328	SLU 44	17	-70	3060	827.51	70.07	-3.31
328	SLU 45	15	-83	3052	828.06	69.92	-2.54
328	SLU 46	16	-76	3079	834.16	70.53	-2.95
328	SLU 47	16	-71	3082	833.85	70.58	-3.18
328	SLU 48	15	-84	3074	834.39	70.43	-2.41
328	SLU 49	16	-77	3102	840.5	71.05	-2.81
328	SLU 50	15	-83	3058	830	70.07	-2.36
328	SLU 51	15	-76	3086	836.11	70.69	-2.77
328	SLU 52	17	-78	3373	911.73	77.23	-3.13
328	SLU 53	15	-90	3365	912.27	77.08	-2.36
328	SLU 54	16	-84	3392	918.38	77.69	-2.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
328	SLU 55	16	-79	3395	918.06	77.74	-3
328	SLU 56	15	-91	3387	918.61	77.59	-2.23
328	SLU 57	16	-85	3415	924.71	78.21	-2.64
328	SLU 58	15	-91	3371	914.22	77.23	-2.19
328	SLU 59	16	-84	3399	920.33	77.84	-2.59
328	SLU 60	15	-92	3461	937.64	79.27	-2.37
328	SLU 61	16	-86	3489	943.75	79.89	-2.78
328	SLU 62	15	-93	3483	943.98	79.78	-2.24
328	SLU 63	16	-87	3511	950.08	80.4	-2.65
328	SLU 64	17	-89	3345	908.54	76.64	-2.85
328	SLU 65	18	-78	3391	918.71	77.66	-3.53
328	SLU 66	17	-91	3383	919.26	77.51	-2.76
328	SLU 67	17	-84	3411	925.36	78.13	-3.17
328	SLU 68	18	-79	3414	925.05	78.18	-3.4
328	SLU 69	16	-92	3405	925.59	78.03	-2.63
328	SLU 70	17	-85	3433	931.7	78.64	-3.04
328	SLU 71	16	-91	3390	921.2	77.66	-2.59
328	SLU 72	17	-85	3417	927.31	78.28	-2.99
328	SLU 73	18	-86	3704	1002.93	84.82	-3.35
328	SLU 74	17	-99	3696	1003.47	84.67	-2.59
328	SLU 75	17	-92	3724	1009.58	85.29	-2.99
328	SLU 76	18	-87	3727	1009.26	85.34	-3.22
328	SLU 77	16	-100	3718	1009.81	85.18	-2.45
328	SLU 78	17	-93	3746	1015.91	85.8	-2.86
328	SLU 79	16	-99	3703	1005.42	84.82	-2.41
328	SLU 80	17	-92	3730	1011.53	85.44	-2.82
328	SLU 81	17	-101	3792	1028.84	86.86	-2.6
328	SLU 82	18	-94	3820	1034.95	87.48	-3.01
328	SLU 83	16	-101	3814	1035.18	87.38	-2.46
328	SLU 84	17	-95	3842	1041.28	87.99	-2.87
328	SLE RA 1	13	-67	2500	678.83	57.28	-2.14
328	SLE RA 2	14	-60	2531	685.61	57.97	-2.6
328	SLE RA 3	12	-68	2526	685.98	57.87	-2.08
328	SLE RA 4	13	-64	2544	690.05	58.28	-2.36
328	SLE RA 5	13	-60	2546	689.84	58.31	-2.51
328	SLE RA 6	12	-69	2541	690.2	58.21	-2
328	SLE RA 7	13	-64	2559	694.27	58.62	-2.27
328	SLE RA 8	12	-68	2530	687.28	57.97	-1.97
328	SLE RA 9	13	-64	2549	691.35	58.38	-2.24
328	SLE RA 10	14	-65	2740	741.76	62.74	-2.48
328	SLE RA 11	12	-73	2734	742.12	62.64	-1.97
328	SLE RA 12	13	-69	2753	746.19	63.05	-2.24
328	SLE RA 13	13	-65	2755	745.98	63.08	-2.39
328	SLE RA 14	12	-74	2749	746.34	62.98	-1.88
328	SLE RA 15	13	-69	2768	750.41	63.39	-2.15
328	SLE RA 16	12	-73	2739	743.42	62.74	-1.85
328	SLE RA 17	13	-69	2757	747.49	63.15	-2.12
328	SLE RA 18	13	-74	2798	759.03	64.1	-1.98
328	SLE RA 19	13	-70	2817	763.11	64.51	-2.25
328	SLE RA 20	12	-75	2813	763.26	64.44	-1.89
328	SLE RA 21	13	-71	2832	767.33	64.85	-2.16
328	SLE FR 1	13	-67	2500	678.83	57.28	-2.14
328	SLE FR 2	13	-66	2507	680.19	57.42	-2.23
328	SLE FR 3	13	-67	2506	680.52	57.42	-2.11
328	SLE FR 4	13	-68	2596	704.25	59.46	-2.18
328	SLE FR 5	13	-69	2596	704.58	59.46	-2.06
328	SLE FR 6	13	-71	2649	718.93	60.69	-2.06
328	SLE QP 1	13	-67	2500	678.83	57.28	-2.14
328	SLE QP 2	13	-69	2590	702.89	59.33	-2.09
328	SLD 1	259	28	2760	737.91	63.25	-76.15
328	SLD 2	303	52	2784	744.52	63.79	-89.63
328	SLD 3	243	-118	2070	585.17	47.89	-68.22
328	SLD 4	288	-93	2094	591.78	48.42	-81.7
328	SLD 5	102	177	3682	943.91	83.72	-34
328	SLD 6	131	192	3698	948.19	84.06	-42.72
328	SLD 7	50	-309	1384	434.77	32.5	-7.56
328	SLD 8	79	-293	1400	439.05	32.84	-16.28
328	SLD 9	-54	155	3780	966.74	85.81	12.1
328	SLD 10	-25	170	3795	971.01	86.16	3.38
328	SLD 11	-106	-331	1482	457.6	34.59	38.54
328	SLD 12	-77	-315	1498	461.87	34.94	29.81
328	SLD 13	-262	-45	3085	814	70.24	77.51
328	SLD 14	-218	-21	3109	820.61	70.77	64.03
328	SLD 15	-278	-191	2396	661.26	54.87	85.44
328	SLD 16	-233	-167	2420	667.87	55.4	71.96
328	SLV 1	398	92	2899	767.39	66.45	-118.36
328	SLV 2	468	130	2937	777.79	67.28	-139.59
328	SLV 3	372	-154	1734	509.27	40.48	-104.94
328	SLV 4	442	-116	1772	519.68	41.32	-126.17
328	SLV 5	155	345	4442	1111.78	100.69	-53.36
328	SLV 6	202	371	4468	1118.78	101.25	-67.65
328	SLV 7	67	-475	559	251.38	14.13	-8.64
328	SLV 8	114	-450	585	258.39	14.7	-22.93
328	SLV 9	-89	311	4595	1147.39	103.96	18.75
328	SLV 10	-42	337	4620	1154.4	104.52	4.45
328	SLV 11	-177	-509	712	287	17.4	63.46
328	SLV 12	-130	-484	737	294	17.97	49.17
328	SLV 13	-417	-22	3407	886.11	77.34	121.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
328	SLV 14	-346	16	3445	896.51	78.18	100.76
328	SLV 15	-443	-268	2243	627.99	51.37	135.4
328	SLV 16	-373	-230	2280	638.39	52.21	114.17
328	SLV FO 1	437	108	2930	773.84	67.16	-129.98
328	SLV FO 2	514	150	2972	785.29	68.08	-153.33
328	SLV FO 3	408	-163	1649	489.91	38.6	-115.23
328	SLV FO 4	485	-121	1691	501.35	39.52	-138.58
328	SLV FO 5	169	387	4628	1152.67	104.83	-58.48
328	SLV FO 6	221	415	4656	1160.37	105.45	-74.2
328	SLV FO 7	73	-516	356	206.23	9.62	-9.3
328	SLV FO 8	125	-488	384	213.94	10.24	-25.02
328	SLV FO 9	-99	349	4795	1191.84	108.42	20.83
328	SLV FO 10	-47	377	4823	1199.55	109.04	5.11
328	SLV FO 11	-196	-553	524	245.41	13.21	70.02
328	SLV FO 12	-144	-525	552	253.11	13.83	54.3
328	SLV FO 13	-460	-17	3489	904.43	79.14	134.39
328	SLV FO 14	-382	24	3531	915.87	80.06	111.04
328	SLV FO 15	-489	-288	2208	620.5	50.58	149.15
328	SLV FO 16	-411	-247	2250	631.94	51.5	125.8
328	CRTFP Ux+	0	0	0	0	0	0
328	CRTFP Ux-	0	0	0	0	0	0
328	CRTFP Uy+	0	0	0	0	0	0
328	CRTFP Uy-	0	0	0	0	0	0
330	SLU 1	16	-82	3120	950.77	110.02	-2.26
330	SLU 2	18	-68	3180	965.99	112.09	-3.39
330	SLU 3	16	-84	3169	966.31	111.76	-2.12
330	SLU 4	17	-76	3205	975.44	113	-2.79
330	SLU 5	18	-69	3209	975.13	113.11	-3.18
330	SLU 6	16	-85	3198	975.44	112.78	-1.92
330	SLU 7	17	-77	3234	984.58	114.02	-2.59
330	SLU 8	15	-85	3177	969.04	112.06	-1.86
330	SLU 9	16	-76	3213	978.17	113.3	-2.53
330	SLU 10	18	-78	3586	1088.64	126.38	-3.04
330	SLU 11	16	-94	3575	1088.96	126.05	-1.77
330	SLU 12	17	-85	3611	1098.09	127.3	-2.44
330	SLU 13	18	-79	3615	1097.78	127.4	-2.83
330	SLU 14	16	-95	3604	1098.09	127.07	-1.57
330	SLU 15	17	-87	3640	1107.23	128.32	-2.24
330	SLU 16	15	-94	3583	1091.69	126.35	-1.51
330	SLU 17	16	-86	3619	1100.82	127.59	-2.18
330	SLU 18	16	-96	3700	1125.98	130.44	-1.76
330	SLU 19	17	-88	3736	1135.12	131.68	-2.44
330	SLU 20	16	-97	3728	1135.12	131.46	-1.56
330	SLU 21	17	-89	3764	1144.25	132.7	-2.23
330	SLU 22	18	-93	3551	1083.87	125.21	-2.5
330	SLU 23	20	-79	3612	1099.09	127.28	-3.62
330	SLU 24	18	-95	3601	1099.41	126.95	-2.35
330	SLU 25	19	-86	3637	1108.54	128.19	-3.03
330	SLU 26	20	-80	3640	1108.22	128.3	-3.42
330	SLU 27	17	-96	3629	1108.54	127.97	-2.15
330	SLU 28	19	-87	3665	1117.67	129.21	-2.82
330	SLU 29	17	-95	3609	1102.13	127.25	-2.09
330	SLU 30	18	-87	3645	1111.27	128.49	-2.76
330	SLU 31	20	-88	4017	1221.74	141.57	-3.27
330	SLU 32	18	-104	4006	1222.06	141.25	-2
330	SLU 33	19	-96	4042	1231.19	142.49	-2.68
330	SLU 34	20	-90	4046	1230.87	142.59	-3.07
330	SLU 35	17	-106	4035	1231.19	142.26	-1.8
330	SLU 36	19	-97	4071	1240.32	143.51	-2.47
330	SLU 37	17	-105	4014	1224.78	141.54	-1.74
330	SLU 38	18	-96	4050	1233.92	142.78	-2.41
330	SLU 39	18	-107	4131	1259.08	145.63	-2
330	SLU 40	19	-98	4167	1268.22	146.87	-2.67
330	SLU 41	18	-108	4160	1268.22	146.65	-1.79
330	SLU 42	19	-99	4196	1277.35	147.89	-2.47
330	SLU 43	20	-104	3908	1190.37	137.81	-2.86
330	SLU 44	22	-89	3968	1205.59	139.88	-3.99
330	SLU 45	20	-105	3957	1205.91	139.55	-2.72
330	SLU 46	21	-97	3993	1215.04	140.8	-3.39
330	SLU 47	22	-91	3997	1214.72	140.9	-3.78
330	SLU 48	20	-106	3986	1215.04	140.57	-2.52
330	SLU 49	21	-98	4022	1224.17	141.82	-3.19
330	SLU 50	19	-106	3966	1208.63	139.85	-2.46
330	SLU 51	21	-97	4002	1217.77	141.09	-3.13
330	SLU 52	22	-99	4374	1328.24	154.18	-3.63
330	SLU 53	20	-115	4363	1328.56	153.85	-2.37
330	SLU 54	21	-107	4399	1337.69	155.09	-3.04
330	SLU 55	22	-100	4403	1337.37	155.2	-3.43
330	SLU 56	20	-116	4392	1337.69	154.87	-2.17
330	SLU 57	21	-108	4428	1346.82	156.11	-2.84
330	SLU 58	20	-116	4371	1331.28	154.15	-2.11
330	SLU 59	21	-107	4407	1340.42	155.39	-2.78
330	SLU 60	21	-117	4488	1365.58	158.24	-2.36
330	SLU 61	22	-109	4524	1374.71	159.48	-3.04
330	SLU 62	20	-119	4517	1374.72	159.26	-2.16
330	SLU 63	21	-110	4553	1383.85	160.5	-2.83
330	SLU 64	22	-114	4340	1323.47	153	-3.1
330	SLU 65	24	-100	4400	1338.69	155.07	-4.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
330	SLU 66	22	-116	4389	1339	154.74	-2.95
330	SLU 67	23	-107	4425	1348.14	155.99	-3.63
330	SLU 68	24	-101	4428	1347.82	156.09	-4.02
330	SLU 69	22	-117	4417	1348.14	155.76	-2.75
330	SLU 70	23	-108	4453	1357.27	157.01	-3.42
330	SLU 71	21	-116	4397	1341.73	155.04	-2.69
330	SLU 72	22	-108	4433	1350.87	156.28	-3.36
330	SLU 73	24	-110	4805	1461.34	169.37	-3.87
330	SLU 74	22	-125	4794	1461.65	169.04	-2.6
330	SLU 75	23	-117	4831	1470.79	170.28	-3.28
330	SLU 76	24	-111	4834	1470.47	170.39	-3.67
330	SLU 77	22	-127	4823	1470.79	170.06	-2.4
330	SLU 78	23	-118	4859	1479.92	171.3	-3.07
330	SLU 79	21	-126	4803	1464.38	169.34	-2.34
330	SLU 80	23	-118	4839	1473.52	170.58	-3.01
330	SLU 81	22	-128	4919	1498.68	173.43	-2.6
330	SLU 82	24	-119	4955	1507.81	174.67	-3.27
330	SLU 83	22	-129	4948	1507.81	174.45	-2.39
330	SLU 84	23	-121	4984	1516.95	175.69	-3.07
330	SLE RA 1	17	-85	3243	988.8	114.36	-2.33
330	SLE RA 2	18	-76	3283	998.95	115.74	-3.08
330	SLE RA 3	17	-87	3276	999.16	115.52	-2.24
330	SLE RA 4	17	-81	3300	1005.25	116.35	-2.68
330	SLE RA 5	18	-77	3303	1005.04	116.42	-2.94
330	SLE RA 6	16	-87	3295	1005.25	116.2	-2.1
330	SLE RA 7	17	-82	3319	1011.34	117.02	-2.55
330	SLE RA 8	16	-87	3282	1000.98	115.72	-2.06
330	SLE RA 9	17	-81	3306	1007.06	116.54	-2.51
330	SLE RA 10	18	-82	3554	1080.71	125.27	-2.85
330	SLE RA 11	17	-93	3547	1080.92	125.05	-2
330	SLE RA 12	17	-87	3571	1087.01	125.88	-2.45
330	SLE RA 13	18	-83	3573	1086.8	125.95	-2.71
330	SLE RA 14	16	-94	3566	1087.01	125.73	-1.87
330	SLE RA 15	17	-88	3590	1093.1	126.56	-2.31
330	SLE RA 16	16	-93	3552	1082.74	125.25	-1.83
330	SLE RA 17	17	-88	3576	1088.83	126.08	-2.27
330	SLE RA 18	17	-95	3630	1105.61	127.97	-2
330	SLE RA 19	18	-89	3654	1111.7	128.8	-2.45
330	SLE RA 20	16	-95	3649	1111.7	128.65	-1.86
330	SLE RA 21	17	-90	3673	1117.79	129.48	-2.31
330	SLE FR 1	17	-85	3243	988.8	114.36	-2.33
330	SLE FR 2	17	-83	3251	990.83	114.63	-2.48
330	SLE FR 3	17	-86	3251	991.23	114.63	-2.28
330	SLE FR 4	17	-86	3367	1025.87	118.72	-2.38
330	SLE FR 5	17	-88	3367	1026.28	118.71	-2.18
330	SLE FR 6	17	-90	3437	1047.2	121.17	-2.16
330	SLE QP 1	17	-85	3243	988.8	114.36	-2.33
330	SLE QP 2	17	-88	3359	1023.84	118.44	-2.23
330	SLD 1	334	36	3560	1069.92	125.85	-110.37
330	SLD 2	391	68	3593	1080.39	126.97	-130.17
330	SLD 3	313	-151	2668	843.24	94.97	-97.08
330	SLD 4	371	-119	2702	853.71	96.09	-116.88
330	SLD 5	133	228	4766	1379.64	167.31	-51.39
330	SLD 6	170	249	4788	1386.42	168.03	-64.21
330	SLD 7	65	-397	1793	624.05	64.37	-7.09
330	SLD 8	102	-376	1815	630.82	65.1	-19.91
330	SLD 9	-68	200	4904	1416.86	171.79	15.44
330	SLD 10	-31	221	4925	1423.63	172.51	2.63
330	SLD 11	-137	-425	1930	661.27	68.85	59.75
330	SLD 12	-100	-404	1952	668.04	69.58	46.93
330	SLD 13	-337	-57	4017	1193.97	140.79	112.42
330	SLD 14	-280	-25	4051	1204.44	141.91	92.61
330	SLD 15	-357	-245	3125	967.29	109.91	125.71
330	SLD 16	-300	-212	3159	977.76	111.03	105.9
330	SLV 1	514	118	3730	1110.37	132	-172.11
330	SLV 2	604	169	3783	1126.85	133.76	-203.3
330	SLV 3	479	-199	2223	727.31	79.82	-149.63
330	SLV 4	569	-148	2276	743.79	81.58	-180.82
330	SLV 5	202	444	5747	1627.69	201.33	-81.46
330	SLV 6	262	479	5782	1638.79	202.51	-102.46
330	SLV 7	86	-611	722	350.84	27.38	-6.54
330	SLV 8	147	-577	758	361.94	28.57	-27.54
330	SLV 9	-113	401	5961	1685.75	208.32	23.08
330	SLV 10	-52	435	5996	1696.84	209.5	2.08
330	SLV 11	-229	-655	936	408.9	34.37	98
330	SLV 12	-168	-621	972	419.99	35.56	77
330	SLV 13	-535	-28	4443	1303.89	155.31	176.36
330	SLV 14	-445	23	4496	1320.37	157.07	145.17
330	SLV 15	-570	-345	2936	920.83	103.12	198.83
330	SLV 16	-480	-294	2989	937.31	104.88	167.65
330	SLV FO 1	563	138	3767	1119.02	133.36	-189.1
330	SLV FO 2	662	194	3825	1137.15	135.29	-223.4
330	SLV FO 3	525	-210	2109	697.66	75.96	-164.37
330	SLV FO 4	624	-154	2167	715.79	77.89	-198.68
330	SLV FO 5	220	498	5985	1688.08	209.62	-89.38
330	SLV FO 6	287	535	6025	1700.28	210.92	-112.48
330	SLV FO 7	93	-663	459	283.54	18.28	-6.97
330	SLV FO 8	160	-626	498	295.74	19.58	-30.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
330	SLV FO 9	-126	449	6221	1751.94	217.31	25.61
330	SLV FO 10	-59	487	6260	1764.14	218.61	2.51
330	SLV FO 11	-253	-712	694	347.4	25.97	108.02
330	SLV FO 12	-187	-674	733	359.61	27.27	84.92
330	SLV FO 13	-591	-22	4551	1331.89	158.99	194.22
330	SLV FO 14	-492	34	4610	1350.02	160.93	159.91
330	SLV FO 15	-629	-371	2893	910.53	101.59	218.94
330	SLV FO 16	-530	-315	2952	928.66	103.53	184.63
330	CRTFP Ux+	0	0	0	0	0	0
330	CRTFP Ux-	0	0	0	0	0	0
330	CRTFP Uy+	0	0	0	0	0	0
330	CRTFP Uy-	0	0	0	0	0	0
331	SLU 1	17	-76	3099	1001.09	-143	-9.28
331	SLU 2	19	-62	3159	1017.81	-145.84	-9.3
331	SLU 3	17	-78	3147	1017.33	-145.23	-9.27
331	SLU 4	18	-70	3183	1027.36	-146.94	-9.28
331	SLU 5	18	-64	3187	1027.3	-147.13	-9.18
331	SLU 6	16	-79	3175	1026.82	-146.53	-9.15
331	SLU 7	17	-71	3212	1036.85	-148.23	-9.16
331	SLU 8	16	-79	3155	1020.07	-145.58	-9.03
331	SLU 9	17	-70	3191	1030.1	-147.28	-9.04
331	SLU 10	19	-71	3562	1146.62	-164.43	-9.73
331	SLU 11	17	-87	3550	1146.14	-163.83	-9.7
331	SLU 12	18	-79	3586	1156.17	-165.53	-9.72
331	SLU 13	19	-72	3590	1156.11	-165.72	-9.61
331	SLU 14	16	-88	3578	1155.63	-165.12	-9.58
331	SLU 15	18	-80	3614	1165.66	-166.82	-9.59
331	SLU 16	16	-87	3558	1148.89	-164.17	-9.46
331	SLU 17	17	-79	3594	1158.92	-165.88	-9.47
331	SLU 18	17	-89	3674	1185.11	-169.56	-9.89
331	SLU 19	18	-81	3710	1195.14	-171.26	-9.9
331	SLU 20	17	-90	3702	1194.6	-170.85	-9.77
331	SLU 21	18	-82	3739	1204.63	-172.55	-9.78
331	SLU 22	19	-86	3528	1141.13	-162.85	-10.4
331	SLU 23	21	-72	3589	1157.84	-165.69	-10.42
331	SLU 24	19	-88	3577	1157.37	-165.09	-10.39
331	SLU 25	20	-79	3613	1167.39	-166.79	-10.41
331	SLU 26	20	-73	3617	1167.33	-166.98	-10.3
331	SLU 27	18	-89	3605	1166.86	-166.38	-10.27
331	SLU 28	20	-80	3641	1176.88	-168.08	-10.29
331	SLU 29	18	-88	3584	1160.11	-165.43	-10.15
331	SLU 30	19	-80	3621	1170.14	-167.14	-10.17
331	SLU 31	21	-81	3992	1286.66	-184.28	-10.85
331	SLU 32	19	-97	3980	1286.18	-183.68	-10.83
331	SLU 33	20	-88	4016	1296.21	-185.38	-10.84
331	SLU 34	21	-82	4020	1296.15	-185.57	-10.73
331	SLU 35	18	-98	4008	1295.67	-184.97	-10.7
331	SLU 36	20	-89	4044	1305.7	-186.67	-10.72
331	SLU 37	18	-97	3987	1288.93	-184.02	-10.58
331	SLU 38	19	-89	4024	1298.95	-185.73	-10.6
331	SLU 39	19	-99	4104	1325.15	-189.41	-11.01
331	SLU 40	20	-90	4140	1335.18	-191.11	-11.03
331	SLU 41	19	-100	4132	1334.64	-190.7	-10.89
331	SLU 42	20	-92	4168	1344.67	-192.4	-10.91
331	SLU 43	21	-96	3881	1253.41	-179.09	-11.67
331	SLU 44	23	-82	3941	1270.12	-181.93	-11.7
331	SLU 45	21	-98	3929	1269.64	-181.33	-11.67
331	SLU 46	22	-89	3966	1279.67	-183.03	-11.68
331	SLU 47	23	-83	3970	1279.61	-183.22	-11.57
331	SLU 48	21	-99	3958	1279.13	-182.62	-11.55
331	SLU 49	22	-90	3994	1289.16	-184.32	-11.56
331	SLU 50	20	-98	3937	1272.39	-181.68	-11.43
331	SLU 51	22	-90	3973	1282.42	-183.38	-11.44
331	SLU 52	23	-91	4344	1398.94	-200.52	-12.13
331	SLU 53	21	-107	4332	1398.46	-199.92	-12.1
331	SLU 54	22	-98	4369	1408.49	-201.62	-12.11
331	SLU 55	23	-92	4372	1408.43	-201.81	-12
331	SLU 56	21	-108	4360	1407.95	-201.21	-11.98
331	SLU 57	22	-99	4397	1417.98	-202.91	-11.99
331	SLU 58	21	-107	4340	1401.2	-200.27	-11.86
331	SLU 59	22	-99	4376	1411.23	-201.97	-11.87
331	SLU 60	22	-109	4456	1437.43	-205.65	-12.29
331	SLU 61	23	-100	4493	1447.46	-207.36	-12.3
331	SLU 62	21	-110	4484	1446.92	-206.94	-12.17
331	SLU 63	22	-102	4521	1456.95	-208.65	-12.18
331	SLU 64	23	-106	4310	1393.45	-198.94	-12.8
331	SLU 65	25	-92	4371	1410.16	-201.78	-12.82
331	SLU 66	23	-107	4359	1409.68	-201.18	-12.79
331	SLU 67	24	-99	4395	1419.71	-202.88	-12.81
331	SLU 68	25	-93	4399	1419.65	-203.07	-12.7
331	SLU 69	23	-108	4387	1419.17	-202.47	-12.67
331	SLU 70	24	-100	4424	1429.2	-204.17	-12.68
331	SLU 71	23	-108	4367	1412.43	-201.53	-12.55
331	SLU 72	24	-99	4403	1422.45	-203.23	-12.57
331	SLU 73	25	-101	4774	1538.97	-220.37	-13.25
331	SLU 74	23	-116	4762	1538.5	-219.77	-13.22
331	SLU 75	25	-108	4798	1548.52	-221.47	-13.24
331	SLU 76	25	-102	4802	1548.46	-221.66	-13.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
331	SLU 77	23	-117	4790	1547.99	-221.06	-13.1
331	SLU 78	24	-109	4826	1558.01	-222.77	-13.11
331	SLU 79	23	-117	4770	1541.24	-220.12	-12.98
331	SLU 80	24	-108	4806	1551.27	-221.82	-13
331	SLU 81	24	-119	4886	1577.47	-225.5	-13.41
331	SLU 82	25	-110	4922	1587.49	-227.21	-13.42
331	SLU 83	23	-120	4914	1586.96	-226.8	-13.29
331	SLU 84	24	-111	4950	1596.98	-228.5	-13.3
331	SLE RA 1	18	-79	3221	1041.1	-148.67	-9.6
331	SLE RA 2	19	-70	3262	1052.25	-150.56	-9.61
331	SLE RA 3	17	-80	3254	1051.93	-150.16	-9.59
331	SLE RA 4	18	-75	3278	1058.61	-151.3	-9.6
331	SLE RA 5	19	-71	3280	1058.57	-151.42	-9.53
331	SLE RA 6	17	-81	3272	1058.25	-151.02	-9.51
331	SLE RA 7	18	-75	3297	1064.94	-152.16	-9.52
331	SLE RA 8	17	-81	3259	1053.76	-150.39	-9.43
331	SLE RA 9	18	-75	3283	1060.44	-151.53	-9.44
331	SLE RA 10	19	-76	3530	1138.12	-162.96	-9.9
331	SLE RA 11	18	-86	3522	1137.8	-162.56	-9.88
331	SLE RA 12	18	-81	3546	1144.49	-163.69	-9.89
331	SLE RA 13	19	-77	3549	1144.45	-163.82	-9.82
331	SLE RA 14	17	-87	3541	1144.13	-163.42	-9.8
331	SLE RA 15	18	-81	3565	1150.82	-164.55	-9.81
331	SLE RA 16	17	-87	3527	1139.63	-162.79	-9.72
331	SLE RA 17	18	-81	3552	1146.32	-163.92	-9.73
331	SLE RA 18	18	-88	3605	1163.78	-166.38	-10.01
331	SLE RA 19	18	-82	3629	1170.47	-167.51	-10.02
331	SLE RA 20	17	-88	3624	1170.11	-167.24	-9.92
331	SLE RA 21	18	-83	3648	1176.8	-168.37	-9.93
331	SLE FR 1	18	-79	3221	1041.1	-148.67	-9.6
331	SLE FR 2	18	-77	3229	1043.33	-149.05	-9.6
331	SLE FR 3	17	-79	3229	1043.63	-149.02	-9.56
331	SLE FR 4	18	-80	3344	1080.14	-154.36	-9.72
331	SLE FR 5	18	-82	3344	1080.44	-154.33	-9.69
331	SLE FR 6	18	-83	3413	1102.44	-157.52	-9.8
331	SLE QP 1	18	-79	3221	1041.1	-148.67	-9.6
331	SLE QP 2	18	-82	3336	1077.91	-153.98	-9.72
331	SLD 1	330	38	3516	1119.7	-161.81	-113.13
331	SLD 2	386	71	3552	1131.54	-163.59	-131.27
331	SLD 3	309	-148	2622	872.72	-120.15	-115.45
331	SLD 4	365	-115	2659	884.56	-121.92	-133.59
331	SLD 5	133	230	4738	1462.98	-219.21	-34.07
331	SLD 6	170	252	4762	1470.64	-220.36	-45.81
331	SLD 7	64	-389	1761	639.71	-80.33	-41.82
331	SLD 8	100	-368	1785	647.37	-81.48	-53.55
331	SLD 9	-65	204	4888	1508.45	-226.48	34.11
331	SLD 10	-28	226	4912	1516.1	-227.63	22.38
331	SLD 11	-134	-415	1911	685.18	-87.6	26.37
331	SLD 12	-98	-394	1934	692.83	-88.75	14.63
331	SLD 13	-330	-49	4014	1271.26	-186.04	114.15
331	SLD 14	-274	-16	4050	1283.09	-187.82	96.02
331	SLD 15	-351	-235	3121	1024.28	-144.38	111.83
331	SLD 16	-295	-202	3157	1036.11	-146.16	93.69
331	SLV 1	507	117	3674	1159.08	-168.89	-171.24
331	SLV 2	596	170	3731	1177.71	-171.69	-199.8
331	SLV 3	472	-197	2164	741.73	-98.48	-175.16
331	SLV 4	560	-145	2222	760.36	-101.29	-203.72
331	SLV 5	201	445	5716	1731.77	-264.71	-46.9
331	SLV 6	261	480	5755	1744.31	-266.6	-66.13
331	SLV 7	84	-603	685	340.59	-30.03	-59.97
331	SLV 8	144	-567	724	353.14	-31.92	-79.19
331	SLV 9	-108	404	5949	1802.68	-276.05	59.75
331	SLV 10	-49	439	5988	1815.22	-277.93	40.53
331	SLV 11	-226	-643	918	411.51	-41.37	46.69
331	SLV 12	-166	-608	957	424.05	-43.25	27.46
331	SLV 13	-525	-19	4451	1395.46	-206.68	184.28
331	SLV 14	-437	33	4508	1414.09	-209.48	155.72
331	SLV 15	-560	-333	2941	978.1	-136.28	180.36
331	SLV 16	-472	-281	2999	996.74	-139.08	151.8
331	SLV FO 1	556	137	3707	1167.2	-170.38	-187.4
331	SLV FO 2	653	195	3771	1187.69	-173.46	-218.8
331	SLV FO 3	517	-209	2047	708.11	-92.93	-191.71
331	SLV FO 4	615	-151	2111	728.61	-96.02	-223.11
331	SLV FO 5	220	497	5954	1797.15	-275.78	-50.62
331	SLV FO 6	285	536	5996	1810.95	-277.86	-71.77
331	SLV FO 7	91	-655	420	266.86	-17.64	-64.99
331	SLV FO 8	156	-616	463	280.66	-19.71	-86.14
331	SLV FO 9	-121	452	6210	1875.16	-288.26	66.7
331	SLV FO 10	-55	491	6253	1888.96	-290.33	45.55
331	SLV FO 11	-250	-700	676	344.87	-30.11	52.33
331	SLV FO 12	-184	-661	719	358.66	-32.18	31.18
331	SLV FO 13	-579	-13	4562	1427.21	-211.95	203.68
331	SLV FO 14	-482	45	4626	1447.71	-215.03	172.27
331	SLV FO 15	-618	-358	2902	968.12	-134.51	199.37
331	SLV FO 16	-521	-301	2965	988.62	-137.59	167.96
331	CRTFP Ux+	0	0	0	0	0	0
331	CRTFP Ux-	0	0	0	0	0	0
331	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
331	CRTFP Uy-	0	0	0	0	0	0
332	SLU 1	24	-85	4029	1301.09	-0.46	-7.97
332	SLU 2	27	-67	4111	1323.84	-0.58	-8.84
332	SLU 3	24	-87	4092	1322.06	-0.45	-7.88
332	SLU 4	26	-76	4141	1335.71	-0.52	-8.4
332	SLU 5	26	-68	4147	1336.02	-0.56	-8.63
332	SLU 6	24	-88	4128	1334.25	-0.44	-7.66
332	SLU 7	25	-77	4177	1347.89	-0.51	-8.19
332	SLU 8	23	-87	4101	1325.46	-0.43	-7.54
332	SLU 9	25	-76	4150	1339.11	-0.5	-8.06
332	SLU 10	27	-77	4634	1491.17	-0.62	-8.91
332	SLU 11	25	-97	4616	1489.4	-0.5	-7.94
332	SLU 12	26	-86	4665	1503.04	-0.57	-8.47
332	SLU 13	27	-78	4670	1503.36	-0.61	-8.69
332	SLU 14	24	-98	4652	1501.58	-0.49	-7.73
332	SLU 15	25	-87	4701	1515.23	-0.56	-8.25
332	SLU 16	24	-97	4625	1492.8	-0.48	-7.6
332	SLU 17	25	-86	4674	1506.45	-0.55	-8.13
332	SLU 18	25	-99	4777	1540.14	-0.53	-8.06
332	SLU 19	26	-88	4826	1553.79	-0.6	-8.59
332	SLU 20	24	-100	4814	1552.33	-0.52	-7.85
332	SLU 21	26	-89	4862	1565.98	-0.59	-8.37
332	SLU 22	27	-96	4589	1483.21	-0.56	-8.93
332	SLU 23	30	-77	4670	1505.96	-0.67	-9.8
332	SLU 24	27	-98	4652	1504.18	-0.55	-8.84
332	SLU 25	29	-87	4701	1517.83	-0.62	-9.36
332	SLU 26	29	-79	4706	1518.14	-0.65	-9.59
332	SLU 27	27	-99	4688	1516.36	-0.53	-8.62
332	SLU 28	28	-88	4737	1530.01	-0.6	-9.15
332	SLU 29	26	-98	4661	1507.58	-0.52	-8.5
332	SLU 30	28	-87	4710	1521.23	-0.59	-9.02
332	SLU 31	30	-87	5194	1673.29	-0.72	-9.87
332	SLU 32	27	-107	5175	1671.51	-0.6	-8.9
332	SLU 33	29	-96	5224	1685.16	-0.66	-9.43
332	SLU 34	30	-88	5230	1685.48	-0.7	-9.65
332	SLU 35	27	-108	5212	1683.7	-0.58	-8.69
332	SLU 36	28	-97	5260	1697.34	-0.65	-9.21
332	SLU 37	27	-108	5185	1674.92	-0.57	-8.56
332	SLU 38	28	-97	5234	1688.56	-0.64	-9.09
332	SLU 39	28	-110	5337	1722.26	-0.63	-9.02
332	SLU 40	29	-99	5386	1735.91	-0.69	-9.55
332	SLU 41	27	-111	5373	1734.45	-0.61	-8.81
332	SLU 42	29	-100	5422	1748.09	-0.68	-9.33
332	SLU 43	31	-107	5046	1628.98	-0.57	-10.03
332	SLU 44	33	-89	5127	1651.73	-0.68	-10.91
332	SLU 45	30	-109	5109	1649.95	-0.56	-9.94
332	SLU 46	32	-98	5158	1663.6	-0.63	-10.47
332	SLU 47	33	-90	5164	1663.91	-0.67	-10.69
332	SLU 48	30	-110	5145	1662.13	-0.54	-9.72
332	SLU 49	31	-99	5194	1675.78	-0.61	-10.25
332	SLU 50	29	-109	5118	1653.35	-0.54	-9.6
332	SLU 51	31	-98	5167	1667	-0.61	-10.12
332	SLU 52	34	-98	5651	1819.06	-0.73	-10.97
332	SLU 53	31	-119	5633	1817.28	-0.61	-10.01
332	SLU 54	32	-108	5681	1830.93	-0.68	-10.53
332	SLU 55	33	-100	5687	1831.25	-0.72	-10.76
332	SLU 56	30	-120	5669	1829.47	-0.59	-9.79
332	SLU 57	32	-109	5718	1843.12	-0.66	-10.32
332	SLU 58	30	-119	5642	1820.69	-0.59	-9.66
332	SLU 59	31	-108	5691	1834.33	-0.65	-10.19
332	SLU 60	31	-121	5794	1868.03	-0.64	-10.13
332	SLU 61	33	-110	5843	1881.68	-0.71	-10.65
332	SLU 62	31	-122	5830	1880.22	-0.62	-9.91
332	SLU 63	32	-111	5879	1893.86	-0.69	-10.43
332	SLU 64	34	-118	5606	1811.1	-0.66	-10.99
332	SLU 65	36	-99	5687	1833.85	-0.78	-11.87
332	SLU 66	33	-120	5669	1832.07	-0.65	-10.9
332	SLU 67	35	-109	5717	1845.71	-0.72	-11.43
332	SLU 68	36	-101	5723	1846.03	-0.76	-11.65
332	SLU 69	33	-121	5705	1844.25	-0.64	-10.68
332	SLU 70	34	-110	5754	1857.9	-0.71	-11.21
332	SLU 71	32	-120	5678	1835.47	-0.63	-10.56
332	SLU 72	34	-109	5727	1849.12	-0.7	-11.08
332	SLU 73	37	-109	6211	2001.18	-0.82	-11.93
332	SLU 74	34	-129	6192	1999.4	-0.7	-10.97
332	SLU 75	35	-118	6241	2013.05	-0.77	-11.49
332	SLU 76	36	-110	6247	2013.36	-0.81	-11.72
332	SLU 77	33	-130	6228	2011.59	-0.69	-10.75
332	SLU 78	35	-119	6277	2025.23	-0.76	-11.27
332	SLU 79	33	-130	6202	2002.8	-0.68	-10.62
332	SLU 80	34	-119	6251	2016.45	-0.75	-11.15
332	SLU 81	34	-132	6354	2050.15	-0.73	-11.08
332	SLU 82	36	-121	6403	2063.8	-0.8	-11.61
332	SLU 83	34	-133	6390	2062.33	-0.72	-10.87
332	SLU 84	35	-122	6439	2075.98	-0.79	-11.39
332	SLE RA 1	25	-88	4189	1353.13	-0.49	-8.24
332	SLE RA 2	27	-76	4243	1368.29	-0.56	-8.83
332	SLE RA 3	25	-89	4231	1367.11	-0.48	-8.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
332	SLE RA 4	26	-82	4264	1376.2	-0.53	-8.53
332	SLE RA 5	27	-77	4268	1376.41	-0.55	-8.68
332	SLE RA 6	25	-90	4255	1375.23	-0.47	-8.04
332	SLE RA 7	26	-83	4288	1384.33	-0.52	-8.39
332	SLE RA 8	24	-90	4237	1369.37	-0.47	-7.96
332	SLE RA 9	25	-82	4270	1378.47	-0.51	-8.31
332	SLE RA 10	27	-82	4593	1479.85	-0.6	-8.87
332	SLE RA 11	25	-96	4580	1478.66	-0.52	-8.23
332	SLE RA 12	26	-89	4613	1487.76	-0.56	-8.58
332	SLE RA 13	27	-83	4617	1487.97	-0.59	-8.73
332	SLE RA 14	25	-97	4604	1486.79	-0.51	-8.08
332	SLE RA 15	26	-89	4637	1495.88	-0.55	-8.43
332	SLE RA 16	25	-96	4586	1480.93	-0.5	-8
332	SLE RA 17	26	-89	4619	1490.03	-0.55	-8.35
332	SLE RA 18	26	-98	4688	1512.49	-0.54	-8.31
332	SLE RA 19	27	-90	4720	1521.59	-0.58	-8.66
332	SLE RA 20	25	-98	4712	1520.62	-0.53	-8.16
332	SLE RA 21	26	-91	4745	1529.72	-0.57	-8.51
332	SLE FR 1	25	-88	4189	1353.13	-0.49	-8.24
332	SLE FR 2	26	-86	4200	1356.16	-0.5	-8.36
332	SLE FR 3	25	-89	4199	1356.38	-0.48	-8.19
332	SLE FR 4	26	-89	4350	1403.97	-0.52	-8.38
332	SLE FR 5	25	-91	4348	1404.19	-0.5	-8.2
332	SLE FR 6	25	-93	4439	1432.81	-0.51	-8.27
332	SLE QP 1	25	-88	4189	1353.13	-0.49	-8.24
332	SLE QP 2	25	-91	4339	1400.94	-0.5	-8.26
332	SLD 1	428	58	4548	1447.49	0.27	-149.43
332	SLD 2	501	103	4601	1464.01	0.07	-174.76
332	SLD 3	400	-187	3359	1114	1.5	-139.87
332	SLD 4	473	-142	3412	1130.52	1.3	-165.21
332	SLD 5	176	318	6196	1917.83	-2.1	-60.71
332	SLD 6	223	347	6230	1928.52	-2.23	-77.1
332	SLD 7	83	-500	2232	806.2	2	-28.86
332	SLD 8	130	-471	2266	816.89	1.87	-45.25
332	SLD 9	-79	289	6411	1984.99	-2.87	28.73
332	SLD 10	-32	317	6445	1995.68	-3	12.34
332	SLD 11	-172	-529	2447	873.36	1.23	60.57
332	SLD 12	-125	-500	2481	884.05	1.09	44.18
332	SLD 13	-422	-40	5265	1671.36	-2.3	148.68
332	SLD 14	-349	5	5318	1687.88	-2.51	123.35
332	SLD 15	-450	-285	4076	1337.87	-1.07	158.24
332	SLD 16	-377	-241	4129	1354.39	-1.28	132.9
332	SLV 1	657	158	4743	1495.13	0.63	-229.55
332	SLV 2	771	228	4826	1521.14	0.31	-269.44
332	SLV 3	609	-257	2733	931.61	2.71	-213.39
332	SLV 4	724	-187	2817	957.62	2.38	-253.28
332	SLV 5	265	599	7492	2279.01	-3.25	-91.72
332	SLV 6	342	647	7548	2296.52	-3.47	-118.57
332	SLV 7	107	-783	794	400.61	3.67	-37.84
332	SLV 8	184	-735	850	418.12	3.45	-64.7
332	SLV 9	-134	553	7828	2383.75	-4.45	48.17
332	SLV 10	-57	601	7884	2401.26	-4.67	21.32
332	SLV 11	-291	-829	1129	505.35	2.46	102.05
332	SLV 12	-215	-782	1185	522.86	2.24	75.2
332	SLV 13	-673	5	5861	1844.26	-3.39	236.75
332	SLV 14	-559	75	5944	1870.27	-3.71	196.86
332	SLV 15	-720	-410	3851	1280.74	-1.31	252.92
332	SLV 16	-606	-340	3935	1306.75	-1.64	213.03
332	SLV FO 1	720	183	4783	1504.55	0.74	-251.68
332	SLV FO 2	846	260	4875	1533.16	0.39	-295.56
332	SLV FO 3	668	-273	2573	884.67	3.03	-233.9
332	SLV FO 4	793	-196	2664	913.28	2.67	-277.78
332	SLV FO 5	289	668	7807	2366.82	-3.52	-100.07
332	SLV FO 6	374	720	7869	2386.08	-3.76	-129.61
332	SLV FO 7	116	-852	439	300.58	4.08	-40.8
332	SLV FO 8	200	-800	501	319.84	3.84	-70.34
332	SLV FO 9	-150	618	8176	2482.03	-4.85	53.82
332	SLV FO 10	-65	670	8238	2501.3	-5.09	24.27
332	SLV FO 11	-323	-902	808	415.79	2.76	113.08
332	SLV FO 12	-238	-851	870	435.06	2.52	83.54
332	SLV FO 13	-743	14	6013	1888.59	-3.68	261.25
332	SLV FO 14	-617	91	6105	1917.2	-4.03	217.38
332	SLV FO 15	-795	-442	3803	1268.72	-1.39	279.03
332	SLV FO 16	-669	-365	3894	1297.33	-1.75	235.16
332	CRTFP Ux+	0	0	0	0	0	0
332	CRTFP Ux-	0	0	0	0	0	0
332	CRTFP Uy+	0	0	0	0	0	0
332	CRTFP Uy-	0	0	0	0	0	0
333	SLU 1	19	-50	2796	906.82	173.85	-3.34
333	SLU 2	21	-37	2855	923.27	177.44	-4.79
333	SLU 3	19	-51	2840	921.37	176.54	-3.24
333	SLU 4	20	-43	2875	931.24	178.7	-4.11
333	SLU 5	20	-37	2880	931.69	178.98	-4.61
333	SLU 6	18	-52	2864	929.78	178.09	-3.06
333	SLU 7	19	-44	2900	939.66	180.24	-3.93
333	SLU 8	18	-51	2846	923.65	176.93	-2.99
333	SLU 9	19	-43	2881	933.53	179.09	-3.86
333	SLU 10	21	-42	3218	1039.96	200.03	-4.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
333	SLU 11	19	-56	3203	1038.06	199.13	-3.05
333	SLU 12	20	-49	3238	1047.93	201.29	-3.92
333	SLU 13	21	-43	3243	1048.38	201.57	-4.42
333	SLU 14	19	-57	3228	1046.48	200.67	-2.87
333	SLU 15	20	-49	3263	1056.35	202.83	-3.74
333	SLU 16	19	-57	3209	1040.35	199.52	-2.8
333	SLU 17	20	-49	3244	1050.22	201.68	-3.67
333	SLU 18	20	-58	3315	1073.52	206.11	-3.07
333	SLU 19	21	-50	3350	1083.39	208.27	-3.94
333	SLU 20	19	-58	3340	1081.94	207.66	-2.89
333	SLU 21	20	-50	3375	1091.81	209.81	-3.76
333	SLU 22	21	-56	3185	1033.85	198.02	-3.75
333	SLU 23	23	-43	3244	1050.3	201.61	-5.2
333	SLU 24	21	-57	3229	1048.4	200.71	-3.65
333	SLU 25	22	-49	3264	1058.27	202.87	-4.52
333	SLU 26	23	-44	3268	1058.72	203.15	-5.02
333	SLU 27	21	-58	3253	1056.82	202.26	-3.47
333	SLU 28	22	-50	3288	1066.69	204.41	-4.34
333	SLU 29	20	-57	3235	1050.69	201.1	-3.4
333	SLU 30	21	-49	3270	1060.56	203.26	-4.27
333	SLU 31	23	-48	3607	1166.99	224.2	-5.01
333	SLU 32	22	-63	3592	1165.09	223.3	-3.46
333	SLU 33	23	-55	3627	1174.96	225.45	-4.33
333	SLU 34	23	-49	3632	1175.41	225.74	-4.83
333	SLU 35	21	-63	3616	1173.51	224.84	-3.28
333	SLU 36	22	-55	3652	1183.38	227	-4.15
333	SLU 37	21	-63	3598	1167.38	223.69	-3.21
333	SLU 38	22	-55	3633	1177.25	225.85	-4.08
333	SLU 39	22	-64	3704	1200.55	230.28	-3.48
333	SLU 40	23	-56	3739	1210.43	232.44	-4.35
333	SLU 41	21	-64	3729	1208.97	231.83	-3.3
333	SLU 42	23	-57	3764	1218.84	233.98	-4.17
333	SLU 43	24	-63	3502	1135.31	217.71	-4.21
333	SLU 44	26	-50	3560	1151.76	221.31	-5.65
333	SLU 45	24	-64	3545	1149.86	220.41	-4.1
333	SLU 46	25	-56	3580	1159.73	222.57	-4.97
333	SLU 47	25	-50	3585	1160.18	222.85	-5.48
333	SLU 48	23	-64	3570	1158.28	221.95	-3.93
333	SLU 49	24	-57	3605	1168.15	224.11	-4.79
333	SLU 50	23	-64	3552	1152.14	220.8	-3.86
333	SLU 51	24	-56	3587	1162.02	222.96	-4.72
333	SLU 52	26	-55	3924	1268.45	243.89	-5.46
333	SLU 53	24	-69	3909	1266.55	243	-3.91
333	SLU 54	25	-61	3944	1276.42	245.15	-4.78
333	SLU 55	26	-56	3948	1276.87	245.44	-5.28
333	SLU 56	24	-70	3933	1274.97	244.54	-3.73
333	SLU 57	25	-62	3968	1284.84	246.7	-4.6
333	SLU 58	23	-69	3915	1268.84	243.39	-3.66
333	SLU 59	24	-62	3950	1278.71	245.54	-4.53
333	SLU 60	24	-71	4021	1302.01	249.98	-3.93
333	SLU 61	25	-63	4056	1311.88	252.14	-4.8
333	SLU 62	24	-71	4046	1310.43	251.52	-3.76
333	SLU 63	25	-63	4081	1320.3	253.68	-4.62
333	SLU 64	26	-69	3891	1262.34	241.88	-4.62
333	SLU 65	28	-56	3949	1278.79	245.48	-6.06
333	SLU 66	26	-70	3934	1276.89	244.58	-4.51
333	SLU 67	27	-62	3969	1286.76	246.74	-5.38
333	SLU 68	27	-56	3974	1287.21	247.02	-5.89
333	SLU 69	26	-71	3959	1285.31	246.12	-4.34
333	SLU 70	27	-63	3994	1295.18	248.28	-5.2
333	SLU 71	25	-70	3940	1279.18	244.97	-4.27
333	SLU 72	26	-62	3975	1289.05	247.13	-5.13
333	SLU 73	28	-61	4312	1395.49	268.06	-5.87
333	SLU 74	26	-75	4297	1393.58	267.17	-4.32
333	SLU 75	27	-68	4332	1403.45	269.32	-5.19
333	SLU 76	28	-62	4337	1403.9	269.61	-5.69
333	SLU 77	26	-76	4322	1402	268.71	-4.14
333	SLU 78	27	-68	4357	1411.87	270.87	-5.01
333	SLU 79	26	-76	4304	1395.87	267.56	-4.07
333	SLU 80	27	-68	4339	1405.74	269.71	-4.94
333	SLU 81	27	-77	4410	1429.04	274.15	-4.34
333	SLU 82	28	-69	4445	1438.92	276.3	-5.21
333	SLU 83	26	-77	4434	1437.46	275.69	-4.17
333	SLU 84	27	-69	4470	1447.34	277.85	-5.03
333	SLE RA 1	20	-52	2908	943.11	180.75	-3.46
333	SLE RA 2	21	-43	2946	954.08	183.15	-4.43
333	SLE RA 3	19	-52	2936	952.81	182.55	-3.39
333	SLE RA 4	20	-47	2960	959.39	183.99	-3.97
333	SLE RA 5	20	-43	2963	959.69	184.18	-4.31
333	SLE RA 6	19	-53	2953	958.42	183.58	-3.27
333	SLE RA 7	20	-47	2976	965	185.02	-3.85
333	SLE RA 8	19	-52	2941	954.34	182.81	-3.23
333	SLE RA 9	20	-47	2964	960.92	184.25	-3.8
333	SLE RA 10	21	-47	3189	1031.88	198.2	-4.3
333	SLE RA 11	20	-56	3179	1030.61	197.61	-3.26
333	SLE RA 12	20	-51	3202	1037.19	199.04	-3.84
333	SLE RA 13	21	-47	3205	1037.49	199.23	-4.18
333	SLE RA 14	19	-56	3195	1036.22	198.64	-3.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
333	SLE RA 15	20	-51	3218	1042.8	200.07	-3.72
333	SLE RA 16	19	-56	3183	1032.13	197.87	-3.1
333	SLE RA 17	20	-51	3206	1038.71	199.3	-3.68
333	SLE RA 18	20	-57	3253	1054.25	202.26	-3.28
333	SLE RA 19	21	-52	3277	1060.83	203.7	-3.86
333	SLE RA 20	20	-57	3270	1059.86	203.29	-3.16
333	SLE RA 21	20	-52	3293	1066.44	204.73	-3.74
333	SLE FR 1	20	-52	2908	943.11	180.75	-3.46
333	SLE FR 2	20	-50	2915	945.3	181.23	-3.65
333	SLE FR 3	19	-52	2914	945.36	181.16	-3.42
333	SLE FR 4	20	-51	3019	978.65	187.68	-3.6
333	SLE FR 5	20	-53	3018	978.7	187.62	-3.36
333	SLE FR 6	20	-54	3081	998.68	191.51	-3.37
333	SLE QP 1	20	-52	2908	943.11	180.75	-3.46
333	SLE QP 2	20	-53	3011	976.45	187.2	-3.41
333	SLD 1	299	48	3144	1005.44	195.67	-107.39
333	SLD 2	349	80	3184	1017.5	198.1	-126.97
333	SLD 3	279	-127	2300	765.88	143.53	-89.7
333	SLD 4	329	-94	2340	777.94	145.96	-109.28
333	SLD 5	125	236	4325	1346.39	268.41	-58.04
333	SLD 6	158	257	4351	1354.19	269.98	-70.71
333	SLD 7	58	-346	1510	547.85	94.6	0.94
333	SLD 8	91	-325	1536	555.66	96.17	-11.73
333	SLD 9	-51	218	4486	1397.25	278.24	4.91
333	SLD 10	-19	239	4512	1405.05	279.81	-7.75
333	SLD 11	-119	-364	1672	598.71	104.43	63.9
333	SLD 12	-86	-343	1698	606.51	106	51.23
333	SLD 13	-290	-12	3683	1174.96	228.45	102.46
333	SLD 14	-240	20	3723	1187.03	230.88	82.88
333	SLD 15	-310	-187	2838	935.4	176.31	120.16
333	SLD 16	-260	-154	2879	947.46	178.74	100.58
333	SLV 1	458	116	3273	1037.17	203.78	-167.08
333	SLV 2	537	167	3336	1056.16	207.61	-197.9
333	SLV 3	424	-179	1846	632.37	115.68	-137.16
333	SLV 4	503	-128	1909	651.37	119.51	-167.99
333	SLV 5	188	436	5242	1605.06	325.09	-92.13
333	SLV 6	241	470	5284	1617.85	327.67	-112.88
333	SLV 7	74	-548	486	255.75	31.4	7.6
333	SLV 8	128	-514	529	268.53	33.98	-13.16
333	SLV 9	-88	407	5494	1684.37	340.43	6.35
333	SLV 10	-35	441	5536	1697.16	343.01	-14.41
333	SLV 11	-202	-576	738	335.06	46.74	106.07
333	SLV 12	-149	-542	781	347.84	49.32	85.31
333	SLV 13	-464	22	4113	1301.54	254.9	161.17
333	SLV 14	-384	73	4176	1320.53	258.73	130.34
333	SLV 15	-498	-273	2687	896.74	166.8	191.09
333	SLV 16	-418	-222	2750	915.74	170.63	160.26
333	SLV FO 1	502	133	3299	1043.24	205.44	-183.44
333	SLV FO 2	589	189	3369	1064.13	209.65	-217.35
333	SLV FO 3	464	-192	1730	597.97	108.52	-150.53
333	SLV FO 4	551	-136	1799	618.86	112.74	-184.45
333	SLV FO 5	205	485	5465	1667.92	338.88	-101
333	SLV FO 6	263	522	5512	1681.98	341.72	-123.83
333	SLV FO 7	80	-597	234	183.68	15.82	8.7
333	SLV FO 8	139	-560	281	197.74	18.66	-14.14
333	SLV FO 9	-99	454	5742	1755.16	355.75	7.32
333	SLV FO 10	-41	491	5789	1769.23	358.59	-15.51
333	SLV FO 11	-224	-628	511	270.92	32.69	117.02
333	SLV FO 12	-166	-591	558	284.98	35.53	94.19
333	SLV FO 13	-512	30	4223	1334.05	261.67	177.63
333	SLV FO 14	-425	85	4293	1354.94	265.89	143.72
333	SLV FO 15	-549	-295	2654	888.77	164.76	210.54
333	SLV FO 16	-462	-239	2723	909.66	168.97	176.63
333	CRTFP Ux+	0	0	0	0	0	0
333	CRTFP Ux-	0	0	0	0	0	0
333	CRTFP Uy+	0	0	0	0	0	0
333	CRTFP Uy-	0	0	0	0	0	0
335	SLU 1	48	-86	5791	1037.68	56.69	-6.01
335	SLU 2	52	-58	5922	1059.5	56.47	-6.73
335	SLU 3	48	-87	5878	1053.74	57.85	-5.95
335	SLU 4	50	-71	5957	1066.83	57.72	-6.38
335	SLU 5	51	-59	5971	1068.63	57.25	-6.57
335	SLU 6	47	-88	5927	1062.87	58.64	-5.78
335	SLU 7	49	-72	6006	1075.96	58.5	-6.21
335	SLU 8	46	-88	5889	1055.94	58.27	-5.68
335	SLU 9	49	-71	5968	1069.04	58.13	-6.11
335	SLU 10	54	-66	6674	1193.75	64.32	-6.73
335	SLU 11	50	-96	6630	1187.99	65.71	-5.95
335	SLU 12	52	-79	6709	1201.08	65.57	-6.38
335	SLU 13	53	-67	6723	1202.89	65.11	-6.57
335	SLU 14	49	-97	6679	1197.12	66.49	-5.78
335	SLU 15	51	-80	6758	1210.21	66.36	-6.21
335	SLU 16	48	-96	6641	1190.19	66.12	-5.68
335	SLU 17	51	-80	6720	1203.29	65.99	-6.11
335	SLU 18	51	-98	6865	1229.47	67.91	-6.01
335	SLU 19	53	-81	6944	1242.56	67.78	-6.44
335	SLU 20	50	-99	6914	1238.6	68.7	-5.84
335	SLU 21	52	-82	6993	1251.69	68.56	-6.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
335	SLU 22	54	-96	6592	1182.11	64.85	-6.74
335	SLU 23	58	-68	6724	1203.93	64.62	-7.46
335	SLU 24	54	-98	6679	1198.17	66.01	-6.68
335	SLU 25	56	-81	6758	1211.26	65.87	-7.11
335	SLU 26	57	-69	6773	1213.07	65.41	-7.3
335	SLU 27	53	-99	6728	1207.3	66.8	-6.51
335	SLU 28	55	-82	6807	1220.39	66.66	-6.95
335	SLU 29	52	-98	6690	1200.38	66.43	-6.41
335	SLU 30	55	-81	6769	1213.47	66.29	-6.84
335	SLU 31	60	-77	7476	1338.19	72.48	-7.46
335	SLU 32	56	-106	7431	1332.42	73.86	-6.68
335	SLU 33	58	-90	7510	1345.51	73.73	-7.11
335	SLU 34	59	-78	7525	1347.32	73.26	-7.3
335	SLU 35	55	-107	7480	1341.55	74.65	-6.51
335	SLU 36	57	-91	7559	1354.65	74.52	-6.94
335	SLU 37	54	-107	7442	1334.63	74.28	-6.41
335	SLU 38	57	-90	7521	1347.72	74.14	-6.84
335	SLU 39	57	-108	7666	1373.9	76.07	-6.74
335	SLU 40	59	-92	7745	1386.99	75.93	-7.17
335	SLU 41	56	-109	7715	1383.03	76.86	-6.57
335	SLU 42	58	-93	7794	1396.13	76.72	-7.01
335	SLU 43	60	-108	7253	1299.46	70.9	-7.56
335	SLU 44	64	-80	7385	1321.28	70.68	-8.29
335	SLU 45	60	-109	7340	1315.52	72.06	-7.5
335	SLU 46	62	-93	7419	1328.61	71.93	-7.93
335	SLU 47	63	-81	7434	1330.42	71.47	-8.12
335	SLU 48	59	-110	7389	1324.65	72.85	-7.33
335	SLU 49	62	-94	7468	1337.74	72.72	-7.77
335	SLU 50	58	-110	7351	1317.73	72.48	-7.23
335	SLU 51	61	-93	7430	1330.82	72.34	-7.67
335	SLU 52	66	-89	8137	1455.54	78.53	-8.28
335	SLU 53	62	-118	8092	1449.77	79.92	-7.5
335	SLU 54	64	-101	8171	1462.86	79.78	-7.93
335	SLU 55	65	-90	8186	1464.67	79.32	-8.12
335	SLU 56	61	-119	8141	1458.9	80.7	-7.33
335	SLU 57	64	-102	8220	1472	80.57	-7.77
335	SLU 58	61	-118	8103	1451.98	80.33	-7.23
335	SLU 59	63	-102	8182	1465.07	80.2	-7.66
335	SLU 60	63	-120	8327	1491.25	82.12	-7.56
335	SLU 61	65	-103	8406	1504.34	81.99	-7.99
335	SLU 62	62	-121	8376	1500.38	82.91	-7.4
335	SLU 63	65	-105	8455	1513.48	82.77	-7.83
335	SLU 64	66	-118	8054	1443.9	79.06	-8.29
335	SLU 65	70	-90	8186	1465.72	78.84	-9.02
335	SLU 66	66	-120	8142	1459.95	80.22	-8.23
335	SLU 67	68	-103	8221	1473.05	80.09	-8.66
335	SLU 68	69	-91	8235	1474.85	79.62	-8.85
335	SLU 69	65	-121	8191	1469.08	81.01	-8.06
335	SLU 70	67	-104	8270	1482.18	80.87	-8.5
335	SLU 71	64	-120	8152	1462.16	80.64	-7.96
335	SLU 72	67	-103	8232	1475.25	80.5	-8.4
335	SLU 73	72	-99	8938	1599.97	86.69	-9.01
335	SLU 74	68	-129	8894	1594.2	88.07	-8.23
335	SLU 75	70	-112	8973	1607.3	87.94	-8.66
335	SLU 76	71	-100	8987	1609.1	87.48	-8.85
335	SLU 77	67	-130	8943	1603.34	88.86	-8.06
335	SLU 78	70	-113	9022	1616.43	88.73	-8.5
335	SLU 79	67	-129	8904	1596.41	88.49	-7.96
335	SLU 80	69	-112	8983	1609.5	88.35	-8.39
335	SLU 81	69	-131	9129	1635.68	90.28	-8.29
335	SLU 82	71	-114	9208	1648.78	90.14	-8.73
335	SLU 83	68	-132	9178	1644.82	91.07	-8.13
335	SLU 84	71	-115	9257	1657.91	90.93	-8.56
335	SLE RA 1	49	-88	6020	1078.94	59.02	-6.22
335	SLE RA 2	52	-70	6107	1093.49	58.87	-6.7
335	SLE RA 3	49	-90	6078	1089.65	59.8	-6.18
335	SLE RA 4	51	-78	6130	1098.38	59.71	-6.47
335	SLE RA 5	52	-71	6140	1099.58	59.4	-6.59
335	SLE RA 6	49	-90	6110	1095.74	60.32	-6.07
335	SLE RA 7	50	-79	6163	1104.47	60.23	-6.36
335	SLE RA 8	48	-90	6085	1091.12	60.07	-6
335	SLE RA 9	50	-79	6138	1099.85	59.98	-6.29
335	SLE RA 10	53	-76	6609	1183	64.11	-6.7
335	SLE RA 11	51	-96	6579	1179.15	65.03	-6.18
335	SLE RA 12	52	-84	6632	1187.88	64.94	-6.46
335	SLE RA 13	53	-76	6641	1189.08	64.63	-6.59
335	SLE RA 14	50	-96	6612	1185.24	65.56	-6.07
335	SLE RA 15	52	-85	6664	1193.97	65.47	-6.35
335	SLE RA 16	50	-96	6586	1180.62	65.31	-6
335	SLE RA 17	51	-85	6639	1189.35	65.22	-6.29
335	SLE RA 18	51	-97	6736	1206.8	66.5	-6.22
335	SLE RA 19	53	-86	6788	1215.53	66.41	-6.51
335	SLE RA 20	51	-98	6768	1212.89	67.03	-6.11
335	SLE RA 21	52	-86	6821	1221.62	66.94	-6.4
335	SLE FR 1	49	-88	6020	1078.94	59.02	-6.22
335	SLE FR 2	50	-85	6037	1081.85	58.99	-6.32
335	SLE FR 3	49	-89	6033	1081.38	59.23	-6.17
335	SLE FR 4	50	-87	6252	1120.21	61.24	-6.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
335	SLE FR 5	50	-91	6247	1119.74	61.48	-6.17
335	SLE FR 6	50	-93	6378	1142.87	62.76	-6.22
335	SLE QP 1	49	-88	6020	1078.94	59.02	-6.22
335	SLE QP 2	50	-91	6234	1117.3	61.27	-6.22
335	SLD 1	627	119	6511	1158.57	71.57	-114.13
335	SLD 2	733	190	6607	1174.46	70.1	-133.08
335	SLD 3	582	-251	4637	846.16	67.59	-105.83
335	SLD 4	688	-179	4732	862.04	66.12	-124.78
335	SLD 5	273	520	9144	1600.75	70.65	-47.89
335	SLD 6	342	567	9205	1611.03	69.7	-60.15
335	SLD 7	122	-712	2896	559.38	57.38	-20.23
335	SLD 8	191	-666	2957	569.66	56.43	-32.48
335	SLD 9	-91	484	9511	1664.95	66.11	20.05
335	SLD 10	-23	530	9573	1675.23	65.16	7.79
335	SLD 11	-242	-748	3263	623.58	52.83	47.71
335	SLD 12	-174	-702	3325	633.86	51.88	35.46
335	SLD 13	-588	-3	7737	1372.56	56.42	112.34
335	SLD 14	-482	69	7832	1388.45	54.95	93.39
335	SLD 15	-634	-372	5862	1060.15	52.44	120.64
335	SLD 16	-528	-301	5957	1076.04	50.97	101.69
335	SLV 1	956	260	6788	1201.87	77.63	-175.45
335	SLV 2	1122	373	6937	1226.88	75.32	-205.28
335	SLV 3	879	-365	3621	673.99	70.88	-161.41
335	SLV 4	1046	-252	3770	699.01	68.56	-191.24
335	SLV 5	407	941	11176	1938.61	76.86	-72.72
335	SLV 6	519	1017	11277	1955.45	75.3	-92.8
335	SLV 7	151	-1142	619	179.03	54.33	-25.91
335	SLV 8	264	-1066	720	195.88	52.77	-46
335	SLV 9	-164	884	11749	2038.73	69.76	33.56
335	SLV 10	-51	960	11850	2055.57	68.2	13.48
335	SLV 11	-419	-1199	1192	279.15	47.23	80.36
335	SLV 12	-307	-1123	1293	296	45.67	60.28
335	SLV 13	-946	70	8698	1535.59	53.97	178.8
335	SLV 14	-779	183	8848	1560.61	51.66	148.97
335	SLV 15	-1023	-555	5531	1007.72	47.21	192.84
335	SLV 16	-856	-442	5681	1032.74	44.9	163.01
335	SLV FO 1	1046	295	6843	1210.32	79.27	-192.37
335	SLV FO 2	1230	419	7008	1237.84	76.73	-225.19
335	SLV FO 3	962	-392	3359	629.66	71.84	-176.93
335	SLV FO 4	1145	-268	3524	657.18	69.29	-209.74
335	SLV FO 5	442	1044	11670	2020.74	78.42	-79.37
335	SLV FO 6	566	1127	11781	2039.27	76.71	-101.46
335	SLV FO 7	161	-1247	57	85.21	53.64	-27.88
335	SLV FO 8	285	-1163	168	103.74	51.92	-49.97
335	SLV FO 9	-185	981	12300	2130.87	70.61	37.54
335	SLV FO 10	-62	1065	12411	2149.4	68.9	15.44
335	SLV FO 11	-466	-1309	688	195.34	45.83	89.02
335	SLV FO 12	-343	-1226	799	213.87	44.12	66.93
335	SLV FO 13	-1046	86	8945	1577.42	53.24	197.3
335	SLV FO 14	-862	211	9110	1604.94	50.7	164.49
335	SLV FO 15	-1130	-601	5461	996.76	45.81	212.75
335	SLV FO 16	-946	-477	5626	1024.28	43.26	179.94
335	CRTFP Ux+	0	0	0	0	0	0
335	CRTFP Ux-	0	0	0	0	0	0
335	CRTFP Uy+	0	0	0	0	0	0
335	CRTFP Uy-	0	0	0	0	0	0
337	SLU 1	21	-33	2562	772.14	-157.66	-9.18
337	SLU 2	23	-19	2620	787.38	-161.24	-8.98
337	SLU 3	21	-33	2601	784.24	-160.04	-9.2
337	SLU 4	22	-25	2636	793.38	-162.19	-9.09
337	SLU 5	22	-20	2642	794.32	-162.58	-8.89
337	SLU 6	20	-34	2623	791.18	-161.38	-9.11
337	SLU 7	21	-26	2657	800.32	-163.52	-8.99
337	SLU 8	20	-33	2606	786.02	-160.33	-8.98
337	SLU 9	21	-25	2640	795.16	-162.48	-8.87
337	SLU 10	23	-22	2951	885.89	-181.6	-9.43
337	SLU 11	21	-36	2932	882.75	-180.4	-9.65
337	SLU 12	23	-28	2967	891.89	-182.55	-9.53
337	SLU 13	23	-23	2973	892.83	-182.94	-9.33
337	SLU 14	21	-37	2954	889.69	-181.74	-9.55
337	SLU 15	22	-29	2989	898.83	-183.89	-9.44
337	SLU 16	21	-37	2937	884.53	-180.69	-9.43
337	SLU 17	22	-29	2971	893.67	-182.84	-9.31
337	SLU 18	22	-37	3035	912.87	-186.75	-9.82
337	SLU 19	23	-29	3070	922.01	-188.9	-9.7
337	SLU 20	21	-37	3057	919.81	-188.08	-9.72
337	SLU 21	23	-29	3092	928.95	-190.23	-9.6
337	SLU 22	23	-36	2917	879.24	-179.51	-10.31
337	SLU 23	25	-23	2975	894.48	-183.09	-10.12
337	SLU 24	23	-37	2956	891.34	-181.89	-10.34
337	SLU 25	24	-29	2991	900.49	-184.04	-10.22
337	SLU 26	25	-24	2997	901.42	-184.43	-10.02
337	SLU 27	23	-38	2978	898.28	-183.23	-10.24
337	SLU 28	24	-30	3013	907.43	-185.37	-10.12
337	SLU 29	23	-37	2961	893.12	-182.18	-10.12
337	SLU 30	24	-29	2996	902.27	-184.33	-10
337	SLU 31	26	-26	3306	992.99	-203.45	-10.57
337	SLU 32	24	-40	3287	989.85	-202.25	-10.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
337	SLU 33	25	-32	3322	999	-204.4	-10.67
337	SLU 34	26	-27	3328	999.93	-204.79	-10.47
337	SLU 35	24	-41	3309	996.79	-203.59	-10.69
337	SLU 36	25	-33	3344	1005.94	-205.73	-10.57
337	SLU 37	23	-40	3292	991.63	-202.54	-10.57
337	SLU 38	24	-32	3327	1000.77	-204.69	-10.45
337	SLU 39	24	-41	3391	1019.97	-208.6	-10.95
337	SLU 40	25	-33	3425	1029.11	-210.75	-10.83
337	SLU 41	24	-41	3412	1026.91	-209.93	-10.85
337	SLU 42	25	-33	3447	1036.05	-212.08	-10.74
337	SLU 43	26	-41	3209	967.06	-197.47	-11.54
337	SLU 44	28	-28	3267	982.3	-201.05	-11.35
337	SLU 45	26	-42	3248	979.16	-199.85	-11.57
337	SLU 46	27	-34	3282	988.3	-202	-11.45
337	SLU 47	27	-28	3288	989.24	-202.38	-11.25
337	SLU 48	26	-42	3269	986.1	-201.18	-11.47
337	SLU 49	27	-34	3304	995.24	-203.33	-11.35
337	SLU 50	25	-42	3252	980.94	-200.14	-11.35
337	SLU 51	26	-34	3287	990.08	-202.28	-11.23
337	SLU 52	29	-31	3598	1080.81	-221.41	-11.8
337	SLU 53	27	-45	3579	1077.67	-220.21	-12.01
337	SLU 54	28	-37	3614	1086.81	-222.36	-11.9
337	SLU 55	28	-31	3620	1087.75	-222.74	-11.7
337	SLU 56	26	-45	3601	1084.61	-221.54	-11.92
337	SLU 57	27	-37	3635	1093.75	-223.69	-11.8
337	SLU 58	26	-45	3584	1079.45	-220.5	-11.8
337	SLU 59	27	-37	3618	1088.59	-222.65	-11.68
337	SLU 60	27	-46	3682	1107.79	-226.56	-12.18
337	SLU 61	28	-38	3717	1116.93	-228.7	-12.07
337	SLU 62	27	-46	3704	1114.73	-227.89	-12.08
337	SLU 63	28	-38	3738	1123.87	-230.04	-11.97
337	SLU 64	29	-45	3564	1074.16	-219.32	-12.68
337	SLU 65	30	-32	3622	1089.4	-222.9	-12.48
337	SLU 66	29	-46	3603	1086.26	-221.7	-12.7
337	SLU 67	30	-38	3638	1095.41	-223.85	-12.59
337	SLU 68	30	-32	3644	1096.34	-224.23	-12.39
337	SLU 69	28	-46	3625	1093.2	-223.03	-12.61
337	SLU 70	29	-38	3659	1102.35	-225.18	-12.49
337	SLU 71	28	-46	3608	1088.04	-221.99	-12.48
337	SLU 72	29	-38	3642	1097.19	-224.13	-12.37
337	SLU 73	31	-35	3953	1187.91	-243.26	-12.93
337	SLU 74	29	-49	3934	1184.77	-242.06	-13.15
337	SLU 75	30	-41	3969	1193.92	-244.21	-13.03
337	SLU 76	31	-35	3975	1194.85	-244.59	-12.83
337	SLU 77	29	-49	3956	1191.71	-243.39	-13.05
337	SLU 78	30	-41	3991	1200.86	-245.54	-12.94
337	SLU 79	29	-49	3939	1186.55	-242.35	-12.93
337	SLU 80	30	-41	3974	1195.7	-244.5	-12.81
337	SLU 81	30	-49	4037	1214.89	-248.41	-13.32
337	SLU 82	31	-41	4072	1224.03	-250.55	-13.2
337	SLU 83	29	-50	4059	1221.83	-249.74	-13.22
337	SLU 84	30	-42	4094	1230.97	-251.89	-13.1
337	SLE RA 1	21	-34	2664	802.74	-163.9	-9.5
337	SLE RA 2	23	-25	2702	812.9	-166.29	-9.37
337	SLE RA 3	21	-34	2689	810.81	-165.49	-9.52
337	SLE RA 4	22	-29	2713	816.9	-166.92	-9.44
337	SLE RA 5	22	-25	2717	817.53	-167.18	-9.31
337	SLE RA 6	21	-34	2704	815.43	-166.38	-9.45
337	SLE RA 7	22	-29	2727	821.53	-167.81	-9.38
337	SLE RA 8	21	-34	2693	811.99	-165.68	-9.37
337	SLE RA 9	22	-29	2716	818.09	-167.11	-9.3
337	SLE RA 10	23	-27	2923	878.57	-179.87	-9.67
337	SLE RA 11	22	-36	2910	876.48	-179.07	-9.82
337	SLE RA 12	23	-31	2933	882.58	-180.5	-9.74
337	SLE RA 13	23	-27	2937	883.2	-180.75	-9.61
337	SLE RA 14	22	-37	2925	881.11	-179.95	-9.75
337	SLE RA 15	22	-31	2948	887.2	-181.39	-9.67
337	SLE RA 16	22	-36	2913	877.67	-179.26	-9.67
337	SLE RA 17	22	-31	2937	883.76	-180.69	-9.59
337	SLE RA 18	22	-37	2979	896.56	-183.3	-9.93
337	SLE RA 19	23	-31	3002	902.65	-184.73	-9.85
337	SLE RA 20	22	-37	2994	901.18	-184.18	-9.86
337	SLE RA 21	23	-32	3017	907.28	-185.62	-9.79
337	SLE FR 1	21	-34	2664	802.74	-163.9	-9.5
337	SLE FR 2	22	-32	2671	804.77	-164.38	-9.48
337	SLE FR 3	21	-34	2669	804.59	-164.26	-9.48
337	SLE FR 4	22	-33	2766	832.92	-170.2	-9.61
337	SLE FR 5	22	-35	2764	832.74	-170.08	-9.61
337	SLE FR 6	22	-35	2821	849.65	-173.6	-9.72
337	SLE QP 1	21	-34	2664	802.74	-163.9	-9.5
337	SLE QP 2	22	-35	2758	830.88	-169.72	-9.63
337	SLD 1	289	63	2855	857.68	-175.52	-97.06
337	SLD 2	337	99	2899	869.24	-178.25	-111.69
337	SLD 3	269	-111	2042	638.02	-125.22	-101.22
337	SLD 4	317	-75	2085	649.58	-127.96	-115.85
337	SLD 5	124	252	4014	1170.07	-247.27	-27.01
337	SLD 6	155	275	4043	1177.55	-249.03	-36.48
337	SLD 7	57	-328	1301	437.87	-79.62	-40.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
337	SLD 8	88	-305	1330	445.35	-81.39	-50.34
337	SLD 9	-45	235	4187	1216.42	-258.06	31.08
337	SLD 10	-13	258	4215	1223.9	-259.83	21.62
337	SLD 11	-112	-345	1474	484.22	-90.41	17.21
337	SLD 12	-81	-322	1502	491.7	-92.18	7.75
337	SLD 13	-274	6	3431	1012.19	-211.49	96.59
337	SLD 14	-225	42	3475	1023.75	-214.22	81.96
337	SLD 15	-294	-168	2617	792.53	-161.19	92.42
337	SLD 16	-246	-132	2661	804.09	-163.93	77.8
337	SLV 1	441	129	2962	886.87	-182.01	-146.07
337	SLV 2	517	185	3031	905.08	-186.31	-169.1
337	SLV 3	407	-165	1587	515.73	-97.03	-153.09
337	SLV 4	483	-109	1656	533.94	-101.34	-176.12
337	SLV 5	185	450	4892	1407.19	-301.49	-35.61
337	SLV 6	236	488	4939	1419.45	-304.39	-51.12
337	SLV 7	71	-530	308	170.03	-18.23	-59.02
337	SLV 8	122	-492	355	182.29	-21.13	-74.53
337	SLV 9	-79	423	5162	1479.48	-318.32	55.26
337	SLV 10	-28	461	5208	1491.74	-321.22	39.76
337	SLV 11	-193	-557	578	242.32	-35.06	31.86
337	SLV 12	-142	-519	624	254.58	-37.95	16.35
337	SLV 13	-439	40	3860	1127.83	-238.11	156.86
337	SLV 14	-363	96	3929	1146.04	-242.41	133.83
337	SLV 15	-474	-254	2485	756.69	-153.13	149.83
337	SLV 16	-398	-198	2554	774.9	-157.43	126.8
337	SLV FO 1	483	145	2983	892.47	-183.24	-159.71
337	SLV FO 2	566	207	3059	912.5	-187.97	-185.04
337	SLV FO 3	445	-179	1470	484.21	-89.76	-167.43
337	SLV FO 4	529	-117	1546	504.24	-94.5	-192.77
337	SLV FO 5	202	498	5106	1464.82	-314.67	-38.21
337	SLV FO 6	258	540	5157	1478.3	-317.85	-55.27
337	SLV FO 7	76	-580	63	103.95	-3.08	-63.96
337	SLV FO 8	132	-538	114	117.43	-6.27	-81.01
337	SLV FO 9	-89	469	5402	1544.34	-333.18	61.75
337	SLV FO 10	-33	511	5453	1557.82	-336.36	44.7
337	SLV FO 11	-215	-609	360	183.47	-21.59	36.01
337	SLV FO 12	-158	-567	411	196.95	-24.78	18.95
337	SLV FO 13	-485	47	3971	1157.53	-244.95	173.51
337	SLV FO 14	-402	109	4046	1177.56	-249.68	148.17
337	SLV FO 15	-523	-276	2458	749.27	-151.47	165.78
337	SLV FO 16	-440	-214	2534	769.3	-156.2	140.45
337	CRTFP Ux+	0	0	0	0	0	0
337	CRTFP Ux-	0	0	0	0	0	0
337	CRTFP Uy+	0	0	0	0	0	0
337	CRTFP Uy-	0	0	0	0	0	0
338	SLU 1	33	-41	3608	998.96	5.54	-11.13
338	SLU 2	35	-21	3691	1019.15	5.6	-12.06
338	SLU 3	32	-41	3662	1014.33	5.64	-11.12
338	SLU 4	34	-30	3712	1026.44	5.68	-11.68
338	SLU 5	35	-22	3721	1027.94	5.66	-11.89
338	SLU 6	32	-42	3692	1023.12	5.71	-10.95
338	SLU 7	34	-30	3742	1035.24	5.75	-11.51
338	SLU 8	32	-42	3668	1016.55	5.67	-10.79
338	SLU 9	33	-30	3718	1028.66	5.71	-11.35
338	SLU 10	37	-25	4156	1145.03	6.39	-12.5
338	SLU 11	34	-45	4126	1140.21	6.44	-11.56
338	SLU 12	35	-33	4176	1152.32	6.48	-12.12
338	SLU 13	36	-25	4186	1153.82	6.46	-12.33
338	SLU 14	33	-45	4157	1149	6.51	-11.39
338	SLU 15	35	-34	4207	1161.11	6.54	-11.95
338	SLU 16	33	-45	4133	1142.42	6.47	-11.23
338	SLU 17	35	-33	4183	1154.54	6.5	-11.79
338	SLU 18	34	-46	4272	1178.78	6.67	-11.76
338	SLU 19	36	-34	4321	1190.9	6.71	-12.32
338	SLU 20	34	-46	4302	1187.58	6.74	-11.59
338	SLU 21	36	-34	4352	1199.69	6.78	-12.15
338	SLU 22	37	-45	4107	1135.72	6.38	-12.53
338	SLU 23	39	-26	4190	1155.91	6.44	-13.46
338	SLU 24	37	-46	4161	1151.09	6.49	-12.52
338	SLU 25	38	-34	4211	1163.2	6.53	-13.08
338	SLU 26	39	-26	4220	1164.7	6.51	-13.29
338	SLU 27	36	-47	4191	1159.88	6.56	-12.35
338	SLU 28	38	-35	4241	1172	6.59	-12.91
338	SLU 29	36	-46	4167	1153.31	6.52	-12.19
338	SLU 30	37	-35	4217	1165.42	6.55	-12.75
338	SLU 31	41	-29	4654	1281.79	7.24	-13.9
338	SLU 32	38	-50	4625	1276.96	7.28	-12.97
338	SLU 33	40	-38	4675	1289.08	7.32	-13.52
338	SLU 34	40	-30	4684	1290.58	7.31	-13.74
338	SLU 35	37	-50	4655	1285.76	7.35	-12.8
338	SLU 36	39	-38	4705	1297.87	7.39	-13.35
338	SLU 37	37	-50	4631	1279.18	7.31	-12.64
338	SLU 38	39	-38	4681	1291.3	7.35	-13.2
338	SLU 39	39	-50	4770	1315.54	7.52	-13.16
338	SLU 40	40	-39	4820	1327.66	7.55	-13.72
338	SLU 41	38	-51	4800	1324.34	7.59	-13
338	SLU 42	40	-39	4850	1336.45	7.62	-13.55
338	SLU 43	41	-51	4519	1251.76	6.91	-13.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
338	SLU 44	44	-32	4603	1271.95	6.97	-14.91
338	SLU 45	41	-52	4573	1267.13	7.01	-13.97
338	SLU 46	42	-40	4623	1279.24	7.05	-14.53
338	SLU 47	43	-32	4633	1280.74	7.03	-14.74
338	SLU 48	40	-52	4603	1275.92	7.08	-13.81
338	SLU 49	42	-41	4653	1288.04	7.12	-14.36
338	SLU 50	40	-52	4580	1269.35	7.04	-13.65
338	SLU 51	42	-40	4630	1281.46	7.08	-14.2
338	SLU 52	45	-35	5067	1397.83	7.76	-15.36
338	SLU 53	42	-56	5038	1393	7.81	-14.42
338	SLU 54	44	-44	5088	1405.12	7.85	-14.98
338	SLU 55	44	-36	5097	1406.62	7.83	-15.19
338	SLU 56	42	-56	5068	1401.8	7.88	-14.25
338	SLU 57	43	-44	5118	1413.91	7.91	-14.81
338	SLU 58	41	-56	5044	1395.22	7.84	-14.09
338	SLU 59	43	-44	5094	1407.34	7.87	-14.65
338	SLU 60	43	-56	5183	1431.58	8.04	-14.62
338	SLU 61	44	-45	5233	1443.7	8.08	-15.18
338	SLU 62	42	-57	5213	1440.38	8.11	-14.45
338	SLU 63	44	-45	5263	1452.49	8.15	-15.01
338	SLU 64	45	-56	5018	1388.52	7.75	-15.39
338	SLU 65	48	-36	5101	1408.71	7.81	-16.32
338	SLU 66	45	-57	5072	1403.89	7.86	-15.38
338	SLU 67	47	-45	5122	1416	7.9	-15.94
338	SLU 68	47	-37	5131	1417.5	7.88	-16.15
338	SLU 69	44	-57	5102	1412.68	7.93	-15.21
338	SLU 70	46	-45	5152	1424.79	7.96	-15.77
338	SLU 71	44	-57	5078	1406.1	7.89	-15.05
338	SLU 72	46	-45	5128	1418.22	7.92	-15.61
338	SLU 73	49	-40	5566	1534.58	8.61	-16.76
338	SLU 74	46	-60	5537	1529.76	8.66	-15.82
338	SLU 75	48	-49	5586	1541.88	8.69	-16.38
338	SLU 76	49	-40	5596	1543.38	8.68	-16.59
338	SLU 77	46	-61	5567	1538.56	8.72	-15.65
338	SLU 78	47	-49	5617	1550.67	8.76	-16.21
338	SLU 79	45	-60	5543	1531.98	8.68	-15.49
338	SLU 80	47	-49	5593	1544.1	8.72	-16.05
338	SLU 81	47	-61	5682	1568.34	8.89	-16.02
338	SLU 82	49	-49	5732	1580.46	8.93	-16.58
338	SLU 83	46	-61	5712	1577.14	8.96	-15.85
338	SLU 84	48	-50	5762	1589.25	8.99	-16.41
338	SLE RA 1	34	-42	3750	1038.03	5.78	-11.53
338	SLE RA 2	35	-29	3806	1051.49	5.82	-12.15
338	SLE RA 3	34	-42	3786	1048.28	5.85	-11.52
338	SLE RA 4	35	-35	3820	1056.36	5.87	-11.89
338	SLE RA 5	35	-29	3826	1057.36	5.86	-12.04
338	SLE RA 6	33	-43	3806	1054.14	5.89	-11.41
338	SLE RA 7	34	-35	3840	1062.22	5.92	-11.78
338	SLE RA 8	33	-43	3791	1049.76	5.87	-11.3
338	SLE RA 9	34	-35	3824	1057.83	5.89	-11.67
338	SLE RA 10	36	-31	4116	1135.41	6.35	-12.44
338	SLE RA 11	35	-45	4096	1132.2	6.38	-11.82
338	SLE RA 12	36	-37	4129	1140.27	6.4	-12.19
338	SLE RA 13	36	-32	4136	1141.27	6.39	-12.33
338	SLE RA 14	34	-45	4116	1138.06	6.42	-11.71
338	SLE RA 15	35	-37	4149	1146.14	6.45	-12.08
338	SLE RA 16	34	-45	4100	1133.68	6.4	-11.6
338	SLE RA 17	35	-37	4134	1141.75	6.42	-11.97
338	SLE RA 18	35	-45	4193	1157.92	6.54	-11.95
338	SLE RA 19	36	-38	4226	1165.99	6.56	-12.32
338	SLE RA 20	35	-46	4213	1163.78	6.58	-11.84
338	SLE RA 21	36	-38	4246	1171.86	6.6	-12.21
338	SLE FR 1	34	-42	3750	1038.03	5.78	-11.53
338	SLE FR 2	34	-39	3761	1040.72	5.79	-11.65
338	SLE FR 3	34	-42	3758	1040.38	5.8	-11.48
338	SLE FR 4	34	-40	3894	1076.69	6.01	-11.78
338	SLE FR 5	34	-43	3891	1076.34	6.02	-11.61
338	SLE FR 6	34	-44	3972	1097.97	6.16	-11.74
338	SLE QP 1	34	-42	3750	1038.03	5.78	-11.53
338	SLE QP 2	34	-43	3883	1074	6.01	-11.65
338	SLD 1	424	97	4003	1114.05	6.92	-148.27
338	SLD 2	494	151	4068	1129.74	6.93	-172.83
338	SLD 3	393	-156	2844	823.26	5.54	-137.42
338	SLD 4	464	-102	2909	838.95	5.54	-161.98
338	SLD 5	185	373	5666	1524.33	8.38	-64.82
338	SLD 6	231	408	5708	1534.48	8.38	-80.72
338	SLD 7	83	-470	1802	555.02	3.77	-28.67
338	SLD 8	129	-435	1844	565.17	3.77	-44.57
338	SLD 9	-60	349	5922	1582.83	8.24	21.26
338	SLD 10	-15	384	5964	1592.98	8.24	5.36
338	SLD 11	-163	-494	2059	613.52	3.63	57.41
338	SLD 12	-117	-459	2100	623.67	3.63	41.52
338	SLD 13	-395	16	4858	1309.05	6.47	138.68
338	SLD 14	-325	70	4922	1324.74	6.47	114.11
338	SLD 15	-426	-237	3698	1018.26	5.09	149.52
338	SLD 16	-356	-183	3763	1033.94	5.09	124.96
338	SLV 1	646	191	4145	1155.26	7.53	-225.92
338	SLV 2	756	276	4247	1179.96	7.53	-264.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
338	SLV 3	594	-236	2187	663.93	5.19	-207.57
338	SLV 4	704	-151	2288	688.62	5.19	-246.25
338	SLV 5	276	659	6913	1838.95	10.01	-96.54
338	SLV 6	350	716	6981	1855.58	10.01	-122.58
338	SLV 7	102	-764	385	201.18	2.21	-35.38
338	SLV 8	177	-707	453	217.81	2.21	-61.42
338	SLV 9	-109	621	7313	1930.18	9.8	38.11
338	SLV 10	-34	679	7381	1946.81	9.8	12.07
338	SLV 11	-282	-802	785	292.42	2	99.28
338	SLV 12	-208	-745	853	309.05	2	73.24
338	SLV 13	-636	65	5478	1459.37	6.82	222.94
338	SLV 14	-525	150	5579	1484.07	6.82	184.26
338	SLV 15	-688	-362	3519	968.04	4.48	241.29
338	SLV 16	-577	-277	3621	992.74	4.48	202.61
338	SLV FO 1	707	215	4172	1163.38	7.68	-247.35
338	SLV FO 2	829	308	4283	1190.55	7.69	-289.89
338	SLV FO 3	650	-255	2017	622.92	5.11	-227.16
338	SLV FO 4	771	-162	2129	650.09	5.11	-269.71
338	SLV FO 5	300	729	7216	1915.45	10.41	-105.03
338	SLV FO 6	382	792	7291	1933.74	10.41	-133.68
338	SLV FO 7	109	-837	35	113.9	1.83	-37.75
338	SLV FO 8	191	-774	110	132.19	1.83	-66.4
338	SLV FO 9	-123	688	7656	2015.8	10.18	43.09
338	SLV FO 10	-41	751	7731	2034.09	10.18	14.45
338	SLV FO 11	-314	-878	475	214.26	1.6	110.37
338	SLV FO 12	-232	-815	550	232.55	1.6	81.72
338	SLV FO 13	-703	76	5637	1497.91	6.9	246.4
338	SLV FO 14	-581	169	5749	1525.08	6.9	203.85
338	SLV FO 15	-760	-394	3483	957.44	4.32	266.58
338	SLV FO 16	-639	-301	3595	984.61	4.33	224.04
338	CRTFP Ux+	0	0	0	0	0	0
338	CRTFP Ux-	0	0	0	0	0	0
338	CRTFP Uy+	0	0	0	0	0	0
338	CRTFP Uy-	0	0	0	0	0	0
339	SLU 1	35	-34	3425	841.34	6.18	-12.06
339	SLU 2	38	-14	3506	858.64	6.28	-13.01
339	SLU 3	35	-34	3475	853.91	6.3	-12.07
339	SLU 4	37	-23	3524	864.29	6.35	-12.64
339	SLU 5	37	-15	3533	865.81	6.35	-12.85
339	SLU 6	35	-35	3503	861.09	6.37	-11.92
339	SLU 7	36	-23	3552	871.47	6.43	-12.48
339	SLU 8	34	-34	3481	855.7	6.33	-11.75
339	SLU 9	36	-23	3529	866.08	6.38	-12.31
339	SLU 10	39	-17	3944	962.35	7.17	-13.55
339	SLU 11	37	-37	3913	957.63	7.19	-12.62
339	SLU 12	38	-25	3962	968.01	7.25	-13.19
339	SLU 13	39	-17	3972	969.53	7.24	-13.39
339	SLU 14	36	-37	3941	964.81	7.26	-12.46
339	SLU 15	38	-26	3990	975.19	7.32	-13.03
339	SLU 16	36	-37	3919	959.42	7.22	-12.29
339	SLU 17	37	-25	3967	969.79	7.27	-12.86
339	SLU 18	37	-37	4051	989.51	7.46	-12.84
339	SLU 19	39	-26	4099	999.89	7.51	-13.41
339	SLU 20	37	-38	4079	996.69	7.53	-12.68
339	SLU 21	39	-26	4127	1007.07	7.59	-13.25
339	SLU 22	39	-37	3895	953.94	7.14	-13.59
339	SLU 23	42	-18	3976	971.24	7.23	-14.54
339	SLU 24	40	-38	3946	966.52	7.25	-13.61
339	SLU 25	41	-26	3994	976.89	7.31	-14.17
339	SLU 26	42	-18	4004	978.42	7.3	-14.38
339	SLU 27	39	-38	3974	973.69	7.32	-13.45
339	SLU 28	41	-27	4022	984.07	7.38	-14.02
339	SLU 29	39	-38	3951	968.3	7.28	-13.28
339	SLU 30	40	-26	4000	978.68	7.33	-13.84
339	SLU 31	44	-21	4414	1074.96	8.12	-15.08
339	SLU 32	41	-41	4384	1070.23	8.15	-14.15
339	SLU 33	43	-29	4432	1080.61	8.2	-14.72
339	SLU 34	43	-21	4442	1082.14	8.19	-14.93
339	SLU 35	41	-41	4412	1077.41	8.22	-14
339	SLU 36	42	-29	4460	1087.79	8.27	-14.56
339	SLU 37	40	-41	4389	1072.02	8.17	-13.82
339	SLU 38	42	-29	4438	1082.4	8.23	-14.39
339	SLU 39	42	-41	4521	1102.11	8.41	-14.37
339	SLU 40	43	-29	4570	1112.49	8.47	-14.94
339	SLU 41	41	-41	4549	1109.29	8.48	-14.22
339	SLU 42	43	-30	4598	1119.67	8.54	-14.78
339	SLU 43	44	-42	4291	1055.13	7.71	-15.15
339	SLU 44	47	-23	4372	1072.43	7.8	-16.1
339	SLU 45	44	-43	4341	1067.71	7.83	-15.17
339	SLU 46	46	-31	4390	1078.09	7.88	-15.73
339	SLU 47	46	-23	4400	1079.61	7.88	-15.94
339	SLU 48	44	-43	4369	1074.89	7.9	-15.01
339	SLU 49	45	-32	4418	1085.27	7.95	-15.58
339	SLU 50	43	-43	4347	1069.49	7.85	-14.84
339	SLU 51	45	-31	4395	1079.87	7.91	-15.41
339	SLU 52	48	-26	4810	1176.15	8.7	-16.64
339	SLU 53	46	-46	4779	1171.43	8.72	-15.71
339	SLU 54	47	-34	4828	1181.8	8.78	-16.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
339	SLU 55	48	-26	4838	1183.33	8.77	-16.49
339	SLU 56	45	-46	4807	1178.61	8.79	-15.56
339	SLU 57	47	-34	4856	1188.98	8.85	-16.12
339	SLU 58	45	-46	4785	1173.21	8.75	-15.38
339	SLU 59	46	-34	4833	1183.59	8.8	-15.95
339	SLU 60	46	-46	4917	1203.3	8.99	-15.93
339	SLU 61	48	-34	4965	1213.68	9.04	-16.5
339	SLU 62	46	-46	4945	1210.48	9.06	-15.78
339	SLU 63	48	-35	4993	1220.86	9.11	-16.34
339	SLU 64	48	-46	4761	1167.74	8.66	-16.69
339	SLU 65	51	-27	4842	1185.03	8.76	-17.63
339	SLU 66	49	-47	4812	1180.31	8.78	-16.7
339	SLU 67	50	-35	4860	1190.69	8.84	-17.27
339	SLU 68	51	-27	4870	1192.21	8.83	-17.47
339	SLU 69	48	-47	4840	1187.49	8.85	-16.54
339	SLU 70	50	-36	4888	1197.87	8.91	-17.11
339	SLU 71	48	-47	4817	1182.1	8.81	-16.37
339	SLU 72	49	-35	4866	1192.47	8.86	-16.94
339	SLU 73	53	-29	5280	1288.75	9.65	-18.18
339	SLU 74	50	-50	5250	1284.03	9.67	-17.25
339	SLU 75	52	-38	5299	1294.41	9.73	-17.81
339	SLU 76	52	-30	5308	1295.93	9.72	-18.02
339	SLU 77	50	-50	5278	1291.21	9.75	-17.09
339	SLU 78	51	-38	5327	1301.59	9.8	-17.66
339	SLU 79	49	-50	5255	1285.81	9.7	-16.92
339	SLU 80	51	-38	5304	1296.19	9.76	-17.48
339	SLU 81	51	-50	5387	1315.91	9.94	-17.47
339	SLU 82	52	-38	5436	1326.28	10	-18.03
339	SLU 83	50	-50	5415	1323.09	10.01	-17.31
339	SLU 84	52	-39	5464	1333.46	10.07	-17.88
339	SLE RA 1	36	-35	3559	873.51	6.46	-12.5
339	SLE RA 2	38	-22	3613	885.04	6.52	-13.13
339	SLE RA 3	36	-35	3593	881.89	6.53	-12.51
339	SLE RA 4	37	-27	3625	888.81	6.57	-12.89
339	SLE RA 5	38	-22	3632	889.83	6.56	-13.02
339	SLE RA 6	36	-35	3612	886.68	6.58	-12.4
339	SLE RA 7	37	-28	3644	893.6	6.62	-12.78
339	SLE RA 8	36	-35	3596	883.08	6.55	-12.29
339	SLE RA 9	37	-27	3629	890	6.59	-12.67
339	SLE RA 10	39	-23	3905	954.19	7.11	-13.49
339	SLE RA 11	37	-37	3885	951.04	7.13	-12.87
339	SLE RA 12	39	-29	3917	957.96	7.17	-13.25
339	SLE RA 13	39	-24	3924	958.97	7.16	-13.39
339	SLE RA 14	37	-37	3904	955.83	7.18	-12.77
339	SLE RA 15	38	-29	3936	962.74	7.21	-13.14
339	SLE RA 16	37	-37	3889	952.23	7.15	-12.65
339	SLE RA 17	38	-29	3921	959.15	7.18	-13.03
339	SLE RA 18	38	-37	3976	972.29	7.31	-13.02
339	SLE RA 19	39	-29	4009	979.21	7.34	-13.4
339	SLE RA 20	38	-37	3995	977.08	7.35	-12.91
339	SLE RA 21	39	-30	4027	984	7.39	-13.29
339	SLE FR 1	36	-35	3559	873.51	6.46	-12.5
339	SLE FR 2	37	-32	3570	875.82	6.47	-12.62
339	SLE FR 3	36	-35	3567	875.43	6.47	-12.46
339	SLE FR 4	37	-33	3695	905.45	6.72	-12.78
339	SLE FR 5	37	-36	3692	905.06	6.73	-12.61
339	SLE FR 6	37	-36	3768	922.9	6.88	-12.76
339	SLE QP 1	36	-35	3559	873.51	6.46	-12.5
339	SLE QP 2	37	-35	3684	903.15	6.71	-12.65
339	SLD 1	427	99	3774	941.6	7.78	-149.37
339	SLD 2	497	155	3838	955.34	7.82	-173.98
339	SLD 3	395	-149	2665	693.86	5.96	-137.97
339	SLD 4	465	-94	2729	707.6	6	-162.58
339	SLD 5	190	372	5382	1288.04	9.78	-66.69
339	SLD 6	236	408	5423	1296.93	9.81	-82.61
339	SLD 7	83	-456	1686	462.23	3.72	-28.69
339	SLD 8	129	-420	1727	471.13	3.75	-44.61
339	SLD 9	-55	349	5642	1335.16	9.67	19.3
339	SLD 10	-10	385	5683	1344.06	9.7	3.38
339	SLD 11	-162	-479	1946	509.36	3.62	57.31
339	SLD 12	-117	-443	1987	518.25	3.64	41.38
339	SLD 13	-392	23	4640	1098.69	7.42	137.27
339	SLD 14	-321	78	4703	1112.43	7.46	112.66
339	SLD 15	-424	-226	3531	850.95	5.6	148.67
339	SLD 16	-353	-170	3594	864.69	5.64	124.06
339	SLV 1	649	190	3896	979.11	8.5	-227.12
339	SLV 2	759	278	3996	1000.76	8.56	-265.87
339	SLV 3	594	-229	2023	560.53	5.43	-207.83
339	SLV 4	705	-142	2123	582.17	5.49	-246.58
339	SLV 5	282	653	6570	1556.74	11.9	-99.02
339	SLV 6	357	712	6638	1571.32	11.94	-125.11
339	SLV 7	101	-747	326	161.47	1.66	-34.72
339	SLV 8	176	-688	393	176.04	1.7	-60.81
339	SLV 9	-102	617	6975	1630.25	11.72	35.5
339	SLV 10	-27	676	7043	1644.82	11.76	9.41
339	SLV 11	-283	-783	731	234.97	1.49	99.8
339	SLV 12	-208	-724	798	249.55	1.53	73.71
339	SLV 13	-632	71	5246	1224.12	7.93	221.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
339	SLV 14	-521	159	5346	1245.76	7.99	182.52
339	SLV 15	-686	-349	3372	805.53	4.86	240.57
339	SLV 16	-575	-261	3473	827.18	4.92	201.81
339	SLV FO 1	710	213	3917	986.71	8.68	-248.57
339	SLV FO 2	832	309	4028	1010.52	8.75	-291.2
339	SLV FO 3	650	-249	1856	526.27	5.3	-227.35
339	SLV FO 4	772	-153	1967	550.08	5.37	-269.98
339	SLV FO 5	306	722	6859	1622.1	12.41	-107.65
339	SLV FO 6	389	786	6933	1638.13	12.46	-136.35
339	SLV FO 7	107	-818	-10	87.31	1.15	-36.92
339	SLV FO 8	190	-753	64	103.33	1.2	-65.63
339	SLV FO 9	-116	682	7304	1702.96	12.23	40.32
339	SLV FO 10	-34	747	7379	1718.98	12.27	11.62
339	SLV FO 11	-315	-857	435	168.16	0.96	111.05
339	SLV FO 12	-233	-792	510	184.19	1.01	82.34
339	SLV FO 13	-699	82	5402	1256.21	8.05	244.67
339	SLV FO 14	-576	178	5512	1280.02	8.12	202.04
339	SLV FO 15	-758	-380	3341	795.77	4.67	265.89
339	SLV FO 16	-636	-284	3452	819.58	4.74	223.26
339	CRTFP Ux+	0	0	0	0	0	0
339	CRTFP Ux-	0	0	0	0	0	0
339	CRTFP Uy+	0	0	0	0	0	0
339	CRTFP Uy-	0	0	0	0	0	0
340	SLU 1	37	-28	3237	686.74	5.88	-12.94
340	SLU 2	40	-9	3315	700.96	5.98	-13.89
340	SLU 3	38	-29	3284	696.6	5.99	-12.98
340	SLU 4	39	-17	3331	705.12	6.05	-13.55
340	SLU 5	40	-9	3341	706.57	6.04	-13.75
340	SLU 6	37	-29	3310	702.21	6.05	-12.83
340	SLU 7	39	-17	3357	710.74	6.11	-13.4
340	SLU 8	37	-29	3289	697.98	6.01	-12.65
340	SLU 9	38	-17	3335	706.5	6.07	-13.22
340	SLU 10	42	-11	3726	782.88	6.83	-14.54
340	SLU 11	39	-31	3695	778.52	6.84	-13.62
340	SLU 12	41	-19	3742	787.05	6.9	-14.19
340	SLU 13	42	-11	3752	788.5	6.9	-14.39
340	SLU 14	39	-31	3721	784.13	6.91	-13.47
340	SLU 15	41	-19	3768	792.66	6.97	-14.05
340	SLU 16	38	-31	3700	779.9	6.87	-13.29
340	SLU 17	40	-19	3746	788.43	6.93	-13.86
340	SLU 18	40	-31	3824	803.78	7.1	-13.86
340	SLU 19	42	-19	3871	812.31	7.16	-14.43
340	SLU 20	40	-31	3850	809.39	7.17	-13.71
340	SLU 21	41	-20	3897	817.92	7.23	-14.29
340	SLU 22	42	-31	3679	775.6	6.79	-14.59
340	SLU 23	45	-12	3756	789.82	6.89	-15.55
340	SLU 24	42	-32	3726	785.45	6.9	-14.63
340	SLU 25	44	-20	3772	793.98	6.96	-15.2
340	SLU 26	44	-12	3782	795.43	6.95	-15.4
340	SLU 27	42	-32	3751	791.07	6.97	-14.48
340	SLU 28	44	-21	3798	799.6	7.02	-15.06
340	SLU 29	41	-32	3730	786.83	6.92	-14.3
340	SLU 30	43	-20	3777	795.36	6.98	-14.87
340	SLU 31	47	-14	4167	871.74	7.74	-16.19
340	SLU 32	44	-34	4137	867.38	7.76	-15.27
340	SLU 33	46	-22	4183	875.91	7.81	-15.84
340	SLU 34	46	-14	4193	877.36	7.81	-16.04
340	SLU 35	44	-34	4162	872.99	7.82	-15.13
340	SLU 36	45	-23	4209	881.52	7.88	-15.7
340	SLU 37	43	-34	4141	868.76	7.78	-14.94
340	SLU 38	45	-22	4188	877.29	7.84	-15.52
340	SLU 39	45	-34	4266	892.64	8.01	-15.51
340	SLU 40	47	-22	4312	901.17	8.07	-16.08
340	SLU 41	44	-34	4291	898.25	8.08	-15.37
340	SLU 42	46	-23	4338	906.78	8.14	-15.94
340	SLU 43	47	-36	4057	862.3	7.33	-16.26
340	SLU 44	50	-16	4135	876.52	7.43	-17.21
340	SLU 45	47	-36	4104	872.15	7.44	-16.29
340	SLU 46	49	-25	4150	880.68	7.5	-16.87
340	SLU 47	49	-16	4160	882.13	7.49	-17.06
340	SLU 48	47	-36	4130	877.77	7.51	-16.15
340	SLU 49	48	-25	4176	886.3	7.56	-16.72
340	SLU 50	46	-36	4108	873.53	7.46	-15.97
340	SLU 51	48	-24	4155	882.06	7.52	-16.54
340	SLU 52	52	-18	4546	958.44	8.28	-17.85
340	SLU 53	49	-38	4515	954.08	8.29	-16.94
340	SLU 54	51	-26	4561	962.6	8.35	-17.51
340	SLU 55	51	-18	4571	964.06	8.35	-17.71
340	SLU 56	49	-38	4541	959.69	8.36	-16.79
340	SLU 57	50	-27	4587	968.22	8.42	-17.36
340	SLU 58	48	-38	4519	955.46	8.32	-16.61
340	SLU 59	50	-26	4566	963.99	8.38	-17.18
340	SLU 60	50	-38	4644	979.34	8.55	-17.18
340	SLU 61	51	-27	4691	987.86	8.61	-17.75
340	SLU 62	49	-39	4670	984.95	8.62	-17.03
340	SLU 63	51	-27	4716	993.48	8.68	-17.6
340	SLU 64	52	-39	4498	951.16	8.24	-17.91
340	SLU 65	54	-19	4576	965.38	8.34	-18.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
340	SLU 66	52	-39	4545	961.01	8.35	-17.95
340	SLU 67	54	-28	4592	969.54	8.41	-18.52
340	SLU 68	54	-20	4602	970.99	8.41	-18.72
340	SLU 69	51	-40	4571	966.63	8.42	-17.8
340	SLU 70	53	-28	4618	975.16	8.48	-18.37
340	SLU 71	51	-39	4550	962.39	8.37	-17.62
340	SLU 72	53	-28	4597	970.92	8.43	-18.19
340	SLU 73	56	-21	4987	1047.3	9.2	-19.51
340	SLU 74	54	-41	4956	1042.93	9.21	-18.59
340	SLU 75	55	-30	5003	1051.46	9.27	-19.16
340	SLU 76	56	-22	5013	1052.91	9.26	-19.36
340	SLU 77	53	-41	4982	1048.55	9.27	-18.44
340	SLU 78	55	-30	5029	1057.08	9.33	-19.01
340	SLU 79	53	-41	4961	1044.32	9.23	-18.26
340	SLU 80	54	-30	5008	1052.84	9.29	-18.83
340	SLU 81	54	-41	5085	1068.19	9.46	-18.83
340	SLU 82	56	-30	5132	1076.72	9.52	-19.4
340	SLU 83	54	-42	5111	1073.81	9.53	-18.68
340	SLU 84	56	-30	5158	1082.34	9.59	-19.25
340	SLE RA 1	39	-29	3363	712.13	6.14	-13.41
340	SLE RA 2	41	-16	3415	721.61	6.2	-14.05
340	SLE RA 3	39	-29	3395	718.7	6.21	-13.44
340	SLE RA 4	40	-22	3426	724.39	6.25	-13.82
340	SLE RA 5	40	-16	3432	725.35	6.25	-13.95
340	SLE RA 6	39	-30	3412	722.44	6.26	-13.34
340	SLE RA 7	40	-22	3443	728.13	6.3	-13.72
340	SLE RA 8	38	-29	3398	719.62	6.23	-13.22
340	SLE RA 9	39	-22	3429	725.31	6.27	-13.6
340	SLE RA 10	42	-17	3689	776.22	6.78	-14.48
340	SLE RA 11	40	-31	3669	773.32	6.78	-13.87
340	SLE RA 12	41	-23	3700	779	6.82	-14.25
340	SLE RA 13	42	-18	3706	779.97	6.82	-14.38
340	SLE RA 14	40	-31	3686	777.06	6.83	-13.77
340	SLE RA 15	41	-23	3717	782.74	6.87	-14.15
340	SLE RA 16	39	-31	3672	774.24	6.8	-13.65
340	SLE RA 17	41	-23	3703	779.92	6.84	-14.03
340	SLE RA 18	41	-31	3755	790.16	6.95	-14.03
340	SLE RA 19	42	-23	3786	795.84	6.99	-14.41
340	SLE RA 20	40	-31	3772	793.9	7	-13.93
340	SLE RA 21	41	-23	3803	799.58	7.04	-14.31
340	SLE FR 1	39	-29	3363	712.13	6.14	-13.41
340	SLE FR 2	39	-26	3374	714.03	6.15	-13.54
340	SLE FR 3	39	-29	3370	713.63	6.16	-13.38
340	SLE FR 4	40	-27	3491	737.44	6.4	-13.72
340	SLE FR 5	39	-30	3487	737.04	6.4	-13.56
340	SLE FR 6	40	-30	3559	751.14	6.55	-13.72
340	SLE QP 1	39	-29	3363	712.13	6.14	-13.41
340	SLE QP 2	39	-30	3481	735.54	6.38	-13.6
340	SLD 1	429	98	3536	770.62	7.54	-150.35
340	SLD 2	500	155	3599	782.11	7.59	-174.99
340	SLD 3	396	-144	2485	569.1	5.69	-138.46
340	SLD 4	466	-87	2547	580.58	5.73	-163.1
340	SLD 5	195	366	5081	1049.72	9.54	-68.38
340	SLD 6	240	403	5122	1057.15	9.57	-84.33
340	SLD 7	83	-441	1576	377.97	3.35	-28.75
340	SLD 8	129	-404	1617	385.4	3.38	-44.69
340	SLD 9	-50	345	5345	1085.68	9.38	17.49
340	SLD 10	-5	382	5385	1093.11	9.41	1.55
340	SLD 11	-162	-462	1840	413.93	3.2	57.13
340	SLD 12	-116	-425	1880	421.36	3.23	41.19
340	SLD 13	-388	28	4414	890.49	7.03	135.91
340	SLD 14	-317	85	4476	901.98	7.08	111.26
340	SLD 15	-421	-214	3362	688.97	5.18	147.8
340	SLD 16	-351	-157	3425	700.46	5.22	123.15
340	SLV 1	651	185	3635	803.26	8.32	-228.16
340	SLV 2	762	275	3734	821.34	8.39	-266.96
340	SLV 3	595	-224	1859	462.77	5.18	-208.04
340	SLV 4	706	-134	1957	480.86	5.25	-246.84
340	SLV 5	288	639	6203	1268.89	11.71	-101.24
340	SLV 6	363	699	6269	1281.06	11.76	-127.36
340	SLV 7	100	-726	281	133.93	1.25	-34.18
340	SLV 8	174	-665	348	146.1	1.3	-60.3
340	SLV 9	-96	606	6614	1324.98	11.47	33.1
340	SLV 10	-21	666	6680	1337.15	11.52	6.98
340	SLV 11	-284	-759	692	190.02	1.01	100.16
340	SLV 12	-209	-698	758	202.19	1.06	74.04
340	SLV 13	-627	75	5004	990.22	7.51	219.65
340	SLV 14	-516	165	5102	1008.31	7.59	180.84
340	SLV 15	-684	-334	3228	649.74	4.38	239.76
340	SLV 16	-573	-244	3326	667.82	4.45	200.96
340	SLV FO 1	712	207	3651	810.03	8.51	-249.61
340	SLV FO 2	835	306	3759	829.92	8.59	-292.3
340	SLV FO 3	650	-244	1697	435.49	5.06	-227.48
340	SLV FO 4	772	-145	1805	455.39	5.14	-270.17
340	SLV FO 5	313	706	6475	1322.22	12.24	-110
340	SLV FO 6	395	772	6548	1335.62	12.29	-138.74
340	SLV FO 7	106	-795	-38	73.77	0.74	-36.23
340	SLV FO 8	188	-729	34	87.16	0.79	-64.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
340	SLV FO 9	-109	670	6927	1383.92	11.97	37.78
340	SLV FO 10	-27	736	7000	1397.31	12.03	9.04
340	SLV FO 11	-316	-832	413	135.46	0.47	111.54
340	SLV FO 12	-234	-765	486	148.86	0.53	82.8
340	SLV FO 13	-694	86	5156	1015.69	7.62	242.97
340	SLV FO 14	-572	184	5264	1035.59	7.71	200.29
340	SLV FO 15	-756	-365	3202	641.16	4.17	265.1
340	SLV FO 16	-634	-266	3310	661.05	4.26	222.42
340	CRTFP Ux+	0	0	0	0	0	0
340	CRTFP Ux-	0	0	0	0	0	0
340	CRTFP Uy+	0	0	0	0	0	0
340	CRTFP Uy-	0	0	0	0	0	0
341	SLU 1	40	-24	3069	548.94	4.96	-13.79
341	SLU 2	42	-5	3144	560.26	5.05	-14.74
341	SLU 3	40	-24	3113	556.37	5.05	-13.85
341	SLU 4	42	-13	3158	563.16	5.1	-14.42
341	SLU 5	42	-5	3168	564.49	5.11	-14.61
341	SLU 6	40	-25	3137	560.6	5.11	-13.71
341	SLU 7	41	-13	3182	567.4	5.16	-14.28
341	SLU 8	39	-24	3117	557.4	5.07	-13.52
341	SLU 9	41	-13	3162	564.2	5.13	-14.09
341	SLU 10	45	-6	3530	622.7	5.78	-15.48
341	SLU 11	42	-26	3499	618.82	5.78	-14.58
341	SLU 12	44	-14	3544	625.61	5.84	-15.15
341	SLU 13	44	-6	3554	626.94	5.84	-15.34
341	SLU 14	42	-26	3523	623.05	5.84	-14.45
341	SLU 15	43	-14	3568	629.84	5.89	-15.02
341	SLU 16	41	-26	3503	619.85	5.81	-14.25
341	SLU 17	43	-14	3548	626.64	5.86	-14.83
341	SLU 18	43	-26	3621	638.14	6.01	-14.84
341	SLU 19	44	-14	3666	644.94	6.06	-15.41
341	SLU 20	42	-26	3645	642.38	6.06	-14.7
341	SLU 21	44	-14	3690	649.17	6.12	-15.28
341	SLU 22	45	-27	3484	616.6	5.74	-15.56
341	SLU 23	48	-7	3559	627.92	5.82	-16.51
341	SLU 24	45	-27	3528	624.03	5.83	-15.62
341	SLU 25	47	-16	3573	630.82	5.88	-16.19
341	SLU 26	47	-8	3583	632.15	5.88	-16.37
341	SLU 27	45	-27	3552	628.26	5.88	-15.48
341	SLU 28	46	-16	3597	635.06	5.94	-16.05
341	SLU 29	44	-27	3532	625.06	5.85	-15.29
341	SLU 30	46	-15	3577	631.86	5.9	-15.86
341	SLU 31	50	-9	3945	690.36	6.56	-17.24
341	SLU 32	47	-29	3914	686.48	6.56	-16.35
341	SLU 33	49	-17	3959	693.27	6.61	-16.92
341	SLU 34	49	-9	3969	694.6	6.61	-17.11
341	SLU 35	47	-29	3938	690.71	6.62	-16.22
341	SLU 36	48	-17	3983	697.5	6.67	-16.79
341	SLU 37	46	-28	3918	687.51	6.58	-16.02
341	SLU 38	48	-17	3963	694.3	6.63	-16.59
341	SLU 39	48	-29	4036	705.8	6.78	-16.61
341	SLU 40	50	-17	4081	712.6	6.83	-17.18
341	SLU 41	48	-29	4060	710.03	6.84	-16.47
341	SLU 42	49	-17	4105	716.83	6.89	-17.04
341	SLU 43	50	-30	3847	690.42	6.18	-17.32
341	SLU 44	53	-11	3922	701.74	6.27	-18.27
341	SLU 45	50	-31	3891	697.86	6.27	-17.38
341	SLU 46	52	-19	3936	704.65	6.33	-17.95
341	SLU 47	52	-11	3946	705.98	6.33	-18.14
341	SLU 48	50	-31	3915	702.09	6.33	-17.24
341	SLU 49	51	-19	3960	708.88	6.38	-17.81
341	SLU 50	49	-30	3895	698.89	6.3	-17.05
341	SLU 51	51	-19	3940	705.68	6.35	-17.62
341	SLU 52	55	-12	4308	764.19	7	-19.01
341	SLU 53	52	-32	4277	760.3	7.01	-18.11
341	SLU 54	54	-20	4322	767.09	7.06	-18.68
341	SLU 55	54	-12	4332	768.42	7.06	-18.87
341	SLU 56	52	-32	4301	764.53	7.06	-17.98
341	SLU 57	54	-21	4346	771.33	7.12	-18.55
341	SLU 58	51	-32	4281	761.33	7.03	-17.79
341	SLU 59	53	-20	4326	768.12	7.08	-18.36
341	SLU 60	53	-32	4399	779.63	7.23	-18.37
341	SLU 61	55	-21	4444	786.42	7.28	-18.94
341	SLU 62	53	-32	4423	783.86	7.28	-18.24
341	SLU 63	54	-21	4468	790.65	7.34	-18.81
341	SLU 64	55	-33	4262	758.08	6.96	-19.09
341	SLU 65	58	-14	4337	769.4	7.05	-20.04
341	SLU 66	55	-33	4306	765.51	7.05	-19.15
341	SLU 67	57	-22	4351	772.31	7.1	-19.72
341	SLU 68	57	-14	4361	773.63	7.1	-19.9
341	SLU 69	55	-34	4330	769.75	7.11	-19.01
341	SLU 70	56	-22	4375	776.54	7.16	-19.58
341	SLU 71	54	-33	4310	766.55	7.07	-18.82
341	SLU 72	56	-22	4355	773.34	7.12	-19.39
341	SLU 73	60	-15	4724	831.85	7.78	-20.77
341	SLU 74	57	-35	4693	827.96	7.78	-19.88
341	SLU 75	59	-23	4738	834.75	7.83	-20.45
341	SLU 76	60	-15	4748	836.08	7.83	-20.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
341	SLU 77	57	-35	4717	832.19	7.84	-19.75
341	SLU 78	59	-23	4762	838.98	7.89	-20.32
341	SLU 79	56	-35	4697	828.99	7.8	-19.55
341	SLU 80	58	-23	4742	835.78	7.86	-20.12
341	SLU 81	58	-35	4814	847.29	8	-20.14
341	SLU 82	60	-23	4859	854.08	8.06	-20.71
341	SLU 83	58	-35	4838	851.52	8.06	-20
341	SLU 84	59	-23	4883	858.31	8.11	-20.57
341	SLE RA 1	41	-25	3187	568.27	5.18	-14.3
341	SLE RA 2	43	-12	3237	575.82	5.24	-14.93
341	SLE RA 3	41	-25	3217	573.22	5.24	-14.33
341	SLE RA 4	42	-17	3247	577.75	5.28	-14.71
341	SLE RA 5	43	-12	3253	578.64	5.28	-14.84
341	SLE RA 6	41	-25	3233	576.05	5.28	-14.24
341	SLE RA 7	42	-17	3263	580.58	5.32	-14.62
341	SLE RA 8	41	-25	3219	573.91	5.26	-14.12
341	SLE RA 9	42	-17	3249	578.44	5.29	-14.5
341	SLE RA 10	44	-13	3495	617.45	5.73	-15.42
341	SLE RA 11	43	-26	3474	614.85	5.73	-14.82
341	SLE RA 12	44	-18	3504	619.38	5.77	-15.2
341	SLE RA 13	44	-13	3511	620.27	5.77	-15.33
341	SLE RA 14	43	-26	3490	617.68	5.77	-14.73
341	SLE RA 15	44	-18	3520	622.2	5.8	-15.11
341	SLE RA 16	42	-26	3477	615.54	5.75	-14.6
341	SLE RA 17	43	-18	3507	620.07	5.78	-14.99
341	SLE RA 18	43	-26	3555	627.74	5.88	-14.99
341	SLE RA 19	44	-18	3585	632.27	5.91	-15.38
341	SLE RA 20	43	-26	3571	630.56	5.92	-14.9
341	SLE RA 21	44	-18	3601	635.09	5.95	-15.29
341	SLE FR 1	41	-25	3187	568.27	5.18	-14.3
341	SLE FR 2	42	-22	3197	569.78	5.19	-14.42
341	SLE FR 3	41	-25	3194	569.4	5.2	-14.26
341	SLE FR 4	42	-22	3308	587.62	5.4	-14.63
341	SLE FR 5	42	-25	3304	587.24	5.41	-14.47
341	SLE FR 6	42	-25	3371	598	5.53	-14.65
341	SLE QP 1	41	-25	3187	568.27	5.18	-14.3
341	SLE QP 2	42	-25	3298	586.11	5.39	-14.51
341	SLD 1	432	95	3317	616.35	6.61	-151.24
341	SLD 2	502	154	3378	625.61	6.65	-175.89
341	SLD 3	397	-140	2320	458.46	4.99	-138.91
341	SLD 4	468	-82	2381	467.71	5.02	-163.57
341	SLD 5	199	359	4806	833.05	8.22	-69.94
341	SLD 6	245	397	4845	839.03	8.24	-85.89
341	SLD 7	84	-428	1481	306.74	2.8	-28.86
341	SLD 8	129	-390	1521	312.72	2.82	-44.81
341	SLD 9	-46	340	5075	859.49	7.96	15.8
341	SLD 10	0	378	5114	865.48	7.98	-0.15
341	SLD 11	-161	-447	1751	333.18	2.54	56.88
341	SLD 12	-115	-409	1790	339.17	2.56	40.93
341	SLD 13	-384	32	4215	704.51	5.76	134.56
341	SLD 14	-313	90	4276	713.76	5.8	109.9
341	SLD 15	-419	-204	3217	546.61	4.13	146.88
341	SLD 16	-348	-145	3279	555.86	4.17	122.23
341	SLV 1	654	178	3392	643.45	7.4	-229.07
341	SLV 2	765	270	3488	658.02	7.46	-267.89
341	SLV 3	595	-221	1707	376.69	4.66	-208.21
341	SLV 4	706	-128	1803	391.26	4.71	-247.04
341	SLV 5	294	623	5864	1005.18	10.15	-103.26
341	SLV 6	368	685	5928	1014.99	10.19	-129.39
341	SLV 7	98	-705	247	115.98	0.99	-33.74
341	SLV 8	173	-643	312	125.79	1.03	-59.88
341	SLV 9	-89	593	6284	1046.43	9.75	30.87
341	SLV 10	-14	655	6348	1056.24	9.79	4.73
341	SLV 11	-285	-735	667	157.23	0.59	100.38
341	SLV 12	-210	-673	732	167.04	0.63	74.25
341	SLV 13	-623	78	4792	780.96	6.07	218.03
341	SLV 14	-511	171	4888	795.53	6.13	179.2
341	SLV 15	-681	-320	3107	514.2	3.32	238.88
341	SLV 16	-570	-228	3203	528.77	3.38	200.06
341	SLV FO 1	715	198	3402	649.19	7.61	-250.52
341	SLV FO 2	837	300	3507	665.21	7.67	-293.23
341	SLV FO 3	650	-240	1548	355.75	4.58	-227.59
341	SLV FO 4	773	-139	1654	371.77	4.64	-270.29
341	SLV FO 5	319	688	6120	1047.09	10.63	-112.13
341	SLV FO 6	401	756	6192	1057.88	10.67	-140.88
341	SLV FO 7	104	-773	-58	68.96	0.55	-35.67
341	SLV FO 8	186	-705	13	79.75	0.59	-64.42
341	SLV FO 9	-102	655	6582	1092.47	10.19	35.41
341	SLV FO 10	-20	723	6654	1103.25	10.23	6.66
341	SLV FO 11	-317	-806	404	114.34	0.11	111.87
341	SLV FO 12	-235	-738	475	125.13	0.15	83.12
341	SLV FO 13	-689	89	4942	800.44	6.14	241.28
341	SLV FO 14	-567	190	5047	816.47	6.2	198.58
341	SLV FO 15	-753	-350	3088	507.01	3.12	264.22
341	SLV FO 16	-631	-248	3194	523.03	3.18	221.51
341	CRTFP Ux+	0	0	0	0	0	0
341	CRTFP Ux-	0	0	0	0	0	0
341	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
341	CRTFP Uy-	0	0	0	0	0	0
342	SLU 1	42	-20	2935	436.86	3.66	-14.6
342	SLU 2	45	-1	3008	445.74	3.72	-15.54
342	SLU 3	42	-21	2977	442.34	3.72	-14.68
342	SLU 4	44	-9	3020	447.67	3.76	-15.25
342	SLU 5	44	-1	3030	448.86	3.77	-15.42
342	SLU 6	42	-21	2999	445.46	3.77	-14.56
342	SLU 7	44	-9	3043	450.79	3.81	-15.12
342	SLU 8	41	-20	2980	443.09	3.74	-14.35
342	SLU 9	43	-9	3024	448.42	3.78	-14.92
342	SLU 10	47	-2	3374	492.29	4.28	-16.37
342	SLU 11	45	-22	3343	488.89	4.28	-15.5
342	SLU 12	46	-10	3387	494.22	4.32	-16.07
342	SLU 13	47	-2	3397	495.4	4.32	-16.24
342	SLU 14	44	-22	3365	492	4.32	-15.38
342	SLU 15	46	-10	3409	497.33	4.36	-15.94
342	SLU 16	44	-21	3346	489.64	4.3	-15.17
342	SLU 17	45	-10	3390	494.96	4.34	-15.74
342	SLU 18	45	-22	3459	503.36	4.45	-15.78
342	SLU 19	47	-10	3502	508.68	4.49	-16.34
342	SLU 20	45	-22	3481	506.47	4.49	-15.65
342	SLU 21	47	-10	3525	511.8	4.53	-16.22
342	SLU 22	47	-23	3330	487.25	4.23	-16.48
342	SLU 23	50	-3	3402	496.13	4.3	-17.42
342	SLU 24	48	-23	3371	492.73	4.3	-16.56
342	SLU 25	49	-12	3415	498.06	4.34	-17.12
342	SLU 26	50	-3	3425	499.24	4.35	-17.3
342	SLU 27	47	-23	3393	495.84	4.34	-16.43
342	SLU 28	49	-12	3437	501.17	4.39	-17
342	SLU 29	47	-23	3374	493.47	4.32	-16.23
342	SLU 30	48	-11	3418	498.8	4.36	-16.8
342	SLU 31	53	-4	3768	542.67	4.86	-18.24
342	SLU 32	50	-24	3737	539.27	4.86	-17.38
342	SLU 33	52	-13	3781	544.6	4.9	-17.95
342	SLU 34	52	-5	3791	545.78	4.9	-18.12
342	SLU 35	50	-24	3760	542.38	4.9	-17.25
342	SLU 36	51	-13	3803	547.71	4.94	-17.82
342	SLU 37	49	-24	3741	540.02	4.87	-17.05
342	SLU 38	51	-12	3784	545.35	4.91	-17.62
342	SLU 39	51	-24	3853	553.74	5.03	-17.65
342	SLU 40	52	-13	3896	559.07	5.07	-18.22
342	SLU 41	50	-24	3875	556.85	5.07	-17.53
342	SLU 42	52	-13	3919	562.18	5.11	-18.09
342	SLU 43	53	-25	3681	550.65	4.55	-18.34
342	SLU 44	56	-6	3753	559.53	4.62	-19.28
342	SLU 45	53	-26	3722	556.13	4.62	-18.42
342	SLU 46	55	-14	3766	561.46	4.66	-18.98
342	SLU 47	55	-6	3775	562.64	4.66	-19.16
342	SLU 48	53	-26	3744	559.24	4.66	-18.29
342	SLU 49	54	-14	3788	564.57	4.7	-18.86
342	SLU 50	52	-25	3725	556.88	4.64	-18.09
342	SLU 51	54	-14	3769	562.21	4.68	-18.65
342	SLU 52	58	-7	4119	606.07	5.18	-20.1
342	SLU 53	55	-27	4088	602.67	5.18	-19.24
342	SLU 54	57	-15	4132	608	5.22	-19.8
342	SLU 55	58	-7	4142	609.19	5.22	-19.98
342	SLU 56	55	-27	4111	605.79	5.22	-19.11
342	SLU 57	57	-15	4154	611.12	5.26	-19.68
342	SLU 58	55	-26	4092	603.42	5.19	-18.91
342	SLU 59	56	-15	4135	608.75	5.23	-19.48
342	SLU 60	56	-27	4204	617.14	5.34	-19.51
342	SLU 61	58	-15	4247	622.47	5.39	-20.08
342	SLU 62	56	-27	4226	620.25	5.39	-19.39
342	SLU 63	57	-15	4270	625.58	5.43	-19.95
342	SLU 64	58	-28	4075	601.03	5.13	-20.21
342	SLU 65	61	-9	4147	609.91	5.2	-21.16
342	SLU 66	58	-28	4116	606.51	5.2	-20.29
342	SLU 67	60	-17	4160	611.84	5.24	-20.86
342	SLU 68	61	-9	4170	613.03	5.24	-21.03
342	SLU 69	58	-28	4139	609.63	5.24	-20.17
342	SLU 70	60	-17	4182	614.95	5.28	-20.74
342	SLU 71	58	-28	4120	607.26	5.22	-19.97
342	SLU 72	59	-16	4163	612.59	5.26	-20.53
342	SLU 73	63	-10	4514	656.46	5.75	-21.98
342	SLU 74	61	-29	4483	653.06	5.75	-21.12
342	SLU 75	62	-18	4526	658.38	5.79	-21.68
342	SLU 76	63	-10	4536	659.57	5.8	-21.86
342	SLU 77	60	-29	4505	656.17	5.8	-20.99
342	SLU 78	62	-18	4549	661.5	5.84	-21.56
342	SLU 79	60	-29	4486	653.8	5.77	-20.79
342	SLU 80	62	-17	4530	659.13	5.81	-21.35
342	SLU 81	62	-29	4598	667.52	5.92	-21.39
342	SLU 82	63	-18	4642	672.85	5.96	-21.95
342	SLU 83	61	-29	4621	670.64	5.97	-21.26
342	SLU 84	63	-18	4664	675.96	6.01	-21.83
342	SLE RA 1	44	-21	3048	451.26	3.82	-15.14
342	SLE RA 2	45	-8	3096	457.18	3.87	-15.77
342	SLE RA 3	44	-21	3076	454.91	3.87	-15.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
342	SLE RA 4	45	-13	3105	458.46	3.89	-15.57
342	SLE RA 5	45	-8	3111	459.26	3.89	-15.68
342	SLE RA 6	44	-21	3090	456.99	3.89	-15.11
342	SLE RA 7	45	-13	3119	460.54	3.92	-15.48
342	SLE RA 8	43	-21	3078	455.41	3.88	-14.97
342	SLE RA 9	44	-13	3107	458.96	3.91	-15.35
342	SLE RA 10	47	-9	3340	488.21	4.24	-16.31
342	SLE RA 11	45	-22	3320	485.94	4.24	-15.74
342	SLE RA 12	46	-14	3349	489.49	4.26	-16.12
342	SLE RA 13	47	-9	3355	490.28	4.26	-16.23
342	SLE RA 14	45	-22	3335	488.02	4.26	-15.65
342	SLE RA 15	46	-14	3364	491.57	4.29	-16.03
342	SLE RA 16	45	-22	3322	486.44	4.25	-15.52
342	SLE RA 17	46	-14	3351	489.99	4.27	-15.9
342	SLE RA 18	46	-22	3397	495.59	4.35	-15.92
342	SLE RA 19	47	-14	3426	499.14	4.38	-16.3
342	SLE RA 20	46	-22	3412	497.66	4.38	-15.84
342	SLE RA 21	47	-14	3441	501.21	4.4	-16.21
342	SLE FR 1	44	-21	3048	451.26	3.82	-15.14
342	SLE FR 2	44	-18	3058	452.44	3.83	-15.26
342	SLE FR 3	44	-21	3054	452.09	3.83	-15.1
342	SLE FR 4	45	-19	3162	465.74	3.99	-15.5
342	SLE FR 5	44	-21	3159	465.39	3.99	-15.34
342	SLE FR 6	45	-21	3222	473.42	4.08	-15.53
342	SLE QP 1	44	-21	3048	451.26	3.82	-15.14
342	SLE QP 2	44	-21	3153	464.56	3.98	-15.37
342	SLD 1	434	92	3134	488.48	5.26	-152.03
342	SLD 2	505	153	3194	495.8	5.26	-176.68
342	SLD 3	398	-138	2180	367.62	4.04	-139.32
342	SLD 4	469	-77	2241	374.94	4.05	-163.97
342	SLD 5	203	352	4582	653.77	6.21	-71.37
342	SLD 6	249	392	4621	658.51	6.21	-87.32
342	SLD 7	84	-417	1405	250.9	2.15	-29
342	SLD 8	129	-377	1444	255.63	2.15	-44.95
342	SLD 9	-41	335	4861	673.48	5.81	14.21
342	SLD 10	5	375	4900	678.22	5.81	-1.74
342	SLD 11	-161	-434	1684	270.61	1.74	56.58
342	SLD 12	-115	-394	1723	275.34	1.75	40.63
342	SLD 13	-380	35	4064	554.18	3.91	133.23
342	SLD 14	-309	96	4125	561.5	3.92	108.58
342	SLD 15	-416	-195	3111	433.32	2.69	145.94
342	SLD 16	-345	-134	3172	440.63	2.7	121.29
342	SLV 1	656	171	3184	509.65	6.05	-229.84
342	SLV 2	767	266	3279	521.17	6.06	-268.66
342	SLV 3	595	-219	1574	305.46	3.99	-208.34
342	SLV 4	706	-123	1669	316.98	4	-247.16
342	SLV 5	299	610	5587	785.62	7.72	-105.08
342	SLV 6	374	674	5651	793.38	7.73	-131.22
342	SLV 7	97	-690	219	104.99	0.86	-33.4
342	SLV 8	171	-625	283	112.75	0.86	-59.54
342	SLV 9	-83	583	6022	816.37	7.09	28.79
342	SLV 10	-8	647	6086	824.13	7.1	2.66
342	SLV 11	-286	-716	655	135.74	0.23	100.48
342	SLV 12	-211	-652	719	143.49	0.23	74.34
342	SLV 13	-618	81	4636	612.14	3.95	216.42
342	SLV 14	-507	177	4731	623.66	3.97	177.6
342	SLV 15	-679	-309	3026	407.95	1.89	237.92
342	SLV 16	-567	-213	3121	419.47	1.91	199.1
342	SLV FO 1	717	190	3187	514.16	6.26	-251.29
342	SLV FO 2	839	295	3292	526.83	6.27	-293.99
342	SLV FO 3	650	-239	1416	289.55	3.99	-227.64
342	SLV FO 4	773	-134	1521	302.22	4.01	-270.34
342	SLV FO 5	325	673	5830	817.73	8.1	-114.06
342	SLV FO 6	407	744	5900	826.26	8.11	-142.81
342	SLV FO 7	102	-756	-74	69.03	0.54	-35.2
342	SLV FO 8	184	-685	-4	77.56	0.55	-63.95
342	SLV FO 9	-96	643	6309	851.55	7.41	33.21
342	SLV FO 10	-13	714	6379	860.08	7.41	4.46
342	SLV FO 11	-319	-786	405	102.85	-0.15	112.06
342	SLV FO 12	-236	-715	475	111.38	-0.14	83.31
342	SLV FO 13	-684	91	4784	626.89	3.95	239.6
342	SLV FO 14	-562	197	4889	639.57	3.96	196.89
342	SLV FO 15	-751	-337	3013	402.28	1.68	263.25
342	SLV FO 16	-628	-232	3118	414.96	1.7	220.55
342	CRTFP Ux+	0	0	0	0	0	0
342	CRTFP Ux-	0	0	0	0	0	0
342	CRTFP Uy+	0	0	0	0	0	0
342	CRTFP Uy-	0	0	0	0	0	0
343	SLU 1	44	-16	2846	356.13	2.11	-15.36
343	SLU 2	47	3	2917	363.19	2.15	-16.3
343	SLU 3	45	-17	2886	360.21	2.15	-15.46
343	SLU 4	46	-5	2928	364.45	2.18	-16.02
343	SLU 5	47	3	2938	365.49	2.18	-16.19
343	SLU 6	44	-17	2907	362.52	2.18	-15.35
343	SLU 7	46	-5	2949	366.75	2.2	-15.91
343	SLU 8	44	-16	2888	360.75	2.17	-15.14
343	SLU 9	45	-5	2931	364.98	2.19	-15.7
343	SLU 10	50	2	3269	398.18	2.49	-17.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
343	SLU 11	47	-17	3238	395.21	2.49	-16.37
343	SLU 12	49	-6	3281	399.44	2.52	-16.93
343	SLU 13	49	2	3290	400.48	2.52	-17.09
343	SLU 14	47	-17	3259	397.51	2.52	-16.26
343	SLU 15	48	-6	3302	401.74	2.54	-16.82
343	SLU 16	46	-17	3241	395.74	2.51	-16.04
343	SLU 17	48	-5	3283	399.97	2.53	-16.6
343	SLU 18	48	-17	3349	406.12	2.6	-16.66
343	SLU 19	50	-6	3392	410.35	2.63	-17.22
343	SLU 20	48	-17	3371	408.43	2.63	-16.55
343	SLU 21	49	-6	3413	412.66	2.65	-17.11
343	SLU 22	50	-19	3226	394.02	2.46	-17.34
343	SLU 23	53	1	3297	401.07	2.5	-18.28
343	SLU 24	50	-19	3266	398.1	2.5	-17.44
343	SLU 25	52	-7	3308	402.33	2.52	-18.01
343	SLU 26	52	1	3318	403.38	2.52	-18.17
343	SLU 27	50	-19	3287	400.4	2.52	-17.33
343	SLU 28	52	-7	3329	404.64	2.55	-17.89
343	SLU 29	49	-18	3269	398.63	2.51	-17.12
343	SLU 30	51	-7	3311	402.86	2.54	-17.68
343	SLU 31	55	0	3649	436.06	2.84	-19.18
343	SLU 32	53	-20	3618	433.09	2.84	-18.35
343	SLU 33	54	-8	3661	437.32	2.86	-18.91
343	SLU 34	55	0	3670	438.37	2.87	-19.07
343	SLU 35	53	-20	3639	435.39	2.87	-18.24
343	SLU 36	54	-8	3682	439.63	2.89	-18.8
343	SLU 37	52	-19	3621	433.62	2.85	-18.02
343	SLU 38	54	-8	3663	437.85	2.88	-18.58
343	SLU 39	54	-19	3729	444	2.95	-18.64
343	SLU 40	55	-8	3772	448.23	2.97	-19.2
343	SLU 41	53	-19	3751	446.31	2.97	-18.53
343	SLU 42	55	-8	3793	450.54	3	-19.09
343	SLU 43	56	-20	3569	449.99	2.63	-19.29
343	SLU 44	58	-1	3640	457.04	2.67	-20.23
343	SLU 45	56	-21	3609	454.07	2.67	-19.39
343	SLU 46	57	-9	3652	458.3	2.69	-19.96
343	SLU 47	58	-1	3661	459.35	2.69	-20.12
343	SLU 48	56	-21	3630	456.37	2.69	-19.28
343	SLU 49	57	-9	3673	460.61	2.72	-19.84
343	SLU 50	55	-20	3612	454.6	2.68	-19.07
343	SLU 51	57	-9	3654	458.83	2.7	-19.63
343	SLU 52	61	-2	3993	492.03	3.01	-21.13
343	SLU 53	59	-21	3962	489.06	3.01	-20.3
343	SLU 54	60	-10	4004	493.29	3.03	-20.86
343	SLU 55	61	-2	4014	494.34	3.04	-21.02
343	SLU 56	58	-21	3983	491.37	3.04	-20.19
343	SLU 57	60	-10	4025	495.6	3.06	-20.75
343	SLU 58	58	-21	3964	489.59	3.02	-19.97
343	SLU 59	59	-10	4007	493.82	3.05	-20.53
343	SLU 60	59	-21	4073	499.97	3.12	-20.59
343	SLU 61	61	-10	4115	504.21	3.14	-21.15
343	SLU 62	59	-21	4094	502.28	3.14	-20.48
343	SLU 63	61	-10	4137	506.51	3.17	-21.04
343	SLU 64	61	-23	3949	487.87	2.97	-21.27
343	SLU 65	64	-4	4020	494.92	3.01	-22.21
343	SLU 66	62	-23	3989	491.95	3.01	-21.38
343	SLU 67	63	-12	4032	496.18	3.04	-21.94
343	SLU 68	64	-3	4041	497.23	3.04	-22.1
343	SLU 69	61	-23	4010	494.26	3.04	-21.26
343	SLU 70	63	-11	4053	498.49	3.06	-21.82
343	SLU 71	61	-23	3992	492.48	3.03	-21.05
343	SLU 72	62	-11	4034	496.71	3.05	-21.61
343	SLU 73	67	-4	4373	529.91	3.36	-23.11
343	SLU 74	64	-24	4342	526.94	3.35	-22.28
343	SLU 75	66	-12	4384	531.17	3.38	-22.84
343	SLU 76	66	-4	4394	532.22	3.38	-23
343	SLU 77	64	-24	4363	529.25	3.38	-22.17
343	SLU 78	65	-12	4405	533.48	3.41	-22.73
343	SLU 79	63	-23	4344	527.47	3.37	-21.95
343	SLU 80	65	-12	4387	531.71	3.39	-22.51
343	SLU 81	65	-24	4453	537.86	3.46	-22.57
343	SLU 82	67	-12	4495	542.09	3.49	-23.13
343	SLU 83	65	-24	4474	540.16	3.49	-22.46
343	SLU 84	66	-12	4517	544.39	3.51	-23.02
343	SLE RA 1	46	-17	2954	366.96	2.21	-15.93
343	SLE RA 2	48	-4	3002	371.66	2.24	-16.55
343	SLE RA 3	46	-17	2981	369.68	2.24	-16
343	SLE RA 4	47	-10	3009	372.5	2.25	-16.37
343	SLE RA 5	47	-4	3016	373.2	2.26	-16.48
343	SLE RA 6	46	-17	2995	371.22	2.25	-15.92
343	SLE RA 7	47	-9	3024	374.04	2.27	-16.3
343	SLE RA 8	45	-17	2983	370.03	2.25	-15.78
343	SLE RA 9	47	-9	3011	372.86	2.26	-16.15
343	SLE RA 10	49	-5	3237	394.99	2.47	-17.16
343	SLE RA 11	48	-18	3216	393.01	2.47	-16.6
343	SLE RA 12	49	-10	3244	395.83	2.48	-16.97
343	SLE RA 13	49	-5	3251	396.52	2.48	-17.08
343	SLE RA 14	48	-18	3230	394.54	2.48	-16.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
343	SLE RA 15	49	-10	3258	397.36	2.5	-16.9
343	SLE RA 16	47	-17	3218	393.36	2.47	-16.38
343	SLE RA 17	48	-10	3246	396.18	2.49	-16.76
343	SLE RA 18	48	-18	3290	400.28	2.54	-16.79
343	SLE RA 19	49	-10	3318	403.1	2.55	-17.17
343	SLE RA 20	48	-18	3304	401.82	2.55	-16.72
343	SLE RA 21	49	-10	3333	404.64	2.57	-17.09
343	SLE FR 1	46	-17	2954	366.96	2.21	-15.93
343	SLE FR 2	46	-14	2964	367.9	2.22	-16.05
343	SLE FR 3	46	-17	2960	367.57	2.22	-15.9
343	SLE FR 4	47	-15	3065	377.9	2.31	-16.31
343	SLE FR 5	47	-17	3061	377.57	2.32	-16.16
343	SLE FR 6	47	-17	3122	383.62	2.37	-16.36
343	SLE QP 1	46	-17	2954	366.96	2.21	-15.93
343	SLE QP 2	47	-17	3055	376.96	2.31	-16.19
343	SLD 1	436	90	2996	392.83	3.66	-152.72
343	SLD 2	507	154	3057	398.72	3.62	-177.36
343	SLD 3	399	-137	2072	299.7	2.96	-139.67
343	SLD 4	470	-73	2133	305.6	2.93	-164.31
343	SLD 5	208	350	4427	521.94	3.77	-72.67
343	SLD 6	253	391	4467	525.75	3.75	-88.61
343	SLD 7	84	-410	1349	211.52	1.45	-29.16
343	SLD 8	129	-368	1389	215.33	1.43	-45.1
343	SLD 9	-36	334	4722	538.58	3.18	12.73
343	SLD 10	10	375	4761	542.39	3.16	-3.22
343	SLD 11	-160	-425	1644	228.16	0.86	56.23
343	SLD 12	-114	-384	1683	231.97	0.84	40.29
343	SLD 13	-376	39	3977	448.31	1.69	131.93
343	SLD 14	-306	103	4038	454.21	1.66	107.29
343	SLD 15	-413	-189	3054	355.19	0.99	144.98
343	SLD 16	-343	-125	3114	361.08	0.96	120.34
343	SLV 1	658	165	3022	407.7	4.46	-230.49
343	SLV 2	769	266	3118	416.98	4.41	-269.28
343	SLV 3	595	-220	1462	250.38	3.28	-208.4
343	SLV 4	706	-119	1558	259.66	3.23	-247.2
343	SLV 5	305	603	5393	623.05	4.75	-106.73
343	SLV 6	379	670	5458	629.3	4.71	-132.85
343	SLV 7	95	-680	193	98.65	0.82	-33.12
343	SLV 8	170	-613	258	104.9	0.79	-59.24
343	SLV 9	-77	578	5853	649.02	3.83	26.86
343	SLV 10	-2	646	5917	655.26	3.79	0.74
343	SLV 11	-286	-705	653	124.61	-0.1	100.47
343	SLV 12	-211	-637	717	130.86	-0.13	74.35
343	SLV 13	-613	85	4553	494.25	1.39	214.82
343	SLV 14	-502	185	4648	503.53	1.34	176.03
343	SLV 15	-676	-300	2993	336.93	0.21	236.9
343	SLV 16	-565	-200	3088	346.21	0.16	198.11
343	SLV FO 1	719	184	3019	410.78	4.67	-251.92
343	SLV FO 2	841	294	3124	420.99	4.62	-294.59
343	SLV FO 3	650	-240	1303	237.73	3.38	-227.63
343	SLV FO 4	772	-129	1408	247.93	3.32	-270.3
343	SLV FO 5	330	665	5627	647.66	4.99	-115.78
343	SLV FO 6	413	739	5698	654.53	4.96	-144.52
343	SLV FO 7	100	-747	-93	70.82	0.67	-34.81
343	SLV FO 8	182	-672	-22	77.69	0.64	-63.55
343	SLV FO 9	-89	638	6132	676.22	3.98	31.17
343	SLV FO 10	-7	712	6203	683.09	3.94	2.44
343	SLV FO 11	-320	-773	412	99.38	-0.34	112.14
343	SLV FO 12	-237	-699	483	106.25	-0.37	83.41
343	SLV FO 13	-679	95	4702	505.98	1.29	237.92
343	SLV FO 14	-557	206	4808	516.18	1.24	195.25
343	SLV FO 15	-748	-328	2986	332.92	0	262.21
343	SLV FO 16	-626	-218	3092	343.13	-0.05	219.54
343	CRTFP Ux+	0	0	0	0	0	0
343	CRTFP Ux-	0	0	0	0	0	0
343	CRTFP Uy+	0	0	0	0	0	0
343	CRTFP Uy-	0	0	0	0	0	0
344	SLU 1	46	-12	2807	310.45	0.4	-16.07
344	SLU 2	49	7	2877	316.4	0.41	-16.99
344	SLU 3	47	-12	2846	313.75	0.41	-16.19
344	SLU 4	48	-1	2888	317.32	0.41	-16.74
344	SLU 5	49	7	2898	318.24	0.42	-16.88
344	SLU 6	46	-12	2867	315.59	0.42	-16.08
344	SLU 7	48	-1	2909	319.16	0.42	-16.64
344	SLU 8	46	-12	2848	314.14	0.42	-15.86
344	SLU 9	47	0	2890	317.71	0.42	-16.41
344	SLU 10	52	7	3222	344.67	0.52	-17.97
344	SLU 11	50	-13	3191	342.02	0.52	-17.17
344	SLU 12	51	-1	3233	345.59	0.52	-17.72
344	SLU 13	52	7	3243	346.52	0.53	-17.87
344	SLU 14	49	-12	3212	343.86	0.53	-17.07
344	SLU 15	51	-1	3254	347.43	0.53	-17.62
344	SLU 16	49	-12	3194	342.41	0.53	-16.84
344	SLU 17	50	0	3236	345.98	0.53	-17.4
344	SLU 18	50	-13	3300	350.84	0.56	-17.47
344	SLU 19	52	-1	3342	354.41	0.56	-18.02
344	SLU 20	50	-12	3321	352.69	0.57	-17.37
344	SLU 21	52	-1	3363	356.25	0.57	-17.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
344	SLU 22	52	-14	3180	341.16	0.49	-18.14
344	SLU 23	55	5	3250	347.11	0.49	-19.06
344	SLU 24	53	-14	3219	344.45	0.5	-18.26
344	SLU 25	54	-3	3261	348.02	0.5	-18.81
344	SLU 26	55	5	3271	348.95	0.5	-18.96
344	SLU 27	52	-14	3240	346.3	0.51	-18.16
344	SLU 28	54	-2	3282	349.87	0.51	-18.71
344	SLU 29	52	-14	3222	344.84	0.51	-17.94
344	SLU 30	53	-2	3264	348.41	0.51	-18.49
344	SLU 31	58	5	3596	375.38	0.6	-20.04
344	SLU 32	55	-15	3565	372.73	0.6	-19.24
344	SLU 33	57	-3	3607	376.3	0.61	-19.8
344	SLU 34	58	5	3616	377.22	0.61	-19.94
344	SLU 35	55	-14	3585	374.57	0.61	-19.14
344	SLU 36	57	-3	3627	378.14	0.62	-19.69
344	SLU 37	55	-14	3567	373.12	0.62	-18.92
344	SLU 38	56	-2	3609	376.69	0.62	-19.47
344	SLU 39	56	-14	3674	381.55	0.64	-19.54
344	SLU 40	58	-3	3716	385.12	0.65	-20.1
344	SLU 41	56	-14	3694	383.39	0.65	-19.44
344	SLU 42	58	-3	3736	386.96	0.66	-19.99
344	SLU 43	58	-15	3521	393.06	0.49	-20.18
344	SLU 44	61	4	3591	399.01	0.5	-21.1
344	SLU 45	59	-15	3560	396.35	0.5	-20.29
344	SLU 46	60	-4	3602	399.92	0.5	-20.85
344	SLU 47	61	4	3612	400.85	0.51	-20.99
344	SLU 48	58	-15	3581	398.2	0.51	-20.19
344	SLU 49	60	-4	3623	401.77	0.51	-20.74
344	SLU 50	58	-15	3562	396.75	0.51	-19.97
344	SLU 51	59	-3	3604	400.31	0.51	-20.52
344	SLU 52	64	4	3936	427.28	0.61	-22.08
344	SLU 53	61	-16	3905	424.63	0.61	-21.28
344	SLU 54	63	-4	3947	428.2	0.61	-21.83
344	SLU 55	63	4	3957	429.12	0.62	-21.98
344	SLU 56	61	-15	3926	426.47	0.62	-21.17
344	SLU 57	63	-4	3968	430.04	0.62	-21.73
344	SLU 58	60	-15	3908	425.02	0.62	-20.95
344	SLU 59	62	-3	3950	428.59	0.62	-21.5
344	SLU 60	62	-15	4014	433.45	0.65	-21.58
344	SLU 61	64	-4	4056	437.02	0.65	-22.13
344	SLU 62	62	-15	4035	435.29	0.66	-21.48
344	SLU 63	64	-4	4077	438.86	0.66	-22.03
344	SLU 64	64	-17	3894	423.77	0.58	-22.25
344	SLU 65	67	2	3964	429.71	0.58	-23.17
344	SLU 66	64	-17	3933	427.06	0.59	-22.37
344	SLU 67	66	-6	3975	430.63	0.59	-22.92
344	SLU 68	67	2	3985	431.56	0.59	-23.07
344	SLU 69	64	-17	3954	428.9	0.6	-22.27
344	SLU 70	66	-5	3996	432.47	0.6	-22.82
344	SLU 71	64	-17	3936	427.45	0.6	-22.04
344	SLU 72	65	-5	3978	431.02	0.6	-22.6
344	SLU 73	70	2	4310	457.99	0.69	-24.15
344	SLU 74	67	-17	4279	455.33	0.69	-23.35
344	SLU 75	69	-6	4321	458.9	0.7	-23.9
344	SLU 76	69	2	4330	459.83	0.7	-24.05
344	SLU 77	67	-17	4299	457.18	0.7	-23.25
344	SLU 78	69	-6	4341	460.75	0.71	-23.8
344	SLU 79	66	-17	4281	455.73	0.71	-23.03
344	SLU 80	68	-5	4323	459.29	0.71	-23.58
344	SLU 81	68	-17	4388	464.16	0.73	-23.65
344	SLU 82	70	-6	4430	467.72	0.74	-24.21
344	SLU 83	68	-17	4408	466	0.74	-23.55
344	SLU 84	70	-6	4450	469.57	0.75	-24.1
344	SLE RA 1	48	-13	2913	319.22	0.42	-16.66
344	SLE RA 2	50	0	2960	323.19	0.43	-17.27
344	SLE RA 3	48	-13	2939	321.42	0.43	-16.74
344	SLE RA 4	49	-5	2968	323.8	0.43	-17.11
344	SLE RA 5	50	0	2974	324.42	0.44	-17.2
344	SLE RA 6	48	-13	2953	322.65	0.44	-16.67
344	SLE RA 7	49	-5	2981	325.03	0.44	-17.04
344	SLE RA 8	48	-12	2941	321.68	0.44	-16.52
344	SLE RA 9	49	-5	2969	324.06	0.44	-16.89
344	SLE RA 10	52	0	3190	342.04	0.5	-17.93
344	SLE RA 11	50	-13	3170	340.27	0.5	-17.39
344	SLE RA 12	51	-5	3198	342.65	0.51	-17.76
344	SLE RA 13	52	0	3204	343.27	0.51	-17.86
344	SLE RA 14	50	-13	3184	341.5	0.51	-17.33
344	SLE RA 15	51	-5	3212	343.88	0.51	-17.69
344	SLE RA 16	50	-13	3171	340.53	0.51	-17.18
344	SLE RA 17	51	-5	3199	342.91	0.51	-17.55
344	SLE RA 18	51	-13	3242	346.15	0.53	-17.59
344	SLE RA 19	52	-5	3270	348.53	0.53	-17.96
344	SLE RA 20	51	-13	3256	347.38	0.53	-17.53
344	SLE RA 21	52	-5	3284	349.76	0.54	-17.89
344	SLE FR 1	48	-13	2913	319.22	0.42	-16.66
344	SLE FR 2	48	-10	2923	320.02	0.43	-16.78
344	SLE FR 3	48	-13	2919	319.72	0.43	-16.63
344	SLE FR 4	49	-10	3021	328.1	0.46	-17.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
344	SLE FR 5	49	-13	3018	327.79	0.46	-16.91
344	SLE FR 6	49	-13	3078	332.69	0.48	-17.13
344	SLE QP 1	48	-13	2913	319.22	0.42	-16.66
344	SLE QP 2	49	-13	3012	327.3	0.46	-16.94
344	SLD 1	438	91	2910	333	1.9	-153.29
344	SLD 2	509	159	2972	338.17	1.83	-177.9
344	SLD 3	400	-137	1999	256.46	1.81	-139.94
344	SLD 4	470	-69	2061	261.63	1.73	-164.55
344	SLD 5	211	352	4352	444.2	1.05	-73.82
344	SLD 6	257	396	4393	447.54	1	-89.75
344	SLD 7	84	-407	1316	189.07	0.73	-29.32
344	SLD 8	129	-364	1356	192.42	0.68	-45.24
344	SLD 9	-32	338	4668	462.19	0.23	11.36
344	SLD 10	14	382	4709	465.54	0.18	-4.56
344	SLD 11	-159	-422	1632	207.06	-0.09	55.87
344	SLD 12	-114	-378	1672	210.41	-0.14	39.94
344	SLD 13	-373	44	3963	392.97	-0.82	130.67
344	SLD 14	-302	111	4025	398.15	-0.89	106.06
344	SLD 15	-411	-184	3052	316.43	-0.91	144.02
344	SLD 16	-340	-116	3114	321.61	-0.99	119.41
344	SLV 1	659	164	2911	341.11	2.72	-230.98
344	SLV 2	771	270	3009	349.25	2.6	-269.73
344	SLV 3	595	-221	1372	211.81	2.56	-208.39
344	SLV 4	706	-115	1470	219.96	2.44	-247.14
344	SLV 5	310	604	5298	526.01	1.4	-108.18
344	SLV 6	385	676	5364	531.5	1.32	-134.27
344	SLV 7	94	-679	167	95.04	0.86	-32.88
344	SLV 8	169	-608	234	100.53	0.78	-58.97
344	SLV 9	-71	582	5791	554.07	0.13	25.09
344	SLV 10	4	654	5857	559.56	0.05	-1
344	SLV 11	-287	-702	660	123.11	-0.41	100.39
344	SLV 12	-212	-630	726	128.59	-0.49	74.3
344	SLV 13	-608	89	4554	434.64	-1.53	213.26
344	SLV 14	-497	196	4652	442.79	-1.65	174.51
344	SLV 15	-673	-296	3015	305.35	-1.69	235.85
344	SLV 16	-562	-189	3113	313.5	-1.81	197.1
344	SLV FO 1	721	181	2901	342.49	2.95	-252.38
344	SLV FO 2	843	299	3009	351.45	2.81	-295.01
344	SLV FO 3	649	-242	1208	200.27	2.77	-227.53
344	SLV FO 4	772	-125	1316	209.23	2.64	-270.16
344	SLV FO 5	336	666	5526	545.88	1.5	-117.3
344	SLV FO 6	418	745	5599	551.92	1.41	-146
344	SLV FO 7	98	-746	-117	71.82	0.9	-34.47
344	SLV FO 8	180	-667	-44	77.85	0.81	-63.18
344	SLV FO 9	-83	642	6069	576.75	0.1	29.3
344	SLV FO 10	0	721	6141	582.79	0.01	0.59
344	SLV FO 11	-320	-771	425	102.69	-0.5	112.12
344	SLV FO 12	-238	-692	498	108.72	-0.59	83.42
344	SLV FO 13	-674	99	4708	445.38	-1.72	236.28
344	SLV FO 14	-552	217	4816	454.34	-1.86	193.65
344	SLV FO 15	-745	-324	3015	303.16	-1.9	261.13
344	SLV FO 16	-623	-207	3123	312.12	-2.03	218.5
344	CRTFP Ux+	0	0	0	0	0	0
344	CRTFP Ux-	0	0	0	0	0	0
344	CRTFP Uy+	0	0	0	0	0	0
344	CRTFP Uy-	0	0	0	0	0	0
345	SLU 1	48	-7	2823	303.2	-1.45	-16.69
345	SLU 2	51	12	2893	308.86	-1.48	-17.6
345	SLU 3	49	-7	2862	306.39	-1.48	-16.83
345	SLU 4	50	5	2904	309.78	-1.49	-17.38
345	SLU 5	51	13	2914	310.61	-1.49	-17.51
345	SLU 6	48	-7	2883	308.14	-1.48	-16.74
345	SLU 7	50	5	2925	311.53	-1.5	-17.28
345	SLU 8	48	-6	2864	306.7	-1.47	-16.51
345	SLU 9	49	5	2906	310.1	-1.48	-17.05
345	SLU 10	54	13	3239	335.69	-1.62	-18.65
345	SLU 11	52	-7	3208	333.21	-1.62	-17.88
345	SLU 12	53	5	3250	336.61	-1.64	-18.43
345	SLU 13	54	13	3260	337.44	-1.63	-18.56
345	SLU 14	51	-7	3229	334.96	-1.63	-17.79
345	SLU 15	53	5	3271	338.36	-1.65	-18.33
345	SLU 16	51	-6	3210	333.52	-1.61	-17.56
345	SLU 17	52	5	3252	336.92	-1.63	-18.1
345	SLU 18	53	-7	3317	341.52	-1.66	-18.19
345	SLU 19	54	5	3359	344.92	-1.67	-18.74
345	SLU 20	52	-7	3338	343.27	-1.66	-18.1
345	SLU 21	54	5	3380	346.67	-1.68	-18.64
345	SLU 22	54	-9	3198	332.56	-1.64	-18.85
345	SLU 23	57	11	3268	338.22	-1.67	-19.76
345	SLU 24	55	-9	3237	335.75	-1.67	-18.99
345	SLU 25	56	3	3279	339.14	-1.69	-19.53
345	SLU 26	57	11	3289	339.97	-1.68	-19.67
345	SLU 27	55	-8	3258	337.49	-1.68	-18.9
345	SLU 28	56	3	3300	340.89	-1.69	-19.44
345	SLU 29	54	-8	3239	336.06	-1.66	-18.67
345	SLU 30	55	4	3281	339.45	-1.68	-19.21
345	SLU 31	60	11	3614	365.05	-1.82	-20.81
345	SLU 32	58	-9	3583	362.57	-1.81	-20.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
345	SLU 33	59	3	3625	365.97	-1.83	-20.58
345	SLU 34	60	11	3635	366.79	-1.83	-20.72
345	SLU 35	58	-8	3604	364.32	-1.82	-19.95
345	SLU 36	59	4	3646	367.71	-1.84	-20.49
345	SLU 37	57	-8	3585	362.88	-1.8	-19.72
345	SLU 38	59	4	3627	366.28	-1.82	-20.26
345	SLU 39	59	-8	3692	370.88	-1.85	-20.35
345	SLU 40	60	3	3734	374.28	-1.87	-20.9
345	SLU 41	59	-8	3713	372.63	-1.86	-20.26
345	SLU 42	60	4	3755	376.03	-1.88	-20.8
345	SLU 43	61	-9	3541	384.1	-1.82	-20.96
345	SLU 44	63	11	3611	389.76	-1.85	-21.87
345	SLU 45	61	-9	3580	387.28	-1.84	-21.1
345	SLU 46	63	3	3622	390.68	-1.86	-21.64
345	SLU 47	63	11	3632	391.51	-1.86	-21.77
345	SLU 48	61	-8	3601	389.03	-1.85	-21.01
345	SLU 49	62	3	3643	392.43	-1.87	-21.55
345	SLU 50	60	-8	3582	387.59	-1.84	-20.78
345	SLU 51	62	4	3625	390.99	-1.85	-21.32
345	SLU 52	66	11	3957	416.58	-1.99	-22.92
345	SLU 53	64	-9	3926	414.11	-1.99	-22.15
345	SLU 54	66	3	3968	417.5	-2.01	-22.69
345	SLU 55	66	11	3978	418.33	-2	-22.83
345	SLU 56	64	-8	3947	415.85	-2	-22.06
345	SLU 57	65	3	3989	419.25	-2.01	-22.6
345	SLU 58	63	-8	3928	414.42	-1.98	-21.83
345	SLU 59	65	4	3971	417.82	-2	-22.37
345	SLU 60	65	-8	4035	422.42	-2.02	-22.46
345	SLU 61	66	3	4077	425.81	-2.04	-23.01
345	SLU 62	65	-8	4056	424.17	-2.03	-22.37
345	SLU 63	66	4	4098	427.56	-2.05	-22.91
345	SLU 64	67	-10	3916	413.46	-2.01	-23.12
345	SLU 65	69	9	3986	419.12	-2.04	-24.03
345	SLU 66	67	-10	3955	416.64	-2.04	-23.26
345	SLU 67	69	1	3997	420.04	-2.06	-23.8
345	SLU 68	69	10	4007	420.87	-2.05	-23.93
345	SLU 69	67	-10	3976	418.39	-2.05	-23.17
345	SLU 70	68	2	4018	421.79	-2.06	-23.71
345	SLU 71	66	-10	3957	416.95	-2.03	-22.93
345	SLU 72	68	2	3999	420.35	-2.05	-23.48
345	SLU 73	72	9	4332	445.94	-2.19	-25.08
345	SLU 74	70	-10	4301	443.46	-2.18	-24.31
345	SLU 75	72	2	4343	446.86	-2.2	-24.85
345	SLU 76	72	10	4353	447.69	-2.19	-24.98
345	SLU 77	70	-10	4322	445.21	-2.19	-24.22
345	SLU 78	72	2	4364	448.61	-2.21	-24.76
345	SLU 79	69	-9	4303	443.78	-2.17	-23.98
345	SLU 80	71	2	4345	447.17	-2.19	-24.53
345	SLU 81	71	-10	4410	451.78	-2.22	-24.62
345	SLU 82	73	2	4452	455.17	-2.24	-25.16
345	SLU 83	71	-10	4431	453.52	-2.23	-24.53
345	SLU 84	72	2	4473	456.92	-2.24	-25.07
345	SLE RA 1	50	-8	2930	311.59	-1.51	-17.31
345	SLE RA 2	52	6	2977	315.36	-1.53	-17.91
345	SLE RA 3	50	-8	2956	313.71	-1.52	-17.4
345	SLE RA 4	51	0	2984	315.98	-1.53	-17.76
345	SLE RA 5	52	6	2991	316.53	-1.53	-17.85
345	SLE RA 6	50	-7	2970	314.88	-1.53	-17.34
345	SLE RA 7	51	0	2998	317.14	-1.54	-17.7
345	SLE RA 8	50	-7	2957	313.92	-1.52	-17.19
345	SLE RA 9	51	1	2986	316.19	-1.53	-17.55
345	SLE RA 10	54	6	3207	333.25	-1.62	-18.61
345	SLE RA 11	52	-7	3187	331.6	-1.62	-18.1
345	SLE RA 12	53	0	3215	333.86	-1.63	-18.46
345	SLE RA 13	54	6	3221	334.41	-1.63	-18.55
345	SLE RA 14	52	-7	3200	332.76	-1.62	-18.04
345	SLE RA 15	53	1	3229	335.03	-1.64	-18.4
345	SLE RA 16	52	-7	3188	331.8	-1.61	-17.89
345	SLE RA 17	53	1	3216	334.07	-1.62	-18.25
345	SLE RA 18	53	-7	3259	337.14	-1.64	-18.31
345	SLE RA 19	54	0	3287	339.4	-1.65	-18.67
345	SLE RA 20	53	-7	3273	338.3	-1.65	-18.25
345	SLE RA 21	54	1	3301	340.57	-1.66	-18.61
345	SLE FR 1	50	-8	2930	311.59	-1.51	-17.31
345	SLE FR 2	50	-5	2939	312.35	-1.51	-17.43
345	SLE FR 3	50	-7	2935	312.06	-1.51	-17.29
345	SLE FR 4	51	-5	3038	320.01	-1.55	-17.73
345	SLE FR 5	51	-7	3034	319.72	-1.55	-17.59
345	SLE FR 6	51	-7	3095	324.36	-1.57	-17.81
345	SLE QP 1	50	-8	2930	311.59	-1.51	-17.31
345	SLE QP 2	51	-7	3029	319.25	-1.55	-17.61
345	SLD 1	439	95	2880	312.11	0.04	-153.73
345	SLD 2	510	168	2945	317.47	-0.09	-178.31
345	SLD 3	400	-137	1962	239.47	0.61	-140.11
345	SLD 4	471	-64	2027	244.83	0.48	-164.69
345	SLD 5	215	362	4365	426.35	-1.91	-74.83
345	SLD 6	261	409	4408	429.82	-1.99	-90.73
345	SLD 7	84	-410	1305	184.22	-0.02	-29.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
345	SLD 8	129	-363	1347	187.69	-0.1	-45.35
345	SLD 9	-28	348	4710	450.82	-2.99	10.13
345	SLD 10	18	395	4753	454.29	-3.08	-5.77
345	SLD 11	-159	-424	1650	208.69	-1.1	55.51
345	SLD 12	-113	-377	1692	212.16	-1.18	39.61
345	SLD 13	-369	49	4030	393.67	-3.57	129.47
345	SLD 14	-298	122	4096	399.04	-3.7	104.89
345	SLD 15	-408	-183	3112	321.03	-3	143.09
345	SLD 16	-338	-110	3177	326.4	-3.13	118.51
345	SLV 1	661	167	2855	312.78	0.9	-231.3
345	SLV 2	772	282	2959	321.22	0.69	-270.01
345	SLV 3	594	-224	1304	190.07	1.85	-208.27
345	SLV 4	706	-110	1407	198.52	1.65	-246.97
345	SLV 5	314	617	5310	501.83	-2.23	-109.43
345	SLV 6	389	694	5380	507.52	-2.37	-135.49
345	SLV 7	92	-687	139	92.83	0.96	-32.65
345	SLV 8	167	-610	209	98.51	0.83	-58.71
345	SLV 9	-65	595	5848	540	-3.92	23.49
345	SLV 10	10	672	5918	545.68	-4.06	-2.57
345	SLV 11	-287	-709	678	130.99	-0.73	100.27
345	SLV 12	-212	-632	747	136.68	-0.86	74.21
345	SLV 13	-604	95	4650	439.99	-4.74	211.75
345	SLV 14	-492	209	4753	448.43	-4.95	173.05
345	SLV 15	-670	-297	3099	317.29	-3.78	234.79
345	SLV 16	-559	-182	3202	325.73	-3.99	196.08
345	SLV FO 1	722	185	2838	312.13	1.14	-252.67
345	SLV FO 2	844	311	2952	321.42	0.92	-295.25
345	SLV FO 3	648	-246	1132	177.16	2.19	-227.34
345	SLV FO 4	771	-120	1245	186.45	1.97	-269.91
345	SLV FO 5	340	679	5538	520.09	-2.3	-118.61
345	SLV FO 6	423	764	5615	526.35	-2.45	-147.27
345	SLV FO 7	96	-755	-150	70.18	1.22	-34.16
345	SLV FO 8	179	-670	-73	76.44	1.07	-62.82
345	SLV FO 9	-77	655	6130	562.07	-4.16	27.6
345	SLV FO 10	6	740	6207	568.32	-4.31	-1.06
345	SLV FO 11	-321	-779	443	112.16	-0.64	112.05
345	SLV FO 12	-239	-694	519	118.42	-0.8	83.39
345	SLV FO 13	-669	105	4812	452.06	-5.06	234.69
345	SLV FO 14	-547	231	4926	461.35	-5.29	192.12
345	SLV FO 15	-743	-326	3106	317.09	-4.01	260.03
345	SLV FO 16	-620	-199	3219	326.38	-4.23	217.45
345	CRTFP Ux+	0	0	0	0	0	0
345	CRTFP Ux-	0	0	0	0	0	0
345	CRTFP Uy+	0	0	0	0	0	0
345	CRTFP Uy-	0	0	0	0	0	0
346	SLU 1	50	-1	2898	337.83	-3.44	-17.23
346	SLU 2	52	19	2970	344.11	-3.51	-18.12
346	SLU 3	50	-1	2938	341.63	-3.5	-17.38
346	SLU 4	52	11	2982	345.4	-3.55	-17.92
346	SLU 5	52	19	2991	346.16	-3.54	-18.04
346	SLU 6	50	-1	2960	343.68	-3.53	-17.3
346	SLU 7	52	11	3003	347.45	-3.57	-17.84
346	SLU 8	49	0	2940	341.92	-3.5	-17.06
346	SLU 9	51	12	2984	345.69	-3.54	-17.6
346	SLU 10	56	20	3324	375.2	-3.93	-19.23
346	SLU 11	54	0	3293	372.72	-3.92	-18.49
346	SLU 12	55	12	3336	376.49	-3.96	-19.03
346	SLU 13	55	20	3346	377.25	-3.96	-19.15
346	SLU 14	53	0	3314	374.76	-3.95	-18.41
346	SLU 15	55	12	3357	378.54	-3.99	-18.94
346	SLU 16	53	1	3295	373.01	-3.91	-18.17
346	SLU 17	54	13	3338	376.78	-3.96	-18.71
346	SLU 18	54	0	3404	382.24	-4.04	-18.81
346	SLU 19	56	12	3448	386.01	-4.08	-19.35
346	SLU 20	54	0	3426	384.29	-4.06	-18.73
346	SLU 21	56	12	3469	388.06	-4.11	-19.27
346	SLU 22	56	-2	3283	372.18	-3.94	-19.46
346	SLU 23	59	18	3355	378.46	-4.01	-20.35
346	SLU 24	57	-2	3324	375.98	-4	-19.61
346	SLU 25	58	10	3367	379.75	-4.04	-20.15
346	SLU 26	59	18	3377	380.51	-4.04	-20.27
346	SLU 27	56	-2	3345	378.03	-4.03	-19.53
346	SLU 28	58	10	3388	381.8	-4.07	-20.07
346	SLU 29	56	-1	3326	376.27	-3.99	-19.29
346	SLU 30	57	11	3369	380.04	-4.04	-19.83
346	SLU 31	62	19	3710	409.55	-4.42	-21.46
346	SLU 32	60	-1	3679	407.07	-4.41	-20.72
346	SLU 33	61	11	3722	410.84	-4.46	-21.26
346	SLU 34	62	19	3731	411.6	-4.45	-21.38
346	SLU 35	60	-1	3700	409.11	-4.44	-20.64
346	SLU 36	61	11	3743	412.89	-4.48	-21.17
346	SLU 37	59	0	3680	407.36	-4.41	-20.4
346	SLU 38	61	12	3724	411.13	-4.45	-20.94
346	SLU 39	61	-1	3790	416.59	-4.53	-21.04
346	SLU 40	62	11	3833	420.36	-4.57	-21.58
346	SLU 41	61	-1	3811	418.64	-4.56	-20.96
346	SLU 42	62	11	3854	422.41	-4.6	-21.5
346	SLU 43	63	-1	3635	427.4	-4.31	-21.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
346	SLU 44	65	19	3707	433.68	-4.38	-22.53
346	SLU 45	63	-1	3676	431.2	-4.37	-21.79
346	SLU 46	65	11	3719	434.97	-4.41	-22.33
346	SLU 47	65	19	3728	435.73	-4.41	-22.44
346	SLU 48	63	-1	3697	433.25	-4.4	-21.71
346	SLU 49	64	11	3740	437.02	-4.44	-22.24
346	SLU 50	62	0	3678	431.49	-4.36	-21.47
346	SLU 51	64	12	3721	435.26	-4.4	-22
346	SLU 52	68	20	4062	464.77	-4.79	-23.64
346	SLU 53	66	0	4030	462.29	-4.78	-22.9
346	SLU 54	68	12	4073	466.06	-4.83	-23.43
346	SLU 55	68	20	4083	466.82	-4.82	-23.55
346	SLU 56	66	0	4051	464.33	-4.81	-22.81
346	SLU 57	68	12	4095	468.11	-4.85	-23.35
346	SLU 58	65	1	4032	462.58	-4.78	-22.58
346	SLU 59	67	13	4075	466.35	-4.82	-23.11
346	SLU 60	67	0	4142	471.81	-4.9	-23.22
346	SLU 61	69	12	4185	475.58	-4.94	-23.75
346	SLU 62	67	0	4163	473.86	-4.93	-23.13
346	SLU 63	69	12	4206	477.63	-4.97	-23.67
346	SLU 64	69	-2	4021	461.75	-4.8	-23.87
346	SLU 65	72	18	4092	468.03	-4.87	-24.76
346	SLU 66	69	-2	4061	465.55	-4.86	-24.02
346	SLU 67	71	10	4104	469.32	-4.91	-24.55
346	SLU 68	71	18	4114	470.08	-4.9	-24.67
346	SLU 69	69	-2	4082	467.6	-4.89	-23.94
346	SLU 70	71	10	4126	471.37	-4.93	-24.47
346	SLU 71	69	-1	4063	465.84	-4.86	-23.7
346	SLU 72	70	11	4106	469.61	-4.9	-24.23
346	SLU 73	75	19	4447	499.12	-5.29	-25.87
346	SLU 74	73	-1	4416	496.64	-5.28	-25.13
346	SLU 75	74	11	4459	500.41	-5.32	-25.66
346	SLU 76	75	19	4468	501.17	-5.32	-25.78
346	SLU 77	72	-1	4437	498.69	-5.31	-25.04
346	SLU 78	74	11	4480	502.46	-5.35	-25.58
346	SLU 79	72	0	4418	496.93	-5.27	-24.81
346	SLU 80	73	12	4461	500.7	-5.31	-25.34
346	SLU 81	74	-1	4527	506.16	-5.4	-25.45
346	SLU 82	75	11	4570	509.93	-5.44	-25.98
346	SLU 83	73	-1	4548	508.21	-5.42	-25.36
346	SLU 84	75	11	4591	511.98	-5.47	-25.9
346	SLE RA 1	52	-1	3008	347.64	-3.59	-17.87
346	SLE RA 2	53	12	3056	351.83	-3.63	-18.46
346	SLE RA 3	52	-1	3035	350.18	-3.63	-17.97
346	SLE RA 4	53	7	3064	352.69	-3.65	-18.33
346	SLE RA 5	53	12	3070	353.2	-3.65	-18.41
346	SLE RA 6	52	-1	3049	351.54	-3.64	-17.91
346	SLE RA 7	53	7	3078	354.05	-3.67	-18.27
346	SLE RA 8	51	-1	3036	350.37	-3.62	-17.76
346	SLE RA 9	52	7	3065	352.89	-3.65	-18.11
346	SLE RA 10	56	12	3292	372.56	-3.91	-19.2
346	SLE RA 11	54	-1	3271	370.9	-3.9	-18.71
346	SLE RA 12	55	7	3300	373.41	-3.93	-19.07
346	SLE RA 13	55	13	3306	373.92	-3.93	-19.15
346	SLE RA 14	54	-1	3286	372.27	-3.92	-18.65
346	SLE RA 15	55	7	3314	374.78	-3.95	-19.01
346	SLE RA 16	54	0	3273	371.1	-3.9	-18.5
346	SLE RA 17	55	8	3301	373.61	-3.93	-18.85
346	SLE RA 18	55	-1	3346	377.25	-3.98	-18.92
346	SLE RA 19	56	7	3374	379.76	-4.01	-19.28
346	SLE RA 20	55	0	3360	378.61	-4	-18.87
346	SLE RA 21	56	8	3389	381.13	-4.03	-19.22
346	SLE FR 1	52	-1	3008	347.64	-3.59	-17.87
346	SLE FR 2	52	1	3018	348.48	-3.59	-17.99
346	SLE FR 3	52	-1	3014	348.19	-3.59	-17.85
346	SLE FR 4	53	1	3119	357.36	-3.71	-18.3
346	SLE FR 5	53	-1	3115	357.07	-3.71	-18.16
346	SLE FR 6	53	-1	3177	362.44	-3.78	-18.4
346	SLE QP 1	52	-1	3008	347.64	-3.59	-17.87
346	SLE QP 2	53	-1	3109	356.52	-3.7	-18.18
346	SLD 1	440	55	2909	333.16	-1.92	-154.03
346	SLD 2	511	134	2979	339.81	-2.11	-178.57
346	SLD 3	400	-184	1962	250.35	-0.64	-140.18
346	SLD 4	471	-105	2032	257	-0.83	-164.72
346	SLD 5	218	364	4473	473.94	-5.08	-75.68
346	SLD 6	264	415	4518	478.25	-5.2	-91.55
346	SLD 7	83	-432	1317	197.93	-0.81	-29.53
346	SLD 8	129	-381	1363	202.24	-0.93	-45.41
346	SLD 9	-24	378	4856	510.81	-6.47	9.04
346	SLD 10	22	429	4901	515.11	-6.6	-6.84
346	SLD 11	-158	-417	1700	234.8	-2.21	55.18
346	SLD 12	-113	-366	1746	239.1	-2.33	39.31
346	SLD 13	-366	102	4186	456.04	-6.58	128.36
346	SLD 14	-295	181	4257	462.69	-6.77	103.81
346	SLD 15	-406	-136	3240	373.24	-5.3	142.2
346	SLD 16	-335	-57	3310	379.89	-5.49	117.66
346	SLV 1	662	101	2857	325.38	-1	-231.47
346	SLV 2	773	225	2968	335.85	-1.3	-270.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
346	SLV 3	593	-303	1258	185.51	1.16	-208.05
346	SLV 4	705	-178	1369	195.98	0.86	-246.69
346	SLV 5	318	618	5438	557.36	-6.12	-110.48
346	SLV 6	393	702	5513	564.41	-6.32	-136.5
346	SLV 7	90	-727	108	91.13	1.09	-32.41
346	SLV 8	165	-643	182	98.18	0.89	-58.42
346	SLV 9	-60	640	6036	614.87	-8.3	22.05
346	SLV 10	15	724	6111	621.92	-8.5	-3.96
346	SLV 11	-288	-704	706	148.63	-1.09	100.13
346	SLV 12	-213	-620	780	155.68	-1.29	74.11
346	SLV 13	-599	176	4850	517.06	-8.27	210.32
346	SLV 14	-488	300	4961	527.53	-8.56	171.68
346	SLV 15	-668	-228	3251	377.19	-6.11	233.74
346	SLV 16	-556	-103	3362	387.66	-6.4	195.1
346	SLV FO 1	722	111	2832	322.27	-0.73	-252.8
346	SLV FO 2	845	248	2954	333.79	-1.06	-295.3
346	SLV FO 3	647	-333	1073	168.41	1.64	-227.03
346	SLV FO 4	770	-196	1195	179.93	1.32	-269.54
346	SLV FO 5	345	680	5671	577.45	-6.36	-119.71
346	SLV FO 6	427	772	5753	585.2	-6.58	-148.33
346	SLV FO 7	94	-799	-192	64.59	1.57	-33.83
346	SLV FO 8	177	-707	-110	72.34	1.35	-62.45
346	SLV FO 9	-72	705	6329	640.7	-8.76	26.08
346	SLV FO 10	11	797	6411	648.46	-8.97	-2.54
346	SLV FO 11	-322	-774	465	127.85	-0.83	111.96
346	SLV FO 12	-239	-682	547	135.6	-1.05	83.34
346	SLV FO 13	-665	193	5024	533.12	-8.73	233.17
346	SLV FO 14	-542	330	5146	544.63	-9.05	190.66
346	SLV FO 15	-740	-250	3265	379.26	-6.35	258.93
346	SLV FO 16	-617	-114	3387	390.78	-6.67	216.43
346	CRTFP Ux+	0	0	0	0	0	0
346	CRTFP Ux-	0	0	0	0	0	0
346	CRTFP Uy+	0	0	0	0	0	0
346	CRTFP Uy-	0	0	0	0	0	0
347	SLU 1	51	6	3037	418.35	-5.59	-17.67
347	SLU 2	54	26	3112	426.28	-5.7	-18.55
347	SLU 3	52	6	3080	423.57	-5.68	-17.84
347	SLU 4	53	18	3125	428.32	-5.75	-18.37
347	SLU 5	54	27	3134	429.05	-5.75	-18.48
347	SLU 6	51	7	3102	426.34	-5.73	-17.77
347	SLU 7	53	19	3147	431.1	-5.8	-18.29
347	SLU 8	51	7	3082	423.9	-5.68	-17.52
347	SLU 9	52	19	3127	428.66	-5.75	-18.05
347	SLU 10	57	28	3483	467.88	-6.41	-19.71
347	SLU 11	55	7	3452	465.17	-6.39	-18.99
347	SLU 12	57	20	3497	469.92	-6.46	-19.52
347	SLU 13	57	28	3506	470.66	-6.46	-19.63
347	SLU 14	55	8	3474	467.94	-6.44	-18.92
347	SLU 15	56	20	3519	472.7	-6.51	-19.45
347	SLU 16	54	8	3453	465.5	-6.39	-18.68
347	SLU 17	56	21	3498	470.26	-6.46	-19.2
347	SLU 18	56	8	3568	477.78	-6.59	-19.32
347	SLU 19	58	20	3613	482.54	-6.66	-19.85
347	SLU 20	56	8	3590	480.56	-6.64	-19.25
347	SLU 21	57	21	3635	485.31	-6.71	-19.77
347	SLU 22	58	5	3443	464.65	-6.4	-19.96
347	SLU 23	60	26	3517	472.58	-6.52	-20.84
347	SLU 24	58	6	3486	469.86	-6.5	-20.13
347	SLU 25	60	18	3530	474.62	-6.57	-20.66
347	SLU 26	60	27	3540	475.35	-6.57	-20.76
347	SLU 27	58	6	3508	472.64	-6.55	-20.05
347	SLU 28	60	19	3553	477.39	-6.62	-20.58
347	SLU 29	57	7	3487	470.2	-6.5	-19.81
347	SLU 30	59	19	3532	474.95	-6.57	-20.34
347	SLU 31	64	27	3889	514.18	-7.23	-21.99
347	SLU 32	62	7	3857	511.47	-7.21	-21.28
347	SLU 33	63	19	3902	516.22	-7.28	-21.81
347	SLU 34	64	28	3912	516.95	-7.27	-21.92
347	SLU 35	61	8	3880	514.24	-7.26	-21.21
347	SLU 36	63	20	3925	519	-7.33	-21.73
347	SLU 37	61	8	3859	511.8	-7.21	-20.96
347	SLU 38	62	20	3904	516.56	-7.28	-21.49
347	SLU 39	63	7	3974	524.08	-7.41	-21.61
347	SLU 40	64	20	4019	528.84	-7.48	-22.14
347	SLU 41	62	8	3996	526.86	-7.46	-21.53
347	SLU 42	64	20	4041	531.61	-7.53	-22.06
347	SLU 43	64	8	3809	527.99	-6.98	-22.19
347	SLU 44	67	28	3884	535.91	-7.1	-23.07
347	SLU 45	65	8	3852	533.2	-7.08	-22.36
347	SLU 46	66	20	3897	537.96	-7.15	-22.89
347	SLU 47	67	29	3906	538.69	-7.15	-22.99
347	SLU 48	65	9	3874	535.97	-7.13	-22.28
347	SLU 49	66	21	3919	540.73	-7.2	-22.81
347	SLU 50	64	9	3854	533.53	-7.08	-22.04
347	SLU 51	65	21	3899	538.29	-7.15	-22.57
347	SLU 52	70	30	4255	577.51	-7.8	-24.22
347	SLU 53	68	9	4224	574.8	-7.79	-23.51
347	SLU 54	70	22	4269	579.56	-7.86	-24.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
347	SLU 55	70	30	4278	580.29	-7.85	-24.15
347	SLU 56	68	10	4246	577.58	-7.83	-23.44
347	SLU 57	69	22	4291	582.33	-7.9	-23.97
347	SLU 58	67	10	4225	575.14	-7.78	-23.19
347	SLU 59	69	23	4270	579.89	-7.85	-23.72
347	SLU 60	69	10	4340	587.42	-7.99	-23.84
347	SLU 61	71	22	4385	592.17	-8.06	-24.37
347	SLU 62	69	10	4362	590.19	-8.04	-23.76
347	SLU 63	70	23	4407	594.95	-8.11	-24.29
347	SLU 64	71	7	4214	574.28	-7.8	-24.48
347	SLU 65	73	28	4289	582.21	-7.92	-25.36
347	SLU 66	71	8	4258	579.5	-7.9	-24.64
347	SLU 67	73	20	4302	584.25	-7.97	-25.17
347	SLU 68	73	28	4312	584.98	-7.96	-25.28
347	SLU 69	71	8	4280	582.27	-7.95	-24.57
347	SLU 70	73	20	4325	587.03	-8.02	-25.1
347	SLU 71	70	9	4259	579.83	-7.89	-24.33
347	SLU 72	72	21	4304	584.59	-7.96	-24.85
347	SLU 73	77	29	4661	623.81	-8.62	-26.51
347	SLU 74	75	9	4629	621.1	-8.6	-25.8
347	SLU 75	76	21	4674	625.85	-8.67	-26.33
347	SLU 76	77	30	4684	626.59	-8.67	-26.44
347	SLU 77	75	10	4652	623.87	-8.65	-25.72
347	SLU 78	76	22	4697	628.63	-8.72	-26.25
347	SLU 79	74	10	4631	621.43	-8.6	-25.48
347	SLU 80	75	22	4676	626.19	-8.67	-26.01
347	SLU 81	76	9	4746	633.71	-8.81	-26.13
347	SLU 82	77	22	4791	638.47	-8.88	-26.65
347	SLU 83	75	10	4768	636.49	-8.86	-26.05
347	SLU 84	77	22	4813	641.24	-8.93	-26.58
347	SLE RA 1	53	6	3153	431.58	-5.82	-18.33
347	SLE RA 2	55	19	3203	436.87	-5.9	-18.91
347	SLE RA 3	53	6	3181	435.06	-5.89	-18.44
347	SLE RA 4	54	14	3211	438.23	-5.93	-18.79
347	SLE RA 5	55	20	3218	438.71	-5.93	-18.86
347	SLE RA 6	53	6	3196	436.91	-5.92	-18.39
347	SLE RA 7	54	14	3226	440.08	-5.96	-18.74
347	SLE RA 8	53	6	3183	435.28	-5.88	-18.23
347	SLE RA 9	54	15	3213	438.45	-5.93	-18.58
347	SLE RA 10	57	20	3451	464.6	-6.37	-19.68
347	SLE RA 11	56	7	3429	462.79	-6.36	-19.21
347	SLE RA 12	57	15	3459	465.96	-6.4	-19.56
347	SLE RA 13	57	21	3465	466.45	-6.4	-19.63
347	SLE RA 14	56	7	3444	464.64	-6.39	-19.16
347	SLE RA 15	57	15	3474	467.81	-6.43	-19.51
347	SLE RA 16	55	7	3431	463.01	-6.35	-18.99
347	SLE RA 17	56	16	3460	466.19	-6.4	-19.35
347	SLE RA 18	56	7	3507	471.2	-6.49	-19.42
347	SLE RA 19	57	15	3537	474.37	-6.54	-19.78
347	SLE RA 20	56	7	3522	473.05	-6.52	-19.37
347	SLE RA 21	57	16	3552	476.22	-6.57	-19.73
347	SLE FR 1	53	6	3153	431.58	-5.82	-18.33
347	SLE FR 2	53	8	3163	432.64	-5.84	-18.44
347	SLE FR 3	53	6	3159	432.32	-5.83	-18.31
347	SLE FR 4	54	9	3269	444.52	-6.04	-18.77
347	SLE FR 5	54	6	3265	444.21	-6.03	-18.64
347	SLE FR 6	55	6	3330	451.39	-6.16	-18.88
347	SLE QP 1	53	6	3153	431.58	-5.82	-18.33
347	SLE QP 2	54	6	3259	443.47	-6.02	-18.66
347	SLD 1	441	62	3000	399.56	-3.99	-154.19
347	SLD 2	512	148	3077	408.77	-4.24	-178.69
347	SLD 3	400	-187	2002	291.15	-1.95	-140.14
347	SLD 4	471	-101	2079	300.36	-2.2	-164.64
347	SLD 5	220	386	4681	593.11	-8.46	-76.37
347	SLD 6	266	442	4731	599.07	-8.62	-92.22
347	SLD 7	83	-445	1355	231.76	-1.67	-29.54
347	SLD 8	129	-389	1405	237.72	-1.83	-45.4
347	SLD 9	-21	401	5113	649.22	-10.21	8.09
347	SLD 10	25	457	5163	655.17	-10.37	-7.77
347	SLD 11	-158	-430	1787	287.86	-3.42	54.91
347	SLD 12	-112	-374	1837	293.82	-3.59	39.06
347	SLD 13	-363	113	4439	586.57	-9.84	127.33
347	SLD 14	-292	199	4516	595.78	-10.09	102.83
347	SLD 15	-404	-136	3441	478.17	-7.8	141.38
347	SLD 16	-333	-50	3518	487.38	-8.05	116.88
347	SLV 1	662	108	2918	381.91	-2.98	-231.47
347	SLV 2	773	244	3040	396.41	-3.37	-270.05
347	SLV 3	592	-313	1233	198.79	0.46	-207.71
347	SLV 4	704	-177	1354	213.29	0.07	-246.29
347	SLV 5	321	650	5690	700.03	-10.25	-111.35
347	SLV 6	396	742	5772	709.8	-10.52	-137.32
347	SLV 7	89	-754	72	89.62	1.22	-32.12
347	SLV 8	164	-662	154	99.38	0.95	-58.1
347	SLV 9	-56	674	6364	787.56	-12.99	20.79
347	SLV 10	19	766	6446	797.32	-13.26	-5.19
347	SLV 11	-288	-729	746	177.14	-1.52	100.01
347	SLV 12	-213	-638	828	186.9	-1.79	74.04
347	SLV 13	-595	189	5163	673.65	-12.11	208.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
347	SLV 14	-484	325	5285	688.15	-12.51	170.39
347	SLV 15	-665	-232	3478	490.52	-8.67	232.74
347	SLV 16	-554	-96	3600	505.02	-9.06	194.16
347	SLV FO 1	723	119	2884	375.76	-2.67	-252.76
347	SLV FO 2	845	268	3018	391.71	-3.11	-295.19
347	SLV FO 3	646	-345	1030	174.32	1.11	-226.61
347	SLV FO 4	768	-195	1164	190.27	0.68	-269.05
347	SLV FO 5	348	714	5933	725.69	-10.68	-120.62
347	SLV FO 6	431	815	6023	736.43	-10.97	-149.19
347	SLV FO 7	92	-830	-246	54.23	1.94	-33.47
347	SLV FO 8	175	-729	-156	64.97	1.65	-62.04
347	SLV FO 9	-67	741	6674	821.96	-13.69	24.73
347	SLV FO 10	16	842	6764	832.7	-13.98	-3.84
347	SLV FO 11	-323	-803	495	150.5	-1.07	111.88
347	SLV FO 12	-240	-702	585	161.24	-1.37	83.31
347	SLV FO 13	-660	207	5354	696.66	-12.72	231.74
347	SLV FO 14	-538	357	5488	712.62	-13.15	189.3
347	SLV FO 15	-737	-256	3500	495.23	-8.93	257.88
347	SLV FO 16	-615	-107	3634	511.18	-9.37	215.44
347	CRTFP Ux+	0	0	0	0	0	0
347	CRTFP Ux-	0	0	0	0	0	0
347	CRTFP Uy+	0	0	0	0	0	0
347	CRTFP Uy-	0	0	0	0	0	0
348	SLU 1	52	14	3244	548.58	-7.86	-18.01
348	SLU 2	55	35	3323	559.27	-8.03	-18.88
348	SLU 3	53	14	3291	556.06	-8	-18.19
348	SLU 4	54	27	3338	562.48	-8.1	-18.72
348	SLU 5	55	36	3347	563.23	-8.1	-18.82
348	SLU 6	53	15	3315	560.02	-8.07	-18.13
348	SLU 7	54	28	3363	566.43	-8.17	-18.65
348	SLU 8	52	15	3292	556.49	-8	-17.88
348	SLU 9	53	28	3340	562.91	-8.1	-18.4
348	SLU 10	58	37	3722	618.15	-9.04	-20.07
348	SLU 11	56	16	3689	614.94	-9.02	-19.38
348	SLU 12	58	29	3737	621.35	-9.12	-19.91
348	SLU 13	58	38	3746	622.1	-9.11	-20.01
348	SLU 14	56	17	3713	618.89	-9.08	-19.32
348	SLU 15	58	30	3761	625.31	-9.18	-19.84
348	SLU 16	55	17	3691	615.37	-9.02	-19.07
348	SLU 17	57	30	3738	621.78	-9.12	-19.59
348	SLU 18	57	17	3813	632.69	-9.31	-19.71
348	SLU 19	59	29	3861	639.1	-9.41	-20.24
348	SLU 20	57	17	3837	636.65	-9.38	-19.65
348	SLU 21	59	30	3885	643.06	-9.48	-20.17
348	SLU 22	59	14	3680	614.36	-9.03	-20.34
348	SLU 23	62	35	3759	625.05	-9.19	-21.21
348	SLU 24	60	14	3727	621.84	-9.16	-20.52
348	SLU 25	61	27	3775	628.25	-9.26	-21.05
348	SLU 26	61	36	3784	629	-9.26	-21.15
348	SLU 27	59	15	3751	625.8	-9.23	-20.46
348	SLU 28	61	28	3799	632.21	-9.33	-20.98
348	SLU 29	59	16	3729	622.27	-9.16	-20.21
348	SLU 30	60	28	3776	628.68	-9.26	-20.73
348	SLU 31	65	37	4158	683.92	-10.21	-22.4
348	SLU 32	63	17	4125	680.71	-10.18	-21.71
348	SLU 33	65	29	4173	687.13	-10.28	-22.24
348	SLU 34	65	38	4182	687.88	-10.28	-22.34
348	SLU 35	63	17	4150	684.67	-10.25	-21.65
348	SLU 36	64	30	4197	691.08	-10.35	-22.17
348	SLU 37	62	18	4127	681.15	-10.18	-21.4
348	SLU 38	64	31	4175	687.56	-10.28	-21.92
348	SLU 39	64	17	4249	698.47	-10.47	-22.04
348	SLU 40	65	30	4297	704.88	-10.57	-22.56
348	SLU 41	64	18	4274	702.42	-10.54	-21.98
348	SLU 42	65	31	4321	708.84	-10.64	-22.5
348	SLU 43	66	17	4068	690.6	-9.82	-22.62
348	SLU 44	68	39	4147	701.29	-9.99	-23.49
348	SLU 45	66	18	4114	698.08	-9.96	-22.8
348	SLU 46	68	31	4162	704.5	-10.06	-23.32
348	SLU 47	68	40	4171	705.25	-10.06	-23.42
348	SLU 48	66	19	4139	702.04	-10.03	-22.73
348	SLU 49	67	32	4186	708.45	-10.13	-23.25
348	SLU 50	65	19	4116	698.52	-9.96	-22.48
348	SLU 51	67	32	4164	704.93	-10.06	-23.01
348	SLU 52	72	41	4545	760.17	-11	-24.68
348	SLU 53	70	20	4513	756.96	-10.98	-23.99
348	SLU 54	71	33	4560	763.37	-11.08	-24.51
348	SLU 55	71	42	4569	764.12	-11.07	-24.61
348	SLU 56	69	21	4537	760.92	-11.04	-23.92
348	SLU 57	71	34	4585	767.33	-11.14	-24.44
348	SLU 58	69	21	4514	757.39	-10.98	-23.67
348	SLU 59	70	34	4562	763.81	-11.08	-24.2
348	SLU 60	71	21	4637	774.71	-11.27	-24.32
348	SLU 61	72	33	4684	781.13	-11.37	-24.84
348	SLU 62	70	21	4661	778.67	-11.34	-24.25
348	SLU 63	72	34	4709	785.08	-11.44	-24.77
348	SLU 64	72	18	4504	756.38	-10.99	-24.95
348	SLU 65	75	39	4583	767.07	-11.15	-25.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
348	SLU 66	73	18	4551	763.86	-11.12	-25.13
348	SLU 67	74	31	4598	770.27	-11.22	-25.65
348	SLU 68	75	40	4607	771.03	-11.22	-25.75
348	SLU 69	73	19	4575	767.82	-11.19	-25.06
348	SLU 70	74	32	4622	774.23	-11.29	-25.58
348	SLU 71	72	20	4552	764.29	-11.12	-24.81
348	SLU 72	74	32	4600	770.71	-11.22	-25.34
348	SLU 73	78	41	4981	825.94	-12.17	-27.01
348	SLU 74	76	21	4949	822.74	-12.14	-26.32
348	SLU 75	78	33	4997	829.15	-12.24	-26.84
348	SLU 76	78	42	5006	829.9	-12.24	-26.94
348	SLU 77	76	21	4973	826.69	-12.21	-26.25
348	SLU 78	78	34	5021	833.11	-12.31	-26.77
348	SLU 79	75	22	4951	823.17	-12.14	-26
348	SLU 80	77	34	4998	829.58	-12.24	-26.53
348	SLU 81	77	21	5073	840.49	-12.43	-26.65
348	SLU 82	79	34	5121	846.9	-12.53	-27.17
348	SLU 83	77	22	5097	844.44	-12.5	-26.58
348	SLU 84	79	35	5145	850.86	-12.6	-27.1
348	SLE RA 1	54	14	3369	567.37	-8.19	-18.68
348	SLE RA 2	56	28	3421	574.5	-8.31	-19.26
348	SLE RA 3	55	14	3400	572.36	-8.29	-18.8
348	SLE RA 4	56	22	3432	576.64	-8.35	-19.15
348	SLE RA 5	56	28	3438	577.14	-8.35	-19.21
348	SLE RA 6	54	15	3416	575	-8.33	-18.75
348	SLE RA 7	55	23	3448	579.27	-8.4	-19.1
348	SLE RA 8	54	15	3401	572.65	-8.29	-18.59
348	SLE RA 9	55	23	3433	576.93	-8.35	-18.94
348	SLE RA 10	58	29	3687	613.75	-8.98	-20.05
348	SLE RA 11	57	15	3665	611.61	-8.96	-19.59
348	SLE RA 12	58	24	3697	615.89	-9.03	-19.94
348	SLE RA 13	58	30	3703	616.39	-9.03	-20.01
348	SLE RA 14	57	16	3682	614.25	-9.01	-19.55
348	SLE RA 15	58	24	3713	618.53	-9.08	-19.9
348	SLE RA 16	56	16	3667	611.9	-8.96	-19.38
348	SLE RA 17	57	25	3698	616.18	-9.03	-19.73
348	SLE RA 18	57	16	3748	623.45	-9.16	-19.81
348	SLE RA 19	58	24	3780	627.72	-9.23	-20.16
348	SLE RA 20	57	16	3764	626.08	-9.21	-19.77
348	SLE RA 21	58	25	3796	630.36	-9.27	-20.12
348	SLE FR 1	54	14	3369	567.37	-8.19	-18.68
348	SLE FR 2	54	16	3379	568.8	-8.22	-18.8
348	SLE FR 3	54	14	3375	568.43	-8.21	-18.66
348	SLE FR 4	55	17	3493	585.62	-8.51	-19.14
348	SLE FR 5	55	14	3489	585.25	-8.5	-19
348	SLE FR 6	56	15	3558	595.41	-8.68	-19.25
348	SLE QP 1	54	14	3369	567.37	-8.19	-18.68
348	SLE QP 2	55	14	3482	584.2	-8.48	-19.02
348	SLD 1	441	70	3156	514.2	-6.14	-154.22
348	SLD 2	512	165	3242	527.36	-6.46	-178.69
348	SLD 3	400	-192	2083	363.62	-3.32	-139.99
348	SLD 4	470	-98	2169	376.79	-3.64	-164.45
348	SLD 5	222	413	4996	789.28	-12.01	-76.93
348	SLD 6	268	474	5052	797.8	-12.22	-92.76
348	SLD 7	82	-462	1421	287.37	-2.59	-29.47
348	SLD 8	128	-401	1477	295.88	-2.8	-45.3
348	SLD 9	-18	430	5488	872.51	-14.17	7.26
348	SLD 10	28	491	5544	881.03	-14.38	-8.57
348	SLD 11	-158	-445	1913	370.59	-4.75	54.72
348	SLD 12	-112	-384	1969	379.11	-4.95	38.89
348	SLD 13	-360	126	4796	791.61	-13.33	126.41
348	SLD 14	-289	221	4882	804.77	-13.65	101.95
348	SLD 15	-402	-136	3723	641.03	-10.51	140.65
348	SLD 16	-331	-42	3809	654.2	-10.82	116.18
348	SLV 1	662	117	3042	484.64	-5.01	-231.33
348	SLV 2	773	266	3177	505.36	-5.51	-269.86
348	SLV 3	591	-326	1230	230.26	-0.24	-207.25
348	SLV 4	702	-177	1365	250.99	-0.74	-245.77
348	SLV 5	324	690	6073	936.26	-14.59	-112.05
348	SLV 6	399	790	6164	950.21	-14.93	-137.99
348	SLV 7	87	-789	33	88.35	1.32	-31.77
348	SLV 8	162	-688	124	102.3	0.99	-57.7
348	SLV 9	-52	717	6841	1066.09	-17.96	19.67
348	SLV 10	23	817	6932	1080.04	-18.29	-6.27
348	SLV 11	-289	-762	801	218.18	-2.04	99.95
348	SLV 12	-214	-662	892	232.13	-2.38	74.02
348	SLV 13	-592	206	5600	917.4	-16.23	207.73
348	SLV 14	-481	355	5735	938.13	-16.73	169.21
348	SLV 15	-663	-238	3788	663.03	-11.46	231.82
348	SLV 16	-552	-89	3923	683.76	-11.95	193.3
348	SLV FO 1	723	128	2998	474.68	-4.67	-252.57
348	SLV FO 2	845	291	3146	497.48	-5.22	-294.94
348	SLV FO 3	644	-360	1004	194.87	0.59	-226.07
348	SLV FO 4	767	-197	1153	217.67	0.04	-268.45
348	SLV FO 5	351	758	6332	971.46	-15.2	-121.36
348	SLV FO 6	434	868	6432	986.82	-15.57	-149.89
348	SLV FO 7	91	-869	-312	38.76	2.31	-33.04
348	SLV FO 8	173	-759	-212	54.11	1.94	-61.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
348	SLV FO 9	-63	787	7177	1114.28	-18.9	23.53
348	SLV FO 10	20	897	7277	1129.63	-19.27	-5
348	SLV FO 11	-323	-840	533	181.58	-1.4	111.85
348	SLV FO 12	-241	-729	633	196.93	-1.77	83.32
348	SLV FO 13	-657	225	5812	950.72	-17.01	230.41
348	SLV FO 14	-534	389	5961	973.52	-17.55	188.03
348	SLV FO 15	-735	-263	3819	670.91	-11.75	256.9
348	SLV FO 16	-612	-99	3967	693.71	-12.3	214.53
348	CRTFP Ux+	0	0	0	0	0	0
348	CRTFP Ux-	0	0	0	0	0	0
348	CRTFP Uy+	0	0	0	0	0	0
348	CRTFP Uy-	0	0	0	0	0	0
349	SLU 1	53	22	3523	731.78	-10.21	-18.26
349	SLU 2	56	44	3608	746.43	-10.43	-19.12
349	SLU 3	54	23	3574	742.43	-10.39	-18.45
349	SLU 4	55	36	3626	751.22	-10.52	-18.97
349	SLU 5	55	45	3635	752.05	-10.52	-19.06
349	SLU 6	53	24	3601	748.05	-10.48	-18.39
349	SLU 7	55	37	3652	756.84	-10.61	-18.91
349	SLU 8	53	24	3576	743.02	-10.39	-18.14
349	SLU 9	54	37	3627	751.81	-10.53	-18.66
349	SLU 10	59	47	4043	829.78	-11.76	-20.34
349	SLU 11	57	26	4009	825.78	-11.72	-19.66
349	SLU 12	59	39	4060	834.57	-11.86	-20.18
349	SLU 13	59	48	4069	835.4	-11.86	-20.28
349	SLU 14	57	27	4036	831.4	-11.82	-19.6
349	SLU 15	58	40	4087	840.19	-11.95	-20.12
349	SLU 16	56	27	4011	826.36	-11.73	-19.35
349	SLU 17	58	40	4062	835.15	-11.86	-19.87
349	SLU 18	58	27	4144	850.84	-12.12	-19.99
349	SLU 19	60	40	4195	859.63	-12.25	-20.51
349	SLU 20	58	28	4170	856.46	-12.21	-19.93
349	SLU 21	59	41	4221	865.25	-12.34	-20.45
349	SLU 22	60	24	4000	825.06	-11.73	-20.62
349	SLU 23	62	46	4086	839.72	-11.95	-21.48
349	SLU 24	60	24	4052	835.72	-11.91	-20.81
349	SLU 25	62	38	4103	844.51	-12.04	-21.33
349	SLU 26	62	47	4112	845.34	-12.04	-21.42
349	SLU 27	60	25	4079	841.34	-12	-20.75
349	SLU 28	62	39	4130	850.13	-12.13	-21.26
349	SLU 29	60	26	4054	836.3	-11.91	-20.49
349	SLU 30	61	39	4105	845.09	-12.04	-21.01
349	SLU 31	66	49	4520	923.06	-13.28	-22.69
349	SLU 32	64	27	4487	919.06	-13.24	-22.02
349	SLU 33	65	41	4538	927.85	-13.37	-22.54
349	SLU 34	66	50	4547	928.68	-13.37	-22.63
349	SLU 35	64	28	4513	924.68	-13.33	-21.96
349	SLU 36	65	42	4564	933.47	-13.47	-22.48
349	SLU 37	63	29	4488	919.65	-13.25	-21.71
349	SLU 38	65	42	4539	928.44	-13.38	-22.23
349	SLU 39	65	28	4621	944.13	-13.63	-22.35
349	SLU 40	66	41	4672	952.92	-13.77	-22.87
349	SLU 41	65	29	4648	949.75	-13.73	-22.29
349	SLU 42	66	42	4699	958.54	-13.86	-22.81
349	SLU 43	67	28	4416	919.33	-12.76	-22.93
349	SLU 44	69	50	4501	933.98	-12.97	-23.79
349	SLU 45	67	29	4468	929.98	-12.94	-23.12
349	SLU 46	69	42	4519	938.77	-13.07	-23.64
349	SLU 47	69	51	4528	939.6	-13.07	-23.73
349	SLU 48	67	30	4494	935.6	-13.03	-23.06
349	SLU 49	69	43	4545	944.39	-13.16	-23.58
349	SLU 50	66	30	4469	930.57	-12.94	-22.81
349	SLU 51	68	44	4520	939.36	-13.07	-23.32
349	SLU 52	73	53	4936	1017.33	-14.31	-25.01
349	SLU 53	71	32	4902	1013.33	-14.27	-24.33
349	SLU 54	72	45	4953	1022.12	-14.4	-24.85
349	SLU 55	73	54	4962	1022.95	-14.4	-24.94
349	SLU 56	71	33	4929	1018.95	-14.36	-24.27
349	SLU 57	72	46	4980	1027.74	-14.49	-24.79
349	SLU 58	70	33	4904	1013.91	-14.27	-24.02
349	SLU 59	71	47	4955	1022.7	-14.4	-24.54
349	SLU 60	72	33	5037	1038.39	-14.66	-24.66
349	SLU 61	73	46	5088	1047.18	-14.79	-25.18
349	SLU 62	71	34	5063	1044.01	-14.75	-24.6
349	SLU 63	73	47	5115	1052.8	-14.88	-25.12
349	SLU 64	73	30	4894	1012.61	-14.27	-25.29
349	SLU 65	76	52	4979	1027.27	-14.49	-26.15
349	SLU 66	74	30	4945	1023.27	-14.45	-25.48
349	SLU 67	75	44	4996	1032.06	-14.58	-25.99
349	SLU 68	76	53	5005	1032.89	-14.58	-26.09
349	SLU 69	74	31	4972	1028.89	-14.54	-25.41
349	SLU 70	75	45	5023	1037.68	-14.68	-25.93
349	SLU 71	73	32	4947	1023.85	-14.46	-25.16
349	SLU 72	75	45	4998	1032.64	-14.59	-25.68
349	SLU 73	80	55	5413	1110.61	-15.83	-27.36
349	SLU 74	78	34	5380	1106.61	-15.79	-26.69
349	SLU 75	79	47	5431	1115.4	-15.92	-27.21
349	SLU 76	79	56	5440	1116.23	-15.92	-27.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
349	SLU 77	77	35	5406	1112.23	-15.88	-26.63
349	SLU 78	79	48	5458	1121.02	-16.01	-27.15
349	SLU 79	77	35	5381	1107.2	-15.79	-26.38
349	SLU 80	78	48	5433	1115.99	-15.92	-26.9
349	SLU 81	78	34	5514	1131.68	-16.18	-27.02
349	SLU 82	80	47	5565	1140.47	-16.31	-27.54
349	SLU 83	78	35	5541	1137.3	-16.27	-26.96
349	SLU 84	80	48	5592	1146.09	-16.4	-27.48
349	SLE RA 1	55	23	3659	758.43	-10.65	-18.93
349	SLE RA 2	57	37	3716	768.2	-10.79	-19.51
349	SLE RA 3	55	23	3694	765.53	-10.77	-19.06
349	SLE RA 4	56	32	3728	771.39	-10.85	-19.4
349	SLE RA 5	57	38	3734	771.95	-10.85	-19.47
349	SLE RA 6	55	24	3712	769.28	-10.83	-19.02
349	SLE RA 7	56	33	3746	775.14	-10.91	-19.36
349	SLE RA 8	55	24	3695	765.92	-10.77	-18.85
349	SLE RA 9	56	33	3729	771.78	-10.86	-19.2
349	SLE RA 10	59	39	4006	823.76	-11.68	-20.32
349	SLE RA 11	58	25	3983	821.1	-11.65	-19.87
349	SLE RA 12	59	34	4017	826.96	-11.74	-20.21
349	SLE RA 13	59	40	4024	827.51	-11.74	-20.28
349	SLE RA 14	58	26	4001	824.84	-11.72	-19.83
349	SLE RA 15	59	35	4035	830.7	-11.8	-20.17
349	SLE RA 16	57	26	3985	821.49	-11.66	-19.66
349	SLE RA 17	58	35	4019	827.35	-11.74	-20.01
349	SLE RA 18	58	25	4073	837.81	-11.92	-20.09
349	SLE RA 19	59	34	4107	843.67	-12	-20.43
349	SLE RA 20	58	26	4091	841.55	-11.98	-20.05
349	SLE RA 21	59	35	4125	847.41	-12.06	-20.39
349	SLE FR 1	55	23	3659	758.43	-10.65	-18.93
349	SLE FR 2	55	25	3671	760.38	-10.68	-19.05
349	SLE FR 3	55	23	3666	759.93	-10.67	-18.92
349	SLE FR 4	56	26	3795	784.2	-11.06	-19.39
349	SLE FR 5	56	24	3791	783.74	-11.05	-19.26
349	SLE FR 6	57	24	3866	798.12	-11.28	-19.51
349	SLE QP 1	55	23	3659	758.43	-10.65	-18.93
349	SLE QP 2	56	23	3783	782.24	-11.03	-19.28
349	SLD 1	442	80	3379	679.29	-8.34	-154.14
349	SLD 2	512	183	3476	697.86	-8.72	-178.58
349	SLD 3	399	-198	2207	469.18	-4.72	-139.72
349	SLD 4	470	-94	2304	487.75	-5.1	-164.16
349	SLD 5	224	444	5423	1066.8	-15.65	-77.36
349	SLD 6	270	511	5486	1078.82	-15.9	-93.18
349	SLD 7	82	-482	1516	366.43	-3.57	-29.3
349	SLD 8	128	-415	1579	378.45	-3.82	-45.12
349	SLD 9	-16	462	5988	1186.04	-18.23	6.56
349	SLD 10	30	529	6051	1198.05	-18.48	-9.25
349	SLD 11	-158	-464	2081	485.67	-6.16	54.62
349	SLD 12	-112	-397	2144	497.68	-6.41	38.81
349	SLD 13	-358	141	5263	1076.74	-16.96	125.61
349	SLD 14	-287	245	5360	1095.31	-17.34	101.16
349	SLD 15	-400	-137	4091	866.63	-13.33	140.02
349	SLD 16	-330	-33	4188	885.2	-13.72	115.58
349	SLV 1	662	128	3228	635.08	-7.06	-231.07
349	SLV 2	773	291	3380	664.32	-7.67	-269.56
349	SLV 3	589	-341	1248	280.12	-0.94	-206.68
349	SLV 4	701	-178	1400	309.36	-1.55	-245.16
349	SLV 5	326	737	6592	1270.99	-19.01	-112.63
349	SLV 6	401	846	6694	1290.68	-19.41	-138.54
349	SLV 7	86	-829	-9	87.79	1.39	-31.32
349	SLV 8	161	-719	94	107.48	0.99	-57.23
349	SLV 9	-49	766	7473	1457	-23.04	18.67
349	SLV 10	26	875	7576	1476.69	-23.45	-7.24
349	SLV 11	-289	-800	873	273.81	-2.64	99.98
349	SLV 12	-214	-690	975	293.5	-3.05	74.07
349	SLV 13	-589	225	6167	1255.12	-20.51	206.6
349	SLV 14	-477	388	6319	1284.37	-21.11	168.12
349	SLV 15	-661	-244	4187	900.16	-14.39	231
349	SLV 16	-550	-82	4339	929.41	-14.99	192.51
349	SLV FO 1	722	139	3173	620.36	-6.67	-252.25
349	SLV FO 2	845	318	3340	652.53	-7.33	-294.58
349	SLV FO 3	643	-378	994	229.91	0.07	-225.42
349	SLV FO 4	765	-198	1162	262.07	-0.6	-267.75
349	SLV FO 5	353	808	6872	1319.87	-19.8	-121.97
349	SLV FO 6	436	929	6985	1341.52	-20.25	-150.47
349	SLV FO 7	89	-914	-388	18.35	2.63	-32.52
349	SLV FO 8	171	-793	-275	40.01	2.19	-61.02
349	SLV FO 9	-59	840	7842	1524.48	-24.24	22.47
349	SLV FO 10	23	961	7955	1546.14	-24.69	-6.03
349	SLV FO 11	-324	-882	582	222.96	-1.8	111.91
349	SLV FO 12	-241	-761	695	244.62	-2.25	83.41
349	SLV FO 13	-653	245	6405	1302.41	-21.46	229.19
349	SLV FO 14	-531	425	6572	1334.58	-22.12	186.86
349	SLV FO 15	-733	-271	4227	911.96	-14.72	256.03
349	SLV FO 16	-610	-92	4394	944.12	-15.39	213.69
349	CRTFP Ux+	0	0	0	0	0	0
349	CRTFP Ux-	0	0	0	0	0	0
349	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
349	CRTFP Uy-	0	0	0	0	0	0
350	SLU 1	54	32	3874	969.26	-12.49	-18.41
350	SLU 2	56	55	3966	989.12	-12.76	-19.28
350	SLU 3	54	33	3931	984.02	-12.71	-18.61
350	SLU 4	56	46	3987	995.93	-12.87	-19.13
350	SLU 5	56	56	3996	996.89	-12.88	-19.22
350	SLU 6	54	34	3961	991.79	-12.82	-18.56
350	SLU 7	56	48	4017	1003.7	-12.99	-19.07
350	SLU 8	53	34	3933	984.81	-12.72	-18.3
350	SLU 9	55	48	3989	996.72	-12.88	-18.82
350	SLU 10	60	59	4447	1104.3	-14.41	-20.51
350	SLU 11	58	37	4412	1099.19	-14.35	-19.84
350	SLU 12	59	51	4467	1111.11	-14.52	-20.36
350	SLU 13	60	60	4477	1112.07	-14.52	-20.45
350	SLU 14	58	38	4442	1106.97	-14.47	-19.78
350	SLU 15	59	52	4497	1118.88	-14.63	-20.3
350	SLU 16	57	38	4414	1099.99	-14.36	-19.53
350	SLU 17	58	52	4469	1111.9	-14.52	-20.05
350	SLU 18	59	38	4560	1133.81	-14.84	-20.17
350	SLU 19	60	51	4616	1145.72	-15	-20.69
350	SLU 20	59	39	4590	1141.58	-14.95	-20.11
350	SLU 21	60	52	4645	1153.49	-15.11	-20.63
350	SLU 22	60	34	4403	1098.28	-14.36	-20.79
350	SLU 23	63	57	4496	1118.13	-14.63	-21.65
350	SLU 24	61	35	4461	1113.03	-14.58	-20.99
350	SLU 25	63	49	4517	1124.94	-14.74	-21.5
350	SLU 26	63	58	4526	1125.9	-14.74	-21.6
350	SLU 27	61	36	4491	1120.8	-14.69	-20.93
350	SLU 28	62	50	4547	1132.71	-14.85	-21.45
350	SLU 29	60	36	4463	1113.82	-14.58	-20.68
350	SLU 30	62	50	4519	1125.74	-14.74	-21.2
350	SLU 31	67	61	4976	1233.31	-16.27	-22.88
350	SLU 32	65	39	4942	1228.21	-16.22	-22.21
350	SLU 33	66	53	4997	1240.12	-16.38	-22.73
350	SLU 34	66	62	5006	1241.08	-16.38	-22.83
350	SLU 35	64	40	4971	1235.98	-16.33	-22.16
350	SLU 36	66	54	5027	1247.89	-16.49	-22.68
350	SLU 37	64	41	4943	1229	-16.22	-21.9
350	SLU 38	65	54	4999	1240.91	-16.39	-22.42
350	SLU 39	66	40	5090	1262.82	-16.7	-22.54
350	SLU 40	67	54	5145	1274.73	-16.87	-23.06
350	SLU 41	65	41	5120	1270.59	-16.81	-22.49
350	SLU 42	67	55	5175	1282.5	-16.98	-23.01
350	SLU 43	67	40	4854	1215.81	-15.6	-23.12
350	SLU 44	70	63	4947	1235.66	-15.87	-23.99
350	SLU 45	68	41	4912	1230.56	-15.82	-23.32
350	SLU 46	69	55	4967	1242.47	-15.98	-23.84
350	SLU 47	70	64	4976	1243.44	-15.99	-23.93
350	SLU 48	68	43	4942	1238.34	-15.93	-23.27
350	SLU 49	69	56	4997	1250.25	-16.1	-23.78
350	SLU 50	67	43	4914	1231.36	-15.83	-23.01
350	SLU 51	68	56	4969	1243.27	-15.99	-23.53
350	SLU 52	73	67	5427	1350.84	-17.52	-25.22
350	SLU 53	71	45	5392	1345.74	-17.46	-24.55
350	SLU 54	73	59	5448	1357.65	-17.63	-25.07
350	SLU 55	73	68	5457	1358.62	-17.63	-25.16
350	SLU 56	71	47	5422	1353.51	-17.58	-24.49
350	SLU 57	73	60	5478	1365.43	-17.74	-25.01
350	SLU 58	71	47	5394	1346.54	-17.47	-24.24
350	SLU 59	72	60	5450	1358.45	-17.63	-24.76
350	SLU 60	72	46	5540	1380.35	-17.95	-24.88
350	SLU 61	74	60	5596	1392.26	-18.11	-25.4
350	SLU 62	72	47	5570	1388.13	-18.06	-24.82
350	SLU 63	74	61	5626	1400.04	-18.22	-25.34
350	SLU 64	74	43	5384	1344.82	-17.47	-25.5
350	SLU 65	77	66	5476	1364.68	-17.74	-26.36
350	SLU 66	75	44	5441	1359.57	-17.69	-25.7
350	SLU 67	76	58	5497	1371.49	-17.85	-26.21
350	SLU 68	77	67	5506	1372.45	-17.85	-26.31
350	SLU 69	75	45	5471	1367.35	-17.8	-25.64
350	SLU 70	76	59	5527	1379.26	-17.96	-26.16
350	SLU 71	74	45	5443	1360.37	-17.69	-25.39
350	SLU 72	75	59	5499	1372.28	-17.85	-25.91
350	SLU 73	80	70	5957	1479.86	-19.38	-27.59
350	SLU 74	78	48	5922	1474.75	-19.33	-26.92
350	SLU 75	80	62	5978	1486.67	-19.49	-27.44
350	SLU 76	80	71	5987	1487.63	-19.49	-27.54
350	SLU 77	78	49	5952	1482.53	-19.44	-26.87
350	SLU 78	80	63	6007	1494.44	-19.6	-27.39
350	SLU 79	77	49	5924	1475.55	-19.33	-26.61
350	SLU 80	79	63	5979	1487.46	-19.49	-27.13
350	SLU 81	79	49	6070	1509.36	-19.81	-27.25
350	SLU 82	81	62	6126	1521.28	-19.97	-27.77
350	SLU 83	79	50	6100	1517.14	-19.92	-27.2
350	SLU 84	81	64	6156	1529.05	-20.09	-27.72
350	SLE RA 1	56	32	4025	1006.12	-13.03	-19.09
350	SLE RA 2	57	48	4087	1019.36	-13.21	-19.67
350	SLE RA 3	56	33	4063	1015.96	-13.17	-19.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
350	SLE RA 4	57	42	4100	1023.9	-13.28	-19.57
350	SLE RA 5	57	48	4107	1024.54	-13.28	-19.63
350	SLE RA 6	56	34	4083	1021.14	-13.25	-19.19
350	SLE RA 7	57	43	4120	1029.08	-13.35	-19.53
350	SLE RA 8	55	34	4065	1016.49	-13.18	-19.02
350	SLE RA 9	56	43	4102	1024.43	-13.28	-19.36
350	SLE RA 10	60	50	4407	1096.15	-14.3	-20.49
350	SLE RA 11	58	36	4384	1092.75	-14.27	-20.04
350	SLE RA 12	59	45	4421	1100.69	-14.37	-20.39
350	SLE RA 13	60	51	4427	1101.33	-14.38	-20.45
350	SLE RA 14	58	37	4404	1097.93	-14.34	-20.01
350	SLE RA 15	59	46	4441	1105.87	-14.45	-20.35
350	SLE RA 16	58	37	4385	1093.28	-14.27	-19.84
350	SLE RA 17	59	46	4422	1101.22	-14.38	-20.18
350	SLE RA 18	59	36	4483	1115.82	-14.59	-20.26
350	SLE RA 19	60	45	4520	1123.76	-14.7	-20.61
350	SLE RA 20	59	37	4502	1121	-14.66	-20.22
350	SLE RA 21	60	46	4539	1128.94	-14.77	-20.57
350	SLE FR 1	56	32	4025	1006.12	-13.03	-19.09
350	SLE FR 2	56	35	4037	1008.77	-13.06	-19.21
350	SLE FR 3	55	33	4033	1008.2	-13.06	-19.08
350	SLE FR 4	57	37	4175	1041.68	-13.53	-19.56
350	SLE FR 5	56	34	4170	1041.11	-13.53	-19.43
350	SLE FR 6	57	34	4254	1060.97	-13.81	-19.68
350	SLE QP 1	56	32	4025	1006.12	-13.03	-19.09
350	SLE QP 2	57	34	4162	1039.03	-13.5	-19.44
350	SLD 1	441	91	3669	895.01	-10.44	-153.96
350	SLD 2	512	204	3779	920.4	-10.88	-178.39
350	SLD 3	398	-203	2374	607.98	-6.07	-139.35
350	SLD 4	469	-90	2483	633.37	-6.51	-163.78
350	SLD 5	225	477	5960	1426.75	-19.13	-77.71
350	SLD 6	271	550	6031	1443.17	-19.42	-93.52
350	SLD 7	81	-503	1642	469.99	-4.56	-29.03
350	SLD 8	127	-430	1713	486.42	-4.85	-44.83
350	SLD 9	-14	497	6612	1591.65	-22.14	5.95
350	SLD 10	32	570	6683	1608.08	-22.43	-9.86
350	SLD 11	-158	-483	2293	634.89	-7.57	54.63
350	SLD 12	-112	-410	2364	651.32	-7.86	38.82
350	SLD 13	-356	157	5841	1444.69	-20.48	124.9
350	SLD 14	-285	270	5950	1470.08	-20.92	100.47
350	SLD 15	-399	-137	4545	1157.66	-16.11	139.5
350	SLD 16	-328	-24	4655	1183.06	-16.55	115.07
350	SLV 1	661	141	3476	832.72	-9	-230.71
350	SLV 2	772	319	3649	872.7	-9.7	-269.17
350	SLV 3	588	-356	1288	347.81	-1.62	-206
350	SLV 4	699	-178	1460	387.8	-2.32	-244.46
350	SLV 5	328	787	7244	1705.12	-23.21	-113.12
350	SLV 6	403	906	7360	1732.04	-23.69	-139.02
350	SLV 7	84	-870	-52	88.76	1.4	-30.75
350	SLV 8	159	-751	64	115.68	0.92	-56.65
350	SLV 9	-46	818	8260	1962.39	-27.91	17.77
350	SLV 10	29	938	8376	1989.31	-28.39	-8.13
350	SLV 11	-290	-839	964	346.02	-3.3	100.13
350	SLV 12	-215	-719	1081	372.94	-3.78	74.23
350	SLV 13	-586	245	6864	1690.27	-24.67	205.58
350	SLV 14	-475	423	7037	1730.25	-25.37	167.11
350	SLV 15	-659	-252	4675	1205.36	-17.29	230.29
350	SLV 16	-548	-74	4848	1245.34	-17.99	191.82
350	SLV FO 1	721	152	3408	812.09	-8.55	-251.84
350	SLV FO 2	844	347	3598	856.07	-9.33	-294.15
350	SLV FO 3	641	-395	1000	278.69	-0.43	-224.65
350	SLV FO 4	763	-199	1190	322.67	-1.2	-266.97
350	SLV FO 5	355	862	7552	1771.73	-24.19	-122.49
350	SLV FO 6	438	994	7680	1801.34	-24.71	-150.98
350	SLV FO 7	87	-961	-473	-6.27	2.88	-31.89
350	SLV FO 8	169	-829	-346	23.34	2.36	-60.37
350	SLV FO 9	-56	896	8670	2054.72	-29.36	21.49
350	SLV FO 10	26	1028	8798	2084.33	-29.88	-7
350	SLV FO 11	-325	-926	645	276.72	-2.29	112.09
350	SLV FO 12	-242	-795	772	306.33	-2.8	83.6
350	SLV FO 13	-650	266	7134	1755.4	-25.79	228.08
350	SLV FO 14	-528	462	7324	1799.37	-26.56	185.77
350	SLV FO 15	-731	-280	4727	1221.99	-17.67	255.26
350	SLV FO 16	-608	-85	4916	1265.97	-18.44	212.95
350	CRTFP Ux+	0	0	0	0	0	0
350	CRTFP Ux-	0	0	0	0	0	0
350	CRTFP Uy+	0	0	0	0	0	0
350	CRTFP Uy-	0	0	0	0	0	0
352	SLU 1	39	29	3033	876.22	164.08	-15.02
352	SLU 2	40	46	3105	894.42	167.98	-16.59
352	SLU 3	39	30	3079	889.92	166.55	-15.22
352	SLU 4	40	40	3122	900.84	168.89	-16.16
352	SLU 5	40	47	3128	901.64	169.26	-16.61
352	SLU 6	39	31	3102	897.14	167.82	-15.23
352	SLU 7	40	41	3146	908.06	170.16	-16.18
352	SLU 8	38	31	3080	890.66	166.62	-15.05
352	SLU 9	40	41	3123	901.58	168.97	-16
352	SLU 10	43	50	3483	1001.35	188.4	-17.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
352	SLU 11	42	34	3457	996.84	186.97	-16.32
352	SLU 12	43	44	3500	1007.76	189.31	-17.26
352	SLU 13	43	51	3507	1008.57	189.68	-17.71
352	SLU 14	42	35	3480	1004.06	188.24	-16.34
352	SLU 15	43	45	3524	1014.99	190.58	-17.28
352	SLU 16	41	35	3458	997.59	187.04	-16.16
352	SLU 17	42	45	3501	1008.51	189.39	-17.1
352	SLU 18	42	34	3573	1028.97	193.25	-16.59
352	SLU 19	43	44	3616	1039.89	195.59	-17.54
352	SLU 20	42	35	3597	1036.19	194.52	-16.61
352	SLU 21	43	45	3640	1047.11	196.87	-17.55
352	SLU 22	44	32	3451	996.03	186.63	-16.88
352	SLU 23	45	49	3523	1014.23	190.54	-18.46
352	SLU 24	44	33	3497	1009.72	189.1	-17.08
352	SLU 25	45	43	3540	1020.65	191.44	-18.03
352	SLU 26	45	49	3546	1021.45	191.81	-18.47
352	SLU 27	44	34	3520	1016.95	190.37	-17.1
352	SLU 28	45	44	3564	1027.87	192.72	-18.04
352	SLU 29	43	34	3498	1010.47	189.18	-16.92
352	SLU 30	45	44	3541	1021.39	191.52	-17.86
352	SLU 31	48	52	3901	1121.15	210.95	-19.56
352	SLU 32	47	36	3875	1116.65	209.52	-18.19
352	SLU 33	48	46	3918	1127.57	211.86	-19.13
352	SLU 34	48	53	3925	1128.38	212.23	-19.58
352	SLU 35	47	37	3898	1123.87	210.79	-18.2
352	SLU 36	48	47	3942	1134.79	213.14	-19.15
352	SLU 37	46	37	3876	1117.4	209.6	-18.02
352	SLU 38	47	47	3919	1128.32	211.94	-18.96
352	SLU 39	47	37	3991	1148.78	215.8	-18.46
352	SLU 40	48	47	4034	1159.7	218.14	-19.4
352	SLU 41	47	38	4015	1156	217.07	-18.48
352	SLU 42	48	48	4058	1166.92	219.42	-19.42
352	SLU 43	49	37	3799	1098.01	205.57	-18.89
352	SLU 44	50	54	3871	1116.21	209.47	-20.46
352	SLU 45	49	38	3845	1111.7	208.04	-19.08
352	SLU 46	50	48	3888	1122.62	210.38	-20.03
352	SLU 47	50	55	3895	1123.43	210.75	-20.47
352	SLU 48	49	39	3869	1118.93	209.31	-19.1
352	SLU 49	50	49	3912	1129.85	211.65	-20.04
352	SLU 50	48	39	3847	1112.45	208.11	-18.92
352	SLU 51	49	49	3890	1123.37	210.46	-19.86
352	SLU 52	53	57	4250	1223.13	229.89	-21.56
352	SLU 53	52	42	4223	1218.63	228.46	-20.19
352	SLU 54	53	52	4267	1229.55	230.8	-21.13
352	SLU 55	53	58	4273	1230.36	231.17	-21.58
352	SLU 56	51	43	4247	1225.85	229.73	-20.2
352	SLU 57	53	53	4290	1236.77	232.07	-21.15
352	SLU 58	51	43	4225	1219.38	228.53	-20.02
352	SLU 59	52	53	4268	1230.3	230.88	-20.97
352	SLU 60	52	42	4340	1250.76	234.74	-20.46
352	SLU 61	53	52	4383	1261.68	237.08	-21.4
352	SLU 62	52	43	4363	1257.98	236.01	-20.48
352	SLU 63	53	53	4406	1268.9	238.36	-21.42
352	SLU 64	53	40	4217	1217.81	228.12	-20.75
352	SLU 65	55	56	4289	1236.02	232.03	-22.32
352	SLU 66	54	40	4263	1231.51	230.59	-20.95
352	SLU 67	55	51	4306	1242.43	232.93	-21.89
352	SLU 68	55	57	4313	1243.24	233.3	-22.34
352	SLU 69	54	41	4287	1238.73	231.86	-20.97
352	SLU 70	55	52	4330	1249.66	234.21	-21.91
352	SLU 71	53	41	4265	1232.26	230.67	-20.79
352	SLU 72	54	52	4308	1243.18	233.01	-21.73
352	SLU 73	58	60	4667	1342.94	252.45	-23.43
352	SLU 74	57	44	4641	1338.44	251.01	-22.05
352	SLU 75	58	54	4685	1349.36	253.35	-22.99
352	SLU 76	58	61	4691	1350.16	253.72	-23.44
352	SLU 77	56	45	4665	1345.66	252.28	-22.07
352	SLU 78	58	55	4708	1356.58	254.63	-23.01
352	SLU 79	56	45	4643	1339.19	251.09	-21.89
352	SLU 80	57	55	4686	1350.11	253.43	-22.83
352	SLU 81	57	45	4758	1370.57	257.29	-22.33
352	SLU 82	58	55	4801	1381.49	259.63	-23.27
352	SLU 83	57	46	4781	1377.79	258.57	-22.34
352	SLU 84	58	56	4824	1388.71	260.91	-23.29
352	SLE RA 1	40	30	3152	910.45	170.52	-15.55
352	SLE RA 2	41	41	3200	922.58	173.12	-16.6
352	SLE RA 3	40	30	3183	919.58	172.17	-15.68
352	SLE RA 4	41	37	3212	926.86	173.73	-16.31
352	SLE RA 5	41	42	3216	927.4	173.97	-16.61
352	SLE RA 6	40	31	3199	924.4	173.02	-15.7
352	SLE RA 7	41	38	3227	931.68	174.58	-16.32
352	SLE RA 8	40	31	3184	920.08	172.22	-15.58
352	SLE RA 9	41	38	3213	927.36	173.78	-16.2
352	SLE RA 10	43	44	3452	993.87	186.74	-17.33
352	SLE RA 11	42	33	3435	990.86	185.78	-16.42
352	SLE RA 12	43	40	3464	998.15	187.34	-17.05
352	SLE RA 13	43	44	3468	998.68	187.59	-17.35
352	SLE RA 14	42	34	3451	995.68	186.63	-16.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
352	SLE RA 15	43	40	3480	1002.96	188.19	-17.06
352	SLE RA 16	42	34	3436	991.36	185.83	-16.31
352	SLE RA 17	42	40	3465	998.64	187.39	-16.94
352	SLE RA 18	43	33	3512	1012.28	189.97	-16.6
352	SLE RA 19	43	40	3541	1019.56	191.53	-17.23
352	SLE RA 20	42	34	3528	1017.1	190.82	-16.61
352	SLE RA 21	43	41	3557	1024.38	192.38	-17.24
352	SLE FR 1	40	30	3152	910.45	170.52	-15.55
352	SLE FR 2	40	32	3162	912.88	171.04	-15.76
352	SLE FR 3	40	30	3159	912.37	170.86	-15.56
352	SLE FR 4	41	33	3270	943.43	176.88	-16.08
352	SLE FR 5	41	31	3267	942.92	176.69	-15.87
352	SLE FR 6	41	32	3332	961.37	180.24	-16.08
352	SLE QP 1	40	30	3152	910.45	170.52	-15.55
352	SLE QP 2	41	31	3260	941	176.35	-15.87
352	SLD 1	316	73	2846	806.58	154.45	-115.91
352	SLD 2	367	160	2933	829.79	159.15	-138.4
352	SLD 3	285	-148	1828	542.94	99.45	-92.92
352	SLD 4	336	-61	1916	566.16	104.15	-115.41
352	SLD 5	162	363	4664	1296.49	252.39	-76.84
352	SLD 6	195	420	4721	1311.51	255.43	-91.39
352	SLD 7	58	-373	1272	417.71	69.04	-0.22
352	SLD 8	91	-316	1329	432.73	72.08	-14.77
352	SLD 9	-9	378	5192	1449.27	280.62	-16.97
352	SLD 10	24	435	5249	1464.29	283.67	-31.52
352	SLD 11	-113	-358	1800	570.49	97.27	59.66
352	SLD 12	-81	-301	1856	585.51	100.32	45.11
352	SLD 13	-254	123	4605	1315.84	248.56	83.68
352	SLD 14	-204	210	4692	1339.05	253.26	61.19
352	SLD 15	-286	-98	3587	1052.21	193.55	106.66
352	SLD 16	-235	-11	3675	1075.42	198.26	84.18
352	SLV 1	474	110	2679	748.17	145.71	-173.74
352	SLV 2	554	247	2817	784.72	153.11	-209.14
352	SLV 3	421	-263	960	302.78	52.78	-134.87
352	SLV 4	501	-127	1097	339.33	60.19	-170.28
352	SLV 5	236	595	5668	1551.84	306.72	-115.57
352	SLV 6	290	687	5760	1576.44	311.7	-139.41
352	SLV 7	60	-649	-63	67.21	-3.04	13.99
352	SLV 8	113	-557	30	91.81	1.95	-9.85
352	SLV 9	-32	619	6491	1790.19	350.76	-21.89
352	SLV 10	22	711	6584	1814.79	355.75	-45.73
352	SLV 11	-208	-625	760	305.55	41	107.67
352	SLV 12	-155	-533	853	330.16	45.99	83.84
352	SLV 13	-419	189	5423	1542.67	292.52	138.54
352	SLV 14	-339	325	5561	1579.21	299.93	103.13
352	SLV 15	-472	-185	3704	1097.28	199.59	177.41
352	SLV 16	-392	-48	3842	1133.82	207	142
352	SLV FO 1	517	118	2621	728.89	142.64	-189.52
352	SLV FO 2	605	268	2772	769.09	150.79	-228.47
352	SLV FO 3	459	-293	729	238.96	40.42	-146.77
352	SLV FO 4	547	-142	881	279.16	48.57	-185.72
352	SLV FO 5	256	651	5908	1612.92	319.76	-125.54
352	SLV FO 6	315	753	6010	1639.99	325.24	-151.76
352	SLV FO 7	61	-717	-396	-20.17	-20.98	16.98
352	SLV FO 8	121	-616	-294	6.89	-15.49	-9.25
352	SLV FO 9	-39	677	6814	1875.1	368.2	-22.49
352	SLV FO 10	20	779	6916	1902.17	373.69	-48.71
352	SLV FO 11	-233	-691	510	242.01	27.47	120.03
352	SLV FO 12	-174	-590	612	269.08	32.95	93.81
352	SLV FO 13	-465	204	5640	1602.83	304.14	153.98
352	SLV FO 14	-377	355	5791	1643.04	312.28	115.03
352	SLV FO 15	-523	-206	3748	1112.9	201.92	196.74
352	SLV FO 16	-435	-56	3900	1153.11	210.06	157.79
352	CRTFP Ux+	0	0	0	0	0	0
352	CRTFP Ux-	0	0	0	0	0	0
352	CRTFP Uy+	0	0	0	0	0	0
352	CRTFP Uy-	0	0	0	0	0	0
354	SLU 1	51	34	3697	657.16	1705.23	-25.34
354	SLU 2	53	54	3789	672.33	1748.34	-35.81
354	SLU 3	52	35	3752	667.19	1730.11	-25.96
354	SLU 4	53	47	3807	676.3	1755.97	-32.25
354	SLU 5	53	55	3817	677.54	1760.98	-36.35
354	SLU 6	52	36	3780	672.4	1742.75	-26.5
354	SLU 7	53	48	3835	681.5	1768.61	-32.79
354	SLU 8	51	36	3753	667.57	1730.52	-26.42
354	SLU 9	52	48	3808	676.67	1756.38	-32.7
354	SLU 10	57	58	4251	754.05	1960.37	-38.49
354	SLU 11	55	39	4214	748.91	1942.14	-28.64
354	SLU 12	57	51	4269	758.02	1968	-34.92
354	SLU 13	57	59	4279	759.26	1973.02	-39.03
354	SLU 14	55	40	4242	754.12	1954.79	-29.17
354	SLU 15	57	52	4297	763.22	1980.65	-35.46
354	SLU 16	54	40	4215	749.29	1942.56	-29.09
354	SLU 17	56	52	4270	758.39	1968.42	-35.37
354	SLU 18	56	40	4357	773.9	2008.14	-29.16
354	SLU 19	58	52	4412	783	2034	-35.44
354	SLU 20	56	41	4385	779.1	2020.79	-29.7
354	SLU 21	58	53	4440	788.21	2046.65	-35.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
354	SLU 22	58	37	4205	747.76	1937.63	-27.86
354	SLU 23	60	57	4297	762.94	1980.73	-38.34
354	SLU 24	58	38	4260	757.8	1962.5	-28.48
354	SLU 25	60	50	4315	766.9	1988.36	-34.77
354	SLU 26	60	58	4325	768.14	1993.37	-38.87
354	SLU 27	58	39	4288	763	1975.15	-29.02
354	SLU 28	60	51	4343	772.11	2001.01	-35.31
354	SLU 29	57	39	4261	758.17	1962.92	-28.94
354	SLU 30	59	51	4316	767.28	1988.78	-35.22
354	SLU 31	64	61	4758	844.66	2192.77	-41.01
354	SLU 32	62	42	4722	839.52	2174.54	-31.16
354	SLU 33	63	54	4777	848.62	2200.4	-37.44
354	SLU 34	64	62	4786	849.86	2205.41	-41.55
354	SLU 35	62	43	4750	844.72	2187.18	-31.7
354	SLU 36	63	55	4805	853.83	2213.04	-37.98
354	SLU 37	61	43	4723	839.89	2174.95	-31.61
354	SLU 38	63	55	4778	849	2200.81	-37.9
354	SLU 39	63	43	4865	864.5	2240.54	-31.68
354	SLU 40	64	55	4920	873.61	2266.4	-37.96
354	SLU 41	63	44	4893	869.71	2253.18	-32.22
354	SLU 42	64	56	4948	878.81	2279.04	-38.5
354	SLU 43	64	43	4632	823.24	2137.12	-32.08
354	SLU 44	66	63	4724	838.41	2180.23	-42.55
354	SLU 45	65	44	4687	833.27	2162	-32.7
354	SLU 46	66	56	4742	842.38	2187.86	-38.99
354	SLU 47	66	64	4752	843.62	2192.87	-43.09
354	SLU 48	65	45	4715	838.48	2174.64	-33.24
354	SLU 49	66	57	4770	847.58	2200.5	-39.52
354	SLU 50	64	45	4688	833.65	2162.41	-33.15
354	SLU 51	65	57	4743	842.75	2188.27	-39.44
354	SLU 52	70	67	5186	920.13	2392.26	-45.23
354	SLU 53	68	48	5149	914.99	2374.03	-35.37
354	SLU 54	70	60	5204	924.1	2399.9	-41.66
354	SLU 55	70	68	5214	925.34	2404.91	-45.76
354	SLU 56	68	49	5177	920.2	2386.68	-35.91
354	SLU 57	70	61	5232	929.3	2412.54	-42.2
354	SLU 58	68	49	5150	915.37	2374.45	-35.83
354	SLU 59	69	61	5205	924.47	2400.31	-42.11
354	SLU 60	69	49	5292	939.98	2440.03	-35.89
354	SLU 61	71	61	5347	949.09	2465.9	-42.18
354	SLU 62	69	50	5320	945.19	2452.68	-36.43
354	SLU 63	71	62	5375	954.29	2478.54	-42.72
354	SLU 64	71	46	5140	913.84	2369.52	-34.6
354	SLU 65	73	66	5232	929.02	2412.62	-45.07
354	SLU 66	71	47	5195	923.88	2394.39	-35.22
354	SLU 67	73	59	5250	932.99	2420.25	-41.51
354	SLU 68	73	67	5260	934.22	2425.27	-45.61
354	SLU 69	71	48	5223	929.08	2407.04	-35.76
354	SLU 70	73	60	5278	938.19	2432.9	-42.05
354	SLU 71	70	48	5196	924.25	2394.81	-35.67
354	SLU 72	72	60	5251	933.36	2420.67	-41.96
354	SLU 73	77	70	5693	1010.74	2624.66	-47.75
354	SLU 74	75	51	5657	1005.6	2606.43	-37.89
354	SLU 75	76	63	5712	1014.7	2632.29	-44.18
354	SLU 76	77	71	5721	1015.94	2637.3	-48.28
354	SLU 77	75	52	5685	1010.8	2619.07	-38.43
354	SLU 78	76	64	5740	1019.91	2644.94	-44.72
354	SLU 79	74	52	5658	1005.97	2606.84	-38.35
354	SLU 80	76	64	5713	1015.08	2632.71	-44.63
354	SLU 81	76	52	5800	1030.59	2672.43	-38.42
354	SLU 82	77	64	5855	1039.69	2698.29	-44.7
354	SLU 83	76	53	5828	1035.79	2685.07	-38.95
354	SLU 84	77	65	5883	1044.9	2710.93	-45.24
354	SLE RA 1	53	34	3842	683.04	1771.63	-26.06
354	SLE RA 2	54	48	3903	693.16	1800.37	-33.04
354	SLE RA 3	53	35	3879	689.73	1788.21	-26.48
354	SLE RA 4	54	43	3915	695.8	1805.45	-30.67
354	SLE RA 5	54	49	3922	696.63	1808.8	-33.4
354	SLE RA 6	53	36	3897	693.2	1796.64	-26.83
354	SLE RA 7	54	44	3934	699.27	1813.88	-31.02
354	SLE RA 8	53	36	3879	689.98	1788.49	-26.78
354	SLE RA 9	54	44	3916	696.05	1805.73	-30.97
354	SLE RA 10	57	51	4211	747.64	1941.72	-34.83
354	SLE RA 11	56	38	4187	744.21	1929.57	-28.26
354	SLE RA 12	57	46	4223	750.28	1946.81	-32.45
354	SLE RA 13	57	52	4230	751.11	1950.15	-35.18
354	SLE RA 14	56	39	4205	747.68	1938	-28.62
354	SLE RA 15	57	47	4242	753.75	1955.24	-32.81
354	SLE RA 16	55	39	4187	744.46	1929.85	-28.56
354	SLE RA 17	56	47	4224	750.53	1947.09	-32.75
354	SLE RA 18	56	38	4282	760.87	1973.57	-28.6
354	SLE RA 19	57	47	4319	766.94	1990.81	-32.8
354	SLE RA 20	56	39	4301	764.34	1982	-28.96
354	SLE RA 21	57	47	4337	770.41	1999.24	-33.15
354	SLE FR 1	53	34	3842	683.04	1771.63	-26.06
354	SLE FR 2	53	37	3854	685.07	1777.38	-27.46
354	SLE FR 3	53	35	3850	684.43	1775	-26.2
354	SLE FR 4	54	38	3986	708.42	1837.96	-28.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
354	SLE FR 5	54	36	3982	707.78	1835.58	-26.97
354	SLE FR 6	55	36	4062	721.96	1872.6	-27.33
354	SLE QP 1	53	34	3842	683.04	1771.63	-26.06
354	SLE QP 2	54	36	3974	706.39	1832.21	-26.82
354	SLD 1	389	86	3494	613.96	1625.7	-128.72
354	SLD 2	453	190	3605	632.53	1676.91	-191.66
354	SLD 3	346	-179	2202	398.59	1023.84	10.02
354	SLD 4	410	-75	2313	417.16	1075.05	-52.92
354	SLD 5	208	435	5771	1002.09	2674.2	-256.9
354	SLD 6	250	502	5843	1014.1	2707.33	-297.62
354	SLD 7	65	-449	1463	284.18	668	205.58
354	SLD 8	107	-381	1535	296.2	701.13	164.85
354	SLD 9	1	453	6413	1116.59	2963.3	-218.5
354	SLD 10	43	520	6485	1128.6	2996.43	-259.22
354	SLD 11	-142	-431	2106	398.68	957.1	243.97
354	SLD 12	-101	-363	2177	410.7	990.23	203.25
354	SLD 13	-302	146	5635	995.63	2589.38	-0.73
354	SLD 14	-238	250	5746	1014.19	2640.58	-63.67
354	SLD 15	-345	-119	4343	780.25	1987.52	138.01
354	SLD 16	-281	-15	4454	798.82	2038.72	75.07
354	SLV 1	580	131	3308	575.99	1548.62	-194.74
354	SLV 2	682	294	3483	605.23	1629.24	-293.84
354	SLV 3	508	-317	1125	212.14	531.81	39.77
354	SLV 4	609	-154	1300	241.37	612.44	-59.33
354	SLV 5	303	713	7053	1213.67	3274.25	-414.38
354	SLV 6	371	823	7170	1233.35	3328.53	-481.1
354	SLV 7	61	-780	-224	0.81	-115.12	367.33
354	SLV 8	129	-670	-107	20.49	-60.83	300.61
354	SLV 9	-21	741	8055	1392.29	3725.26	-354.25
354	SLV 10	47	852	8172	1411.98	3779.54	-420.97
354	SLV 11	-263	-752	778	179.43	335.9	427.45
354	SLV 12	-195	-642	895	199.12	390.18	360.73
354	SLV 13	-501	225	6648	1171.41	3051.99	5.68
354	SLV 14	-400	389	6823	1200.65	3132.62	-93.42
354	SLV 15	-574	-223	4465	807.55	2035.18	240.2
354	SLV 16	-473	-59	4640	836.79	2115.81	141.09
354	SLV FO 1	633	140	3242	562.95	1520.26	-211.53
354	SLV FO 2	744	320	3434	595.11	1608.95	-320.54
354	SLV FO 3	553	-353	840	162.71	401.77	46.43
354	SLV FO 4	665	-173	1033	194.87	490.46	-62.58
354	SLV FO 5	328	781	7361	1264.39	3418.45	-453.13
354	SLV FO 6	403	902	7490	1286.05	3478.16	-526.53
354	SLV FO 7	62	-862	-644	-69.75	-309.85	406.74
354	SLV FO 8	137	-741	-515	-48.1	-250.14	333.35
354	SLV FO 9	-29	812	8463	1460.88	3914.56	-386.99
354	SLV FO 10	46	933	8592	1482.53	3974.27	-460.39
354	SLV FO 11	-295	-830	458	126.74	186.26	472.88
354	SLV FO 12	-220	-709	588	148.39	245.98	399.49
354	SLV FO 13	-557	244	6916	1217.91	3173.97	8.93
354	SLV FO 14	-445	424	7108	1250.07	3262.66	-100.08
354	SLV FO 15	-637	-249	4514	817.67	2055.48	266.9
354	SLV FO 16	-525	-69	4706	849.83	2144.17	157.88
354	CRTFP Ux+	0	0	0	0	0	0
354	CRTFP Ux-	0	0	0	0	0	0
354	CRTFP Uy+	0	0	0	0	-0.01	0
354	CRTFP Uy-	0	0	0	0	0.01	0
355	SLU 1	17	-72	4128	1183.86	2.42	-5.63
355	SLU 2	19	-50	4204	1201.53	2.47	-6.35
355	SLU 3	16	-73	4197	1204.39	2.48	-5.52
355	SLU 4	18	-60	4242	1214.98	2.51	-5.95
355	SLU 5	18	-51	4246	1214.06	2.51	-6.16
355	SLU 6	16	-74	4238	1216.91	2.52	-5.32
355	SLU 7	17	-61	4284	1227.51	2.55	-5.76
355	SLU 8	15	-74	4211	1208.92	2.5	-5.24
355	SLU 9	17	-61	4257	1219.52	2.53	-5.68
355	SLU 10	19	-58	4748	1356.53	2.88	-6.33
355	SLU 11	16	-82	4741	1359.39	2.89	-5.49
355	SLU 12	17	-69	4787	1369.98	2.92	-5.93
355	SLU 13	18	-60	4790	1369.06	2.93	-6.13
355	SLU 14	15	-83	4783	1371.91	2.93	-5.3
355	SLU 15	17	-70	4828	1382.51	2.96	-5.73
355	SLU 16	15	-83	4756	1363.92	2.91	-5.22
355	SLU 17	16	-70	4801	1374.52	2.94	-5.65
355	SLU 18	16	-84	4906	1405.29	3.01	-5.6
355	SLU 19	18	-71	4951	1415.89	3.04	-6.03
355	SLU 20	16	-85	4947	1417.82	3.05	-5.4
355	SLU 21	17	-72	4993	1428.42	3.08	-5.84
355	SLU 22	18	-81	4691	1347.21	2.77	-6.22
355	SLU 23	21	-59	4767	1364.87	2.83	-6.94
355	SLU 24	18	-83	4760	1367.73	2.83	-6.1
355	SLU 25	19	-69	4805	1378.33	2.87	-6.54
355	SLU 26	20	-60	4808	1377.4	2.87	-6.74
355	SLU 27	17	-84	4801	1380.26	2.88	-5.91
355	SLU 28	19	-71	4847	1390.86	2.91	-6.34
355	SLU 29	17	-83	4774	1372.26	2.86	-5.83
355	SLU 30	18	-70	4820	1382.86	2.89	-6.26
355	SLU 31	20	-68	5311	1519.87	3.24	-6.92
355	SLU 32	18	-91	5304	1522.73	3.25	-6.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
355	SLU 33	19	-78	5350	1533.33	3.28	-6.51
355	SLU 34	20	-69	5353	1532.4	3.28	-6.72
355	SLU 35	17	-92	5346	1535.26	3.29	-5.89
355	SLU 36	18	-79	5391	1545.85	3.32	-6.32
355	SLU 37	17	-92	5318	1527.26	3.27	-5.81
355	SLU 38	18	-79	5364	1537.86	3.3	-6.24
355	SLU 39	18	-93	5469	1568.64	3.36	-6.18
355	SLU 40	19	-80	5514	1579.23	3.4	-6.62
355	SLU 41	17	-94	5510	1581.16	3.4	-5.99
355	SLU 42	19	-81	5556	1591.76	3.44	-6.42
355	SLU 43	21	-90	5174	1483.02	3.02	-7.11
355	SLU 44	23	-68	5250	1500.68	3.08	-7.84
355	SLU 45	21	-92	5242	1503.54	3.08	-7
355	SLU 46	22	-78	5288	1514.14	3.11	-7.43
355	SLU 47	23	-69	5291	1513.21	3.12	-7.64
355	SLU 48	20	-93	5284	1516.07	3.12	-6.81
355	SLU 49	21	-80	5329	1526.67	3.16	-7.24
355	SLU 50	20	-92	5257	1508.08	3.1	-6.73
355	SLU 51	21	-79	5302	1518.68	3.14	-7.16
355	SLU 52	23	-77	5794	1655.68	3.49	-7.81
355	SLU 53	20	-100	5787	1658.54	3.49	-6.98
355	SLU 54	22	-87	5832	1669.14	3.53	-7.41
355	SLU 55	22	-78	5835	1668.21	3.53	-7.62
355	SLU 56	20	-101	5828	1671.07	3.53	-6.79
355	SLU 57	21	-88	5874	1681.67	3.57	-7.22
355	SLU 58	20	-101	5801	1663.08	3.51	-6.71
355	SLU 59	21	-88	5847	1673.68	3.55	-7.14
355	SLU 60	21	-102	5951	1704.45	3.61	-7.08
355	SLU 61	22	-89	5997	1715.05	3.64	-7.52
355	SLU 62	20	-103	5993	1716.98	3.65	-6.89
355	SLU 63	21	-90	6038	1727.58	3.68	-7.32
355	SLU 64	23	-99	5736	1646.36	3.38	-7.7
355	SLU 65	25	-77	5812	1664.03	3.43	-8.42
355	SLU 66	22	-101	5805	1666.88	3.44	-7.59
355	SLU 67	24	-88	5851	1677.48	3.47	-8.02
355	SLU 68	24	-79	5854	1676.56	3.47	-8.23
355	SLU 69	22	-102	5847	1679.41	3.48	-7.4
355	SLU 70	23	-89	5892	1690.01	3.51	-7.83
355	SLU 71	22	-102	5819	1671.42	3.46	-7.32
355	SLU 72	23	-89	5865	1682.02	3.49	-7.75
355	SLU 73	25	-86	6357	1819.03	3.84	-8.4
355	SLU 74	22	-109	6349	1821.88	3.85	-7.57
355	SLU 75	23	-96	6395	1832.48	3.88	-8
355	SLU 76	24	-87	6398	1831.56	3.88	-8.21
355	SLU 77	21	-111	6391	1834.41	3.89	-7.38
355	SLU 78	23	-98	6437	1845.01	3.92	-7.81
355	SLU 79	21	-110	6364	1826.42	3.87	-7.3
355	SLU 80	23	-97	6409	1837.02	3.9	-7.73
355	SLU 81	22	-111	6514	1867.79	3.97	-7.67
355	SLU 82	24	-98	6560	1878.39	4	-8.1
355	SLU 83	22	-113	6556	1880.32	4.01	-7.48
355	SLU 84	23	-100	6601	1890.92	4.04	-7.91
355	SLE RA 1	17	-74	4289	1230.53	2.52	-5.8
355	SLE RA 2	19	-60	4340	1242.31	2.56	-6.28
355	SLE RA 3	17	-75	4335	1244.21	2.56	-5.72
355	SLE RA 4	18	-67	4365	1251.28	2.58	-6.01
355	SLE RA 5	18	-60	4367	1250.66	2.58	-6.15
355	SLE RA 6	16	-76	4362	1252.57	2.59	-5.59
355	SLE RA 7	17	-67	4393	1259.63	2.61	-5.88
355	SLE RA 8	16	-76	4344	1247.24	2.57	-5.54
355	SLE RA 9	17	-67	4375	1254.3	2.6	-5.83
355	SLE RA 10	18	-65	4703	1345.64	2.83	-6.26
355	SLE RA 11	17	-81	4698	1347.55	2.83	-5.71
355	SLE RA 12	18	-72	4728	1354.61	2.86	-5.99
355	SLE RA 13	18	-66	4730	1354	2.86	-6.13
355	SLE RA 14	16	-82	4725	1355.9	2.86	-5.58
355	SLE RA 15	17	-73	4756	1362.97	2.88	-5.87
355	SLE RA 16	16	-82	4707	1350.57	2.85	-5.52
355	SLE RA 17	17	-73	4738	1357.64	2.87	-5.81
355	SLE RA 18	17	-82	4807	1378.15	2.91	-5.77
355	SLE RA 19	18	-74	4838	1385.22	2.93	-6.06
355	SLE RA 20	16	-83	4835	1386.51	2.94	-5.65
355	SLE RA 21	17	-74	4865	1393.57	2.96	-5.93
355	SLE FR 1	17	-74	4289	1230.53	2.52	-5.8
355	SLE FR 2	17	-71	4299	1232.89	2.53	-5.89
355	SLE FR 3	17	-75	4300	1233.88	2.53	-5.74
355	SLE FR 4	17	-74	4455	1277.17	2.64	-5.89
355	SLE FR 5	17	-77	4456	1278.16	2.65	-5.74
355	SLE FR 6	17	-78	4548	1304.34	2.72	-5.79
355	SLE QP 1	17	-74	4289	1230.53	2.52	-5.8
355	SLE QP 2	17	-77	4444	1274.82	2.64	-5.79
355	SLD 1	444	83	4928	1393.82	3.81	-135.92
355	SLD 2	521	102	4950	1399.84	3.75	-159.21
355	SLD 3	419	-198	3751	1115.69	2.81	-127.96
355	SLD 4	496	-178	3772	1121.71	2.74	-151.25
355	SLD 5	170	393	6372	1731.31	4.53	-52.86
355	SLD 6	220	406	6386	1735.2	4.48	-67.93
355	SLD 7	86	-542	2447	804.2	1.18	-26.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
355	SLD 8	136	-529	2460	808.1	1.13	-41.4
355	SLD 9	-102	376	6428	1741.54	4.14	29.82
355	SLD 10	-52	388	6442	1745.44	4.1	14.75
355	SLD 11	-185	-559	2503	814.44	0.79	56.35
355	SLD 12	-135	-546	2517	818.33	0.75	41.28
355	SLD 13	-462	25	5117	1427.93	2.53	139.67
355	SLD 14	-385	44	5138	1433.95	2.47	116.38
355	SLD 15	-487	-255	3939	1149.8	1.53	147.63
355	SLD 16	-410	-236	3961	1155.82	1.46	124.34
355	SLV 1	686	190	5275	1478.28	4.54	-209.72
355	SLV 2	807	221	5309	1487.77	4.43	-246.39
355	SLV 3	644	-284	3285	1008.23	2.84	-196.25
355	SLV 4	765	-253	3319	1017.71	2.73	-232.92
355	SLV 5	259	716	7706	2047	5.8	-80.55
355	SLV 6	341	737	7729	2053.39	5.73	-105.25
355	SLV 7	118	-863	1072	480.16	0.14	-35.65
355	SLV 8	200	-843	1095	486.54	0.07	-60.35
355	SLV 9	-166	689	7794	2063.1	5.2	48.77
355	SLV 10	-84	710	7817	2069.48	5.13	24.07
355	SLV 11	-307	-890	1160	496.25	-0.46	93.67
355	SLV 12	-225	-870	1183	502.64	-0.53	68.97
355	SLV 13	-731	100	5570	1531.93	2.54	221.35
355	SLV 14	-609	130	5604	1541.41	2.44	184.67
355	SLV 15	-773	-374	3580	1061.87	0.84	234.82
355	SLV 16	-652	-344	3614	1071.36	0.74	198.14
355	SLV FO 1	753	217	5358	1498.63	4.73	-230.11
355	SLV FO 2	886	250	5396	1509.06	4.61	-270.45
355	SLV FO 3	706	-304	3169	981.57	2.86	-215.29
355	SLV FO 4	840	-271	3206	992	2.74	-255.64
355	SLV FO 5	283	796	8032	2124.22	6.12	-88.03
355	SLV FO 6	373	818	8057	2131.25	6.04	-115.19
355	SLV FO 7	128	-942	735	400.69	-0.11	-38.64
355	SLV FO 8	218	-919	760	407.72	-0.19	-65.8
355	SLV FO 9	-184	766	8129	2141.92	5.46	54.22
355	SLV FO 10	-94	788	8154	2148.95	5.38	27.06
355	SLV FO 11	-339	-971	832	418.39	-0.77	103.61
355	SLV FO 12	-249	-949	857	425.42	-0.84	76.45
355	SLV FO 13	-806	118	5683	1557.64	2.53	244.06
355	SLV FO 14	-672	151	5720	1568.07	2.42	203.71
355	SLV FO 15	-852	-404	3493	1040.58	0.66	258.88
355	SLV FO 16	-719	-370	3531	1051.01	0.55	218.53
355	CRTFP Ux+	0	0	0	0	0	0
355	CRTFP Ux-	0	0	0	0	0	0
355	CRTFP Uy+	0	0	0	0	0	0
355	CRTFP Uy-	0	0	0	0	0	0
356	SLU 1	17	-80	4047	1157.23	1.67	-5.84
356	SLU 2	20	-59	4122	1174.26	1.71	-6.57
356	SLU 3	17	-82	4114	1177.08	1.72	-5.73
356	SLU 4	18	-69	4158	1187.3	1.74	-6.17
356	SLU 5	19	-60	4162	1186.33	1.74	-6.38
356	SLU 6	16	-83	4154	1189.15	1.75	-5.54
356	SLU 7	18	-70	4199	1199.37	1.77	-5.98
356	SLU 8	16	-83	4128	1181.37	1.74	-5.46
356	SLU 9	17	-70	4172	1191.59	1.76	-5.9
356	SLU 10	19	-68	4652	1324.8	2	-6.57
356	SLU 11	17	-91	4645	1327.62	2.02	-5.73
356	SLU 12	18	-79	4689	1337.84	2.04	-6.16
356	SLU 13	19	-70	4692	1336.87	2.04	-6.37
356	SLU 14	16	-93	4685	1339.69	2.05	-5.53
356	SLU 15	17	-80	4729	1349.91	2.07	-5.97
356	SLU 16	16	-92	4658	1331.91	2.04	-5.45
356	SLU 17	17	-79	4703	1342.13	2.06	-5.89
356	SLU 18	17	-94	4805	1372.28	2.1	-5.83
356	SLU 19	18	-81	4850	1382.5	2.12	-6.27
356	SLU 20	16	-95	4845	1384.36	2.13	-5.64
356	SLU 21	18	-82	4890	1394.57	2.15	-6.08
356	SLU 22	19	-90	4598	1316.78	1.91	-6.46
356	SLU 23	21	-69	4673	1333.81	1.94	-7.19
356	SLU 24	19	-92	4665	1336.63	1.95	-6.35
356	SLU 25	20	-79	4710	1346.85	1.98	-6.79
356	SLU 26	21	-70	4713	1345.88	1.98	-7
356	SLU 27	18	-93	4705	1348.7	1.99	-6.16
356	SLU 28	20	-81	4750	1358.92	2.01	-6.6
356	SLU 29	18	-93	4679	1340.92	1.97	-6.08
356	SLU 30	19	-80	4723	1351.14	2	-6.51
356	SLU 31	21	-79	5203	1484.34	2.24	-7.18
356	SLU 32	19	-102	5196	1487.17	2.25	-6.34
356	SLU 33	20	-89	5240	1497.38	2.27	-6.78
356	SLU 34	21	-80	5243	1496.42	2.27	-6.99
356	SLU 35	18	-103	5236	1499.24	2.29	-6.15
356	SLU 36	19	-90	5280	1509.46	2.31	-6.59
356	SLU 37	18	-103	5209	1491.46	2.27	-6.07
356	SLU 38	19	-90	5254	1501.68	2.29	-6.51
356	SLU 39	19	-104	5356	1531.83	2.33	-6.45
356	SLU 40	20	-91	5401	1542.05	2.35	-6.89
356	SLU 41	18	-105	5397	1543.9	2.37	-6.26
356	SLU 42	20	-92	5441	1554.12	2.39	-6.7
356	SLU 43	22	-100	5073	1449.7	2.09	-7.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
356	SLU 44	24	-79	5147	1466.73	2.13	-8.11
356	SLU 45	22	-102	5139	1469.55	2.14	-7.27
356	SLU 46	23	-89	5184	1479.77	2.16	-7.71
356	SLU 47	24	-80	5187	1478.8	2.16	-7.92
356	SLU 48	21	-104	5179	1481.62	2.17	-7.08
356	SLU 49	22	-91	5224	1491.84	2.19	-7.52
356	SLU 50	21	-103	5153	1473.84	2.16	-7
356	SLU 51	22	-90	5197	1484.06	2.18	-7.44
356	SLU 52	24	-89	5677	1617.27	2.42	-8.11
356	SLU 53	21	-112	5670	1620.09	2.44	-7.27
356	SLU 54	23	-99	5714	1630.31	2.46	-7.7
356	SLU 55	23	-90	5717	1629.34	2.46	-7.91
356	SLU 56	21	-113	5710	1632.16	2.47	-7.07
356	SLU 57	22	-100	5754	1642.38	2.49	-7.51
356	SLU 58	20	-113	5683	1624.38	2.46	-6.99
356	SLU 59	22	-100	5728	1634.6	2.48	-7.43
356	SLU 60	22	-114	5831	1664.75	2.52	-7.37
356	SLU 61	23	-101	5875	1674.97	2.54	-7.81
356	SLU 62	21	-115	5871	1676.82	2.55	-7.18
356	SLU 63	22	-103	5915	1687.04	2.57	-7.62
356	SLU 64	24	-111	5624	1609.24	2.33	-8
356	SLU 65	26	-89	5698	1626.27	2.36	-8.73
356	SLU 66	23	-113	5690	1629.1	2.37	-7.89
356	SLU 67	25	-100	5735	1639.31	2.4	-8.33
356	SLU 68	25	-91	5738	1638.35	2.4	-8.54
356	SLU 69	23	-114	5730	1641.17	2.41	-7.7
356	SLU 70	24	-101	5775	1651.39	2.43	-8.14
356	SLU 71	22	-113	5704	1633.39	2.39	-7.62
356	SLU 72	24	-101	5748	1643.61	2.42	-8.06
356	SLU 73	26	-99	6229	1776.81	2.66	-8.73
356	SLU 74	23	-122	6221	1779.63	2.67	-7.88
356	SLU 75	25	-109	6265	1789.85	2.69	-8.32
356	SLU 76	25	-100	6269	1788.88	2.69	-8.53
356	SLU 77	23	-123	6261	1791.71	2.71	-7.69
356	SLU 78	24	-111	6306	1801.92	2.73	-8.13
356	SLU 79	22	-123	6234	1783.93	2.69	-7.61
356	SLU 80	24	-110	6279	1794.14	2.71	-8.05
356	SLU 81	23	-124	6382	1824.3	2.75	-7.99
356	SLU 82	25	-112	6426	1834.52	2.77	-8.43
356	SLU 83	23	-126	6422	1836.37	2.79	-7.8
356	SLU 84	24	-113	6466	1846.59	2.81	-8.24
356	SLE RA 1	18	-83	4205	1202.81	1.74	-6.02
356	SLE RA 2	19	-69	4254	1214.17	1.76	-6.51
356	SLE RA 3	18	-84	4249	1216.05	1.77	-5.95
356	SLE RA 4	19	-76	4279	1222.86	1.78	-6.24
356	SLE RA 5	19	-70	4281	1222.22	1.78	-6.38
356	SLE RA 6	17	-85	4276	1224.1	1.79	-5.82
356	SLE RA 7	18	-76	4306	1230.91	1.81	-6.11
356	SLE RA 8	17	-85	4258	1218.91	1.78	-5.76
356	SLE RA 9	18	-76	4288	1225.72	1.8	-6.05
356	SLE RA 10	19	-75	4608	1314.53	1.96	-6.5
356	SLE RA 11	17	-90	4603	1316.41	1.97	-5.94
356	SLE RA 12	18	-82	4633	1323.22	1.98	-6.23
356	SLE RA 13	19	-76	4635	1322.57	1.98	-6.37
356	SLE RA 14	17	-91	4630	1324.46	1.99	-5.81
356	SLE RA 15	18	-83	4659	1331.27	2.01	-6.11
356	SLE RA 16	17	-91	4612	1319.27	1.98	-5.76
356	SLE RA 17	18	-82	4642	1326.08	2	-6.05
356	SLE RA 18	18	-92	4710	1346.18	2.02	-6.01
356	SLE RA 19	19	-83	4740	1353	2.04	-6.3
356	SLE RA 20	17	-93	4737	1354.23	2.04	-5.88
356	SLE RA 21	18	-84	4767	1361.04	2.06	-6.18
356	SLE FR 1	18	-83	4205	1202.81	1.74	-6.02
356	SLE FR 2	18	-80	4215	1205.08	1.74	-6.12
356	SLE FR 3	18	-83	4216	1206.03	1.75	-5.97
356	SLE FR 4	18	-83	4366	1248.1	1.83	-6.11
356	SLE FR 5	18	-86	4367	1249.04	1.83	-5.97
356	SLE FR 6	18	-87	4457	1274.5	1.88	-6.02
356	SLE QP 1	18	-83	4205	1202.81	1.74	-6.02
356	SLE QP 2	18	-86	4356	1245.83	1.82	-6.02
356	SLD 1	445	77	4798	1352.59	2.94	-136.46
356	SLD 2	522	100	4822	1359.29	2.87	-159.82
356	SLD 3	420	-198	3654	1085.91	2.2	-128.4
356	SLD 4	497	-175	3678	1092.62	2.13	-151.76
356	SLD 5	171	376	6220	1681.15	3.28	-53.32
356	SLD 6	221	391	6235	1685.49	3.23	-68.44
356	SLD 7	87	-540	2406	792.23	0.84	-26.45
356	SLD 8	137	-525	2422	796.57	0.79	-41.57
356	SLD 9	-101	354	6291	1695.08	2.85	29.53
356	SLD 10	-51	369	6306	1699.42	2.81	14.42
356	SLD 11	-185	-562	2478	806.16	0.41	56.4
356	SLD 12	-135	-547	2493	810.5	0.37	41.29
356	SLD 13	-461	3	5035	1399.03	1.51	139.73
356	SLD 14	-384	27	5059	1405.74	1.44	116.37
356	SLD 15	-487	-271	3891	1132.36	0.78	147.79
356	SLD 16	-409	-248	3915	1139.06	0.71	124.43
356	SLV 1	687	186	5119	1429.51	3.61	-210.45
356	SLV 2	809	223	5157	1440.07	3.5	-247.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
356	SLV 3	644	-279	3186	978.82	2.37	-196.81
356	SLV 4	766	-242	3223	989.38	2.26	-233.59
356	SLV 5	261	693	7510	1982.51	4.26	-81.17
356	SLV 6	343	718	7536	1989.62	4.18	-105.93
356	SLV 7	118	-855	1066	480.2	0.13	-35.7
356	SLV 8	200	-830	1091	487.31	0.05	-60.47
356	SLV 9	-164	659	7621	2004.34	3.59	48.43
356	SLV 10	-82	684	7647	2011.45	3.52	23.67
356	SLV 11	-307	-889	1177	502.03	-0.54	93.9
356	SLV 12	-225	-864	1203	509.14	-0.61	69.13
356	SLV 13	-731	71	5489	1502.27	1.39	221.55
356	SLV 14	-609	108	5527	1512.83	1.28	184.77
356	SLV 15	-773	-394	3556	1051.58	0.15	235.19
356	SLV 16	-652	-357	3594	1062.14	0.04	198.41
356	SLV FO 1	754	213	5195	1447.88	3.79	-230.89
356	SLV FO 2	888	253	5237	1459.5	3.66	-271.35
356	SLV FO 3	707	-298	3068	952.12	2.42	-215.88
356	SLV FO 4	841	-258	3110	963.73	2.3	-256.34
356	SLV FO 5	285	771	7826	2056.18	4.5	-88.68
356	SLV FO 6	375	799	7854	2064	4.42	-115.92
356	SLV FO 7	128	-932	737	403.64	-0.04	-38.67
356	SLV FO 8	218	-904	765	411.46	-0.12	-65.91
356	SLV FO 9	-183	733	7948	2080.19	3.77	53.88
356	SLV FO 10	-92	761	7976	2088.01	3.69	26.64
356	SLV FO 11	-340	-970	859	427.65	-0.77	103.89
356	SLV FO 12	-250	-942	887	435.47	-0.86	76.65
356	SLV FO 13	-805	86	5603	1527.92	1.35	244.31
356	SLV FO 14	-671	127	5644	1539.53	1.22	203.85
356	SLV FO 15	-853	-425	3476	1032.15	-0.02	259.31
356	SLV FO 16	-719	-384	3518	1043.77	-0.14	218.85
356	CRTFP Ux+	0	0	0	0	0	0
356	CRTFP Ux-	0	0	0	0	0	0
356	CRTFP Uy+	0	0	0	0	0	0
356	CRTFP Uy-	0	0	0	0	0	0
357	SLU 1	18	-88	4006	1142.92	0.47	-6.1
357	SLU 2	21	-67	4079	1159.64	0.47	-6.84
357	SLU 3	18	-90	4071	1162.32	0.49	-5.99
357	SLU 4	19	-78	4115	1172.35	0.5	-6.44
357	SLU 5	20	-69	4118	1171.38	0.5	-6.65
357	SLU 6	17	-92	4110	1174.05	0.52	-5.8
357	SLU 7	19	-79	4154	1184.08	0.52	-6.24
357	SLU 8	17	-91	4084	1166.4	0.51	-5.71
357	SLU 9	18	-79	4128	1176.43	0.51	-6.16
357	SLU 10	20	-78	4602	1307.57	0.59	-6.85
357	SLU 11	18	-101	4593	1310.25	0.61	-6
357	SLU 12	19	-88	4637	1320.28	0.61	-6.45
357	SLU 13	20	-80	4641	1319.3	0.61	-6.66
357	SLU 14	17	-102	4632	1321.98	0.63	-5.81
357	SLU 15	18	-90	4676	1332.01	0.64	-6.25
357	SLU 16	17	-102	4606	1314.33	0.63	-5.72
357	SLU 17	18	-89	4650	1324.36	0.63	-6.17
357	SLU 18	18	-103	4752	1354.25	0.63	-6.11
357	SLU 19	19	-91	4796	1364.28	0.64	-6.55
357	SLU 20	17	-105	4791	1365.99	0.66	-5.92
357	SLU 21	19	-92	4835	1376.02	0.66	-6.36
357	SLU 22	20	-100	4551	1300.6	0.52	-6.75
357	SLU 23	22	-79	4624	1317.31	0.52	-7.49
357	SLU 24	20	-102	4616	1319.99	0.54	-6.65
357	SLU 25	21	-89	4660	1330.02	0.55	-7.09
357	SLU 26	22	-80	4663	1329.05	0.54	-7.3
357	SLU 27	19	-103	4655	1331.73	0.56	-6.45
357	SLU 28	21	-91	4699	1341.76	0.57	-6.9
357	SLU 29	19	-103	4629	1324.07	0.56	-6.37
357	SLU 30	20	-90	4673	1334.1	0.56	-6.81
357	SLU 31	22	-89	5147	1465.24	0.64	-7.5
357	SLU 32	20	-112	5139	1467.92	0.66	-6.66
357	SLU 33	21	-100	5183	1477.95	0.66	-7.1
357	SLU 34	22	-91	5186	1476.98	0.66	-7.31
357	SLU 35	19	-114	5178	1479.66	0.68	-6.46
357	SLU 36	20	-101	5222	1489.69	0.68	-6.91
357	SLU 37	19	-113	5152	1472	0.68	-6.38
357	SLU 38	20	-101	5196	1482.03	0.68	-6.82
357	SLU 39	20	-115	5298	1511.92	0.68	-6.77
357	SLU 40	21	-102	5342	1521.95	0.69	-7.21
357	SLU 41	19	-116	5337	1523.66	0.7	-6.57
357	SLU 42	21	-104	5381	1533.69	0.71	-7.02
357	SLU 43	23	-111	5020	1431.74	0.59	-7.7
357	SLU 44	25	-90	5094	1448.46	0.6	-8.44
357	SLU 45	23	-113	5085	1451.14	0.62	-7.59
357	SLU 46	24	-100	5129	1461.17	0.62	-8.04
357	SLU 47	25	-91	5133	1460.19	0.62	-8.25
357	SLU 48	22	-114	5124	1462.87	0.64	-7.4
357	SLU 49	23	-102	5168	1472.9	0.64	-7.85
357	SLU 50	22	-114	5098	1455.21	0.64	-7.31
357	SLU 51	23	-101	5142	1465.24	0.64	-7.76
357	SLU 52	25	-101	5616	1596.39	0.71	-8.45
357	SLU 53	22	-124	5608	1599.07	0.73	-7.6
357	SLU 54	24	-111	5652	1609.1	0.74	-8.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
357	SLU 55	24	-102	5655	1608.12	0.73	-8.26
357	SLU 56	22	-125	5647	1610.8	0.76	-7.41
357	SLU 57	23	-112	5691	1620.83	0.76	-7.86
357	SLU 58	22	-124	5621	1603.14	0.75	-7.32
357	SLU 59	23	-112	5665	1613.17	0.75	-7.77
357	SLU 60	23	-126	5767	1643.07	0.76	-7.71
357	SLU 61	24	-114	5811	1653.1	0.76	-8.16
357	SLU 62	22	-127	5806	1654.81	0.78	-7.52
357	SLU 63	23	-115	5850	1664.84	0.78	-7.97
357	SLU 64	25	-122	5566	1589.41	0.64	-8.36
357	SLU 65	27	-101	5639	1606.13	0.65	-9.1
357	SLU 66	25	-124	5631	1608.81	0.67	-8.25
357	SLU 67	26	-112	5675	1618.84	0.67	-8.7
357	SLU 68	27	-103	5678	1617.87	0.67	-8.91
357	SLU 69	24	-126	5670	1620.54	0.69	-8.06
357	SLU 70	25	-113	5714	1630.57	0.69	-8.5
357	SLU 71	24	-125	5644	1612.89	0.68	-7.97
357	SLU 72	25	-113	5688	1622.92	0.69	-8.42
357	SLU 73	27	-112	6162	1754.06	0.76	-9.11
357	SLU 74	24	-135	6153	1756.74	0.78	-8.26
357	SLU 75	26	-122	6197	1766.77	0.79	-8.71
357	SLU 76	26	-113	6201	1765.79	0.78	-8.92
357	SLU 77	24	-136	6192	1768.47	0.8	-8.07
357	SLU 78	25	-124	6237	1778.5	0.81	-8.51
357	SLU 79	23	-136	6166	1760.82	0.8	-7.98
357	SLU 80	25	-123	6210	1770.85	0.8	-8.43
357	SLU 81	25	-137	6312	1800.74	0.81	-8.37
357	SLU 82	26	-125	6356	1810.77	0.81	-8.81
357	SLU 83	24	-139	6351	1812.48	0.83	-8.18
357	SLU 84	25	-126	6395	1822.51	0.83	-8.62
357	SLE RA 1	19	-92	4161	1187.97	0.48	-6.28
357	SLE RA 2	20	-78	4210	1199.12	0.49	-6.78
357	SLE RA 3	18	-93	4205	1200.9	0.5	-6.21
357	SLE RA 4	19	-85	4234	1207.59	0.5	-6.51
357	SLE RA 5	20	-79	4236	1206.94	0.5	-6.65
357	SLE RA 6	18	-94	4231	1208.73	0.51	-6.08
357	SLE RA 7	19	-86	4260	1215.41	0.52	-6.38
357	SLE RA 8	18	-93	4213	1203.62	0.51	-6.03
357	SLE RA 9	19	-85	4243	1210.31	0.51	-6.32
357	SLE RA 10	20	-85	4559	1297.74	0.56	-6.78
357	SLE RA 11	18	-100	4553	1299.52	0.58	-6.22
357	SLE RA 12	19	-92	4583	1306.21	0.58	-6.52
357	SLE RA 13	20	-86	4585	1305.56	0.58	-6.66
357	SLE RA 14	18	-101	4579	1307.35	0.59	-6.09
357	SLE RA 15	19	-93	4609	1314.03	0.59	-6.39
357	SLE RA 16	18	-101	4562	1302.24	0.59	-6.03
357	SLE RA 17	19	-92	4591	1308.93	0.59	-6.33
357	SLE RA 18	19	-102	4659	1328.86	0.59	-6.29
357	SLE RA 19	20	-93	4688	1335.54	0.59	-6.59
357	SLE RA 20	18	-103	4685	1336.68	0.61	-6.16
357	SLE RA 21	19	-94	4715	1343.37	0.61	-6.46
357	SLE FR 1	19	-92	4161	1187.97	0.48	-6.28
357	SLE FR 2	19	-89	4171	1190.2	0.48	-6.38
357	SLE FR 3	19	-92	4172	1191.1	0.49	-6.23
357	SLE FR 4	19	-92	4320	1232.47	0.52	-6.39
357	SLE FR 5	19	-95	4321	1233.37	0.52	-6.23
357	SLE FR 6	19	-97	4410	1258.42	0.54	-6.29
357	SLE QP 1	19	-92	4161	1187.97	0.48	-6.28
357	SLE QP 2	19	-95	4311	1230.24	0.51	-6.29
357	SLD 1	447	70	4713	1325.83	1.51	-137.01
357	SLD 2	524	98	4740	1333.33	1.43	-160.42
357	SLD 3	421	-199	3589	1065.98	1.23	-128.84
357	SLD 4	498	-171	3616	1073.48	1.14	-152.26
357	SLD 5	173	359	6132	1651.73	1.26	-53.82
357	SLD 6	223	377	6150	1656.58	1.21	-68.97
357	SLD 7	87	-540	2384	785.55	0.31	-26.61
357	SLD 8	137	-522	2401	790.4	0.26	-41.76
357	SLD 9	-100	333	6220	1670.08	0.77	29.19
357	SLD 10	-50	351	6238	1674.93	0.72	14.04
357	SLD 11	-185	-566	2472	803.9	-0.18	56.4
357	SLD 12	-135	-548	2489	808.75	-0.23	41.25
357	SLD 13	-461	-18	5006	1387	-0.11	139.69
357	SLD 14	-383	10	5033	1394.5	-0.2	116.27
357	SLD 15	-487	-287	3881	1127.14	-0.4	147.85
357	SLD 16	-409	-260	3908	1134.64	-0.48	124.43
357	SLV 1	689	180	5011	1396.1	2.09	-211.15
357	SLV 2	811	224	5054	1407.91	1.96	-248.02
357	SLV 3	646	-275	3111	956.94	1.61	-197.34
357	SLV 4	768	-232	3153	968.75	1.48	-234.21
357	SLV 5	263	671	7395	1943.85	1.74	-81.81
357	SLV 6	345	700	7424	1951.8	1.66	-106.63
357	SLV 7	118	-848	1060	479.99	0.13	-35.78
357	SLV 8	200	-819	1089	487.93	0.05	-60.6
357	SLV 9	-163	630	7532	1972.54	0.98	48.02
357	SLV 10	-81	659	7561	1980.49	0.9	23.2
357	SLV 11	-308	-890	1198	508.67	-0.63	94.06
357	SLV 12	-226	-860	1226	516.62	-0.71	69.24
357	SLV 13	-730	43	5468	1491.73	-0.45	221.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
357	SLV 14	-608	86	5510	1503.54	-0.58	184.77
357	SLV 15	-774	-413	3568	1052.57	-0.93	235.45
357	SLV 16	-652	-370	3610	1064.38	-1.06	198.58
357	SLV FO 1	756	208	5081	1412.68	2.25	-231.64
357	SLV FO 2	890	256	5128	1425.67	2.1	-272.19
357	SLV FO 3	708	-293	2991	929.61	1.72	-216.45
357	SLV FO 4	842	-245	3038	942.6	1.57	-257
357	SLV FO 5	287	748	7704	2015.21	1.87	-89.36
357	SLV FO 6	378	780	7735	2023.96	1.77	-116.67
357	SLV FO 7	128	-924	735	404.96	0.1	-38.72
357	SLV FO 8	218	-891	767	413.7	0	-66.03
357	SLV FO 9	-181	702	7855	2046.77	1.03	53.46
357	SLV FO 10	-91	734	7886	2055.52	0.93	26.15
357	SLV FO 11	-340	-969	886	436.52	-0.74	104.09
357	SLV FO 12	-250	-937	918	445.26	-0.84	76.79
357	SLV FO 13	-805	56	5584	1517.88	-0.54	244.43
357	SLV FO 14	-671	104	5630	1530.87	-0.69	203.88
357	SLV FO 15	-853	-445	3493	1034.8	-1.07	259.62
357	SLV FO 16	-719	-397	3540	1047.79	-1.22	219.07
357	CRTFP Ux+	0	0	0	0	0	0
357	CRTFP Ux-	0	0	0	0	0	0
357	CRTFP Uy+	0	0	0	0	0	0
357	CRTFP Uy-	0	0	0	0	0	0
358	SLU 1	19	-97	4010	1144.31	-0.85	-6.36
358	SLU 2	21	-76	4084	1161.12	-0.88	-7.11
358	SLU 3	19	-99	4075	1163.52	-0.84	-6.26
358	SLU 4	20	-87	4119	1173.61	-0.86	-6.71
358	SLU 5	21	-78	4122	1172.68	-0.87	-6.92
358	SLU 6	18	-100	4113	1175.08	-0.83	-6.06
358	SLU 7	19	-88	4157	1185.17	-0.85	-6.51
358	SLU 8	18	-100	4087	1167.43	-0.83	-5.97
358	SLU 9	19	-88	4131	1177.52	-0.85	-6.42
358	SLU 10	21	-88	4606	1308.79	-0.96	-7.14
358	SLU 11	19	-111	4596	1311.19	-0.93	-6.28
358	SLU 12	20	-98	4641	1321.28	-0.94	-6.73
358	SLU 13	21	-90	4644	1320.35	-0.95	-6.94
358	SLU 14	18	-112	4635	1322.75	-0.92	-6.09
358	SLU 15	19	-100	4679	1332.84	-0.93	-6.54
358	SLU 16	18	-111	4609	1315.1	-0.91	-6
358	SLU 17	19	-99	4653	1325.19	-0.93	-6.45
358	SLU 18	19	-113	4755	1355.27	-0.96	-6.39
358	SLU 19	20	-101	4800	1365.35	-0.98	-6.85
358	SLU 20	18	-115	4794	1366.83	-0.96	-6.2
358	SLU 21	20	-103	4838	1376.91	-0.97	-6.65
358	SLU 22	21	-109	4557	1302.53	-1	-7.05
358	SLU 23	24	-89	4631	1319.34	-1.03	-7.81
358	SLU 24	21	-111	4622	1321.75	-1	-6.95
358	SLU 25	22	-99	4666	1331.83	-1.02	-7.41
358	SLU 26	23	-90	4669	1330.9	-1.02	-7.62
358	SLU 27	20	-113	4660	1333.31	-0.99	-6.76
358	SLU 28	22	-101	4705	1343.39	-1.01	-7.21
358	SLU 29	20	-112	4634	1325.65	-0.99	-6.67
358	SLU 30	21	-100	4678	1335.74	-1	-7.12
358	SLU 31	23	-100	5153	1467.01	-1.11	-7.83
358	SLU 32	21	-123	5143	1469.42	-1.08	-6.98
358	SLU 33	22	-111	5188	1479.5	-1.1	-7.43
358	SLU 34	23	-102	5191	1478.57	-1.1	-7.64
358	SLU 35	20	-124	5182	1480.98	-1.07	-6.79
358	SLU 36	21	-112	5226	1491.06	-1.09	-7.24
358	SLU 37	20	-124	5156	1473.32	-1.07	-6.69
358	SLU 38	21	-112	5200	1483.41	-1.09	-7.15
358	SLU 39	21	-126	5302	1513.49	-1.12	-7.09
358	SLU 40	22	-114	5347	1523.58	-1.14	-7.54
358	SLU 41	20	-127	5341	1525.05	-1.11	-6.9
358	SLU 42	22	-115	5385	1535.14	-1.13	-7.35
358	SLU 43	24	-121	5025	1433.36	-1.05	-8.02
358	SLU 44	26	-101	5099	1450.17	-1.08	-8.78
358	SLU 45	24	-124	5090	1452.57	-1.04	-7.92
358	SLU 46	25	-111	5134	1462.66	-1.06	-8.38
358	SLU 47	26	-103	5138	1461.73	-1.07	-8.59
358	SLU 48	23	-125	5129	1464.13	-1.04	-7.73
358	SLU 49	24	-113	5173	1474.22	-1.05	-8.18
358	SLU 50	23	-124	5102	1456.48	-1.03	-7.64
358	SLU 51	24	-112	5147	1466.56	-1.05	-8.09
358	SLU 52	26	-113	5621	1597.84	-1.16	-8.81
358	SLU 53	24	-135	5612	1600.24	-1.13	-7.95
358	SLU 54	25	-123	5656	1610.33	-1.14	-8.4
358	SLU 55	26	-114	5659	1609.4	-1.15	-8.61
358	SLU 56	23	-137	5650	1611.8	-1.12	-7.76
358	SLU 57	24	-125	5694	1621.89	-1.13	-8.21
358	SLU 58	23	-136	5624	1604.15	-1.11	-7.66
358	SLU 59	24	-124	5668	1614.23	-1.13	-8.12
358	SLU 60	24	-138	5771	1644.31	-1.16	-8.06
358	SLU 61	25	-126	5815	1654.4	-1.18	-8.51
358	SLU 62	23	-140	5809	1655.87	-1.16	-7.87
358	SLU 63	25	-127	5854	1665.96	-1.17	-8.32
358	SLU 64	26	-134	5573	1591.58	-1.2	-8.72
358	SLU 65	29	-114	5646	1608.39	-1.23	-9.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
358	SLU 66	26	-136	5637	1610.79	-1.2	-8.62
358	SLU 67	27	-124	5681	1620.88	-1.22	-9.07
358	SLU 68	28	-115	5685	1619.95	-1.22	-9.28
358	SLU 69	25	-138	5676	1622.35	-1.19	-8.43
358	SLU 70	27	-125	5720	1632.44	-1.21	-8.88
358	SLU 71	25	-137	5650	1614.7	-1.19	-8.34
358	SLU 72	26	-125	5694	1624.78	-1.2	-8.79
358	SLU 73	28	-125	6168	1756.06	-1.31	-9.5
358	SLU 74	26	-148	6159	1758.46	-1.28	-8.65
358	SLU 75	27	-135	6203	1768.55	-1.3	-9.1
358	SLU 76	28	-127	6207	1767.62	-1.31	-9.31
358	SLU 77	25	-149	6197	1770.02	-1.27	-8.45
358	SLU 78	26	-137	6242	1780.11	-1.29	-8.91
358	SLU 79	25	-149	6171	1762.37	-1.27	-8.36
358	SLU 80	26	-136	6216	1772.45	-1.29	-8.81
358	SLU 81	26	-151	6318	1802.53	-1.32	-8.76
358	SLU 82	27	-138	6362	1812.62	-1.34	-9.21
358	SLU 83	25	-152	6356	1814.09	-1.31	-8.57
358	SLU 84	27	-140	6401	1824.18	-1.33	-9.02
358	SLE RA 1	20	-100	4166	1189.52	-0.89	-6.56
358	SLE RA 2	21	-87	4216	1200.72	-0.91	-7.06
358	SLE RA 3	19	-102	4209	1202.33	-0.89	-6.49
358	SLE RA 4	20	-94	4239	1209.05	-0.9	-6.79
358	SLE RA 5	21	-88	4241	1208.43	-0.9	-6.93
358	SLE RA 6	19	-103	4235	1210.03	-0.88	-6.36
358	SLE RA 7	20	-95	4265	1216.76	-0.89	-6.66
358	SLE RA 8	19	-102	4218	1204.93	-0.88	-6.3
358	SLE RA 9	20	-94	4247	1211.65	-0.89	-6.6
358	SLE RA 10	21	-94	4563	1299.17	-0.96	-7.08
358	SLE RA 11	19	-109	4557	1300.77	-0.94	-6.51
358	SLE RA 12	20	-101	4587	1307.5	-0.95	-6.81
358	SLE RA 13	21	-95	4589	1306.88	-0.96	-6.95
358	SLE RA 14	19	-110	4583	1308.48	-0.94	-6.38
358	SLE RA 15	20	-102	4612	1315.2	-0.95	-6.68
358	SLE RA 16	19	-110	4565	1303.38	-0.93	-6.32
358	SLE RA 17	20	-102	4595	1310.1	-0.95	-6.62
358	SLE RA 18	20	-111	4663	1330.15	-0.97	-6.58
358	SLE RA 19	20	-103	4693	1336.88	-0.98	-6.88
358	SLE RA 20	19	-112	4689	1337.86	-0.96	-6.45
358	SLE RA 21	20	-104	4718	1344.59	-0.98	-6.75
358	SLE FR 1	20	-100	4166	1189.52	-0.89	-6.56
358	SLE FR 2	20	-98	4176	1191.76	-0.89	-6.66
358	SLE FR 3	19	-101	4177	1192.6	-0.89	-6.5
358	SLE FR 4	20	-101	4325	1233.95	-0.92	-6.66
358	SLE FR 5	19	-104	4326	1234.79	-0.91	-6.51
358	SLE FR 6	20	-106	4415	1259.84	-0.93	-6.57
358	SLE QP 1	20	-100	4166	1189.52	-0.89	-6.56
358	SLE QP 2	20	-104	4315	1231.71	-0.91	-6.56
358	SLD 1	448	64	4684	1317.61	-0.05	-137.55
358	SLD 2	525	96	4714	1326.09	-0.15	-161.02
358	SLD 3	422	-201	3561	1058.51	0.18	-129.28
358	SLD 4	499	-169	3591	1066.98	0.08	-152.75
358	SLD 5	174	343	6124	1648.98	-0.99	-54.33
358	SLD 6	224	363	6143	1654.46	-1.05	-69.51
358	SLD 7	87	-540	2381	785.3	-0.22	-26.77
358	SLD 8	137	-519	2400	790.79	-0.28	-41.95
358	SLD 9	-98	312	6230	1672.63	-1.55	28.83
358	SLD 10	-48	333	6250	1678.11	-1.61	13.64
358	SLD 11	-185	-570	2488	808.95	-0.78	56.38
358	SLD 12	-135	-550	2507	814.43	-0.84	41.2
358	SLD 13	-460	-38	5040	1396.43	-1.91	139.62
358	SLD 14	-383	-6	5070	1404.91	-2.01	116.16
358	SLD 15	-486	-303	3917	1137.33	-1.68	147.89
358	SLD 16	-409	-271	3947	1145.8	-1.78	124.42
358	SLV 1	691	175	4962	1382.42	0.42	-211.85
358	SLV 2	813	225	5010	1395.76	0.27	-248.8
358	SLV 3	647	-273	3065	944.53	0.81	-197.87
358	SLV 4	769	-222	3113	957.88	0.66	-234.81
358	SLV 5	265	649	7378	1938.56	-1.07	-82.47
358	SLV 6	347	683	7410	1947.54	-1.18	-107.35
358	SLV 7	118	-842	1054	478.94	0.22	-35.84
358	SLV 8	200	-808	1086	487.92	0.12	-60.72
358	SLV 9	-161	601	7545	1975.49	-1.95	47.59
358	SLV 10	-79	635	7577	1984.48	-2.05	22.72
358	SLV 11	-308	-890	1220	515.87	-0.65	94.22
358	SLV 12	-226	-856	1252	524.86	-0.76	69.34
358	SLV 13	-730	15	5518	1505.54	-2.49	221.69
358	SLV 14	-608	65	5566	1518.88	-2.64	184.74
358	SLV 15	-774	-432	3621	1067.65	-2.1	235.67
358	SLV 16	-652	-382	3668	1081	-2.25	198.73
358	SLV FO 1	758	203	5027	1397.49	0.56	-232.38
358	SLV FO 2	892	258	5079	1412.17	0.39	-273.03
358	SLV FO 3	710	-290	2940	915.82	0.99	-217
358	SLV FO 4	844	-234	2992	930.49	0.81	-257.64
358	SLV FO 5	290	724	7685	2009.24	-1.09	-90.06
358	SLV FO 6	380	762	7720	2019.12	-1.2	-117.42
358	SLV FO 7	128	-916	727	403.66	0.34	-38.77
358	SLV FO 8	218	-879	763	413.54	0.22	-66.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
358	SLV FO 9	-179	672	7868	2049.87	-2.05	53.01
358	SLV FO 10	-89	709	7903	2059.75	-2.16	25.64
358	SLV FO 11	-341	-969	911	444.29	-0.62	104.3
358	SLV FO 12	-250	-932	946	454.17	-0.74	76.93
358	SLV FO 13	-805	27	5639	1532.92	-2.64	244.51
358	SLV FO 14	-670	82	5691	1547.6	-2.81	203.87
358	SLV FO 15	-853	-465	3551	1051.25	-2.22	259.9
358	SLV FO 16	-719	-410	3604	1065.93	-2.39	219.26
358	CRTFP Ux+	0	0	0	0	0	0
358	CRTFP Ux-	0	0	0	0	0	0
358	CRTFP Uy+	0	0	0	0	0	0
358	CRTFP Uy-	0	0	0	0	0	0
359	SLU 1	20	-105	4056	1160.05	-1.94	-6.57
359	SLU 2	22	-85	4132	1177.38	-2	-7.33
359	SLU 3	20	-107	4121	1179.35	-1.95	-6.47
359	SLU 4	21	-95	4166	1189.74	-1.99	-6.93
359	SLU 5	22	-86	4170	1188.91	-2	-7.14
359	SLU 6	19	-109	4159	1190.88	-1.96	-6.27
359	SLU 7	20	-97	4205	1201.27	-1.99	-6.73
359	SLU 8	19	-108	4133	1183.12	-1.94	-6.18
359	SLU 9	20	-96	4178	1193.51	-1.98	-6.64
359	SLU 10	22	-97	4659	1326.94	-2.24	-7.37
359	SLU 11	19	-120	4648	1328.91	-2.2	-6.5
359	SLU 12	21	-108	4693	1339.3	-2.24	-6.96
359	SLU 13	22	-99	4697	1338.47	-2.25	-7.17
359	SLU 14	19	-121	4686	1340.44	-2.2	-6.31
359	SLU 15	20	-109	4732	1350.83	-2.24	-6.77
359	SLU 16	19	-120	4660	1332.68	-2.19	-6.21
359	SLU 17	20	-109	4705	1343.07	-2.23	-6.67
359	SLU 18	20	-123	4809	1373.71	-2.29	-6.62
359	SLU 19	21	-111	4855	1384.11	-2.33	-7.08
359	SLU 20	19	-124	4848	1385.24	-2.29	-6.42
359	SLU 21	21	-112	4893	1395.64	-2.33	-6.88
359	SLU 22	22	-118	4612	1321.03	-2.26	-7.3
359	SLU 23	25	-98	4687	1338.35	-2.32	-8.07
359	SLU 24	22	-120	4676	1340.32	-2.28	-7.2
359	SLU 25	23	-108	4722	1350.72	-2.31	-7.66
359	SLU 26	24	-100	4725	1349.88	-2.32	-7.87
359	SLU 27	21	-122	4715	1351.85	-2.28	-7.01
359	SLU 28	23	-110	4760	1362.25	-2.32	-7.47
359	SLU 29	21	-121	4688	1344.09	-2.27	-6.91
359	SLU 30	22	-109	4733	1354.49	-2.3	-7.37
359	SLU 31	24	-111	5214	1487.92	-2.57	-8.1
359	SLU 32	22	-133	5203	1489.88	-2.52	-7.24
359	SLU 33	23	-121	5249	1500.28	-2.56	-7.7
359	SLU 34	24	-112	5252	1499.45	-2.57	-7.91
359	SLU 35	21	-135	5242	1501.41	-2.53	-7.04
359	SLU 36	22	-123	5287	1511.81	-2.56	-7.5
359	SLU 37	21	-134	5215	1493.65	-2.51	-6.95
359	SLU 38	22	-122	5261	1504.05	-2.55	-7.41
359	SLU 39	22	-136	5365	1534.69	-2.61	-7.35
359	SLU 40	23	-124	5410	1545.08	-2.65	-7.81
359	SLU 41	21	-138	5403	1546.22	-2.62	-7.16
359	SLU 42	23	-126	5448	1556.61	-2.65	-7.62
359	SLU 43	25	-132	5083	1452.88	-2.41	-8.29
359	SLU 44	28	-112	5158	1470.2	-2.47	-9.05
359	SLU 45	25	-134	5148	1472.17	-2.42	-8.19
359	SLU 46	26	-122	5193	1482.57	-2.46	-8.65
359	SLU 47	27	-113	5196	1481.73	-2.47	-8.86
359	SLU 48	24	-135	5186	1483.7	-2.43	-7.99
359	SLU 49	26	-123	5231	1494.1	-2.46	-8.45
359	SLU 50	24	-135	5159	1475.94	-2.41	-7.9
359	SLU 51	25	-123	5205	1486.33	-2.45	-8.35
359	SLU 52	27	-124	5685	1619.77	-2.71	-9.09
359	SLU 53	25	-146	5675	1621.73	-2.67	-8.22
359	SLU 54	26	-135	5720	1632.13	-2.71	-8.68
359	SLU 55	27	-126	5724	1631.3	-2.72	-8.89
359	SLU 56	24	-148	5713	1633.26	-2.67	-8.03
359	SLU 57	25	-136	5758	1643.66	-2.71	-8.49
359	SLU 58	24	-147	5687	1625.5	-2.66	-7.93
359	SLU 59	25	-135	5732	1635.9	-2.7	-8.39
359	SLU 60	25	-150	5836	1666.54	-2.76	-8.34
359	SLU 61	26	-138	5881	1676.93	-2.8	-8.8
359	SLU 62	24	-151	5874	1678.07	-2.76	-8.14
359	SLU 63	26	-139	5919	1688.46	-2.8	-8.6
359	SLU 64	27	-145	5638	1613.85	-2.73	-9.02
359	SLU 65	30	-125	5713	1631.18	-2.79	-9.79
359	SLU 66	27	-147	5703	1633.15	-2.75	-8.92
359	SLU 67	28	-135	5748	1643.54	-2.78	-9.38
359	SLU 68	29	-127	5752	1642.71	-2.79	-9.59
359	SLU 69	26	-149	5741	1644.68	-2.75	-8.73
359	SLU 70	28	-137	5786	1655.07	-2.79	-9.19
359	SLU 71	26	-148	5715	1636.91	-2.74	-8.63
359	SLU 72	27	-136	5760	1647.31	-2.77	-9.09
359	SLU 73	30	-138	6241	1780.74	-3.04	-9.82
359	SLU 74	27	-160	6230	1782.71	-2.99	-8.96
359	SLU 75	28	-148	6275	1793.1	-3.03	-9.42
359	SLU 76	29	-139	6279	1792.27	-3.04	-9.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
359	SLU 77	26	-161	6268	1794.24	-3	-8.76
359	SLU 78	28	-149	6313	1804.63	-3.03	-9.22
359	SLU 79	26	-161	6242	1786.48	-2.98	-8.67
359	SLU 80	27	-149	6287	1796.87	-3.02	-9.13
359	SLU 81	27	-163	6391	1827.51	-3.08	-9.07
359	SLU 82	29	-151	6436	1837.91	-3.12	-9.53
359	SLU 83	27	-164	6429	1839.04	-3.09	-8.88
359	SLU 84	28	-153	6475	1849.44	-3.12	-9.34
359	SLE RA 1	21	-108	4215	1206.05	-2.03	-6.78
359	SLE RA 2	22	-95	4265	1217.6	-2.07	-7.29
359	SLE RA 3	20	-110	4258	1218.91	-2.04	-6.71
359	SLE RA 4	21	-102	4288	1225.84	-2.06	-7.02
359	SLE RA 5	22	-96	4291	1225.28	-2.07	-7.16
359	SLE RA 6	20	-111	4284	1226.6	-2.04	-6.58
359	SLE RA 7	21	-103	4314	1233.52	-2.07	-6.89
359	SLE RA 8	20	-111	4266	1221.42	-2.03	-6.52
359	SLE RA 9	21	-103	4296	1228.35	-2.06	-6.82
359	SLE RA 10	22	-104	4617	1317.3	-2.23	-7.31
359	SLE RA 11	20	-118	4610	1318.62	-2.2	-6.74
359	SLE RA 12	21	-111	4640	1325.55	-2.23	-7.04
359	SLE RA 13	22	-105	4642	1324.99	-2.24	-7.18
359	SLE RA 14	20	-120	4635	1326.3	-2.21	-6.61
359	SLE RA 15	21	-112	4665	1333.23	-2.23	-6.91
359	SLE RA 16	20	-119	4617	1321.13	-2.2	-6.54
359	SLE RA 17	21	-111	4648	1328.06	-2.22	-6.85
359	SLE RA 18	20	-121	4717	1348.49	-2.26	-6.81
359	SLE RA 19	21	-113	4747	1355.42	-2.29	-7.12
359	SLE RA 20	20	-122	4743	1356.17	-2.27	-6.68
359	SLE RA 21	21	-114	4773	1363.1	-2.29	-6.99
359	SLE FR 1	21	-108	4215	1206.05	-2.03	-6.78
359	SLE FR 2	21	-106	4225	1208.36	-2.04	-6.88
359	SLE FR 3	20	-109	4225	1209.12	-2.03	-6.73
359	SLE FR 4	21	-109	4376	1251.09	-2.11	-6.89
359	SLE FR 5	20	-113	4376	1251.85	-2.1	-6.74
359	SLE FR 6	20	-115	4466	1277.27	-2.15	-6.79
359	SLE QP 1	21	-108	4215	1206.05	-2.03	-6.78
359	SLE QP 2	21	-112	4366	1248.78	-2.1	-6.79
359	SLD 1	449	57	4703	1326.28	-1.33	-138.07
359	SLD 2	527	93	4738	1335.96	-1.45	-161.59
359	SLD 3	423	-203	3565	1061.86	-0.63	-129.7
359	SLD 4	500	-167	3599	1071.53	-0.75	-153.22
359	SLD 5	176	327	6187	1671.4	-2.92	-54.78
359	SLD 6	226	350	6209	1677.66	-2.99	-70
359	SLD 7	88	-540	2393	789.98	-0.57	-26.89
359	SLD 8	138	-516	2415	796.24	-0.65	-42.11
359	SLD 9	-97	292	6316	1701.32	-3.55	28.53
359	SLD 10	-47	316	6338	1707.58	-3.63	13.31
359	SLD 11	-185	-574	2522	819.9	-1.21	56.43
359	SLD 12	-135	-551	2544	826.16	-1.28	41.21
359	SLD 13	-459	-57	5132	1426.02	-3.45	139.65
359	SLD 14	-382	-21	5166	1435.7	-3.57	116.12
359	SLD 15	-486	-317	3994	1161.6	-2.75	148.02
359	SLD 16	-408	-281	4028	1171.28	-2.87	124.49
359	SLV 1	692	169	4966	1386.74	-0.95	-212.54
359	SLV 2	814	225	5020	1401.98	-1.13	-249.58
359	SLV 3	647	-270	3043	939.87	0.24	-198.38
359	SLV 4	770	-214	3096	955.11	0.05	-235.42
359	SLV 5	267	628	7453	1965.08	-3.52	-83.08
359	SLV 6	349	666	7489	1975.34	-3.65	-108.01
359	SLV 7	118	-836	1041	475.51	0.44	-35.88
359	SLV 8	200	-798	1077	485.77	0.31	-60.82
359	SLV 9	-159	574	7654	2011.79	-4.51	47.24
359	SLV 10	-77	612	7690	2022.05	-4.64	22.3
359	SLV 11	-308	-890	1242	522.22	-0.55	94.44
359	SLV 12	-226	-852	1278	532.48	-0.68	69.5
359	SLV 13	-729	-10	5635	1542.45	-4.25	221.85
359	SLV 14	-606	46	5688	1557.69	-4.44	184.8
359	SLV 15	-773	-450	3711	1095.58	-3.06	236.01
359	SLV 16	-651	-393	3765	1110.82	-3.25	198.96
359	SLV FO 1	759	197	5026	1400.54	-0.83	-233.12
359	SLV FO 2	894	259	5085	1417.3	-1.04	-273.86
359	SLV FO 3	710	-286	2910	908.98	0.47	-217.54
359	SLV FO 4	844	-224	2970	925.74	0.27	-258.29
359	SLV FO 5	292	702	7762	2036.71	-3.66	-90.7
359	SLV FO 6	382	744	7802	2047.99	-3.8	-118.14
359	SLV FO 7	128	-909	709	398.18	0.69	-38.79
359	SLV FO 8	218	-867	749	409.47	0.56	-66.22
359	SLV FO 9	-177	643	7982	2088.09	-4.75	52.64
359	SLV FO 10	-87	685	8022	2099.38	-4.89	25.21
359	SLV FO 11	-341	-968	929	449.56	-0.4	104.56
359	SLV FO 12	-251	-926	969	460.85	-0.53	77.13
359	SLV FO 13	-803	0	5762	1571.82	-4.47	244.71
359	SLV FO 14	-669	62	5821	1588.58	-4.67	203.96
359	SLV FO 15	-853	-483	3646	1080.26	-3.16	260.29
359	SLV FO 16	-718	-421	3705	1097.02	-3.36	219.54
359	CRTFP Ux+	0	0	0	0	0	0
359	CRTFP Ux-	0	0	0	0	0	0
359	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
359	CRTFP Uy-	0	0	0	0	0	0
423	SLU 1	-80	18	3184	83.61	-584.24	6.55
423	SLU 2	-83	36	3257	85.34	-598.4	11.03
423	SLU 3	-82	19	3242	85.17	-594.32	6.66
423	SLU 4	-83	29	3286	86.21	-602.82	9.35
423	SLU 5	-84	36	3293	86.32	-604.62	11.13
423	SLU 6	-83	19	3277	86.14	-600.54	6.76
423	SLU 7	-85	29	3322	87.18	-609.04	9.45
423	SLU 8	-82	19	3255	85.55	-596.67	6.75
423	SLU 9	-84	29	3299	86.59	-605.16	9.44
423	SLU 10	-89	39	3656	95.78	-670.2	11.99
423	SLU 11	-88	22	3641	95.6	-666.12	7.62
423	SLU 12	-90	32	3685	96.65	-674.61	10.31
423	SLU 13	-90	40	3692	96.75	-676.41	12.09
423	SLU 14	-89	22	3676	96.58	-672.33	7.73
423	SLU 15	-91	33	3721	97.62	-680.83	10.41
423	SLU 16	-89	22	3654	95.99	-668.46	7.72
423	SLU 17	-90	33	3699	97.03	-676.96	10.4
423	SLU 18	-89	23	3754	98.52	-686.8	7.92
423	SLU 19	-91	34	3798	99.56	-695.3	10.61
423	SLU 20	-90	23	3790	99.49	-693.01	8.02
423	SLU 21	-92	34	3834	100.53	-701.51	10.71
423	SLU 22	-91	20	3636	95.55	-664.86	7.23
423	SLU 23	-94	38	3709	97.28	-679.02	11.71
423	SLU 24	-93	20	3694	97.11	-674.94	7.34
423	SLU 25	-95	31	3738	98.15	-683.44	10.03
423	SLU 26	-95	38	3745	98.26	-685.24	11.81
423	SLU 27	-94	21	3730	98.08	-681.16	7.45
423	SLU 28	-96	31	3774	99.12	-689.65	10.13
423	SLU 29	-93	21	3708	97.49	-677.28	7.44
423	SLU 30	-95	31	3752	98.53	-685.78	10.12
423	SLU 31	-100	41	4108	107.72	-750.82	12.67
423	SLU 32	-99	23	4093	107.54	-746.73	8.3
423	SLU 33	-101	34	4137	108.59	-755.23	10.99
423	SLU 34	-101	41	4144	108.69	-757.03	12.77
423	SLU 35	-101	24	4129	108.52	-752.95	8.41
423	SLU 36	-102	34	4173	109.56	-761.45	11.1
423	SLU 37	-100	24	4107	107.93	-749.08	8.4
423	SLU 38	-102	34	4151	108.97	-757.58	11.08
423	SLU 39	-100	25	4206	110.46	-767.42	8.6
423	SLU 40	-102	35	4250	111.5	-775.92	11.29
423	SLU 41	-101	25	4242	111.43	-773.63	8.71
423	SLU 42	-103	35	4286	112.47	-782.13	11.39
423	SLU 43	-100	23	3984	104.6	-731.87	8.28
423	SLU 44	-103	41	4057	106.33	-746.03	12.76
423	SLU 45	-102	24	4042	106.16	-741.95	8.39
423	SLU 46	-104	34	4086	107.2	-750.45	11.08
423	SLU 47	-104	41	4093	107.31	-752.25	12.86
423	SLU 48	-103	24	4077	107.13	-748.17	8.5
423	SLU 49	-105	34	4122	108.17	-756.67	11.18
423	SLU 50	-102	24	4055	106.54	-744.3	8.48
423	SLU 51	-104	34	4099	107.58	-752.79	11.17
423	SLU 52	-109	44	4456	116.77	-817.83	13.72
423	SLU 53	-108	27	4441	116.59	-813.75	9.35
423	SLU 54	-110	37	4485	117.64	-822.24	12.04
423	SLU 55	-110	44	4492	117.74	-824.04	13.82
423	SLU 56	-109	27	4476	117.57	-819.96	9.46
423	SLU 57	-111	38	4521	118.61	-828.46	12.14
423	SLU 58	-109	27	4454	116.98	-816.09	9.45
423	SLU 59	-110	38	4499	118.02	-824.59	12.13
423	SLU 60	-109	28	4554	119.5	-834.43	9.65
423	SLU 61	-111	38	4598	120.55	-842.93	12.34
423	SLU 62	-110	28	4590	120.48	-840.64	9.76
423	SLU 63	-112	39	4634	121.52	-849.14	12.44
423	SLU 64	-111	25	4436	116.54	-812.49	8.96
423	SLU 65	-114	43	4509	118.27	-826.65	13.44
423	SLU 66	-113	25	4494	118.1	-822.57	9.07
423	SLU 67	-115	36	4538	119.14	-831.07	11.76
423	SLU 68	-115	43	4545	119.24	-832.87	13.54
423	SLU 69	-114	25	4530	119.07	-828.79	9.18
423	SLU 70	-116	36	4574	120.11	-837.29	11.87
423	SLU 71	-113	25	4508	118.48	-824.91	9.17
423	SLU 72	-115	36	4552	119.52	-833.41	11.85
423	SLU 73	-120	46	4908	128.71	-898.45	14.4
423	SLU 74	-119	28	4893	128.53	-894.36	10.04
423	SLU 75	-121	39	4937	129.58	-902.86	12.72
423	SLU 76	-122	46	4944	129.68	-904.66	14.5
423	SLU 77	-121	29	4929	129.51	-900.58	10.14
423	SLU 78	-122	39	4973	130.55	-909.08	12.83
423	SLU 79	-120	29	4907	128.92	-896.71	10.13
423	SLU 80	-122	39	4951	129.96	-905.21	12.82
423	SLU 81	-120	30	5006	131.44	-915.05	10.33
423	SLU 82	-122	40	5050	132.49	-923.55	13.02
423	SLU 83	-121	30	5042	132.42	-921.26	10.44
423	SLU 84	-123	40	5086	133.46	-929.76	13.12
423	SLE RA 1	-83	19	3313	87.02	-607.27	6.74
423	SLE RA 2	-85	31	3362	88.18	-616.72	9.73
423	SLE RA 3	-84	19	3351	88.06	-613.99	6.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
423	SLE RA 4	-85	26	3381	88.75	-619.66	8.61
423	SLE RA 5	-86	31	3386	88.82	-620.86	9.8
423	SLE RA 6	-85	19	3375	88.71	-618.14	6.89
423	SLE RA 7	-86	26	3405	89.4	-623.8	8.68
423	SLE RA 8	-85	19	3361	88.32	-615.56	6.88
423	SLE RA 9	-86	26	3390	89.01	-621.22	8.67
423	SLE RA 10	-89	33	3628	95.13	-664.58	10.37
423	SLE RA 11	-89	21	3617	95.02	-661.86	7.46
423	SLE RA 12	-90	28	3647	95.71	-667.52	9.25
423	SLE RA 13	-90	33	3652	95.78	-668.72	10.44
423	SLE RA 14	-89	21	3641	95.67	-666	7.53
423	SLE RA 15	-91	28	3671	96.36	-671.67	9.32
423	SLE RA 16	-89	21	3627	95.27	-663.42	7.52
423	SLE RA 17	-90	28	3656	95.97	-669.09	9.31
423	SLE RA 18	-89	22	3693	96.96	-675.65	7.66
423	SLE RA 19	-90	29	3722	97.65	-681.31	9.45
423	SLE RA 20	-90	22	3717	97.61	-679.79	7.73
423	SLE RA 21	-91	29	3746	98.3	-685.45	9.52
423	SLE FR 1	-83	19	3313	87.02	-607.27	6.74
423	SLE FR 2	-83	21	3323	87.25	-609.16	7.34
423	SLE FR 3	-83	19	3322	87.28	-608.93	6.77
423	SLE FR 4	-85	22	3437	90.23	-629.67	7.61
423	SLE FR 5	-85	20	3436	90.26	-629.44	7.04
423	SLE FR 6	-86	20	3503	91.99	-641.46	7.2
423	SLE QP 1	-83	19	3313	87.02	-607.27	6.74
423	SLE QP 2	-85	20	3427	90	-627.78	7.02
423	SLD 1	152	153	4943	128.4	-898.98	35.52
423	SLD 2	202	63	4854	126.29	-882.47	11.98
423	SLD 3	189	-78	3904	103.65	-704.84	-22.82
423	SLD 4	240	-167	3815	101.54	-688.33	-46.37
423	SLD 5	-79	424	5473	139.42	-1006.45	108.15
423	SLD 6	-47	367	5415	138.06	-995.77	92.91
423	SLD 7	46	-343	2010	56.92	-359.32	-86.34
423	SLD 8	78	-401	1952	55.56	-348.64	-101.58
423	SLD 9	-248	441	4901	124.44	-906.93	115.61
423	SLD 10	-215	383	4844	123.08	-896.25	100.38
423	SLD 11	-123	-327	1438	41.94	-259.8	-78.88
423	SLD 12	-90	-385	1381	40.58	-249.12	-94.11
423	SLD 13	-409	207	3038	78.46	-567.24	60.4
423	SLD 14	-359	117	2949	76.35	-550.73	36.86
423	SLD 15	-372	-24	1999	53.71	-373.1	2.06
423	SLD 16	-321	-113	1910	51.61	-356.59	-21.49
423	SLV 1	283	242	5861	151.52	-1063.58	55.41
423	SLV 2	362	102	5720	148.21	-1037.59	18.34
423	SLV 3	346	-147	4105	109.71	-735.59	-43.18
423	SLV 4	426	-288	3965	106.4	-709.6	-80.26
423	SLV 5	-85	703	6845	172.5	-1260.83	177.99
423	SLV 6	-32	609	6751	170.27	-1243.33	153.03
423	SLV 7	126	-595	994	33.11	-167.53	-150.66
423	SLV 8	179	-689	900	30.88	-150.03	-175.62
423	SLV 9	-349	729	5954	149.12	-1105.54	189.66
423	SLV 10	-295	634	5859	146.89	-1088.04	164.69
423	SLV 11	-138	-569	103	9.73	-12.24	-138.99
423	SLV 12	-84	-664	8	7.5	5.26	-163.96
423	SLV 13	-595	327	2888	73.6	-545.97	94.29
423	SLV 14	-516	186	2748	70.29	-519.97	57.22
423	SLV 15	-532	-62	1133	31.79	-217.98	-4.3
423	SLV 16	-453	-203	993	28.48	-191.98	-41.38
423	SLV FO 1	320	265	6104	157.68	-1107.16	60.25
423	SLV FO 2	407	110	5950	154.04	-1078.57	19.47
423	SLV FO 3	389	-164	4173	111.68	-746.38	-48.2
423	SLV FO 4	477	-318	4019	108.04	-717.78	-88.99
423	SLV FO 5	-85	772	7187	180.75	-1324.13	195.09
423	SLV FO 6	-26	667	7083	178.3	-1304.88	167.63
423	SLV FO 7	147	-656	751	27.42	-121.5	-166.43
423	SLV FO 8	205	-760	647	24.97	-102.25	-193.88
423	SLV FO 9	-375	800	6206	155.03	-1153.32	207.92
423	SLV FO 10	-316	695	6103	152.58	-1134.07	180.46
423	SLV FO 11	-143	-628	-230	1.71	49.31	-153.6
423	SLV FO 12	-84	-732	-334	-0.75	68.56	-181.05
423	SLV FO 13	-646	358	2835	71.96	-537.78	103.02
423	SLV FO 14	-559	203	2680	68.32	-509.19	62.24
423	SLV FO 15	-577	-71	904	25.97	-176.99	-5.43
423	SLV FO 16	-489	-225	749	22.32	-148.4	-46.22
423	CRTFP Ux+	0	0	0	0	0	0
423	CRTFP Ux-	0	0	0	0	0	0
423	CRTFP Uy+	0	0	0	0	0	0
423	CRTFP Uy-	0	0	0	0	0	0
426	SLU 1	-119	-48	5578	150.81	-37.74	-0.25
426	SLU 2	-125	-21	5693	153.57	-37.05	-0.23
426	SLU 3	-122	-49	5673	153.45	-38.57	-0.25
426	SLU 4	-126	-32	5742	155.11	-38.15	-0.24
426	SLU 5	-127	-21	5751	155.21	-37.61	-0.24
426	SLU 6	-124	-49	5731	155.09	-39.13	-0.25
426	SLU 7	-127	-33	5800	156.74	-38.71	-0.24
426	SLU 8	-123	-49	5695	154.09	-38.86	-0.25
426	SLU 9	-126	-33	5764	155.74	-38.45	-0.25
426	SLU 10	-134	-25	6425	173.32	-43.19	-0.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
426	SLU 11	-131	-53	6405	173.2	-44.71	-0.42
426	SLU 12	-134	-37	6474	174.86	-44.29	-0.41
426	SLU 13	-136	-26	6483	174.96	-43.75	-0.41
426	SLU 14	-133	-54	6463	174.84	-45.27	-0.42
426	SLU 15	-136	-38	6532	176.49	-44.85	-0.41
426	SLU 16	-132	-54	6427	173.84	-45	-0.42
426	SLU 17	-135	-37	6496	175.49	-44.59	-0.42
426	SLU 18	-132	-54	6624	179.03	-46.51	-0.49
426	SLU 19	-135	-38	6693	180.68	-46.1	-0.48
426	SLU 20	-134	-55	6682	180.67	-47.07	-0.49
426	SLU 21	-137	-39	6751	182.32	-46.66	-0.49
426	SLU 22	-136	-54	6368	172.37	-43.6	-0.29
426	SLU 23	-142	-26	6483	175.13	-42.91	-0.28
426	SLU 24	-139	-55	6462	175.01	-44.43	-0.29
426	SLU 25	-143	-38	6531	176.67	-44.01	-0.29
426	SLU 26	-144	-27	6541	176.77	-43.47	-0.28
426	SLU 27	-141	-55	6521	176.65	-44.98	-0.3
426	SLU 28	-144	-39	6590	178.3	-44.57	-0.29
426	SLU 29	-140	-55	6484	175.65	-44.72	-0.3
426	SLU 30	-143	-39	6553	177.3	-44.31	-0.29
426	SLU 31	-151	-31	7215	194.88	-49.05	-0.45
426	SLU 32	-148	-59	7195	194.76	-50.57	-0.46
426	SLU 33	-151	-43	7263	196.42	-50.15	-0.46
426	SLU 34	-153	-32	7273	196.52	-49.61	-0.45
426	SLU 35	-150	-60	7253	196.4	-51.12	-0.47
426	SLU 36	-153	-44	7322	198.05	-50.71	-0.46
426	SLU 37	-149	-59	7216	195.4	-50.86	-0.47
426	SLU 38	-152	-43	7285	197.05	-50.45	-0.46
426	SLU 39	-149	-60	7414	200.59	-52.37	-0.53
426	SLU 40	-152	-44	7483	202.24	-51.96	-0.53
426	SLU 41	-151	-61	7472	202.23	-52.93	-0.54
426	SLU 42	-154	-44	7541	203.88	-52.52	-0.53
426	SLU 43	-149	-60	6981	188.66	-47.06	-0.3
426	SLU 44	-155	-33	7096	191.42	-46.37	-0.29
426	SLU 45	-152	-61	7075	191.3	-47.88	-0.31
426	SLU 46	-156	-45	7144	192.96	-47.47	-0.3
426	SLU 47	-157	-33	7154	193.06	-46.93	-0.3
426	SLU 48	-154	-62	7134	192.94	-48.44	-0.31
426	SLU 49	-157	-45	7203	194.59	-48.03	-0.3
426	SLU 50	-153	-61	7097	191.94	-48.18	-0.31
426	SLU 51	-156	-45	7166	193.59	-47.76	-0.3
426	SLU 52	-164	-37	7828	211.17	-52.51	-0.46
426	SLU 53	-161	-65	7808	211.06	-54.02	-0.48
426	SLU 54	-164	-49	7876	212.71	-53.61	-0.47
426	SLU 55	-165	-38	7886	212.81	-53.07	-0.47
426	SLU 56	-163	-66	7866	212.69	-54.58	-0.48
426	SLU 57	-166	-50	7935	214.35	-54.17	-0.47
426	SLU 58	-161	-66	7829	211.69	-54.32	-0.48
426	SLU 59	-165	-50	7898	213.34	-53.9	-0.47
426	SLU 60	-162	-66	8027	216.88	-55.83	-0.55
426	SLU 61	-165	-50	8096	218.53	-55.42	-0.54
426	SLU 62	-163	-67	8085	218.52	-56.39	-0.55
426	SLU 63	-167	-51	8154	220.17	-55.97	-0.54
426	SLU 64	-166	-66	7771	210.22	-52.92	-0.35
426	SLU 65	-172	-39	7885	212.98	-52.23	-0.34
426	SLU 66	-169	-67	7865	212.86	-53.74	-0.35
426	SLU 67	-173	-51	7934	214.52	-53.33	-0.34
426	SLU 68	-174	-39	7944	214.62	-52.79	-0.34
426	SLU 69	-171	-68	7923	214.5	-54.3	-0.35
426	SLU 70	-174	-51	7992	216.15	-53.89	-0.35
426	SLU 71	-170	-67	7887	213.5	-54.03	-0.36
426	SLU 72	-173	-51	7956	215.15	-53.62	-0.35
426	SLU 73	-181	-43	8618	232.73	-58.37	-0.51
426	SLU 74	-178	-71	8597	232.62	-59.88	-0.52
426	SLU 75	-181	-55	8666	234.27	-59.47	-0.51
426	SLU 76	-183	-44	8676	234.37	-58.93	-0.51
426	SLU 77	-180	-72	8655	234.25	-60.44	-0.52
426	SLU 78	-183	-56	8724	235.91	-60.03	-0.52
426	SLU 79	-179	-72	8619	233.25	-60.17	-0.53
426	SLU 80	-182	-55	8688	234.9	-59.76	-0.52
426	SLU 81	-179	-72	8817	238.44	-61.69	-0.59
426	SLU 82	-182	-56	8885	240.09	-61.27	-0.59
426	SLU 83	-181	-73	8875	240.08	-62.25	-0.6
426	SLU 84	-184	-57	8944	241.73	-61.83	-0.59
426	SLE RA 1	-124	-49	5804	156.97	-39.42	-0.26
426	SLE RA 2	-128	-31	5880	158.81	-38.96	-0.25
426	SLE RA 3	-126	-50	5867	158.73	-39.97	-0.26
426	SLE RA 4	-128	-39	5913	159.83	-39.69	-0.26
426	SLE RA 5	-129	-32	5919	159.9	-39.33	-0.25
426	SLE RA 6	-127	-50	5906	159.82	-40.34	-0.26
426	SLE RA 7	-130	-40	5952	160.93	-40.06	-0.26
426	SLE RA 8	-127	-50	5882	159.16	-40.16	-0.26
426	SLE RA 9	-129	-39	5927	160.26	-39.89	-0.26
426	SLE RA 10	-134	-34	6368	171.98	-43.05	-0.36
426	SLE RA 11	-132	-53	6355	171.9	-44.06	-0.37
426	SLE RA 12	-134	-42	6401	173	-43.78	-0.37
426	SLE RA 13	-135	-35	6407	173.07	-43.42	-0.37
426	SLE RA 14	-133	-53	6394	172.99	-44.43	-0.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
426	SLE RA 15	-135	-43	6440	174.09	-44.16	-0.37
426	SLE RA 16	-132	-53	6370	172.32	-44.26	-0.38
426	SLE RA 17	-135	-42	6415	173.43	-43.98	-0.37
426	SLE RA 18	-133	-54	6501	175.78	-45.26	-0.42
426	SLE RA 19	-135	-43	6547	176.89	-44.99	-0.42
426	SLE RA 20	-134	-54	6540	176.88	-45.64	-0.42
426	SLE RA 21	-136	-43	6586	177.98	-45.36	-0.42
426	SLE FR 1	-124	-49	5804	156.97	-39.42	-0.26
426	SLE FR 2	-125	-46	5819	157.34	-39.33	-0.26
426	SLE FR 3	-125	-49	5819	157.41	-39.57	-0.26
426	SLE FR 4	-127	-47	6028	162.98	-41.08	-0.31
426	SLE FR 5	-127	-51	6029	163.05	-41.32	-0.31
426	SLE FR 6	-128	-51	6152	166.38	-42.34	-0.34
426	SLE QP 1	-124	-49	5804	156.97	-39.42	-0.26
426	SLE QP 2	-127	-51	6013	162.62	-41.17	-0.31
426	SLD 1	375	116	7465	199.3	-24.46	-14.32
426	SLD 2	475	44	7379	197.2	-26.18	-15.71
426	SLD 3	429	-230	5826	159.7	-27.86	-14.52
426	SLD 4	529	-302	5740	157.61	-29.58	-15.91
426	SLD 5	-75	537	8949	234.04	-30.71	-3.97
426	SLD 6	-11	490	8893	232.69	-31.82	-4.87
426	SLD 7	105	-617	3486	102.05	-42.03	-4.63
426	SLD 8	169	-664	3431	100.69	-43.15	-5.53
426	SLD 9	-423	563	8595	224.54	-39.2	4.91
426	SLD 10	-358	516	8540	223.18	-40.31	4.02
426	SLD 11	-243	-591	3133	92.55	-50.52	4.25
426	SLD 12	-178	-638	3077	91.19	-51.64	3.36
426	SLD 13	-782	201	6286	167.62	-52.77	15.29
426	SLD 14	-682	129	6200	165.53	-54.48	13.91
426	SLD 15	-728	-145	4647	128.03	-56.16	15.09
426	SLD 16	-628	-217	4561	125.93	-57.88	13.71
426	SLV 1	655	232	8385	222.44	-14.88	-22.22
426	SLV 2	812	118	8250	219.14	-17.58	-24.4
426	SLV 3	745	-353	5616	155.52	-20.6	-22.55
426	SLV 4	903	-467	5481	152.22	-23.31	-24.73
426	SLV 5	-59	943	10950	282.67	-24.1	-5.97
426	SLV 6	47	866	10859	280.45	-25.92	-7.44
426	SLV 7	243	-1007	1719	59.61	-43.17	-7.07
426	SLV 8	349	-1084	1628	57.39	-45	-8.54
426	SLV 9	-603	983	10398	267.84	-37.35	7.93
426	SLV 10	-497	906	10307	265.62	-39.17	6.46
426	SLV 11	-300	-967	1167	44.78	-56.42	6.83
426	SLV 12	-194	-1044	1076	42.56	-58.24	5.36
426	SLV 13	-1156	365	6545	173.01	-59.04	24.12
426	SLV 14	-999	252	6410	169.71	-61.74	21.93
426	SLV 15	-1065	-220	3776	106.09	-64.76	23.79
426	SLV 16	-908	-333	3641	102.8	-67.47	21.6
426	SLV FO 1	733	261	8622	228.42	-12.25	-24.41
426	SLV FO 2	906	135	8474	224.79	-15.22	-26.81
426	SLV FO 3	833	-383	5576	154.81	-18.54	-24.77
426	SLV FO 4	1006	-508	5428	151.18	-21.52	-27.17
426	SLV FO 5	-53	1042	11443	294.67	-22.39	-6.54
426	SLV FO 6	64	958	11344	292.23	-24.4	-8.16
426	SLV FO 7	280	-1103	1290	49.31	-43.37	-7.75
426	SLV FO 8	397	-1187	1190	46.87	-45.38	-9.36
426	SLV FO 9	-650	1086	10836	278.36	-36.96	8.75
426	SLV FO 10	-534	1002	10736	275.92	-38.97	7.13
426	SLV FO 11	-317	-1059	683	33	-57.95	7.54
426	SLV FO 12	-201	-1143	583	30.56	-59.95	5.93
426	SLV FO 13	-1259	407	6598	174.05	-60.82	26.56
426	SLV FO 14	-1086	282	6450	170.42	-63.8	24.16
426	SLV FO 15	-1159	-236	3552	100.44	-67.12	26.2
426	SLV FO 16	-986	-362	3404	96.81	-70.1	23.79
426	CRTFP Ux+	0	0	0	0	0	0
426	CRTFP Ux-	0	0	0	0	0	0
426	CRTFP Uy+	0	0	0	0	0	0
426	CRTFP Uy-	0	0	0	0	0	0
429	SLU 1	42	-82	5618	152.03	41.17	-0.05
429	SLU 2	46	-55	5737	154.92	40.43	-0.04
429	SLU 3	42	-84	5705	154.47	42.12	-0.04
429	SLU 4	45	-67	5776	156.2	41.68	-0.03
429	SLU 5	45	-56	5787	156.32	41.11	-0.01
429	SLU 6	42	-85	5754	155.87	42.81	-0.01
429	SLU 7	44	-68	5826	157.61	42.36	0
429	SLU 8	41	-84	5717	154.84	42.54	0
429	SLU 9	43	-68	5788	156.57	42.1	0.01
429	SLU 10	48	-63	6465	174.55	46.28	0.11
429	SLU 11	44	-93	6433	174.11	47.98	0.11
429	SLU 12	46	-76	6504	175.84	47.54	0.12
429	SLU 13	47	-64	6514	175.96	46.97	0.14
429	SLU 14	43	-94	6482	175.51	48.67	0.13
429	SLU 15	45	-77	6554	177.24	48.22	0.15
429	SLU 16	42	-93	6444	174.48	48.4	0.15
429	SLU 17	45	-76	6516	176.21	47.95	0.16
429	SLU 18	44	-95	6658	180.08	49.54	0.15
429	SLU 19	47	-78	6729	181.81	49.09	0.16
429	SLU 20	44	-95	6707	181.49	50.22	0.18
429	SLU 21	46	-79	6779	183.22	49.78	0.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
429	SLU 22	48	-92	6400	173.41	47.17	-0.04
429	SLU 23	51	-65	6520	176.3	46.43	-0.02
429	SLU 24	48	-94	6487	175.85	48.13	-0.02
429	SLU 25	50	-77	6559	177.58	47.68	-0.01
429	SLU 26	51	-66	6569	177.7	47.11	0
429	SLU 27	47	-95	6537	177.25	48.81	0
429	SLU 28	49	-78	6608	178.99	48.37	0.01
429	SLU 29	46	-94	6499	176.22	48.54	0.01
429	SLU 30	48	-78	6571	177.95	48.1	0.02
429	SLU 31	53	-73	7248	195.93	52.29	0.12
429	SLU 32	49	-103	7215	195.49	53.98	0.12
429	SLU 33	51	-86	7287	197.22	53.54	0.13
429	SLU 34	52	-74	7297	197.34	52.97	0.15
429	SLU 35	48	-103	7264	196.89	54.67	0.15
429	SLU 36	50	-87	7336	198.62	54.23	0.16
429	SLU 37	48	-103	7227	195.86	54.4	0.16
429	SLU 38	50	-86	7298	197.59	53.96	0.17
429	SLU 39	50	-104	7440	201.46	55.54	0.17
429	SLU 40	52	-88	7512	203.2	55.09	0.18
429	SLU 41	49	-105	7489	202.87	56.23	0.19
429	SLU 42	51	-89	7561	204.6	55.78	0.21
429	SLU 43	53	-104	7035	190.31	51.46	-0.08
429	SLU 44	57	-76	7154	193.19	50.72	-0.06
429	SLU 45	53	-105	7122	192.75	52.42	-0.06
429	SLU 46	55	-89	7194	194.48	51.97	-0.05
429	SLU 47	56	-77	7204	194.6	51.4	-0.03
429	SLU 48	53	-106	7171	194.15	53.1	-0.03
429	SLU 49	55	-90	7243	195.88	52.66	-0.02
429	SLU 50	52	-106	7134	193.12	52.83	-0.02
429	SLU 51	54	-89	7205	194.85	52.39	-0.01
429	SLU 52	58	-84	7882	212.83	56.58	0.09
429	SLU 53	55	-114	7850	212.38	58.28	0.09
429	SLU 54	57	-97	7921	214.12	57.83	0.1
429	SLU 55	58	-85	7932	214.24	57.26	0.12
429	SLU 56	54	-115	7899	213.79	58.96	0.11
429	SLU 57	56	-98	7971	215.52	58.52	0.12
429	SLU 58	53	-114	7862	212.75	58.69	0.12
429	SLU 59	56	-97	7933	214.49	58.25	0.14
429	SLU 60	55	-116	8075	218.36	59.83	0.13
429	SLU 61	58	-99	8147	220.09	59.38	0.14
429	SLU 62	55	-117	8124	219.77	60.52	0.16
429	SLU 63	57	-100	8196	221.5	60.07	0.17
429	SLU 64	59	-114	7818	211.69	57.46	-0.06
429	SLU 65	62	-86	7937	214.58	56.72	-0.04
429	SLU 66	59	-115	7904	214.13	58.42	-0.05
429	SLU 67	61	-99	7976	215.86	57.97	-0.03
429	SLU 68	62	-87	7986	215.98	57.41	-0.02
429	SLU 69	58	-116	7954	215.53	59.11	-0.02
429	SLU 70	60	-100	8025	217.26	58.66	-0.01
429	SLU 71	57	-116	7916	214.5	58.84	-0.01
429	SLU 72	59	-99	7988	216.23	58.39	0
429	SLU 73	64	-94	8665	234.21	62.58	0.1
429	SLU 74	60	-124	8632	233.76	64.28	0.1
429	SLU 75	62	-107	8704	235.5	63.83	0.11
429	SLU 76	63	-95	8714	235.62	63.27	0.13
429	SLU 77	59	-125	8682	235.17	64.96	0.13
429	SLU 78	61	-108	8753	236.9	64.52	0.14
429	SLU 79	59	-124	8644	234.14	64.7	0.14
429	SLU 80	61	-107	8716	235.87	64.25	0.15
429	SLU 81	61	-126	8857	239.74	65.83	0.15
429	SLU 82	63	-109	8929	241.47	65.39	0.16
429	SLU 83	60	-127	8907	241.15	66.52	0.17
429	SLU 84	62	-110	8978	242.88	66.07	0.18
429	SLE RA 1	44	-85	5842	158.14	42.88	-0.05
429	SLE RA 2	46	-67	5921	160.06	42.39	-0.04
429	SLE RA 3	44	-86	5899	159.76	43.52	-0.04
429	SLE RA 4	45	-75	5947	160.92	43.22	-0.03
429	SLE RA 5	46	-67	5954	161	42.85	-0.02
429	SLE RA 6	43	-87	5932	160.7	43.98	-0.02
429	SLE RA 7	45	-76	5980	161.86	43.68	-0.01
429	SLE RA 8	43	-87	5907	160.01	43.8	-0.01
429	SLE RA 9	44	-75	5955	161.17	43.5	-0.01
429	SLE RA 10	47	-72	6406	173.15	46.29	0.06
429	SLE RA 11	45	-92	6385	172.86	47.43	0.06
429	SLE RA 12	46	-81	6432	174.01	47.13	0.06
429	SLE RA 13	47	-73	6439	174.09	46.75	0.08
429	SLE RA 14	44	-93	6418	173.79	47.88	0.08
429	SLE RA 15	46	-82	6465	174.95	47.59	0.08
429	SLE RA 16	44	-92	6392	173.1	47.7	0.08
429	SLE RA 17	45	-81	6440	174.26	47.41	0.09
429	SLE RA 18	45	-93	6535	176.84	48.46	0.09
429	SLE RA 19	47	-82	6582	177.99	48.17	0.1
429	SLE RA 20	45	-94	6568	177.78	48.92	0.11
429	SLE RA 21	46	-83	6615	178.93	48.62	0.11
429	SLE FR 1	44	-85	5842	158.14	42.88	-0.05
429	SLE FR 2	44	-82	5857	158.52	42.78	-0.05
429	SLE FR 3	44	-86	5855	158.51	43.07	-0.04
429	SLE FR 4	45	-84	6065	164.13	44.46	-0.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
429	SLE FR 5	44	-88	6063	164.12	44.74	0
429	SLE FR 6	45	-89	6188	167.49	45.67	0.02
429	SLE QP 1	44	-85	5842	158.14	42.88	-0.05
429	SLE QP 2	44	-88	6049	163.75	44.56	-0.01
429	SLD 1	614	120	6274	168.04	54.38	-14.39
429	SLD 2	715	191	6361	170.17	52.39	-15.98
429	SLD 3	573	-249	4568	126.41	57.59	-14.59
429	SLD 4	674	-178	4655	128.55	55.6	-16.19
429	SLD 5	259	521	8690	227.8	42.98	-3.73
429	SLD 6	325	567	8746	229.18	41.69	-4.76
429	SLD 7	124	-707	3002	89.04	53.68	-4.42
429	SLD 8	189	-661	3058	90.42	52.39	-5.45
429	SLD 9	-100	486	9041	237.08	36.72	5.43
429	SLD 10	-35	532	9097	238.45	35.43	4.4
429	SLD 11	-236	-742	3353	98.32	47.42	4.74
429	SLD 12	-171	-696	3409	99.7	46.13	3.71
429	SLD 13	-585	2	7444	198.95	33.51	16.17
429	SLD 14	-484	73	7531	201.08	31.52	14.58
429	SLD 15	-626	-366	5738	157.33	36.72	15.96
429	SLD 16	-525	-295	5824	159.46	34.73	14.37
429	SLV 1	937	260	6511	173.14	59.72	-22.49
429	SLV 2	1096	372	6648	176.49	56.58	-24.99
429	SLV 3	868	-363	3627	102.8	65.13	-22.83
429	SLV 4	1028	-251	3764	106.16	61.99	-25.33
429	SLV 5	387	940	10536	272.62	41.48	-5.76
429	SLV 6	494	1015	10628	274.88	39.37	-7.45
429	SLV 7	157	-1135	924	38.16	59.52	-6.91
429	SLV 8	265	-1060	1016	40.42	57.41	-8.59
429	SLV 9	-176	885	11083	287.08	31.7	8.58
429	SLV 10	-68	960	11175	289.34	29.59	6.89
429	SLV 11	-406	-1191	1471	52.62	49.74	7.43
429	SLV 12	-298	-1115	1563	54.88	47.63	5.75
429	SLV 13	-939	76	8335	221.34	27.12	25.32
429	SLV 14	-779	188	8472	224.7	23.99	22.81
429	SLV 15	-1008	-547	5451	151.01	32.53	24.97
429	SLV 16	-848	-435	5588	154.36	29.4	22.47
429	SLV FO 1	1026	294	6557	174.08	61.23	-24.73
429	SLV FO 2	1202	418	6707	177.77	57.78	-27.49
429	SLV FO 3	950	-391	3385	96.7	67.19	-25.11
429	SLV FO 4	1126	-267	3535	100.4	63.74	-27.87
429	SLV FO 5	421	1043	10984	283.5	41.17	-6.34
429	SLV FO 6	539	1126	11086	285.99	38.85	-8.2
429	SLV FO 7	168	-1240	411	25.6	61.02	-7.6
429	SLV FO 8	287	-1157	513	28.09	58.7	-9.45
429	SLV FO 9	-198	982	11586	299.41	30.42	9.43
429	SLV FO 10	-80	1065	11688	301.9	28.1	7.58
429	SLV FO 11	-451	-1301	1013	41.51	50.26	8.18
429	SLV FO 12	-332	-1218	1115	43.99	47.94	6.32
429	SLV FO 13	-1037	92	8564	227.1	25.38	27.85
429	SLV FO 14	-862	215	8714	230.79	21.93	25.09
429	SLV FO 15	-1113	-593	5392	149.73	31.33	27.47
429	SLV FO 16	-937	-470	5542	153.42	27.88	24.71
429	CRTFP Ux+	0	0	0	0	0	0
429	CRTFP Ux-	0	0	0	0	0	0
429	CRTFP Uy+	0	0	0	0	0	0
429	CRTFP Uy-	0	0	0	0	0	0
432	SLU 1	46	31	3513	93.32	918.33	-12.01
432	SLU 2	48	52	3594	95.26	940.86	-19.16
432	SLU 3	46	32	3566	94.79	931.38	-12.37
432	SLU 4	47	44	3615	95.96	944.89	-16.66
432	SLU 5	48	53	3622	96.04	947.54	-19.54
432	SLU 6	46	33	3594	95.58	938.06	-12.75
432	SLU 7	47	46	3643	96.74	951.58	-17.04
432	SLU 8	45	33	3568	94.89	931.7	-12.77
432	SLU 9	47	46	3617	96.05	945.21	-17.06
432	SLU 10	51	55	4031	106.79	1052.51	-20.59
432	SLU 11	49	36	4002	106.33	1043.03	-13.8
432	SLU 12	50	48	4051	107.49	1056.54	-18.1
432	SLU 13	51	57	4058	107.57	1059.19	-20.97
432	SLU 14	49	37	4030	107.11	1049.71	-14.19
432	SLU 15	50	49	4079	108.27	1063.23	-18.48
432	SLU 16	48	37	4004	106.42	1043.35	-14.2
432	SLU 17	50	50	4053	107.58	1056.86	-18.5
432	SLU 18	50	37	4136	109.8	1077.83	-14.05
432	SLU 19	51	49	4185	110.96	1091.35	-18.35
432	SLU 20	50	38	4164	110.58	1084.52	-14.44
432	SLU 21	51	50	4213	111.74	1098.03	-18.73
432	SLU 22	51	34	3996	106.24	1040.76	-13.02
432	SLU 23	54	54	4078	108.17	1063.28	-20.17
432	SLU 24	52	35	4049	107.71	1053.8	-13.38
432	SLU 25	53	47	4098	108.87	1067.32	-17.67
432	SLU 26	54	55	4105	108.95	1069.97	-20.55
432	SLU 27	52	36	4077	108.49	1060.49	-13.76
432	SLU 28	53	48	4126	109.65	1074	-18.05
432	SLU 29	51	36	4051	107.8	1054.12	-13.78
432	SLU 30	53	48	4100	108.96	1067.64	-18.07
432	SLU 31	57	58	4514	119.71	1174.93	-21.6
432	SLU 32	55	39	4486	119.24	1165.45	-14.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
432	SLU 33	56	51	4535	120.4	1178.97	-19.11
432	SLU 34	57	59	4542	120.49	1181.61	-21.98
432	SLU 35	55	40	4513	120.02	1172.13	-15.2
432	SLU 36	56	52	4562	121.19	1185.65	-19.49
432	SLU 37	54	40	4488	119.33	1165.77	-15.21
432	SLU 38	56	52	4537	120.5	1179.29	-19.51
432	SLU 39	56	39	4619	122.71	1200.26	-15.06
432	SLU 40	57	52	4668	123.88	1213.77	-19.36
432	SLU 41	56	40	4647	123.5	1206.94	-15.45
432	SLU 42	57	53	4696	124.66	1220.45	-19.74
432	SLU 43	57	40	4401	116.89	1151.86	-15.26
432	SLU 44	59	60	4482	118.83	1174.39	-22.42
432	SLU 45	58	41	4454	118.36	1164.91	-15.63
432	SLU 46	59	53	4503	119.52	1178.42	-19.92
432	SLU 47	59	61	4510	119.61	1181.07	-22.8
432	SLU 48	58	42	4482	119.14	1171.59	-16.01
432	SLU 49	59	54	4531	120.31	1185.1	-20.3
432	SLU 50	57	42	4456	118.45	1165.23	-16.03
432	SLU 51	58	54	4505	119.62	1178.74	-20.32
432	SLU 52	63	64	4919	130.36	1286.04	-23.85
432	SLU 53	61	45	4890	129.9	1276.56	-17.06
432	SLU 54	62	57	4940	131.06	1290.07	-21.35
432	SLU 55	62	65	4947	131.14	1292.72	-24.23
432	SLU 56	61	46	4918	130.68	1283.24	-17.44
432	SLU 57	62	58	4967	131.84	1296.75	-21.73
432	SLU 58	60	46	4892	129.99	1276.88	-17.46
432	SLU 59	61	58	4942	131.15	1290.39	-21.75
432	SLU 60	62	45	5024	133.37	1311.36	-17.31
432	SLU 61	63	58	5073	134.53	1324.88	-21.6
432	SLU 62	62	46	5052	134.15	1318.04	-17.69
432	SLU 63	63	59	5101	135.31	1331.56	-21.98
432	SLU 64	63	42	4884	129.8	1274.28	-16.27
432	SLU 65	65	63	4966	131.74	1296.81	-23.43
432	SLU 66	64	43	4937	131.28	1287.33	-16.64
432	SLU 67	65	55	4986	132.44	1300.84	-20.93
432	SLU 68	65	64	4993	132.52	1303.49	-23.81
432	SLU 69	64	44	4965	132.06	1294.01	-17.02
432	SLU 70	65	57	5014	133.22	1307.53	-21.31
432	SLU 71	63	45	4939	131.37	1287.65	-17.04
432	SLU 72	64	57	4988	132.53	1301.16	-21.33
432	SLU 73	68	67	5402	143.28	1408.46	-24.86
432	SLU 74	67	47	5374	142.81	1398.98	-18.07
432	SLU 75	68	59	5423	143.97	1412.49	-22.36
432	SLU 76	68	68	5430	144.06	1415.14	-25.24
432	SLU 77	67	48	5401	143.59	1405.66	-18.45
432	SLU 78	68	61	5450	144.76	1419.18	-22.74
432	SLU 79	66	48	5376	142.9	1399.3	-18.47
432	SLU 80	67	61	5425	144.06	1412.81	-22.76
432	SLU 81	67	48	5508	146.28	1433.78	-18.32
432	SLU 82	69	60	5557	147.44	1447.3	-22.61
432	SLU 83	67	49	5535	147.06	1440.47	-18.7
432	SLU 84	69	61	5584	148.23	1453.98	-22.99
432	SLE RA 1	47	32	3651	97.01	953.31	-12.3
432	SLE RA 2	49	46	3705	98.3	968.33	-17.06
432	SLE RA 3	48	33	3686	97.99	962.01	-12.54
432	SLE RA 4	49	41	3719	98.77	971.02	-15.4
432	SLE RA 5	49	46	3724	98.82	972.78	-17.32
432	SLE RA 6	48	33	3705	98.51	966.46	-12.79
432	SLE RA 7	48	42	3737	99.29	975.47	-15.65
432	SLE RA 8	47	33	3688	98.05	962.22	-12.81
432	SLE RA 9	48	42	3720	98.83	971.23	-15.67
432	SLE RA 10	51	48	3996	105.99	1042.76	-18.02
432	SLE RA 11	50	35	3977	105.68	1036.44	-13.49
432	SLE RA 12	51	43	4010	106.46	1045.45	-16.35
432	SLE RA 13	51	49	4015	106.51	1047.22	-18.27
432	SLE RA 14	50	36	3996	106.2	1040.9	-13.75
432	SLE RA 15	50	44	4028	106.98	1049.91	-16.61
432	SLE RA 16	49	36	3979	105.74	1036.66	-13.76
432	SLE RA 17	50	44	4011	106.52	1045.67	-16.62
432	SLE RA 18	50	36	4066	108	1059.65	-13.66
432	SLE RA 19	51	44	4099	108.77	1068.66	-16.52
432	SLE RA 20	50	36	4085	108.52	1064.1	-13.91
432	SLE RA 21	51	45	4118	109.29	1073.11	-16.78
432	SLE FR 1	47	32	3651	97.01	953.31	-12.3
432	SLE FR 2	48	35	3662	97.27	956.32	-13.25
432	SLE FR 3	47	32	3658	97.22	955.09	-12.4
432	SLE FR 4	48	36	3786	100.56	988.22	-13.66
432	SLE FR 5	48	33	3783	100.52	986.99	-12.81
432	SLE FR 6	49	34	3859	102.5	1006.48	-12.98
432	SLE QP 1	47	32	3651	97.01	953.31	-12.3
432	SLE QP 2	48	33	3775	100.31	985.21	-12.7
432	SLD 1	379	84	3298	86.39	876.71	-53.84
432	SLD 2	439	187	3396	88.74	902.4	-91.4
432	SLD 3	342	-181	2145	58.86	570.51	39.47
432	SLD 4	402	-78	2243	61.2	596.2	1.91
432	SLD 5	193	431	5364	137.49	1412.61	-160.04
432	SLD 6	231	498	5427	139.01	1429.23	-184.34
432	SLD 7	70	-450	1520	45.7	391.95	150.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
432	SLD 8	109	-383	1584	47.22	408.57	126.68
432	SLD 9	-13	449	5967	153.39	1561.86	-152.09
432	SLD 10	26	516	6030	154.91	1578.48	-176.39
432	SLD 11	-135	-432	2123	61.61	541.2	158.93
432	SLD 12	-96	-365	2187	63.12	557.82	134.63
432	SLD 13	-306	144	5307	139.41	1374.22	-27.32
432	SLD 14	-246	247	5406	141.76	1399.91	-64.88
432	SLD 15	-343	-121	4154	111.87	1068.02	65.99
432	SLD 16	-283	-18	4253	114.22	1093.71	28.43
432	SLV 1	568	128	3104	80.37	835.57	-82.86
432	SLV 2	662	290	3259	84.06	876.02	-142
432	SLV 3	506	-319	1156	33.85	318.3	74.85
432	SLV 4	600	-157	1311	37.54	358.75	15.71
432	SLV 5	281	709	6499	164.19	1717.3	-261.91
432	SLV 6	344	818	6604	166.68	1744.54	-301.72
432	SLV 7	74	-781	6	9.12	-6.94	263.79
432	SLV 8	137	-671	111	11.61	20.29	223.98
432	SLV 9	-41	738	7440	189	1950.14	-249.39
432	SLV 10	23	847	7544	191.49	1977.37	-289.2
432	SLV 11	-248	-752	947	33.94	225.89	276.31
432	SLV 12	-184	-643	1051	36.42	253.12	236.5
432	SLV 13	-504	223	6239	163.07	1611.68	-41.12
432	SLV 14	-410	385	6395	166.77	1652.13	-100.26
432	SLV 15	-566	-224	4291	116.56	1094.4	116.59
432	SLV 16	-472	-62	4447	120.25	1134.85	57.45
432	SLV FO 1	620	138	3037	78.37	820.61	-89.88
432	SLV FO 2	724	316	3208	82.43	865.1	-154.93
432	SLV FO 3	552	-354	894	27.2	251.6	83.6
432	SLV FO 4	655	-175	1065	31.26	296.1	18.55
432	SLV FO 5	304	777	6772	170.58	1790.51	-286.83
432	SLV FO 6	374	897	6887	173.31	1820.47	-330.63
432	SLV FO 7	76	-862	-371	0.01	-106.16	291.44
432	SLV FO 8	146	-742	-256	2.74	-76.2	247.65
432	SLV FO 9	-50	808	7806	197.87	2046.63	-273.06
432	SLV FO 10	20	928	7921	200.61	2076.58	-316.85
432	SLV FO 11	-277	-831	664	27.3	149.96	305.22
432	SLV FO 12	-208	-711	779	30.03	179.91	261.42
432	SLV FO 13	-559	242	6486	169.35	1674.33	-43.96
432	SLV FO 14	-455	420	6656	173.41	1718.82	-109.01
432	SLV FO 15	-627	-250	4343	118.18	1105.32	129.52
432	SLV FO 16	-524	-71	4514	122.24	1149.82	64.47
432	CRTFP Ux+	0	0	0	0	0	0
432	CRTFP Ux-	0	0	0	0	0	0
432	CRTFP Uy+	0	0	0	0	0	0
432	CRTFP Uy-	0	0	0	0	0	0
434	SLU 1	14	-36	3417	92.14	1044.71	12.1
434	SLU 2	16	-17	3478	93.56	1063.18	5.51
434	SLU 3	14	-37	3476	93.78	1062.47	12.45
434	SLU 4	15	-26	3512	94.63	1073.55	8.49
434	SLU 5	15	-18	3514	94.57	1074.04	5.79
434	SLU 6	13	-38	3512	94.79	1073.34	12.73
434	SLU 7	14	-27	3548	95.64	1084.42	8.78
434	SLU 8	13	-38	3489	94.16	1066.44	12.67
434	SLU 9	14	-26	3525	95.01	1077.52	8.71
434	SLU 10	16	-22	3935	105.85	1202.1	7.01
434	SLU 11	14	-41	3934	106.07	1201.39	13.95
434	SLU 12	15	-30	3970	106.92	1212.47	9.99
434	SLU 13	15	-23	3972	106.86	1212.96	7.29
434	SLU 14	13	-42	3970	107.08	1212.25	14.23
434	SLU 15	14	-31	4006	107.93	1223.33	10.28
434	SLU 16	13	-42	3947	106.45	1205.36	14.17
434	SLU 17	14	-31	3983	107.3	1216.44	10.21
434	SLU 18	14	-42	4071	109.7	1243.16	14.24
434	SLU 19	15	-31	4107	110.55	1254.24	10.29
434	SLU 20	13	-43	4107	110.71	1254.03	14.53
434	SLU 21	14	-32	4143	111.56	1265.11	10.57
434	SLU 22	15	-41	3886	104.91	1186.12	13.74
434	SLU 23	17	-22	3947	106.33	1204.59	7.15
434	SLU 24	15	-42	3945	106.55	1203.88	14.09
434	SLU 25	16	-31	3982	107.4	1214.97	10.13
434	SLU 26	17	-23	3983	107.34	1215.46	7.43
434	SLU 27	15	-43	3981	107.56	1214.75	14.38
434	SLU 28	16	-32	4018	108.41	1225.83	10.42
434	SLU 29	14	-43	3958	106.93	1207.85	14.31
434	SLU 30	15	-31	3995	107.78	1218.93	10.36
434	SLU 31	17	-27	4405	118.62	1343.51	8.65
434	SLU 32	15	-46	4403	118.84	1342.8	15.59
434	SLU 33	16	-35	4440	119.69	1353.88	11.63
434	SLU 34	17	-27	4441	119.63	1354.37	8.93
434	SLU 35	15	-47	4439	119.85	1353.67	15.87
434	SLU 36	16	-36	4476	120.7	1364.75	11.92
434	SLU 37	14	-47	4416	119.22	1346.77	15.81
434	SLU 38	15	-36	4453	120.07	1357.85	11.86
434	SLU 39	15	-47	4540	122.47	1384.57	15.88
434	SLU 40	16	-36	4577	123.32	1395.66	11.93
434	SLU 41	15	-48	4577	123.48	1395.44	16.17
434	SLU 42	16	-37	4613	124.33	1406.52	12.21
434	SLU 43	18	-45	4281	115.41	1309.64	15.16

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
434	SLU 44	19	-27	4342	116.83	1328.11	8.57
434	SLU 45	17	-46	4340	117.05	1327.4	15.51
434	SLU 46	18	-35	4376	117.9	1338.48	11.56
434	SLU 47	19	-27	4378	117.84	1338.97	8.86
434	SLU 48	17	-47	4376	118.05	1338.27	15.8
434	SLU 49	18	-36	4412	118.91	1349.35	11.85
434	SLU 50	17	-47	4353	117.43	1331.37	15.74
434	SLU 51	18	-36	4389	118.28	1342.45	11.78
434	SLU 52	19	-31	4799	129.12	1467.02	10.07
434	SLU 53	17	-51	4798	129.34	1466.32	17.01
434	SLU 54	18	-39	4834	130.19	1477.4	13.06
434	SLU 55	19	-32	4836	130.13	1477.89	10.36
434	SLU 56	17	-51	4834	130.35	1477.18	17.3
434	SLU 57	18	-40	4870	131.2	1488.26	13.35
434	SLU 58	17	-51	4811	129.72	1470.28	17.24
434	SLU 59	18	-40	4847	130.57	1481.37	13.28
434	SLU 60	18	-51	4935	132.97	1508.09	17.31
434	SLU 61	19	-40	4971	133.82	1519.17	13.35
434	SLU 62	17	-52	4971	133.98	1518.96	17.59
434	SLU 63	18	-41	5007	134.83	1530.04	13.64
434	SLU 64	19	-50	4750	128.18	1451.05	16.8
434	SLU 65	21	-31	4811	129.6	1469.52	10.21
434	SLU 66	19	-51	4809	129.82	1468.81	17.16
434	SLU 67	20	-40	4846	130.67	1479.89	13.2
434	SLU 68	20	-32	4847	130.61	1480.39	10.5
434	SLU 69	18	-52	4845	130.83	1479.68	17.44
434	SLU 70	19	-41	4882	131.68	1490.76	13.49
434	SLU 71	18	-52	4822	130.2	1472.78	17.38
434	SLU 72	19	-40	4859	131.05	1483.86	13.42
434	SLU 73	21	-36	5269	141.89	1608.44	11.71
434	SLU 74	19	-55	5267	142.11	1607.73	18.66
434	SLU 75	20	-44	5304	142.96	1618.81	14.7
434	SLU 76	20	-37	5305	142.9	1619.3	12
434	SLU 77	18	-56	5303	143.12	1618.59	18.94
434	SLU 78	19	-45	5340	143.97	1629.68	14.99
434	SLU 79	18	-56	5280	142.49	1611.7	18.88
434	SLU 80	19	-45	5317	143.34	1622.78	14.92
434	SLU 81	19	-56	5404	145.74	1649.5	18.95
434	SLU 82	20	-45	5441	146.59	1660.59	14.99
434	SLU 83	19	-57	5441	146.75	1660.37	19.23
434	SLU 84	20	-46	5477	147.6	1671.45	15.28
434	SLE RA 1	14	-38	3551	95.79	1085.11	12.57
434	SLE RA 2	16	-25	3591	96.74	1097.43	8.17
434	SLE RA 3	14	-38	3590	96.88	1096.96	12.8
434	SLE RA 4	15	-31	3615	97.45	1104.34	10.16
434	SLE RA 5	15	-26	3616	97.41	1104.67	8.36
434	SLE RA 6	14	-39	3614	97.56	1104.2	12.99
434	SLE RA 7	15	-31	3639	98.12	1111.59	10.35
434	SLE RA 8	14	-39	3599	97.14	1099.6	12.95
434	SLE RA 9	14	-31	3623	97.7	1106.99	10.31
434	SLE RA 10	15	-28	3897	104.93	1190.04	9.17
434	SLE RA 11	14	-41	3895	105.08	1189.57	13.8
434	SLE RA 12	15	-34	3920	105.65	1196.95	11.16
434	SLE RA 13	15	-28	3921	105.61	1197.28	9.36
434	SLE RA 14	14	-42	3920	105.75	1196.81	13.99
434	SLE RA 15	15	-34	3944	106.32	1204.2	11.35
434	SLE RA 16	14	-41	3904	105.33	1192.21	13.95
434	SLE RA 17	14	-34	3929	105.9	1199.6	11.31
434	SLE RA 18	14	-42	3987	107.5	1217.42	13.99
434	SLE RA 19	15	-34	4011	108.07	1224.8	11.36
434	SLE RA 20	14	-42	4011	108.17	1224.66	14.18
434	SLE RA 21	15	-35	4035	108.74	1232.05	11.55
434	SLE FR 1	14	-38	3551	95.79	1085.11	12.57
434	SLE FR 2	15	-35	3559	95.98	1087.58	11.69
434	SLE FR 3	14	-38	3560	96.06	1088.01	12.64
434	SLE FR 4	15	-36	3690	99.49	1127.27	12.12
434	SLE FR 5	14	-39	3691	99.57	1127.7	13.07
434	SLE FR 6	14	-40	3769	101.65	1151.26	13.28
434	SLE QP 1	14	-38	3551	95.79	1085.11	12.57
434	SLE QP 2	14	-39	3682	99.3	1124.8	12.99
434	SLD 1	349	74	4136	110.89	1276.08	-36.39
434	SLD 2	408	77	4146	111.15	1278.09	-39.14
434	SLD 3	330	-164	3178	88.34	983.79	47.04
434	SLD 4	389	-160	3188	88.6	985.81	44.29
434	SLD 5	133	355	5269	136.93	1613.14	-127.88
434	SLD 6	172	357	5276	137.1	1614.44	-129.66
434	SLD 7	70	-437	2076	61.77	638.85	150.22
434	SLD 8	108	-435	2082	61.94	640.15	148.44
434	SLD 9	-79	357	5281	136.67	1609.45	-122.45
434	SLD 10	-41	359	5288	136.84	1610.76	-124.23
434	SLD 11	-143	-434	2088	61.51	635.17	155.65
434	SLD 12	-105	-432	2094	61.68	636.47	153.87
434	SLD 13	-360	83	4175	110	1263.8	-18.3
434	SLD 14	-301	86	4185	110.27	1265.81	-21.05
434	SLD 15	-379	-155	3217	87.46	971.52	65.13
434	SLD 16	-320	-151	3227	87.72	973.53	62.38
434	SLV 1	538	152	4451	118.89	1380.32	-69.53
434	SLV 2	631	157	4467	119.3	1383.48	-73.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
434	SLV 3	506	-250	2832	80.78	886.34	71.44
434	SLV 4	599	-244	2848	81.2	889.51	67.11
434	SLV 5	203	626	6365	162.9	1950.06	-224.75
434	SLV 6	266	630	6376	163.18	1952.19	-227.67
434	SLV 7	95	-712	968	35.87	303.49	245.14
434	SLV 8	158	-708	979	36.16	305.62	242.22
434	SLV 9	-129	630	6384	162.45	1943.99	-216.23
434	SLV 10	-67	634	6395	162.73	1946.12	-219.15
434	SLV 11	-237	-707	988	35.43	297.42	253.66
434	SLV 12	-175	-703	998	35.71	299.55	250.74
434	SLV 13	-570	167	4516	117.41	1360.1	-41.13
434	SLV 14	-477	172	4531	117.83	1363.26	-45.45
434	SLV 15	-603	-235	2897	79.3	866.13	99.84
434	SLV 16	-509	-229	2912	79.72	869.29	95.51
434	SLV FO 1	591	171	4528	120.84	1405.87	-77.78
434	SLV FO 2	693	177	4545	121.3	1409.35	-82.54
434	SLV FO 3	555	-271	2747	78.93	862.5	77.29
434	SLV FO 4	657	-265	2764	79.39	865.98	72.53
434	SLV FO 5	222	692	6633	169.25	2032.58	-248.53
434	SLV FO 6	291	696	6645	169.56	2034.92	-251.73
434	SLV FO 7	103	-779	697	29.53	221.36	268.35
434	SLV FO 8	172	-775	709	29.84	223.7	265.14
434	SLV FO 9	-144	697	6655	168.77	2025.91	-239.16
434	SLV FO 10	-75	701	6666	169.08	2028.25	-242.36
434	SLV FO 11	-262	-774	718	29.04	214.68	277.72
434	SLV FO 12	-193	-770	730	29.35	217.03	274.52
434	SLV FO 13	-629	187	4599	119.22	1383.63	-46.54
434	SLV FO 14	-526	193	4616	119.68	1387.11	-51.3
434	SLV FO 15	-664	-254	2818	77.3	840.26	108.53
434	SLV FO 16	-562	-248	2835	77.76	843.74	103.77
434	CRTFP Ux+	0	0	0	0	0	0
434	CRTFP Ux-	0	0	0	0	0	0
434	CRTFP Uy+	0	0	0	0	0	0
434	CRTFP Uy-	0	0	0	0	0	0
437	SLU 1	-81	20	3502	-5.79	-535.78	4.48
437	SLU 2	-83	40	3574	-6.23	-547.33	9.6
437	SLU 3	-83	20	3568	-5.83	-545.06	4.53
437	SLU 4	-84	32	3611	-6.1	-552	7.61
437	SLU 5	-85	41	3615	-6.25	-553.09	9.68
437	SLU 6	-84	20	3608	-5.85	-550.83	4.6
437	SLU 7	-85	33	3652	-6.11	-557.76	7.68
437	SLU 8	-83	20	3584	-5.82	-547.3	4.62
437	SLU 9	-85	33	3627	-6.09	-554.23	7.7
437	SLU 10	-90	44	4012	-7.01	-611.87	10.45
437	SLU 11	-89	24	4005	-6.6	-609.6	5.38
437	SLU 12	-90	36	4048	-6.87	-616.53	8.45
437	SLU 13	-91	44	4052	-7.02	-617.63	10.52
437	SLU 14	-90	24	4046	-6.62	-615.36	5.45
437	SLU 15	-92	36	4089	-6.88	-622.29	8.52
437	SLU 16	-89	24	4021	-6.59	-611.84	5.47
437	SLU 17	-91	36	4064	-6.86	-618.77	8.54
437	SLU 18	-89	25	4127	-6.89	-627.97	5.69
437	SLU 19	-91	37	4170	-7.16	-634.9	8.76
437	SLU 20	-91	25	4168	-6.91	-633.73	5.76
437	SLU 21	-92	37	4211	-7.17	-640.66	8.83
437	SLU 22	-92	21	4003	-6.48	-608.91	4.82
437	SLU 23	-95	42	4075	-6.93	-620.46	9.95
437	SLU 24	-94	22	4068	-6.52	-618.19	4.88
437	SLU 25	-95	34	4112	-6.79	-625.13	7.95
437	SLU 26	-96	42	4116	-6.94	-626.22	10.02
437	SLU 27	-95	22	4109	-6.54	-623.95	4.95
437	SLU 28	-97	34	4153	-6.8	-630.89	8.02
437	SLU 29	-94	22	4085	-6.51	-620.43	4.97
437	SLU 30	-96	34	4128	-6.78	-627.36	8.04
437	SLU 31	-101	45	4512	-7.7	-685	10.8
437	SLU 32	-100	25	4506	-7.29	-682.73	5.72
437	SLU 33	-102	38	4549	-7.56	-689.66	8.8
437	SLU 34	-102	46	4553	-7.71	-690.76	10.87
437	SLU 35	-101	25	4547	-7.31	-688.49	5.79
437	SLU 36	-103	38	4590	-7.57	-695.42	8.87
437	SLU 37	-100	26	4522	-7.28	-684.97	5.81
437	SLU 38	-102	38	4565	-7.55	-691.9	8.89
437	SLU 39	-101	26	4628	-7.58	-701.1	6.03
437	SLU 40	-102	39	4671	-7.85	-708.03	9.11
437	SLU 41	-102	27	4668	-7.6	-706.86	6.1
437	SLU 42	-103	39	4712	-7.86	-713.79	9.18
437	SLU 43	-101	25	4381	-7.29	-671.44	5.71
437	SLU 44	-104	46	4453	-7.73	-682.99	10.83
437	SLU 45	-103	25	4447	-7.33	-680.72	5.76
437	SLU 46	-105	38	4490	-7.6	-687.66	8.83
437	SLU 47	-105	46	4494	-7.75	-688.75	10.9
437	SLU 48	-104	26	4487	-7.35	-686.49	5.83
437	SLU 49	-106	38	4531	-7.61	-693.42	8.9
437	SLU 50	-103	26	4463	-7.32	-682.96	5.85
437	SLU 51	-105	38	4506	-7.59	-689.89	8.92
437	SLU 52	-110	49	4891	-8.51	-747.53	11.68
437	SLU 53	-109	29	4884	-8.1	-745.26	6.6
437	SLU 54	-111	41	4927	-8.37	-752.19	9.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
437	SLU 55	-111	49	4931	-8.52	-753.29	11.75
437	SLU 56	-110	29	4925	-8.12	-751.02	6.67
437	SLU 57	-112	42	4968	-8.38	-757.95	9.75
437	SLU 58	-109	29	4900	-8.09	-747.5	6.69
437	SLU 59	-111	42	4943	-8.36	-754.43	9.77
437	SLU 60	-110	30	5006	-8.39	-763.63	6.91
437	SLU 61	-111	42	5049	-8.66	-770.56	9.99
437	SLU 62	-111	30	5047	-8.41	-769.39	6.99
437	SLU 63	-113	43	5090	-8.67	-776.32	10.06
437	SLU 64	-112	27	4882	-7.98	-744.57	6.05
437	SLU 65	-115	47	4954	-8.43	-756.12	11.18
437	SLU 66	-114	27	4947	-8.02	-753.85	6.1
437	SLU 67	-116	39	4991	-8.29	-760.79	9.18
437	SLU 68	-116	48	4995	-8.44	-761.88	11.25
437	SLU 69	-115	27	4988	-8.04	-759.61	6.17
437	SLU 70	-117	40	5031	-8.3	-766.55	9.25
437	SLU 71	-115	27	4963	-8.01	-756.09	6.19
437	SLU 72	-116	40	5007	-8.28	-763.02	9.27
437	SLU 73	-121	51	5391	-9.2	-820.66	12.02
437	SLU 74	-120	31	5385	-8.79	-818.39	6.95
437	SLU 75	-122	43	5428	-9.06	-825.32	10.02
437	SLU 76	-122	51	5432	-9.21	-826.42	12.09
437	SLU 77	-121	31	5426	-8.81	-824.15	7.02
437	SLU 78	-123	43	5469	-9.07	-831.08	10.09
437	SLU 79	-121	31	5401	-8.78	-820.63	7.04
437	SLU 80	-122	43	5444	-9.05	-827.56	10.11
437	SLU 81	-121	32	5507	-9.08	-836.76	7.26
437	SLU 82	-123	44	5550	-9.35	-843.69	10.33
437	SLU 83	-122	32	5547	-9.1	-842.52	7.33
437	SLU 84	-124	44	5591	-9.37	-849.45	10.4
437	SLE RA 1	-84	20	3645	-5.99	-556.67	4.58
437	SLE RA 2	-86	34	3693	-6.28	-564.37	7.99
437	SLE RA 3	-85	20	3689	-6.02	-562.86	4.61
437	SLE RA 4	-86	29	3718	-6.19	-567.48	6.66
437	SLE RA 5	-86	34	3720	-6.29	-568.22	8.04
437	SLE RA 6	-86	21	3716	-6.03	-566.7	4.66
437	SLE RA 7	-87	29	3745	-6.2	-571.33	6.71
437	SLE RA 8	-85	21	3700	-6.01	-564.35	4.67
437	SLE RA 9	-87	29	3728	-6.19	-568.98	6.72
437	SLE RA 10	-90	36	3985	-6.8	-607.4	8.56
437	SLE RA 11	-89	23	3980	-6.53	-605.88	5.18
437	SLE RA 12	-90	31	4009	-6.71	-610.51	7.23
437	SLE RA 13	-91	36	4012	-6.81	-611.24	8.61
437	SLE RA 14	-90	23	4008	-6.54	-609.73	5.22
437	SLE RA 15	-91	31	4037	-6.72	-614.35	7.27
437	SLE RA 16	-89	23	3991	-6.52	-607.38	5.24
437	SLE RA 17	-91	31	4020	-6.7	-612	7.29
437	SLE RA 18	-90	24	4062	-6.72	-618.13	5.38
437	SLE RA 19	-91	32	4091	-6.9	-622.75	7.43
437	SLE RA 20	-90	24	4089	-6.73	-621.97	5.43
437	SLE RA 21	-92	32	4118	-6.91	-626.6	7.48
437	SLE FR 1	-84	20	3645	-5.99	-556.67	4.58
437	SLE FR 2	-84	23	3655	-6.05	-558.21	5.26
437	SLE FR 3	-84	20	3656	-5.99	-558.21	4.6
437	SLE FR 4	-86	24	3780	-6.27	-576.65	5.5
437	SLE FR 5	-86	21	3781	-6.21	-576.65	4.84
437	SLE FR 6	-87	22	3853	-6.36	-587.4	4.98
437	SLE QP 1	-84	20	3645	-5.99	-556.67	4.58
437	SLE QP 2	-86	21	3770	-6.21	-575.11	4.82
437	SLD 1	189	176	5374	-11.24	-809.89	58.65
437	SLD 2	240	72	5287	-10.7	-796.71	32.93
437	SLD 3	222	-92	4345	-5.31	-653.2	-8.01
437	SLD 4	273	-196	4258	-4.77	-640.01	-33.73
437	SLD 5	-61	492	5827	-16.81	-885.49	126.52
437	SLD 6	-28	425	5770	-16.46	-876.96	109.88
437	SLD 7	47	-401	2397	2.96	-363.17	-95.66
437	SLD 8	80	-468	2341	3.31	-354.64	-112.3
437	SLD 9	-251	511	5199	-15.73	-795.58	121.94
437	SLD 10	-218	444	5143	-15.38	-787.05	105.3
437	SLD 11	-143	-382	1770	4.04	-273.26	-100.24
437	SLD 12	-110	-450	1713	4.39	-264.73	-116.88
437	SLD 13	-444	239	3282	-7.65	-510.2	43.37
437	SLD 14	-393	135	3195	-7.1	-497.02	17.65
437	SLD 15	-411	-29	2253	-1.71	-353.51	-23.29
437	SLD 16	-360	-133	2166	-1.17	-340.33	-49
437	SLV 1	342	280	6340	-14.46	-951.61	93.39
437	SLV 2	422	116	6203	-13.6	-930.85	52.89
437	SLV 3	397	-173	4602	-4.43	-686.94	-19.26
437	SLV 4	477	-336	4464	-3.58	-666.19	-59.75
437	SLV 5	-55	816	7204	-24.04	-1093.34	209.79
437	SLV 6	-1	706	7111	-23.47	-1079.36	182.53
437	SLV 7	127	-693	1408	9.36	-211.13	-165.69
437	SLV 8	181	-803	1316	9.94	-197.15	-192.95
437	SLV 9	-352	846	6224	-22.36	-953.07	202.59
437	SLV 10	-298	736	6132	-21.78	-939.09	175.33
437	SLV 11	-170	-664	429	11.05	-70.85	-172.89
437	SLV 12	-116	-774	337	11.62	-56.88	-200.15
437	SLV 13	-648	379	3076	-8.84	-484.03	69.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
437	SLV 14	-568	215	2939	-7.98	-463.27	28.9
437	SLV 15	-593	-74	1338	1.19	-219.37	-43.25
437	SLV 16	-513	-238	1200	2.04	-198.61	-83.75
437	SLV FO 1	385	306	6597	-15.28	-989.26	102.24
437	SLV FO 2	473	126	6446	-14.34	-966.42	57.7
437	SLV FO 3	445	-192	4685	-4.26	-698.13	-21.66
437	SLV FO 4	533	-372	4533	-3.32	-675.29	-66.21
437	SLV FO 5	-52	896	7547	-25.82	-1145.16	230.29
437	SLV FO 6	7	774	7445	-25.19	-1129.79	200.3
437	SLV FO 7	149	-765	1172	10.92	-174.73	-182.74
437	SLV FO 8	208	-886	1070	11.55	-159.36	-212.73
437	SLV FO 9	-379	928	6470	-23.97	-990.86	222.37
437	SLV FO 10	-320	807	6368	-23.34	-975.49	192.38
437	SLV FO 11	-178	-732	95	12.78	-20.43	-190.66
437	SLV FO 12	-119	-853	-7	13.41	-5.05	-220.65
437	SLV FO 13	-704	414	3007	-9.1	-474.92	75.85
437	SLV FO 14	-616	235	2856	-8.16	-452.09	31.31
437	SLV FO 15	-644	-84	1094	1.93	-183.79	-48.06
437	SLV FO 16	-556	-264	943	2.86	-160.96	-92.6
437	CRTFP Ux+	0	0	0	0	0	0
437	CRTFP Ux-	0	0	0	0	0	0
437	CRTFP Uy+	0	0	0	0	0	0
437	CRTFP Uy-	0	0	0	0	0	0
440	SLU 1	-119	-51	6307	-5.01	-40.82	-3.75
440	SLU 2	-124	-20	6422	-5.65	-39.98	-3.93
440	SLU 3	-122	-52	6418	-4.96	-41.73	-3.84
440	SLU 4	-125	-33	6486	-5.34	-41.23	-3.95
440	SLU 5	-126	-20	6490	-5.6	-40.6	-3.99
440	SLU 6	-123	-53	6487	-4.91	-42.35	-3.9
440	SLU 7	-127	-34	6555	-5.29	-41.85	-4.01
440	SLU 8	-122	-53	6445	-4.91	-42.06	-3.87
440	SLU 9	-126	-34	6513	-5.3	-41.56	-3.98
440	SLU 10	-132	-24	7248	-6.34	-46.71	-4.36
440	SLU 11	-129	-57	7244	-5.65	-48.46	-4.27
440	SLU 12	-133	-38	7313	-6.03	-47.96	-4.38
440	SLU 13	-134	-25	7317	-6.29	-47.33	-4.42
440	SLU 14	-131	-58	7313	-5.59	-49.08	-4.33
440	SLU 15	-135	-39	7382	-5.98	-48.58	-4.44
440	SLU 16	-130	-57	7271	-5.6	-48.79	-4.3
440	SLU 17	-133	-38	7340	-5.98	-48.29	-4.41
440	SLU 18	-130	-58	7488	-5.99	-50.43	-4.36
440	SLU 19	-133	-39	7556	-6.38	-49.93	-4.47
440	SLU 20	-132	-59	7556	-5.94	-51.05	-4.42
440	SLU 21	-135	-40	7625	-6.33	-50.55	-4.53
440	SLU 22	-136	-57	7210	-5.36	-47.2	-4.33
440	SLU 23	-141	-26	7324	-6	-46.36	-4.52
440	SLU 24	-138	-59	7321	-5.3	-48.11	-4.42
440	SLU 25	-142	-40	7389	-5.69	-47.61	-4.53
440	SLU 26	-143	-27	7393	-5.94	-46.98	-4.58
440	SLU 27	-140	-59	7389	-5.25	-48.73	-4.48
440	SLU 28	-144	-40	7458	-5.63	-48.23	-4.59
440	SLU 29	-139	-59	7347	-5.25	-48.44	-4.45
440	SLU 30	-143	-40	7416	-5.64	-47.94	-4.56
440	SLU 31	-149	-31	8151	-6.68	-53.09	-4.95
440	SLU 32	-146	-63	8147	-5.99	-54.84	-4.85
440	SLU 33	-150	-44	8216	-6.37	-54.34	-4.96
440	SLU 34	-151	-31	8220	-6.63	-53.71	-5.01
440	SLU 35	-148	-64	8216	-5.93	-55.46	-4.91
440	SLU 36	-151	-45	8285	-6.32	-54.96	-5.02
440	SLU 37	-147	-64	8174	-5.94	-55.17	-4.88
440	SLU 38	-150	-45	8243	-6.32	-54.67	-4.99
440	SLU 39	-147	-64	8391	-6.33	-56.81	-4.95
440	SLU 40	-150	-45	8459	-6.72	-56.31	-5.06
440	SLU 41	-149	-65	8459	-6.28	-57.44	-5.01
440	SLU 42	-152	-46	8528	-6.67	-56.93	-5.12
440	SLU 43	-149	-64	7890	-6.4	-50.88	-4.67
440	SLU 44	-154	-33	8004	-7.04	-50.04	-4.86
440	SLU 45	-151	-65	8000	-6.35	-51.79	-4.76
440	SLU 46	-155	-46	8069	-6.73	-51.29	-4.87
440	SLU 47	-156	-33	8073	-6.99	-50.66	-4.92
440	SLU 48	-153	-66	8069	-6.3	-52.41	-4.82
440	SLU 49	-157	-47	8138	-6.68	-51.91	-4.93
440	SLU 50	-152	-66	8027	-6.3	-52.12	-4.79
440	SLU 51	-155	-47	8096	-6.68	-51.62	-4.9
440	SLU 52	-162	-37	8831	-7.73	-56.77	-5.29
440	SLU 53	-159	-70	8827	-7.03	-58.52	-5.19
440	SLU 54	-163	-51	8896	-7.42	-58.02	-5.3
440	SLU 55	-164	-38	8899	-7.68	-57.39	-5.35
440	SLU 56	-161	-71	8896	-6.98	-59.14	-5.25
440	SLU 57	-164	-52	8964	-7.37	-58.64	-5.36
440	SLU 58	-160	-71	8854	-6.98	-58.85	-5.22
440	SLU 59	-163	-52	8922	-7.37	-58.35	-5.33
440	SLU 60	-160	-71	9070	-7.38	-60.49	-5.29
440	SLU 61	-163	-52	9139	-7.76	-59.99	-5.4
440	SLU 62	-162	-72	9139	-7.33	-61.11	-5.35
440	SLU 63	-165	-53	9208	-7.71	-60.61	-5.46
440	SLU 64	-165	-71	8793	-6.74	-57.26	-5.26
440	SLU 65	-171	-39	8907	-7.38	-56.42	-5.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
440	SLU 66	-168	-72	8903	-6.69	-58.17	-5.35
440	SLU 67	-172	-53	8972	-7.07	-57.67	-5.46
440	SLU 68	-173	-40	8976	-7.33	-57.04	-5.5
440	SLU 69	-170	-73	8972	-6.64	-58.79	-5.41
440	SLU 70	-173	-54	9041	-7.02	-58.29	-5.52
440	SLU 71	-169	-72	8930	-6.64	-58.5	-5.38
440	SLU 72	-172	-53	8999	-7.02	-58	-5.49
440	SLU 73	-179	-44	9733	-8.07	-63.15	-5.87
440	SLU 74	-176	-76	9730	-7.37	-64.9	-5.78
440	SLU 75	-180	-58	9798	-7.76	-64.4	-5.89
440	SLU 76	-181	-44	9802	-8.02	-63.77	-5.93
440	SLU 77	-178	-77	9798	-7.32	-65.52	-5.84
440	SLU 78	-181	-58	9867	-7.71	-65.02	-5.95
440	SLU 79	-177	-77	9756	-7.32	-65.23	-5.81
440	SLU 80	-180	-58	9825	-7.71	-64.73	-5.92
440	SLU 81	-177	-77	9973	-7.72	-66.87	-5.87
440	SLU 82	-180	-58	10042	-8.11	-66.37	-5.98
440	SLU 83	-178	-78	10042	-7.67	-67.49	-5.93
440	SLU 84	-182	-59	10111	-8.05	-66.99	-6.04
440	SLE RA 1	-124	-53	6565	-5.11	-42.64	-3.92
440	SLE RA 2	-127	-32	6641	-5.54	-42.08	-4.04
440	SLE RA 3	-125	-54	6639	-5.08	-43.25	-3.98
440	SLE RA 4	-128	-41	6685	-5.33	-42.91	-4.05
440	SLE RA 5	-129	-32	6687	-5.5	-42.5	-4.08
440	SLE RA 6	-127	-54	6685	-5.04	-43.66	-4.02
440	SLE RA 7	-129	-42	6730	-5.3	-43.33	-4.09
440	SLE RA 8	-126	-54	6657	-5.04	-43.47	-4
440	SLE RA 9	-128	-41	6702	-5.3	-43.14	-4.07
440	SLE RA 10	-133	-35	7192	-6	-46.57	-4.33
440	SLE RA 11	-131	-57	7190	-5.53	-47.74	-4.26
440	SLE RA 12	-133	-44	7236	-5.79	-47.4	-4.34
440	SLE RA 13	-134	-36	7238	-5.96	-46.99	-4.36
440	SLE RA 14	-132	-57	7236	-5.5	-48.15	-4.3
440	SLE RA 15	-134	-45	7281	-5.75	-47.82	-4.38
440	SLE RA 16	-131	-57	7208	-5.5	-47.96	-4.28
440	SLE RA 17	-133	-44	7253	-5.76	-47.62	-4.36
440	SLE RA 18	-131	-57	7352	-5.76	-49.05	-4.33
440	SLE RA 19	-133	-45	7398	-6.02	-48.72	-4.4
440	SLE RA 20	-132	-58	7398	-5.73	-49.47	-4.37
440	SLE RA 21	-134	-45	7444	-5.99	-49.13	-4.44
440	SLE FR 1	-124	-53	6565	-5.11	-42.64	-3.92
440	SLE FR 2	-124	-49	6580	-5.2	-42.53	-3.94
440	SLE FR 3	-124	-53	6583	-5.1	-42.81	-3.93
440	SLE FR 4	-127	-50	6816	-5.39	-44.45	-4.06
440	SLE FR 5	-126	-54	6820	-5.29	-44.73	-4.06
440	SLE FR 6	-127	-55	6959	-5.44	-45.85	-4.12
440	SLE QP 1	-124	-53	6565	-5.11	-42.64	-3.92
440	SLE QP 2	-126	-54	6801	-5.31	-44.56	-4.04
440	SLD 1	455	142	8331	-10.48	-24.71	-3.15
440	SLD 2	561	58	8244	-10.06	-26.65	-1.07
440	SLD 3	509	-262	6686	-1.73	-29.69	-1.44
440	SLD 4	615	-346	6599	-1.31	-31.63	0.64
440	SLD 5	-53	633	9770	-20.2	-30.71	-6.73
440	SLD 6	16	578	9713	-19.93	-31.96	-5.38
440	SLD 7	129	-716	4287	8.96	-47.33	-1.03
440	SLD 8	197	-770	4231	9.23	-48.58	0.32
440	SLD 9	-449	661	9371	-19.85	-40.54	-8.4
440	SLD 10	-380	607	9315	-19.58	-41.8	-7.05
440	SLD 11	-268	-687	3889	9.31	-57.16	-2.7
440	SLD 12	-199	-741	3833	9.59	-58.42	-1.35
440	SLD 13	-867	238	7003	-9.31	-57.49	-8.72
440	SLD 14	-761	154	6916	-8.88	-59.44	-6.64
440	SLD 15	-813	-167	5358	-0.56	-62.48	-7.01
440	SLD 16	-706	-251	5271	-0.14	-64.42	-4.93
440	SLV 1	779	279	9296	-13.96	-13.25	-2.76
440	SLV 2	946	147	9159	-13.29	-16.31	0.52
440	SLV 3	870	-404	6516	0.82	-21.66	0.12
440	SLV 4	1038	-537	6379	1.49	-24.72	3.4
440	SLV 5	-24	1107	11791	-30.45	-21.85	-8.64
440	SLV 6	89	1018	11698	-30	-23.92	-6.43
440	SLV 7	280	-1171	2526	18.83	-49.86	0.97
440	SLV 8	393	-1260	2434	19.27	-51.93	3.18
440	SLV 9	-645	1152	11169	-29.89	-37.2	-11.26
440	SLV 10	-532	1063	11076	-29.44	-39.26	-9.05
440	SLV 11	-340	-1127	1904	19.38	-65.21	-1.65
440	SLV 12	-227	-1216	1812	19.83	-67.27	0.56
440	SLV 13	-1289	428	7223	-12.1	-64.41	-11.48
440	SLV 14	-1122	296	7086	-11.44	-67.47	-8.2
440	SLV 15	-1198	-255	4444	2.68	-72.81	-8.6
440	SLV 16	-1030	-388	4307	3.34	-75.87	-5.32
440	SLV FO 1	869	312	9545	-14.82	-10.12	-2.64
440	SLV FO 2	1054	167	9394	-14.09	-13.49	0.98
440	SLV FO 3	970	-439	6488	1.44	-19.37	0.54
440	SLV FO 4	1154	-585	6337	2.17	-22.73	4.15
440	SLV FO 5	-14	1223	12290	-32.96	-19.58	-9.1
440	SLV FO 6	110	1125	12188	-32.47	-21.85	-6.67
440	SLV FO 7	321	-1283	2098	21.24	-50.39	1.47
440	SLV FO 8	445	-1381	1997	21.73	-52.66	3.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
440	SLV FO 9	-697	1272	11606	-32.35	-36.47	-11.98
440	SLV FO 10	-572	1174	11504	-31.86	-38.73	-9.55
440	SLV FO 11	-362	-1234	1414	21.85	-67.28	-1.41
440	SLV FO 12	-238	-1332	1313	22.34	-69.54	1.02
440	SLV FO 13	-1406	476	7265	-12.78	-66.4	-12.23
440	SLV FO 14	-1221	331	7114	-12.05	-69.76	-8.61
440	SLV FO 15	-1305	-276	4208	3.48	-75.64	-9.06
440	SLV FO 16	-1121	-421	4057	4.21	-79.01	-5.44
440	CRTFP Ux+	0	0	0	0	0	0
440	CRTFP Ux-	0	0	0	0	0	0
440	CRTFP Uy+	0	0	0	0	0	0
440	CRTFP Uy-	0	0	0	0	0	0
443	SLU 1	47	-92	6355	-5.04	44.07	-0.09
443	SLU 2	50	-59	6475	-5.67	43.12	0.05
443	SLU 3	47	-94	6457	-4.97	45.11	-0.11
443	SLU 4	49	-74	6529	-5.35	44.54	-0.03
443	SLU 5	50	-61	6534	-5.6	43.88	0.03
443	SLU 6	46	-95	6516	-4.9	45.87	-0.13
443	SLU 7	48	-75	6588	-5.28	45.3	-0.05
443	SLU 8	45	-94	6473	-4.9	45.58	-0.13
443	SLU 9	47	-75	6545	-5.28	45.01	-0.04
443	SLU 10	52	-69	7296	-6.39	49.33	0.09
443	SLU 11	48	-103	7279	-5.69	51.32	-0.07
443	SLU 12	50	-84	7351	-6.07	50.75	0.01
443	SLU 13	51	-70	7355	-6.32	50.09	0.07
443	SLU 14	47	-104	7338	-5.62	52.08	-0.09
443	SLU 15	49	-85	7410	-6	51.51	-0.01
443	SLU 16	46	-103	7294	-5.62	51.79	-0.09
443	SLU 17	49	-84	7366	-6	51.22	0
443	SLU 18	48	-105	7528	-6.06	52.94	-0.04
443	SLU 19	51	-86	7600	-6.44	52.37	0.05
443	SLU 20	48	-106	7587	-5.99	53.69	-0.06
443	SLU 21	50	-87	7659	-6.37	53.13	0.03
443	SLU 22	53	-103	7250	-5.38	50.44	-0.09
443	SLU 23	56	-70	7370	-6.01	49.49	0.06
443	SLU 24	53	-105	7352	-5.31	51.48	-0.11
443	SLU 25	55	-85	7424	-5.69	50.91	-0.02
443	SLU 26	55	-72	7429	-5.95	50.25	0.04
443	SLU 27	52	-106	7411	-5.25	52.24	-0.13
443	SLU 28	54	-86	7483	-5.63	51.67	-0.04
443	SLU 29	51	-105	7368	-5.24	51.95	-0.13
443	SLU 30	53	-86	7440	-5.62	51.38	-0.04
443	SLU 31	57	-80	8191	-6.73	55.7	0.1
443	SLU 32	54	-114	8173	-6.03	57.69	-0.07
443	SLU 33	56	-95	8245	-6.41	57.12	0.02
443	SLU 34	56	-81	8250	-6.66	56.45	0.08
443	SLU 35	53	-115	8232	-5.96	58.45	-0.09
443	SLU 36	55	-96	8304	-6.34	57.88	0
443	SLU 37	52	-114	8189	-5.96	58.16	-0.09
443	SLU 38	54	-95	8261	-6.34	57.59	0
443	SLU 39	54	-116	8423	-6.4	59.31	-0.03
443	SLU 40	56	-97	8495	-6.78	58.74	0.06
443	SLU 41	53	-117	8482	-6.34	60.06	-0.05
443	SLU 42	55	-98	8554	-6.72	59.49	0.04
443	SLU 43	59	-116	7955	-6.43	55.1	-0.12
443	SLU 44	63	-83	8075	-7.07	54.16	0.02
443	SLU 45	59	-118	8057	-6.37	56.15	-0.14
443	SLU 46	61	-98	8129	-6.75	55.58	-0.06
443	SLU 47	62	-84	8134	-7	54.91	0
443	SLU 48	58	-119	8116	-6.3	56.91	-0.16
443	SLU 49	60	-99	8188	-6.68	56.34	-0.08
443	SLU 50	57	-118	8073	-6.29	56.62	-0.16
443	SLU 51	60	-98	8145	-6.67	56.05	-0.07
443	SLU 52	64	-93	8896	-7.78	60.36	0.06
443	SLU 53	60	-127	8878	-7.08	62.36	-0.1
443	SLU 54	62	-107	8950	-7.46	61.79	-0.02
443	SLU 55	63	-94	8955	-7.71	61.12	0.04
443	SLU 56	59	-128	8937	-7.01	63.11	-0.12
443	SLU 57	61	-108	9009	-7.39	62.55	-0.04
443	SLU 58	59	-127	8894	-7.01	62.83	-0.12
443	SLU 59	61	-108	8966	-7.39	62.26	-0.03
443	SLU 60	61	-129	9128	-7.45	63.97	-0.07
443	SLU 61	63	-109	9200	-7.84	63.4	0.02
443	SLU 62	60	-130	9187	-7.39	64.73	-0.08
443	SLU 63	62	-111	9259	-7.77	64.16	0
443	SLU 64	65	-127	8850	-6.77	61.47	-0.12
443	SLU 65	68	-94	8970	-7.41	60.52	0.03
443	SLU 66	65	-129	8952	-6.71	62.52	-0.14
443	SLU 67	67	-109	9024	-7.09	61.95	-0.05
443	SLU 68	68	-95	9029	-7.34	61.28	0.01
443	SLU 69	64	-130	9011	-6.64	63.27	-0.16
443	SLU 70	66	-110	9083	-7.02	62.71	-0.07
443	SLU 71	63	-129	8968	-6.64	62.99	-0.16
443	SLU 72	65	-109	9040	-7.02	62.42	-0.07
443	SLU 73	69	-104	9791	-8.12	66.73	0.07
443	SLU 74	66	-138	9773	-7.42	68.73	-0.1
443	SLU 75	68	-118	9845	-7.8	68.16	-0.01
443	SLU 76	69	-105	9850	-8.06	67.49	0.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
443	SLU 77	65	-139	9832	-7.36	69.48	-0.12
443	SLU 78	67	-119	9904	-7.74	68.92	-0.03
443	SLU 79	64	-138	9789	-7.35	69.2	-0.12
443	SLU 80	66	-119	9861	-7.73	68.63	-0.03
443	SLU 81	66	-140	10023	-7.8	70.34	-0.06
443	SLU 82	68	-120	10095	-8.18	69.77	0.03
443	SLU 83	65	-141	10082	-7.73	71.1	-0.08
443	SLU 84	68	-122	10154	-8.11	70.53	0.01
443	SLE RA 1	49	-95	6611	-5.14	45.89	-0.09
443	SLE RA 2	51	-73	6691	-5.56	45.25	0.01
443	SLE RA 3	49	-96	6679	-5.09	46.58	-0.11
443	SLE RA 4	50	-83	6727	-5.35	46.2	-0.05
443	SLE RA 5	50	-74	6730	-5.51	45.76	-0.01
443	SLE RA 6	48	-97	6718	-5.05	47.09	-0.12
443	SLE RA 7	49	-84	6766	-5.3	46.71	-0.06
443	SLE RA 8	48	-96	6690	-5.04	46.9	-0.12
443	SLE RA 9	49	-83	6737	-5.3	46.52	-0.06
443	SLE RA 10	52	-80	7238	-6.04	49.39	0.03
443	SLE RA 11	49	-102	7226	-5.57	50.72	-0.08
443	SLE RA 12	51	-89	7274	-5.82	50.34	-0.02
443	SLE RA 13	51	-80	7278	-5.99	49.9	0.02
443	SLE RA 14	49	-103	7266	-5.52	51.23	-0.09
443	SLE RA 15	50	-90	7314	-5.78	50.85	-0.03
443	SLE RA 16	48	-103	7237	-5.52	51.04	-0.09
443	SLE RA 17	50	-90	7285	-5.78	50.66	-0.03
443	SLE RA 18	50	-104	7393	-5.82	51.8	-0.05
443	SLE RA 19	51	-91	7441	-6.07	51.42	0.01
443	SLE RA 20	49	-105	7432	-5.77	52.3	-0.07
443	SLE RA 21	50	-92	7480	-6.03	51.93	-0.01
443	SLE FR 1	49	-95	6611	-5.14	45.89	-0.09
443	SLE FR 2	49	-91	6627	-5.22	45.76	-0.07
443	SLE FR 3	48	-95	6627	-5.12	46.09	-0.1
443	SLE FR 4	49	-93	6861	-5.43	47.53	-0.06
443	SLE FR 5	49	-98	6861	-5.32	47.86	-0.08
443	SLE FR 6	49	-99	7002	-5.48	48.84	-0.07
443	SLE QP 1	49	-95	6611	-5.14	45.89	-0.09
443	SLE QP 2	49	-98	6846	-5.34	47.66	-0.08
443	SLD 1	697	142	7019	-8.38	57.73	3.06
443	SLD 2	806	225	7107	-8.8	55.4	4.98
443	SLD 3	658	-288	5289	0.17	62.99	1.42
443	SLD 4	767	-205	5378	-0.24	60.65	3.33
443	SLD 5	284	612	9505	-19.16	43.11	3.02
443	SLD 6	355	665	9562	-19.43	41.6	4.26
443	SLD 7	153	-821	3740	9.36	60.64	-2.45
443	SLD 8	224	-768	3798	9.09	59.13	-1.22
443	SLD 9	-126	572	9893	-19.77	36.19	1.06
443	SLD 10	-55	626	9951	-20.04	34.68	2.29
443	SLD 11	-257	-861	4129	8.74	53.72	-4.42
443	SLD 12	-186	-807	4186	8.48	52.21	-3.18
443	SLD 13	-669	10	8313	-10.44	34.67	-3.49
443	SLD 14	-560	92	8402	-10.86	32.33	-1.58
443	SLD 15	-709	-420	6584	-1.88	39.92	-5.14
443	SLD 16	-600	-338	6672	-2.3	37.58	-3.22
443	SLV 1	1065	304	7228	-10.62	63.09	4.93
443	SLV 2	1237	434	7367	-11.28	59.41	7.94
443	SLV 3	999	-422	4306	3.83	71.96	2.15
443	SLV 4	1170	-292	4445	3.18	68.28	5.16
443	SLV 5	423	1101	11366	-28.73	39.52	5.07
443	SLV 6	538	1188	11460	-29.17	37.04	7.1
443	SLV 7	201	-1321	1626	19.46	69.09	-4.18
443	SLV 8	317	-1234	1720	19.02	66.61	-2.16
443	SLV 9	-219	1038	11971	-29.7	28.71	2
443	SLV 10	-103	1126	12065	-30.14	26.23	4.02
443	SLV 11	-440	-1384	2231	18.49	58.28	-7.26
443	SLV 12	-325	-1296	2325	18.05	55.8	-5.23
443	SLV 13	-1073	97	9246	-13.86	27.04	-5.32
443	SLV 14	-901	227	9385	-14.52	23.36	-2.31
443	SLV 15	-1139	-630	6324	0.59	35.91	-8.09
443	SLV 16	-967	-500	6463	-0.06	32.23	-5.08
443	SLV FO 1	1167	345	7266	-11.15	64.63	5.43
443	SLV FO 2	1356	487	7419	-11.87	60.58	8.74
443	SLV FO 3	1094	-455	4052	4.75	74.39	2.37
443	SLV FO 4	1283	-312	4205	4.03	70.34	5.68
443	SLV FO 5	460	1221	11818	-31.07	38.71	5.59
443	SLV FO 6	587	1317	11921	-31.55	35.98	7.81
443	SLV FO 7	216	-1444	1104	21.94	71.23	-4.59
443	SLV FO 8	343	-1347	1207	21.45	68.51	-2.36
443	SLV FO 9	-246	1152	12484	-32.14	26.81	2.2
443	SLV FO 10	-118	1248	12587	-32.62	24.09	4.43
443	SLV FO 11	-489	-1512	1770	20.87	59.34	-7.97
443	SLV FO 12	-362	-1416	1873	20.39	56.61	-5.74
443	SLV FO 13	-1185	116	9486	-14.71	24.98	-5.84
443	SLV FO 14	-996	259	9639	-15.43	20.93	-2.53
443	SLV FO 15	-1258	-683	6272	1.19	34.74	-8.9
443	SLV FO 16	-1069	-540	6425	0.47	30.69	-5.59
443	CRTFP Ux+	0	0	0	0	0	0
443	CRTFP Ux-	0	0	0	0	0	0
443	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
443	CRTFP Uy-	0	0	0	0	0	0
446	SLU 1	45	35	3903	-5.29	903.24	-12.09
446	SLU 2	47	59	3983	-5.78	922.75	-20.34
446	SLU 3	46	36	3965	-5.28	916.41	-12.49
446	SLU 4	47	51	4013	-5.57	928.11	-17.44
446	SLU 5	47	60	4016	-5.75	929.7	-20.79
446	SLU 6	45	38	3998	-5.24	923.36	-12.93
446	SLU 7	47	52	4046	-5.54	935.06	-17.89
446	SLU 8	45	38	3969	-5.22	917.14	-12.98
446	SLU 9	46	52	4017	-5.51	928.84	-17.93
446	SLU 10	50	63	4466	-6.51	1030.54	-21.86
446	SLU 11	48	41	4447	-6.01	1024.19	-14
446	SLU 12	49	55	4496	-6.3	1035.9	-18.96
446	SLU 13	50	65	4499	-6.48	1037.48	-22.31
446	SLU 14	48	42	4480	-5.97	1031.14	-14.45
446	SLU 15	49	56	4528	-6.27	1042.85	-19.4
446	SLU 16	47	42	4451	-5.95	1024.92	-14.5
446	SLU 17	49	56	4499	-6.24	1036.63	-19.45
446	SLU 18	49	42	4592	-6.33	1057.22	-14.25
446	SLU 19	50	56	4641	-6.63	1068.93	-19.21
446	SLU 20	49	43	4625	-6.3	1064.17	-14.7
446	SLU 21	50	57	4673	-6.59	1075.87	-19.65
446	SLU 22	51	38	4444	-5.87	1022.87	-13.01
446	SLU 23	53	62	4524	-6.36	1042.38	-21.27
446	SLU 24	51	39	4506	-5.85	1036.04	-13.41
446	SLU 25	53	53	4554	-6.15	1047.74	-18.36
446	SLU 26	53	63	4557	-6.32	1049.33	-21.71
446	SLU 27	51	40	4538	-5.82	1042.99	-13.85
446	SLU 28	52	55	4587	-6.11	1054.69	-18.81
446	SLU 29	50	40	4510	-5.79	1036.77	-13.9
446	SLU 30	52	55	4558	-6.09	1048.47	-18.85
446	SLU 31	56	66	5007	-7.09	1150.17	-22.78
446	SLU 32	54	43	4988	-6.58	1143.82	-14.92
446	SLU 33	55	58	5036	-6.88	1155.53	-19.88
446	SLU 34	55	67	5040	-7.05	1157.11	-23.23
446	SLU 35	54	45	5021	-6.55	1150.77	-15.37
446	SLU 36	55	59	5069	-6.84	1162.48	-20.33
446	SLU 37	53	45	4992	-6.52	1144.55	-15.42
446	SLU 38	54	59	5040	-6.82	1156.26	-20.37
446	SLU 39	54	44	5133	-6.91	1176.85	-15.18
446	SLU 40	56	58	5181	-7.2	1188.56	-20.13
446	SLU 41	54	46	5166	-6.87	1183.8	-15.62
446	SLU 42	56	60	5214	-7.17	1195.5	-20.58
446	SLU 43	57	45	4888	-6.68	1133.2	-15.4
446	SLU 44	59	68	4969	-7.17	1152.71	-23.65
446	SLU 45	57	46	4950	-6.66	1146.36	-15.79
446	SLU 46	58	60	4998	-6.96	1158.07	-20.75
446	SLU 47	59	70	5002	-7.13	1159.66	-24.1
446	SLU 48	57	47	4983	-6.63	1153.31	-16.24
446	SLU 49	58	61	5031	-6.92	1165.02	-21.2
446	SLU 50	56	47	4954	-6.61	1147.09	-16.29
446	SLU 51	58	62	5002	-6.9	1158.8	-21.24
446	SLU 52	61	73	5451	-7.9	1260.49	-25.17
446	SLU 53	60	50	5433	-7.4	1254.15	-17.31
446	SLU 54	61	65	5481	-7.69	1265.86	-22.27
446	SLU 55	61	74	5484	-7.86	1267.44	-25.62
446	SLU 56	60	52	5466	-7.36	1261.1	-17.76
446	SLU 57	61	66	5514	-7.66	1272.8	-22.71
446	SLU 58	59	52	5437	-7.34	1254.88	-17.81
446	SLU 59	60	66	5485	-7.63	1266.58	-22.76
446	SLU 60	60	51	5578	-7.72	1287.17	-17.56
446	SLU 61	62	65	5626	-8.02	1298.88	-22.52
446	SLU 62	60	52	5611	-7.69	1294.12	-18.01
446	SLU 63	62	67	5659	-7.98	1305.83	-22.96
446	SLU 64	62	48	5429	-7.25	1252.83	-16.32
446	SLU 65	65	71	5510	-7.75	1272.34	-24.58
446	SLU 66	63	49	5491	-7.24	1265.99	-16.72
446	SLU 67	64	63	5539	-7.54	1277.7	-21.67
446	SLU 68	64	72	5542	-7.71	1279.29	-25.02
446	SLU 69	63	50	5524	-7.21	1272.94	-17.16
446	SLU 70	64	64	5572	-7.5	1284.65	-22.12
446	SLU 71	62	50	5495	-7.18	1266.72	-17.21
446	SLU 72	63	64	5543	-7.48	1278.43	-22.16
446	SLU 73	67	76	5992	-8.48	1380.12	-26.09
446	SLU 74	65	53	5974	-7.97	1373.78	-18.23
446	SLU 75	67	67	6022	-8.27	1385.49	-23.19
446	SLU 76	67	77	6025	-8.44	1387.07	-26.54
446	SLU 77	65	54	6007	-7.94	1380.73	-18.68
446	SLU 78	67	69	6055	-8.23	1392.43	-23.64
446	SLU 79	65	55	5978	-7.91	1374.51	-18.73
446	SLU 80	66	69	6026	-8.21	1386.21	-23.68
446	SLU 81	66	54	6119	-8.3	1406.8	-18.49
446	SLU 82	67	68	6167	-8.59	1418.51	-23.44
446	SLU 83	66	55	6152	-8.26	1413.75	-18.93
446	SLU 84	67	69	6200	-8.56	1425.46	-23.89
446	SLE RA 1	47	36	4057	-5.45	937.42	-12.35
446	SLE RA 2	48	52	4111	-5.78	950.43	-17.85
446	SLE RA 3	47	37	4099	-5.44	946.2	-12.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
446	SLE RA 4	48	46	4131	-5.64	954	-15.92
446	SLE RA 5	48	53	4133	-5.76	955.06	-18.15
446	SLE RA 6	47	38	4121	-5.42	950.83	-12.91
446	SLE RA 7	48	47	4153	-5.62	958.64	-16.22
446	SLE RA 8	46	38	4101	-5.41	946.68	-12.94
446	SLE RA 9	47	47	4133	-5.6	954.49	-16.25
446	SLE RA 10	50	55	4433	-6.27	1022.28	-18.87
446	SLE RA 11	49	40	4420	-5.93	1018.05	-13.63
446	SLE RA 12	50	49	4453	-6.13	1025.86	-16.93
446	SLE RA 13	50	56	4455	-6.24	1026.92	-19.16
446	SLE RA 14	49	41	4442	-5.91	1022.69	-13.92
446	SLE RA 15	50	50	4474	-6.11	1030.49	-17.23
446	SLE RA 16	48	41	4423	-5.89	1018.54	-13.96
446	SLE RA 17	49	50	4455	-6.09	1026.35	-17.26
446	SLE RA 18	49	40	4517	-6.15	1040.07	-13.79
446	SLE RA 19	50	50	4549	-6.35	1047.88	-17.1
446	SLE RA 20	49	41	4539	-6.13	1044.7	-14.09
446	SLE RA 21	50	50	4571	-6.32	1052.51	-17.4
446	SLE FR 1	47	36	4057	-5.45	937.42	-12.35
446	SLE FR 2	47	39	4068	-5.52	940.02	-13.45
446	SLE FR 3	47	36	4066	-5.44	939.27	-12.47
446	SLE FR 4	48	40	4206	-5.73	970.82	-13.88
446	SLE FR 5	47	38	4204	-5.65	970.07	-12.9
446	SLE FR 6	48	38	4287	-5.8	988.75	-13.07
446	SLE QP 1	47	36	4057	-5.45	937.42	-12.35
446	SLE QP 2	47	37	4195	-5.66	968.22	-12.78
446	SLD 1	420	96	3609	-6.9	849.23	-33.37
446	SLD 2	482	216	3707	-7.49	871.22	-75.07
446	SLD 3	387	-211	2467	-0.25	587.08	73.96
446	SLD 4	448	-91	2564	-0.83	609.06	32.26
446	SLD 5	199	500	5735	-16.02	1326.3	-174.51
446	SLD 6	239	578	5798	-16.4	1340.53	-201.49
446	SLD 7	88	-524	1928	6.15	452.46	183.26
446	SLD 8	128	-447	1990	5.78	466.69	156.28
446	SLD 9	-33	521	6400	-17.1	1469.74	-181.85
446	SLD 10	7	599	6463	-17.48	1483.97	-208.83
446	SLD 11	-144	-504	2593	5.08	595.9	175.92
446	SLD 12	-104	-426	2656	4.7	610.13	148.95
446	SLD 13	-354	166	5826	-10.49	1327.37	-57.82
446	SLD 14	-292	286	5924	-11.07	1349.36	-99.52
446	SLD 15	-387	-142	4684	-3.84	1065.21	49.51
446	SLD 16	-325	-22	4781	-4.42	1087.2	7.81
446	SLV 1	632	148	3354	-8.03	799.39	-51.38
446	SLV 2	729	336	3508	-8.94	834.01	-117.03
446	SLV 3	576	-372	1425	3.21	356.55	130.04
446	SLV 4	673	-183	1578	2.3	391.18	64.38
446	SLV 5	290	823	6841	-23.25	1582.74	-287.25
446	SLV 6	355	950	6944	-23.87	1606.05	-331.46
446	SLV 7	102	-909	409	14.22	106.62	317.47
446	SLV 8	168	-782	512	13.6	129.93	273.26
446	SLV 9	-73	856	7879	-24.93	1806.5	-298.83
446	SLV 10	-8	983	7982	-25.54	1829.81	-343.03
446	SLV 11	-261	-876	1446	12.54	330.38	305.89
446	SLV 12	-195	-749	1549	11.92	353.7	261.69
446	SLV 13	-578	258	6813	-13.62	1545.26	-89.95
446	SLV 14	-481	447	6966	-14.54	1579.88	-155.61
446	SLV 15	-634	-262	4883	-2.38	1102.42	91.47
446	SLV 16	-537	-73	5036	-3.3	1137.04	25.81
446	SLV FO 1	691	159	3270	-8.26	782.5	-55.23
446	SLV FO 2	797	366	3439	-9.27	820.59	-127.46
446	SLV FO 3	629	-413	1148	4.1	295.39	144.32
446	SLV FO 4	735	-205	1316	3.09	333.47	72.1
446	SLV FO 5	314	902	7106	-25.01	1644.19	-314.7
446	SLV FO 6	386	1042	7219	-25.69	1669.83	-363.33
446	SLV FO 7	108	-1004	30	16.21	20.46	350.49
446	SLV FO 8	180	-864	144	15.53	46.11	301.86
446	SLV FO 9	-85	938	8247	-26.85	1890.32	-327.43
446	SLV FO 10	-13	1078	8361	-27.53	1915.97	-376.06
446	SLV FO 11	-291	-967	1171	14.36	266.6	337.76
446	SLV FO 12	-220	-827	1285	13.68	292.24	289.14
446	SLV FO 13	-641	280	7075	-14.42	1602.96	-97.66
446	SLV FO 14	-534	488	7243	-15.43	1641.04	-169.89
446	SLV FO 15	-703	-292	4952	-2.05	1115.84	101.89
446	SLV FO 16	-596	-84	5120	-3.06	1153.93	29.67
446	CRTFP Ux+	0	0	0	0	0	0
446	CRTFP Ux-	0	0	0	0	0	0
446	CRTFP Uy+	0	0	0	0	0	0
446	CRTFP Uy-	0	0	0	0	0	0
448	SLU 1	21	-43	3852	-3.04	1091.81	14.74
448	SLU 2	23	-21	3911	-3.42	1107.82	7.14
448	SLU 3	21	-44	3920	-3.02	1110.73	15.15
448	SLU 4	22	-31	3956	-3.25	1120.34	10.59
448	SLU 5	23	-22	3953	-3.39	1119.46	7.46
448	SLU 6	20	-45	3962	-3	1122.37	15.47
448	SLU 7	22	-32	3998	-3.22	1131.98	10.91
448	SLU 8	20	-45	3936	-2.99	1115.09	15.38
448	SLU 9	21	-31	3972	-3.22	1124.7	10.82
448	SLU 10	24	-26	4425	-3.89	1251.13	8.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
448	SLU 11	22	-49	4434	-3.5	1254.04	16.93
448	SLU 12	23	-36	4470	-3.72	1263.65	12.37
448	SLU 13	23	-27	4467	-3.87	1262.77	9.24
448	SLU 14	21	-50	4476	-3.48	1265.68	17.25
448	SLU 15	22	-37	4512	-3.7	1275.29	12.69
448	SLU 16	21	-50	4450	-3.47	1258.4	17.16
448	SLU 17	22	-37	4485	-3.7	1268.01	12.6
448	SLU 18	22	-50	4586	-3.72	1296.53	17.28
448	SLU 19	23	-37	4621	-3.95	1306.14	12.72
448	SLU 20	22	-51	4628	-3.7	1308.18	17.6
448	SLU 21	23	-38	4664	-3.93	1317.78	13.04
448	SLU 22	23	-48	4386	-3.28	1239.6	16.74
448	SLU 23	25	-27	4445	-3.66	1255.61	9.14
448	SLU 24	23	-50	4454	-3.26	1258.52	17.15
448	SLU 25	24	-37	4490	-3.49	1268.13	12.59
448	SLU 26	25	-28	4487	-3.64	1267.25	9.46
448	SLU 27	23	-51	4497	-3.24	1270.16	17.47
448	SLU 28	24	-37	4532	-3.47	1279.77	12.91
448	SLU 29	22	-50	4470	-3.24	1262.88	17.38
448	SLU 30	24	-37	4506	-3.47	1272.49	12.82
448	SLU 31	26	-32	4959	-4.14	1398.92	10.92
448	SLU 32	24	-55	4968	-3.74	1401.83	18.93
448	SLU 33	25	-42	5004	-3.97	1411.44	14.37
448	SLU 34	26	-33	5001	-4.12	1410.56	11.24
448	SLU 35	23	-56	5010	-3.72	1413.47	19.25
448	SLU 36	25	-43	5046	-3.95	1423.08	14.69
448	SLU 37	23	-55	4984	-3.72	1406.19	19.16
448	SLU 38	24	-42	5020	-3.95	1415.8	14.6
448	SLU 39	24	-56	5120	-3.97	1444.33	19.28
448	SLU 40	26	-43	5155	-4.19	1453.93	14.72
448	SLU 41	24	-57	5162	-3.95	1455.97	19.6
448	SLU 42	25	-44	5198	-4.17	1465.57	15.04
448	SLU 43	27	-53	4824	-3.86	1368.68	18.48
448	SLU 44	29	-32	4883	-4.24	1384.69	10.88
448	SLU 45	26	-55	4893	-3.84	1387.6	18.88
448	SLU 46	28	-42	4928	-4.07	1397.21	14.32
448	SLU 47	28	-33	4925	-4.22	1396.33	11.2
448	SLU 48	26	-56	4935	-3.82	1399.24	19.2
448	SLU 49	27	-43	4970	-4.05	1408.85	14.64
448	SLU 50	26	-55	4908	-3.82	1391.96	19.12
448	SLU 51	27	-42	4944	-4.05	1401.57	14.56
448	SLU 52	29	-37	5397	-4.72	1528	12.66
448	SLU 53	27	-60	5406	-4.32	1530.91	20.66
448	SLU 54	28	-47	5442	-4.55	1540.52	16.1
448	SLU 55	29	-38	5439	-4.7	1539.64	12.98
448	SLU 56	27	-61	5449	-4.3	1542.55	20.98
448	SLU 57	28	-48	5484	-4.53	1552.16	16.42
448	SLU 58	26	-61	5422	-4.3	1535.27	20.9
448	SLU 59	28	-47	5458	-4.53	1544.88	16.34
448	SLU 60	28	-61	5558	-4.55	1573.4	21.02
448	SLU 61	29	-48	5594	-4.77	1583.01	16.46
448	SLU 62	27	-62	5600	-4.53	1585.05	21.34
448	SLU 63	28	-49	5636	-4.75	1594.65	16.78
448	SLU 64	29	-59	5358	-4.11	1516.47	20.48
448	SLU 65	31	-37	5417	-4.49	1532.48	12.88
448	SLU 66	29	-60	5427	-4.09	1535.39	20.88
448	SLU 67	30	-47	5462	-4.32	1545	16.33
448	SLU 68	30	-38	5460	-4.47	1544.12	13.2
448	SLU 69	28	-61	5469	-4.07	1547.04	21.2
448	SLU 70	29	-48	5504	-4.3	1556.64	16.64
448	SLU 71	28	-61	5443	-4.07	1539.75	21.12
448	SLU 72	29	-48	5478	-4.29	1549.36	16.56
448	SLU 73	32	-43	5931	-4.97	1675.79	14.66
448	SLU 74	29	-66	5941	-4.57	1678.7	22.66
448	SLU 75	31	-53	5976	-4.8	1688.31	18.1
448	SLU 76	31	-44	5973	-4.95	1687.43	14.98
448	SLU 77	29	-67	5983	-4.55	1690.35	22.98
448	SLU 78	30	-53	6018	-4.78	1699.95	18.42
448	SLU 79	29	-66	5956	-4.55	1683.06	22.9
448	SLU 80	30	-53	5992	-4.77	1692.67	18.34
448	SLU 81	30	-67	6092	-4.79	1721.2	23.02
448	SLU 82	31	-54	6128	-5.02	1730.8	18.46
448	SLU 83	29	-68	6135	-4.77	1732.84	23.34
448	SLU 84	31	-55	6170	-5	1742.45	18.78
448	SLE RA 1	22	-44	4004	-3.11	1134.03	15.31
448	SLE RA 2	23	-30	4044	-3.36	1144.71	10.25
448	SLE RA 3	22	-45	4050	-3.09	1146.65	15.58
448	SLE RA 4	22	-36	4074	-3.25	1153.05	12.54
448	SLE RA 5	23	-30	4072	-3.35	1152.47	10.46
448	SLE RA 6	21	-46	4078	-3.08	1154.41	15.8
448	SLE RA 7	22	-37	4102	-3.23	1160.82	12.76
448	SLE RA 8	21	-46	4061	-3.08	1149.55	15.74
448	SLE RA 9	22	-37	4084	-3.23	1155.96	12.7
448	SLE RA 10	23	-33	4386	-3.68	1240.25	11.43
448	SLE RA 11	22	-49	4393	-3.41	1242.19	16.77
448	SLE RA 12	23	-40	4416	-3.57	1248.59	13.73
448	SLE RA 13	23	-34	4414	-3.66	1248.01	11.65
448	SLE RA 14	22	-49	4421	-3.4	1249.95	16.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
448	SLE RA 15	23	-40	4444	-3.55	1256.36	13.94
448	SLE RA 16	22	-49	4403	-3.4	1245.09	16.92
448	SLE RA 17	22	-40	4427	-3.55	1251.5	13.89
448	SLE RA 18	22	-49	4494	-3.56	1270.52	17.01
448	SLE RA 19	23	-41	4517	-3.71	1276.92	13.97
448	SLE RA 20	22	-50	4522	-3.55	1278.28	17.22
448	SLE RA 21	23	-41	4546	-3.7	1284.68	14.18
448	SLE FR 1	22	-44	4004	-3.11	1134.03	15.31
448	SLE FR 2	22	-41	4012	-3.16	1136.17	14.3
448	SLE FR 3	22	-45	4016	-3.1	1137.14	15.4
448	SLE FR 4	22	-43	4159	-3.29	1177.11	14.81
448	SLE FR 5	22	-46	4162	-3.24	1178.08	15.91
448	SLE FR 6	22	-47	4249	-3.33	1202.27	16.16
448	SLE QP 1	22	-44	4004	-3.11	1134.03	15.31
448	SLE QP 2	22	-46	4151	-3.24	1174.98	15.82
448	SLD 1	395	85	4597	-5.66	1312.9	-29.66
448	SLD 2	457	89	4608	-5.68	1314.76	-30.84
448	SLD 3	374	-191	3658	0.08	1056.13	66.63
448	SLD 4	436	-187	3669	0.06	1058	65.45
448	SLD 5	156	411	5708	-12.67	1605.45	-143.65
448	SLD 6	196	414	5715	-12.68	1606.66	-144.42
448	SLD 7	84	-509	2577	6.46	749.58	177.31
448	SLD 8	124	-506	2584	6.45	750.78	176.54
448	SLD 9	-80	414	5718	-12.94	1599.17	-144.9
448	SLD 10	-40	417	5726	-12.95	1600.38	-145.67
448	SLD 11	-152	-506	2588	6.19	743.29	176.06
448	SLD 12	-112	-503	2595	6.18	744.5	175.3
448	SLD 13	-392	95	4633	-6.55	1291.95	-33.8
448	SLD 14	-330	99	4644	-6.57	1293.82	-34.99
448	SLD 15	-413	-181	3694	-0.81	1035.19	62.49
448	SLD 16	-351	-177	3705	-0.83	1037.06	61.3
448	SLV 1	607	176	4906	-7.38	1407.13	-61.18
448	SLV 2	704	182	4923	-7.41	1410.07	-63.05
448	SLV 3	571	-291	3318	2.32	973.18	101.51
448	SLV 4	668	-284	3336	2.29	976.12	99.64
448	SLV 5	234	727	6782	-19.19	1902.23	-253.68
448	SLV 6	300	731	6794	-19.21	1904.21	-254.93
448	SLV 7	113	-828	1491	13.14	455.74	288.62
448	SLV 8	179	-823	1502	13.12	457.71	287.36
448	SLV 9	-135	732	6800	-19.61	1892.24	-255.72
448	SLV 10	-69	736	6812	-19.62	1894.22	-256.98
448	SLV 11	-256	-823	1509	12.72	445.75	286.58
448	SLV 12	-191	-818	1520	12.7	447.73	285.32
448	SLV 13	-624	193	4966	-8.77	1373.83	-68
448	SLV 14	-527	199	4984	-8.8	1376.77	-69.87
448	SLV 15	-660	-274	3379	0.92	939.89	94.69
448	SLV 16	-563	-267	3396	0.9	942.83	92.82
448	SLV FO 1	665	198	4981	-7.8	1430.34	-68.88
448	SLV FO 2	772	205	5001	-7.83	1433.58	-70.94
448	SLV FO 3	625	-315	3235	2.87	953	110.08
448	SLV FO 4	732	-308	3254	2.84	956.24	108.02
448	SLV FO 5	256	804	7045	-20.78	1974.95	-280.63
448	SLV FO 6	328	809	7058	-20.8	1977.13	-282.01
448	SLV FO 7	122	-906	1224	14.78	383.81	315.9
448	SLV FO 8	194	-901	1237	14.76	385.99	314.52
448	SLV FO 9	-151	810	7065	-21.24	1963.97	-282.87
448	SLV FO 10	-79	814	7078	-21.26	1966.14	-284.26
448	SLV FO 11	-284	-900	1244	14.32	372.82	313.65
448	SLV FO 12	-212	-896	1257	14.3	375	312.27
448	SLV FO 13	-689	216	5048	-9.33	1393.72	-76.38
448	SLV FO 14	-582	224	5067	-9.36	1396.95	-78.43
448	SLV FO 15	-729	-297	3302	1.34	916.38	102.58
448	SLV FO 16	-622	-289	3321	1.31	919.61	100.52
448	CRTFP Ux+	0	0	0	0	0	0
448	CRTFP Ux-	0	0	0	0	0	0
448	CRTFP Uy+	0	0	0	0	0	0
448	CRTFP Uy-	0	0	0	0	0	0
451	SLU 1	-67	18	3366	-3.14	-440.26	3.97
451	SLU 2	-70	38	3425	-3.53	-447.71	9.11
451	SLU 3	-69	18	3431	-3.13	-448.12	4.01
451	SLU 4	-70	30	3467	-3.36	-452.58	7.09
451	SLU 5	-71	38	3466	-3.51	-452.64	9.17
451	SLU 6	-70	18	3472	-3.11	-453.05	4.07
451	SLU 7	-71	30	3508	-3.34	-457.52	7.15
451	SLU 8	-69	18	3448	-3.11	-450.13	4.1
451	SLU 9	-71	30	3483	-3.34	-454.59	7.18
451	SLU 10	-74	42	3845	-3.94	-499.8	9.9
451	SLU 11	-74	21	3850	-3.54	-500.21	4.8
451	SLU 12	-75	33	3886	-3.77	-504.68	7.88
451	SLU 13	-75	42	3886	-3.92	-504.73	9.96
451	SLU 14	-75	21	3891	-3.52	-505.14	4.86
451	SLU 15	-76	34	3927	-3.75	-509.61	7.94
451	SLU 16	-74	21	3867	-3.51	-502.22	4.88
451	SLU 17	-75	34	3903	-3.75	-506.69	7.97
451	SLU 18	-74	22	3965	-3.73	-514.68	5.1
451	SLU 19	-76	35	4001	-3.96	-519.15	8.18
451	SLU 20	-75	23	4006	-3.71	-519.61	5.16
451	SLU 21	-76	35	4042	-3.94	-524.08	8.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
451	SLU 22	-76	19	3852	-3.42	-500.3	4.24
451	SLU 23	-79	39	3911	-3.81	-507.75	9.38
451	SLU 24	-78	19	3917	-3.41	-508.16	4.27
451	SLU 25	-80	31	3953	-3.64	-512.62	7.36
451	SLU 26	-80	40	3952	-3.79	-512.68	9.44
451	SLU 27	-79	19	3958	-3.39	-513.09	4.34
451	SLU 28	-80	32	3994	-3.62	-517.56	7.42
451	SLU 29	-78	19	3934	-3.38	-510.17	4.36
451	SLU 30	-80	32	3969	-3.61	-514.63	7.44
451	SLU 31	-84	43	4331	-4.21	-559.84	10.16
451	SLU 32	-83	22	4336	-3.81	-560.25	5.06
451	SLU 33	-84	35	4372	-4.05	-564.72	8.14
451	SLU 34	-85	43	4372	-4.2	-564.77	10.22
451	SLU 35	-84	23	4377	-3.8	-565.18	5.12
451	SLU 36	-85	35	4413	-4.03	-569.65	8.21
451	SLU 37	-83	23	4353	-3.79	-562.26	5.15
451	SLU 38	-85	35	4389	-4.02	-566.73	8.23
451	SLU 39	-83	24	4451	-4	-574.72	5.36
451	SLU 40	-85	36	4487	-4.23	-579.19	8.44
451	SLU 41	-84	24	4492	-3.98	-579.65	5.42
451	SLU 42	-86	36	4528	-4.22	-584.12	8.51
451	SLU 43	-84	22	4209	-3.99	-551.75	5.07
451	SLU 44	-87	43	4268	-4.38	-559.2	10.21
451	SLU 45	-86	23	4274	-3.98	-559.61	5.11
451	SLU 46	-87	35	4310	-4.21	-564.08	8.19
451	SLU 47	-88	43	4309	-4.36	-564.13	10.27
451	SLU 48	-87	23	4315	-3.96	-564.54	5.17
451	SLU 49	-88	35	4351	-4.19	-569.01	8.26
451	SLU 50	-86	23	4291	-3.95	-561.62	5.2
451	SLU 51	-88	35	4326	-4.19	-566.09	8.28
451	SLU 52	-92	46	4688	-4.79	-611.29	11
451	SLU 53	-91	26	4694	-4.39	-611.7	5.9
451	SLU 54	-92	38	4729	-4.62	-616.17	8.98
451	SLU 55	-93	47	4729	-4.77	-616.23	11.06
451	SLU 56	-92	26	4734	-4.37	-616.63	5.96
451	SLU 57	-93	39	4770	-4.6	-621.1	9.04
451	SLU 58	-91	26	4710	-4.36	-613.71	5.98
451	SLU 59	-92	39	4746	-4.6	-618.18	9.07
451	SLU 60	-91	27	4808	-4.57	-626.17	6.2
451	SLU 61	-93	40	4844	-4.81	-630.64	9.28
451	SLU 62	-92	27	4849	-4.56	-631.1	6.26
451	SLU 63	-94	40	4885	-4.79	-635.57	9.34
451	SLU 64	-94	24	4695	-4.27	-611.79	5.34
451	SLU 65	-96	44	4754	-4.65	-619.24	10.48
451	SLU 66	-95	24	4760	-4.25	-619.65	5.38
451	SLU 67	-97	36	4796	-4.49	-624.12	8.46
451	SLU 68	-97	45	4795	-4.64	-624.17	10.54
451	SLU 69	-96	24	4801	-4.24	-624.58	5.44
451	SLU 70	-98	37	4837	-4.47	-629.05	8.52
451	SLU 71	-95	24	4777	-4.23	-621.66	5.46
451	SLU 72	-97	37	4812	-4.46	-626.13	8.54
451	SLU 73	-101	48	5174	-5.06	-671.33	11.26
451	SLU 74	-100	27	5180	-4.66	-671.74	6.16
451	SLU 75	-101	40	5215	-4.89	-676.21	9.25
451	SLU 76	-102	48	5215	-5.04	-676.26	11.33
451	SLU 77	-101	28	5220	-4.64	-676.67	6.22
451	SLU 78	-102	40	5256	-4.88	-681.14	9.31
451	SLU 79	-100	28	5196	-4.64	-673.75	6.25
451	SLU 80	-102	40	5232	-4.87	-678.22	9.33
451	SLU 81	-100	28	5294	-4.85	-686.21	6.46
451	SLU 82	-102	41	5330	-5.08	-690.68	9.55
451	SLU 83	-101	29	5335	-4.83	-691.14	6.52
451	SLU 84	-103	41	5371	-5.06	-695.61	9.61
451	SLE RA 1	-70	18	3505	-3.22	-457.41	4.05
451	SLE RA 2	-72	32	3544	-3.48	-462.38	7.47
451	SLE RA 3	-71	18	3548	-3.21	-462.65	4.07
451	SLE RA 4	-72	26	3572	-3.37	-465.63	6.13
451	SLE RA 5	-72	32	3572	-3.47	-465.67	7.51
451	SLE RA 6	-72	18	3575	-3.2	-465.94	4.11
451	SLE RA 7	-73	27	3599	-3.36	-468.92	6.17
451	SLE RA 8	-71	18	3559	-3.2	-463.99	4.13
451	SLE RA 9	-72	27	3583	-3.35	-466.97	6.19
451	SLE RA 10	-75	34	3824	-3.75	-497.11	8
451	SLE RA 11	-74	20	3828	-3.48	-497.38	4.6
451	SLE RA 12	-75	29	3852	-3.64	-500.36	6.65
451	SLE RA 13	-75	34	3851	-3.74	-500.4	8.04
451	SLE RA 14	-75	20	3855	-3.47	-500.67	4.64
451	SLE RA 15	-76	29	3879	-3.63	-503.65	6.69
451	SLE RA 16	-74	21	3839	-3.47	-498.72	4.65
451	SLE RA 17	-75	29	3863	-3.62	-501.7	6.71
451	SLE RA 18	-74	21	3904	-3.61	-507.03	4.8
451	SLE RA 19	-75	29	3928	-3.77	-510	6.85
451	SLE RA 20	-75	21	3931	-3.6	-510.31	4.84
451	SLE RA 21	-76	30	3955	-3.75	-513.29	6.89
451	SLE FR 1	-70	18	3505	-3.22	-457.41	4.05
451	SLE FR 2	-70	21	3513	-3.27	-458.41	4.73
451	SLE FR 3	-70	18	3516	-3.22	-458.73	4.06
451	SLE FR 4	-72	22	3632	-3.39	-473.29	4.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
451	SLE FR 5	-72	19	3635	-3.33	-473.61	4.29
451	SLE FR 6	-72	20	3704	-3.42	-482.22	4.42
451	SLE QP 1	-70	18	3505	-3.22	-457.41	4.05
451	SLE QP 2	-71	19	3625	-3.34	-472.3	4.27
451	SLD 1	199	173	5094	-7.14	-648.06	58.19
451	SLD 2	242	69	5022	-6.67	-639.98	32.42
451	SLD 3	223	-95	4234	-1.96	-547.93	-8.56
451	SLD 4	267	-199	4163	-1.49	-539.85	-34.33
451	SLD 5	-34	490	5382	-12.42	-678.29	126.16
451	SLD 6	-6	422	5335	-12.11	-673.06	109.49
451	SLD 7	46	-403	2516	4.84	-344.53	-96.35
451	SLD 8	74	-471	2470	5.15	-339.31	-113.02
451	SLD 9	-217	508	4779	-11.83	-605.29	121.56
451	SLD 10	-189	441	4733	-11.52	-600.06	104.89
451	SLD 11	-136	-384	1914	5.43	-271.54	-100.94
451	SLD 12	-108	-452	1867	5.74	-266.31	-117.61
451	SLD 13	-409	236	3086	-5.19	-404.74	42.87
451	SLD 14	-366	132	3015	-4.71	-396.66	17.1
451	SLD 15	-385	-31	2227	-0.01	-304.61	-23.88
451	SLD 16	-342	-136	2155	0.47	-296.53	-49.65
451	SLV 1	350	278	5974	-9.62	-752.97	92.99
451	SLV 2	418	114	5860	-8.86	-740.25	52.42
451	SLV 3	391	-175	4521	-0.87	-583.93	-19.81
451	SLV 4	459	-339	4408	-0.11	-571.21	-60.38
451	SLV 5	-19	814	6553	-18.63	-815.25	209.55
451	SLV 6	27	703	6477	-18.13	-806.69	182.23
451	SLV 7	116	-695	1712	10.53	-251.79	-166.47
451	SLV 8	162	-806	1636	11.04	-243.22	-193.78
451	SLV 9	-305	843	5613	-17.72	-701.37	202.33
451	SLV 10	-259	733	5537	-17.21	-692.81	175.01
451	SLV 11	-169	-666	772	11.45	-137.91	-173.69
451	SLV 12	-124	-776	696	11.96	-129.34	-201
451	SLV 13	-602	377	2841	-6.56	-373.38	68.93
451	SLV 14	-533	213	2728	-5.81	-360.66	28.36
451	SLV 15	-561	-76	1389	2.19	-204.34	-43.88
451	SLV 16	-493	-240	1275	2.94	-191.62	-84.45
451	SLV FO 1	392	304	6208	-10.24	-781.04	101.86
451	SLV FO 2	467	123	6084	-9.42	-767.05	57.24
451	SLV FO 3	437	-194	4611	-0.62	-595.1	-22.22
451	SLV FO 4	512	-375	4486	0.21	-581.11	-66.85
451	SLV FO 5	-14	893	6846	-20.16	-849.55	230.08
451	SLV FO 6	37	772	6762	-19.61	-840.12	200.03
451	SLV FO 7	135	-767	1521	11.92	-229.74	-183.54
451	SLV FO 8	185	-888	1437	12.48	-220.31	-213.59
451	SLV FO 9	-328	926	5812	-19.15	-724.28	222.13
451	SLV FO 10	-277	805	5728	-18.6	-714.86	192.09
451	SLV FO 11	-179	-734	487	12.93	-104.47	-191.48
451	SLV FO 12	-129	-855	403	13.49	-95.05	-221.53
451	SLV FO 13	-655	412	2763	-6.88	-363.49	75.39
451	SLV FO 14	-580	232	2638	-6.06	-349.5	30.77
451	SLV FO 15	-610	-86	1165	2.74	-177.55	-48.69
451	SLV FO 16	-535	-266	1041	3.57	-163.55	-93.32
451	CRTFP Ux+	0	0	0	0	0	0
451	CRTFP Ux-	0	0	0	0	0	0
451	CRTFP Uy+	0	0	0	0	0	0
451	CRTFP Uy-	0	0	0	0	0	0
454	SLU 1	-101	-46	6187	-2.91	-37.76	-3.12
454	SLU 2	-105	-14	6283	-3.5	-36.88	-3.3
454	SLU 3	-103	-47	6301	-2.81	-38.63	-3.2
454	SLU 4	-106	-28	6358	-3.17	-38.1	-3.31
454	SLU 5	-107	-15	6354	-3.42	-37.48	-3.35
454	SLU 6	-104	-48	6371	-2.74	-39.23	-3.25
454	SLU 7	-107	-29	6429	-3.09	-38.7	-3.36
454	SLU 8	-103	-48	6329	-2.75	-38.96	-3.23
454	SLU 9	-106	-29	6386	-3.11	-38.43	-3.33
454	SLU 10	-111	-19	7094	-3.87	-43.22	-3.66
454	SLU 11	-109	-51	7111	-3.18	-44.97	-3.56
454	SLU 12	-112	-32	7168	-3.54	-44.44	-3.66
454	SLU 13	-113	-19	7164	-3.79	-43.81	-3.71
454	SLU 14	-110	-52	7182	-3.11	-45.56	-3.61
454	SLU 15	-113	-33	7239	-3.46	-45.03	-3.72
454	SLU 16	-109	-52	7139	-3.12	-45.29	-3.58
454	SLU 17	-112	-33	7197	-3.48	-44.76	-3.69
454	SLU 18	-109	-52	7345	-3.44	-46.81	-3.63
454	SLU 19	-112	-33	7403	-3.79	-46.28	-3.74
454	SLU 20	-110	-53	7416	-3.36	-47.41	-3.68
454	SLU 21	-113	-34	7474	-3.72	-46.88	-3.79
454	SLU 22	-114	-52	7085	-2.92	-43.72	-3.64
454	SLU 23	-119	-20	7181	-3.51	-42.84	-3.82
454	SLU 24	-117	-53	7198	-2.82	-44.59	-3.72
454	SLU 25	-120	-34	7256	-3.18	-44.06	-3.83
454	SLU 26	-121	-21	7252	-3.43	-43.44	-3.88
454	SLU 27	-118	-54	7269	-2.74	-45.18	-3.78
454	SLU 28	-121	-35	7326	-3.1	-44.66	-3.88
454	SLU 29	-117	-53	7227	-2.76	-44.91	-3.75
454	SLU 30	-120	-34	7284	-3.12	-44.38	-3.86
454	SLU 31	-125	-24	7991	-3.88	-49.17	-4.18
454	SLU 32	-123	-57	8009	-3.19	-50.92	-4.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
454	SLU 33	-125	-38	8066	-3.55	-50.39	-4.19
454	SLU 34	-126	-25	8062	-3.8	-49.77	-4.23
454	SLU 35	-124	-58	8079	-3.12	-51.52	-4.13
454	SLU 36	-127	-39	8137	-3.47	-50.99	-4.24
454	SLU 37	-123	-57	8037	-3.13	-51.25	-4.1
454	SLU 38	-126	-38	8095	-3.49	-50.72	-4.21
454	SLU 39	-123	-58	8243	-3.45	-52.77	-4.15
454	SLU 40	-126	-39	8300	-3.8	-52.24	-4.26
454	SLU 41	-124	-58	8314	-3.37	-53.36	-4.2
454	SLU 42	-127	-39	8371	-3.72	-52.84	-4.31
454	SLU 43	-126	-58	7736	-3.78	-47.05	-3.88
454	SLU 44	-131	-26	7832	-4.37	-46.17	-4.06
454	SLU 45	-128	-59	7849	-3.68	-47.92	-3.96
454	SLU 46	-131	-40	7906	-4.04	-47.39	-4.07
454	SLU 47	-132	-27	7902	-4.29	-46.77	-4.11
454	SLU 48	-130	-60	7920	-3.61	-48.52	-4.01
454	SLU 49	-133	-41	7977	-3.96	-47.99	-4.12
454	SLU 50	-129	-60	7877	-3.62	-48.24	-3.98
454	SLU 51	-132	-40	7935	-3.98	-47.72	-4.09
454	SLU 52	-136	-30	8642	-4.74	-52.5	-4.41
454	SLU 53	-134	-63	8660	-4.05	-54.25	-4.31
454	SLU 54	-137	-44	8717	-4.41	-53.72	-4.42
454	SLU 55	-138	-31	8713	-4.66	-53.1	-4.47
454	SLU 56	-136	-64	8730	-3.98	-54.85	-4.37
454	SLU 57	-138	-45	8788	-4.33	-54.32	-4.47
454	SLU 58	-135	-64	8688	-3.99	-54.58	-4.34
454	SLU 59	-137	-45	8745	-4.35	-54.05	-4.45
454	SLU 60	-134	-64	8894	-4.31	-56.1	-4.38
454	SLU 61	-137	-45	8951	-4.66	-55.57	-4.49
454	SLU 62	-136	-65	8965	-4.23	-56.7	-4.44
454	SLU 63	-138	-46	9022	-4.59	-56.17	-4.55
454	SLU 64	-140	-64	8634	-3.79	-53.01	-4.4
454	SLU 65	-145	-32	8729	-4.38	-52.13	-4.58
454	SLU 66	-142	-65	8747	-3.69	-53.87	-4.48
454	SLU 67	-145	-46	8804	-4.05	-53.35	-4.59
454	SLU 68	-146	-33	8800	-4.3	-52.72	-4.63
454	SLU 69	-144	-65	8817	-3.61	-54.47	-4.53
454	SLU 70	-147	-46	8875	-3.97	-53.94	-4.64
454	SLU 71	-143	-65	8775	-3.63	-54.2	-4.51
454	SLU 72	-146	-46	8832	-3.99	-53.67	-4.61
454	SLU 73	-150	-36	9540	-4.75	-58.46	-4.94
454	SLU 74	-148	-69	9557	-4.06	-60.21	-4.84
454	SLU 75	-151	-50	9615	-4.42	-59.68	-4.94
454	SLU 76	-152	-37	9611	-4.67	-59.06	-4.99
454	SLU 77	-149	-70	9628	-3.99	-60.81	-4.89
454	SLU 78	-152	-51	9685	-4.34	-60.28	-5
454	SLU 79	-148	-69	9586	-4	-60.53	-4.86
454	SLU 80	-151	-50	9643	-4.36	-60.01	-4.97
454	SLU 81	-148	-70	9792	-4.32	-62.05	-4.91
454	SLU 82	-151	-51	9849	-4.67	-61.53	-5.02
454	SLU 83	-150	-70	9862	-4.24	-62.65	-4.96
454	SLU 84	-152	-51	9920	-4.59	-62.12	-5.07
454	SLE RA 1	-105	-48	6444	-2.91	-39.46	-3.27
454	SLE RA 2	-108	-27	6508	-3.31	-38.88	-3.39
454	SLE RA 3	-106	-49	6519	-2.85	-40.04	-3.32
454	SLE RA 4	-108	-36	6558	-3.08	-39.69	-3.4
454	SLE RA 5	-109	-27	6555	-3.25	-39.28	-3.43
454	SLE RA 6	-107	-49	6566	-2.8	-40.44	-3.36
454	SLE RA 7	-109	-36	6605	-3.03	-40.09	-3.43
454	SLE RA 8	-106	-49	6538	-2.81	-40.26	-3.34
454	SLE RA 9	-108	-36	6577	-3.04	-39.91	-3.41
454	SLE RA 10	-112	-29	7048	-3.55	-43.1	-3.63
454	SLE RA 11	-110	-51	7060	-3.1	-44.27	-3.56
454	SLE RA 12	-112	-39	7098	-3.33	-43.91	-3.63
454	SLE RA 13	-112	-30	7095	-3.5	-43.5	-3.66
454	SLE RA 14	-111	-52	7107	-3.04	-44.66	-3.6
454	SLE RA 15	-113	-39	7145	-3.28	-44.31	-3.67
454	SLE RA 16	-110	-51	7079	-3.05	-44.48	-3.58
454	SLE RA 17	-112	-39	7117	-3.29	-44.13	-3.65
454	SLE RA 18	-110	-52	7216	-3.26	-45.5	-3.61
454	SLE RA 19	-112	-39	7254	-3.5	-45.15	-3.68
454	SLE RA 20	-111	-52	7263	-3.21	-45.9	-3.64
454	SLE RA 21	-113	-39	7301	-3.45	-45.54	-3.72
454	SLE FR 1	-105	-48	6444	-2.91	-39.46	-3.27
454	SLE FR 2	-105	-44	6457	-2.99	-39.35	-3.29
454	SLE FR 3	-105	-48	6463	-2.89	-39.62	-3.28
454	SLE FR 4	-107	-45	6688	-3.1	-41.16	-3.39
454	SLE FR 5	-107	-49	6694	-3	-41.43	-3.38
454	SLE FR 6	-107	-50	6830	-3.09	-42.48	-3.44
454	SLE QP 1	-105	-48	6444	-2.91	-39.46	-3.27
454	SLE QP 2	-106	-49	6676	-3.02	-41.27	-3.37
454	SLD 1	468	151	8060	-7.56	-20.78	-1.95
454	SLD 2	562	67	7985	-7.16	-22.68	0.42
454	SLD 3	513	-256	6672	0.54	-26.97	-0.24
454	SLD 4	607	-340	6597	0.94	-28.86	2.13
454	SLD 5	-19	642	9209	-16.74	-25.42	-5.94
454	SLD 6	42	588	9161	-16.48	-26.64	-4.41
454	SLD 7	132	-713	4582	10.27	-46.03	-0.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
454	SLD 8	193	-767	4534	10.53	-47.26	1.27
454	SLD 9	-405	669	8818	-16.56	-35.29	-8.01
454	SLD 10	-344	615	8769	-16.3	-36.52	-6.48
454	SLD 11	-254	-686	4190	10.45	-55.9	-2.34
454	SLD 12	-193	-740	4142	10.7	-57.13	-0.8
454	SLD 13	-819	242	6754	-6.97	-53.69	-8.87
454	SLD 14	-725	158	6680	-6.58	-55.58	-6.5
454	SLD 15	-774	-165	5366	1.13	-59.87	-7.16
454	SLD 16	-680	-248	5291	1.52	-61.77	-4.8
454	SLV 1	788	289	8926	-10.65	-8.89	-1.26
454	SLV 2	937	157	8808	-10.02	-11.88	2.47
454	SLV 3	864	-398	6580	3.04	-19.32	1.61
454	SLV 4	1013	-530	6462	3.67	-22.31	5.34
454	SLV 5	19	1119	10931	-26.18	-15.18	-7.79
454	SLV 6	119	1030	10852	-25.76	-17.19	-5.28
454	SLV 7	272	-1171	3111	19.44	-49.95	1.78
454	SLV 8	373	-1259	3032	19.86	-51.96	4.29
454	SLV 9	-585	1162	10319	-25.9	-30.58	-11.04
454	SLV 10	-485	1073	10240	-25.48	-32.6	-8.52
454	SLV 11	-332	-1128	2500	19.73	-65.36	-1.46
454	SLV 12	-232	-1217	2420	20.15	-67.37	1.05
454	SLV 13	-1225	432	6889	-9.7	-60.24	-12.08
454	SLV 14	-1077	300	6771	-9.08	-63.23	-8.35
454	SLV 15	-1149	-255	4543	3.99	-70.67	-9.21
454	SLV 16	-1001	-387	4425	4.61	-73.66	-5.48
454	SLV FO 1	878	323	9151	-11.41	-5.65	-1.05
454	SLV FO 2	1041	178	9022	-10.72	-8.94	3.05
454	SLV FO 3	961	-433	6570	3.65	-17.13	2.11
454	SLV FO 4	1125	-578	6441	4.33	-20.42	6.21
454	SLV FO 5	32	1235	11356	-28.5	-12.57	-8.23
454	SLV FO 6	142	1138	11269	-28.04	-14.78	-5.47
454	SLV FO 7	310	-1283	2754	21.69	-50.82	2.3
454	SLV FO 8	420	-1381	2667	22.15	-53.03	5.06
454	SLV FO 9	-633	1283	10684	-28.19	-29.51	-11.8
454	SLV FO 10	-523	1185	10597	-27.73	-31.73	-9.04
454	SLV FO 11	-354	-1236	2082	22	-67.76	-1.27
454	SLV FO 12	-244	-1333	1995	22.46	-69.98	1.49
454	SLV FO 13	-1337	480	6910	-10.37	-62.13	-12.95
454	SLV FO 14	-1174	335	6781	-9.68	-65.42	-8.85
454	SLV FO 15	-1254	-276	4329	4.69	-73.61	-9.8
454	SLV FO 16	-1090	-421	4200	5.37	-76.9	-5.69
454	CRTFP Ux+	0	0	0	0	0	0
454	CRTFP Ux-	0	0	0	0	0	0
454	CRTFP Uy+	0	0	0	0	0	0
454	CRTFP Uy-	0	0	0	0	0	0
457	SLU 1	51	-87	6232	-3.11	40.24	-1.3
457	SLU 2	54	-55	6333	-3.7	39.2	-1.16
457	SLU 3	52	-89	6337	-3.01	41.22	-1.36
457	SLU 4	53	-69	6398	-3.36	40.6	-1.27
457	SLU 5	54	-56	6395	-3.61	39.91	-1.21
457	SLU 6	51	-90	6398	-2.92	41.94	-1.4
457	SLU 7	53	-70	6459	-3.27	41.32	-1.32
457	SLU 8	50	-89	6355	-2.93	41.68	-1.39
457	SLU 9	52	-70	6416	-3.28	41.05	-1.3
457	SLU 10	56	-63	7137	-4.13	44.79	-1.28
457	SLU 11	53	-98	7141	-3.45	46.82	-1.47
457	SLU 12	55	-78	7202	-3.8	46.19	-1.39
457	SLU 13	55	-64	7199	-4.04	45.51	-1.32
457	SLU 14	52	-99	7202	-3.36	47.54	-1.51
457	SLU 15	54	-79	7263	-3.71	46.91	-1.43
457	SLU 16	51	-98	7159	-3.37	47.28	-1.5
457	SLU 17	53	-78	7219	-3.72	46.65	-1.42
457	SLU 18	53	-100	7380	-3.73	48.24	-1.46
457	SLU 19	55	-80	7441	-4.08	47.61	-1.38
457	SLU 20	53	-101	7442	-3.65	48.96	-1.51
457	SLU 21	54	-81	7503	-4	48.33	-1.42
457	SLU 22	58	-98	7121	-3.16	45.99	-1.45
457	SLU 23	60	-65	7223	-3.74	44.95	-1.32
457	SLU 24	58	-99	7226	-3.06	46.97	-1.51
457	SLU 25	59	-80	7287	-3.41	46.35	-1.42
457	SLU 26	60	-66	7284	-3.66	45.66	-1.36
457	SLU 27	57	-100	7287	-2.97	47.69	-1.55
457	SLU 28	59	-81	7348	-3.32	47.07	-1.47
457	SLU 29	56	-100	7244	-2.98	47.43	-1.54
457	SLU 30	58	-80	7305	-3.33	46.8	-1.46
457	SLU 31	62	-74	8026	-4.18	50.54	-1.43
457	SLU 32	59	-108	8030	-3.5	52.57	-1.62
457	SLU 33	61	-89	8091	-3.85	51.94	-1.54
457	SLU 34	61	-75	8088	-4.09	51.26	-1.47
457	SLU 35	58	-109	8091	-3.41	53.29	-1.66
457	SLU 36	60	-90	8152	-3.76	52.66	-1.58
457	SLU 37	58	-108	8048	-3.42	53.03	-1.65
457	SLU 38	59	-89	8108	-3.77	52.4	-1.57
457	SLU 39	60	-110	8269	-3.78	53.99	-1.62
457	SLU 40	61	-90	8330	-4.13	53.36	-1.53
457	SLU 41	59	-111	8331	-3.69	54.71	-1.66
457	SLU 42	61	-91	8392	-4.05	54.08	-1.57
457	SLU 43	65	-110	7797	-4.03	50.34	-1.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
457	SLU 44	67	-77	7898	-4.61	49.3	-1.5
457	SLU 45	65	-112	7902	-3.93	51.33	-1.69
457	SLU 46	67	-92	7963	-4.28	50.7	-1.61
457	SLU 47	67	-78	7960	-4.52	50.02	-1.55
457	SLU 48	64	-113	7963	-3.84	52.04	-1.74
457	SLU 49	66	-93	8024	-4.19	51.42	-1.65
457	SLU 50	63	-112	7920	-3.85	51.78	-1.73
457	SLU 51	65	-92	7981	-4.2	51.15	-1.64
457	SLU 52	69	-86	8702	-5.05	54.9	-1.62
457	SLU 53	66	-120	8706	-4.36	56.92	-1.81
457	SLU 54	68	-101	8766	-4.71	56.3	-1.72
457	SLU 55	68	-87	8763	-4.96	55.61	-1.66
457	SLU 56	66	-121	8767	-4.28	57.64	-1.85
457	SLU 57	67	-102	8828	-4.63	57.01	-1.77
457	SLU 58	65	-121	8723	-4.29	57.38	-1.84
457	SLU 59	66	-101	8784	-4.64	56.75	-1.76
457	SLU 60	67	-122	8945	-4.65	58.34	-1.8
457	SLU 61	68	-103	9006	-5	57.71	-1.72
457	SLU 62	66	-123	9007	-4.56	59.06	-1.84
457	SLU 63	68	-104	9067	-4.91	58.43	-1.76
457	SLU 64	71	-120	8686	-4.08	56.09	-1.79
457	SLU 65	74	-88	8787	-4.66	55.05	-1.66
457	SLU 66	71	-122	8791	-3.98	57.08	-1.85
457	SLU 67	73	-102	8852	-4.33	56.45	-1.76
457	SLU 68	73	-89	8849	-4.57	55.77	-1.7
457	SLU 69	70	-123	8852	-3.89	57.79	-1.89
457	SLU 70	72	-103	8913	-4.24	57.17	-1.81
457	SLU 71	70	-122	8809	-3.9	57.53	-1.88
457	SLU 72	71	-103	8870	-4.25	56.9	-1.8
457	SLU 73	75	-96	9591	-5.1	60.64	-1.77
457	SLU 74	72	-131	9595	-4.41	62.67	-1.96
457	SLU 75	74	-111	9655	-4.76	62.05	-1.88
457	SLU 76	74	-97	9652	-5.01	61.36	-1.81
457	SLU 77	72	-132	9656	-4.32	63.39	-2
457	SLU 78	73	-112	9717	-4.67	62.76	-1.92
457	SLU 79	71	-131	9613	-4.34	63.13	-1.99
457	SLU 80	73	-111	9673	-4.69	62.5	-1.91
457	SLU 81	73	-133	9834	-4.7	64.09	-1.95
457	SLU 82	74	-113	9895	-5.05	63.46	-1.87
457	SLU 83	72	-134	9896	-4.61	64.81	-2
457	SLU 84	74	-114	9956	-4.96	64.18	-1.91
457	SLE RA 1	53	-90	6486	-3.13	41.88	-1.35
457	SLE RA 2	55	-69	6554	-3.51	41.19	-1.25
457	SLE RA 3	53	-91	6556	-3.06	42.54	-1.38
457	SLE RA 4	54	-78	6597	-3.29	42.12	-1.33
457	SLE RA 5	55	-69	6595	-3.46	41.67	-1.28
457	SLE RA 6	53	-92	6597	-3	43.02	-1.41
457	SLE RA 7	54	-79	6637	-3.23	42.6	-1.35
457	SLE RA 8	52	-92	6568	-3.01	42.84	-1.4
457	SLE RA 9	53	-79	6609	-3.24	42.42	-1.35
457	SLE RA 10	56	-74	7090	-3.81	44.92	-1.33
457	SLE RA 11	54	-97	7092	-3.35	46.27	-1.46
457	SLE RA 12	55	-84	7132	-3.58	45.85	-1.4
457	SLE RA 13	56	-75	7130	-3.75	45.4	-1.36
457	SLE RA 14	54	-98	7133	-3.29	46.75	-1.48
457	SLE RA 15	55	-85	7173	-3.52	46.33	-1.43
457	SLE RA 16	53	-97	7104	-3.3	46.57	-1.48
457	SLE RA 17	54	-84	7144	-3.53	46.16	-1.42
457	SLE RA 18	54	-98	7252	-3.54	47.22	-1.45
457	SLE RA 19	56	-85	7292	-3.77	46.8	-1.4
457	SLE RA 20	54	-99	7293	-3.48	47.69	-1.48
457	SLE RA 21	55	-86	7333	-3.72	47.28	-1.43
457	SLE FR 1	53	-90	6486	-3.13	41.88	-1.35
457	SLE FR 2	54	-86	6500	-3.2	41.75	-1.33
457	SLE FR 3	53	-91	6503	-3.1	42.08	-1.36
457	SLE FR 4	54	-88	6729	-3.33	43.34	-1.36
457	SLE FR 5	53	-93	6732	-3.23	43.68	-1.39
457	SLE FR 6	54	-94	6869	-3.33	44.55	-1.4
457	SLE QP 1	53	-90	6486	-3.13	41.88	-1.35
457	SLE QP 2	54	-93	6716	-3.25	43.48	-1.38
457	SLD 1	682	146	6794	-6.3	52.14	2.58
457	SLD 2	780	228	6871	-6.69	49.76	4.81
457	SLD 3	652	-285	5316	1.63	59.16	0.95
457	SLD 4	750	-203	5392	1.24	56.78	3.17
457	SLD 5	271	619	8968	-16.12	35.85	1.9
457	SLD 6	335	672	9018	-16.38	34.31	3.34
457	SLD 7	170	-819	4040	10.31	59.25	-3.54
457	SLD 8	233	-766	4090	10.06	57.7	-2.1
457	SLD 9	-126	581	9342	-16.56	29.26	-0.66
457	SLD 10	-63	634	9391	-16.81	27.72	0.78
457	SLD 11	-228	-858	4414	9.88	52.66	-6.09
457	SLD 12	-164	-805	4463	9.62	51.12	-4.65
457	SLD 13	-642	18	8039	-7.74	30.19	-5.93
457	SLD 14	-545	100	8116	-8.13	27.81	-3.71
457	SLD 15	-673	-414	6561	0.19	37.21	-7.56
457	SLD 16	-575	-331	6637	-0.2	34.83	-5.34
457	SLV 1	1038	307	6934	-8.5	56.6	4.9
457	SLV 2	1192	437	7054	-9.12	52.85	8.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
457	SLV 3	987	-422	4436	4.9	68.45	2.14
457	SLV 4	1141	-292	4556	4.28	64.7	5.64
457	SLV 5	399	1109	10548	-25.03	30.15	4.03
457	SLV 6	502	1196	10629	-25.45	27.63	6.39
457	SLV 7	226	-1322	2221	19.63	69.64	-5.16
457	SLV 8	330	-1234	2302	19.22	67.11	-2.8
457	SLV 9	-223	1049	11130	-25.71	19.85	0.04
457	SLV 10	-119	1136	11211	-26.13	17.33	2.4
457	SLV 11	-395	-1382	2803	18.95	59.34	-9.15
457	SLV 12	-291	-1295	2884	18.53	56.81	-6.79
457	SLV 13	-1034	107	8875	-10.78	22.27	-8.4
457	SLV 14	-880	236	8996	-11.4	18.52	-4.9
457	SLV 15	-1085	-622	6377	2.62	34.12	-11.16
457	SLV 16	-931	-493	6498	2	30.37	-7.65
457	SLV FO 1	1137	348	6956	-9.03	57.91	5.52
457	SLV FO 2	1306	490	7088	-9.7	53.79	9.38
457	SLV FO 3	1080	-455	4208	5.71	70.94	2.49
457	SLV FO 4	1250	-312	4340	5.03	66.82	6.35
457	SLV FO 5	433	1229	10931	-27.21	28.82	4.57
457	SLV FO 6	547	1325	11020	-27.67	26.04	7.17
457	SLV FO 7	244	-1444	1771	21.92	72.26	-5.54
457	SLV FO 8	358	-1349	1860	21.46	69.48	-2.94
457	SLV FO 9	-251	1163	11571	-27.96	17.49	0.18
457	SLV FO 10	-137	1259	11661	-28.42	14.71	2.78
457	SLV FO 11	-440	-1511	2412	21.17	60.93	-9.92
457	SLV FO 12	-326	-1415	2501	20.71	58.15	-7.33
457	SLV FO 13	-1142	127	9091	-11.53	20.15	-9.1
457	SLV FO 14	-973	269	9224	-12.21	16.02	-5.25
457	SLV FO 15	-1199	-675	6344	3.2	33.18	-12.13
457	SLV FO 16	-1030	-533	6476	2.53	29.05	-8.28
457	CRTFP Ux+	0	0	0	0	0	0
457	CRTFP Ux-	0	0	0	0	0	0
457	CRTFP Uy+	0	0	0	0	0	0
457	CRTFP Uy-	0	0	0	0	0	0
460	SLU 1	40	34	3780	-2.75	794.78	-11.72
460	SLU 2	42	57	3846	-3.19	808.45	-19.99
460	SLU 3	40	35	3843	-2.69	807.02	-12.11
460	SLU 4	41	49	3882	-2.95	815.22	-17.07
460	SLU 5	42	59	3880	-3.13	815.18	-20.43
460	SLU 6	40	36	3877	-2.63	813.75	-12.55
460	SLU 7	41	50	3917	-2.89	821.95	-17.52
460	SLU 8	39	36	3849	-2.63	808.24	-12.6
460	SLU 9	41	51	3888	-2.89	816.44	-17.57
460	SLU 10	44	62	4312	-3.57	901.76	-21.46
460	SLU 11	42	39	4308	-3.07	900.33	-13.58
460	SLU 12	43	53	4348	-3.34	908.53	-18.54
460	SLU 13	44	63	4346	-3.51	908.49	-21.9
460	SLU 14	42	40	4343	-3.01	907.06	-14.02
460	SLU 15	43	55	4382	-3.28	915.26	-18.99
460	SLU 16	41	41	4314	-3.01	901.54	-14.07
460	SLU 17	43	55	4354	-3.27	909.75	-19.04
460	SLU 18	42	40	4445	-3.3	928.08	-13.82
460	SLU 19	44	54	4485	-3.56	936.28	-18.78
460	SLU 20	42	41	4479	-3.23	934.8	-14.26
460	SLU 21	44	55	4519	-3.5	943.01	-19.22
460	SLU 22	45	36	4309	-2.93	900.37	-12.58
460	SLU 23	47	60	4375	-3.37	914.04	-20.85
460	SLU 24	45	37	4372	-2.88	912.61	-12.97
460	SLU 25	46	52	4412	-3.14	920.81	-17.93
460	SLU 26	46	61	4410	-3.31	920.77	-21.3
460	SLU 27	45	39	4406	-2.82	919.34	-13.41
460	SLU 28	46	53	4446	-3.08	927.54	-18.38
460	SLU 29	44	39	4378	-2.81	913.82	-13.46
460	SLU 30	45	53	4417	-3.07	922.03	-18.43
460	SLU 31	48	64	4841	-3.75	1007.35	-22.32
460	SLU 32	47	42	4837	-3.26	1005.92	-14.44
460	SLU 33	48	56	4877	-3.52	1014.12	-19.41
460	SLU 34	48	66	4875	-3.69	1014.07	-22.77
460	SLU 35	47	43	4872	-3.2	1012.64	-14.88
460	SLU 36	48	57	4911	-3.46	1020.85	-19.85
460	SLU 37	46	43	4843	-3.19	1007.13	-14.94
460	SLU 38	47	57	4883	-3.46	1015.33	-19.9
460	SLU 39	47	42	4974	-3.48	1033.66	-14.68
460	SLU 40	48	57	5014	-3.74	1041.87	-19.64
460	SLU 41	47	44	5008	-3.42	1040.39	-15.12
460	SLU 42	48	58	5048	-3.68	1048.59	-20.09
460	SLU 43	50	43	4733	-3.51	997.01	-14.94
460	SLU 44	52	67	4799	-3.95	1010.68	-23.21
460	SLU 45	50	44	4795	-3.45	1009.25	-15.33
460	SLU 46	52	58	4835	-3.71	1017.46	-20.29
460	SLU 47	52	68	4833	-3.89	1017.41	-23.65
460	SLU 48	50	45	4830	-3.39	1015.98	-15.77
460	SLU 49	51	60	4869	-3.65	1024.19	-20.74
460	SLU 50	50	46	4801	-3.39	1010.47	-15.82
460	SLU 51	51	60	4841	-3.65	1018.67	-20.79
460	SLU 52	54	71	5264	-4.33	1103.99	-24.68
460	SLU 53	52	48	5261	-3.83	1102.56	-16.8
460	SLU 54	54	63	5301	-4.1	1110.76	-21.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
460	SLU 55	54	72	5298	-4.27	1110.72	-25.12
460	SLU 56	52	50	5295	-3.77	1109.29	-17.24
460	SLU 57	53	64	5335	-4.04	1117.49	-22.21
460	SLU 58	52	50	5267	-3.77	1103.77	-17.29
460	SLU 59	53	64	5306	-4.03	1111.98	-22.26
460	SLU 60	53	49	5398	-4.06	1130.31	-17.04
460	SLU 61	54	63	5437	-4.32	1138.51	-22
460	SLU 62	53	50	5432	-4	1137.04	-17.48
460	SLU 63	54	65	5472	-4.26	1145.24	-22.44
460	SLU 64	55	46	5262	-3.69	1102.6	-15.8
460	SLU 65	57	69	5328	-4.13	1116.27	-24.07
460	SLU 66	55	47	5324	-3.64	1114.84	-16.19
460	SLU 67	56	61	5364	-3.9	1123.05	-21.15
460	SLU 68	57	71	5362	-4.07	1123	-24.52
460	SLU 69	55	48	5359	-3.58	1121.57	-16.63
460	SLU 70	56	62	5399	-3.84	1129.77	-21.6
460	SLU 71	55	48	5330	-3.57	1116.06	-16.68
460	SLU 72	56	62	5370	-3.84	1124.26	-21.65
460	SLU 73	59	74	5793	-4.52	1209.58	-25.54
460	SLU 74	57	51	5790	-4.02	1208.15	-17.66
460	SLU 75	58	65	5830	-4.28	1216.35	-22.62
460	SLU 76	59	75	5828	-4.45	1216.31	-25.99
460	SLU 77	57	52	5824	-3.96	1214.88	-18.1
460	SLU 78	58	66	5864	-4.22	1223.08	-23.07
460	SLU 79	56	52	5796	-3.96	1209.36	-18.15
460	SLU 80	58	67	5836	-4.22	1217.57	-23.12
460	SLU 81	58	52	5927	-4.24	1235.9	-17.9
460	SLU 82	59	66	5966	-4.5	1244.1	-22.86
460	SLU 83	57	53	5961	-4.18	1242.62	-18.34
460	SLU 84	59	67	6001	-4.44	1250.83	-23.31
460	SLE RA 1	41	35	3931	-2.8	824.95	-11.96
460	SLE RA 2	42	50	3975	-3.09	834.06	-17.48
460	SLE RA 3	41	35	3973	-2.76	833.11	-12.22
460	SLE RA 4	42	45	3999	-2.94	838.58	-15.53
460	SLE RA 5	42	51	3998	-3.05	838.55	-17.77
460	SLE RA 6	41	36	3996	-2.72	837.59	-12.52
460	SLE RA 7	42	46	4022	-2.9	843.06	-15.83
460	SLE RA 8	41	36	3977	-2.72	833.92	-12.55
460	SLE RA 9	42	46	4003	-2.9	839.39	-15.86
460	SLE RA 10	44	53	4286	-3.35	896.27	-18.46
460	SLE RA 11	43	38	4283	-3.02	895.31	-13.2
460	SLE RA 12	43	48	4310	-3.19	900.78	-16.51
460	SLE RA 13	44	54	4308	-3.31	900.75	-18.75
460	SLE RA 14	43	39	4306	-2.98	899.8	-13.5
460	SLE RA 15	43	48	4333	-3.15	905.27	-16.81
460	SLE RA 16	42	39	4287	-2.98	896.12	-13.53
460	SLE RA 17	43	49	4314	-3.15	901.59	-16.84
460	SLE RA 18	43	39	4374	-3.17	913.81	-13.36
460	SLE RA 19	44	48	4401	-3.34	919.28	-16.67
460	SLE RA 20	43	39	4397	-3.13	918.3	-13.66
460	SLE RA 21	44	49	4424	-3.3	923.77	-16.97
460	SLE FR 1	41	35	3931	-2.8	824.95	-11.96
460	SLE FR 2	41	38	3940	-2.86	826.77	-13.07
460	SLE FR 3	41	35	3940	-2.78	826.74	-12.08
460	SLE FR 4	42	39	4073	-2.97	853.43	-13.49
460	SLE FR 5	42	36	4073	-2.89	853.4	-12.5
460	SLE FR 6	42	37	4153	-2.98	869.38	-12.66
460	SLE QP 1	41	35	3931	-2.8	824.95	-11.96
460	SLE QP 2	42	36	4064	-2.91	851.61	-12.38
460	SLD 1	401	95	3434	-4.59	730.06	-32.96
460	SLD 2	454	215	3514	-5.11	745.22	-74.72
460	SLD 3	375	-213	2483	1.34	548.3	74.45
460	SLD 4	428	-93	2564	0.82	563.47	32.69
460	SLD 5	179	499	5302	-12.32	1088.17	-174.22
460	SLD 6	214	577	5354	-12.66	1097.98	-201.24
460	SLD 7	93	-526	2135	7.46	482.32	183.82
460	SLD 8	128	-448	2187	7.12	492.13	156.8
460	SLD 9	-44	520	5941	-12.94	1211.08	-181.57
460	SLD 10	-10	598	5994	-13.28	1220.89	-208.59
460	SLD 11	-131	-505	2774	6.84	605.23	176.48
460	SLD 12	-96	-427	2826	6.5	615.04	149.46
460	SLD 13	-345	164	5565	-6.64	1139.75	-57.45
460	SLD 14	-292	284	5645	-7.17	1154.91	-99.22
460	SLD 15	-371	-143	4614	-0.71	957.99	49.96
460	SLD 16	-317	-23	4695	-1.23	973.16	8.2
460	SLV 1	605	146	3141	-5.91	673.62	-50.96
460	SLV 2	689	335	3268	-6.73	697.5	-116.72
460	SLV 3	561	-374	1536	4.12	366.63	130.59
460	SLV 4	645	-185	1663	3.3	390.51	64.84
460	SLV 5	261	822	6198	-18.86	1259.34	-287.04
460	SLV 6	318	949	6284	-19.42	1275.42	-331.31
460	SLV 7	115	-911	847	14.56	236.07	318.14
460	SLV 8	172	-783	933	14.01	252.14	273.87
460	SLV 9	-89	855	7196	-19.83	1451.07	-298.64
460	SLV 10	-32	982	7281	-20.38	1467.15	-342.91
460	SLV 11	-235	-877	1845	13.6	427.79	306.55
460	SLV 12	-178	-750	1930	13.04	443.87	262.28
460	SLV 13	-562	256	6466	-9.12	1312.7	-89.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
460	SLV 14	-478	445	6592	-9.94	1336.58	-155.36
460	SLV 15	-605	-263	4860	0.91	1005.72	91.95
460	SLV 16	-522	-74	4987	0.09	1029.6	26.2
460	SLV FO 1	661	157	3049	-6.21	655.82	-54.82
460	SLV FO 2	753	365	3188	-7.11	682.09	-127.15
460	SLV FO 3	613	-415	1283	4.82	318.14	144.89
460	SLV FO 4	705	-207	1422	3.92	344.4	72.56
460	SLV FO 5	283	900	6412	-20.46	1300.12	-314.51
460	SLV FO 6	345	1040	6506	-21.07	1317.8	-363.21
460	SLV FO 7	123	-1005	526	16.3	174.51	351.19
460	SLV FO 8	185	-865	619	15.7	192.2	302.49
460	SLV FO 9	-102	937	7509	-21.52	1511.02	-327.26
460	SLV FO 10	-39	1077	7603	-22.13	1528.7	-375.96
460	SLV FO 11	-262	-969	1623	15.25	385.41	338.44
460	SLV FO 12	-200	-829	1717	14.64	403.1	289.74
460	SLV FO 13	-622	278	6706	-9.74	1358.81	-97.32
460	SLV FO 14	-530	486	6845	-10.64	1385.08	-169.66
460	SLV FO 15	-670	-293	4940	1.29	1021.13	102.39
460	SLV FO 16	-578	-85	5079	0.39	1047.4	30.05
460	CRTFP Ux+	0	0	0	0	0	0
460	CRTFP Ux-	0	0	0	0	0	0
460	CRTFP Uy+	0	0	0	0	0	0
460	CRTFP Uy-	0	0	0	0	0	0
462	SLU 1	26	-44	3794	-0.81	1041.17	15.15
462	SLU 2	27	-22	3842	-1.13	1053.14	7.54
462	SLU 3	26	-45	3864	-0.75	1059.74	15.56
462	SLU 4	27	-32	3893	-0.94	1066.93	11
462	SLU 5	27	-23	3886	-1.09	1064.65	7.87
462	SLU 6	25	-46	3907	-0.7	1071.25	15.89
462	SLU 7	26	-33	3936	-0.9	1078.43	11.33
462	SLU 8	25	-46	3880	-0.72	1064.18	15.8
462	SLU 9	26	-33	3909	-0.91	1071.36	11.24
462	SLU 10	29	-27	4347	-1.28	1188.75	9.39
462	SLU 11	27	-50	4368	-0.9	1195.35	17.41
462	SLU 12	28	-37	4397	-1.1	1202.54	12.85
462	SLU 13	29	-28	4390	-1.24	1200.26	9.71
462	SLU 14	27	-51	4411	-0.86	1206.86	17.73
462	SLU 15	28	-38	4440	-1.05	1214.04	13.17
462	SLU 16	27	-51	4385	-0.87	1199.79	17.64
462	SLU 17	28	-38	4414	-1.06	1206.97	13.08
462	SLU 18	28	-52	4514	-1.02	1234.9	17.78
462	SLU 19	29	-38	4544	-1.22	1242.08	13.22
462	SLU 20	28	-52	4558	-0.98	1246.4	18.1
462	SLU 21	29	-39	4587	-1.17	1253.59	13.54
462	SLU 22	29	-50	4325	-0.72	1183.16	17.22
462	SLU 23	30	-28	4374	-1.05	1195.13	9.62
462	SLU 24	29	-51	4395	-0.67	1201.73	17.64
462	SLU 25	30	-38	4424	-0.86	1208.92	13.07
462	SLU 26	30	-29	4417	-1	1206.64	9.94
462	SLU 27	28	-52	4438	-0.62	1213.24	17.96
462	SLU 28	29	-39	4467	-0.82	1220.42	13.4
462	SLU 29	28	-52	4412	-0.63	1206.17	17.87
462	SLU 30	29	-39	4441	-0.83	1213.35	13.31
462	SLU 31	32	-33	4878	-1.2	1330.74	11.46
462	SLU 32	30	-56	4900	-0.82	1337.34	19.48
462	SLU 33	31	-43	4929	-1.02	1344.52	14.92
462	SLU 34	32	-34	4922	-1.16	1342.24	11.78
462	SLU 35	30	-57	4943	-0.78	1348.85	19.8
462	SLU 36	31	-44	4972	-0.97	1356.03	15.24
462	SLU 37	30	-57	4916	-0.79	1341.78	19.71
462	SLU 38	31	-44	4945	-0.98	1348.96	15.15
462	SLU 39	31	-57	5046	-0.94	1376.88	19.85
462	SLU 40	32	-44	5075	-1.14	1384.07	15.29
462	SLU 41	31	-58	5089	-0.9	1388.39	20.18
462	SLU 42	32	-45	5118	-1.09	1395.57	15.61
462	SLU 43	32	-55	4750	-1.07	1304.84	18.98
462	SLU 44	34	-33	4798	-1.4	1316.81	11.38
462	SLU 45	32	-56	4819	-1.02	1323.41	19.4
462	SLU 46	33	-43	4849	-1.21	1330.6	14.84
462	SLU 47	34	-34	4842	-1.35	1328.32	11.7
462	SLU 48	32	-57	4863	-0.97	1334.92	19.72
462	SLU 49	33	-44	4892	-1.17	1342.1	15.16
462	SLU 50	32	-57	4836	-0.98	1327.85	19.63
462	SLU 51	33	-44	4865	-1.18	1335.03	15.07
462	SLU 52	36	-38	5303	-1.55	1452.42	13.22
462	SLU 53	34	-62	5324	-1.17	1459.02	21.24
462	SLU 54	35	-48	5353	-1.37	1466.21	16.68
462	SLU 55	35	-39	5346	-1.51	1463.93	13.55
462	SLU 56	34	-62	5367	-1.13	1470.53	21.57
462	SLU 57	35	-49	5396	-1.32	1477.71	17
462	SLU 58	34	-62	5340	-1.14	1463.46	21.47
462	SLU 59	35	-49	5370	-1.33	1470.64	16.91
462	SLU 60	35	-63	5470	-1.29	1498.56	21.61
462	SLU 61	36	-50	5499	-1.49	1505.75	17.05
462	SLU 62	35	-64	5513	-1.25	1510.07	21.94
462	SLU 63	36	-50	5543	-1.44	1517.25	17.38
462	SLU 64	35	-61	5281	-0.99	1446.82	21.05
462	SLU 65	37	-39	5330	-1.32	1458.8	13.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
462	SLU 66	35	-62	5351	-0.94	1465.4	21.47
462	SLU 67	36	-49	5380	-1.13	1472.59	16.91
462	SLU 68	37	-40	5373	-1.27	1470.3	13.77
462	SLU 69	35	-63	5394	-0.89	1476.91	21.79
462	SLU 70	36	-50	5423	-1.09	1484.09	17.23
462	SLU 71	35	-63	5368	-0.9	1469.84	21.7
462	SLU 72	36	-50	5397	-1.1	1477.02	17.14
462	SLU 73	39	-44	5834	-1.47	1594.41	15.29
462	SLU 74	37	-68	5855	-1.09	1601.01	23.31
462	SLU 75	38	-54	5885	-1.28	1608.19	18.75
462	SLU 76	38	-45	5877	-1.43	1605.91	15.62
462	SLU 77	37	-68	5899	-1.04	1612.52	23.64
462	SLU 78	38	-55	5928	-1.24	1619.7	19.08
462	SLU 79	36	-68	5872	-1.06	1605.45	23.55
462	SLU 80	37	-55	5901	-1.25	1612.63	18.98
462	SLU 81	38	-69	6002	-1.21	1640.55	23.68
462	SLU 82	39	-56	6031	-1.41	1647.74	19.12
462	SLU 83	37	-70	6045	-1.17	1652.06	24.01
462	SLU 84	38	-56	6074	-1.36	1659.24	19.45
462	SLE RA 1	27	-46	3946	-0.78	1081.74	15.74
462	SLE RA 2	28	-31	3978	-1	1089.72	10.67
462	SLE RA 3	27	-46	3992	-0.74	1094.12	16.02
462	SLE RA 4	27	-38	4012	-0.87	1098.91	12.98
462	SLE RA 5	27	-32	4007	-0.97	1097.39	10.89
462	SLE RA 6	26	-47	4021	-0.71	1101.79	16.23
462	SLE RA 7	27	-38	4040	-0.84	1106.58	13.19
462	SLE RA 8	26	-47	4003	-0.72	1097.08	16.17
462	SLE RA 9	27	-38	4023	-0.85	1101.87	13.13
462	SLE RA 10	29	-35	4314	-1.1	1180.12	11.9
462	SLE RA 11	28	-50	4328	-0.85	1184.53	17.25
462	SLE RA 12	28	-41	4348	-0.98	1189.32	14.2
462	SLE RA 13	29	-35	4343	-1.07	1187.8	12.12
462	SLE RA 14	27	-51	4357	-0.82	1192.2	17.46
462	SLE RA 15	28	-42	4377	-0.95	1196.99	14.42
462	SLE RA 16	27	-50	4340	-0.82	1187.48	17.4
462	SLE RA 17	28	-42	4359	-0.95	1192.27	14.36
462	SLE RA 18	28	-51	4426	-0.93	1210.89	17.49
462	SLE RA 19	29	-42	4446	-1.06	1215.68	14.45
462	SLE RA 20	28	-51	4455	-0.9	1218.56	17.71
462	SLE RA 21	29	-43	4474	-1.03	1223.35	14.67
462	SLE FR 1	27	-46	3946	-0.78	1081.74	15.74
462	SLE FR 2	27	-43	3952	-0.83	1083.33	14.73
462	SLE FR 3	26	-46	3957	-0.77	1084.8	15.83
462	SLE FR 4	27	-44	4096	-0.87	1122.08	15.25
462	SLE FR 5	27	-47	4101	-0.81	1123.55	16.35
462	SLE FR 6	27	-48	4186	-0.85	1146.31	16.62
462	SLE QP 1	27	-46	3946	-0.78	1081.74	15.74
462	SLE QP 2	27	-47	4090	-0.83	1120.48	16.27
462	SLD 1	382	84	4496	-3	1229.21	-29.3
462	SLD 2	435	88	4506	-3.01	1230.88	-30.49
462	SLD 3	363	-192	3717	1.94	1034.15	67.02
462	SLD 4	417	-188	3728	1.93	1035.82	65.83
462	SLD 5	152	411	5390	-8.97	1448.65	-143.29
462	SLD 6	186	413	5397	-8.98	1449.73	-144.05
462	SLD 7	91	-510	2796	7.51	798.45	177.78
462	SLD 8	126	-508	2803	7.5	799.53	177.02
462	SLD 9	-72	414	5377	-9.15	1441.43	-144.49
462	SLD 10	-37	416	5384	-9.16	1442.52	-145.25
462	SLD 11	-132	-507	2783	7.33	791.23	176.58
462	SLD 12	-98	-505	2790	7.32	792.31	175.82
462	SLD 13	-363	94	4452	-3.58	1205.14	-33.3
462	SLD 14	-309	98	4463	-3.6	1206.82	-34.49
462	SLD 15	-381	-182	3674	1.36	1010.08	63.02
462	SLD 16	-328	-178	3684	1.35	1011.76	61.83
462	SLV 1	583	175	4775	-4.53	1302.99	-60.87
462	SLV 2	667	181	4791	-4.56	1305.62	-62.74
462	SLV 3	552	-292	3459	3.82	973.31	101.87
462	SLV 4	636	-285	3476	3.79	975.94	100.01
462	SLV 5	225	726	6287	-14.6	1674.75	-253.36
462	SLV 6	281	731	6298	-14.62	1676.53	-254.61
462	SLV 7	122	-830	1903	13.24	575.83	289.12
462	SLV 8	179	-825	1914	13.23	577.6	287.87
462	SLV 9	-125	731	6266	-14.88	1663.36	-255.34
462	SLV 10	-68	736	6277	-14.89	1665.14	-256.59
462	SLV 11	-227	-825	1881	12.97	564.44	287.14
462	SLV 12	-171	-820	1893	12.95	566.21	285.89
462	SLV 13	-582	191	4704	-5.45	1265.02	-67.48
462	SLV 14	-498	198	4720	-5.47	1267.65	-69.34
462	SLV 15	-613	-276	3388	2.91	935.34	95.27
462	SLV 16	-529	-269	3405	2.88	937.98	93.4
462	SLV FO 1	638	197	4843	-4.9	1321.24	-68.59
462	SLV FO 2	731	204	4862	-4.93	1324.13	-70.64
462	SLV FO 3	604	-317	3396	4.28	958.59	110.43
462	SLV FO 4	697	-309	3415	4.26	961.49	108.38
462	SLV FO 5	245	804	6507	-15.98	1730.18	-280.32
462	SLV FO 6	307	809	6519	-16	1732.13	-281.7
462	SLV FO 7	132	-908	1684	14.65	521.36	316.41
462	SLV FO 8	194	-903	1696	14.63	523.31	315.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
462	SLV FO 9	-140	809	6483	-16.28	1717.65	-282.5
462	SLV FO 10	-78	814	6496	-16.3	1719.6	-283.87
462	SLV FO 11	-253	-903	1660	14.35	508.83	314.23
462	SLV FO 12	-191	-898	1673	14.33	510.78	312.85
462	SLV FO 13	-643	215	4765	-5.91	1279.47	-75.85
462	SLV FO 14	-550	222	4783	-5.94	1282.37	-77.9
462	SLV FO 15	-677	-298	3318	3.28	916.83	103.17
462	SLV FO 16	-584	-291	3337	3.25	919.73	101.12
462	CRTFP Ux+	0	0	0	0	0	0
462	CRTFP Ux-	0	0	0	0	0	0
462	CRTFP Uy+	0	0	0	0	0	0
462	CRTFP Uy-	0	0	0	0	0	0
464	SLU 1	-298	-16	10330	-28.99	-26.83	9.01
464	SLU 2	-308	56	10432	-42.78	-27.35	8.5
464	SLU 3	-305	-16	10527	-26.51	-27.4	9.15
464	SLU 4	-310	27	10588	-34.78	-27.71	8.84
464	SLU 5	-312	55	10557	-40.77	-27.7	8.56
464	SLU 6	-309	-17	10652	-24.5	-27.75	9.21
464	SLU 7	-315	26	10713	-32.77	-28.06	8.91
464	SLU 8	-306	-18	10580	-24.97	-27.53	9.14
464	SLU 9	-312	25	10641	-33.24	-27.84	8.83
464	SLU 10	-331	53	11820	-49.95	-31.79	9.35
464	SLU 11	-328	-19	11914	-33.68	-31.85	10
464	SLU 12	-334	24	11976	-41.95	-32.15	9.69
464	SLU 13	-336	52	11945	-47.94	-32.14	9.41
464	SLU 14	-332	-20	12039	-31.67	-32.2	10.06
464	SLU 15	-338	23	12101	-39.94	-32.5	9.75
464	SLU 16	-330	-20	11967	-32.14	-31.98	9.99
464	SLU 17	-336	23	12029	-40.41	-32.29	9.68
464	SLU 18	-332	-19	12312	-39.23	-33.19	10.22
464	SLU 19	-338	24	12373	-47.5	-33.49	9.91
464	SLU 20	-336	-20	12437	-37.22	-33.54	10.29
464	SLU 21	-342	23	12498	-45.49	-33.84	9.98
464	SLU 22	-339	-12	11796	-26.38	-30.94	9.81
464	SLU 23	-349	59	11899	-40.16	-31.45	9.3
464	SLU 24	-345	-12	11993	-23.9	-31.51	9.95
464	SLU 25	-351	31	12055	-32.17	-31.81	9.64
464	SLU 26	-353	58	12024	-38.15	-31.8	9.37
464	SLU 27	-349	-13	12118	-21.89	-31.86	10.02
464	SLU 28	-355	30	12180	-30.16	-32.16	9.71
464	SLU 29	-347	-14	12046	-22.35	-31.64	9.94
464	SLU 30	-353	29	12107	-30.63	-31.95	9.64
464	SLU 31	-372	57	13286	-47.33	-35.9	10.15
464	SLU 32	-369	-15	13380	-31.07	-35.95	10.8
464	SLU 33	-375	28	13442	-39.34	-36.26	10.49
464	SLU 34	-376	56	13411	-45.32	-36.25	10.21
464	SLU 35	-373	-16	13505	-29.06	-36.3	10.87
464	SLU 36	-379	27	13567	-37.33	-36.61	10.56
464	SLU 37	-371	-16	13433	-29.52	-36.09	10.79
464	SLU 38	-377	26	13495	-37.8	-36.4	10.49
464	SLU 39	-373	-16	13778	-36.62	-37.29	11.03
464	SLU 40	-378	27	13839	-44.89	-37.6	10.72
464	SLU 41	-377	-17	13903	-34.61	-37.64	11.09
464	SLU 42	-383	26	13964	-42.88	-37.95	10.78
464	SLU 43	-373	-22	12926	-38.58	-33.47	11.44
464	SLU 44	-383	50	13029	-52.37	-33.99	10.92
464	SLU 45	-380	-22	13123	-36.11	-34.04	11.57
464	SLU 46	-386	21	13185	-44.38	-34.35	11.27
464	SLU 47	-387	49	13154	-50.36	-34.34	10.99
464	SLU 48	-384	-23	13248	-34.1	-34.39	11.64
464	SLU 49	-390	20	13310	-42.37	-34.7	11.33
464	SLU 50	-382	-24	13176	-34.56	-34.17	11.57
464	SLU 51	-387	19	13238	-42.83	-34.48	11.26
464	SLU 52	-407	47	14416	-59.54	-38.44	11.77
464	SLU 53	-404	-25	14510	-43.28	-38.49	12.42
464	SLU 54	-410	18	14572	-51.55	-38.8	12.12
464	SLU 55	-411	46	14541	-57.53	-38.78	11.84
464	SLU 56	-408	-26	14635	-41.26	-38.84	12.49
464	SLU 57	-414	17	14697	-49.54	-39.15	12.18
464	SLU 58	-405	-26	14563	-41.73	-38.62	12.42
464	SLU 59	-411	17	14625	-50	-38.93	12.11
464	SLU 60	-407	-25	14908	-48.83	-39.83	12.65
464	SLU 61	-413	17	14969	-57.1	-40.14	12.34
464	SLU 62	-411	-26	15033	-46.81	-40.18	12.72
464	SLU 63	-417	17	15094	-55.09	-40.49	12.41
464	SLU 64	-414	-18	14392	-35.97	-37.58	12.24
464	SLU 65	-424	53	14495	-49.76	-38.09	11.73
464	SLU 66	-421	-18	14589	-33.49	-38.15	12.38
464	SLU 67	-427	24	14651	-41.76	-38.46	12.07
464	SLU 68	-428	52	14620	-47.74	-38.44	11.79
464	SLU 69	-425	-19	14714	-31.48	-38.5	12.44
464	SLU 70	-431	24	14776	-39.75	-38.81	12.14
464	SLU 71	-422	-20	14642	-31.95	-38.28	12.37
464	SLU 72	-428	23	14704	-40.22	-38.59	12.06
464	SLU 73	-448	51	15882	-56.92	-42.54	12.58
464	SLU 74	-444	-21	15976	-40.66	-42.6	13.23
464	SLU 75	-450	22	16038	-48.93	-42.9	12.92
464	SLU 76	-452	50	16007	-54.91	-42.89	12.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
464	SLU 77	-449	-22	16101	-38.65	-42.95	13.29
464	SLU 78	-454	21	16163	-46.92	-43.25	12.99
464	SLU 79	-446	-23	16029	-39.12	-42.73	13.22
464	SLU 80	-452	20	16091	-47.39	-43.04	12.91
464	SLU 81	-448	-22	16374	-46.21	-43.94	13.45
464	SLU 82	-454	21	16436	-54.48	-44.24	13.15
464	SLU 83	-452	-23	16499	-44.2	-44.29	13.52
464	SLU 84	-458	20	16561	-52.47	-44.59	13.21
464	SLE RA 1	-310	-15	10748	-28.24	-28.01	9.24
464	SLE RA 2	-316	33	10817	-37.43	-28.35	8.9
464	SLE RA 3	-314	-15	10880	-26.59	-28.38	9.33
464	SLE RA 4	-318	14	10921	-32.11	-28.59	9.13
464	SLE RA 5	-319	32	10900	-36.09	-28.58	8.94
464	SLE RA 6	-317	-16	10963	-25.25	-28.62	9.38
464	SLE RA 7	-321	13	11004	-30.77	-28.82	9.17
464	SLE RA 8	-315	-16	10915	-25.56	-28.47	9.33
464	SLE RA 9	-319	13	10956	-31.08	-28.68	9.12
464	SLE RA 10	-332	31	11742	-42.21	-31.31	9.46
464	SLE RA 11	-330	-17	11805	-31.37	-31.35	9.9
464	SLE RA 12	-334	12	11846	-36.89	-31.55	9.69
464	SLE RA 13	-335	31	11825	-40.87	-31.55	9.51
464	SLE RA 14	-333	-17	11888	-30.03	-31.58	9.94
464	SLE RA 15	-336	11	11929	-35.55	-31.79	9.74
464	SLE RA 16	-331	-18	11840	-30.34	-31.44	9.89
464	SLE RA 17	-335	11	11881	-35.86	-31.64	9.69
464	SLE RA 18	-332	-17	12070	-35.07	-32.24	10.05
464	SLE RA 19	-336	12	12111	-40.59	-32.45	9.84
464	SLE RA 20	-335	-18	12153	-33.73	-32.48	10.09
464	SLE RA 21	-339	11	12194	-39.25	-32.68	9.89
464	SLE FR 1	-310	-15	10748	-28.24	-28.01	9.24
464	SLE FR 2	-311	-5	10762	-30.08	-28.07	9.17
464	SLE FR 3	-311	-15	10782	-27.71	-28.1	9.26
464	SLE FR 4	-318	-6	11159	-32.13	-29.35	9.41
464	SLE FR 5	-317	-16	11178	-29.76	-29.37	9.5
464	SLE FR 6	-321	-16	11409	-31.66	-30.12	9.64
464	SLE QP 1	-310	-15	10748	-28.24	-28.01	9.24
464	SLE QP 2	-316	-15	11145	-30.29	-29.28	9.48
464	SLD 1	815	470	11890	-157.54	-29.53	-11.89
464	SLD 2	983	427	11872	-155.59	-29.87	-4.98
464	SLD 3	904	-417	10189	48.77	-20.43	-6.83
464	SLD 4	1072	-461	10171	50.71	-20.77	0.08
464	SLD 5	-141	1484	13952	-381.7	-43.09	-5.8
464	SLD 6	-33	1456	13940	-380.44	-43.31	-1.33
464	SLD 7	156	-1475	8281	305.98	-12.77	11.06
464	SLD 8	264	-1503	8270	307.24	-12.98	15.53
464	SLD 9	-897	1472	14020	-367.82	-45.57	3.43
464	SLD 10	-788	1444	14009	-366.56	-45.79	7.9
464	SLD 11	-600	-1487	8350	319.86	-15.24	20.29
464	SLD 12	-492	-1515	8338	321.11	-15.46	24.77
464	SLD 13	-1704	430	12119	-111.29	-37.79	18.88
464	SLD 14	-1536	386	12101	-109.35	-38.12	25.8
464	SLD 15	-1615	-458	10417	95.01	-28.69	23.94
464	SLD 16	-1447	-501	10399	96.95	-29.02	30.85
464	SLV 1	1448	802	12418	-242.32	-30.26	-24.37
464	SLV 2	1712	734	12390	-239.26	-30.79	-13.48
464	SLV 3	1597	-697	9543	106.3	-14.89	-15.82
464	SLV 4	1861	-765	9514	109.36	-15.41	-4.94
464	SLV 5	-63	2517	15893	-623.22	-52.8	-15.67
464	SLV 6	115	2471	15874	-621.16	-53.15	-8.34
464	SLV 7	435	-2482	6308	538.86	-1.54	12.82
464	SLV 8	613	-2527	6289	540.92	-1.9	20.15
464	SLV 9	-1246	2496	16000	-601.5	-56.66	-1.19
464	SLV 10	-1068	2451	15981	-599.44	-57.01	6.14
464	SLV 11	-747	-2502	6415	560.58	-5.4	27.3
464	SLV 12	-569	-2548	6396	562.63	-5.76	34.63
464	SLV 13	-2494	734	12775	-169.94	-43.14	23.9
464	SLV 14	-2230	666	12747	-166.88	-43.67	34.79
464	SLV 15	-2344	-765	9900	178.68	-27.76	32.45
464	SLV 16	-2080	-833	9872	181.74	-28.29	43.34
464	SLV FO 1	1624	884	12546	-263.52	-30.36	-27.76
464	SLV FO 2	1915	809	12514	-260.16	-30.94	-15.78
464	SLV FO 3	1788	-765	9383	119.96	-13.45	-18.36
464	SLV FO 4	2079	-840	9351	123.33	-14.03	-6.38
464	SLV FO 5	-38	2770	16368	-682.51	-55.15	-18.18
464	SLV FO 6	158	2720	16347	-680.24	-55.54	-10.12
464	SLV FO 7	510	-2728	5825	595.78	1.23	13.15
464	SLV FO 8	706	-2779	5804	598.04	0.84	21.22
464	SLV FO 9	-1339	2748	16486	-658.63	-59.4	-2.25
464	SLV FO 10	-1143	2697	16465	-656.36	-59.79	5.81
464	SLV FO 11	-790	-2751	5942	619.66	-3.02	29.08
464	SLV FO 12	-595	-2801	5922	621.93	-3.41	37.15
464	SLV FO 13	-2712	809	12938	-183.91	-44.53	25.34
464	SLV FO 14	-2421	734	12907	-180.54	-45.11	37.32
464	SLV FO 15	-2547	-840	9775	199.58	-27.61	34.74
464	SLV FO 16	-2257	-915	9744	202.94	-28.19	46.72
464	CRTFP Ux+	0	0	0	0	0	0
464	CRTFP Ux-	0	0	0	0	0	0
464	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
464	CRTFP Uy-	0	0	0	0	0	0
466	SLU 1	-55	15	3308	-0.65	-398.98	3.44
466	SLU 2	-58	36	3357	-0.99	-403.33	8.59
466	SLU 3	-57	15	3375	-0.59	-406.52	3.46
466	SLU 4	-58	28	3404	-0.79	-409.13	6.55
466	SLU 5	-58	36	3399	-0.94	-408.13	8.64
466	SLU 6	-57	16	3417	-0.54	-411.33	3.51
466	SLU 7	-59	28	3446	-0.74	-413.94	6.6
466	SLU 8	-57	16	3392	-0.55	-408.59	3.54
466	SLU 9	-58	28	3421	-0.76	-411.2	6.63
466	SLU 10	-61	39	3769	-1.06	-450.3	9.31
466	SLU 11	-60	18	3787	-0.66	-453.49	4.19
466	SLU 12	-61	31	3816	-0.86	-456.1	7.28
466	SLU 13	-62	39	3811	-1.01	-455.1	9.36
466	SLU 14	-61	19	3829	-0.61	-458.29	4.24
466	SLU 15	-62	31	3858	-0.81	-460.9	7.33
466	SLU 16	-60	19	3804	-0.62	-455.55	4.27
466	SLU 17	-61	31	3833	-0.83	-458.16	7.36
466	SLU 18	-60	20	3897	-0.75	-466.07	4.47
466	SLU 19	-61	32	3926	-0.95	-468.68	7.56
466	SLU 20	-61	20	3939	-0.7	-470.88	4.52
466	SLU 21	-62	32	3968	-0.9	-473.49	7.61
466	SLU 22	-63	16	3792	-0.54	-454.36	3.62
466	SLU 23	-65	37	3840	-0.88	-458.71	8.77
466	SLU 24	-64	16	3858	-0.47	-461.9	3.64
466	SLU 25	-65	29	3887	-0.68	-464.51	6.73
466	SLU 26	-65	37	3882	-0.83	-463.51	8.82
466	SLU 27	-64	17	3900	-0.42	-466.71	3.69
466	SLU 28	-66	29	3929	-0.63	-469.32	6.78
466	SLU 29	-64	17	3876	-0.44	-463.97	3.72
466	SLU 30	-65	29	3905	-0.64	-466.58	6.81
466	SLU 31	-68	40	4253	-0.94	-505.68	9.49
466	SLU 32	-67	19	4270	-0.54	-508.87	4.37
466	SLU 33	-68	32	4300	-0.74	-511.48	7.46
466	SLU 34	-69	40	4294	-0.89	-510.48	9.55
466	SLU 35	-68	20	4312	-0.49	-513.67	4.42
466	SLU 36	-69	32	4341	-0.69	-516.28	7.51
466	SLU 37	-67	20	4288	-0.51	-510.93	4.45
466	SLU 38	-69	32	4317	-0.71	-513.54	7.54
466	SLU 39	-67	21	4381	-0.63	-521.46	4.65
466	SLU 40	-69	33	4410	-0.84	-524.07	7.74
466	SLU 41	-68	21	4423	-0.58	-526.26	4.71
466	SLU 42	-69	33	4452	-0.79	-528.87	7.8
466	SLU 43	-70	19	4135	-0.89	-499.68	4.41
466	SLU 44	-72	40	4183	-1.23	-504.04	9.56
466	SLU 45	-71	20	4201	-0.83	-507.23	4.43
466	SLU 46	-72	32	4230	-1.03	-509.84	7.52
466	SLU 47	-72	40	4225	-1.18	-508.84	9.61
466	SLU 48	-72	20	4243	-0.78	-512.03	4.48
466	SLU 49	-73	32	4272	-0.98	-514.64	7.57
466	SLU 50	-71	20	4219	-0.79	-509.29	4.51
466	SLU 51	-72	32	4248	-0.99	-511.9	7.6
466	SLU 52	-75	43	4596	-1.3	-551	10.28
466	SLU 53	-74	23	4614	-0.89	-554.19	5.16
466	SLU 54	-75	35	4643	-1.1	-556.81	8.24
466	SLU 55	-76	43	4637	-1.25	-555.81	10.33
466	SLU 56	-75	23	4655	-0.84	-559	5.21
466	SLU 57	-76	35	4684	-1.05	-561.61	8.3
466	SLU 58	-74	23	4631	-0.86	-556.26	5.24
466	SLU 59	-76	35	4660	-1.06	-558.87	8.33
466	SLU 60	-74	24	4724	-0.99	-566.78	5.44
466	SLU 61	-76	36	4753	-1.19	-569.39	8.53
466	SLU 62	-75	24	4766	-0.94	-571.58	5.49
466	SLU 63	-76	36	4795	-1.14	-574.19	8.58
466	SLU 64	-77	20	4619	-0.77	-555.07	4.59
466	SLU 65	-79	41	4667	-1.11	-559.42	9.74
466	SLU 66	-78	21	4685	-0.71	-562.61	4.61
466	SLU 67	-79	33	4714	-0.91	-565.22	7.7
466	SLU 68	-80	41	4709	-1.06	-564.22	9.79
466	SLU 69	-79	21	4727	-0.66	-567.41	4.66
466	SLU 70	-80	33	4756	-0.86	-570.02	7.75
466	SLU 71	-78	21	4702	-0.67	-564.67	4.69
466	SLU 72	-79	33	4732	-0.88	-567.28	7.78
466	SLU 73	-82	44	5079	-1.18	-606.38	10.46
466	SLU 74	-81	24	5097	-0.78	-609.58	5.34
466	SLU 75	-83	36	5126	-0.98	-612.19	8.43
466	SLU 76	-83	44	5121	-1.13	-611.19	10.51
466	SLU 77	-82	24	5139	-0.73	-614.38	5.39
466	SLU 78	-83	36	5168	-0.93	-616.99	8.48
466	SLU 79	-81	24	5115	-0.74	-611.64	5.42
466	SLU 80	-83	36	5144	-0.95	-614.25	8.51
466	SLU 81	-81	25	5207	-0.87	-622.16	5.62
466	SLU 82	-83	37	5236	-1.07	-624.77	8.71
466	SLU 83	-82	25	5249	-0.82	-626.96	5.68
466	SLU 84	-83	37	5278	-1.02	-629.57	8.77
466	SLE RA 1	-57	15	3446	-0.62	-414.8	3.49
466	SLE RA 2	-59	29	3479	-0.85	-417.7	6.92
466	SLE RA 3	-58	16	3491	-0.58	-419.83	3.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
466	SLE RA 4	-59	24	3510	-0.71	-421.57	5.57
466	SLE RA 5	-59	29	3507	-0.81	-420.9	6.96
466	SLE RA 6	-59	16	3519	-0.55	-423.03	3.54
466	SLE RA 7	-60	24	3538	-0.68	-424.77	5.6
466	SLE RA 8	-58	16	3502	-0.55	-421.21	3.56
466	SLE RA 9	-59	24	3522	-0.69	-422.95	5.62
466	SLE RA 10	-61	31	3754	-0.89	-449.01	7.41
466	SLE RA 11	-60	18	3765	-0.62	-451.14	3.99
466	SLE RA 12	-61	26	3785	-0.76	-452.88	6.05
466	SLE RA 13	-62	31	3781	-0.86	-452.22	7.44
466	SLE RA 14	-61	18	3793	-0.59	-454.34	4.02
466	SLE RA 15	-62	26	3813	-0.73	-456.08	6.08
466	SLE RA 16	-61	18	3777	-0.6	-452.52	4.04
466	SLE RA 17	-61	26	3797	-0.74	-454.26	6.1
466	SLE RA 18	-61	18	3839	-0.69	-459.53	4.18
466	SLE RA 19	-61	27	3858	-0.82	-461.27	6.24
466	SLE RA 20	-61	19	3867	-0.65	-462.73	4.21
466	SLE RA 21	-62	27	3886	-0.79	-464.47	6.27
466	SLE FR 1	-57	15	3446	-0.62	-414.8	3.49
466	SLE FR 2	-58	18	3453	-0.67	-415.38	4.18
466	SLE FR 3	-58	16	3458	-0.61	-416.08	3.5
466	SLE FR 4	-59	19	3571	-0.69	-428.8	4.38
466	SLE FR 5	-59	16	3575	-0.63	-429.5	3.71
466	SLE FR 6	-59	17	3643	-0.65	-437.17	3.84
466	SLE QP 1	-57	15	3446	-0.62	-414.8	3.49
466	SLE QP 2	-58	16	3564	-0.64	-428.22	3.7
466	SLD 1	206	171	4936	-3.34	-569.57	57.71
466	SLD 2	243	66	4878	-2.91	-565.42	31.9
466	SLD 3	225	-97	4224	1.19	-510.99	-9.07
466	SLD 4	262	-201	4166	1.62	-506.84	-34.88
466	SLD 5	-14	487	5065	-8.39	-560.19	125.66
466	SLD 6	10	419	5028	-8.12	-557.51	108.97
466	SLD 7	49	-406	2693	6.71	-364.92	-96.94
466	SLD 8	72	-473	2655	6.98	-362.24	-113.64
466	SLD 9	-189	506	4473	-8.26	-494.2	121.03
466	SLD 10	-166	438	4436	-7.99	-491.52	104.34
466	SLD 11	-127	-387	2101	6.84	-298.93	-101.57
466	SLD 12	-103	-454	2063	7.11	-296.25	-118.27
466	SLD 13	-378	234	2963	-2.9	-349.6	42.28
466	SLD 14	-342	130	2904	-2.48	-345.46	16.47
466	SLD 15	-359	-34	2251	1.63	-291.02	-24.51
466	SLD 16	-323	-138	2193	2.05	-286.87	-50.31
466	SLV 1	355	275	5751	-5.15	-652.46	92.56
466	SLV 2	412	111	5659	-4.48	-645.93	51.93
466	SLV 3	386	-178	4548	2.51	-553.64	-20.29
466	SLV 4	444	-342	4457	3.17	-547.11	-60.93
466	SLV 5	7	810	6061	-13.73	-646.58	209.11
466	SLV 6	46	700	5999	-13.28	-642.18	181.75
466	SLV 7	112	-697	2053	11.79	-317.2	-167.08
466	SLV 8	151	-808	1991	12.24	-312.8	-194.44
466	SLV 9	-267	840	5137	-13.52	-543.64	201.83
466	SLV 10	-229	730	5076	-13.07	-539.24	174.48
466	SLV 11	-162	-667	1129	12	-214.26	-174.35
466	SLV 12	-124	-778	1067	12.45	-209.86	-201.71
466	SLV 13	-560	374	2672	-4.45	-309.33	68.32
466	SLV 14	-503	210	2580	-3.79	-302.8	27.69
466	SLV 15	-529	-78	1469	3.2	-210.51	-44.53
466	SLV 16	-471	-242	1378	3.87	-203.98	-85.17
466	SLV FO 1	396	301	5969	-5.6	-674.88	101.45
466	SLV FO 2	459	120	5868	-4.87	-667.7	56.75
466	SLV FO 3	431	-197	4646	2.82	-566.19	-22.69
466	SLV FO 4	494	-377	4546	3.55	-559	-67.39
466	SLV FO 5	14	890	6311	-15.04	-668.41	229.65
466	SLV FO 6	56	768	6243	-14.54	-663.58	199.55
466	SLV FO 7	129	-769	1902	13.03	-306.1	-184.16
466	SLV FO 8	172	-890	1834	13.53	-301.26	-214.25
466	SLV FO 9	-288	923	5295	-14.81	-555.18	221.65
466	SLV FO 10	-246	801	5227	-14.31	-550.35	191.55
466	SLV FO 11	-173	-736	886	13.26	-192.86	-192.16
466	SLV FO 12	-130	-857	818	13.75	-188.03	-222.25
466	SLV FO 13	-610	410	2583	-4.83	-297.44	74.79
466	SLV FO 14	-547	230	2482	-4.1	-290.26	30.09
466	SLV FO 15	-576	-88	1260	3.59	-188.74	-49.36
466	SLV FO 16	-513	-268	1159	4.32	-181.56	-94.06
466	CRTFP Ux+	0	0	0	0	0	0
466	CRTFP Ux-	0	0	0	0	0	0
466	CRTFP Uy+	0	0	0	0	0	0
466	CRTFP Uy-	0	0	0	0	0	0
469	SLU 1	-86	-41	6124	-1.31	-34.74	-2.52
469	SLU 2	-89	-9	6202	-1.87	-33.81	-2.7
469	SLU 3	-88	-42	6240	-1.18	-35.57	-2.59
469	SLU 4	-90	-23	6287	-1.52	-35.01	-2.7
469	SLU 5	-91	-10	6276	-1.77	-34.39	-2.75
469	SLU 6	-89	-43	6314	-1.08	-36.14	-2.64
469	SLU 7	-91	-24	6361	-1.42	-35.58	-2.75
469	SLU 8	-88	-42	6271	-1.11	-35.88	-2.62
469	SLU 9	-90	-23	6318	-1.45	-35.33	-2.72
469	SLU 10	-93	-13	7005	-1.99	-39.76	-2.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
469	SLU 11	-92	-45	7043	-1.31	-41.51	-2.88
469	SLU 12	-94	-26	7090	-1.64	-40.95	-2.99
469	SLU 13	-95	-13	7079	-1.89	-40.33	-3.03
469	SLU 14	-93	-46	7117	-1.21	-42.08	-2.93
469	SLU 15	-95	-27	7164	-1.54	-41.53	-3.04
469	SLU 16	-92	-46	7074	-1.24	-41.83	-2.91
469	SLU 17	-94	-27	7121	-1.57	-41.27	-3.01
469	SLU 18	-91	-46	7271	-1.49	-43.23	-2.94
469	SLU 19	-94	-27	7318	-1.82	-42.68	-3.04
469	SLU 20	-93	-47	7345	-1.39	-43.8	-2.98
469	SLU 21	-95	-28	7391	-1.72	-43.25	-3.09
469	SLU 22	-97	-46	7025	-1.06	-40.27	-2.98
469	SLU 23	-101	-14	7104	-1.62	-39.35	-3.16
469	SLU 24	-99	-47	7142	-0.93	-41.1	-3.05
469	SLU 25	-101	-28	7189	-1.27	-40.54	-3.16
469	SLU 26	-102	-15	7177	-1.52	-39.92	-3.2
469	SLU 27	-100	-48	7215	-0.83	-41.67	-3.1
469	SLU 28	-102	-28	7262	-1.17	-41.12	-3.2
469	SLU 29	-99	-47	7172	-0.86	-41.42	-3.08
469	SLU 30	-102	-28	7219	-1.2	-40.86	-3.18
469	SLU 31	-105	-18	7907	-1.74	-45.29	-3.45
469	SLU 32	-103	-50	7945	-1.06	-47.04	-3.34
469	SLU 33	-105	-31	7992	-1.39	-46.49	-3.45
469	SLU 34	-106	-18	7980	-1.64	-45.86	-3.49
469	SLU 35	-104	-51	8018	-0.96	-47.62	-3.39
469	SLU 36	-106	-32	8065	-1.29	-47.06	-3.49
469	SLU 37	-103	-51	7975	-0.99	-47.36	-3.37
469	SLU 38	-106	-32	8022	-1.32	-46.81	-3.47
469	SLU 39	-103	-51	8173	-1.24	-48.77	-3.39
469	SLU 40	-105	-32	8220	-1.57	-48.21	-3.5
469	SLU 41	-104	-52	8246	-1.14	-49.34	-3.44
469	SLU 42	-106	-32	8293	-1.47	-48.78	-3.55
469	SLU 43	-107	-52	7652	-1.79	-43.26	-3.12
469	SLU 44	-111	-20	7730	-2.34	-42.34	-3.3
469	SLU 45	-109	-53	7768	-1.66	-44.09	-3.2
469	SLU 46	-112	-34	7815	-1.99	-43.53	-3.3
469	SLU 47	-112	-20	7804	-2.25	-42.91	-3.35
469	SLU 48	-111	-53	7842	-1.56	-44.66	-3.24
469	SLU 49	-113	-34	7889	-1.89	-44.11	-3.35
469	SLU 50	-110	-53	7799	-1.59	-44.41	-3.22
469	SLU 51	-112	-34	7846	-1.92	-43.85	-3.32
469	SLU 52	-115	-23	8533	-2.47	-48.28	-3.59
469	SLU 53	-113	-56	8572	-1.78	-50.03	-3.48
469	SLU 54	-116	-37	8618	-2.12	-49.48	-3.59
469	SLU 55	-116	-24	8607	-2.37	-48.85	-3.63
469	SLU 56	-115	-57	8645	-1.69	-50.61	-3.53
469	SLU 57	-117	-38	8692	-2.02	-50.05	-3.64
469	SLU 58	-114	-56	8602	-1.71	-50.35	-3.51
469	SLU 59	-116	-37	8649	-2.05	-49.8	-3.61
469	SLU 60	-113	-57	8799	-1.97	-51.76	-3.54
469	SLU 61	-116	-38	8846	-2.3	-51.2	-3.64
469	SLU 62	-114	-57	8873	-1.87	-52.33	-3.58
469	SLU 63	-117	-38	8920	-2.2	-51.77	-3.69
469	SLU 64	-119	-57	8553	-1.54	-48.8	-3.58
469	SLU 65	-123	-25	8632	-2.09	-47.87	-3.76
469	SLU 66	-121	-58	8670	-1.41	-49.62	-3.65
469	SLU 67	-123	-38	8717	-1.74	-49.07	-3.76
469	SLU 68	-124	-25	8705	-2	-48.45	-3.8
469	SLU 69	-122	-58	8743	-1.31	-50.2	-3.7
469	SLU 70	-124	-39	8790	-1.64	-49.64	-3.8
469	SLU 71	-121	-58	8700	-1.34	-49.94	-3.68
469	SLU 72	-123	-39	8747	-1.67	-49.39	-3.78
469	SLU 73	-127	-28	9435	-2.22	-53.82	-4.05
469	SLU 74	-125	-61	9473	-1.53	-55.57	-3.94
469	SLU 75	-127	-42	9520	-1.87	-55.01	-4.05
469	SLU 76	-128	-29	9508	-2.12	-54.39	-4.09
469	SLU 77	-126	-62	9546	-1.44	-56.14	-3.99
469	SLU 78	-128	-43	9593	-1.77	-55.58	-4.09
469	SLU 79	-125	-61	9503	-1.46	-55.89	-3.97
469	SLU 80	-127	-42	9550	-1.8	-55.33	-4.07
469	SLU 81	-125	-62	9701	-1.72	-57.29	-3.99
469	SLU 82	-127	-42	9748	-2.05	-56.73	-4.1
469	SLU 83	-126	-62	9774	-1.62	-57.86	-4.04
469	SLU 84	-128	-43	9821	-1.95	-57.31	-4.15
469	SLE RA 1	-89	-43	6381	-1.24	-36.32	-2.65
469	SLE RA 2	-91	-21	6434	-1.61	-35.7	-2.77
469	SLE RA 3	-90	-43	6459	-1.15	-36.87	-2.7
469	SLE RA 4	-92	-30	6490	-1.38	-36.5	-2.77
469	SLE RA 5	-92	-22	6483	-1.54	-36.09	-2.8
469	SLE RA 6	-91	-44	6508	-1.09	-37.25	-2.73
469	SLE RA 7	-92	-31	6539	-1.31	-36.88	-2.8
469	SLE RA 8	-90	-43	6479	-1.11	-37.08	-2.72
469	SLE RA 9	-92	-31	6511	-1.33	-36.71	-2.79
469	SLE RA 10	-94	-24	6969	-1.69	-39.67	-2.96
469	SLE RA 11	-93	-45	6994	-1.24	-40.83	-2.89
469	SLE RA 12	-94	-33	7026	-1.46	-40.46	-2.96
469	SLE RA 13	-95	-24	7018	-1.63	-40.05	-3
469	SLE RA 14	-94	-46	7043	-1.17	-41.22	-2.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
469	SLE RA 15	-95	-33	7075	-1.39	-40.85	-3
469	SLE RA 16	-93	-46	7015	-1.19	-41.05	-2.91
469	SLE RA 17	-95	-33	7046	-1.41	-40.68	-2.98
469	SLE RA 18	-93	-46	7146	-1.36	-41.98	-2.93
469	SLE RA 19	-94	-33	7178	-1.58	-41.61	-3
469	SLE RA 20	-93	-46	7195	-1.29	-42.36	-2.96
469	SLE RA 21	-95	-33	7227	-1.51	-41.99	-3.03
469	SLE FR 1	-89	-43	6381	-1.24	-36.32	-2.65
469	SLE FR 2	-89	-38	6392	-1.31	-36.2	-2.68
469	SLE FR 3	-89	-43	6401	-1.21	-36.47	-2.67
469	SLE FR 4	-91	-39	6621	-1.35	-37.9	-2.76
469	SLE FR 5	-90	-44	6630	-1.25	-38.17	-2.75
469	SLE FR 6	-91	-44	6764	-1.3	-39.15	-2.79
469	SLE QP 1	-89	-43	6381	-1.24	-36.32	-2.65
469	SLE QP 2	-90	-44	6611	-1.27	-38.02	-2.74
469	SLD 1	475	159	7867	-5.52	-16.85	-1.13
469	SLD 2	556	75	7804	-5.13	-18.7	1.4
469	SLD 3	511	-250	6719	2.17	-24.26	0.52
469	SLD 4	593	-333	6656	2.55	-26.12	3.06
469	SLD 5	11	651	8739	-14.27	-20.1	-5.21
469	SLD 6	63	597	8699	-14.02	-21.3	-3.56
469	SLD 7	131	-710	4914	11.35	-44.81	0.31
469	SLD 8	184	-764	4873	11.6	-46.01	1.95
469	SLD 9	-364	677	8349	-14.14	-30.02	-7.43
469	SLD 10	-311	623	8308	-13.89	-31.23	-5.78
469	SLD 11	-243	-684	4523	11.47	-54.74	-1.91
469	SLD 12	-191	-738	4483	11.72	-55.94	-0.27
469	SLD 13	-773	246	6565	-5.1	-49.92	-8.53
469	SLD 14	-692	163	6503	-4.72	-51.78	-6
469	SLD 15	-736	-162	5418	2.58	-57.34	-6.88
469	SLD 16	-655	-246	5355	2.97	-59.19	-4.34
469	SLV 1	792	299	8645	-8.41	-4.49	-0.34
469	SLV 2	920	167	8547	-7.8	-7.42	3.65
469	SLV 3	853	-391	6706	4.58	-17	2.44
469	SLV 4	981	-522	6607	5.19	-19.93	6.44
469	SLV 5	58	1130	10181	-23.22	-8.44	-6.99
469	SLV 6	144	1041	10115	-22.81	-10.41	-4.31
469	SLV 7	261	-1169	3716	20.06	-50.14	2.3
469	SLV 8	347	-1258	3649	20.47	-52.11	4.99
469	SLV 9	-527	1171	9572	-23.02	-23.93	-10.47
469	SLV 10	-441	1082	9506	-22.61	-25.9	-7.78
469	SLV 11	-324	-1128	3107	20.26	-65.63	-1.17
469	SLV 12	-238	-1217	3040	20.67	-67.59	1.52
469	SLV 13	-1161	435	6615	-7.73	-56.11	-11.91
469	SLV 14	-1033	304	6516	-7.12	-59.04	-7.92
469	SLV 15	-1100	-254	4675	5.25	-68.62	-9.12
469	SLV 16	-972	-386	4577	5.86	-71.54	-5.13
469	SLV FO 1	880	333	8849	-9.12	-1.14	-0.11
469	SLV FO 2	1021	188	8740	-8.45	-4.36	4.29
469	SLV FO 3	947	-426	6715	5.16	-14.9	2.96
469	SLV FO 4	1088	-570	6606	5.83	-18.12	7.36
469	SLV FO 5	73	1247	10539	-25.41	-5.49	-7.42
469	SLV FO 6	168	1150	10465	-24.96	-7.65	-4.46
469	SLV FO 7	296	-1282	3426	22.19	-51.35	2.81
469	SLV FO 8	391	-1379	3353	22.64	-53.52	5.76
469	SLV FO 9	-571	1292	9869	-25.19	-22.52	-11.24
469	SLV FO 10	-476	1195	9795	-24.74	-24.69	-8.28
469	SLV FO 11	-348	-1237	2756	22.41	-68.39	-1.01
469	SLV FO 12	-253	-1334	2683	22.86	-70.55	1.95
469	SLV FO 13	-1268	483	6615	-8.38	-57.92	-12.83
469	SLV FO 14	-1127	339	6507	-7.71	-61.14	-8.44
469	SLV FO 15	-1201	-275	4482	5.9	-71.68	-9.76
469	SLV FO 16	-1060	-420	4373	6.57	-74.9	-5.37
469	CRTFP Ux+	0	0	0	0	0	0
469	CRTFP Ux-	0	0	0	0	0	0
469	CRTFP Uy+	0	0	0	0	0	0
469	CRTFP Uy-	0	0	0	0	0	0
472	SLU 1	61	-83	6160	-1.69	36.47	-2.12
472	SLU 2	63	-50	6244	-2.24	35.32	-1.99
472	SLU 3	62	-84	6268	-1.57	37.39	-2.19
472	SLU 4	63	-65	6318	-1.9	36.7	-2.12
472	SLU 5	63	-51	6308	-2.14	36	-2.05
472	SLU 6	61	-85	6332	-1.46	38.07	-2.25
472	SLU 7	63	-65	6383	-1.79	37.38	-2.18
472	SLU 8	61	-84	6288	-1.48	37.83	-2.24
472	SLU 9	62	-65	6339	-1.81	37.14	-2.16
472	SLU 10	66	-58	7037	-2.47	40.32	-2.21
472	SLU 11	64	-92	7062	-1.79	42.38	-2.41
472	SLU 12	65	-73	7112	-2.12	41.69	-2.34
472	SLU 13	65	-59	7102	-2.36	41	-2.27
472	SLU 14	64	-93	7126	-1.69	43.06	-2.47
472	SLU 15	65	-73	7176	-2.02	42.38	-2.39
472	SLU 16	63	-92	7082	-1.71	42.82	-2.45
472	SLU 17	64	-73	7132	-2.04	42.13	-2.38
472	SLU 18	65	-94	7294	-2.01	43.6	-2.43
472	SLU 19	66	-74	7344	-2.34	42.91	-2.36
472	SLU 20	64	-95	7358	-1.91	44.28	-2.49
472	SLU 21	65	-75	7408	-2.24	43.59	-2.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
472	SLU 22	69	-92	7051	-1.52	41.61	-2.38
472	SLU 23	71	-60	7135	-2.07	40.46	-2.25
472	SLU 24	69	-94	7159	-1.4	42.53	-2.45
472	SLU 25	70	-74	7209	-1.73	41.84	-2.38
472	SLU 26	70	-60	7199	-1.97	41.14	-2.31
472	SLU 27	69	-95	7223	-1.29	43.21	-2.51
472	SLU 28	70	-75	7274	-1.62	42.52	-2.44
472	SLU 29	68	-94	7179	-1.31	42.97	-2.5
472	SLU 30	69	-74	7230	-1.64	42.28	-2.42
472	SLU 31	73	-68	7929	-2.29	45.45	-2.47
472	SLU 32	71	-102	7953	-1.62	47.52	-2.67
472	SLU 33	73	-82	8003	-1.95	46.83	-2.6
472	SLU 34	73	-68	7993	-2.19	46.13	-2.53
472	SLU 35	71	-103	8017	-1.51	48.2	-2.73
472	SLU 36	72	-83	8067	-1.85	47.51	-2.66
472	SLU 37	70	-102	7973	-1.54	47.96	-2.72
472	SLU 38	72	-82	8024	-1.87	47.27	-2.64
472	SLU 39	72	-104	8185	-1.84	48.74	-2.69
472	SLU 40	73	-84	8235	-2.17	48.05	-2.62
472	SLU 41	72	-105	8249	-1.74	49.42	-2.75
472	SLU 42	73	-85	8299	-2.07	48.73	-2.67
472	SLU 43	77	-104	7702	-2.26	45.65	-2.67
472	SLU 44	79	-71	7786	-2.81	44.5	-2.54
472	SLU 45	78	-106	7810	-2.13	46.57	-2.74
472	SLU 46	79	-86	7861	-2.46	45.88	-2.67
472	SLU 47	79	-72	7850	-2.7	45.18	-2.6
472	SLU 48	77	-107	7875	-2.03	47.25	-2.8
472	SLU 49	78	-87	7925	-2.36	46.56	-2.72
472	SLU 50	76	-106	7831	-2.05	47.01	-2.78
472	SLU 51	78	-86	7881	-2.38	46.32	-2.71
472	SLU 52	81	-79	8580	-3.03	49.49	-2.76
472	SLU 53	80	-114	8604	-2.36	51.56	-2.96
472	SLU 54	81	-94	8655	-2.69	50.87	-2.88
472	SLU 55	81	-80	8644	-2.93	50.17	-2.82
472	SLU 56	80	-115	8668	-2.25	52.24	-3.02
472	SLU 57	81	-95	8719	-2.58	51.55	-2.94
472	SLU 58	79	-114	8624	-2.27	52	-3
472	SLU 59	80	-94	8675	-2.6	51.31	-2.93
472	SLU 60	80	-115	8836	-2.58	52.78	-2.98
472	SLU 61	82	-96	8886	-2.91	52.09	-2.9
472	SLU 62	80	-116	8900	-2.47	53.46	-3.04
472	SLU 63	81	-97	8951	-2.8	52.77	-2.96
472	SLU 64	85	-114	8593	-2.09	50.78	-2.93
472	SLU 65	87	-81	8677	-2.64	49.64	-2.8
472	SLU 66	85	-115	8701	-1.96	51.7	-3
472	SLU 67	86	-96	8752	-2.29	51.02	-2.93
472	SLU 68	86	-82	8741	-2.53	50.32	-2.86
472	SLU 69	85	-116	8766	-1.86	52.39	-3.06
472	SLU 70	86	-97	8816	-2.19	51.7	-2.98
472	SLU 71	84	-116	8722	-1.88	52.15	-3.04
472	SLU 72	85	-96	8772	-2.21	51.46	-2.97
472	SLU 73	89	-89	9471	-2.86	54.63	-3.02
472	SLU 74	87	-123	9495	-2.18	56.7	-3.22
472	SLU 75	89	-104	9546	-2.52	56.01	-3.14
472	SLU 76	89	-90	9535	-2.76	55.31	-3.08
472	SLU 77	87	-124	9559	-2.08	57.38	-3.28
472	SLU 78	88	-105	9610	-2.41	56.69	-3.2
472	SLU 79	86	-124	9516	-2.1	57.14	-3.26
472	SLU 80	87	-104	9566	-2.43	56.45	-3.19
472	SLU 81	88	-125	9727	-2.41	57.92	-3.24
472	SLU 82	89	-105	9777	-2.74	57.23	-3.16
472	SLU 83	87	-126	9791	-2.3	58.6	-3.3
472	SLU 84	89	-106	9842	-2.63	57.91	-3.22
472	SLE RA 1	63	-85	6414	-1.64	37.94	-2.19
472	SLE RA 2	65	-64	6470	-2.01	37.17	-2.11
472	SLE RA 3	64	-86	6486	-1.56	38.55	-2.24
472	SLE RA 4	65	-73	6520	-1.78	38.09	-2.19
472	SLE RA 5	65	-64	6513	-1.94	37.63	-2.15
472	SLE RA 6	63	-87	6529	-1.49	39	-2.28
472	SLE RA 7	64	-74	6563	-1.71	38.55	-2.23
472	SLE RA 8	63	-87	6500	-1.5	38.84	-2.27
472	SLE RA 9	64	-73	6534	-1.72	38.38	-2.22
472	SLE RA 10	66	-69	6999	-2.16	40.5	-2.26
472	SLE RA 11	65	-92	7016	-1.71	41.88	-2.39
472	SLE RA 12	66	-79	7049	-1.93	41.42	-2.34
472	SLE RA 13	66	-69	7042	-2.09	40.95	-2.29
472	SLE RA 14	65	-92	7058	-1.64	42.33	-2.43
472	SLE RA 15	66	-79	7092	-1.86	41.87	-2.38
472	SLE RA 16	64	-92	7029	-1.65	42.17	-2.42
472	SLE RA 17	65	-79	7063	-1.87	41.71	-2.37
472	SLE RA 18	66	-93	7170	-1.86	42.69	-2.4
472	SLE RA 19	66	-80	7204	-2.08	42.23	-2.35
472	SLE RA 20	65	-94	7213	-1.79	43.14	-2.44
472	SLE RA 21	66	-80	7247	-2.01	42.69	-2.39
472	SLE FR 1	63	-85	6414	-1.64	37.94	-2.19
472	SLE FR 2	64	-81	6425	-1.72	37.78	-2.18
472	SLE FR 3	63	-86	6431	-1.61	38.12	-2.21
472	SLE FR 4	64	-83	6652	-1.78	39.21	-2.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
472	SLE FR 5	64	-88	6658	-1.68	39.54	-2.27
472	SLE FR 6	64	-89	6792	-1.75	40.31	-2.3
472	SLE QP 1	63	-85	6414	-1.64	37.94	-2.19
472	SLE QP 2	64	-88	6641	-1.71	39.36	-2.26
472	SLD 1	670	150	6624	-4.8	46.61	1.98
472	SLD 2	755	232	6688	-5.18	44.18	4.4
472	SLD 3	648	-283	5381	2.74	55.43	0.46
472	SLD 4	733	-201	5446	2.36	53	2.88
472	SLD 5	265	626	8510	-14	28.59	0.9
472	SLD 6	320	679	8551	-14.25	27.01	2.47
472	SLD 7	191	-817	4367	11.13	57.98	-4.17
472	SLD 8	246	-764	4409	10.88	56.4	-2.6
472	SLD 9	-118	589	8873	-14.3	22.32	-1.91
472	SLD 10	-63	642	8915	-14.54	20.75	-0.35
472	SLD 11	-192	-854	4731	10.84	51.71	-6.98
472	SLD 12	-136	-801	4772	10.59	50.14	-5.41
472	SLD 13	-605	26	7836	-5.77	25.73	-7.4
472	SLD 14	-520	108	7901	-6.15	23.3	-4.98
472	SLD 15	-627	-407	6594	1.77	34.55	-8.92
472	SLD 16	-542	-325	6658	1.39	32.11	-6.5
472	SLV 1	1013	311	6695	-7.01	50.19	4.44
472	SLV 2	1148	440	6796	-7.61	46.36	8.26
472	SLV 3	976	-421	4595	5.74	65.07	1.88
472	SLV 4	1110	-292	4696	5.13	61.24	5.69
472	SLV 5	381	1117	9823	-22.51	20.75	2.94
472	SLV 6	471	1204	9892	-22.91	18.17	5.51
472	SLV 7	256	-1321	2823	19.96	70.36	-5.63
472	SLV 8	346	-1234	2892	19.56	67.78	-3.06
472	SLV 9	-218	1059	10390	-22.97	10.94	-1.46
472	SLV 10	-128	1146	10459	-23.38	8.36	1.11
472	SLV 11	-343	-1379	3390	19.5	60.55	-10.02
472	SLV 12	-252	-1292	3459	19.1	57.97	-7.45
472	SLV 13	-982	117	8586	-8.55	17.48	-10.21
472	SLV 14	-848	246	8687	-9.15	13.65	-6.39
472	SLV 15	-1019	-615	6486	4.2	32.37	-12.77
472	SLV 16	-885	-486	6587	3.59	28.54	-8.96
472	SLV FO 1	1108	350	6700	-7.54	51.27	5.11
472	SLV FO 2	1256	492	6812	-8.2	47.06	9.31
472	SLV FO 3	1067	-454	4390	6.48	67.64	2.29
472	SLV FO 4	1215	-312	4502	5.82	63.43	6.49
472	SLV FO 5	412	1237	10141	-24.59	18.89	3.46
472	SLV FO 6	512	1333	10217	-25.03	16.05	6.28
472	SLV FO 7	275	-1444	2441	22.13	73.46	-5.96
472	SLV FO 8	374	-1349	2517	21.68	70.63	-3.14
472	SLV FO 9	-246	1173	10765	-25.1	8.1	-1.38
472	SLV FO 10	-147	1269	10841	-25.54	5.26	1.45
472	SLV FO 11	-383	-1508	3065	21.62	62.67	-10.8
472	SLV FO 12	-284	-1413	3141	21.18	59.83	-7.97
472	SLV FO 13	-1087	137	8780	-9.23	15.29	-11
472	SLV FO 14	-939	279	8892	-9.89	11.08	-6.8
472	SLV FO 15	-1128	-667	6470	4.79	31.67	-13.83
472	SLV FO 16	-980	-526	6582	4.12	27.46	-9.63
472	CRTFP Ux+	0	0	0	0	0	0
472	CRTFP Ux-	0	0	0	0	0	0
472	CRTFP Uy+	0	0	0	0	0	0
472	CRTFP Uy-	0	0	0	0	0	0
475	SLU 1	38	32	3736	-0.17	751.46	-11.33
475	SLU 2	40	56	3789	-0.55	760.5	-19.62
475	SLU 3	38	33	3801	-0.06	763.96	-11.71
475	SLU 4	39	48	3833	-0.29	769.39	-16.68
475	SLU 5	40	57	3826	-0.47	767.66	-20.06
475	SLU 6	38	35	3837	0.03	771.12	-12.15
475	SLU 7	39	49	3870	-0.21	776.54	-17.12
475	SLU 8	38	35	3809	0.01	765.78	-12.21
475	SLU 9	39	49	3841	-0.22	771.2	-17.18
475	SLU 10	41	60	4248	-0.58	848.13	-21.04
475	SLU 11	40	38	4260	-0.09	851.59	-13.13
475	SLU 12	41	52	4292	-0.32	857.01	-18.1
475	SLU 13	41	61	4285	-0.49	855.29	-21.48
475	SLU 14	40	39	4297	0	858.75	-13.57
475	SLU 15	41	53	4329	-0.24	864.17	-18.54
475	SLU 16	39	39	4268	-0.02	853.4	-13.63
475	SLU 17	40	53	4300	-0.25	858.83	-18.6
475	SLU 18	40	38	4392	-0.21	876.64	-13.36
475	SLU 19	41	52	4424	-0.44	882.07	-18.33
475	SLU 20	40	39	4428	-0.12	883.8	-13.8
475	SLU 21	41	54	4460	-0.35	889.22	-18.77
475	SLU 22	42	35	4265	0.05	852.99	-12.13
475	SLU 23	44	58	4319	-0.33	862.03	-20.42
475	SLU 24	43	36	4330	0.16	865.49	-12.51
475	SLU 25	44	50	4363	-0.08	870.92	-17.48
475	SLU 26	44	60	4355	-0.25	869.19	-20.86
475	SLU 27	43	37	4367	0.24	872.65	-12.95
475	SLU 28	44	51	4399	0.01	878.07	-17.92
475	SLU 29	42	37	4338	0.22	867.3	-13.01
475	SLU 30	43	51	4370	-0.01	872.73	-17.98
475	SLU 31	46	62	4778	-0.36	949.66	-21.84
475	SLU 32	44	40	4790	0.13	953.12	-13.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
475	SLU 33	45	54	4822	-0.1	958.54	-18.9
475	SLU 34	46	64	4815	-0.28	956.81	-22.28
475	SLU 35	44	41	4826	0.21	960.27	-14.37
475	SLU 36	45	55	4858	-0.02	965.7	-19.34
475	SLU 37	44	41	4798	0.2	954.93	-14.43
475	SLU 38	45	55	4830	-0.04	960.35	-19.4
475	SLU 39	44	41	4921	0.01	978.17	-14.16
475	SLU 40	46	55	4953	-0.22	983.59	-19.13
475	SLU 41	44	42	4958	0.1	985.33	-14.6
475	SLU 42	46	56	4990	-0.13	990.75	-19.57
475	SLU 43	48	41	4675	-0.29	942.09	-14.45
475	SLU 44	50	65	4728	-0.68	951.13	-22.74
475	SLU 45	48	42	4740	-0.19	954.59	-14.83
475	SLU 46	49	57	4772	-0.42	960.02	-19.81
475	SLU 47	49	66	4765	-0.59	958.29	-23.18
475	SLU 48	48	44	4777	-0.1	961.75	-15.27
475	SLU 49	49	58	4809	-0.33	967.17	-20.25
475	SLU 50	48	44	4748	-0.12	956.41	-15.33
475	SLU 51	49	58	4780	-0.35	961.83	-20.3
475	SLU 52	51	69	5187	-0.7	1038.76	-24.16
475	SLU 53	50	46	5199	-0.21	1042.22	-16.25
475	SLU 54	51	61	5231	-0.45	1047.64	-21.23
475	SLU 55	51	70	5224	-0.62	1045.92	-24.6
475	SLU 56	50	48	5236	-0.13	1049.38	-16.69
475	SLU 57	51	62	5268	-0.36	1054.8	-21.67
475	SLU 58	49	48	5207	-0.14	1044.03	-16.75
475	SLU 59	50	62	5239	-0.38	1049.46	-21.72
475	SLU 60	50	47	5331	-0.33	1067.27	-16.48
475	SLU 61	51	61	5363	-0.56	1072.7	-21.46
475	SLU 62	50	48	5367	-0.24	1074.43	-16.92
475	SLU 63	51	63	5399	-0.48	1079.85	-21.89
475	SLU 64	52	44	5204	-0.07	1043.62	-15.25
475	SLU 65	54	67	5258	-0.46	1052.66	-23.54
475	SLU 66	52	45	5270	0.03	1056.12	-15.63
475	SLU 67	54	59	5302	-0.2	1061.54	-20.61
475	SLU 68	54	69	5294	-0.37	1059.82	-23.98
475	SLU 69	52	46	5306	0.12	1063.28	-16.07
475	SLU 70	54	60	5338	-0.11	1068.7	-21.05
475	SLU 71	52	46	5277	0.1	1057.93	-16.13
475	SLU 72	53	60	5310	-0.13	1063.36	-21.1
475	SLU 73	55	71	5717	-0.49	1140.29	-24.96
475	SLU 74	54	49	5729	0	1143.75	-17.05
475	SLU 75	55	63	5761	-0.23	1149.17	-22.03
475	SLU 76	55	73	5754	-0.4	1147.44	-25.4
475	SLU 77	54	50	5765	0.09	1150.9	-17.49
475	SLU 78	55	64	5798	-0.14	1156.33	-22.47
475	SLU 79	54	50	5737	0.07	1145.56	-17.55
475	SLU 80	55	64	5769	-0.16	1150.98	-22.52
475	SLU 81	54	49	5860	-0.11	1168.8	-17.28
475	SLU 82	55	64	5892	-0.34	1174.22	-22.25
475	SLU 83	54	51	5897	-0.03	1175.96	-17.72
475	SLU 84	55	65	5929	-0.26	1181.38	-22.69
475	SLE RA 1	39	33	3887	-0.1	780.47	-11.56
475	SLE RA 2	40	49	3923	-0.36	786.5	-17.08
475	SLE RA 3	39	34	3930	-0.03	788.8	-11.81
475	SLE RA 4	40	43	3952	-0.19	792.42	-15.13
475	SLE RA 5	40	50	3947	-0.3	791.27	-17.38
475	SLE RA 6	39	35	3955	0.02	793.58	-12.1
475	SLE RA 7	40	44	3976	-0.13	797.19	-15.42
475	SLE RA 8	39	35	3936	0.01	790.01	-12.14
475	SLE RA 9	40	44	3957	-0.14	793.63	-15.46
475	SLE RA 10	41	52	4229	-0.38	844.92	-18.03
475	SLE RA 11	40	36	4237	-0.05	847.22	-12.76
475	SLE RA 12	41	46	4258	-0.21	850.84	-16.07
475	SLE RA 13	41	52	4253	-0.32	849.69	-18.32
475	SLE RA 14	40	37	4261	0	851.99	-13.05
475	SLE RA 15	41	47	4282	-0.15	855.61	-16.37
475	SLE RA 16	40	37	4242	-0.01	848.43	-13.09
475	SLE RA 17	41	47	4263	-0.16	852.05	-16.4
475	SLE RA 18	41	37	4324	-0.13	863.92	-12.91
475	SLE RA 19	41	46	4346	-0.28	867.54	-16.22
475	SLE RA 20	41	38	4349	-0.07	868.7	-13.2
475	SLE RA 21	41	47	4370	-0.23	872.31	-16.52
475	SLE FR 1	39	33	3887	-0.1	780.47	-11.56
475	SLE FR 2	39	36	3894	-0.15	781.68	-12.66
475	SLE FR 3	39	33	3897	-0.08	782.38	-11.67
475	SLE FR 4	40	37	4025	-0.16	806.71	-13.07
475	SLE FR 5	40	35	4028	-0.09	807.42	-12.08
475	SLE FR 6	40	35	4106	-0.12	822.2	-12.23
475	SLE QP 1	39	33	3887	-0.1	780.47	-11.56
475	SLE QP 2	40	34	4018	-0.11	805.51	-11.96
475	SLD 1	386	93	3329	-2.25	670.65	-32.52
475	SLD 2	431	213	3394	-2.71	680.43	-74.34
475	SLD 3	365	-215	2549	3.01	551.4	74.93
475	SLD 4	411	-94	2614	2.55	561.18	33.11
475	SLD 5	167	497	4982	-8.65	944.22	-173.83
475	SLD 6	197	575	5025	-8.95	950.55	-200.89
475	SLD 7	98	-527	2384	8.88	546.71	184.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
475	SLD 8	127	-450	2426	8.58	553.04	157.26
475	SLD 9	-48	518	5610	-8.81	1057.97	-181.19
475	SLD 10	-19	596	5652	-9.11	1064.3	-208.24
475	SLD 11	-118	-506	3012	8.73	660.47	176.97
475	SLD 12	-88	-429	3054	8.43	666.8	149.91
475	SLD 13	-331	163	5422	-2.77	1049.83	-57.03
475	SLD 14	-286	283	5487	-3.23	1059.61	-98.85
475	SLD 15	-352	-145	4642	2.49	930.58	50.42
475	SLD 16	-307	-24	4708	2.03	940.36	8.6
475	SLV 1	582	144	2992	-3.78	602.75	-50.51
475	SLV 2	654	333	3095	-4.51	618.15	-116.35
475	SLV 3	547	-375	1675	5.1	401.38	131.1
475	SLV 4	619	-186	1778	4.38	416.78	65.26
475	SLV 5	242	820	5688	-14.56	1047.22	-286.68
475	SLV 6	291	947	5758	-15.05	1057.59	-331.01
475	SLV 7	125	-912	1299	15.07	375.98	318.69
475	SLV 8	173	-784	1368	14.58	386.35	274.36
475	SLV 9	-94	853	6668	-14.8	1224.66	-298.28
475	SLV 10	-46	980	6737	-15.29	1235.03	-342.61
475	SLV 11	-212	-879	2278	14.83	553.42	307.09
475	SLV 12	-163	-751	2348	14.34	563.8	262.76
475	SLV 13	-540	255	6258	-4.6	1194.23	-89.18
475	SLV 14	-468	444	6361	-5.33	1209.64	-155.03
475	SLV 15	-575	-265	4941	4.29	992.86	92.43
475	SLV 16	-503	-76	5044	3.56	1008.26	26.59
475	SLV FO 1	637	155	2890	-4.15	582.47	-54.36
475	SLV FO 2	716	363	3003	-4.95	599.42	-126.79
475	SLV FO 3	598	-416	1441	5.63	360.96	145.41
475	SLV FO 4	677	-208	1554	4.83	377.91	72.98
475	SLV FO 5	263	898	5855	-16	1071.39	-314.15
475	SLV FO 6	316	1039	5932	-16.54	1082.8	-362.92
475	SLV FO 7	134	-1007	1027	16.59	333.03	351.75
475	SLV FO 8	187	-866	1103	16.05	344.43	302.99
475	SLV FO 9	-108	935	6933	-16.27	1266.58	-326.91
475	SLV FO 10	-54	1075	7009	-16.81	1277.99	-375.68
475	SLV FO 11	-237	-970	2104	16.32	528.22	338.99
475	SLV FO 12	-184	-830	2181	15.78	539.62	290.23
475	SLV FO 13	-598	277	6482	-5.05	1233.11	-96.9
475	SLV FO 14	-519	485	6595	-5.85	1250.05	-169.33
475	SLV FO 15	-637	-295	5033	4.73	1011.6	102.87
475	SLV FO 16	-558	-87	5146	3.93	1028.54	30.44
475	CRTFP Ux+	0	0	0	0	0	0
475	CRTFP Ux-	0	0	0	0	0	0
475	CRTFP Uy+	0	0	0	0	0	0
475	CRTFP Uy-	0	0	0	0	0	0
477	SLU 1	31	-45	3800	1.14	1056.69	15.59
477	SLU 2	32	-23	3839	0.86	1065.96	7.98
477	SLU 3	31	-46	3872	1.23	1076.22	16.02
477	SLU 4	31	-33	3895	1.06	1081.78	11.46
477	SLU 5	32	-24	3884	0.92	1078.15	8.32
477	SLU 6	31	-47	3917	1.3	1088.41	16.35
477	SLU 7	31	-34	3940	1.13	1093.97	11.79
477	SLU 8	30	-47	3890	1.28	1081.07	16.26
477	SLU 9	31	-34	3913	1.11	1086.64	11.69
477	SLU 10	34	-29	4344	0.99	1203.67	9.9
477	SLU 11	33	-52	4376	1.37	1213.93	17.93
477	SLU 12	34	-39	4400	1.2	1219.49	13.37
477	SLU 13	34	-30	4388	1.06	1215.86	10.23
477	SLU 14	33	-53	4421	1.44	1226.12	18.27
477	SLU 15	34	-40	4445	1.27	1231.68	13.7
477	SLU 16	33	-53	4394	1.41	1218.78	18.17
477	SLU 17	34	-40	4418	1.24	1224.35	13.61
477	SLU 18	34	-53	4520	1.34	1253.42	18.33
477	SLU 19	35	-40	4544	1.17	1258.98	13.76
477	SLU 20	34	-54	4565	1.4	1265.61	18.66
477	SLU 21	35	-41	4589	1.23	1271.17	14.09
477	SLU 22	34	-51	4339	1.52	1202.96	17.74
477	SLU 23	35	-30	4378	1.23	1212.23	10.13
477	SLU 24	34	-53	4411	1.61	1222.49	18.17
477	SLU 25	35	-39	4434	1.44	1228.05	13.6
477	SLU 26	35	-30	4423	1.3	1224.42	10.46
477	SLU 27	34	-54	4455	1.68	1234.68	18.5
477	SLU 28	35	-40	4479	1.51	1240.24	13.93
477	SLU 29	34	-53	4428	1.65	1227.35	18.4
477	SLU 30	35	-40	4452	1.48	1232.91	13.84
477	SLU 31	38	-35	4882	1.37	1349.94	12.04
477	SLU 32	37	-58	4915	1.75	1360.2	20.08
477	SLU 33	38	-45	4938	1.58	1365.76	15.52
477	SLU 34	38	-36	4927	1.44	1362.13	12.38
477	SLU 35	37	-59	4960	1.82	1372.39	20.41
477	SLU 36	38	-46	4983	1.65	1377.95	15.85
477	SLU 37	37	-59	4933	1.79	1365.06	20.31
477	SLU 38	37	-46	4956	1.62	1370.62	15.75
477	SLU 39	38	-59	5059	1.71	1399.69	20.47
477	SLU 40	39	-46	5083	1.54	1405.25	15.91
477	SLU 41	38	-60	5104	1.78	1411.88	20.8
477	SLU 42	38	-47	5128	1.61	1417.44	16.24
477	SLU 43	39	-57	4755	1.35	1323.54	19.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
477	SLU 44	40	-35	4795	1.07	1332.82	11.93
477	SLU 45	39	-58	4827	1.44	1343.07	19.96
477	SLU 46	39	-45	4851	1.27	1348.64	15.4
477	SLU 47	40	-36	4839	1.14	1345.01	12.26
477	SLU 48	39	-59	4872	1.51	1355.27	20.29
477	SLU 49	39	-46	4896	1.34	1360.83	15.73
477	SLU 50	38	-58	4845	1.49	1347.93	20.2
477	SLU 51	39	-45	4869	1.32	1353.49	15.63
477	SLU 52	42	-40	5299	1.21	1470.53	13.84
477	SLU 53	41	-63	5331	1.58	1480.78	21.88
477	SLU 54	42	-50	5355	1.41	1486.35	17.31
477	SLU 55	42	-41	5344	1.27	1482.72	14.17
477	SLU 56	41	-64	5376	1.65	1492.98	22.21
477	SLU 57	42	-51	5400	1.48	1498.54	17.65
477	SLU 58	41	-64	5349	1.63	1485.64	22.11
477	SLU 59	42	-51	5373	1.46	1491.2	17.55
477	SLU 60	42	-65	5476	1.55	1520.27	22.27
477	SLU 61	43	-51	5499	1.38	1525.84	17.7
477	SLU 62	42	-65	5520	1.62	1532.47	22.6
477	SLU 63	43	-52	5544	1.45	1538.03	18.04
477	SLU 64	42	-63	5294	1.73	1469.82	21.68
477	SLU 65	43	-41	5333	1.45	1479.09	14.07
477	SLU 66	42	-64	5366	1.82	1489.34	22.11
477	SLU 67	43	-51	5389	1.65	1494.91	17.54
477	SLU 68	43	-42	5378	1.51	1491.28	14.4
477	SLU 69	42	-65	5411	1.89	1501.54	22.44
477	SLU 70	43	-52	5434	1.72	1507.1	17.88
477	SLU 71	42	-65	5384	1.87	1494.2	22.34
477	SLU 72	43	-52	5407	1.7	1499.76	17.78
477	SLU 73	46	-47	5838	1.58	1616.8	15.99
477	SLU 74	45	-70	5870	1.96	1627.05	24.02
477	SLU 75	46	-56	5894	1.79	1632.62	19.46
477	SLU 76	46	-47	5882	1.65	1628.99	16.32
477	SLU 77	45	-71	5915	2.03	1639.25	24.35
477	SLU 78	45	-57	5939	1.86	1644.81	19.79
477	SLU 79	45	-70	5888	2	1631.91	24.26
477	SLU 80	45	-57	5912	1.83	1637.47	19.69
477	SLU 81	46	-71	6014	1.93	1666.54	24.41
477	SLU 82	47	-58	6038	1.76	1672.11	19.85
477	SLU 83	46	-72	6059	1.99	1678.74	24.74
477	SLU 84	46	-59	6083	1.82	1684.3	20.18
477	SLE RA 1	32	-47	3954	1.25	1098.48	16.2
477	SLE RA 2	32	-32	3980	1.06	1104.66	11.13
477	SLE RA 3	32	-48	4002	1.31	1111.5	16.49
477	SLE RA 4	32	-39	4018	1.2	1115.21	13.45
477	SLE RA 5	32	-33	4010	1.1	1112.79	11.35
477	SLE RA 6	32	-48	4032	1.35	1119.63	16.71
477	SLE RA 7	32	-40	4047	1.24	1123.34	13.67
477	SLE RA 8	31	-48	4014	1.34	1114.74	16.65
477	SLE RA 9	32	-39	4029	1.22	1118.45	13.6
477	SLE RA 10	34	-36	4316	1.15	1196.47	12.41
477	SLE RA 11	33	-51	4338	1.4	1203.31	17.77
477	SLE RA 12	34	-43	4354	1.29	1207.01	14.72
477	SLE RA 13	34	-37	4346	1.2	1204.6	12.63
477	SLE RA 14	33	-52	4368	1.45	1211.43	17.99
477	SLE RA 15	34	-43	4384	1.33	1215.14	14.95
477	SLE RA 16	33	-52	4350	1.43	1206.54	17.92
477	SLE RA 17	34	-43	4366	1.32	1210.25	14.88
477	SLE RA 18	34	-52	4434	1.38	1229.63	18.03
477	SLE RA 19	35	-43	4450	1.27	1233.34	14.98
477	SLE RA 20	34	-53	4464	1.42	1237.76	18.25
477	SLE RA 21	35	-44	4480	1.31	1241.47	15.21
477	SLE FR 1	32	-47	3954	1.25	1098.48	16.2
477	SLE FR 2	32	-44	3959	1.21	1099.72	15.19
477	SLE FR 3	32	-47	3966	1.26	1101.73	16.29
477	SLE FR 4	33	-46	4103	1.25	1139.06	15.74
477	SLE FR 5	32	-49	4110	1.3	1141.08	16.84
477	SLE FR 6	33	-50	4194	1.31	1164.06	17.12
477	SLE QP 1	32	-47	3954	1.25	1098.48	16.2
477	SLE QP 2	32	-49	4098	1.29	1137.83	16.75
477	SLD 1	369	92	4439	-0.67	1225.44	-28.94
477	SLD 2	413	97	4449	-0.69	1227.02	-30.14
477	SLD 3	355	-184	3800	3.64	1071.65	67.39
477	SLD 4	399	-180	3810	3.62	1073.23	66.19
477	SLD 5	146	412	5168	-5.83	1397.08	-142.86
477	SLD 6	175	415	5174	-5.85	1398.11	-143.63
477	SLD 7	101	-509	3038	8.53	884.45	178.26
477	SLD 8	130	-506	3044	8.52	885.48	177.48
477	SLD 9	-65	409	5152	-5.95	1390.17	-143.98
477	SLD 10	-36	412	5158	-5.96	1391.2	-144.76
477	SLD 11	-110	-512	3022	8.42	877.54	177.13
477	SLD 12	-81	-509	3028	8.4	878.57	176.36
477	SLD 13	-335	83	4386	-1.05	1202.42	-32.69
477	SLD 14	-290	87	4396	-1.07	1204	-33.89
477	SLD 15	-348	-194	3747	3.26	1048.63	63.65
477	SLD 16	-304	-189	3757	3.24	1050.22	62.44
477	SLV 1	559	190	4672	-2.03	1284.69	-60.57
477	SLV 2	629	197	4688	-2.07	1287.19	-62.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
477	SLV 3	536	-277	3592	5.25	1024.76	102.2
477	SLV 4	606	-271	3608	5.21	1027.26	100.3
477	SLV 5	212	730	5905	-10.75	1575.65	-252.95
477	SLV 6	260	735	5916	-10.77	1577.33	-254.23
477	SLV 7	135	-827	2305	13.53	709.21	289.6
477	SLV 8	182	-822	2316	13.5	710.89	288.33
477	SLV 9	-118	725	5880	-10.93	1564.76	-254.82
477	SLV 10	-71	730	5891	-10.95	1566.44	-256.1
477	SLV 11	-195	-832	2280	13.34	698.32	287.73
477	SLV 12	-148	-827	2290	13.32	700	286.46
477	SLV 13	-541	174	4588	-2.64	1248.39	-66.8
477	SLV 14	-471	180	4603	-2.68	1250.89	-68.7
477	SLV 15	-564	-294	3508	4.64	988.46	95.96
477	SLV 16	-494	-287	3523	4.61	990.96	94.07
477	SLV FO 1	612	214	4730	-2.37	1299.38	-68.3
477	SLV FO 2	689	221	4747	-2.4	1302.13	-70.38
477	SLV FO 3	586	-300	3542	5.64	1013.45	110.74
477	SLV FO 4	663	-293	3559	5.61	1016.2	108.66
477	SLV FO 5	230	808	6086	-11.95	1619.43	-279.92
477	SLV FO 6	282	813	6098	-11.98	1621.28	-281.33
477	SLV FO 7	146	-905	2126	14.75	666.34	316.88
477	SLV FO 8	197	-900	2138	14.72	668.2	315.48
477	SLV FO 9	-133	803	6058	-12.15	1607.45	-281.98
477	SLV FO 10	-81	808	6070	-12.18	1609.31	-283.38
477	SLV FO 11	-218	-910	2098	14.55	654.37	314.83
477	SLV FO 12	-166	-905	2110	14.52	656.22	313.43
477	SLV FO 13	-599	196	4637	-3.03	1259.45	-75.16
477	SLV FO 14	-521	203	4654	-3.07	1262.2	-77.24
477	SLV FO 15	-624	-318	3449	4.98	973.52	103.88
477	SLV FO 16	-547	-311	3466	4.94	976.27	101.8
477	CRTFP Ux+	0	0	0	0	0	0
477	CRTFP Ux-	0	0	0	0	0	0
477	CRTFP Uy+	0	0	0	0	0	0
477	CRTFP Uy-	0	0	0	0	0	0
480	SLU 1	-46	13	3323	1.57	-406.83	2.88
480	SLU 2	-48	33	3362	1.27	-408.92	8.04
480	SLU 3	-47	13	3392	1.68	-415.09	2.89
480	SLU 4	-48	25	3415	1.5	-416.35	5.98
480	SLU 5	-48	33	3406	1.35	-414.25	8.08
480	SLU 6	-47	13	3436	1.76	-420.41	2.93
480	SLU 7	-48	25	3459	1.58	-421.67	6.03
480	SLU 8	-47	13	3411	1.73	-417.47	2.97
480	SLU 9	-48	25	3434	1.55	-418.73	6.06
480	SLU 10	-50	36	3776	1.51	-457.39	8.7
480	SLU 11	-49	15	3807	1.92	-463.55	3.55
480	SLU 12	-50	28	3830	1.74	-464.81	6.64
480	SLU 13	-50	36	3820	1.59	-462.71	8.74
480	SLU 14	-49	16	3851	1.99	-468.87	3.59
480	SLU 15	-51	28	3874	1.82	-470.13	6.68
480	SLU 16	-49	16	3826	1.96	-465.93	3.62
480	SLU 17	-50	28	3849	1.78	-467.19	6.72
480	SLU 18	-49	17	3916	1.91	-476.06	3.82
480	SLU 19	-50	29	3939	1.73	-477.32	6.92
480	SLU 20	-49	17	3959	1.99	-481.38	3.86
480	SLU 21	-51	29	3983	1.81	-482.64	6.96
480	SLU 22	-51	13	3816	2.04	-465.24	2.98
480	SLU 23	-53	34	3854	1.74	-467.34	8.13
480	SLU 24	-52	13	3885	2.15	-473.51	2.98
480	SLU 25	-53	26	3908	1.97	-474.76	6.08
480	SLU 26	-54	34	3898	1.82	-472.66	8.18
480	SLU 27	-53	13	3929	2.23	-478.83	3.03
480	SLU 28	-54	26	3952	2.05	-480.09	6.12
480	SLU 29	-52	14	3903	2.2	-475.89	3.06
480	SLU 30	-53	26	3927	2.02	-477.15	6.16
480	SLU 31	-55	37	4269	1.98	-515.8	8.79
480	SLU 32	-54	16	4299	2.39	-521.97	3.64
480	SLU 33	-55	28	4323	2.21	-523.22	6.73
480	SLU 34	-56	37	4313	2.06	-521.12	8.83
480	SLU 35	-55	16	4343	2.46	-527.29	3.68
480	SLU 36	-56	29	4367	2.29	-528.55	6.78
480	SLU 37	-54	16	4318	2.43	-524.35	3.72
480	SLU 38	-56	29	4341	2.26	-525.61	6.81
480	SLU 39	-54	17	4408	2.38	-534.47	3.92
480	SLU 40	-55	30	4431	2.2	-535.73	7.01
480	SLU 41	-55	17	4452	2.46	-539.8	3.96
480	SLU 42	-56	30	4475	2.28	-541.05	7.05
480	SLU 43	-58	16	4151	1.88	-508.85	3.72
480	SLU 44	-60	37	4190	1.58	-510.94	8.87
480	SLU 45	-59	16	4220	1.99	-517.11	3.72
480	SLU 46	-60	29	4243	1.81	-518.37	6.82
480	SLU 47	-60	37	4233	1.66	-516.27	8.92
480	SLU 48	-59	16	4264	2.07	-522.43	3.77
480	SLU 49	-60	29	4287	1.89	-523.69	6.86
480	SLU 50	-59	17	4239	2.03	-519.49	3.8
480	SLU 51	-60	29	4262	1.86	-520.75	6.9
480	SLU 52	-62	40	4604	1.82	-559.41	9.53
480	SLU 53	-61	19	4635	2.22	-565.57	4.38
480	SLU 54	-62	31	4658	2.05	-566.83	7.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
480	SLU 55	-62	40	4648	1.9	-564.73	9.57
480	SLU 56	-61	19	4679	2.3	-570.89	4.42
480	SLU 57	-62	32	4702	2.12	-572.15	7.52
480	SLU 58	-61	19	4653	2.27	-567.95	4.46
480	SLU 59	-62	32	4677	2.09	-569.21	7.55
480	SLU 60	-61	20	4743	2.22	-578.08	4.66
480	SLU 61	-62	33	4767	2.04	-579.34	7.75
480	SLU 62	-61	20	4787	2.29	-583.4	4.7
480	SLU 63	-62	33	4811	2.12	-584.66	7.79
480	SLU 64	-63	17	4643	2.35	-567.26	3.81
480	SLU 65	-65	37	4682	2.05	-569.36	8.97
480	SLU 66	-64	17	4713	2.46	-575.53	3.82
480	SLU 67	-65	29	4736	2.28	-576.78	6.91
480	SLU 68	-65	38	4726	2.13	-574.68	9.01
480	SLU 69	-64	17	4756	2.54	-580.85	3.86
480	SLU 70	-66	29	4780	2.36	-582.11	6.95
480	SLU 71	-64	17	4731	2.5	-577.91	3.89
480	SLU 72	-65	30	4755	2.33	-579.17	6.99
480	SLU 73	-67	40	5097	2.29	-617.82	9.62
480	SLU 74	-66	20	5127	2.69	-623.99	4.47
480	SLU 75	-67	32	5151	2.52	-625.24	7.57
480	SLU 76	-68	40	5141	2.37	-623.14	9.67
480	SLU 77	-67	20	5171	2.77	-629.31	4.52
480	SLU 78	-68	32	5195	2.6	-630.57	7.61
480	SLU 79	-66	20	5146	2.74	-626.37	4.55
480	SLU 80	-67	32	5169	2.56	-627.63	7.65
480	SLU 81	-66	21	5236	2.69	-636.49	4.75
480	SLU 82	-67	33	5259	2.51	-637.75	7.84
480	SLU 83	-67	21	5280	2.76	-641.82	4.79
480	SLU 84	-68	33	5303	2.59	-643.07	7.88
480	SLE RA 1	-47	13	3464	1.7	-423.52	2.91
480	SLE RA 2	-49	27	3489	1.5	-424.92	6.35
480	SLE RA 3	-48	13	3510	1.77	-429.03	2.92
480	SLE RA 4	-49	21	3525	1.66	-429.86	4.98
480	SLE RA 5	-49	27	3519	1.56	-428.46	6.38
480	SLE RA 6	-48	13	3539	1.83	-432.57	2.94
480	SLE RA 7	-49	21	3554	1.71	-433.41	5.01
480	SLE RA 8	-48	13	3522	1.81	-430.61	2.97
480	SLE RA 9	-49	21	3538	1.69	-431.45	5.03
480	SLE RA 10	-50	28	3766	1.66	-457.22	6.79
480	SLE RA 11	-49	15	3786	1.93	-461.33	3.35
480	SLE RA 12	-50	23	3802	1.81	-462.17	5.42
480	SLE RA 13	-50	29	3795	1.71	-460.77	6.81
480	SLE RA 14	-50	15	3816	1.99	-464.88	3.38
480	SLE RA 15	-50	23	3831	1.87	-465.72	5.44
480	SLE RA 16	-49	15	3799	1.97	-462.92	3.4
480	SLE RA 17	-50	23	3814	1.85	-463.76	5.47
480	SLE RA 18	-49	15	3859	1.93	-469.67	3.54
480	SLE RA 19	-50	24	3874	1.81	-470.51	5.6
480	SLE RA 20	-50	16	3888	1.98	-473.22	3.56
480	SLE RA 21	-50	24	3904	1.86	-474.06	5.63
480	SLE FR 1	-47	13	3464	1.7	-423.52	2.91
480	SLE FR 2	-48	16	3469	1.66	-423.8	3.6
480	SLE FR 3	-47	13	3475	1.72	-424.94	2.92
480	SLE FR 4	-48	16	3587	1.73	-437.64	3.79
480	SLE FR 5	-48	14	3594	1.79	-438.78	3.11
480	SLE FR 6	-48	14	3661	1.81	-446.59	3.22
480	SLE QP 1	-47	13	3464	1.7	-423.52	2.91
480	SLE QP 2	-48	14	3582	1.77	-437.36	3.1
480	SLD 1	212	167	4889	0.15	-565.72	41.59
480	SLD 2	242	63	4843	0.52	-564.53	15.76
480	SLD 3	227	-100	4307	4.14	-536.3	-25.15
480	SLD 4	258	-204	4261	4.52	-535.11	-50.99
480	SLD 5	1	483	4864	-4.85	-520.7	120.36
480	SLD 6	20	416	4835	-4.6	-519.92	103.64
480	SLD 7	53	-408	2925	8.48	-422.63	-102.13
480	SLD 8	73	-475	2895	8.72	-421.86	-118.84
480	SLD 9	-169	502	4269	-5.18	-452.87	125.04
480	SLD 10	-149	435	4239	-4.94	-452.1	108.32
480	SLD 11	-116	-389	2330	8.14	-354.8	-97.45
480	SLD 12	-97	-456	2300	8.38	-354.03	-114.16
480	SLD 13	-353	231	2904	-0.98	-339.62	57.19
480	SLD 14	-323	127	2858	-0.61	-338.43	31.35
480	SLD 15	-338	-36	2322	3.01	-310.2	-9.56
480	SLD 16	-307	-140	2276	3.39	-309.01	-35.4
480	SLV 1	357	271	5658	-1.02	-639.41	67.59
480	SLV 2	405	107	5586	-0.43	-637.53	26.91
480	SLV 3	384	-180	4675	5.73	-589.88	-45.2
480	SLV 4	431	-344	4603	6.32	-588	-85.88
480	SLV 5	25	806	5710	-9.42	-573.45	201.11
480	SLV 6	57	696	5661	-9.02	-572.18	173.73
480	SLV 7	113	-699	2433	13.09	-408.35	-174.87
480	SLV 8	145	-809	2384	13.49	-407.08	-202.26
480	SLV 9	-240	837	4780	-9.95	-467.65	208.46
480	SLV 10	-208	726	4732	-9.55	-466.38	181.07
480	SLV 11	-153	-669	1504	12.56	-302.54	-167.53
480	SLV 12	-121	-779	1455	12.96	-301.28	-194.92
480	SLV 13	-527	371	2561	-2.79	-286.73	92.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
480	SLV 14	-479	207	2489	-2.19	-284.85	51.4
480	SLV 15	-501	-80	1578	3.97	-237.2	-20.72
480	SLV 16	-453	-244	1506	4.56	-235.32	-61.4
480	SLV FO 1	398	297	5866	-1.3	-659.62	74.04
480	SLV FO 2	450	117	5786	-0.65	-657.55	29.29
480	SLV FO 3	427	-200	4785	6.13	-605.13	-50.03
480	SLV FO 4	479	-380	4705	6.78	-603.06	-94.78
480	SLV FO 5	32	886	5922	-10.54	-587.06	220.92
480	SLV FO 6	67	764	5869	-10.1	-585.67	190.79
480	SLV FO 7	129	-770	2318	14.22	-405.45	-192.67
480	SLV FO 8	164	-892	2264	14.66	-404.05	-222.8
480	SLV FO 9	-260	919	4900	-11.12	-470.67	229
480	SLV FO 10	-225	797	4847	-10.68	-469.28	198.87
480	SLV FO 11	-163	-737	1296	13.64	-289.06	-184.59
480	SLV FO 12	-128	-859	1242	14.08	-287.67	-214.72
480	SLV FO 13	-575	407	2459	-3.24	-271.67	100.98
480	SLV FO 14	-523	227	2380	-2.59	-269.6	56.23
480	SLV FO 15	-546	-90	1378	4.19	-217.18	-23.1
480	SLV FO 16	-494	-270	1298	4.84	-215.11	-67.85
480	CRTFP Ux+	0	0	0	0	0	0
480	CRTFP Ux-	0	0	0	0	0	0
480	CRTFP Uy+	0	0	0	0	0	0
480	CRTFP Uy-	0	0	0	0	0	0
483	SLU 1	-74	-36	6104	-0.02	-31.73	-1.97
483	SLU 2	-77	-4	6166	-0.55	-30.76	-2.14
483	SLU 3	-75	-37	6225	0.14	-32.52	-2.03
483	SLU 4	-77	-18	6262	-0.18	-31.93	-2.13
483	SLU 5	-78	-4	6242	-0.44	-31.31	-2.18
483	SLU 6	-76	-37	6302	0.25	-33.06	-2.07
483	SLU 7	-78	-18	6339	-0.07	-32.48	-2.17
483	SLU 8	-76	-37	6258	0.21	-32.83	-2.05
483	SLU 9	-77	-18	6294	-0.11	-32.24	-2.15
483	SLU 10	-79	-7	6968	-0.47	-36.32	-2.36
483	SLU 11	-78	-40	7027	0.22	-38.07	-2.26
483	SLU 12	-80	-20	7064	-0.1	-37.49	-2.36
483	SLU 13	-80	-7	7045	-0.36	-36.86	-2.41
483	SLU 14	-79	-40	7104	0.33	-38.62	-2.3
483	SLU 15	-81	-21	7141	0.01	-38.04	-2.4
483	SLU 16	-78	-40	7060	0.29	-38.38	-2.28
483	SLU 17	-80	-21	7097	-0.03	-37.8	-2.38
483	SLU 18	-78	-40	7250	0.09	-39.67	-2.3
483	SLU 19	-79	-21	7287	-0.23	-39.09	-2.4
483	SLU 20	-79	-40	7327	0.21	-40.22	-2.34
483	SLU 21	-80	-21	7364	-0.11	-39.63	-2.44
483	SLU 22	-83	-40	7017	0.45	-36.85	-2.36
483	SLU 23	-86	-8	7078	-0.09	-35.88	-2.53
483	SLU 24	-84	-41	7137	0.6	-37.63	-2.42
483	SLU 25	-86	-22	7174	0.28	-37.05	-2.52
483	SLU 26	-87	-9	7155	0.03	-36.42	-2.57
483	SLU 27	-85	-42	7214	0.72	-38.18	-2.46
483	SLU 28	-87	-22	7251	0.4	-37.6	-2.56
483	SLU 29	-85	-41	7170	0.68	-37.94	-2.44
483	SLU 30	-86	-22	7207	0.36	-37.36	-2.54
483	SLU 31	-88	-11	7881	-0.01	-41.43	-2.75
483	SLU 32	-87	-44	7940	0.68	-43.19	-2.65
483	SLU 33	-89	-25	7977	0.36	-42.6	-2.75
483	SLU 34	-89	-12	7957	0.11	-41.98	-2.8
483	SLU 35	-88	-44	8016	0.8	-43.74	-2.69
483	SLU 36	-90	-25	8053	0.48	-43.15	-2.79
483	SLU 37	-87	-44	7972	0.76	-43.5	-2.67
483	SLU 38	-89	-25	8009	0.44	-42.92	-2.77
483	SLU 39	-87	-44	8163	0.56	-44.79	-2.69
483	SLU 40	-88	-25	8200	0.24	-44.2	-2.79
483	SLU 41	-88	-45	8240	0.68	-45.34	-2.73
483	SLU 42	-89	-26	8277	0.36	-44.75	-2.83
483	SLU 43	-93	-45	7622	-0.18	-39.5	-2.43
483	SLU 44	-96	-13	7684	-0.72	-38.52	-2.59
483	SLU 45	-94	-46	7743	-0.03	-40.28	-2.49
483	SLU 46	-96	-27	7780	-0.35	-39.7	-2.59
483	SLU 47	-97	-14	7761	-0.6	-39.07	-2.63
483	SLU 48	-95	-47	7820	0.09	-40.83	-2.53
483	SLU 49	-97	-27	7857	-0.23	-40.24	-2.63
483	SLU 50	-95	-46	7776	0.05	-40.59	-2.51
483	SLU 51	-96	-27	7813	-0.27	-40.01	-2.61
483	SLU 52	-98	-16	8486	-0.64	-44.08	-2.82
483	SLU 53	-97	-49	8546	0.05	-45.84	-2.72
483	SLU 54	-99	-30	8583	-0.27	-45.25	-2.82
483	SLU 55	-99	-17	8563	-0.52	-44.63	-2.86
483	SLU 56	-98	-49	8622	0.17	-46.39	-2.76
483	SLU 57	-100	-30	8659	-0.15	-45.8	-2.86
483	SLU 58	-97	-49	8578	0.13	-46.15	-2.74
483	SLU 59	-99	-30	8615	-0.19	-45.57	-2.84
483	SLU 60	-97	-49	8769	-0.07	-47.44	-2.76
483	SLU 61	-98	-30	8806	-0.39	-46.85	-2.86
483	SLU 62	-98	-50	8846	0.05	-47.98	-2.8
483	SLU 63	-99	-31	8882	-0.27	-47.4	-2.9
483	SLU 64	-102	-49	8535	0.28	-44.61	-2.82
483	SLU 65	-105	-17	8596	-0.25	-43.64	-2.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
483	SLU 66	-103	-50	8656	0.44	-45.4	-2.88
483	SLU 67	-105	-31	8693	0.12	-44.81	-2.98
483	SLU 68	-106	-18	8673	-0.14	-44.19	-3.02
483	SLU 69	-104	-51	8732	0.55	-45.95	-2.92
483	SLU 70	-106	-32	8769	0.23	-45.36	-3.02
483	SLU 71	-104	-51	8688	0.51	-45.71	-2.9
483	SLU 72	-105	-31	8725	0.19	-45.13	-3
483	SLU 73	-107	-20	9399	-0.17	-49.2	-3.21
483	SLU 74	-106	-53	9458	0.52	-50.95	-3.11
483	SLU 75	-108	-34	9495	0.2	-50.37	-3.21
483	SLU 76	-108	-21	9476	-0.06	-49.75	-3.25
483	SLU 77	-107	-54	9535	0.63	-51.5	-3.15
483	SLU 78	-109	-34	9572	0.31	-50.92	-3.25
483	SLU 79	-106	-53	9491	0.59	-51.27	-3.13
483	SLU 80	-108	-34	9528	0.27	-50.68	-3.23
483	SLU 81	-106	-53	9681	0.39	-52.55	-3.15
483	SLU 82	-107	-34	9718	0.07	-51.97	-3.25
483	SLU 83	-107	-54	9758	0.51	-53.1	-3.19
483	SLU 84	-108	-35	9795	0.19	-52.52	-3.29
483	SLE RA 1	-76	-37	6365	0.11	-33.19	-2.08
483	SLE RA 2	-78	-16	6406	-0.24	-32.55	-2.19
483	SLE RA 3	-77	-38	6445	0.22	-33.72	-2.12
483	SLE RA 4	-79	-25	6470	0	-33.33	-2.19
483	SLE RA 5	-79	-16	6457	-0.16	-32.91	-2.22
483	SLE RA 6	-78	-38	6496	0.3	-34.08	-2.15
483	SLE RA 7	-79	-25	6521	0.08	-33.69	-2.22
483	SLE RA 8	-78	-38	6467	0.27	-33.92	-2.14
483	SLE RA 9	-79	-25	6492	0.06	-33.54	-2.2
483	SLE RA 10	-80	-18	6941	-0.19	-36.25	-2.35
483	SLE RA 11	-79	-40	6980	0.27	-37.42	-2.28
483	SLE RA 12	-80	-27	7005	0.06	-37.03	-2.34
483	SLE RA 13	-81	-18	6992	-0.11	-36.61	-2.37
483	SLE RA 14	-80	-40	7031	0.35	-37.79	-2.3
483	SLE RA 15	-81	-27	7056	0.13	-37.4	-2.37
483	SLE RA 16	-79	-40	7002	0.32	-37.63	-2.29
483	SLE RA 17	-81	-27	7027	0.11	-37.24	-2.36
483	SLE RA 18	-79	-40	7129	0.19	-38.49	-2.3
483	SLE RA 19	-80	-27	7154	-0.02	-38.1	-2.37
483	SLE RA 20	-80	-40	7180	0.27	-38.85	-2.33
483	SLE RA 21	-81	-27	7205	0.05	-38.46	-2.39
483	SLE FR 1	-76	-37	6365	0.11	-33.19	-2.08
483	SLE FR 2	-77	-33	6373	0.04	-33.06	-2.11
483	SLE FR 3	-77	-37	6385	0.14	-33.34	-2.09
483	SLE FR 4	-77	-34	6602	0.07	-34.65	-2.17
483	SLE FR 5	-77	-38	6614	0.17	-34.93	-2.16
483	SLE FR 6	-78	-38	6747	0.15	-35.84	-2.19
483	SLE QP 1	-76	-37	6365	0.11	-33.19	-2.08
483	SLE QP 2	-77	-38	6594	0.14	-34.78	-2.15
483	SLD 1	480	167	7734	-3.44	-12.89	-0.64
483	SLD 2	547	83	7683	-3.06	-14.71	1.96
483	SLD 3	507	-243	6816	3.96	-21.55	0.93
483	SLD 4	575	-326	6765	4.34	-23.37	3.53
483	SLD 5	36	659	8337	-12.23	-14.75	-4.53
483	SLD 6	80	605	8304	-11.98	-15.93	-2.84
483	SLD 7	129	-706	5278	12.44	-43.64	0.7
483	SLD 8	172	-760	5245	12.69	-44.82	2.38
483	SLD 9	-326	684	7943	-12.42	-24.74	-6.68
483	SLD 10	-283	630	7911	-12.17	-25.92	-5
483	SLD 11	-234	-681	4884	12.26	-53.63	-1.45
483	SLD 12	-190	-735	4851	12.5	-54.81	0.23
483	SLD 13	-729	250	6423	-4.07	-46.19	-7.82
483	SLD 14	-662	167	6372	-3.69	-48.01	-5.22
483	SLD 15	-701	-159	5505	3.33	-54.86	-6.26
483	SLD 16	-634	-242	5454	3.72	-56.68	-3.66
483	SLV 1	792	308	8432	-5.92	-0.05	0.09
483	SLV 2	898	177	8352	-5.32	-2.91	4.19
483	SLV 3	839	-384	6881	6.58	-14.68	2.74
483	SLV 4	945	-515	6801	7.19	-17.54	6.83
483	SLV 5	93	1140	9513	-20.76	-1.64	-6.25
483	SLV 6	165	1051	9459	-20.36	-3.57	-3.49
483	SLV 7	248	-1166	4343	20.93	-50.4	2.56
483	SLV 8	320	-1255	4289	21.33	-52.33	5.32
483	SLV 9	-474	1179	8900	-21.06	-17.23	-9.62
483	SLV 10	-403	1091	8845	-20.66	-19.16	-6.86
483	SLV 11	-319	-1127	3729	20.63	-66	-0.81
483	SLV 12	-248	-1215	3675	21.04	-67.92	1.95
483	SLV 13	-1099	439	6387	-6.91	-52.03	-11.13
483	SLV 14	-993	308	6307	-6.31	-54.89	-7.03
483	SLV 15	-1052	-253	4836	5.59	-66.65	-8.49
483	SLV 16	-946	-384	4756	6.2	-69.52	-4.39
483	SLV FO 1	879	343	8616	-6.53	3.43	0.32
483	SLV FO 2	996	198	8528	-5.87	0.28	4.82
483	SLV FO 3	930	-418	6910	7.23	-12.67	3.23
483	SLV FO 4	1047	-563	6821	7.89	-15.81	7.73
483	SLV FO 5	110	1257	9805	-22.86	1.67	-6.66
483	SLV FO 6	189	1160	9745	-22.41	-0.45	-3.63
483	SLV FO 7	281	-1279	4117	23.01	-51.96	3.03
483	SLV FO 8	359	-1376	4058	23.45	-54.08	6.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
483	SLV FO 9	-514	1301	9130	-23.18	-15.48	-10.36
483	SLV FO 10	-435	1203	9071	-22.74	-17.6	-7.33
483	SLV FO 11	-343	-1236	3443	22.68	-69.12	-0.67
483	SLV FO 12	-265	-1333	3383	23.13	-71.24	2.36
483	SLV FO 13	-1201	487	6367	-7.62	-53.75	-12.03
483	SLV FO 14	-1084	343	6278	-6.96	-56.9	-7.52
483	SLV FO 15	-1150	-274	4660	6.14	-69.84	-9.12
483	SLV FO 16	-1033	-419	4572	6.8	-72.99	-4.62
483	CRTFP Ux+	0	0	0	0	0	0
483	CRTFP Ux-	0	0	0	0	0	0
483	CRTFP Uy+	0	0	0	0	0	0
483	CRTFP Uy-	0	0	0	0	0	0
486	SLU 1	74	-78	6125	-0.58	32.73	-2.54
486	SLU 2	76	-45	6193	-1.11	31.49	-2.43
486	SLU 3	75	-79	6238	-0.44	33.59	-2.63
486	SLU 4	76	-60	6278	-0.75	32.84	-2.56
486	SLU 5	76	-46	6261	-0.99	32.13	-2.5
486	SLU 6	75	-80	6306	-0.32	34.24	-2.69
486	SLU 7	76	-60	6346	-0.64	33.49	-2.63
486	SLU 8	74	-79	6261	-0.35	34.02	-2.67
486	SLU 9	75	-60	6301	-0.66	33.27	-2.61
486	SLU 10	80	-52	6983	-1.16	35.88	-2.71
486	SLU 11	79	-87	7027	-0.49	37.99	-2.9
486	SLU 12	80	-67	7068	-0.81	37.24	-2.84
486	SLU 13	80	-53	7050	-1.05	36.52	-2.77
486	SLU 14	79	-87	7095	-0.37	38.63	-2.97
486	SLU 15	80	-68	7136	-0.69	37.88	-2.9
486	SLU 16	78	-87	7050	-0.4	38.41	-2.95
486	SLU 17	79	-67	7091	-0.72	37.66	-2.89
486	SLU 18	80	-88	7253	-0.66	39.01	-2.93
486	SLU 19	81	-69	7294	-0.97	38.26	-2.87
486	SLU 20	80	-89	7321	-0.54	39.65	-3
486	SLU 21	81	-69	7362	-0.86	38.9	-2.94
486	SLU 22	83	-87	7024	-0.23	37.26	-2.86
486	SLU 23	85	-54	7092	-0.76	36.02	-2.75
486	SLU 24	84	-88	7137	-0.09	38.12	-2.94
486	SLU 25	85	-69	7177	-0.4	37.37	-2.88
486	SLU 26	85	-55	7160	-0.64	36.66	-2.82
486	SLU 27	84	-89	7205	0.03	38.77	-3.01
486	SLU 28	85	-69	7245	-0.29	38.02	-2.95
486	SLU 29	83	-88	7160	0	38.55	-2.99
486	SLU 30	84	-69	7200	-0.32	37.8	-2.93
486	SLU 31	89	-61	7882	-0.81	40.41	-3.03
486	SLU 32	88	-96	7926	-0.14	42.52	-3.22
486	SLU 33	89	-76	7967	-0.46	41.77	-3.15
486	SLU 34	89	-62	7949	-0.7	41.05	-3.09
486	SLU 35	88	-96	7994	-0.02	43.16	-3.29
486	SLU 36	89	-77	8035	-0.34	42.41	-3.22
486	SLU 37	87	-96	7949	-0.05	42.94	-3.27
486	SLU 38	88	-76	7990	-0.37	42.19	-3.2
486	SLU 39	89	-97	8152	-0.31	43.54	-3.25
486	SLU 40	90	-78	8193	-0.63	42.79	-3.19
486	SLU 41	89	-98	8220	-0.19	44.18	-3.32
486	SLU 42	90	-78	8261	-0.51	43.43	-3.25
486	SLU 43	94	-98	7655	-0.88	41	-3.19
486	SLU 44	95	-65	7722	-1.4	39.75	-3.08
486	SLU 45	95	-99	7767	-0.73	41.86	-3.28
486	SLU 46	95	-80	7808	-1.05	41.11	-3.21
486	SLU 47	95	-66	7790	-1.29	40.4	-3.15
486	SLU 48	95	-100	7835	-0.61	42.5	-3.35
486	SLU 49	95	-81	7875	-0.93	41.75	-3.28
486	SLU 50	94	-100	7790	-0.64	42.29	-3.33
486	SLU 51	95	-80	7831	-0.96	41.54	-3.26
486	SLU 52	99	-72	8512	-1.46	44.15	-3.36
486	SLU 53	98	-107	8557	-0.78	46.25	-3.55
486	SLU 54	99	-87	8597	-1.1	45.5	-3.49
486	SLU 55	99	-73	8580	-1.34	44.79	-3.43
486	SLU 56	98	-108	8625	-0.67	46.9	-3.62
486	SLU 57	99	-88	8665	-0.98	46.15	-3.56
486	SLU 58	97	-107	8580	-0.69	46.68	-3.6
486	SLU 59	98	-87	8620	-1.01	45.93	-3.54
486	SLU 60	99	-108	8783	-0.95	47.28	-3.59
486	SLU 61	100	-89	8823	-1.27	46.53	-3.52
486	SLU 62	99	-109	8851	-0.83	47.92	-3.65
486	SLU 63	100	-90	8891	-1.15	47.17	-3.59
486	SLU 64	103	-107	8554	-0.53	45.53	-3.51
486	SLU 65	104	-74	8621	-1.06	44.28	-3.4
486	SLU 66	104	-108	8666	-0.38	46.39	-3.6
486	SLU 67	104	-89	8707	-0.7	45.64	-3.53
486	SLU 68	104	-75	8689	-0.94	44.93	-3.47
486	SLU 69	104	-109	8734	-0.26	47.03	-3.66
486	SLU 70	104	-90	8774	-0.58	46.28	-3.6
486	SLU 71	103	-109	8689	-0.29	46.82	-3.65
486	SLU 72	104	-89	8730	-0.61	46.07	-3.58
486	SLU 73	108	-81	9411	-1.11	48.68	-3.68
486	SLU 74	107	-116	9456	-0.43	50.78	-3.87
486	SLU 75	108	-96	9496	-0.75	50.03	-3.81
486	SLU 76	108	-82	9479	-0.99	49.32	-3.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
486	SLU 77	107	-117	9524	-0.32	51.43	-3.94
486	SLU 78	108	-97	9564	-0.63	50.68	-3.87
486	SLU 79	106	-116	9479	-0.35	51.21	-3.92
486	SLU 80	107	-96	9519	-0.66	50.46	-3.86
486	SLU 81	108	-117	9682	-0.6	51.81	-3.91
486	SLU 82	109	-98	9722	-0.92	51.06	-3.84
486	SLU 83	108	-118	9750	-0.49	52.45	-3.97
486	SLU 84	109	-99	9790	-0.8	51.7	-3.91
486	SLE RA 1	77	-80	6382	-0.48	34.03	-2.63
486	SLE RA 2	78	-58	6427	-0.83	33.2	-2.56
486	SLE RA 3	78	-81	6457	-0.39	34.6	-2.69
486	SLE RA 4	78	-68	6484	-0.6	34.1	-2.64
486	SLE RA 5	78	-59	6472	-0.76	33.62	-2.6
486	SLE RA 6	78	-82	6502	-0.31	35.03	-2.73
486	SLE RA 7	78	-69	6529	-0.52	34.53	-2.69
486	SLE RA 8	77	-81	6473	-0.33	34.88	-2.72
486	SLE RA 9	78	-68	6500	-0.54	34.39	-2.68
486	SLE RA 10	80	-63	6954	-0.87	36.12	-2.74
486	SLE RA 11	80	-86	6984	-0.42	37.53	-2.87
486	SLE RA 12	81	-73	7011	-0.63	37.03	-2.83
486	SLE RA 13	80	-64	6999	-0.79	36.55	-2.79
486	SLE RA 14	80	-87	7029	-0.34	37.96	-2.92
486	SLE RA 15	81	-74	7056	-0.55	37.46	-2.87
486	SLE RA 16	79	-86	6999	-0.36	37.81	-2.9
486	SLE RA 17	80	-73	7026	-0.57	37.32	-2.86
486	SLE RA 18	81	-87	7134	-0.53	38.21	-2.89
486	SLE RA 19	81	-74	7161	-0.74	37.71	-2.85
486	SLE RA 20	81	-88	7179	-0.45	38.64	-2.94
486	SLE RA 21	81	-75	7206	-0.67	38.14	-2.9
486	SLE FR 1	77	-80	6382	-0.48	34.03	-2.63
486	SLE FR 2	77	-76	6391	-0.55	33.86	-2.62
486	SLE FR 3	77	-80	6400	-0.45	34.2	-2.65
486	SLE FR 4	78	-78	6617	-0.57	35.12	-2.7
486	SLE FR 5	78	-83	6626	-0.47	35.45	-2.73
486	SLE FR 6	79	-84	6758	-0.51	36.12	-2.76
486	SLE QP 1	77	-80	6382	-0.48	34.03	-2.63
486	SLE QP 2	78	-82	6608	-0.5	35.28	-2.71
486	SLD 1	662	154	6493	-3.66	41.14	1.36
486	SLD 2	734	235	6546	-4.04	38.66	3.88
486	SLD 3	647	-280	5477	3.65	51.78	0.04
486	SLD 4	719	-199	5530	3.27	49.3	2.56
486	SLD 5	263	632	8106	-12.47	21.33	0.06
486	SLD 6	309	685	8140	-12.72	19.72	1.69
486	SLD 7	214	-814	4718	11.9	56.8	-4.31
486	SLD 8	261	-761	4752	11.65	55.2	-2.68
486	SLD 9	-104	596	8464	-12.65	15.37	-2.74
486	SLD 10	-58	649	8498	-12.9	13.76	-1.11
486	SLD 11	-153	-850	5075	11.72	50.84	-7.11
486	SLD 12	-107	-797	5110	11.47	49.24	-5.48
486	SLD 13	-563	34	7686	-4.26	21.27	-7.98
486	SLD 14	-491	115	7739	-4.65	18.78	-5.46
486	SLD 15	-577	-400	6669	3.05	31.91	-9.3
486	SLD 16	-505	-318	6722	2.66	29.43	-6.78
486	SLV 1	992	314	6495	-5.89	43.84	3.71
486	SLV 2	1105	442	6579	-6.5	39.93	7.67
486	SLV 3	967	-419	4778	6.46	61.81	1.49
486	SLV 4	1080	-291	4861	5.86	57.9	5.46
486	SLV 5	369	1124	9164	-20.74	11.33	1.84
486	SLV 6	445	1211	9220	-21.15	8.69	4.51
486	SLV 7	286	-1319	3438	20.44	71.22	-5.55
486	SLV 8	362	-1233	3494	20.03	68.59	-2.88
486	SLV 9	-206	1068	9721	-21.03	1.97	-2.54
486	SLV 10	-130	1154	9777	-21.43	-0.66	0.13
486	SLV 11	-289	-1375	3996	20.15	61.87	-9.93
486	SLV 12	-213	-1289	4052	19.74	59.24	-7.26
486	SLV 13	-924	126	8355	-6.85	12.66	-10.88
486	SLV 14	-811	255	8438	-7.46	8.75	-6.91
486	SLV 15	-949	-607	6637	5.5	30.63	-13.09
486	SLV 16	-836	-478	6721	4.9	26.72	-9.13
486	SLV FO 1	1083	353	6484	-6.43	44.7	4.35
486	SLV FO 2	1208	495	6576	-7.1	40.4	8.71
486	SLV FO 3	1056	-453	4595	7.16	64.46	1.91
486	SLV FO 4	1180	-312	4686	6.49	60.16	6.27
486	SLV FO 5	398	1245	9419	-22.76	8.93	2.29
486	SLV FO 6	482	1340	9481	-23.21	6.04	5.23
486	SLV FO 7	307	-1443	3121	22.53	74.82	-5.84
486	SLV FO 8	391	-1348	3183	22.08	71.92	-2.9
486	SLV FO 9	-234	1183	10033	-23.08	-1.36	-2.52
486	SLV FO 10	-150	1278	10094	-23.53	-4.25	0.42
486	SLV FO 11	-325	-1505	3735	22.21	64.53	-10.65
486	SLV FO 12	-242	-1409	3797	21.77	61.63	-7.71
486	SLV FO 13	-1024	147	8529	-7.49	10.4	-11.69
486	SLV FO 14	-900	288	8621	-8.15	6.1	-7.33
486	SLV FO 15	-1051	-659	6640	6.1	30.17	-14.13
486	SLV FO 16	-927	-518	6732	5.44	25.87	-9.77
486	CRTFP Ux+	0	0	0	0	0	0
486	CRTFP Ux-	0	0	0	0	0	0
486	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
486	CRTFP Uy-	0	0	0	0	0	0
489	SLU 1	39	31	3768	2.28	769.83	-10.93
489	SLU 2	41	55	3811	1.94	775.32	-19.23
489	SLU 3	40	32	3838	2.43	783.74	-11.3
489	SLU 4	41	46	3863	2.23	787.03	-16.28
489	SLU 5	41	56	3850	2.06	783.54	-19.66
489	SLU 6	40	33	3877	2.54	791.97	-11.73
489	SLU 7	41	47	3903	2.34	795.26	-16.71
489	SLU 8	39	33	3848	2.51	786.28	-11.8
489	SLU 9	40	48	3873	2.3	789.57	-16.78
489	SLU 10	43	59	4274	2.25	865.6	-20.6
489	SLU 11	41	36	4301	2.74	874.02	-12.67
489	SLU 12	42	50	4327	2.54	877.31	-17.65
489	SLU 13	43	60	4314	2.36	873.83	-21.03
489	SLU 14	41	37	4341	2.85	882.25	-13.1
489	SLU 15	42	51	4366	2.65	885.54	-18.08
489	SLU 16	41	37	4311	2.81	876.56	-13.17
489	SLU 17	42	52	4337	2.61	879.85	-18.15
489	SLU 18	41	37	4431	2.72	898.81	-12.88
489	SLU 19	43	51	4456	2.52	902.1	-17.87
489	SLU 20	42	38	4470	2.83	907.03	-13.32
489	SLU 21	43	52	4496	2.63	910.32	-18.3
489	SLU 22	44	33	4310	2.88	876.83	-11.66
489	SLU 23	45	57	4353	2.54	882.31	-19.96
489	SLU 24	44	34	4380	3.03	890.73	-12.03
489	SLU 25	45	48	4405	2.83	894.02	-17.01
489	SLU 26	45	58	4393	2.66	890.54	-20.4
489	SLU 27	44	35	4419	3.14	898.96	-12.47
489	SLU 28	45	50	4445	2.94	902.25	-17.45
489	SLU 29	44	35	4390	3.11	893.27	-12.53
489	SLU 30	45	50	4415	2.9	896.57	-17.51
489	SLU 31	47	61	4816	2.85	972.59	-21.33
489	SLU 32	46	38	4843	3.34	981.01	-13.4
489	SLU 33	47	52	4869	3.14	984.3	-18.38
489	SLU 34	47	62	4856	2.96	980.82	-21.77
489	SLU 35	46	39	4883	3.45	989.24	-13.84
489	SLU 36	47	53	4908	3.25	992.53	-18.82
489	SLU 37	45	39	4853	3.42	983.55	-13.9
489	SLU 38	46	54	4879	3.21	986.85	-18.88
489	SLU 39	46	39	4973	3.32	1005.8	-13.62
489	SLU 40	47	53	4998	3.12	1009.09	-18.6
489	SLU 41	46	40	5012	3.43	1014.02	-14.05
489	SLU 42	47	54	5038	3.23	1017.31	-19.03
489	SLU 43	49	40	4713	2.76	964.1	-13.95
489	SLU 44	51	63	4755	2.42	969.59	-22.26
489	SLU 45	50	41	4782	2.91	978.01	-14.33
489	SLU 46	51	55	4808	2.71	981.3	-19.31
489	SLU 47	51	64	4795	2.53	977.81	-22.69
489	SLU 48	50	42	4822	3.02	986.23	-14.76
489	SLU 49	51	56	4847	2.82	989.52	-19.74
489	SLU 50	50	42	4792	2.99	980.55	-14.82
489	SLU 51	51	56	4818	2.78	983.84	-19.8
489	SLU 52	53	67	5219	2.73	1059.87	-23.63
489	SLU 53	52	44	5246	3.22	1068.29	-15.7
489	SLU 54	53	59	5271	3.02	1071.58	-20.68
489	SLU 55	53	68	5259	2.84	1068.09	-24.06
489	SLU 56	52	46	5285	3.33	1076.51	-16.13
489	SLU 57	53	60	5311	3.13	1079.81	-21.11
489	SLU 58	51	46	5256	3.29	1070.83	-16.19
489	SLU 59	52	60	5281	3.09	1074.12	-21.17
489	SLU 60	52	45	5375	3.2	1093.07	-15.91
489	SLU 61	53	59	5401	3	1096.37	-20.89
489	SLU 62	52	46	5415	3.31	1101.3	-16.35
489	SLU 63	53	61	5440	3.11	1104.59	-21.33
489	SLU 64	54	42	5255	3.36	1071.09	-14.69
489	SLU 65	56	65	5298	3.02	1076.58	-22.99
489	SLU 66	54	43	5324	3.51	1085	-15.06
489	SLU 67	55	57	5350	3.31	1088.29	-20.04
489	SLU 68	56	67	5337	3.13	1084.8	-23.42
489	SLU 69	54	44	5364	3.62	1093.22	-15.49
489	SLU 70	56	58	5389	3.42	1096.52	-20.48
489	SLU 71	54	44	5334	3.59	1087.54	-15.56
489	SLU 72	55	58	5360	3.38	1090.83	-20.54
489	SLU 73	57	69	5761	3.33	1166.86	-24.36
489	SLU 74	56	47	5788	3.82	1175.28	-16.43
489	SLU 75	57	61	5813	3.62	1178.57	-21.41
489	SLU 76	57	70	5801	3.44	1175.08	-24.79
489	SLU 77	56	48	5827	3.93	1183.5	-16.86
489	SLU 78	57	62	5853	3.73	1186.8	-21.85
489	SLU 79	56	48	5798	3.89	1177.82	-16.93
489	SLU 80	57	62	5823	3.69	1181.11	-21.91
489	SLU 81	56	47	5917	3.8	1200.07	-16.65
489	SLU 82	57	61	5943	3.6	1203.36	-21.63
489	SLU 83	56	48	5957	3.91	1208.29	-17.08
489	SLU 84	57	63	5982	3.71	1211.58	-22.06
489	SLE RA 1	40	32	3923	2.45	800.4	-11.14
489	SLE RA 2	42	47	3952	2.23	804.06	-16.67
489	SLE RA 3	41	32	3969	2.55	809.67	-11.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
489	SLE RA 4	42	42	3986	2.42	811.87	-14.71
489	SLE RA 5	42	48	3978	2.3	809.54	-16.96
489	SLE RA 6	41	33	3996	2.63	815.16	-11.67
489	SLE RA 7	42	43	4013	2.49	817.35	-15
489	SLE RA 8	41	33	3976	2.6	811.37	-11.72
489	SLE RA 9	41	43	3993	2.47	813.56	-15.04
489	SLE RA 10	43	50	4261	2.43	864.25	-17.59
489	SLE RA 11	42	35	4278	2.76	869.86	-12.3
489	SLE RA 12	43	44	4295	2.62	872.06	-15.62
489	SLE RA 13	43	51	4287	2.51	869.73	-17.87
489	SLE RA 14	42	36	4305	2.83	875.34	-12.59
489	SLE RA 15	43	45	4322	2.7	877.54	-15.91
489	SLE RA 16	42	36	4285	2.81	871.56	-12.63
489	SLE RA 17	42	45	4302	2.67	873.75	-15.95
489	SLE RA 18	42	35	4365	2.75	886.38	-12.44
489	SLE RA 19	43	45	4382	2.61	888.58	-15.76
489	SLE RA 20	42	36	4391	2.82	891.87	-12.73
489	SLE RA 21	43	46	4408	2.69	894.06	-16.05
489	SLE FR 1	40	32	3923	2.45	800.4	-11.14
489	SLE FR 2	41	35	3929	2.41	801.14	-12.24
489	SLE FR 3	40	32	3934	2.48	802.6	-11.25
489	SLE FR 4	41	36	4061	2.5	826.93	-12.64
489	SLE FR 5	41	33	4066	2.57	828.39	-11.64
489	SLE FR 6	41	33	4144	2.6	843.39	-11.79
489	SLE QP 1	40	32	3923	2.45	800.4	-11.14
489	SLE QP 2	41	33	4056	2.54	826.2	-11.53
489	SLD 1	376	91	3292	-0.13	667.17	-32.06
489	SLD 2	414	211	3345	-0.54	672.83	-73.93
489	SLD 3	358	-216	2664	4.53	594.93	75.37
489	SLD 4	397	-96	2716	4.12	600.59	33.5
489	SLD 5	161	495	4771	-5.26	887.06	-173.36
489	SLD 6	186	573	4804	-5.53	890.72	-200.44
489	SLD 7	103	-529	2676	10.28	646.28	184.74
489	SLD 8	128	-451	2710	10.02	649.94	157.65
489	SLD 9	-46	516	5401	-4.93	1002.45	-180.71
489	SLD 10	-21	594	5435	-5.2	1006.12	-207.79
489	SLD 11	-104	-508	3307	10.61	761.67	177.39
489	SLD 12	-80	-430	3341	10.35	765.33	150.3
489	SLD 13	-315	161	5395	0.96	1051.8	-56.56
489	SLD 14	-277	281	5447	0.55	1057.46	-98.43
489	SLD 15	-333	-146	4767	5.63	979.57	50.87
489	SLD 16	-294	-26	4819	5.22	985.23	9
489	SLV 1	566	142	2905	-1.93	582.7	-50.03
489	SLV 2	626	332	2987	-2.58	591.62	-115.95
489	SLV 3	536	-377	1844	5.95	460.78	131.55
489	SLV 4	597	-187	1926	5.31	469.69	65.63
489	SLV 5	232	818	5305	-10.63	936.41	-286.17
489	SLV 6	273	945	5360	-11.07	942.41	-330.56
489	SLV 7	133	-913	1767	15.64	529.99	319.1
489	SLV 8	174	-785	1822	15.2	535.99	274.71
489	SLV 9	-92	851	6289	-10.12	1116.41	-297.77
489	SLV 10	-51	978	6344	-10.55	1122.41	-342.15
489	SLV 11	-191	-880	2751	16.15	709.99	307.5
489	SLV 12	-150	-752	2806	15.72	715.99	263.12
489	SLV 13	-515	253	6185	-0.22	1182.7	-88.69
489	SLV 14	-455	442	6268	-0.87	1191.62	-154.61
489	SLV 15	-545	-266	5124	7.66	1060.78	92.89
489	SLV 16	-484	-77	5206	7.02	1069.69	26.97
489	SLV FO 1	618	153	2790	-2.38	558.36	-53.88
489	SLV FO 2	685	362	2880	-3.09	568.16	-126.39
489	SLV FO 3	586	-418	1623	6.29	424.24	145.86
489	SLV FO 4	652	-209	1713	5.58	434.04	73.35
489	SLV FO 5	251	896	5430	-11.95	947.43	-313.64
489	SLV FO 6	296	1036	5491	-12.43	954.03	-362.46
489	SLV FO 7	142	-1008	1538	16.95	500.36	352.16
489	SLV FO 8	187	-867	1599	16.47	506.97	303.34
489	SLV FO 9	-105	933	6512	-11.39	1145.43	-326.4
489	SLV FO 10	-61	1073	6573	-11.86	1152.03	-375.22
489	SLV FO 11	-214	-971	2621	17.51	698.36	339.4
489	SLV FO 12	-169	-831	2682	17.03	704.97	290.58
489	SLV FO 13	-571	275	6398	-0.5	1218.36	-96.4
489	SLV FO 14	-504	483	6489	-1.21	1228.16	-168.92
489	SLV FO 15	-603	-296	5231	8.17	1084.24	103.34
489	SLV FO 16	-537	-88	5321	7.46	1094.04	30.82
489	CRTFP Ux+	0	0	0	0	0	0
489	CRTFP Ux-	0	0	0	0	0	0
489	CRTFP Uy+	0	0	0	0	0	0
489	CRTFP Uy-	0	0	0	0	0	0
491	SLU 1	33	-43	3616	-42.91	1060.41	15.45
491	SLU 2	34	-23	3645	-43.49	1067.64	8.31
491	SLU 3	34	-45	3686	-43.68	1080.8	15.87
491	SLU 4	34	-32	3704	-44.03	1085.13	11.59
491	SLU 5	34	-24	3690	-43.97	1080.49	8.63
491	SLU 6	34	-46	3730	-44.16	1093.65	16.19
491	SLU 7	34	-33	3748	-44.51	1097.99	11.91
491	SLU 8	33	-45	3704	-43.87	1086.12	16.09
491	SLU 9	34	-33	3722	-44.21	1090.45	11.81
491	SLU 10	37	-28	4125	-49.17	1207.16	10.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
491	SLU 11	37	-50	4166	-49.36	1220.32	17.77
491	SLU 12	37	-38	4184	-49.71	1224.65	13.49
491	SLU 13	37	-29	4169	-49.65	1220.01	10.54
491	SLU 14	37	-51	4210	-49.84	1233.17	18.09
491	SLU 15	37	-39	4228	-50.19	1237.51	13.81
491	SLU 16	37	-51	4184	-49.55	1225.63	17.99
491	SLU 17	37	-38	4202	-49.89	1229.97	13.71
491	SLU 18	38	-51	4301	-51.02	1259.72	18.17
491	SLU 19	38	-39	4319	-51.37	1264.06	13.89
491	SLU 20	38	-52	4346	-51.5	1272.58	18.49
491	SLU 21	38	-40	4363	-51.85	1276.91	14.21
491	SLU 22	37	-49	4135	-48.87	1210.34	17.58
491	SLU 23	38	-29	4164	-49.45	1217.57	10.44
491	SLU 24	38	-51	4205	-49.64	1230.73	17.99
491	SLU 25	38	-38	4223	-49.99	1235.07	13.71
491	SLU 26	38	-30	4208	-49.93	1230.42	10.76
491	SLU 27	38	-52	4249	-50.12	1243.58	18.31
491	SLU 28	38	-39	4267	-50.47	1247.92	14.03
491	SLU 29	37	-51	4223	-49.83	1236.05	18.22
491	SLU 30	38	-39	4241	-50.17	1240.38	13.94
491	SLU 31	41	-34	4644	-55.13	1357.09	12.35
491	SLU 32	41	-56	4685	-55.32	1370.25	19.9
491	SLU 33	41	-44	4703	-55.67	1374.58	15.62
491	SLU 34	41	-35	4688	-55.61	1369.94	12.67
491	SLU 35	41	-57	4729	-55.8	1383.1	20.22
491	SLU 36	41	-45	4747	-56.15	1387.44	15.94
491	SLU 37	41	-57	4703	-55.51	1375.57	20.12
491	SLU 38	41	-44	4721	-55.85	1379.9	15.84
491	SLU 39	42	-57	4820	-56.98	1409.66	20.3
491	SLU 40	42	-45	4838	-57.33	1413.99	16.02
491	SLU 41	42	-58	4864	-57.46	1422.51	20.62
491	SLU 42	42	-46	4882	-57.81	1426.84	16.34
491	SLU 43	42	-54	4523	-53.74	1327.13	19.35
491	SLU 44	42	-34	4552	-54.32	1334.36	12.22
491	SLU 45	42	-56	4593	-54.51	1347.52	19.77
491	SLU 46	43	-43	4611	-54.86	1351.85	15.49
491	SLU 47	43	-35	4596	-54.8	1347.21	12.54
491	SLU 48	42	-57	4637	-54.99	1360.37	20.09
491	SLU 49	43	-44	4655	-55.34	1364.7	15.81
491	SLU 50	42	-56	4611	-54.7	1352.83	19.99
491	SLU 51	42	-44	4629	-55.04	1357.17	15.71
491	SLU 52	46	-39	5032	-60	1473.88	14.12
491	SLU 53	45	-61	5073	-60.19	1487.03	21.68
491	SLU 54	46	-49	5091	-60.54	1491.37	17.4
491	SLU 55	46	-40	5076	-60.48	1486.73	14.44
491	SLU 56	46	-62	5117	-60.67	1499.89	22
491	SLU 57	46	-50	5135	-61.02	1504.22	17.72
491	SLU 58	45	-62	5091	-60.38	1492.35	21.9
491	SLU 59	46	-49	5109	-60.72	1496.69	17.62
491	SLU 60	47	-62	5208	-61.85	1526.44	22.07
491	SLU 61	47	-50	5226	-62.2	1530.78	17.79
491	SLU 62	47	-63	5252	-62.33	1539.29	22.39
491	SLU 63	47	-51	5270	-62.68	1543.63	18.11
491	SLU 64	46	-60	5041	-59.7	1477.06	21.48
491	SLU 65	46	-40	5071	-60.28	1484.29	14.35
491	SLU 66	46	-62	5112	-60.47	1497.45	21.9
491	SLU 67	47	-49	5130	-60.82	1501.78	17.62
491	SLU 68	47	-41	5115	-60.76	1497.14	14.67
491	SLU 69	46	-63	5156	-60.95	1510.3	22.22
491	SLU 70	47	-50	5174	-61.3	1514.64	17.94
491	SLU 71	46	-62	5130	-60.66	1502.76	22.12
491	SLU 72	46	-50	5148	-61	1507.1	17.84
491	SLU 73	50	-45	5551	-65.96	1623.81	16.25
491	SLU 74	49	-67	5592	-66.15	1636.97	23.8
491	SLU 75	50	-55	5610	-66.5	1641.3	19.52
491	SLU 76	50	-46	5595	-66.44	1636.66	16.57
491	SLU 77	50	-68	5636	-66.63	1649.82	24.12
491	SLU 78	50	-56	5654	-66.98	1654.15	19.84
491	SLU 79	49	-68	5610	-66.33	1642.28	24.03
491	SLU 80	50	-55	5628	-66.68	1646.62	19.75
491	SLU 81	51	-68	5727	-67.81	1676.37	24.2
491	SLU 82	51	-56	5745	-68.16	1680.71	19.92
491	SLU 83	51	-69	5771	-68.29	1689.23	24.52
491	SLU 84	51	-57	5789	-68.64	1693.56	20.24
491	SLE RA 1	34	-45	3764	-44.61	1103.25	16.06
491	SLE RA 2	35	-31	3784	-45	1108.07	11.3
491	SLE RA 3	35	-46	3811	-45.13	1116.84	16.34
491	SLE RA 4	35	-38	3823	-45.36	1119.73	13.48
491	SLE RA 5	35	-32	3813	-45.32	1116.63	11.51
491	SLE RA 6	35	-47	3840	-45.45	1125.41	16.55
491	SLE RA 7	35	-38	3852	-45.68	1128.3	13.69
491	SLE RA 8	34	-46	3823	-45.25	1120.38	16.48
491	SLE RA 9	35	-38	3835	-45.48	1123.28	13.63
491	SLE RA 10	37	-35	4104	-48.79	1201.08	12.57
491	SLE RA 11	37	-50	4131	-48.92	1209.85	17.6
491	SLE RA 12	37	-41	4143	-49.15	1212.74	14.75
491	SLE RA 13	37	-36	4133	-49.1	1209.65	12.78
491	SLE RA 14	37	-50	4160	-49.23	1218.42	17.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
491	SLE RA 15	37	-42	4172	-49.47	1221.31	14.96
491	SLE RA 16	37	-50	4143	-49.04	1213.4	17.75
491	SLE RA 17	37	-42	4155	-49.27	1216.29	14.9
491	SLE RA 18	38	-50	4221	-50.02	1236.12	17.87
491	SLE RA 19	38	-42	4233	-50.25	1239.01	15.02
491	SLE RA 20	38	-51	4251	-50.34	1244.69	18.08
491	SLE RA 21	38	-43	4262	-50.57	1247.58	15.23
491	SLE FR 1	34	-45	3764	-44.61	1103.25	16.06
491	SLE FR 2	34	-42	3768	-44.69	1104.21	15.11
491	SLE FR 3	34	-45	3776	-44.74	1106.68	16.14
491	SLE FR 4	35	-44	3905	-46.31	1144.07	15.65
491	SLE FR 5	35	-47	3913	-46.36	1146.54	16.69
491	SLE FR 6	36	-48	3993	-47.32	1169.69	16.96
491	SLE QP 1	34	-45	3764	-44.61	1103.25	16.06
491	SLE QP 2	35	-47	3901	-46.23	1143.11	16.6
491	SLD 1	337	85	4168	-51.08	1213.04	-23.52
491	SLD 2	371	90	4177	-51.22	1214.47	-24.29
491	SLD 3	328	-174	3681	-41.81	1090.7	66.83
491	SLD 4	362	-170	3690	-41.94	1092.13	66.06
491	SLD 5	133	386	4719	-61.74	1349.39	-132.33
491	SLD 6	155	388	4724	-61.82	1350.32	-132.84
491	SLD 7	104	-479	3095	-30.81	941.59	168.84
491	SLD 8	126	-476	3100	-30.9	942.51	168.34
491	SLD 9	-56	383	4702	-61.57	1343.71	-135.14
491	SLD 10	-34	386	4708	-61.66	1344.64	-135.64
491	SLD 11	-84	-482	3078	-30.65	935.9	166.04
491	SLD 12	-62	-479	3083	-30.73	936.83	165.53
491	SLD 13	-292	77	4112	-50.53	1194.09	-32.86
491	SLD 14	-258	81	4121	-50.66	1195.52	-33.63
491	SLD 15	-300	-183	3625	-41.25	1071.75	57.49
491	SLD 16	-266	-179	3634	-41.39	1073.18	56.72
491	SLV 1	507	177	4351	-54.42	1260.37	-51.76
491	SLV 2	561	183	4364	-54.63	1262.63	-52.98
491	SLV 3	493	-262	3527	-38.74	1053.58	100.89
491	SLV 4	547	-255	3541	-38.95	1055.83	99.67
491	SLV 5	189	684	5283	-72.43	1491.5	-235.21
491	SLV 6	225	688	5292	-72.57	1493.02	-236.03
491	SLV 7	140	-777	2537	-20.17	802.19	273.65
491	SLV 8	177	-773	2546	-20.31	803.71	272.83
491	SLV 9	-106	679	5256	-72.16	1482.51	-239.62
491	SLV 10	-70	684	5265	-72.3	1484.03	-240.45
491	SLV 11	-155	-782	2510	-19.9	793.2	269.23
491	SLV 12	-118	-777	2520	-20.04	794.72	268.41
491	SLV 13	-476	162	4261	-53.52	1230.39	-66.47
491	SLV 14	-422	168	4275	-53.73	1232.65	-67.69
491	SLV 15	-490	-277	3438	-37.84	1023.6	86.19
491	SLV 16	-437	-270	3452	-38.05	1025.85	84.97
491	SLV FO 1	555	199	4396	-55.23	1272.09	-58.6
491	SLV FO 2	614	206	4411	-55.47	1274.58	-59.94
491	SLV FO 3	539	-283	3490	-37.99	1044.62	109.32
491	SLV FO 4	598	-276	3505	-38.22	1047.1	107.98
491	SLV FO 5	204	757	5421	-75.05	1526.34	-260.39
491	SLV FO 6	244	762	5431	-75.21	1528.02	-261.3
491	SLV FO 7	151	-850	2401	-17.56	768.1	299.35
491	SLV FO 8	191	-846	2411	-17.72	769.77	298.45
491	SLV FO 9	-120	752	5391	-74.75	1516.45	-265.25
491	SLV FO 10	-80	757	5401	-74.91	1518.12	-266.15
491	SLV FO 11	-173	-855	2371	-17.26	758.21	294.5
491	SLV FO 12	-134	-851	2382	-17.42	759.88	293.59
491	SLV FO 13	-527	183	4297	-54.25	1239.12	-74.78
491	SLV FO 14	-468	190	4313	-54.48	1241.6	-76.12
491	SLV FO 15	-543	-300	3392	-37	1011.64	93.14
491	SLV FO 16	-484	-293	3407	-37.24	1014.13	91.8
491	CRTFP Ux+	0	0	0	0	0	0
491	CRTFP Ux-	0	0	0	0	0	0
491	CRTFP Uy+	0	0	0	0	0	0
491	CRTFP Uy-	0	0	0	0	0	0
494	SLU 1	-39	10	3400	3.4	-457.65	2.31
494	SLU 2	-41	31	3430	3.14	-458.18	7.47
494	SLU 3	-40	10	3473	3.55	-467.54	2.3
494	SLU 4	-41	22	3491	3.39	-467.86	5.4
494	SLU 5	-41	31	3477	3.24	-464.6	7.5
494	SLU 6	-40	10	3519	3.65	-473.96	2.33
494	SLU 7	-41	22	3538	3.49	-474.28	5.43
494	SLU 8	-40	10	3493	3.61	-470.49	2.37
494	SLU 9	-41	23	3511	3.45	-470.81	5.47
494	SLU 10	-42	33	3856	3.63	-513.91	8.06
494	SLU 11	-41	12	3899	4.04	-523.27	2.89
494	SLU 12	-42	25	3917	3.88	-523.59	5.98
494	SLU 13	-43	33	3903	3.73	-520.33	8.09
494	SLU 14	-42	12	3945	4.14	-529.7	2.92
494	SLU 15	-43	25	3964	3.98	-530.01	6.02
494	SLU 16	-41	13	3919	4.1	-526.22	2.96
494	SLU 17	-42	25	3937	3.94	-526.54	6.06
494	SLU 18	-41	13	4008	4.1	-537.26	3.15
494	SLU 19	-42	26	4026	3.94	-537.58	6.25
494	SLU 20	-41	14	4055	4.2	-543.68	3.18
494	SLU 21	-42	26	4073	4.05	-544	6.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
494	SLU 22	-43	10	3911	4.16	-525.85	2.32
494	SLU 23	-45	31	3942	3.9	-526.39	7.48
494	SLU 24	-44	10	3984	4.31	-535.75	2.3
494	SLU 25	-45	22	4002	4.15	-536.07	5.4
494	SLU 26	-45	31	3988	4	-532.81	7.51
494	SLU 27	-44	10	4031	4.41	-542.17	2.34
494	SLU 28	-45	23	4049	4.26	-542.49	5.43
494	SLU 29	-44	10	4005	4.37	-538.69	2.38
494	SLU 30	-45	23	4023	4.21	-539.01	5.47
494	SLU 31	-46	33	4368	4.39	-582.12	8.06
494	SLU 32	-45	12	4410	4.8	-591.48	2.89
494	SLU 33	-46	25	4429	4.64	-591.8	5.99
494	SLU 34	-47	33	4414	4.49	-588.54	8.09
494	SLU 35	-46	13	4457	4.9	-597.9	2.92
494	SLU 36	-47	25	4475	4.75	-598.22	6.02
494	SLU 37	-45	13	4431	4.86	-594.43	2.96
494	SLU 38	-46	25	4449	4.7	-594.74	6.06
494	SLU 39	-45	14	4520	4.86	-605.47	3.15
494	SLU 40	-46	26	4538	4.7	-605.79	6.25
494	SLU 41	-45	14	4567	4.97	-611.89	3.18
494	SLU 42	-46	26	4585	4.81	-612.21	6.28
494	SLU 43	-49	13	4244	4.16	-571.56	3
494	SLU 44	-51	33	4274	3.89	-572.09	8.16
494	SLU 45	-50	13	4317	4.31	-581.45	2.99
494	SLU 46	-51	25	4335	4.15	-581.77	6.09
494	SLU 47	-52	34	4321	4	-578.51	8.2
494	SLU 48	-51	13	4364	4.41	-587.87	3.02
494	SLU 49	-52	25	4382	4.25	-588.19	6.12
494	SLU 50	-50	13	4338	4.36	-584.4	3.07
494	SLU 51	-51	25	4356	4.21	-584.72	6.16
494	SLU 52	-52	36	4700	4.38	-627.82	8.75
494	SLU 53	-51	15	4743	4.8	-637.18	3.58
494	SLU 54	-53	28	4761	4.64	-637.5	6.68
494	SLU 55	-53	36	4747	4.49	-634.24	8.78
494	SLU 56	-52	15	4790	4.9	-643.6	3.61
494	SLU 57	-53	28	4808	4.74	-643.92	6.71
494	SLU 58	-52	16	4764	4.85	-640.13	3.65
494	SLU 59	-53	28	4782	4.7	-640.45	6.75
494	SLU 60	-51	16	4853	4.86	-651.17	3.84
494	SLU 61	-52	29	4871	4.7	-651.49	6.94
494	SLU 62	-52	16	4900	4.96	-657.59	3.87
494	SLU 63	-53	29	4918	4.8	-657.91	6.97
494	SLU 64	-54	13	4756	4.92	-639.76	3.01
494	SLU 65	-55	34	4786	4.66	-640.29	8.17
494	SLU 66	-54	13	4829	5.07	-649.66	3
494	SLU 67	-55	25	4847	4.91	-649.98	6.09
494	SLU 68	-56	34	4833	4.76	-646.71	8.2
494	SLU 69	-55	13	4875	5.17	-656.08	3.03
494	SLU 70	-56	25	4894	5.01	-656.4	6.12
494	SLU 71	-54	13	4849	5.13	-652.6	3.07
494	SLU 72	-55	26	4867	4.97	-652.92	6.17
494	SLU 73	-56	36	5212	5.15	-696.02	8.76
494	SLU 74	-55	15	5255	5.56	-705.39	3.58
494	SLU 75	-57	28	5273	5.4	-705.71	6.68
494	SLU 76	-57	36	5259	5.25	-702.45	8.79
494	SLU 77	-56	16	5302	5.66	-711.81	3.61
494	SLU 78	-57	28	5320	5.5	-712.13	6.71
494	SLU 79	-56	16	5275	5.62	-708.33	3.66
494	SLU 80	-57	28	5293	5.46	-708.65	6.75
494	SLU 81	-55	16	5364	5.62	-719.38	3.85
494	SLU 82	-56	29	5383	5.46	-719.7	6.94
494	SLU 83	-56	17	5411	5.72	-725.8	3.88
494	SLU 84	-57	29	5429	5.57	-726.12	6.97
494	SLE RA 1	-40	10	3546	3.62	-477.13	2.31
494	SLE RA 2	-41	24	3566	3.44	-477.49	5.75
494	SLE RA 3	-41	10	3595	3.72	-483.73	2.31
494	SLE RA 4	-41	18	3607	3.61	-483.95	4.37
494	SLE RA 5	-42	24	3597	3.51	-481.77	5.77
494	SLE RA 6	-41	10	3626	3.79	-488.01	2.33
494	SLE RA 7	-42	18	3638	3.68	-488.23	4.39
494	SLE RA 8	-41	10	3608	3.76	-485.7	2.35
494	SLE RA 9	-42	18	3620	3.65	-485.91	4.42
494	SLE RA 10	-42	25	3850	3.77	-514.64	6.14
494	SLE RA 11	-42	12	3879	4.04	-520.89	2.7
494	SLE RA 12	-42	20	3891	3.94	-521.1	4.76
494	SLE RA 13	-43	25	3881	3.84	-518.92	6.17
494	SLE RA 14	-42	12	3910	4.11	-525.17	2.72
494	SLE RA 15	-43	20	3922	4.01	-525.38	4.78
494	SLE RA 16	-42	12	3892	4.08	-522.85	2.75
494	SLE RA 17	-42	20	3904	3.98	-523.06	4.81
494	SLE RA 18	-41	12	3952	4.08	-530.21	2.87
494	SLE RA 19	-42	21	3964	3.98	-530.42	4.94
494	SLE RA 20	-42	12	3983	4.15	-534.49	2.89
494	SLE RA 21	-42	21	3995	4.05	-534.7	4.96
494	SLE FR 1	-40	10	3546	3.62	-477.13	2.31
494	SLE FR 2	-41	13	3550	3.58	-477.21	3
494	SLE FR 3	-40	10	3558	3.65	-478.85	2.32
494	SLE FR 4	-41	13	3672	3.72	-493.13	3.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
494	SLE FR 5	-41	11	3680	3.79	-494.77	2.49
494	SLE FR 6	-41	11	3749	3.85	-503.67	2.59
494	SLE QP 1	-40	10	3546	3.62	-477.13	2.31
494	SLE QP 2	-41	11	3668	3.76	-493.06	2.48
494	SLD 1	215	164	4937	2.96	-626.75	40.84
494	SLD 2	240	60	4902	3.3	-627.69	14.99
494	SLD 3	230	-103	4470	6.53	-616.28	-25.81
494	SLD 4	254	-207	4435	6.87	-617.22	-51.65
494	SLD 5	10	479	4762	-1.95	-548.88	119.55
494	SLD 6	26	412	4739	-1.73	-549.48	102.83
494	SLD 7	58	-410	3207	9.95	-513.99	-102.6
494	SLD 8	74	-477	3184	10.16	-514.59	-119.32
494	SLD 9	-155	498	4151	-2.65	-471.52	124.28
494	SLD 10	-139	431	4128	-2.43	-472.13	107.56
494	SLD 11	-108	-391	2596	9.25	-436.63	-97.87
494	SLD 12	-92	-458	2573	9.47	-437.24	-114.59
494	SLD 13	-335	228	2900	0.64	-368.9	56.61
494	SLD 14	-311	124	2865	0.98	-369.83	30.77
494	SLD 15	-321	-39	2433	4.21	-358.43	-10.03
494	SLD 16	-297	-143	2398	4.55	-359.36	-35.88
494	SLV 1	359	268	5678	2.28	-702.18	66.76
494	SLV 2	398	104	5623	2.82	-703.65	26.06
494	SLV 3	383	-183	4890	8.31	-684.68	-45.87
494	SLV 4	422	-347	4835	8.85	-686.15	-86.56
494	SLV 5	36	802	5477	-5.93	-582.07	200.18
494	SLV 6	62	692	5440	-5.57	-583.06	172.78
494	SLV 7	115	-701	2849	14.17	-523.72	-175.24
494	SLV 8	141	-811	2812	14.53	-524.71	-202.65
494	SLV 9	-222	832	4523	-7.01	-461.4	207.61
494	SLV 10	-196	722	4486	-6.65	-462.39	180.21
494	SLV 11	-143	-670	1895	13.09	-403.06	-167.82
494	SLV 12	-117	-781	1858	13.45	-404.05	-195.22
494	SLV 13	-503	368	2500	-1.33	-299.96	91.53
494	SLV 14	-464	204	2445	-0.8	-301.44	50.83
494	SLV 15	-479	-82	1712	4.7	-282.46	-21.1
494	SLV 16	-440	-246	1657	5.23	-283.93	-61.8
494	SLV FO 1	399	293	5880	2.13	-723.1	73.19
494	SLV FO 2	442	113	5819	2.72	-724.71	28.42
494	SLV FO 3	425	-203	5012	8.77	-703.84	-50.7
494	SLV FO 4	468	-383	4952	9.36	-705.46	-95.47
494	SLV FO 5	44	881	5658	-6.9	-590.97	219.95
494	SLV FO 6	72	760	5617	-6.5	-592.06	189.81
494	SLV FO 7	131	-772	2767	15.21	-526.79	-193.02
494	SLV FO 8	159	-893	2726	15.61	-527.88	-223.16
494	SLV FO 9	-241	914	4609	-8.09	-458.24	228.12
494	SLV FO 10	-212	793	4568	-7.7	-459.33	197.98
494	SLV FO 11	-154	-738	1718	14.02	-394.06	-184.84
494	SLV FO 12	-125	-860	1677	14.41	-395.15	-214.99
494	SLV FO 13	-549	404	2384	-1.84	-280.66	100.43
494	SLV FO 14	-506	224	2323	-1.25	-282.27	55.66
494	SLV FO 15	-523	-92	1516	4.79	-261.4	-23.46
494	SLV FO 16	-480	-272	1456	5.38	-263.02	-68.23
494	CRTFP Ux+	0	0	0	0	0	0
494	CRTFP Ux-	0	0	0	0	0	0
494	CRTFP Uy+	0	0	0	0	0	0
494	CRTFP Uy-	0	0	0	0	0	0
497	SLU 1	-65	-31	6121	1.09	-28.73	-1.47
497	SLU 2	-67	1	6166	0.58	-27.71	-1.62
497	SLU 3	-66	-32	6247	1.27	-29.47	-1.52
497	SLU 4	-67	-12	6274	0.97	-28.86	-1.61
497	SLU 5	-68	1	6247	0.71	-28.23	-1.65
497	SLU 6	-67	-32	6327	1.41	-29.99	-1.55
497	SLU 7	-68	-13	6355	1.1	-29.38	-1.64
497	SLU 8	-66	-32	6282	1.36	-29.78	-1.54
497	SLU 9	-67	-13	6309	1.05	-29.16	-1.63
497	SLU 10	-68	-1	6974	0.84	-32.88	-1.79
497	SLU 11	-68	-34	7054	1.53	-34.64	-1.69
497	SLU 12	-69	-14	7082	1.22	-34.03	-1.78
497	SLU 13	-69	-1	7055	0.97	-33.4	-1.83
497	SLU 14	-68	-34	7135	1.67	-35.17	-1.73
497	SLU 15	-70	-15	7162	1.36	-34.55	-1.82
497	SLU 16	-68	-34	7090	1.62	-34.95	-1.71
497	SLU 17	-69	-15	7117	1.31	-34.34	-1.8
497	SLU 18	-67	-34	7275	1.46	-36.12	-1.72
497	SLU 19	-68	-15	7302	1.16	-35.51	-1.81
497	SLU 20	-68	-34	7355	1.6	-36.64	-1.75
497	SLU 21	-69	-15	7382	1.29	-36.03	-1.84
497	SLU 22	-72	-34	7050	1.75	-33.43	-1.79
497	SLU 23	-74	-2	7096	1.24	-32.41	-1.94
497	SLU 24	-73	-35	7176	1.93	-34.17	-1.84
497	SLU 25	-74	-16	7204	1.62	-33.56	-1.93
497	SLU 26	-75	-3	7177	1.37	-32.93	-1.97
497	SLU 27	-74	-36	7257	2.06	-34.69	-1.87
497	SLU 28	-75	-16	7284	1.75	-34.08	-1.96
497	SLU 29	-73	-35	7211	2.02	-34.48	-1.86
497	SLU 30	-75	-16	7239	1.71	-33.86	-1.95
497	SLU 31	-76	-5	7904	1.49	-37.58	-2.11
497	SLU 32	-75	-37	7984	2.19	-39.34	-2.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
497	SLU 33	-76	-18	8011	1.88	-38.73	-2.1
497	SLU 34	-76	-5	7984	1.63	-38.1	-2.15
497	SLU 35	-76	-38	8064	2.32	-39.87	-2.05
497	SLU 36	-77	-19	8092	2.01	-39.25	-2.14
497	SLU 37	-75	-38	8019	2.27	-39.65	-2.03
497	SLU 38	-76	-18	8046	1.97	-39.03	-2.12
497	SLU 39	-74	-37	8204	2.12	-40.82	-2.04
497	SLU 40	-75	-18	8232	1.81	-40.2	-2.13
497	SLU 41	-75	-38	8285	2.25	-41.34	-2.07
497	SLU 42	-76	-19	8312	1.94	-40.73	-2.16
497	SLU 43	-82	-39	7638	1.2	-35.74	-1.8
497	SLU 44	-84	-7	7684	0.68	-34.72	-1.95
497	SLU 45	-83	-40	7764	1.38	-36.48	-1.85
497	SLU 46	-84	-20	7792	1.07	-35.87	-1.94
497	SLU 47	-84	-7	7764	0.82	-35.24	-1.98
497	SLU 48	-84	-40	7845	1.51	-37	-1.88
497	SLU 49	-85	-21	7872	1.2	-36.39	-1.97
497	SLU 50	-83	-40	7799	1.46	-36.78	-1.87
497	SLU 51	-84	-21	7827	1.16	-36.17	-1.96
497	SLU 52	-85	-9	8492	0.94	-39.89	-2.12
497	SLU 53	-85	-42	8572	1.64	-41.65	-2.02
497	SLU 54	-86	-22	8599	1.33	-41.04	-2.11
497	SLU 55	-86	-9	8572	1.08	-40.41	-2.16
497	SLU 56	-85	-42	8652	1.77	-42.17	-2.06
497	SLU 57	-87	-23	8680	1.46	-41.56	-2.15
497	SLU 58	-85	-42	8607	1.72	-41.96	-2.04
497	SLU 59	-86	-23	8634	1.41	-41.34	-2.13
497	SLU 60	-84	-42	8792	1.57	-43.13	-2.05
497	SLU 61	-85	-23	8819	1.26	-42.51	-2.14
497	SLU 62	-85	-42	8873	1.7	-43.65	-2.08
497	SLU 63	-86	-23	8900	1.39	-43.04	-2.17
497	SLU 64	-89	-42	8568	1.85	-40.44	-2.12
497	SLU 65	-91	-10	8613	1.34	-39.41	-2.27
497	SLU 66	-90	-43	8694	2.03	-41.18	-2.17
497	SLU 67	-91	-24	8721	1.72	-40.56	-2.26
497	SLU 68	-92	-11	8694	1.47	-39.94	-2.3
497	SLU 69	-91	-44	8774	2.17	-41.7	-2.2
497	SLU 70	-92	-24	8802	1.86	-41.09	-2.29
497	SLU 71	-90	-43	8729	2.12	-41.48	-2.19
497	SLU 72	-92	-24	8756	1.81	-40.87	-2.28
497	SLU 73	-93	-13	9421	1.6	-44.59	-2.45
497	SLU 74	-92	-45	9501	2.29	-46.35	-2.35
497	SLU 75	-93	-26	9529	1.98	-45.74	-2.43
497	SLU 76	-93	-13	9502	1.73	-45.11	-2.48
497	SLU 77	-93	-46	9582	2.42	-46.87	-2.38
497	SLU 78	-94	-27	9609	2.12	-46.26	-2.47
497	SLU 79	-92	-46	9537	2.38	-46.66	-2.36
497	SLU 80	-93	-26	9564	2.07	-46.04	-2.45
497	SLU 81	-91	-46	9722	2.22	-47.83	-2.37
497	SLU 82	-92	-26	9749	1.91	-47.21	-2.46
497	SLU 83	-92	-46	9802	2.35	-48.35	-2.41
497	SLU 84	-93	-27	9830	2.05	-47.74	-2.5
497	SLE RA 1	-67	-32	6386	1.28	-30.07	-1.56
497	SLE RA 2	-68	-10	6417	0.94	-29.39	-1.66
497	SLE RA 3	-68	-32	6470	1.4	-30.57	-1.59
497	SLE RA 4	-68	-20	6489	1.2	-30.16	-1.65
497	SLE RA 5	-69	-11	6470	1.03	-29.74	-1.68
497	SLE RA 6	-68	-33	6524	1.49	-30.92	-1.62
497	SLE RA 7	-69	-20	6542	1.28	-30.51	-1.68
497	SLE RA 8	-68	-33	6494	1.46	-30.77	-1.61
497	SLE RA 9	-69	-20	6512	1.25	-30.36	-1.67
497	SLE RA 10	-69	-12	6955	1.11	-32.84	-1.78
497	SLE RA 11	-69	-34	7009	1.57	-34.01	-1.71
497	SLE RA 12	-70	-21	7027	1.37	-33.61	-1.77
497	SLE RA 13	-70	-12	7009	1.2	-33.19	-1.8
497	SLE RA 14	-69	-34	7062	1.66	-34.36	-1.73
497	SLE RA 15	-70	-21	7081	1.46	-33.95	-1.79
497	SLE RA 16	-69	-34	7032	1.63	-34.22	-1.72
497	SLE RA 17	-70	-21	7050	1.43	-33.81	-1.78
497	SLE RA 18	-68	-34	7156	1.53	-35	-1.73
497	SLE RA 19	-69	-21	7174	1.32	-34.59	-1.79
497	SLE RA 20	-69	-34	7209	1.62	-35.35	-1.75
497	SLE RA 21	-70	-21	7227	1.41	-34.94	-1.81
497	SLE FR 1	-67	-32	6386	1.28	-30.07	-1.56
497	SLE FR 2	-67	-28	6392	1.21	-29.94	-1.58
497	SLE FR 3	-67	-32	6408	1.32	-30.21	-1.57
497	SLE FR 4	-67	-28	6623	1.29	-31.41	-1.63
497	SLE FR 5	-67	-33	6639	1.39	-31.69	-1.62
497	SLE FR 6	-68	-33	6771	1.4	-32.54	-1.64
497	SLE QP 1	-67	-32	6386	1.28	-30.07	-1.56
497	SLE QP 2	-67	-32	6617	1.35	-31.55	-1.61
497	SLD 1	482	174	7650	-1.98	-8.89	-0.4
497	SLD 2	536	91	7611	-1.6	-10.68	2.17
497	SLD 3	502	-236	6954	5.19	-18.84	1.04
497	SLD 4	555	-319	6915	5.57	-20.62	3.61
497	SLD 5	58	666	7989	-10.58	-9.36	-3.89
497	SLD 6	93	613	7963	-10.34	-10.52	-2.23
497	SLD 7	124	-702	5670	13.31	-42.51	0.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
497	SLD 8	159	-755	5645	13.55	-43.66	2.6
497	SLD 9	-293	690	7589	-10.85	-19.44	-5.82
497	SLD 10	-259	637	7564	-10.6	-20.59	-4.16
497	SLD 11	-227	-678	5271	13.05	-52.59	-1
497	SLD 12	-193	-731	5246	13.29	-53.74	0.67
497	SLD 13	-690	254	6319	-2.86	-42.48	-6.84
497	SLD 14	-636	171	6280	-2.48	-44.26	-4.27
497	SLD 15	-670	-156	5624	4.31	-52.43	-5.39
497	SLD 16	-617	-239	5584	4.69	-54.21	-2.82
497	SLV 1	791	317	8274	-4.31	4.46	0.17
497	SLV 2	875	186	8212	-3.71	1.65	4.22
497	SLV 3	824	-377	7098	7.8	-12.33	2.61
497	SLV 4	908	-507	7036	8.4	-15.13	6.66
497	SLV 5	124	1148	8909	-18.82	5.24	-5.53
497	SLV 6	181	1060	8867	-18.42	3.35	-2.81
497	SLV 7	235	-1163	4990	21.54	-50.72	2.6
497	SLV 8	291	-1251	4948	21.94	-52.61	5.32
497	SLV 9	-426	1186	8286	-19.24	-10.49	-8.54
497	SLV 10	-369	1098	8244	-18.83	-12.38	-5.82
497	SLV 11	-315	-1125	4367	21.13	-66.45	-0.42
497	SLV 12	-259	-1213	4326	21.53	-68.34	2.31
497	SLV 13	-1043	442	6198	-5.69	-47.97	-9.88
497	SLV 14	-959	312	6136	-5.09	-50.77	-5.83
497	SLV 15	-1010	-251	5022	6.42	-64.76	-7.44
497	SLV 16	-926	-382	4960	7.02	-67.56	-3.39
497	SLV FO 1	877	352	8440	-4.88	8.06	0.35
497	SLV FO 2	970	208	8371	-4.22	4.98	4.8
497	SLV FO 3	914	-411	7146	8.44	-10.41	3.03
497	SLV FO 4	1006	-555	7078	9.1	-13.49	7.48
497	SLV FO 5	144	1266	9138	-20.84	8.92	-5.92
497	SLV FO 6	206	1170	9092	-20.4	6.84	-2.93
497	SLV FO 7	265	-1276	4827	23.56	-52.64	3.02
497	SLV FO 8	327	-1373	4781	24	-54.72	6.02
497	SLV FO 9	-462	1308	8453	-21.29	-8.38	-9.24
497	SLV FO 10	-399	1211	8407	-20.85	-10.46	-6.24
497	SLV FO 11	-340	-1235	4142	23.11	-69.94	-0.3
497	SLV FO 12	-278	-1331	4096	23.55	-72.02	2.7
497	SLV FO 13	-1140	490	6156	-6.39	-49.61	-10.7
497	SLV FO 14	-1048	346	6088	-5.74	-52.7	-6.25
497	SLV FO 15	-1104	-273	4863	6.93	-68.08	-8.02
497	SLV FO 16	-1012	-417	4795	7.59	-71.16	-3.57
497	CRTFP Ux+	0	0	0	0	0	0
497	CRTFP Ux-	0	0	0	0	0	0
497	CRTFP Uy+	0	0	0	0	0	0
497	CRTFP Uy-	0	0	0	0	0	0
500	SLU 1	89	-73	6122	0.38	29.03	-2.56
500	SLU 2	90	-40	6174	-0.14	27.68	-2.47
500	SLU 3	90	-74	6240	0.54	29.83	-2.64
500	SLU 4	91	-55	6271	0.23	29.02	-2.59
500	SLU 5	90	-41	6246	-0.01	28.28	-2.54
500	SLU 6	91	-75	6311	0.67	30.44	-2.71
500	SLU 7	91	-55	6342	0.36	29.62	-2.66
500	SLU 8	90	-75	6265	0.63	30.24	-2.69
500	SLU 9	90	-55	6296	0.33	29.43	-2.64
500	SLU 10	95	-47	6965	-0.04	31.47	-2.76
500	SLU 11	95	-81	7030	0.64	33.63	-2.93
500	SLU 12	96	-61	7061	0.33	32.82	-2.88
500	SLU 13	95	-48	7036	0.09	32.08	-2.83
500	SLU 14	96	-82	7101	0.77	34.23	-3
500	SLU 15	96	-62	7132	0.46	33.42	-2.95
500	SLU 16	95	-81	7056	0.73	34.04	-2.98
500	SLU 17	95	-62	7087	0.42	33.23	-2.93
500	SLU 18	96	-83	7251	0.52	34.45	-2.97
500	SLU 19	97	-63	7283	0.21	33.64	-2.91
500	SLU 20	97	-83	7323	0.64	35.06	-3.03
500	SLU 21	97	-64	7354	0.34	34.25	-2.98
500	SLU 22	100	-81	7035	0.88	32.95	-2.88
500	SLU 23	101	-48	7086	0.37	31.6	-2.8
500	SLU 24	101	-83	7152	1.05	33.75	-2.97
500	SLU 25	102	-63	7183	0.74	32.94	-2.92
500	SLU 26	101	-49	7158	0.5	32.21	-2.86
500	SLU 27	101	-84	7223	1.18	34.36	-3.04
500	SLU 28	102	-64	7254	0.87	33.55	-2.98
500	SLU 29	100	-83	7177	1.14	34.17	-3.02
500	SLU 30	101	-63	7208	0.83	33.36	-2.97
500	SLU 31	106	-55	7877	0.47	35.4	-3.08
500	SLU 32	106	-89	7942	1.14	37.55	-3.25
500	SLU 33	107	-70	7973	0.84	36.74	-3.2
500	SLU 34	106	-56	7948	0.6	36.01	-3.15
500	SLU 35	107	-90	8013	1.27	38.16	-3.32
500	SLU 36	107	-71	8045	0.97	37.35	-3.27
500	SLU 37	106	-90	7968	1.24	37.97	-3.31
500	SLU 38	106	-70	7999	0.93	37.16	-3.25
500	SLU 39	107	-91	8164	1.02	38.38	-3.29
500	SLU 40	108	-71	8195	0.71	37.57	-3.24
500	SLU 41	108	-92	8235	1.15	38.99	-3.36
500	SLU 42	108	-72	8266	0.84	38.18	-3.31
500	SLU 43	112	-92	7646	0.31	36.39	-3.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
500	SLU 44	113	-59	7698	-0.2	35.04	-3.12
500	SLU 45	113	-93	7764	0.48	37.19	-3.3
500	SLU 46	114	-74	7795	0.17	36.38	-3.25
500	SLU 47	113	-60	7770	-0.07	35.65	-3.19
500	SLU 48	113	-94	7835	0.61	37.8	-3.37
500	SLU 49	114	-75	7866	0.3	36.99	-3.31
500	SLU 50	112	-94	7789	0.57	37.6	-3.35
500	SLU 51	113	-74	7820	0.27	36.79	-3.3
500	SLU 52	118	-66	8489	-0.1	38.84	-3.41
500	SLU 53	118	-100	8554	0.58	40.99	-3.58
500	SLU 54	119	-80	8585	0.27	40.18	-3.53
500	SLU 55	118	-67	8560	0.03	39.44	-3.48
500	SLU 56	119	-101	8625	0.71	41.6	-3.65
500	SLU 57	119	-81	8656	0.4	40.78	-3.6
500	SLU 58	118	-100	8580	0.67	41.4	-3.63
500	SLU 59	118	-81	8611	0.36	40.59	-3.58
500	SLU 60	119	-102	8776	0.45	41.82	-3.62
500	SLU 61	120	-82	8807	0.15	41.01	-3.57
500	SLU 62	120	-102	8847	0.58	42.42	-3.69
500	SLU 63	120	-83	8878	0.28	41.61	-3.64
500	SLU 64	123	-100	8559	0.82	40.32	-3.54
500	SLU 65	123	-67	8610	0.31	38.97	-3.45
500	SLU 66	124	-102	8676	0.99	41.12	-3.62
500	SLU 67	124	-82	8707	0.68	40.31	-3.57
500	SLU 68	124	-68	8682	0.44	39.57	-3.52
500	SLU 69	124	-103	8747	1.12	41.72	-3.69
500	SLU 70	125	-83	8778	0.81	40.91	-3.64
500	SLU 71	123	-102	8701	1.08	41.53	-3.67
500	SLU 72	124	-82	8733	0.77	40.72	-3.62
500	SLU 73	129	-74	9401	0.41	42.76	-3.74
500	SLU 74	129	-108	9466	1.08	44.91	-3.91
500	SLU 75	130	-89	9497	0.78	44.1	-3.86
500	SLU 76	129	-75	9472	0.53	43.37	-3.81
500	SLU 77	130	-109	9538	1.21	45.52	-3.98
500	SLU 78	130	-90	9569	0.91	44.71	-3.93
500	SLU 79	129	-109	9492	1.18	45.33	-3.96
500	SLU 80	129	-89	9523	0.87	44.52	-3.91
500	SLU 81	130	-110	9688	0.96	45.74	-3.95
500	SLU 82	131	-90	9719	0.65	44.93	-3.89
500	SLU 83	130	-111	9759	1.09	46.35	-4.01
500	SLU 84	131	-91	9790	0.78	45.54	-3.96
500	SLE RA 1	92	-75	6383	0.52	30.15	-2.65
500	SLE RA 2	92	-53	6418	0.18	29.25	-2.59
500	SLE RA 3	93	-76	6461	0.63	30.68	-2.71
500	SLE RA 4	93	-63	6482	0.43	30.14	-2.67
500	SLE RA 5	93	-54	6465	0.26	29.65	-2.64
500	SLE RA 6	93	-77	6509	0.72	31.09	-2.75
500	SLE RA 7	93	-64	6529	0.51	30.55	-2.72
500	SLE RA 8	92	-76	6478	0.69	30.96	-2.74
500	SLE RA 9	93	-63	6499	0.49	30.42	-2.71
500	SLE RA 10	96	-58	6944	0.24	31.78	-2.78
500	SLE RA 11	96	-81	6988	0.7	33.22	-2.9
500	SLE RA 12	97	-68	7009	0.49	32.67	-2.86
500	SLE RA 13	96	-58	6992	0.33	32.19	-2.83
500	SLE RA 14	97	-81	7036	0.78	33.62	-2.94
500	SLE RA 15	97	-68	7056	0.58	33.08	-2.91
500	SLE RA 16	96	-81	7005	0.76	33.49	-2.93
500	SLE RA 17	96	-68	7026	0.55	32.95	-2.9
500	SLE RA 18	97	-82	7136	0.61	33.77	-2.92
500	SLE RA 19	97	-69	7156	0.41	33.23	-2.89
500	SLE RA 20	97	-82	7183	0.7	34.17	-2.97
500	SLE RA 21	98	-69	7204	0.49	33.63	-2.93
500	SLE FR 1	92	-75	6383	0.52	30.15	-2.65
500	SLE FR 2	92	-71	6390	0.45	29.97	-2.64
500	SLE FR 3	92	-76	6402	0.55	30.31	-2.67
500	SLE FR 4	94	-73	6616	0.48	31.05	-2.72
500	SLE FR 5	93	-77	6628	0.58	31.4	-2.75
500	SLE FR 6	94	-79	6759	0.57	31.96	-2.78
500	SLE QP 1	92	-75	6383	0.52	30.15	-2.65
500	SLE QP 2	93	-77	6609	0.55	31.23	-2.73
500	SLD 1	657	157	6395	-2.68	35.72	0.79
500	SLD 2	715	238	6436	-3.07	33.18	3.32
500	SLD 3	648	-277	5600	4.5	48.21	-0.22
500	SLD 4	706	-196	5641	4.11	45.67	2.31
500	SLD 5	266	638	7744	-11.24	14.07	-0.58
500	SLD 6	303	690	7771	-11.49	12.43	1.05
500	SLD 7	236	-810	5092	12.69	55.72	-3.95
500	SLD 8	274	-757	5119	12.44	54.08	-2.31
500	SLD 9	-87	603	8099	-11.34	8.39	-3.15
500	SLD 10	-49	655	8126	-11.6	6.75	-1.51
500	SLD 11	-117	-845	5447	12.59	50.04	-6.51
500	SLD 12	-79	-792	5473	12.34	48.4	-4.88
500	SLD 13	-519	41	7577	-3.02	16.8	-7.77
500	SLD 14	-461	123	7618	-3.41	14.26	-5.24
500	SLD 15	-528	-393	6781	4.16	29.29	-8.78
500	SLD 16	-470	-312	6823	3.77	26.75	-6.25
500	SLV 1	975	316	6327	-4.93	37.56	2.82
500	SLV 2	1067	444	6392	-5.55	33.56	6.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
500	SLV 3	960	-417	4983	7.2	58.66	1.11
500	SLV 4	1052	-289	5047	6.58	54.67	5.09
500	SLV 5	364	1130	8551	-19.38	1.88	0.78
500	SLV 6	425	1216	8595	-19.79	-0.82	3.46
500	SLV 7	313	-1316	4070	21.06	72.21	-4.91
500	SLV 8	375	-1230	4113	20.64	69.52	-2.23
500	SLV 9	-188	1076	9104	-19.55	-7.05	-3.23
500	SLV 10	-127	1162	9148	-19.96	-9.74	-0.55
500	SLV 11	-239	-1371	4623	20.89	63.29	-8.92
500	SLV 12	-177	-1285	4666	20.48	60.59	-6.24
500	SLV 13	-865	135	8170	-5.49	7.8	-10.55
500	SLV 14	-773	263	8235	-6.1	3.81	-6.57
500	SLV 15	-880	-599	6826	6.64	28.91	-12.25
500	SLV 16	-788	-471	6891	6.03	24.91	-8.28
500	SLV FO 1	1063	356	6299	-5.48	38.2	3.37
500	SLV FO 2	1164	497	6370	-6.16	33.8	7.74
500	SLV FO 3	1047	-451	4820	7.86	61.41	1.49
500	SLV FO 4	1148	-311	4891	7.19	57.01	5.87
500	SLV FO 5	391	1251	8745	-21.38	-1.06	1.13
500	SLV FO 6	459	1346	8793	-21.83	-4.02	4.08
500	SLV FO 7	335	-1440	3816	23.11	76.31	-5.13
500	SLV FO 8	403	-1345	3864	22.65	73.35	-2.18
500	SLV FO 9	-217	1191	9354	-21.56	-10.88	-3.28
500	SLV FO 10	-149	1286	9402	-22.01	-13.84	-0.33
500	SLV FO 11	-272	-1500	4424	22.92	66.49	-9.54
500	SLV FO 12	-204	-1405	4472	22.47	63.53	-6.59
500	SLV FO 13	-961	156	8327	-6.09	5.46	-11.33
500	SLV FO 14	-860	297	8398	-6.77	1.06	-6.96
500	SLV FO 15	-977	-651	6848	7.25	28.67	-13.21
500	SLV FO 16	-876	-510	6919	6.58	24.27	-8.83
500	CRTFP Ux+	0	0	0	0	0	0
500	CRTFP Ux-	0	0	0	0	0	0
500	CRTFP Uy+	0	0	0	0	0	0
500	CRTFP Uy-	0	0	0	0	0	0
503	SLU 1	43	30	3871	4.4	844.17	-10.53
503	SLU 2	45	53	3904	4.1	847.03	-18.84
503	SLU 3	44	31	3946	4.59	860.55	-10.89
503	SLU 4	45	45	3965	4.41	862.26	-15.88
503	SLU 5	45	55	3947	4.24	856.92	-19.27
503	SLU 6	44	32	3989	4.73	870.44	-11.32
503	SLU 7	45	46	4009	4.55	872.15	-16.3
503	SLU 8	44	32	3958	4.67	863.95	-11.38
503	SLU 9	45	46	3978	4.49	865.67	-16.37
503	SLU 10	47	57	4382	4.7	947.52	-20.16
503	SLU 11	46	34	4423	5.19	961.03	-12.21
503	SLU 12	47	49	4443	5.01	962.75	-17.19
503	SLU 13	47	58	4425	4.84	957.41	-20.59
503	SLU 14	46	35	4467	5.33	970.92	-12.63
503	SLU 15	47	50	4486	5.15	972.64	-17.62
503	SLU 16	46	36	4436	5.27	964.44	-12.7
503	SLU 17	47	50	4455	5.09	966.15	-17.69
503	SLU 18	46	35	4554	5.26	987.73	-12.41
503	SLU 19	47	49	4573	5.08	989.44	-17.4
503	SLU 20	46	36	4597	5.39	997.62	-12.84
503	SLU 21	47	50	4617	5.21	999.33	-17.83
503	SLU 22	48	31	4437	5.34	965.31	-11.2
503	SLU 23	50	55	4470	5.04	968.17	-19.51
503	SLU 24	49	32	4511	5.52	981.68	-11.56
503	SLU 25	50	47	4531	5.35	983.4	-16.54
503	SLU 26	50	56	4513	5.17	978.06	-19.94
503	SLU 27	49	34	4555	5.66	991.57	-11.99
503	SLU 28	50	48	4574	5.48	993.29	-16.97
503	SLU 29	49	34	4524	5.61	985.09	-12.05
503	SLU 30	50	48	4543	5.43	986.8	-17.04
503	SLU 31	52	59	4947	5.64	1068.65	-20.83
503	SLU 32	51	36	4989	6.12	1082.17	-12.88
503	SLU 33	52	50	5009	5.94	1083.89	-17.86
503	SLU 34	52	60	4991	5.77	1078.54	-21.26
503	SLU 35	51	37	5032	6.26	1092.06	-13.3
503	SLU 36	52	52	5052	6.08	1093.78	-18.29
503	SLU 37	51	38	5001	6.2	1085.57	-13.37
503	SLU 38	52	52	5021	6.03	1087.29	-18.36
503	SLU 39	51	37	5119	6.19	1108.86	-13.08
503	SLU 40	52	51	5139	6.01	1110.58	-18.07
503	SLU 41	51	38	5163	6.33	1118.75	-13.51
503	SLU 42	52	52	5182	6.15	1120.47	-18.5
503	SLU 43	55	38	4839	5.4	1055.89	-13.46
503	SLU 44	57	62	4871	5.11	1058.75	-21.77
503	SLU 45	56	39	4913	5.59	1072.27	-13.82
503	SLU 46	57	53	4933	5.41	1073.98	-18.8
503	SLU 47	57	63	4915	5.24	1068.64	-22.2
503	SLU 48	56	40	4956	5.73	1082.16	-14.25
503	SLU 49	57	54	4976	5.55	1083.87	-19.23
503	SLU 50	55	40	4926	5.67	1075.67	-14.31
503	SLU 51	56	54	4945	5.49	1077.38	-19.3
503	SLU 52	58	65	5349	5.7	1159.24	-23.09
503	SLU 53	58	43	5391	6.19	1172.75	-15.14
503	SLU 54	59	57	5410	6.01	1174.47	-20.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
503	SLU 55	59	66	5392	5.84	1169.13	-23.52
503	SLU 56	58	44	5434	6.33	1182.64	-15.56
503	SLU 57	59	58	5454	6.15	1184.36	-20.55
503	SLU 58	57	44	5403	6.27	1176.16	-15.63
503	SLU 59	58	58	5423	6.09	1177.87	-20.62
503	SLU 60	58	43	5521	6.26	1199.45	-15.34
503	SLU 61	59	57	5541	6.08	1201.16	-20.33
503	SLU 62	58	44	5564	6.39	1209.33	-15.77
503	SLU 63	59	59	5584	6.22	1211.05	-20.76
503	SLU 64	60	40	5404	6.34	1177.03	-14.13
503	SLU 65	61	63	5437	6.04	1179.89	-22.44
503	SLU 66	60	41	5479	6.53	1193.4	-14.49
503	SLU 67	61	55	5498	6.35	1195.12	-19.47
503	SLU 68	62	65	5481	6.17	1189.78	-22.87
503	SLU 69	61	42	5522	6.66	1203.29	-14.91
503	SLU 70	62	56	5542	6.48	1205.01	-19.9
503	SLU 71	60	42	5491	6.61	1196.81	-14.98
503	SLU 72	61	56	5511	6.43	1198.52	-19.97
503	SLU 73	63	67	5915	6.64	1280.37	-23.76
503	SLU 74	62	44	5956	7.12	1293.89	-15.8
503	SLU 75	63	59	5976	6.95	1295.61	-20.79
503	SLU 76	63	68	5958	6.77	1290.26	-24.18
503	SLU 77	63	46	6000	7.26	1303.78	-16.23
503	SLU 78	64	60	6019	7.08	1305.49	-21.22
503	SLU 79	62	46	5969	7.21	1297.29	-16.3
503	SLU 80	63	60	5988	7.03	1299.01	-21.29
503	SLU 81	62	45	6087	7.19	1320.58	-16.01
503	SLU 82	63	59	6106	7.01	1322.3	-21
503	SLU 83	63	46	6130	7.33	1330.47	-16.44
503	SLU 84	64	60	6150	7.15	1332.19	-21.43
503	SLE RA 1	45	30	4033	4.67	878.78	-10.72
503	SLE RA 2	46	46	4055	4.47	880.69	-16.26
503	SLE RA 3	45	31	4082	4.8	889.7	-10.96
503	SLE RA 4	46	40	4096	4.68	890.84	-14.28
503	SLE RA 5	46	47	4084	4.56	887.28	-16.55
503	SLE RA 6	46	32	4111	4.89	896.29	-11.24
503	SLE RA 7	46	41	4125	4.77	897.44	-14.57
503	SLE RA 8	45	32	4091	4.85	891.97	-11.29
503	SLE RA 9	46	41	4104	4.73	893.11	-14.61
503	SLE RA 10	47	48	4373	4.87	947.68	-17.14
503	SLE RA 11	47	33	4401	5.19	956.69	-11.84
503	SLE RA 12	47	43	4414	5.08	957.83	-15.16
503	SLE RA 13	47	49	4402	4.96	954.27	-17.42
503	SLE RA 14	47	34	4430	5.28	963.28	-12.12
503	SLE RA 15	47	44	4443	5.17	964.43	-15.45
503	SLE RA 16	46	34	4409	5.25	958.96	-12.17
503	SLE RA 17	47	44	4422	5.13	960.1	-15.49
503	SLE RA 18	47	34	4488	5.24	974.48	-11.98
503	SLE RA 19	47	43	4501	5.12	975.63	-15.3
503	SLE RA 20	47	34	4517	5.33	981.08	-12.26
503	SLE RA 21	47	44	4530	5.21	982.22	-15.59
503	SLE FR 1	45	30	4033	4.67	878.78	-10.72
503	SLE FR 2	45	33	4037	4.63	879.16	-11.83
503	SLE FR 3	45	30	4044	4.71	881.42	-10.83
503	SLE FR 4	46	34	4174	4.8	907.87	-12.2
503	SLE FR 5	45	31	4181	4.88	910.13	-11.21
503	SLE FR 6	46	32	4260	4.96	926.63	-11.35
503	SLE QP 1	45	30	4033	4.67	878.78	-10.72
503	SLE QP 2	45	31	4169	4.84	907.49	-11.1
503	SLD 1	371	89	3318	1.74	713.95	-31.59
503	SLD 2	403	210	3359	1.38	716.58	-73.49
503	SLD 3	356	-217	2824	5.9	675.57	75.77
503	SLD 4	388	-97	2865	5.53	678.2	33.87
503	SLD 5	161	493	4656	-2.33	907.19	-172.8
503	SLD 6	182	571	4682	-2.56	908.89	-199.91
503	SLD 7	110	-530	3010	11.52	779.24	185.07
503	SLD 8	130	-452	3036	11.29	780.94	157.96
503	SLD 9	-39	514	5303	-1.61	1034.04	-180.15
503	SLD 10	-19	592	5329	-1.84	1035.74	-207.26
503	SLD 11	-91	-509	3656	12.25	906.09	177.72
503	SLD 12	-70	-431	3683	12.01	907.79	150.61
503	SLD 13	-297	159	5474	4.15	1136.79	-56.06
503	SLD 14	-265	280	5515	3.79	1139.42	-97.97
503	SLD 15	-312	-147	4980	8.3	1098.4	51.3
503	SLD 16	-281	-27	5021	7.94	1101.03	9.4
503	SLV 1	556	141	2873	-0.26	607.99	-49.53
503	SLV 2	606	330	2937	-0.84	612.13	-115.51
503	SLV 3	530	-378	2039	6.76	543.26	131.93
503	SLV 4	580	-189	2102	6.19	547.4	65.96
503	SLV 5	229	815	5034	-7.23	915.05	-285.54
503	SLV 6	263	943	5077	-7.62	917.84	-329.96
503	SLV 7	142	-914	2253	16.17	699.27	319.35
503	SLV 8	175	-786	2296	15.79	702.06	274.93
503	SLV 9	-85	848	6043	-6.11	1112.93	-297.12
503	SLV 10	-51	976	6086	-6.49	1115.72	-341.54
503	SLV 11	-172	-881	3262	17.3	897.15	307.77
503	SLV 12	-138	-753	3305	16.92	899.94	263.35
503	SLV 13	-489	251	6237	3.5	1267.59	-88.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
503	SLV 14	-439	440	6300	2.92	1271.73	-154.13
503	SLV 15	-515	-268	5402	10.52	1202.86	93.32
503	SLV 16	-466	-78	5466	9.95	1207	27.34
503	SLV FO 1	607	152	2743	-0.77	578.04	-53.38
503	SLV FO 2	662	360	2813	-1.4	582.59	-125.95
503	SLV FO 3	579	-419	1826	6.95	506.83	146.24
503	SLV FO 4	633	-211	1895	6.32	511.39	73.66
503	SLV FO 5	248	894	5120	-8.44	915.8	-312.98
503	SLV FO 6	284	1034	5167	-8.87	918.87	-361.84
503	SLV FO 7	151	-1008	2061	17.31	678.45	352.4
503	SLV FO 8	188	-868	2108	16.88	681.52	303.53
503	SLV FO 9	-98	930	6230	-7.2	1133.47	-325.73
503	SLV FO 10	-61	1071	6277	-7.62	1136.54	-374.59
503	SLV FO 11	-194	-972	3171	18.55	896.12	339.65
503	SLV FO 12	-157	-831	3218	18.12	899.19	290.79
503	SLV FO 13	-543	273	6443	3.36	1303.6	-95.86
503	SLV FO 14	-488	481	6513	2.73	1308.15	-168.43
503	SLV FO 15	-572	-298	5525	11.09	1232.39	103.76
503	SLV FO 16	-517	-89	5595	10.46	1236.95	31.18
503	CRTFP Ux+	0	0	0	0	0	0
503	CRTFP Ux-	0	0	0	0	0	0
503	CRTFP Uy+	0	0	0	0	0	0
503	CRTFP Uy-	0	0	0	0	0	0
505	SLU 1	53	-63	5271	235.01	1711.34	19.45
505	SLU 2	53	-34	5301	235.74	1720.52	9.26
505	SLU 3	54	-65	5377	239.94	1746	20.01
505	SLU 4	54	-47	5395	240.37	1751.5	13.9
505	SLU 5	54	-35	5369	238.88	1742.67	9.71
505	SLU 6	54	-66	5444	243.08	1768.15	20.46
505	SLU 7	54	-49	5463	243.52	1773.65	14.34
505	SLU 8	54	-66	5405	241.3	1755.65	20.33
505	SLU 9	54	-48	5424	241.74	1761.15	14.22
505	SLU 10	59	-42	6003	267.11	1950.18	11.73
505	SLU 11	59	-73	6078	271.31	1975.67	22.48
505	SLU 12	60	-55	6097	271.74	1981.17	16.37
505	SLU 13	59	-43	6070	270.25	1972.34	12.18
505	SLU 14	60	-74	6146	274.45	1997.82	22.93
505	SLU 15	60	-56	6164	274.89	2003.32	16.81
505	SLU 16	59	-74	6107	272.67	1985.32	22.8
505	SLU 17	60	-56	6125	273.11	1990.82	16.69
505	SLU 18	61	-74	6272	279.82	2039.44	22.98
505	SLU 19	61	-57	6291	280.26	2044.95	16.87
505	SLU 20	62	-76	6340	282.97	2061.59	23.42
505	SLU 21	62	-58	6358	283.41	2067.1	17.31
505	SLU 22	60	-72	6039	269.9	1960.91	22.17
505	SLU 23	60	-42	6070	270.62	1970.08	11.99
505	SLU 24	60	-73	6145	274.82	1995.56	22.73
505	SLU 25	61	-56	6164	275.26	2001.06	16.62
505	SLU 26	60	-44	6137	273.77	1992.23	12.43
505	SLU 27	61	-75	6213	277.97	2017.71	23.18
505	SLU 28	61	-57	6231	278.4	2023.22	17.06
505	SLU 29	60	-74	6174	276.19	2005.21	23.05
505	SLU 30	61	-57	6192	276.62	2010.72	16.94
505	SLU 31	66	-50	6771	301.99	2199.75	14.46
505	SLU 32	66	-81	6846	306.19	2225.23	25.2
505	SLU 33	66	-64	6865	306.63	2230.73	19.09
505	SLU 34	66	-52	6838	305.14	2221.9	14.9
505	SLU 35	66	-83	6914	309.34	2247.38	25.65
505	SLU 36	67	-65	6932	309.77	2252.88	19.53
505	SLU 37	66	-82	6875	307.56	2234.88	25.52
505	SLU 38	66	-65	6893	307.99	2240.38	19.41
505	SLU 39	68	-83	7041	314.71	2289	25.7
505	SLU 40	68	-65	7059	315.14	2294.51	19.59
505	SLU 41	68	-84	7108	317.86	2311.16	26.14
505	SLU 42	68	-67	7126	318.29	2316.66	20.03
505	SLU 43	67	-79	6589	293.55	2139.18	24.35
505	SLU 44	67	-50	6619	294.28	2148.35	14.17
505	SLU 45	67	-81	6695	298.48	2173.84	24.92
505	SLU 46	68	-63	6713	298.92	2179.34	18.8
505	SLU 47	67	-51	6687	297.42	2170.51	14.61
505	SLU 48	68	-82	6762	301.63	2195.99	25.36
505	SLU 49	68	-64	6781	302.06	2201.49	19.25
505	SLU 50	67	-82	6723	299.85	2183.49	25.24
505	SLU 51	68	-64	6742	300.28	2188.99	19.12
505	SLU 52	73	-58	7320	325.65	2378.02	16.64
505	SLU 53	73	-88	7396	329.85	2403.5	27.39
505	SLU 54	73	-71	7415	330.28	2409.01	21.27
505	SLU 55	73	-59	7388	328.79	2400.18	17.08
505	SLU 56	73	-90	7463	333	2425.66	27.83
505	SLU 57	74	-72	7482	333.43	2431.16	21.72
505	SLU 58	73	-89	7424	331.21	2413.16	27.71
505	SLU 59	73	-72	7443	331.65	2418.66	21.59
505	SLU 60	75	-90	7590	338.37	2467.28	27.88
505	SLU 61	75	-73	7609	338.8	2472.78	21.77
505	SLU 62	75	-91	7658	341.51	2489.43	28.32
505	SLU 63	75	-74	7676	341.95	2494.94	22.21
505	SLU 64	73	-88	7357	328.44	2388.75	27.07
505	SLU 65	74	-58	7387	329.16	2397.92	16.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
505	SLU 66	74	-89	7463	333.37	2423.4	27.64
505	SLU 67	74	-72	7482	333.8	2428.9	21.53
505	SLU 68	74	-60	7455	332.31	2420.07	17.33
505	SLU 69	74	-91	7530	336.51	2445.55	28.08
505	SLU 70	75	-73	7549	336.95	2451.05	21.97
505	SLU 71	74	-90	7491	334.73	2433.05	27.96
505	SLU 72	74	-73	7510	335.17	2438.56	21.85
505	SLU 73	79	-66	8089	360.53	2627.59	19.36
505	SLU 74	80	-97	8164	364.74	2653.07	30.11
505	SLU 75	80	-80	8183	365.17	2658.57	24
505	SLU 76	80	-68	8156	363.68	2649.74	19.8
505	SLU 77	80	-99	8232	367.88	2675.22	30.55
505	SLU 78	80	-81	8250	368.32	2680.72	24.44
505	SLU 79	80	-98	8193	366.1	2662.72	30.43
505	SLU 80	80	-81	8211	366.54	2668.22	24.32
505	SLU 81	81	-99	8359	373.25	2716.84	30.6
505	SLU 82	82	-81	8377	373.69	2722.35	24.49
505	SLU 83	82	-100	8426	376.4	2739	31.04
505	SLU 84	82	-83	8444	376.83	2744.5	24.93
505	SLE RA 1	55	-65	5490	244.98	1782.65	20.23
505	SLE RA 2	55	-46	5511	245.46	1788.76	13.44
505	SLE RA 3	55	-67	5561	248.26	1805.75	20.6
505	SLE RA 4	56	-55	5573	248.55	1809.42	16.53
505	SLE RA 5	55	-47	5556	247.56	1803.53	13.73
505	SLE RA 6	56	-68	5606	250.36	1820.52	20.9
505	SLE RA 7	56	-56	5618	250.65	1824.19	16.82
505	SLE RA 8	55	-67	5580	249.17	1812.18	20.82
505	SLE RA 9	56	-56	5592	249.46	1815.85	16.74
505	SLE RA 10	59	-51	5978	266.37	1941.87	15.08
505	SLE RA 11	59	-72	6029	269.18	1958.86	22.25
505	SLE RA 12	59	-60	6041	269.47	1962.53	18.18
505	SLE RA 13	59	-52	6023	268.47	1956.64	15.38
505	SLE RA 14	59	-73	6073	271.27	1973.63	22.54
505	SLE RA 15	60	-61	6086	271.56	1977.3	18.47
505	SLE RA 16	59	-72	6047	270.09	1965.3	22.46
505	SLE RA 17	59	-61	6060	270.38	1968.97	18.39
505	SLE RA 18	60	-73	6158	274.85	2001.38	22.58
505	SLE RA 19	60	-61	6170	275.14	2005.05	18.51
505	SLE RA 20	61	-74	6203	276.95	2016.15	22.87
505	SLE RA 21	61	-62	6215	277.24	2019.82	18.8
505	SLE FR 1	55	-65	5490	244.98	1782.65	20.23
505	SLE FR 2	55	-62	5494	245.07	1783.87	18.87
505	SLE FR 3	55	-66	5508	245.82	1788.55	20.35
505	SLE FR 4	57	-64	5695	254.04	1849.49	19.58
505	SLE FR 5	57	-68	5709	254.78	1854.17	21.05
505	SLE FR 6	58	-69	5824	259.92	1892.01	21.4
505	SLE QP 1	55	-65	5490	244.98	1782.65	20.23
505	SLE QP 2	57	-68	5691	253.94	1848.27	20.93
505	SLD 1	472	121	5989	262.68	1939.34	-60.25
505	SLD 2	509	126	6000	263.01	1941.23	-63.34
505	SLD 3	465	-249	5470	249.15	1779.51	68.67
505	SLD 4	502	-243	5480	249.48	1781.4	65.58
505	SLD 5	185	549	6567	277.01	2117.68	-198.41
505	SLD 6	209	552	6574	277.23	2118.9	-200.41
505	SLD 7	163	-684	4834	231.94	1584.9	231.32
505	SLD 8	186	-680	4841	232.15	1586.12	229.32
505	SLD 9	-73	545	6540	275.73	2110.42	-187.45
505	SLD 10	-50	549	6547	275.94	2111.64	-189.45
505	SLD 11	-96	-688	4808	230.65	1577.64	242.28
505	SLD 12	-72	-684	4814	230.87	1578.86	240.28
505	SLD 13	-389	108	5901	258.4	1915.14	-23.71
505	SLD 14	-352	114	5912	258.73	1917.02	-26.8
505	SLD 15	-396	-262	5382	244.87	1755.3	105.21
505	SLD 16	-359	-256	5392	245.21	1757.19	102.12
505	SLV 1	707	251	6192	268.5	2001.17	-114.21
505	SLV 2	765	260	6208	269.02	2004.14	-119.07
505	SLV 3	696	-374	5313	245.64	1730.98	103.62
505	SLV 4	754	-365	5329	246.16	1733.95	98.75
505	SLV 5	258	974	7171	292.89	2303.38	-349.07
505	SLV 6	297	980	7182	293.24	2305.38	-352.34
505	SLV 7	220	-1109	4242	216.68	1402.73	377.01
505	SLV 8	259	-1103	4253	217.03	1404.73	373.74
505	SLV 9	-146	967	7129	290.85	2291.8	-331.87
505	SLV 10	-107	974	7140	291.2	2293.8	-335.15
505	SLV 11	-184	-1115	4200	214.64	1391.15	394.21
505	SLV 12	-145	-1109	4211	215	1393.15	390.93
505	SLV 13	-640	229	6052	261.72	1962.59	-56.89
505	SLV 14	-582	239	6068	262.25	1965.56	-61.75
505	SLV 15	-652	-396	5173	238.86	1692.39	160.94
505	SLV 16	-594	-386	5190	239.38	1695.36	156.07
505	SLV FO 1	772	283	6242	269.95	2016.46	-127.72
505	SLV FO 2	836	293	6260	270.53	2019.73	-133.07
505	SLV FO 3	760	-405	5275	244.81	1719.25	111.89
505	SLV FO 4	823	-394	5293	245.38	1722.52	106.53
505	SLV FO 5	279	1078	7319	296.78	2348.89	-386.07
505	SLV FO 6	321	1085	7331	297.17	2351.09	-389.67
505	SLV FO 7	236	-1213	4097	212.95	1358.18	412.62
505	SLV FO 8	279	-1206	4109	213.34	1360.38	409.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
505	SLV FO 9	-166	1071	7272	294.55	2336.16	-367.15
505	SLV FO 10	-123	1078	7285	294.93	2338.36	-370.75
505	SLV FO 11	-208	-1220	4051	210.72	1345.44	431.54
505	SLV FO 12	-165	-1213	4063	211.1	1347.64	427.93
505	SLV FO 13	-710	259	6088	262.5	1974.02	-64.67
505	SLV FO 14	-646	269	6106	263.08	1977.29	-70.02
505	SLV FO 15	-723	-428	5122	237.35	1676.8	174.94
505	SLV FO 16	-659	-418	5140	237.93	1680.07	169.59
505	CRTFP Ux+	0	0	0	0	0	0
505	CRTFP Ux-	0	0	0	0	0	0
505	CRTFP Uy+	0	0	0	0	0	0
505	CRTFP Uy-	0	0	0	0	0	0
520	SLU 1	-36	7	3524	4.68	-542.97	1.73
520	SLU 2	-38	28	3547	4.44	-542.51	6.88
520	SLU 3	-37	7	3602	4.85	-555.25	1.7
520	SLU 4	-38	19	3616	4.71	-554.97	4.79
520	SLU 5	-38	28	3597	4.56	-550.49	6.9
520	SLU 6	-37	7	3652	4.97	-563.24	1.72
520	SLU 7	-38	19	3666	4.83	-562.95	4.81
520	SLU 8	-37	7	3625	4.92	-558.95	1.76
520	SLU 9	-38	20	3638	4.77	-558.67	4.86
520	SLU 10	-38	30	3991	5.11	-610.1	7.4
520	SLU 11	-37	9	4046	5.51	-622.84	2.21
520	SLU 12	-38	21	4060	5.37	-622.56	5.31
520	SLU 13	-39	30	4041	5.23	-618.09	7.42
520	SLU 14	-38	9	4096	5.63	-630.83	2.23
520	SLU 15	-39	22	4110	5.49	-630.55	5.33
520	SLU 16	-37	9	4069	5.58	-626.54	2.28
520	SLU 17	-38	22	4082	5.44	-626.26	5.37
520	SLU 18	-37	10	4158	5.63	-639.54	2.46
520	SLU 19	-38	22	4172	5.48	-639.26	5.56
520	SLU 20	-37	10	4209	5.74	-647.52	2.48
520	SLU 21	-38	23	4222	5.6	-647.24	5.58
520	SLU 22	-39	7	4063	5.64	-626.37	1.64
520	SLU 23	-41	27	4085	5.41	-625.91	6.8
520	SLU 24	-40	7	4141	5.81	-638.65	1.61
520	SLU 25	-41	19	4154	5.67	-638.37	4.7
520	SLU 26	-41	28	4135	5.52	-633.89	6.81
520	SLU 27	-40	7	4191	5.93	-646.63	1.63
520	SLU 28	-41	19	4204	5.79	-646.35	4.72
520	SLU 29	-40	7	4163	5.88	-642.35	1.67
520	SLU 30	-41	19	4176	5.74	-642.07	4.77
520	SLU 31	-41	30	4529	6.07	-693.5	7.31
520	SLU 32	-40	9	4584	6.48	-706.24	2.12
520	SLU 33	-41	21	4598	6.34	-705.96	5.22
520	SLU 34	-42	30	4579	6.19	-701.49	7.33
520	SLU 35	-41	9	4635	6.6	-714.23	2.14
520	SLU 36	-42	21	4648	6.46	-713.95	5.24
520	SLU 37	-40	9	4607	6.54	-709.94	2.19
520	SLU 38	-41	21	4620	6.4	-709.66	5.29
520	SLU 39	-40	10	4697	6.59	-722.94	2.37
520	SLU 40	-41	22	4710	6.45	-722.65	5.47
520	SLU 41	-40	10	4747	6.71	-730.92	2.39
520	SLU 42	-41	22	4760	6.57	-730.64	5.49
520	SLU 43	-46	9	4397	5.75	-677.27	2.27
520	SLU 44	-47	30	4420	5.51	-676.8	7.43
520	SLU 45	-46	9	4475	5.92	-689.55	2.24
520	SLU 46	-47	22	4489	5.78	-689.26	5.34
520	SLU 47	-48	30	4470	5.63	-684.79	7.45
520	SLU 48	-47	9	4525	6.04	-697.53	2.26
520	SLU 49	-48	22	4539	5.9	-697.25	5.36
520	SLU 50	-46	9	4497	5.99	-693.25	2.31
520	SLU 51	-47	22	4511	5.85	-692.97	5.41
520	SLU 52	-48	32	4864	6.18	-744.4	7.95
520	SLU 53	-47	11	4919	6.59	-757.14	2.76
520	SLU 54	-48	24	4933	6.45	-756.86	5.86
520	SLU 55	-48	32	4914	6.3	-752.39	7.97
520	SLU 56	-47	11	4969	6.71	-765.13	2.78
520	SLU 57	-48	24	4983	6.57	-764.85	5.87
520	SLU 58	-47	12	4941	6.65	-760.84	2.83
520	SLU 59	-48	24	4955	6.51	-760.56	5.92
520	SLU 60	-47	12	5031	6.7	-773.83	3.01
520	SLU 61	-48	25	5045	6.56	-773.55	6.11
520	SLU 62	-47	12	5081	6.82	-781.82	3.03
520	SLU 63	-48	25	5095	6.68	-781.54	6.12
520	SLU 64	-49	9	4935	6.71	-760.67	2.18
520	SLU 65	-50	30	4958	6.48	-760.2	7.34
520	SLU 66	-50	9	5013	6.89	-772.95	2.15
520	SLU 67	-50	21	5027	6.75	-772.66	5.25
520	SLU 68	-51	30	5008	6.6	-768.19	7.36
520	SLU 69	-50	9	5063	7.01	-780.93	2.17
520	SLU 70	-51	21	5077	6.87	-780.65	5.27
520	SLU 71	-50	9	5036	6.95	-776.65	2.22
520	SLU 72	-50	22	5049	6.81	-776.37	5.32
520	SLU 73	-51	32	5402	7.14	-827.8	7.86
520	SLU 74	-50	11	5457	7.55	-840.54	2.67
520	SLU 75	-51	23	5471	7.41	-840.26	5.77
520	SLU 76	-51	32	5452	7.26	-835.78	7.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
520	SLU 77	-51	11	5507	7.67	-848.53	2.69
520	SLU 78	-51	23	5521	7.53	-848.25	5.78
520	SLU 79	-50	11	5480	7.62	-844.24	2.74
520	SLU 80	-51	24	5493	7.48	-843.96	5.83
520	SLU 81	-50	12	5569	7.66	-857.23	2.92
520	SLU 82	-51	24	5583	7.52	-856.95	6.02
520	SLU 83	-50	12	5620	7.78	-865.22	2.94
520	SLU 84	-51	25	5633	7.64	-864.94	6.04
520	SLE RA 1	-37	7	3678	4.95	-566.8	1.7
520	SLE RA 2	-38	21	3693	4.79	-566.49	5.14
520	SLE RA 3	-37	7	3730	5.07	-574.98	1.68
520	SLE RA 4	-38	15	3739	4.97	-574.8	3.74
520	SLE RA 5	-38	21	3727	4.87	-571.82	5.15
520	SLE RA 6	-38	7	3764	5.15	-580.31	1.69
520	SLE RA 7	-38	15	3773	5.05	-580.12	3.76
520	SLE RA 8	-37	7	3745	5.11	-577.45	1.73
520	SLE RA 9	-38	15	3754	5.02	-577.27	3.79
520	SLE RA 10	-38	22	3989	5.24	-611.55	5.48
520	SLE RA 11	-38	8	4026	5.51	-620.05	2.02
520	SLE RA 12	-38	17	4035	5.42	-619.86	4.09
520	SLE RA 13	-39	22	4023	5.32	-616.88	5.5
520	SLE RA 14	-38	8	4059	5.59	-625.37	2.04
520	SLE RA 15	-39	17	4069	5.5	-625.18	4.1
520	SLE RA 16	-38	9	4041	5.55	-622.52	2.07
520	SLE RA 17	-38	17	4050	5.46	-622.33	4.13
520	SLE RA 18	-38	9	4101	5.58	-631.18	2.19
520	SLE RA 19	-38	17	4110	5.49	-630.99	4.25
520	SLE RA 20	-38	9	4134	5.66	-636.5	2.2
520	SLE RA 21	-38	17	4143	5.57	-636.32	4.27
520	SLE FR 1	-37	7	3678	4.95	-566.8	1.7
520	SLE FR 2	-37	10	3681	4.92	-566.74	2.39
520	SLE FR 3	-37	7	3691	4.98	-568.93	1.7
520	SLE FR 4	-37	10	3808	5.11	-586.05	2.53
520	SLE FR 5	-37	8	3818	5.17	-588.25	1.85
520	SLE FR 6	-37	8	3889	5.27	-598.99	1.95
520	SLE QP 1	-37	7	3678	4.95	-566.8	1.7
520	SLE QP 2	-37	8	3805	5.14	-586.12	1.85
520	SLD 1	218	160	5059	4.95	-738.26	40.03
520	SLD 2	237	56	5034	5.26	-740.6	14.19
520	SLD 3	231	-106	4696	8.17	-741.78	-26.45
520	SLD 4	250	-210	4671	8.48	-744.12	-52.29
520	SLD 5	16	475	4736	0.15	-626.02	118.61
520	SLD 6	29	408	4720	0.34	-627.54	101.9
520	SLD 7	60	-412	3526	10.89	-637.74	-102.99
520	SLD 8	72	-479	3510	11.08	-639.25	-119.7
520	SLD 9	-147	494	4100	-0.8	-532.98	123.4
520	SLD 10	-134	427	4084	-0.6	-534.49	106.68
520	SLD 11	-103	-392	2890	9.94	-544.7	-98.2
520	SLD 12	-90	-460	2873	10.14	-546.21	-114.92
520	SLD 13	-324	225	2939	1.8	-428.11	55.98
520	SLD 14	-305	121	2914	2.11	-430.45	30.14
520	SLD 15	-311	-41	2576	5.02	-431.63	-10.5
520	SLD 16	-292	-145	2550	5.33	-433.97	-36.34
520	SLV 1	361	264	5786	4.64	-823.24	65.84
520	SLV 2	391	100	5746	5.12	-826.92	25.16
520	SLV 3	383	-186	5172	10.08	-829.11	-46.5
520	SLV 4	414	-350	5132	10.56	-832.79	-87.18
520	SLV 5	43	797	5338	-3.35	-647.66	199.03
520	SLV 6	64	687	5311	-3.03	-650.14	171.64
520	SLV 7	117	-702	3292	14.79	-667.23	-175.46
520	SLV 8	137	-812	3265	15.11	-669.71	-202.85
520	SLV 9	-212	827	4345	-4.83	-502.52	206.54
520	SLV 10	-191	717	4318	-4.5	-505	179.15
520	SLV 11	-138	-671	2299	13.31	-522.09	-167.95
520	SLV 12	-117	-782	2272	13.64	-524.57	-195.34
520	SLV 13	-488	365	2478	-0.28	-339.44	90.88
520	SLV 14	-457	201	2438	0.2	-343.13	50.2
520	SLV 15	-466	-85	1864	5.17	-345.31	-21.47
520	SLV 16	-435	-248	1824	5.65	-348.99	-62.15
520	SLV FO 1	401	289	5984	4.59	-846.95	72.24
520	SLV FO 2	434	109	5940	5.11	-851	27.49
520	SLV FO 3	425	-205	5309	10.57	-853.4	-51.34
520	SLV FO 4	459	-385	5265	11.1	-857.46	-96.09
520	SLV FO 5	51	876	5491	-4.2	-653.82	218.75
520	SLV FO 6	74	754	5461	-3.85	-656.55	188.62
520	SLV FO 7	132	-773	3240	15.75	-675.34	-193.19
520	SLV FO 8	155	-894	3211	16.11	-678.07	-223.32
520	SLV FO 9	-229	909	4399	-5.82	-494.16	227.01
520	SLV FO 10	-206	788	4370	-5.47	-496.89	196.88
520	SLV FO 11	-148	-739	2149	14.13	-515.68	-184.92
520	SLV FO 12	-125	-861	2119	14.49	-518.41	-215.05
520	SLV FO 13	-533	401	2345	-0.82	-314.77	99.78
520	SLV FO 14	-499	221	2301	-0.29	-318.83	55.03
520	SLV FO 15	-508	-94	1670	5.17	-321.23	-23.8
520	SLV FO 16	-475	-274	1626	5.7	-325.28	-68.55
520	CRTFP Ux+	0	0	0	0	0	0
520	CRTFP Ux-	0	0	0	0	0	0
520	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
520	CRTFP Uy-	0	0	0	0	0	0
523	SLU 1	-58	-26	6169	2.03	-25.73	-1.02
523	SLU 2	-60	6	6199	1.54	-24.66	-1.15
523	SLU 3	-59	-27	6301	2.23	-26.43	-1.06
523	SLU 4	-60	-7	6319	1.94	-25.78	-1.14
523	SLU 5	-60	6	6284	1.69	-25.15	-1.18
523	SLU 6	-60	-27	6385	2.38	-26.93	-1.08
523	SLU 7	-61	-8	6404	2.08	-26.28	-1.16
523	SLU 8	-59	-27	6338	2.32	-26.73	-1.07
523	SLU 9	-60	-8	6357	2.03	-26.08	-1.15
523	SLU 10	-60	5	7017	1.95	-29.45	-1.28
523	SLU 11	-60	-28	7118	2.64	-31.22	-1.18
523	SLU 12	-61	-9	7137	2.35	-30.57	-1.26
523	SLU 13	-61	4	7102	2.1	-29.94	-1.31
523	SLU 14	-61	-29	7203	2.79	-31.72	-1.21
523	SLU 15	-62	-9	7221	2.49	-31.07	-1.29
523	SLU 16	-60	-28	7156	2.73	-31.52	-1.2
523	SLU 17	-61	-9	7175	2.44	-30.87	-1.28
523	SLU 18	-59	-28	7337	2.61	-32.57	-1.2
523	SLU 19	-60	-9	7355	2.32	-31.93	-1.28
523	SLU 20	-60	-29	7422	2.76	-33.07	-1.23
523	SLU 21	-61	-9	7440	2.47	-32.43	-1.31
523	SLU 22	-64	-29	7121	2.84	-30.01	-1.27
523	SLU 23	-65	3	7151	2.36	-28.94	-1.4
523	SLU 24	-65	-29	7253	3.04	-30.71	-1.3
523	SLU 25	-66	-10	7271	2.75	-30.06	-1.38
523	SLU 26	-66	3	7236	2.5	-29.44	-1.43
523	SLU 27	-65	-30	7337	3.19	-31.21	-1.33
523	SLU 28	-66	-11	7356	2.9	-30.56	-1.41
523	SLU 29	-65	-30	7291	3.14	-31.01	-1.32
523	SLU 30	-66	-10	7309	2.84	-30.36	-1.4
523	SLU 31	-66	2	7969	2.76	-33.73	-1.53
523	SLU 32	-66	-31	8071	3.45	-35.5	-1.43
523	SLU 33	-67	-12	8089	3.16	-34.85	-1.51
523	SLU 34	-67	1	8054	2.91	-34.23	-1.56
523	SLU 35	-66	-31	8155	3.6	-36	-1.46
523	SLU 36	-67	-12	8174	3.31	-35.35	-1.54
523	SLU 37	-66	-31	8108	3.55	-35.8	-1.45
523	SLU 38	-67	-12	8127	3.25	-35.15	-1.53
523	SLU 39	-65	-31	8289	3.43	-36.85	-1.45
523	SLU 40	-66	-12	8308	3.14	-36.21	-1.53
523	SLU 41	-66	-32	8374	3.58	-37.35	-1.48
523	SLU 42	-66	-12	8392	3.28	-36.71	-1.56
523	SLU 43	-74	-33	7693	2.36	-31.98	-1.24
523	SLU 44	-75	-1	7723	1.87	-30.91	-1.37
523	SLU 45	-75	-33	7825	2.56	-32.68	-1.28
523	SLU 46	-76	-14	7843	2.27	-32.03	-1.36
523	SLU 47	-76	-1	7808	2.02	-31.41	-1.4
523	SLU 48	-75	-34	7910	2.71	-33.18	-1.3
523	SLU 49	-76	-14	7928	2.41	-32.53	-1.38
523	SLU 50	-75	-34	7863	2.65	-32.98	-1.29
523	SLU 51	-76	-14	7881	2.36	-32.33	-1.37
523	SLU 52	-76	-2	8541	2.28	-35.7	-1.5
523	SLU 53	-76	-35	8643	2.97	-37.47	-1.41
523	SLU 54	-76	-16	8661	2.68	-36.82	-1.48
523	SLU 55	-76	-3	8626	2.43	-36.2	-1.53
523	SLU 56	-76	-35	8728	3.12	-37.97	-1.43
523	SLU 57	-77	-16	8746	2.82	-37.32	-1.51
523	SLU 58	-76	-35	8681	3.06	-37.77	-1.42
523	SLU 59	-76	-16	8699	2.77	-37.12	-1.5
523	SLU 60	-75	-35	8861	2.94	-38.82	-1.42
523	SLU 61	-76	-16	8880	2.65	-38.18	-1.5
523	SLU 62	-76	-35	8946	3.09	-39.32	-1.45
523	SLU 63	-76	-16	8964	2.8	-38.68	-1.53
523	SLU 64	-79	-36	8645	3.17	-36.26	-1.49
523	SLU 65	-81	-4	8675	2.69	-35.19	-1.62
523	SLU 66	-80	-36	8777	3.37	-36.96	-1.52
523	SLU 67	-81	-17	8795	3.08	-36.31	-1.6
523	SLU 68	-81	-4	8760	2.83	-35.69	-1.65
523	SLU 69	-81	-37	8862	3.52	-37.46	-1.55
523	SLU 70	-82	-17	8880	3.23	-36.81	-1.63
523	SLU 71	-80	-37	8815	3.47	-37.26	-1.54
523	SLU 72	-81	-17	8833	3.17	-36.61	-1.62
523	SLU 73	-82	-5	9493	3.09	-39.98	-1.75
523	SLU 74	-81	-38	9595	3.78	-41.75	-1.65
523	SLU 75	-82	-19	9613	3.49	-41.1	-1.73
523	SLU 76	-82	-6	9578	3.24	-40.48	-1.78
523	SLU 77	-82	-38	9680	3.93	-42.25	-1.68
523	SLU 78	-83	-19	9698	3.64	-41.6	-1.76
523	SLU 79	-81	-38	9633	3.88	-42.05	-1.67
523	SLU 80	-82	-19	9651	3.58	-41.4	-1.75
523	SLU 81	-81	-38	9814	3.76	-43.1	-1.67
523	SLU 82	-81	-19	9832	3.47	-42.46	-1.75
523	SLU 83	-81	-38	9898	3.9	-43.6	-1.7
523	SLU 84	-82	-19	9917	3.61	-42.96	-1.78
523	SLE RA 1	-60	-27	6441	2.26	-26.95	-1.09
523	SLE RA 2	-61	-5	6461	1.94	-26.24	-1.18
523	SLE RA 3	-61	-27	6529	2.4	-27.42	-1.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
523	SLE RA 4	-61	-14	6541	2.2	-26.99	-1.17
523	SLE RA 5	-61	-6	6518	2.03	-26.57	-1.2
523	SLE RA 6	-61	-27	6585	2.49	-27.75	-1.13
523	SLE RA 7	-61	-15	6597	2.3	-27.32	-1.19
523	SLE RA 8	-61	-27	6554	2.46	-27.62	-1.13
523	SLE RA 9	-61	-15	6566	2.26	-27.19	-1.18
523	SLE RA 10	-61	-6	7006	2.21	-29.43	-1.26
523	SLE RA 11	-61	-28	7074	2.67	-30.61	-1.2
523	SLE RA 12	-62	-15	7086	2.47	-30.18	-1.25
523	SLE RA 13	-62	-7	7063	2.31	-29.76	-1.28
523	SLE RA 14	-61	-29	7131	2.77	-30.94	-1.22
523	SLE RA 15	-62	-16	7143	2.57	-30.51	-1.27
523	SLE RA 16	-61	-28	7099	2.73	-30.81	-1.21
523	SLE RA 17	-62	-16	7111	2.53	-30.38	-1.26
523	SLE RA 18	-61	-28	7220	2.65	-31.51	-1.21
523	SLE RA 19	-61	-15	7232	2.46	-31.08	-1.26
523	SLE RA 20	-61	-29	7276	2.75	-31.85	-1.23
523	SLE RA 21	-62	-16	7288	2.55	-31.42	-1.28
523	SLE FR 1	-60	-27	6441	2.26	-26.95	-1.09
523	SLE FR 2	-60	-22	6445	2.2	-26.81	-1.11
523	SLE FR 3	-60	-27	6463	2.3	-27.09	-1.1
523	SLE FR 4	-60	-23	6679	2.31	-28.18	-1.14
523	SLE FR 5	-60	-27	6697	2.42	-28.45	-1.13
523	SLE FR 6	-60	-28	6830	2.46	-29.23	-1.15
523	SLE QP 1	-60	-27	6441	2.26	-26.95	-1.09
523	SLE QP 2	-60	-27	6675	2.38	-28.32	-1.13
523	SLD 1	484	181	7608	-0.71	-4.86	-0.34
523	SLD 2	524	98	7580	-0.35	-6.61	2.11
523	SLD 3	497	-230	7127	6.18	-16.1	0.95
523	SLD 4	537	-312	7099	6.55	-17.85	3.41
523	SLD 5	77	673	7689	-9.07	-3.92	-3.28
523	SLD 6	103	619	7671	-8.83	-5.05	-1.69
523	SLD 7	119	-697	6086	13.91	-41.41	1.03
523	SLD 8	145	-750	6068	14.15	-42.54	2.62
523	SLD 9	-265	696	7281	-9.39	-14.1	-4.87
523	SLD 10	-240	642	7263	-9.15	-15.23	-3.29
523	SLD 11	-223	-674	5678	13.59	-51.59	-0.56
523	SLD 12	-197	-727	5660	13.83	-52.72	1.03
523	SLD 13	-657	258	6250	-1.79	-38.79	-5.66
523	SLD 14	-617	175	6222	-1.42	-40.54	-3.21
523	SLD 15	-644	-153	5769	5.11	-50.03	-4.37
523	SLD 16	-604	-236	5741	5.47	-51.78	-1.91
523	SLV 1	791	325	8163	-2.89	9.04	0.01
523	SLV 2	854	195	8119	-2.31	6.28	3.87
523	SLV 3	812	-370	7350	8.75	-9.95	2.19
523	SLV 4	875	-500	7306	9.33	-12.71	6.05
523	SLV 5	151	1156	8362	-16.97	12.2	-4.81
523	SLV 6	194	1068	8333	-16.58	10.35	-2.21
523	SLV 7	222	-1159	5652	21.85	-51.1	2.45
523	SLV 8	264	-1246	5622	22.24	-52.95	5.05
523	SLV 9	-384	1192	7727	-17.48	-3.69	-7.31
523	SLV 10	-342	1104	7697	-17.09	-5.55	-4.71
523	SLV 11	-314	-1123	5016	21.34	-66.99	-0.04
523	SLV 12	-271	-1210	4987	21.73	-68.84	2.56
523	SLV 13	-995	445	6043	-4.57	-43.93	-8.3
523	SLV 14	-932	315	5999	-3.99	-46.69	-4.44
523	SLV 15	-974	-249	5230	7.07	-62.92	-6.12
523	SLV 16	-911	-379	5186	7.65	-65.68	-2.26
523	SLV FO 1	876	360	8312	-3.42	12.77	0.12
523	SLV FO 2	945	217	8263	-2.78	9.74	4.37
523	SLV FO 3	899	-404	7417	9.39	-8.12	2.52
523	SLV FO 4	968	-547	7369	10.03	-11.15	6.77
523	SLV FO 5	172	1274	8531	-18.91	16.25	-5.18
523	SLV FO 6	219	1178	8499	-18.48	14.21	-2.32
523	SLV FO 7	250	-1272	5550	23.79	-53.37	2.81
523	SLV FO 8	297	-1368	5517	24.22	-55.41	5.67
523	SLV FO 9	-417	1314	7832	-19.46	-1.23	-7.92
523	SLV FO 10	-370	1217	7799	-19.04	-3.27	-5.06
523	SLV FO 11	-339	-1232	4851	23.24	-70.85	0.07
523	SLV FO 12	-292	-1328	4818	23.67	-72.89	2.93
523	SLV FO 13	-1088	492	5980	-5.27	-45.49	-9.02
523	SLV FO 14	-1019	349	5932	-4.63	-48.53	-4.77
523	SLV FO 15	-1065	-271	5086	7.54	-66.38	-6.62
523	SLV FO 16	-996	-414	5038	8.18	-69.41	-2.37
523	CRTFP Ux+	0	0	0	0	0	0
523	CRTFP Ux-	0	0	0	0	0	0
523	CRTFP Uy+	0	0	0	0	0	0
523	CRTFP Uy-	0	0	0	0	0	0
526	SLU 1	102	-68	6148	1.27	25.35	-2.16
526	SLU 2	103	-36	6184	0.76	23.89	-2.1
526	SLU 3	104	-70	6270	1.45	26.09	-2.23
526	SLU 4	104	-50	6292	1.15	25.21	-2.2
526	SLU 5	103	-36	6259	0.91	24.46	-2.16
526	SLU 6	105	-70	6346	1.59	26.66	-2.3
526	SLU 7	105	-51	6367	1.29	25.79	-2.26
526	SLU 8	104	-70	6299	1.55	26.49	-2.28
526	SLU 9	104	-50	6321	1.25	25.62	-2.25
526	SLU 10	109	-42	6979	1	27.1	-2.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
526	SLU 11	111	-76	7066	1.69	29.29	-2.48
526	SLU 12	111	-56	7087	1.39	28.42	-2.45
526	SLU 13	110	-42	7055	1.14	27.67	-2.41
526	SLU 14	112	-77	7141	1.83	29.86	-2.55
526	SLU 15	112	-57	7163	1.53	28.99	-2.51
526	SLU 16	110	-76	7094	1.79	29.7	-2.53
526	SLU 17	111	-56	7116	1.49	28.82	-2.5
526	SLU 18	112	-77	7284	1.61	29.93	-2.51
526	SLU 19	112	-57	7306	1.31	29.05	-2.48
526	SLU 20	113	-78	7360	1.75	30.5	-2.58
526	SLU 21	113	-58	7381	1.45	29.62	-2.54
526	SLU 22	115	-76	7077	1.93	28.67	-2.44
526	SLU 23	115	-43	7114	1.42	27.21	-2.38
526	SLU 24	117	-77	7200	2.11	29.41	-2.52
526	SLU 25	117	-58	7222	1.81	28.54	-2.48
526	SLU 26	116	-44	7189	1.56	27.79	-2.44
526	SLU 27	117	-78	7276	2.25	29.98	-2.58
526	SLU 28	118	-58	7297	1.95	29.11	-2.54
526	SLU 29	116	-78	7229	2.21	29.81	-2.57
526	SLU 30	116	-58	7250	1.91	28.94	-2.53
526	SLU 31	122	-49	7909	1.66	30.42	-2.63
526	SLU 32	123	-84	7995	2.35	32.62	-2.77
526	SLU 33	124	-64	8017	2.05	31.74	-2.73
526	SLU 34	123	-50	7985	1.8	30.99	-2.69
526	SLU 35	124	-84	8071	2.49	33.19	-2.83
526	SLU 36	124	-65	8093	2.19	32.31	-2.8
526	SLU 37	123	-84	8024	2.45	33.02	-2.82
526	SLU 38	123	-64	8046	2.14	32.15	-2.78
526	SLU 39	124	-85	8214	2.27	33.25	-2.8
526	SLU 40	125	-65	8236	1.96	32.38	-2.76
526	SLU 41	125	-86	8289	2.41	33.82	-2.86
526	SLU 42	125	-66	8311	2.11	32.95	-2.82
526	SLU 43	128	-86	7673	1.42	31.81	-2.71
526	SLU 44	129	-53	7709	0.92	30.36	-2.65
526	SLU 45	130	-88	7796	1.61	32.55	-2.78
526	SLU 46	131	-68	7817	1.3	31.68	-2.75
526	SLU 47	130	-54	7785	1.06	30.93	-2.71
526	SLU 48	131	-88	7871	1.75	33.12	-2.85
526	SLU 49	131	-69	7893	1.45	32.25	-2.81
526	SLU 50	130	-88	7824	1.71	32.96	-2.83
526	SLU 51	130	-68	7846	1.4	32.08	-2.8
526	SLU 52	136	-60	8505	1.16	33.56	-2.9
526	SLU 53	137	-94	8591	1.85	35.76	-3.04
526	SLU 54	137	-74	8613	1.54	34.88	-3
526	SLU 55	137	-60	8580	1.3	34.13	-2.96
526	SLU 56	138	-94	8667	1.99	36.33	-3.1
526	SLU 57	138	-75	8688	1.69	35.45	-3.06
526	SLU 58	137	-94	8620	1.95	36.16	-3.08
526	SLU 59	137	-74	8641	1.64	35.29	-3.05
526	SLU 60	138	-95	8809	1.76	36.39	-3.07
526	SLU 61	138	-75	8831	1.46	35.52	-3.03
526	SLU 62	139	-96	8885	1.91	36.96	-3.13
526	SLU 63	139	-76	8907	1.6	36.09	-3.09
526	SLU 64	141	-94	8603	2.08	35.14	-2.99
526	SLU 65	142	-61	8639	1.58	33.68	-2.93
526	SLU 66	143	-95	8725	2.26	35.88	-3.07
526	SLU 67	143	-76	8747	1.96	35	-3.03
526	SLU 68	142	-62	8715	1.72	34.25	-2.99
526	SLU 69	144	-96	8801	2.41	36.45	-3.13
526	SLU 70	144	-76	8823	2.1	35.57	-3.09
526	SLU 71	142	-95	8754	2.36	36.28	-3.12
526	SLU 72	143	-76	8776	2.06	35.4	-3.08
526	SLU 73	148	-67	9435	1.81	36.88	-3.18
526	SLU 74	150	-101	9521	2.5	39.08	-3.32
526	SLU 75	150	-82	9543	2.2	38.21	-3.28
526	SLU 76	149	-68	9510	1.96	37.46	-3.24
526	SLU 77	150	-102	9596	2.65	39.65	-3.38
526	SLU 78	151	-82	9618	2.34	38.78	-3.35
526	SLU 79	149	-102	9550	2.6	39.48	-3.37
526	SLU 80	150	-82	9571	2.3	38.61	-3.33
526	SLU 81	151	-103	9739	2.42	39.72	-3.35
526	SLU 82	151	-83	9761	2.12	38.84	-3.31
526	SLU 83	151	-103	9815	2.56	40.29	-3.41
526	SLU 84	152	-84	9837	2.26	39.41	-3.38
526	SLE RA 1	106	-71	6413	1.46	26.3	-2.24
526	SLE RA 2	106	-49	6437	1.12	25.33	-2.2
526	SLE RA 3	107	-71	6495	1.58	26.79	-2.29
526	SLE RA 4	107	-58	6509	1.38	26.21	-2.27
526	SLE RA 5	107	-49	6488	1.21	25.71	-2.24
526	SLE RA 6	107	-72	6545	1.67	27.17	-2.33
526	SLE RA 7	108	-59	6560	1.47	26.59	-2.31
526	SLE RA 8	107	-72	6514	1.64	27.06	-2.32
526	SLE RA 9	107	-58	6529	1.44	26.48	-2.3
526	SLE RA 10	111	-53	6968	1.28	27.46	-2.37
526	SLE RA 11	111	-76	7025	1.74	28.93	-2.46
526	SLE RA 12	112	-62	7040	1.54	28.35	-2.43
526	SLE RA 13	111	-53	7018	1.37	27.84	-2.41
526	SLE RA 14	112	-76	7076	1.83	29.31	-2.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
526	SLE RA 15	112	-63	7090	1.63	28.73	-2.48
526	SLE RA 16	111	-76	7044	1.8	29.2	-2.49
526	SLE RA 17	111	-62	7059	1.6	28.61	-2.47
526	SLE RA 18	112	-76	7171	1.68	29.35	-2.48
526	SLE RA 19	112	-63	7185	1.48	28.77	-2.45
526	SLE RA 20	113	-77	7221	1.78	29.73	-2.52
526	SLE RA 21	113	-64	7236	1.58	29.15	-2.49
526	SLE FR 1	106	-71	6413	1.46	26.3	-2.24
526	SLE FR 2	106	-66	6418	1.39	26.1	-2.23
526	SLE FR 3	106	-71	6433	1.49	26.45	-2.25
526	SLE FR 4	108	-68	6645	1.46	27.02	-2.3
526	SLE FR 5	108	-73	6661	1.56	27.37	-2.33
526	SLE FR 6	109	-74	6792	1.57	27.82	-2.36
526	SLE QP 1	106	-71	6413	1.46	26.3	-2.24
526	SLE QP 2	108	-72	6641	1.52	27.21	-2.31
526	SLD 1	655	161	6325	-2	30.34	0.38
526	SLD 2	700	241	6354	-2.4	27.74	2.83
526	SLD 3	649	-274	5747	5.11	44.72	-0.24
526	SLD 4	694	-193	5776	4.72	42.12	2.21
526	SLD 5	272	642	7417	-10.26	6.8	-0.99
526	SLD 6	301	695	7436	-10.52	5.12	0.59
526	SLD 7	254	-806	5491	13.46	54.72	-3.05
526	SLD 8	283	-754	5510	13.21	53.04	-1.47
526	SLD 9	-68	609	7771	-10.16	1.39	-3.15
526	SLD 10	-39	661	7790	-10.42	-0.29	-1.57
526	SLD 11	-86	-840	5845	13.56	49.31	-5.21
526	SLD 12	-57	-787	5864	13.31	47.63	-3.63
526	SLD 13	-479	48	7505	-1.67	12.31	-6.83
526	SLD 14	-434	129	7534	-2.07	9.71	-4.38
526	SLD 15	-484	-386	6927	5.45	26.68	-7.44
526	SLD 16	-439	-305	6956	5.05	24.08	-5
526	SLV 1	964	319	6185	-4.45	31.35	1.91
526	SLV 2	1035	446	6231	-5.08	27.25	5.76
526	SLV 3	955	-415	5209	7.57	55.63	0.87
526	SLV 4	1025	-288	5255	6.95	51.53	4.72
526	SLV 5	365	1135	7976	-18.39	-7.61	-0.18
526	SLV 6	413	1221	8007	-18.81	-10.36	2.41
526	SLV 7	334	-1313	4722	21.69	73.33	-3.65
526	SLV 8	382	-1227	4753	21.27	70.57	-1.06
526	SLV 9	-167	1082	8528	-18.23	-16.14	-3.56
526	SLV 10	-119	1168	8559	-18.65	-18.9	-0.96
526	SLV 11	-198	-1365	5274	21.86	64.79	-7.03
526	SLV 12	-150	-1280	5305	21.44	62.03	-4.44
526	SLV 13	-810	143	8026	-3.9	2.89	-9.34
526	SLV 14	-739	271	8072	-4.52	-1.2	-5.49
526	SLV 15	-819	-591	7050	8.12	27.17	-10.38
526	SLV 16	-749	-464	7096	7.5	23.08	-6.53
526	SLV FO 1	1050	358	6140	-5.05	31.76	2.34
526	SLV FO 2	1127	498	6190	-5.74	27.26	6.57
526	SLV FO 3	1039	-450	5066	8.18	58.47	1.19
526	SLV FO 4	1117	-310	5117	7.49	53.97	5.42
526	SLV FO 5	391	1256	8110	-20.38	-11.09	0.03
526	SLV FO 6	444	1350	8144	-20.84	-14.12	2.88
526	SLV FO 7	357	-1437	4530	23.71	77.94	-3.79
526	SLV FO 8	410	-1342	4564	23.25	74.91	-0.94
526	SLV FO 9	-194	1198	8717	-20.2	-20.48	-3.68
526	SLV FO 10	-142	1292	8751	-20.66	-23.51	-0.83
526	SLV FO 11	-228	-1495	5137	23.89	68.55	-7.5
526	SLV FO 12	-176	-1400	5171	23.43	65.52	-4.65
526	SLV FO 13	-902	165	8164	-4.44	0.46	-10.04
526	SLV FO 14	-824	305	8215	-5.13	-4.04	-5.81
526	SLV FO 15	-912	-643	7091	8.78	27.17	-11.19
526	SLV FO 16	-834	-503	7141	8.1	22.67	-6.95
526	CRTFP Ux+	0	0	0	0	0	0
526	CRTFP Ux-	0	0	0	0	0	0
526	CRTFP Uy+	0	0	0	0	0	0
526	CRTFP Uy-	0	0	0	0	0	0
529	SLU 1	50	28	4031	5.96	964.68	-10.14
529	SLU 2	52	52	4055	5.69	965.7	-18.46
529	SLU 3	51	29	4112	6.18	984.4	-10.48
529	SLU 4	52	43	4126	6.02	985.01	-15.48
529	SLU 5	52	53	4103	5.84	977.75	-18.88
529	SLU 6	52	30	4159	6.33	996.45	-10.91
529	SLU 7	53	45	4174	6.17	997.07	-15.9
529	SLU 8	51	31	4127	6.26	988.78	-10.98
529	SLU 9	52	45	4141	6.1	989.4	-15.97
529	SLU 10	54	56	4554	6.51	1082.6	-19.72
529	SLU 11	54	33	4611	6.99	1101.3	-11.75
529	SLU 12	55	47	4625	6.83	1101.91	-16.74
529	SLU 13	55	57	4602	6.66	1094.65	-20.14
529	SLU 14	54	34	4659	7.14	1113.35	-12.17
529	SLU 15	55	48	4673	6.98	1113.97	-17.16
529	SLU 16	54	34	4626	7.07	1105.68	-12.25
529	SLU 17	54	48	4640	6.91	1106.3	-17.24
529	SLU 18	54	33	4744	7.12	1131.68	-11.95
529	SLU 19	55	48	4759	6.96	1132.29	-16.94
529	SLU 20	54	35	4792	7.27	1143.73	-12.37
529	SLU 21	55	49	4806	7.11	1144.34	-17.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
529	SLU 22	56	30	4629	7.13	1107.11	-10.74
529	SLU 23	57	54	4653	6.87	1108.13	-19.06
529	SLU 24	57	31	4710	7.35	1126.83	-11.09
529	SLU 25	58	45	4724	7.19	1127.44	-16.08
529	SLU 26	58	55	4701	7.02	1120.18	-19.48
529	SLU 27	57	32	4757	7.5	1138.88	-11.51
529	SLU 28	58	46	4772	7.34	1139.5	-16.5
529	SLU 29	57	32	4725	7.43	1131.21	-11.58
529	SLU 30	57	47	4739	7.28	1131.83	-16.57
529	SLU 31	60	57	5152	7.68	1225.03	-20.33
529	SLU 32	59	34	5209	8.16	1243.73	-12.36
529	SLU 33	60	49	5223	8	1244.34	-17.35
529	SLU 34	60	58	5200	7.83	1237.08	-20.75
529	SLU 35	60	36	5257	8.31	1255.78	-12.78
529	SLU 36	60	50	5271	8.15	1256.4	-17.77
529	SLU 37	59	36	5224	8.25	1248.11	-12.85
529	SLU 38	60	50	5238	8.09	1248.72	-17.84
529	SLU 39	59	35	5342	8.29	1274.11	-12.55
529	SLU 40	60	49	5357	8.13	1274.72	-17.54
529	SLU 41	60	36	5390	8.44	1286.16	-12.97
529	SLU 42	61	50	5405	8.29	1286.77	-17.96
529	SLU 43	63	36	5035	7.34	1205.25	-12.97
529	SLU 44	65	60	5059	7.08	1206.27	-21.29
529	SLU 45	64	37	5116	7.56	1224.97	-13.32
529	SLU 46	65	51	5130	7.4	1225.59	-18.31
529	SLU 47	65	61	5107	7.23	1218.32	-21.71
529	SLU 48	65	38	5164	7.71	1237.03	-13.74
529	SLU 49	66	53	5178	7.55	1237.64	-18.73
529	SLU 50	64	39	5131	7.64	1229.35	-13.81
529	SLU 51	65	53	5145	7.49	1229.97	-18.8
529	SLU 52	67	63	5559	7.89	1323.17	-22.56
529	SLU 53	67	41	5615	8.37	1341.87	-14.59
529	SLU 54	68	55	5630	8.21	1342.48	-19.58
529	SLU 55	68	65	5606	8.04	1335.22	-22.98
529	SLU 56	67	42	5663	8.52	1353.92	-15.01
529	SLU 57	68	56	5677	8.36	1354.54	-20
529	SLU 58	67	42	5630	8.46	1346.25	-15.08
529	SLU 59	68	56	5644	8.3	1346.87	-20.07
529	SLU 60	67	41	5748	8.5	1372.25	-14.78
529	SLU 61	68	56	5763	8.34	1372.86	-19.77
529	SLU 62	67	42	5796	8.65	1384.3	-15.2
529	SLU 63	68	57	5811	8.5	1384.91	-20.19
529	SLU 64	69	38	5633	8.52	1347.68	-13.57
529	SLU 65	70	62	5657	8.25	1348.7	-21.89
529	SLU 66	70	39	5714	8.73	1367.4	-13.92
529	SLU 67	71	53	5728	8.58	1368.01	-18.91
529	SLU 68	71	63	5705	8.4	1360.75	-22.31
529	SLU 69	70	40	5762	8.89	1379.45	-14.34
529	SLU 70	71	54	5776	8.73	1380.07	-19.33
529	SLU 71	70	40	5729	8.82	1371.78	-14.42
529	SLU 72	71	54	5743	8.66	1372.4	-19.41
529	SLU 73	73	65	6157	9.07	1465.6	-23.16
529	SLU 74	72	42	6213	9.55	1484.3	-15.19
529	SLU 75	73	57	6228	9.39	1484.91	-20.18
529	SLU 76	73	66	6204	9.22	1477.65	-23.58
529	SLU 77	73	44	6261	9.7	1496.35	-15.61
529	SLU 78	74	58	6275	9.54	1496.97	-20.6
529	SLU 79	72	44	6228	9.63	1488.68	-15.69
529	SLU 80	73	58	6243	9.47	1489.3	-20.68
529	SLU 81	72	43	6347	9.68	1514.68	-15.39
529	SLU 82	73	57	6361	9.52	1515.29	-20.38
529	SLU 83	73	44	6394	9.83	1526.73	-15.81
529	SLU 84	74	58	6409	9.67	1527.34	-20.8
529	SLE RA 1	52	29	4202	6.29	1005.37	-10.31
529	SLE RA 2	53	45	4218	6.12	1006.05	-15.85
529	SLE RA 3	52	29	4256	6.44	1018.52	-10.54
529	SLE RA 4	53	39	4265	6.33	1018.93	-13.87
529	SLE RA 5	53	45	4250	6.22	1014.09	-16.14
529	SLE RA 6	53	30	4287	6.54	1026.56	-10.82
529	SLE RA 7	53	40	4297	6.43	1026.97	-14.15
529	SLE RA 8	52	30	4266	6.49	1021.44	-10.87
529	SLE RA 9	53	40	4275	6.39	1021.85	-14.2
529	SLE RA 10	54	47	4551	6.66	1083.99	-16.7
529	SLE RA 11	54	32	4588	6.98	1096.45	-11.39
529	SLE RA 12	55	41	4598	6.87	1096.86	-14.71
529	SLE RA 13	55	48	4583	6.76	1092.02	-16.98
529	SLE RA 14	54	33	4620	7.08	1104.49	-11.67
529	SLE RA 15	55	42	4630	6.97	1104.9	-14.99
529	SLE RA 16	54	33	4598	7.04	1099.38	-11.72
529	SLE RA 17	55	42	4608	6.93	1099.78	-15.04
529	SLE RA 18	54	32	4677	7.07	1116.7	-11.52
529	SLE RA 19	55	42	4687	6.96	1117.11	-14.84
529	SLE RA 20	54	33	4709	7.17	1124.74	-11.8
529	SLE RA 21	55	42	4719	7.06	1125.15	-15.12
529	SLE FR 1	52	29	4202	6.29	1005.37	-10.31
529	SLE FR 2	52	32	4205	6.26	1005.51	-11.42
529	SLE FR 3	52	29	4215	6.33	1008.59	-10.42
529	SLE FR 4	53	33	4348	6.49	1038.91	-11.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
529	SLE FR 5	53	30	4357	6.57	1041.99	-10.78
529	SLE FR 6	53	30	4440	6.68	1061.04	-10.91
529	SLE QP 1	52	29	4202	6.29	1005.37	-10.31
529	SLE QP 2	52	30	4345	6.53	1038.77	-10.67
529	SLD 1	372	88	3394	3.12	802.15	-31.11
529	SLD 2	397	208	3424	2.8	802.7	-73.04
529	SLD 3	358	-219	3020	6.85	786.63	76.13
529	SLD 4	383	-98	3050	6.53	787.17	34.21
529	SLD 5	165	491	4621	-0.1	991.23	-172.18
529	SLD 6	182	569	4641	-0.3	991.59	-199.31
529	SLD 7	118	-531	3375	12.34	939.49	185.29
529	SLD 8	135	-453	3394	12.13	939.84	158.17
529	SLD 9	-30	512	5295	0.93	1137.7	-179.51
529	SLD 10	-13	590	5314	0.72	1138.05	-206.64
529	SLD 11	-77	-510	4048	13.36	1085.96	177.96
529	SLD 12	-60	-432	4068	13.15	1086.31	150.84
529	SLD 13	-278	158	5639	6.52	1290.37	-55.55
529	SLD 14	-253	278	5669	6.2	1290.92	-97.47
529	SLD 15	-292	-149	5265	10.25	1274.85	51.69
529	SLD 16	-267	-28	5295	9.93	1275.39	9.77
529	SLV 1	553	139	2885	0.98	670.58	-49.02
529	SLV 2	593	328	2932	0.47	671.44	-115.03
529	SLV 3	529	-379	2254	7.28	644.48	132.25
529	SLV 4	569	-190	2301	6.77	645.34	66.24
529	SLV 5	231	813	4856	-4.6	967.74	-284.78
529	SLV 6	258	941	4887	-4.94	968.32	-329.22
529	SLV 7	152	-914	2751	16.4	880.74	319.45
529	SLV 8	179	-787	2783	16.06	881.32	275.01
529	SLV 9	-74	846	5906	-3.01	1196.23	-296.35
529	SLV 10	-47	974	5938	-3.35	1196.81	-340.79
529	SLV 11	-153	-881	3802	18	1109.23	307.88
529	SLV 12	-126	-753	3833	17.65	1109.8	263.44
529	SLV 13	-464	249	6388	6.28	1432.21	-87.58
529	SLV 14	-424	439	6435	5.78	1433.06	-153.59
529	SLV 15	-488	-269	5757	12.59	1406.11	93.69
529	SLV 16	-448	-79	5804	12.08	1406.96	27.68
529	SLV FO 1	603	150	2739	0.42	633.76	-52.86
529	SLV FO 2	647	358	2791	-0.14	634.7	-125.47
529	SLV FO 3	577	-420	2045	7.35	605.05	146.54
529	SLV FO 4	621	-212	2097	6.79	605.99	73.93
529	SLV FO 5	249	891	4907	-5.71	960.64	-312.19
529	SLV FO 6	279	1032	4942	-6.09	961.27	-361.08
529	SLV FO 7	162	-1009	2592	17.39	864.93	352.46
529	SLV FO 8	191	-868	2627	17.01	865.57	303.57
529	SLV FO 9	-87	928	6062	-3.96	1211.97	-324.92
529	SLV FO 10	-57	1068	6097	-4.34	1212.61	-373.8
529	SLV FO 11	-174	-972	3747	19.14	1116.27	339.73
529	SLV FO 12	-144	-832	3782	18.77	1116.91	290.85
529	SLV FO 13	-516	271	6592	6.26	1471.55	-95.27
529	SLV FO 14	-472	480	6644	5.7	1472.49	-167.88
529	SLV FO 15	-542	-299	5898	13.19	1442.84	104.12
529	SLV FO 16	-498	-90	5950	12.63	1443.78	31.51
529	CRTFP Ux+	0	0	0	0	0	0
529	CRTFP Ux-	0	0	0	0	0	0
529	CRTFP Uy+	0	0	0	0	0	0
529	CRTFP Uy-	0	0	0	0	0	0
531	SLU 1	-245	-22	9921	-63.24	-8.94	-19.61
531	SLU 2	-246	49	9920	-70.91	-8.59	-20.54
531	SLU 3	-250	-23	10140	-61.47	-9.18	-20.09
531	SLU 4	-251	20	10139	-66.07	-8.97	-20.64
531	SLU 5	-249	48	10062	-69.46	-8.76	-20.85
531	SLU 6	-252	-24	10282	-60.02	-9.35	-20.4
531	SLU 7	-254	19	10282	-64.62	-9.14	-20.95
531	SLU 8	-250	-24	10206	-60.35	-9.27	-20.23
531	SLU 9	-251	18	10205	-64.95	-9.06	-20.78
531	SLU 10	-265	45	11258	-75.03	-10.04	-22.4
531	SLU 11	-268	-26	11478	-65.59	-10.64	-21.95
531	SLU 12	-269	16	11477	-70.19	-10.43	-22.51
531	SLU 13	-268	44	11401	-73.58	-10.21	-22.71
531	SLU 14	-271	-28	11621	-64.14	-10.8	-22.26
531	SLU 15	-272	15	11620	-68.74	-10.59	-22.82
531	SLU 16	-269	-28	11544	-64.46	-10.72	-22.09
531	SLU 17	-270	14	11544	-69.06	-10.51	-22.65
531	SLU 18	-271	-28	11833	-69.12	-11.01	-22.28
531	SLU 19	-272	15	11832	-73.72	-10.8	-22.83
531	SLU 20	-274	-29	11975	-67.67	-11.18	-22.58
531	SLU 21	-275	14	11975	-72.27	-10.97	-23.14
531	SLU 22	-274	-20	11423	-59.74	-10.11	-22.6
531	SLU 23	-276	51	11422	-67.4	-9.77	-23.53
531	SLU 24	-279	-21	11642	-57.97	-10.36	-23.08
531	SLU 25	-280	22	11641	-62.57	-10.15	-23.63
531	SLU 26	-279	50	11564	-65.96	-9.93	-23.83
531	SLU 27	-282	-22	11784	-56.52	-10.52	-23.39
531	SLU 28	-283	21	11784	-61.12	-10.32	-23.94
531	SLU 29	-280	-22	11708	-56.84	-10.44	-23.22
531	SLU 30	-281	20	11707	-61.44	-10.24	-23.77
531	SLU 31	-295	47	12760	-71.52	-11.22	-25.39
531	SLU 32	-298	-25	12980	-62.08	-11.81	-24.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
531	SLU 33	-299	18	12980	-66.68	-11.6	-25.5
531	SLU 34	-297	46	12903	-70.07	-11.38	-25.7
531	SLU 35	-300	-26	13123	-60.63	-11.98	-25.25
531	SLU 36	-302	17	13122	-65.23	-11.77	-25.81
531	SLU 37	-298	-26	13047	-60.95	-11.9	-25.08
531	SLU 38	-300	16	13046	-65.56	-11.69	-25.64
531	SLU 39	-301	-26	13335	-65.62	-12.19	-25.26
531	SLU 40	-302	17	13334	-70.22	-11.98	-25.82
531	SLU 41	-304	-27	13478	-64.17	-12.35	-25.57
531	SLU 42	-305	16	13477	-68.77	-12.15	-26.13
531	SLU 43	-308	-29	12382	-83.42	-11.21	-24.47
531	SLU 44	-310	42	12381	-91.09	-10.87	-25.4
531	SLU 45	-313	-30	12601	-81.65	-11.46	-24.95
531	SLU 46	-314	13	12600	-86.25	-11.25	-25.5
531	SLU 47	-313	41	12524	-89.64	-11.03	-25.7
531	SLU 48	-316	-31	12743	-80.2	-11.62	-25.25
531	SLU 49	-317	12	12743	-84.8	-11.42	-25.81
531	SLU 50	-314	-31	12667	-80.52	-11.54	-25.08
531	SLU 51	-315	11	12667	-85.12	-11.34	-25.64
531	SLU 52	-328	38	13719	-95.2	-12.32	-27.26
531	SLU 53	-331	-34	13939	-85.76	-12.91	-26.81
531	SLU 54	-333	9	13939	-90.36	-12.71	-27.37
531	SLU 55	-331	37	13862	-93.75	-12.49	-27.57
531	SLU 56	-334	-35	14082	-84.31	-13.08	-27.12
531	SLU 57	-335	8	14081	-88.91	-12.87	-27.68
531	SLU 58	-332	-35	14006	-84.64	-13	-26.95
531	SLU 59	-333	7	14005	-89.24	-12.79	-27.51
531	SLU 60	-334	-35	14294	-89.3	-13.29	-27.13
531	SLU 61	-336	8	14293	-93.9	-13.08	-27.69
531	SLU 62	-337	-36	14437	-87.85	-13.45	-27.44
531	SLU 63	-338	6	14436	-92.45	-13.25	-28
531	SLU 64	-337	-27	13884	-79.91	-12.39	-27.46
531	SLU 65	-339	43	13883	-87.58	-12.04	-28.39
531	SLU 66	-342	-28	14103	-78.14	-12.64	-27.94
531	SLU 67	-343	15	14102	-82.74	-12.43	-28.49
531	SLU 68	-342	42	14026	-86.13	-12.21	-28.69
531	SLU 69	-345	-29	14246	-76.69	-12.8	-28.24
531	SLU 70	-346	13	14245	-81.29	-12.59	-28.8
531	SLU 71	-343	-30	14169	-77.02	-12.72	-28.07
531	SLU 72	-344	13	14169	-81.62	-12.51	-28.63
531	SLU 73	-358	39	15222	-91.69	-13.5	-30.25
531	SLU 74	-361	-32	15441	-82.26	-14.09	-29.8
531	SLU 75	-362	11	15441	-86.86	-13.88	-30.36
531	SLU 76	-361	38	15364	-90.25	-13.66	-30.56
531	SLU 77	-364	-33	15584	-80.81	-14.25	-30.11
531	SLU 78	-365	10	15583	-85.41	-14.05	-30.67
531	SLU 79	-362	-34	15508	-81.13	-14.17	-29.94
531	SLU 80	-363	9	15507	-85.73	-13.97	-30.5
531	SLU 81	-364	-33	15796	-85.79	-14.46	-30.12
531	SLU 82	-365	9	15796	-90.39	-14.26	-30.68
531	SLU 83	-367	-34	15939	-84.34	-14.63	-30.43
531	SLU 84	-368	8	15938	-88.94	-14.42	-30.99
531	SLE RA 1	-253	-21	10350	-62.24	-9.27	-20.46
531	SLE RA 2	-254	26	10349	-67.35	-9.04	-21.08
531	SLE RA 3	-256	-22	10496	-61.06	-9.44	-20.78
531	SLE RA 4	-257	7	10495	-64.13	-9.3	-21.15
531	SLE RA 5	-256	25	10444	-66.39	-9.15	-21.29
531	SLE RA 6	-258	-23	10591	-60.1	-9.55	-20.99
531	SLE RA 7	-259	6	10590	-63.16	-9.41	-21.36
531	SLE RA 8	-257	-23	10540	-60.31	-9.49	-20.87
531	SLE RA 9	-258	5	10540	-63.38	-9.35	-21.25
531	SLE RA 10	-267	23	11242	-70.1	-10.01	-22.33
531	SLE RA 11	-269	-24	11388	-63.8	-10.4	-22.03
531	SLE RA 12	-269	4	11388	-66.87	-10.27	-22.4
531	SLE RA 13	-269	22	11337	-69.13	-10.12	-22.53
531	SLE RA 14	-271	-25	11483	-62.84	-10.51	-22.23
531	SLE RA 15	-271	3	11483	-65.91	-10.38	-22.6
531	SLE RA 16	-269	-26	11432	-63.05	-10.46	-22.12
531	SLE RA 17	-270	3	11432	-66.12	-10.32	-22.49
531	SLE RA 18	-271	-25	11625	-66.16	-10.66	-22.24
531	SLE RA 19	-271	3	11624	-69.23	-10.52	-22.61
531	SLE RA 20	-273	-26	11720	-65.19	-10.77	-22.45
531	SLE RA 21	-273	2	11719	-68.26	-10.63	-22.82
531	SLE FR 1	-253	-21	10350	-62.24	-9.27	-20.46
531	SLE FR 2	-253	-12	10350	-63.26	-9.23	-20.59
531	SLE FR 3	-254	-22	10388	-61.86	-9.32	-20.55
531	SLE FR 4	-259	-13	10732	-64.44	-9.64	-21.12
531	SLE FR 5	-259	-23	10770	-63.03	-9.73	-21.08
531	SLE FR 6	-262	-23	10987	-64.2	-9.96	-21.35
531	SLE QP 1	-253	-21	10350	-62.24	-9.27	-20.46
531	SLE QP 2	-258	-23	10732	-63.42	-9.69	-21
531	SLD 1	839	459	10574	-121.95	-5.39	7.03
531	SLD 2	909	416	10570	-121.21	-5.54	19.28
531	SLD 3	854	-421	10450	-1.19	-9.55	15.88
531	SLD 4	924	-464	10445	-0.44	-9.69	28.13
531	SLD 5	36	1465	10875	-264.27	-2.07	-28.15
531	SLD 6	81	1437	10872	-263.78	-2.16	-20.22
531	SLD 7	86	-1470	10460	138.28	-15.93	1.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
531	SLD 8	131	-1498	10457	138.76	-16.02	9.3
531	SLD 9	-648	1453	11008	-265.6	-3.35	-51.29
531	SLD 10	-603	1425	11005	-265.12	-3.45	-43.37
531	SLD 11	-598	-1482	10593	136.95	-17.21	-21.77
531	SLD 12	-552	-1510	10590	137.43	-17.31	-13.85
531	SLD 13	-1441	419	11020	-126.39	-9.68	-70.13
531	SLD 14	-1370	376	11015	-125.65	-9.82	-57.88
531	SLD 15	-1426	-462	10895	-5.63	-13.84	-61.27
531	SLD 16	-1355	-505	10890	-4.88	-13.98	-49.02
531	SLV 1	1458	789	10494	-162.37	-2.68	22.25
531	SLV 2	1568	721	10487	-161.19	-2.91	41.54
531	SLV 3	1483	-699	10283	41.74	-9.71	37.17
531	SLV 4	1593	-767	10275	42.91	-9.94	56.46
531	SLV 5	198	2490	10983	-402.88	3.11	-34.25
531	SLV 6	272	2444	10978	-402.09	2.96	-21.27
531	SLV 7	281	-2469	10278	277.47	-20.31	15.48
531	SLV 8	356	-2515	10273	278.26	-20.46	28.47
531	SLV 9	-873	2469	11192	-405.1	1.09	-70.46
531	SLV 10	-798	2424	11187	-404.31	0.94	-57.48
531	SLV 11	-789	-2489	10486	275.26	-22.34	-20.73
531	SLV 12	-714	-2535	10481	276.05	-22.49	-7.74
531	SLV 13	-2110	721	11189	-169.75	-9.44	-98.45
531	SLV 14	-1999	653	11182	-168.57	-9.66	-79.16
531	SLV 15	-2085	-766	10978	34.36	-16.46	-83.53
531	SLV 16	-1974	-834	10970	35.53	-16.69	-64.24
531	SLV FO 1	1629	870	10471	-172.26	-1.98	26.57
531	SLV FO 2	1751	795	10462	-170.97	-2.23	47.79
531	SLV FO 3	1657	-766	10238	52.26	-9.71	42.99
531	SLV FO 4	1778	-841	10230	53.55	-9.96	64.2
531	SLV FO 5	243	2741	11008	-436.83	4.39	-35.58
531	SLV FO 6	325	2691	11003	-435.96	4.23	-21.29
531	SLV FO 7	335	-2714	10232	311.56	-21.37	19.13
531	SLV FO 8	417	-2764	10227	312.43	-21.54	33.41
531	SLV FO 9	-934	2719	11238	-439.26	2.17	-75.41
531	SLV FO 10	-852	2668	11232	-438.39	2	-61.13
531	SLV FO 11	-842	-2736	10462	309.12	-23.6	-20.7
531	SLV FO 12	-760	-2786	10456	309.99	-23.77	-6.42
531	SLV FO 13	-2295	796	11235	-180.38	-9.41	-106.2
531	SLV FO 14	-2173	721	11227	-179.09	-9.66	-84.98
531	SLV FO 15	-2268	-841	11002	44.13	-17.14	-89.78
531	SLV FO 16	-2146	-915	10994	45.43	-17.39	-68.57
531	CRTFP Ux+	0	0	0	0	0	0
531	CRTFP Ux-	0	0	0	0	0	0
531	CRTFP Uy+	0	0	0	0	0	0
531	CRTFP Uy-	0	0	0	0	0	0
533	SLU 1	118	-142	11589	-187.56	4657.44	60.69
533	SLU 2	117	-79	11627	-191.92	4672.01	35.16
533	SLU 3	120	-146	11832	-190.15	4755.09	62.27
533	SLU 4	120	-108	11855	-192.77	4763.83	46.95
533	SLU 5	119	-82	11782	-193.39	4734.55	36.36
533	SLU 6	121	-149	11987	-191.62	4817.64	63.47
533	SLU 7	121	-111	12010	-194.24	4826.38	48.15
533	SLU 8	120	-148	11899	-190.5	4782.53	63.09
533	SLU 9	120	-110	11922	-193.11	4791.28	47.77
533	SLU 10	130	-97	13175	-217.65	5297.39	42.9
533	SLU 11	132	-164	13380	-215.88	5380.47	70.01
533	SLU 12	132	-126	13403	-218.5	5389.21	54.69
533	SLU 13	131	-100	13330	-219.12	5359.94	44.1
533	SLU 14	133	-167	13535	-217.35	5443.02	71.21
533	SLU 15	133	-129	13558	-219.97	5451.76	55.89
533	SLU 16	132	-166	13447	-216.22	5407.92	70.83
533	SLU 17	132	-128	13470	-218.84	5416.66	55.51
533	SLU 18	135	-167	13801	-224.31	5550.85	71.75
533	SLU 19	135	-130	13824	-226.93	5559.59	56.43
533	SLU 20	136	-170	13956	-225.78	5613.4	72.95
533	SLU 21	136	-133	13979	-228.4	5622.14	57.63
533	SLU 22	133	-161	13309	-211.53	5349.29	68.94
533	SLU 23	133	-98	13347	-215.89	5363.86	43.41
533	SLU 24	135	-165	13552	-214.12	5446.94	70.52
533	SLU 25	135	-127	13575	-216.74	5455.68	55.2
533	SLU 26	134	-101	13502	-217.36	5426.41	44.61
533	SLU 27	136	-168	13707	-215.59	5509.49	71.71
533	SLU 28	136	-130	13730	-218.21	5518.23	56.4
533	SLU 29	135	-167	13619	-214.46	5474.39	71.33
533	SLU 30	135	-129	13642	-217.08	5483.13	56.02
533	SLU 31	145	-116	14896	-241.62	5989.25	51.15
533	SLU 32	147	-183	15100	-239.85	6072.33	78.26
533	SLU 33	147	-145	15123	-242.47	6081.07	62.94
533	SLU 34	146	-119	15051	-243.09	6051.79	52.35
533	SLU 35	148	-186	15255	-241.32	6134.87	79.45
533	SLU 36	148	-148	15278	-243.94	6143.62	64.14
533	SLU 37	147	-185	15168	-240.19	6099.77	79.07
533	SLU 38	147	-147	15190	-242.81	6108.52	63.76
533	SLU 39	150	-187	15521	-248.28	6242.7	79.99
533	SLU 40	150	-149	15544	-250.9	6251.44	64.68
533	SLU 41	152	-190	15676	-249.75	6305.25	81.19
533	SLU 42	151	-152	15699	-252.37	6313.99	65.88
533	SLU 43	148	-178	14476	-235.61	5817.46	76.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
533	SLU 44	148	-115	14514	-239.97	5832.03	50.55
533	SLU 45	150	-181	14719	-238.21	5915.11	77.65
533	SLU 46	150	-144	14741	-240.82	5923.85	62.34
533	SLU 47	149	-118	14669	-241.44	5894.58	51.74
533	SLU 48	151	-184	14874	-239.67	5977.66	78.85
533	SLU 49	151	-147	14896	-242.29	5986.4	63.53
533	SLU 50	150	-183	14786	-238.55	5942.56	78.47
533	SLU 51	150	-146	14809	-241.17	5951.3	63.15
533	SLU 52	160	-133	16062	-265.7	6457.42	58.29
533	SLU 53	162	-199	16267	-263.93	6540.5	85.39
533	SLU 54	162	-162	16290	-266.55	6549.24	70.08
533	SLU 55	161	-136	16217	-267.17	6519.97	59.48
533	SLU 56	163	-202	16422	-265.4	6603.05	86.59
533	SLU 57	163	-165	16445	-268.02	6611.79	71.27
533	SLU 58	162	-201	16334	-264.27	6567.95	86.21
533	SLU 59	162	-164	16357	-266.89	6576.69	70.89
533	SLU 60	166	-203	16688	-272.36	6710.87	87.13
533	SLU 61	165	-166	16711	-274.98	6719.61	71.81
533	SLU 62	167	-206	16843	-273.83	6773.42	88.33
533	SLU 63	166	-169	16866	-276.45	6782.16	73.01
533	SLU 64	163	-197	16196	-259.58	6509.31	84.32
533	SLU 65	163	-134	16234	-263.94	6523.88	58.79
533	SLU 66	165	-201	16439	-262.17	6606.96	85.9
533	SLU 67	165	-163	16462	-264.79	6615.71	70.58
533	SLU 68	164	-137	16389	-265.41	6586.43	59.99
533	SLU 69	166	-204	16594	-263.64	6669.51	87.1
533	SLU 70	166	-166	16617	-266.26	6678.25	71.78
533	SLU 71	165	-203	16506	-262.51	6634.41	86.72
533	SLU 72	165	-165	16529	-265.13	6643.15	71.4
533	SLU 73	175	-152	17783	-289.67	7149.27	66.53
533	SLU 74	177	-219	17987	-287.9	7232.35	93.64
533	SLU 75	177	-181	18010	-290.52	7241.09	78.32
533	SLU 76	176	-155	17938	-291.14	7211.82	67.73
533	SLU 77	178	-222	18142	-289.37	7294.9	94.84
533	SLU 78	178	-184	18165	-291.99	7303.64	79.52
533	SLU 79	178	-221	18055	-288.24	7259.8	94.46
533	SLU 80	177	-183	18077	-290.86	7268.54	79.14
533	SLU 81	181	-223	18408	-296.33	7402.72	95.37
533	SLU 82	180	-185	18431	-298.95	7411.47	80.06
533	SLU 83	182	-226	18563	-297.8	7465.27	96.57
533	SLU 84	182	-188	18586	-300.42	7474.01	81.26
533	SLE RA 1	122	-147	12081	-194.41	4855.11	63.05
533	SLE RA 2	122	-105	12106	-197.32	4864.82	46.03
533	SLE RA 3	123	-150	12242	-196.14	4920.21	64.1
533	SLE RA 4	123	-125	12258	-197.88	4926.04	53.89
533	SLE RA 5	123	-107	12209	-198.3	4906.52	46.83
533	SLE RA 6	124	-152	12346	-197.12	4961.91	64.9
533	SLE RA 7	124	-127	12361	-198.86	4967.74	54.69
533	SLE RA 8	124	-151	12287	-196.37	4938.51	64.65
533	SLE RA 9	123	-126	12302	-198.11	4944.34	54.44
533	SLE RA 10	130	-117	13138	-214.47	5281.75	51.19
533	SLE RA 11	132	-162	13275	-213.29	5337.13	69.26
533	SLE RA 12	131	-137	13290	-215.03	5342.96	59.05
533	SLE RA 13	131	-119	13241	-215.45	5323.45	51.99
533	SLE RA 14	132	-164	13378	-214.27	5378.83	70.06
533	SLE RA 15	132	-139	13393	-216.01	5384.66	59.85
533	SLE RA 16	132	-163	13319	-213.52	5355.43	69.81
533	SLE RA 17	132	-138	13335	-215.26	5361.26	59.6
533	SLE RA 18	134	-164	13555	-218.91	5450.72	70.42
533	SLE RA 19	134	-139	13570	-220.66	5456.54	60.21
533	SLE RA 20	135	-166	13659	-219.89	5492.42	71.22
533	SLE RA 21	134	-141	13674	-221.63	5498.24	61.01
533	SLE FR 1	122	-147	12081	-194.41	4855.11	63.05
533	SLE FR 2	122	-139	12086	-194.99	4857.05	59.64
533	SLE FR 3	122	-148	12122	-194.8	4871.79	63.37
533	SLE FR 4	126	-144	12528	-202.34	5035.73	61.86
533	SLE FR 5	126	-153	12564	-202.15	5050.47	65.58
533	SLE FR 6	128	-156	12818	-206.66	5152.91	66.73
533	SLE QP 1	122	-147	12081	-194.41	4855.11	63.05
533	SLE QP 2	126	-152	12523	-201.76	5033.79	65.26
533	SLD 1	995	252	12968	-230.24	5202.89	-79.92
533	SLD 2	1049	267	12984	-231.24	5207.55	-83.5
533	SLD 3	1006	-542	12267	-163.02	4929.5	242.72
533	SLD 4	1060	-528	12283	-164.02	4934.17	239.14
533	SLD 5	360	1171	13718	-312.08	5498.34	-467.01
533	SLD 6	395	1180	13728	-312.73	5501.36	-469.32
533	SLD 7	397	-1476	11379	-88.01	4587.07	608.45
533	SLD 8	432	-1467	11389	-88.66	4590.08	606.14
533	SLD 9	-181	1162	13657	-314.86	5477.5	-475.62
533	SLD 10	-146	1172	13667	-315.51	5480.52	-477.93
533	SLD 11	-144	-1485	11317	-90.79	4566.23	599.84
533	SLD 12	-109	-1476	11328	-91.44	4569.24	597.53
533	SLD 13	-809	223	12763	-239.5	5133.42	-108.62
533	SLD 14	-755	237	12779	-240.5	5138.08	-112.2
533	SLD 15	-798	-571	12062	-172.28	4860.03	214.02
533	SLD 16	-744	-557	12078	-173.28	4864.7	210.44
533	SLV 1	1485	533	13266	-250.52	5316.49	-181.81
533	SLV 2	1570	555	13291	-252.1	5323.83	-187.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
533	SLV 3	1503	-810	12080	-136.93	4854.26	363.32
533	SLV 4	1588	-787	12105	-138.5	4861.61	357.68
533	SLV 5	489	2084	14541	-388.38	5818.27	-834.59
533	SLV 6	547	2099	14558	-389.44	5823.22	-838.38
533	SLV 7	551	-2389	10586	-9.73	4277.52	982.51
533	SLV 8	608	-2374	10603	-10.79	4282.46	978.71
533	SLV 9	-357	2069	14443	-392.73	5785.12	-848.2
533	SLV 10	-300	2084	14460	-393.79	5790.07	-851.99
533	SLV 11	-296	-2404	10488	-14.08	4244.36	968.9
533	SLV 12	-238	-2389	10505	-15.14	4249.31	965.11
533	SLV 13	-1337	483	12941	-265.02	5205.98	-227.16
533	SLV 14	-1252	505	12966	-266.59	5213.32	-232.8
533	SLV 15	-1319	-860	11755	-151.42	4743.75	317.96
533	SLV 16	-1234	-837	11780	-153	4751.09	312.33
533	SLV FO 1	1621	601	13340	-255.4	5344.76	-206.52
533	SLV FO 2	1714	625	13368	-257.13	5352.84	-212.72
533	SLV FO 3	1641	-875	12035	-130.44	4836.31	393.12
533	SLV FO 4	1735	-851	12063	-132.17	4844.39	386.93
533	SLV FO 5	526	2308	14742	-407.04	5896.72	-924.57
533	SLV FO 6	589	2325	14761	-408.21	5902.16	-928.75
533	SLV FO 7	593	-2613	10392	9.47	4201.89	1074.23
533	SLV FO 8	656	-2597	10411	8.31	4207.33	1070.06
533	SLV FO 9	-405	2292	14635	-411.82	5860.25	-939.54
533	SLV FO 10	-342	2308	14654	-412.99	5865.69	-943.71
533	SLV FO 11	-338	-2629	10285	4.69	4165.42	1059.27
533	SLV FO 12	-275	-2613	10303	3.52	4170.86	1055.09
533	SLV FO 13	-1483	546	12983	-271.34	5223.2	-256.41
533	SLV FO 14	-1390	570	13011	-273.08	5231.27	-262.61
533	SLV FO 15	-1463	-930	11678	-146.39	4714.75	343.24
533	SLV FO 16	-1369	-906	11706	-148.12	4722.82	337.04
533	CRTFP Ux+	0	0	0	0	0	0
533	CRTFP Ux-	0	0	0	0	0	0
533	CRTFP Uy+	0	0	0	0	0	0
533	CRTFP Uy-	0	0	0	0	0	0
534	SLU 1	34	-54	4113	-34.61	-737.7	-10.06
534	SLU 2	34	-32	4127	-36.91	-740.23	-6.09
534	SLU 3	34	-55	4202	-33.74	-753.67	-10.14
534	SLU 4	34	-41	4210	-35.12	-755.19	-7.76
534	SLU 5	34	-33	4185	-36.27	-750.6	-6.16
534	SLU 6	35	-55	4260	-33.1	-764.04	-10.21
534	SLU 7	35	-42	4268	-34.48	-765.56	-7.83
534	SLU 8	34	-55	4229	-33.33	-758.44	-10.2
534	SLU 9	34	-42	4237	-34.71	-759.96	-7.81
534	SLU 10	37	-40	4712	-50.67	-845.07	-7.52
534	SLU 11	38	-62	4787	-47.5	-858.52	-11.57
534	SLU 12	38	-49	4795	-48.88	-860.04	-9.19
534	SLU 13	37	-40	4770	-50.03	-855.45	-7.59
534	SLU 14	38	-63	4845	-46.86	-868.89	-11.64
534	SLU 15	38	-49	4853	-48.24	-870.41	-9.26
534	SLU 16	38	-63	4814	-47.09	-863.29	-11.62
534	SLU 17	38	-49	4822	-48.47	-864.81	-9.24
534	SLU 18	39	-65	4948	-54.26	-887.48	-12.1
534	SLU 19	39	-52	4957	-55.64	-889	-9.72
534	SLU 20	39	-66	5006	-53.62	-897.85	-12.17
534	SLU 21	39	-52	5015	-55	-899.37	-9.79
534	SLU 22	38	-58	4744	-38.63	-850.85	-10.73
534	SLU 23	38	-36	4759	-40.93	-853.37	-6.76
534	SLU 24	38	-58	4834	-37.77	-866.82	-10.82
534	SLU 25	38	-45	4842	-39.15	-868.33	-8.43
534	SLU 26	38	-36	4817	-40.29	-863.74	-6.83
534	SLU 27	39	-58	4892	-37.13	-877.19	-10.88
534	SLU 28	39	-45	4900	-38.51	-878.71	-8.5
534	SLU 29	38	-58	4860	-37.35	-871.59	-10.87
534	SLU 30	38	-45	4869	-38.73	-873.1	-8.48
534	SLU 31	41	-43	5344	-54.69	-958.22	-8.19
534	SLU 32	42	-66	5419	-51.52	-971.67	-12.24
534	SLU 33	42	-53	5427	-52.9	-973.18	-9.86
534	SLU 34	41	-44	5401	-54.05	-968.59	-8.26
534	SLU 35	42	-66	5477	-50.88	-982.04	-12.31
534	SLU 36	42	-53	5485	-52.26	-983.55	-9.93
534	SLU 37	42	-66	5445	-51.11	-976.44	-12.29
534	SLU 38	42	-53	5454	-52.49	-977.95	-9.91
534	SLU 39	43	-69	5580	-58.29	-1000.63	-12.77
534	SLU 40	43	-55	5589	-59.67	-1002.14	-10.39
534	SLU 41	43	-69	5638	-57.65	-1011	-12.84
534	SLU 42	43	-56	5646	-59.03	-1012.51	-10.46
534	SLU 43	42	-70	5130	-43.62	-920.22	-12.85
534	SLU 44	42	-47	5144	-45.92	-922.74	-8.88
534	SLU 45	43	-70	5219	-42.75	-936.19	-12.93
534	SLU 46	43	-57	5228	-44.13	-937.71	-10.55
534	SLU 47	43	-48	5202	-45.27	-933.12	-8.95
534	SLU 48	43	-70	5277	-42.11	-946.56	-13
534	SLU 49	43	-57	5286	-43.49	-948.08	-10.62
534	SLU 50	43	-70	5246	-42.33	-940.96	-12.98
534	SLU 51	43	-57	5254	-43.71	-942.48	-10.6
534	SLU 52	46	-55	5729	-59.67	-1027.59	-10.31
534	SLU 53	46	-78	5804	-56.5	-1041.04	-14.36
534	SLU 54	46	-64	5813	-57.88	-1042.55	-11.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
534	SLU 55	46	-55	5787	-59.03	-1037.96	-10.38
534	SLU 56	47	-78	5862	-55.86	-1051.41	-14.43
534	SLU 57	47	-65	5871	-57.24	-1052.92	-12.05
534	SLU 58	46	-78	5831	-56.09	-1045.81	-14.41
534	SLU 59	46	-65	5839	-57.47	-1047.32	-12.03
534	SLU 60	47	-80	5966	-63.27	-1070	-14.89
534	SLU 61	47	-67	5974	-64.65	-1071.51	-12.51
534	SLU 62	48	-81	6023	-62.63	-1080.37	-14.96
534	SLU 63	48	-68	6032	-64.01	-1081.89	-12.58
534	SLU 64	47	-73	5762	-47.64	-1033.36	-13.52
534	SLU 65	47	-51	5776	-49.94	-1035.89	-9.55
534	SLU 66	47	-73	5851	-46.77	-1049.34	-13.6
534	SLU 67	47	-60	5859	-48.15	-1050.85	-11.22
534	SLU 68	47	-51	5834	-49.3	-1046.26	-9.62
534	SLU 69	47	-74	5909	-46.13	-1059.71	-13.67
534	SLU 70	47	-60	5917	-47.51	-1061.22	-11.29
534	SLU 71	47	-74	5877	-46.36	-1054.11	-13.65
534	SLU 72	47	-60	5886	-47.74	-1055.62	-11.27
534	SLU 73	50	-58	6361	-63.69	-1140.74	-10.98
534	SLU 74	50	-81	6436	-60.53	-1154.18	-15.03
534	SLU 75	50	-68	6444	-61.91	-1155.7	-12.65
534	SLU 76	50	-59	6419	-63.05	-1151.11	-11.05
534	SLU 77	51	-81	6494	-59.89	-1164.55	-15.1
534	SLU 78	51	-68	6502	-61.27	-1166.07	-12.72
534	SLU 79	51	-81	6462	-60.11	-1158.95	-15.08
534	SLU 80	50	-68	6471	-61.49	-1160.47	-12.7
534	SLU 81	51	-84	6597	-67.29	-1183.14	-15.56
534	SLU 82	51	-71	6606	-68.67	-1184.66	-13.18
534	SLU 83	52	-84	6655	-66.65	-1193.52	-15.63
534	SLU 84	52	-71	6664	-68.03	-1195.03	-13.25
534	SLE RA 1	35	-55	4293	-35.76	-770.03	-10.25
534	SLE RA 2	35	-41	4303	-37.29	-771.71	-7.61
534	SLE RA 3	35	-56	4353	-35.18	-780.68	-10.31
534	SLE RA 4	35	-47	4358	-36.1	-781.69	-8.72
534	SLE RA 5	35	-41	4341	-36.87	-778.63	-7.65
534	SLE RA 6	35	-56	4391	-34.76	-787.59	-10.35
534	SLE RA 7	35	-47	4397	-35.68	-788.6	-8.76
534	SLE RA 8	35	-56	4370	-34.91	-783.86	-10.34
534	SLE RA 9	35	-47	4376	-35.83	-784.87	-8.75
534	SLE RA 10	37	-46	4693	-46.46	-841.61	-8.56
534	SLE RA 11	38	-61	4743	-44.35	-850.57	-11.26
534	SLE RA 12	37	-52	4748	-45.27	-851.58	-9.67
534	SLE RA 13	37	-46	4731	-46.04	-848.52	-8.6
534	SLE RA 14	38	-61	4781	-43.93	-857.49	-11.31
534	SLE RA 15	38	-52	4787	-44.85	-858.5	-9.72
534	SLE RA 16	38	-61	4760	-44.08	-853.75	-11.29
534	SLE RA 17	38	-52	4766	-45	-854.76	-9.71
534	SLE RA 18	38	-63	4850	-48.86	-869.88	-11.61
534	SLE RA 19	38	-54	4856	-49.78	-870.89	-10.03
534	SLE RA 20	38	-63	4889	-48.44	-876.8	-11.66
534	SLE RA 21	38	-54	4895	-49.35	-877.81	-10.07
534	SLE FR 1	35	-55	4293	-35.76	-770.03	-10.25
534	SLE FR 2	35	-52	4295	-36.07	-770.36	-9.73
534	SLE FR 3	35	-55	4309	-35.59	-772.79	-10.27
534	SLE FR 4	36	-55	4462	-40	-800.32	-10.13
534	SLE FR 5	36	-58	4476	-39.52	-802.75	-10.68
534	SLE FR 6	37	-59	4572	-42.31	-819.95	-10.93
534	SLE QP 1	35	-55	4293	-35.76	-770.03	-10.25
534	SLE QP 2	36	-58	4460	-39.69	-799.98	-10.66
534	SLD 1	306	57	4535	-60.61	-813	10.14
534	SLD 2	323	43	4530	-61.02	-812.17	7.78
534	SLD 3	310	-215	4276	-26.42	-767.01	-38.71
534	SLD 4	326	-228	4272	-26.83	-766.18	-41.07
534	SLD 5	109	391	4875	-97.75	-873.78	70.07
534	SLD 6	120	383	4872	-98.01	-873.24	68.54
534	SLD 7	120	-514	4014	16.21	-720.49	-92.75
534	SLD 8	131	-523	4011	15.95	-719.95	-94.28
534	SLD 9	-59	408	4910	-95.33	-880.01	72.95
534	SLD 10	-48	399	4907	-95.6	-879.48	71.42
534	SLD 11	-48	-498	4048	18.63	-726.73	-89.87
534	SLD 12	-38	-506	4045	18.36	-726.19	-91.39
534	SLD 13	-254	113	4649	-52.55	-833.78	19.74
534	SLD 14	-238	100	4644	-52.96	-832.95	17.38
534	SLD 15	-251	-158	4390	-18.36	-787.8	-29.1
534	SLD 16	-235	-172	4386	-18.77	-786.97	-31.46
534	SLV 1	459	139	4593	-74.56	-823.28	24.95
534	SLV 2	485	117	4586	-75.2	-821.97	21.23
534	SLV 3	464	-321	4156	-16.78	-745.54	-57.58
534	SLV 4	491	-342	4149	-17.43	-744.24	-61.3
534	SLV 5	150	702	5164	-137.65	-925.12	125.89
534	SLV 6	167	687	5159	-138.09	-924.24	123.38
534	SLV 7	168	-829	3708	54.92	-665.99	-149.21
534	SLV 8	185	-843	3703	54.49	-665.12	-151.72
534	SLV 9	-114	728	5217	-133.87	-934.85	130.39
534	SLV 10	-96	714	5213	-134.3	-933.97	127.89
534	SLV 11	-96	-802	3761	58.7	-675.73	-144.71
534	SLV 12	-78	-817	3756	58.27	-674.85	-147.21
534	SLV 13	-419	227	4771	-61.95	-855.73	39.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
534	SLV 14	-392	206	4764	-62.6	-854.42	36.25
534	SLV 15	-413	-232	4334	-4.18	-777.99	-42.56
534	SLV 16	-387	-254	4327	-4.83	-776.69	-46.28
534	SLV FO 1	501	158	4607	-78.04	-825.61	28.51
534	SLV FO 2	530	135	4599	-78.76	-824.17	24.42
534	SLV FO 3	507	-347	4126	-14.49	-740.1	-62.27
534	SLV FO 4	536	-370	4118	-15.21	-738.66	-66.36
534	SLV FO 5	161	778	5235	-147.45	-937.63	139.54
534	SLV FO 6	181	762	5229	-147.93	-936.66	136.79
534	SLV FO 7	181	-906	3633	64.38	-652.6	-163.07
534	SLV FO 8	200	-922	3627	63.9	-651.63	-165.82
534	SLV FO 9	-128	807	5293	-143.29	-948.34	144.5
534	SLV FO 10	-109	791	5288	-143.77	-947.37	141.74
534	SLV FO 11	-109	-877	3691	68.54	-663.3	-158.11
534	SLV FO 12	-89	-893	3686	68.06	-662.34	-160.87
534	SLV FO 13	-464	255	4802	-64.18	-861.31	45.04
534	SLV FO 14	-435	232	4794	-64.89	-859.87	40.94
534	SLV FO 15	-458	-250	4322	-0.63	-775.8	-45.75
534	SLV FO 16	-429	-273	4314	-1.34	-774.36	-49.84
534	CRTFP Ux+	0	0	0	0	0	0
534	CRTFP Ux-	0	0	0	0	0	0
534	CRTFP Uy+	0	0	0	0	0	0
534	CRTFP Uy-	0	0	0	0	0	0
535	SLU 1	54	-103	6259	-117.48	13.52	-0.79
535	SLU 2	54	-69	6279	-121.61	13.65	-0.86
535	SLU 3	55	-104	6393	-116.75	13.92	-0.83
535	SLU 4	55	-84	6405	-119.23	14	-0.87
535	SLU 5	54	-70	6366	-121.02	13.92	-0.88
535	SLU 6	55	-105	6480	-116.15	14.18	-0.86
535	SLU 7	55	-85	6492	-118.63	14.26	-0.89
535	SLU 8	55	-105	6433	-116.29	14.05	-0.84
535	SLU 9	55	-84	6445	-118.77	14.13	-0.88
535	SLU 10	59	-84	7163	-161.68	16.05	-0.99
535	SLU 11	60	-119	7276	-156.81	16.31	-0.96
535	SLU 12	60	-99	7288	-159.29	16.39	-1
535	SLU 13	59	-85	7249	-161.08	16.31	-1.01
535	SLU 14	60	-120	7363	-156.21	16.57	-0.99
535	SLU 15	60	-100	7375	-158.69	16.65	-1.02
535	SLU 16	60	-120	7316	-156.35	16.44	-0.97
535	SLU 17	60	-99	7328	-158.83	16.52	-1.01
535	SLU 18	61	-124	7521	-174.72	16.94	-0.98
535	SLU 19	61	-104	7533	-177.19	17.02	-1.02
535	SLU 20	62	-125	7608	-174.12	17.2	-1
535	SLU 21	62	-105	7620	-176.6	17.28	-1.04
535	SLU 22	60	-112	7211	-135.35	16.11	-1.01
535	SLU 23	60	-79	7231	-139.48	16.25	-1.08
535	SLU 24	61	-114	7344	-134.62	16.51	-1.05
535	SLU 25	61	-93	7356	-137.09	16.59	-1.09
535	SLU 26	61	-79	7317	-138.88	16.51	-1.1
535	SLU 27	62	-115	7431	-134.02	16.78	-1.08
535	SLU 28	62	-94	7443	-136.5	16.86	-1.12
535	SLU 29	61	-114	7384	-134.16	16.65	-1.07
535	SLU 30	61	-94	7396	-136.63	16.73	-1.1
535	SLU 31	66	-93	8114	-179.54	18.64	-1.21
535	SLU 32	67	-129	8228	-174.68	18.9	-1.18
535	SLU 33	66	-108	8240	-177.16	18.98	-1.22
535	SLU 34	66	-94	8201	-178.95	18.91	-1.23
535	SLU 35	67	-130	8314	-174.08	19.17	-1.21
535	SLU 36	67	-109	8326	-176.56	19.25	-1.24
535	SLU 37	67	-129	8267	-174.22	19.04	-1.2
535	SLU 38	67	-109	8279	-176.7	19.12	-1.23
535	SLU 39	68	-134	8473	-192.58	19.53	-1.2
535	SLU 40	68	-113	8485	-195.06	19.61	-1.24
535	SLU 41	68	-135	8559	-191.99	19.8	-1.23
535	SLU 42	68	-114	8571	-194.46	19.88	-1.26
535	SLU 43	68	-130	7811	-146.6	16.69	-0.96
535	SLU 44	68	-97	7831	-150.73	16.82	-1.02
535	SLU 45	68	-132	7945	-145.87	17.08	-0.99
535	SLU 46	68	-111	7957	-148.35	17.16	-1.03
535	SLU 47	68	-97	7917	-150.14	17.09	-1.04
535	SLU 48	69	-133	8031	-145.27	17.35	-1.02
535	SLU 49	69	-112	8043	-147.75	17.43	-1.06
535	SLU 50	69	-132	7984	-145.41	17.22	-1.01
535	SLU 51	68	-112	7996	-147.88	17.3	-1.04
535	SLU 52	73	-111	8714	-190.8	19.21	-1.15
535	SLU 53	74	-147	8828	-185.93	19.47	-1.12
535	SLU 54	74	-126	8840	-188.41	19.55	-1.16
535	SLU 55	73	-112	8801	-190.2	19.48	-1.17
535	SLU 56	74	-148	8915	-185.33	19.74	-1.15
535	SLU 57	74	-127	8927	-187.81	19.82	-1.19
535	SLU 58	74	-147	8868	-185.47	19.61	-1.14
535	SLU 59	74	-127	8880	-187.95	19.69	-1.17
535	SLU 60	75	-152	9073	-203.83	20.1	-1.14
535	SLU 61	75	-131	9085	-206.31	20.18	-1.18
535	SLU 62	76	-153	9160	-203.24	20.37	-1.17
535	SLU 63	76	-132	9172	-205.71	20.45	-1.2
535	SLU 64	74	-140	8762	-164.47	19.28	-1.18
535	SLU 65	74	-106	8782	-168.6	19.41	-1.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
535	SLU 66	75	-141	8896	-163.74	19.68	-1.21
535	SLU 67	75	-121	8908	-166.21	19.76	-1.25
535	SLU 68	75	-107	8869	-168	19.68	-1.26
535	SLU 69	75	-142	8983	-163.14	19.94	-1.24
535	SLU 70	75	-122	8994	-165.62	20.02	-1.28
535	SLU 71	75	-142	8936	-163.27	19.81	-1.23
535	SLU 72	75	-122	8947	-165.75	19.89	-1.27
535	SLU 73	79	-121	9666	-208.66	21.81	-1.37
535	SLU 74	80	-156	9779	-203.8	22.07	-1.34
535	SLU 75	80	-136	9791	-206.28	22.15	-1.38
535	SLU 76	80	-122	9752	-208.07	22.07	-1.39
535	SLU 77	81	-157	9866	-203.2	22.34	-1.37
535	SLU 78	81	-137	9878	-205.68	22.42	-1.41
535	SLU 79	80	-157	9819	-203.34	22.21	-1.36
535	SLU 80	80	-137	9831	-205.81	22.29	-1.39
535	SLU 81	82	-161	10024	-221.7	22.7	-1.36
535	SLU 82	82	-141	10036	-224.18	22.78	-1.4
535	SLU 83	82	-162	10111	-221.1	22.96	-1.39
535	SLU 84	82	-142	10123	-223.58	23.04	-1.42
535	SLE RA 1	56	-106	6531	-122.59	14.26	-0.86
535	SLE RA 2	56	-83	6544	-125.34	14.35	-0.9
535	SLE RA 3	56	-106	6620	-122.1	14.52	-0.88
535	SLE RA 4	56	-93	6628	-123.75	14.58	-0.91
535	SLE RA 5	56	-84	6602	-124.94	14.53	-0.92
535	SLE RA 6	56	-107	6678	-121.7	14.7	-0.9
535	SLE RA 7	56	-94	6686	-123.35	14.76	-0.92
535	SLE RA 8	56	-107	6647	-121.79	14.62	-0.89
535	SLE RA 9	56	-93	6655	-123.44	14.67	-0.92
535	SLE RA 10	59	-93	7133	-152.05	15.94	-0.98
535	SLE RA 11	60	-116	7209	-148.81	16.12	-0.97
535	SLE RA 12	60	-103	7217	-150.46	16.17	-0.99
535	SLE RA 13	59	-94	7191	-151.65	16.12	-1
535	SLE RA 14	60	-117	7267	-148.41	16.3	-0.98
535	SLE RA 15	60	-104	7275	-150.06	16.35	-1.01
535	SLE RA 16	60	-117	7236	-148.5	16.21	-0.98
535	SLE RA 17	60	-103	7244	-150.15	16.26	-1
535	SLE RA 18	61	-120	7373	-160.74	16.54	-0.98
535	SLE RA 19	61	-106	7381	-162.4	16.59	-1
535	SLE RA 20	61	-120	7430	-160.34	16.72	-1
535	SLE RA 21	61	-107	7438	-162	16.77	-1.02
535	SLE FR 1	56	-106	6531	-122.59	14.26	-0.86
535	SLE FR 2	56	-101	6534	-123.14	14.28	-0.86
535	SLE FR 3	56	-106	6554	-122.43	14.33	-0.86
535	SLE FR 4	57	-105	6786	-134.59	14.96	-0.9
535	SLE FR 5	57	-110	6807	-133.88	15.02	-0.9
535	SLE FR 6	58	-113	6952	-141.67	15.4	-0.92
535	SLE QP 1	56	-106	6531	-122.59	14.26	-0.86
535	SLE QP 2	57	-110	6784	-134.04	14.94	-0.89
535	SLD 1	486	83	6873	-166.15	16.52	-0.21
535	SLD 2	513	68	6865	-166.28	16.54	0.14
535	SLD 3	491	-336	6503	-105.01	14.57	0.44
535	SLD 4	518	-352	6495	-105.14	14.59	0.78
535	SLD 5	174	587	7374	-236.38	18.37	-1.73
535	SLD 6	191	576	7368	-236.46	18.39	-1.51
535	SLD 7	190	-811	6139	-32.58	11.87	0.43
535	SLD 8	208	-821	6134	-32.66	11.88	0.65
535	SLD 9	-93	601	7433	-235.41	18.01	-2.44
535	SLD 10	-76	591	7428	-235.49	18.02	-2.21
535	SLD 11	-76	-796	6199	-31.61	11.5	-0.28
535	SLD 12	-59	-806	6194	-31.69	11.52	-0.06
535	SLD 13	-404	132	7072	-162.93	15.3	-2.57
535	SLD 14	-377	116	7064	-163.06	15.32	-2.22
535	SLD 15	-399	-287	6702	-101.79	13.35	-1.92
535	SLD 16	-372	-303	6694	-101.92	13.37	-1.58
535	SLV 1	728	218	6947	-188.19	17.54	0.13
535	SLV 2	770	194	6935	-188.38	17.57	0.67
535	SLV 3	737	-490	6321	-84.88	14.24	1.22
535	SLV 4	778	-515	6309	-85.08	14.28	1.77
535	SLV 5	238	1067	7785	-306.93	20.71	-2.35
535	SLV 6	266	1051	7776	-307.06	20.74	-1.98
535	SLV 7	266	-1294	5697	37.43	9.73	1.3
535	SLV 8	294	-1310	5689	37.3	9.75	1.67
535	SLV 9	-180	1090	7878	-305.37	20.14	-3.45
535	SLV 10	-152	1074	7870	-305.5	20.16	-3.09
535	SLV 11	-152	-1271	5791	38.99	9.15	0.19
535	SLV 12	-123	-1287	5782	38.86	9.18	0.56
535	SLV 13	-664	295	7258	-183	15.61	-3.56
535	SLV 14	-622	270	7246	-183.19	15.65	-3.01
535	SLV 15	-656	-413	6632	-79.69	12.32	-2.46
535	SLV 16	-614	-438	6620	-79.88	12.35	-1.91
535	SLV FO 1	795	251	6964	-193.61	17.8	0.23
535	SLV FO 2	841	224	6950	-193.82	17.84	0.83
535	SLV FO 3	805	-528	6275	-79.97	14.17	1.43
535	SLV FO 4	851	-555	6261	-80.18	14.21	2.03
535	SLV FO 5	256	1185	7885	-324.22	21.29	-2.49
535	SLV FO 6	287	1167	7876	-324.36	21.32	-2.09
535	SLV FO 7	287	-1412	5589	54.58	9.21	1.52
535	SLV FO 8	318	-1430	5580	54.44	9.23	1.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
535	SLV FO 9	-204	1210	7987	-322.51	20.66	-3.71
535	SLV FO 10	-173	1192	7978	-322.65	20.68	-3.3
535	SLV FO 11	-172	-1387	5691	56.29	8.57	0.3
535	SLV FO 12	-142	-1405	5682	56.15	8.6	0.71
535	SLV FO 13	-736	335	7306	-187.89	15.68	-3.82
535	SLV FO 14	-690	308	7292	-188.11	15.72	-3.22
535	SLV FO 15	-727	-444	6617	-74.25	12.05	-2.62
535	SLV FO 16	-681	-471	6603	-74.47	12.09	-2.02
535	CRTFP Ux+	0	0	0	0	0	0
535	CRTFP Ux-	0	0	0	0	0	0
535	CRTFP Uy+	0	0	0	0	0	0
535	CRTFP Uy-	0	0	0	0	0	0
536	SLU 1	105	-185	11123	-101.97	-1931.14	-28.34
536	SLU 2	105	-124	11157	-105.83	-1936.9	-17.77
536	SLU 3	107	-188	11357	-101.87	-1971.53	-29
536	SLU 4	106	-152	11377	-104.19	-1974.99	-22.66
536	SLU 5	106	-127	11308	-105.63	-1962.84	-18.27
536	SLU 6	108	-191	11508	-101.67	-1997.47	-29.5
536	SLU 7	107	-155	11528	-103.99	-2000.93	-23.16
536	SLU 8	107	-190	11425	-101.57	-1983.02	-29.33
536	SLU 9	107	-154	11445	-103.88	-1986.48	-22.99
536	SLU 10	115	-150	12689	-134.46	-2197.97	-21.6
536	SLU 11	117	-215	12890	-130.5	-2232.61	-32.83
536	SLU 12	117	-178	12910	-132.82	-2236.07	-26.49
536	SLU 13	116	-153	12840	-134.26	-2223.92	-22.1
536	SLU 14	118	-217	13041	-130.3	-2258.55	-33.33
536	SLU 15	118	-181	13061	-132.62	-2262.01	-26.99
536	SLU 16	117	-216	12958	-130.2	-2244.09	-33.16
536	SLU 17	117	-180	12978	-132.51	-2247.55	-26.82
536	SLU 18	120	-222	13313	-142.87	-2304.1	-33.81
536	SLU 19	120	-186	13333	-145.19	-2307.56	-27.47
536	SLU 20	121	-225	13464	-142.67	-2330.04	-34.31
536	SLU 21	121	-189	13484	-144.99	-2333.5	-27.96
536	SLU 22	118	-207	12790	-116.5	-2218.11	-32.08
536	SLU 23	118	-146	12823	-120.36	-2223.87	-21.51
536	SLU 24	120	-210	13023	-116.4	-2258.5	-32.74
536	SLU 25	120	-174	13043	-118.72	-2261.96	-26.4
536	SLU 26	119	-149	12974	-120.16	-2249.81	-22
536	SLU 27	121	-213	13174	-116.2	-2284.44	-33.24
536	SLU 28	120	-176	13194	-118.52	-2287.9	-26.89
536	SLU 29	120	-212	13091	-116.1	-2269.99	-33.07
536	SLU 30	120	-176	13111	-118.42	-2273.44	-26.73
536	SLU 31	128	-172	14356	-148.99	-2484.94	-25.33
536	SLU 32	130	-237	14556	-145.04	-2519.58	-36.57
536	SLU 33	130	-200	14576	-147.35	-2523.03	-30.23
536	SLU 34	129	-175	14506	-148.79	-2510.88	-25.83
536	SLU 35	131	-239	14707	-144.83	-2545.52	-37.07
536	SLU 36	131	-203	14727	-147.15	-2548.97	-30.72
536	SLU 37	131	-238	14624	-144.73	-2531.06	-36.9
536	SLU 38	130	-202	14644	-147.05	-2534.52	-30.56
536	SLU 39	133	-244	14979	-157.4	-2591.07	-37.55
536	SLU 40	133	-208	14999	-159.72	-2594.53	-31.2
536	SLU 41	134	-247	15130	-157.2	-2617.01	-38.04
536	SLU 42	134	-210	15150	-159.52	-2620.47	-31.7
536	SLU 43	132	-233	13889	-127.57	-2412.09	-35.56
536	SLU 44	132	-172	13922	-131.44	-2417.85	-24.99
536	SLU 45	134	-236	14123	-127.48	-2452.48	-36.22
536	SLU 46	133	-200	14143	-129.79	-2455.94	-29.88
536	SLU 47	133	-175	14073	-131.24	-2443.79	-25.49
536	SLU 48	134	-239	14274	-127.28	-2478.43	-36.72
536	SLU 49	134	-203	14294	-129.59	-2481.88	-30.38
536	SLU 50	134	-238	14191	-127.17	-2463.97	-36.56
536	SLU 51	134	-202	14211	-129.49	-2467.43	-30.21
536	SLU 52	142	-198	15455	-160.07	-2678.93	-28.82
536	SLU 53	144	-263	15656	-156.11	-2713.56	-40.05
536	SLU 54	144	-226	15676	-158.42	-2717.02	-33.71
536	SLU 55	143	-201	15606	-159.87	-2704.87	-29.32
536	SLU 56	145	-265	15807	-155.91	-2739.5	-40.55
536	SLU 57	145	-229	15827	-158.22	-2742.96	-34.21
536	SLU 58	144	-264	15724	-155.8	-2725.05	-40.38
536	SLU 59	144	-228	15744	-158.12	-2728.5	-34.04
536	SLU 60	147	-270	16079	-168.47	-2785.06	-41.03
536	SLU 61	147	-234	16099	-170.79	-2788.51	-34.69
536	SLU 62	148	-273	16230	-168.27	-2811	-41.53
536	SLU 63	148	-237	16250	-170.59	-2814.45	-35.19
536	SLU 64	145	-255	15555	-142.11	-2699.06	-39.3
536	SLU 65	145	-194	15589	-145.97	-2704.82	-28.73
536	SLU 66	147	-258	15789	-142.01	-2739.45	-39.96
536	SLU 67	146	-222	15809	-144.33	-2742.91	-33.62
536	SLU 68	146	-197	15739	-145.77	-2730.76	-29.22
536	SLU 69	148	-261	15940	-141.81	-2765.39	-40.46
536	SLU 70	147	-224	15960	-144.13	-2768.85	-34.12
536	SLU 71	147	-260	15857	-141.71	-2750.94	-40.29
536	SLU 72	147	-224	15877	-144.02	-2754.4	-33.95
536	SLU 73	155	-220	17121	-174.6	-2965.89	-32.56
536	SLU 74	157	-284	17322	-170.64	-3000.53	-43.79
536	SLU 75	157	-248	17342	-172.96	-3003.99	-37.45
536	SLU 76	156	-223	17272	-174.4	-2991.84	-33.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
536	SLU 77	158	-287	17473	-170.44	-3026.47	-44.29
536	SLU 78	158	-251	17493	-172.76	-3029.93	-37.94
536	SLU 79	158	-286	17390	-170.34	-3012.01	-44.12
536	SLU 80	157	-250	17410	-172.66	-3015.47	-37.78
536	SLU 81	160	-292	17745	-183.01	-3072.02	-44.77
536	SLU 82	160	-256	17765	-185.33	-3075.48	-38.42
536	SLU 83	161	-295	17896	-182.81	-3097.96	-45.26
536	SLU 84	161	-258	17916	-185.13	-3101.42	-38.92
536	SLE RA 1	109	-191	11599	-106.12	-2013.13	-29.41
536	SLE RA 2	108	-151	11622	-108.69	-2016.97	-22.36
536	SLE RA 3	110	-194	11755	-106.05	-2040.06	-29.85
536	SLE RA 4	110	-169	11769	-107.6	-2042.36	-25.62
536	SLE RA 5	109	-152	11722	-108.56	-2034.26	-22.69
536	SLE RA 6	110	-195	11856	-105.92	-2057.35	-30.18
536	SLE RA 7	110	-171	11869	-107.47	-2059.66	-25.95
536	SLE RA 8	110	-195	11801	-105.85	-2047.72	-30.07
536	SLE RA 9	110	-170	11814	-107.4	-2050.02	-25.84
536	SLE RA 10	116	-168	12643	-127.78	-2191.02	-24.91
536	SLE RA 11	117	-211	12777	-125.14	-2214.11	-32.4
536	SLE RA 12	117	-187	12791	-126.69	-2216.41	-28.17
536	SLE RA 13	116	-170	12744	-127.65	-2208.31	-25.24
536	SLE RA 14	118	-213	12878	-125.01	-2231.4	-32.73
536	SLE RA 15	117	-188	12891	-126.55	-2233.71	-28.51
536	SLE RA 16	117	-212	12822	-124.94	-2221.77	-32.62
536	SLE RA 17	117	-188	12836	-126.48	-2224.07	-28.4
536	SLE RA 18	119	-216	13059	-133.39	-2261.77	-33.05
536	SLE RA 19	119	-192	13072	-134.93	-2264.08	-28.83
536	SLE RA 20	119	-218	13160	-133.25	-2279.07	-33.39
536	SLE RA 21	119	-194	13173	-134.8	-2281.37	-29.16
536	SLE FR 1	109	-191	11599	-106.12	-2013.13	-29.41
536	SLE FR 2	109	-183	11604	-106.63	-2013.9	-28
536	SLE FR 3	109	-192	11640	-106.07	-2020.05	-29.54
536	SLE FR 4	112	-191	12042	-114.81	-2088.49	-29.09
536	SLE FR 5	112	-199	12078	-114.25	-2094.64	-30.63
536	SLE FR 6	114	-204	12329	-119.75	-2137.45	-31.23
536	SLE QP 1	109	-191	11599	-106.12	-2013.13	-29.41
536	SLE QP 2	112	-199	12037	-114.3	-2087.72	-30.5
536	SLD 1	922	201	12244	-137.92	-2133.95	38.73
536	SLD 2	972	190	12238	-138.57	-2134.63	39.04
536	SLD 3	932	-558	11612	-80.16	-2024.62	-94.48
536	SLD 4	982	-568	11606	-80.81	-2025.3	-94.17
536	SLD 5	331	1073	13058	-208.88	-2267.29	192.26
536	SLD 6	364	1067	13054	-209.31	-2267.73	192.46
536	SLD 7	364	-1455	10953	-16.33	-1902.85	-251.79
536	SLD 8	396	-1462	10949	-16.75	-1903.3	-251.59
536	SLD 9	-173	1065	13126	-211.85	-2272.14	190.59
536	SLD 10	-141	1058	13122	-212.27	-2272.59	190.79
536	SLD 11	-140	-1464	11020	-19.29	-1907.71	-253.46
536	SLD 12	-108	-1471	11016	-19.71	-1908.15	-253.26
536	SLD 13	-759	171	12469	-147.79	-2150.14	33.17
536	SLD 14	-709	161	12462	-148.44	-2150.82	33.48
536	SLD 15	-749	-588	11837	-90.03	-2040.81	-100.05
536	SLD 16	-699	-598	11831	-90.68	-2041.49	-99.74
536	SLV 1	1379	476	12400	-154.88	-2166.45	86.46
536	SLV 2	1458	459	12391	-155.9	-2167.53	86.95
536	SLV 3	1396	-806	11333	-57.26	-1981.59	-138.62
536	SLV 4	1474	-822	11323	-58.29	-1982.67	-138.13
536	SLV 5	452	1951	13768	-274.33	-2391.5	345.87
536	SLV 6	505	1940	13761	-275.02	-2392.23	346.2
536	SLV 7	507	-2322	10208	51.05	-1775.31	-404.41
536	SLV 8	560	-2333	10202	50.36	-1776.04	-404.08
536	SLV 9	-337	1935	13873	-278.96	-2399.4	343.07
536	SLV 10	-284	1925	13867	-279.65	-2400.13	343.4
536	SLV 11	-282	-2337	10314	46.42	-1783.21	-407.21
536	SLV 12	-229	-2348	10307	45.73	-1783.94	-406.88
536	SLV 13	-1251	425	12752	-170.31	-2192.77	77.13
536	SLV 14	-1173	409	12742	-171.33	-2193.85	77.62
536	SLV 15	-1234	-857	11684	-72.7	-2007.92	-147.95
536	SLV 16	-1156	-873	11674	-73.72	-2009	-147.47
536	SLV FO 1	1506	543	12437	-158.94	-2174.32	98.16
536	SLV FO 2	1592	525	12426	-160.06	-2175.51	98.7
536	SLV FO 3	1524	-867	11262	-51.56	-1970.98	-149.43
536	SLV FO 4	1611	-885	11251	-52.69	-1972.16	-148.9
536	SLV FO 5	486	2166	13941	-290.33	-2421.88	383.51
536	SLV FO 6	544	2154	13934	-291.09	-2422.68	383.87
536	SLV FO 7	547	-2534	10025	67.58	-1744.07	-441.8
536	SLV FO 8	605	-2546	10018	66.82	-1744.87	-441.43
536	SLV FO 9	-382	2149	14057	-295.42	-2430.57	380.43
536	SLV FO 10	-324	2137	14049	-296.18	-2431.37	380.79
536	SLV FO 11	-321	-2551	10141	62.49	-1752.76	-444.88
536	SLV FO 12	-263	-2563	10134	61.73	-1753.56	-444.51
536	SLV FO 13	-1387	487	12823	-175.91	-2203.28	87.89
536	SLV FO 14	-1301	470	12813	-177.04	-2204.47	88.43
536	SLV FO 15	-1369	-922	11649	-68.54	-1999.94	-159.7
536	SLV FO 16	-1283	-940	11638	-69.66	-2001.12	-159.16
536	CRTFP Ux+	0	0	0	0	0	0
536	CRTFP Ux-	0	0	0	0	0	0
536	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
536	CRTFP Uy-	0	0	0	0	0	0
538	SLU 1	-36	4	3676	5.12	-651.3	1.13
538	SLU 2	-38	25	3692	4.91	-650.33	6.29
538	SLU 3	-37	4	3759	5.3	-666.43	1.08
538	SLU 4	-38	16	3769	5.17	-665.85	4.18
538	SLU 5	-38	25	3746	5.03	-660.18	6.29
538	SLU 6	-37	4	3813	5.42	-676.29	1.09
538	SLU 7	-38	16	3823	5.29	-675.7	4.18
538	SLU 8	-37	4	3784	5.36	-671.02	1.14
538	SLU 9	-38	17	3793	5.24	-670.43	4.24
538	SLU 10	-38	27	4157	5.63	-732.75	6.73
538	SLU 11	-38	6	4225	6.02	-748.86	1.52
538	SLU 12	-38	18	4234	5.89	-748.27	4.62
538	SLU 13	-38	27	4211	5.75	-742.61	6.73
538	SLU 14	-38	6	4279	6.14	-758.72	1.53
538	SLU 15	-39	18	4288	6.02	-758.13	4.62
538	SLU 16	-38	6	4249	6.08	-753.44	1.59
538	SLU 17	-38	18	4259	5.96	-752.86	4.68
538	SLU 18	-37	7	4341	6.15	-769.05	1.76
538	SLU 19	-38	19	4350	6.02	-768.47	4.86
538	SLU 20	-37	7	4395	6.27	-778.91	1.77
538	SLU 21	-38	19	4404	6.14	-778.32	4.86
538	SLU 22	-39	4	4245	6.14	-753.38	0.95
538	SLU 23	-40	24	4261	5.93	-752.4	6.1
538	SLU 24	-40	3	4328	6.32	-768.51	0.9
538	SLU 25	-41	16	4338	6.19	-767.92	3.99
538	SLU 26	-41	24	4315	6.05	-762.26	6.11
538	SLU 27	-40	3	4382	6.44	-778.37	0.91
538	SLU 28	-41	16	4392	6.32	-777.78	4
538	SLU 29	-40	4	4353	6.39	-773.09	0.96
538	SLU 30	-41	16	4362	6.26	-772.51	4.05
538	SLU 31	-41	26	4726	6.65	-834.82	6.54
538	SLU 32	-40	5	4794	7.04	-850.93	1.34
538	SLU 33	-41	17	4803	6.92	-850.34	4.43
538	SLU 34	-41	26	4780	6.77	-844.68	6.55
538	SLU 35	-41	5	4848	7.16	-860.79	1.35
538	SLU 36	-41	18	4857	7.04	-860.2	4.44
538	SLU 37	-40	5	4818	7.11	-855.52	1.4
538	SLU 38	-41	18	4828	6.98	-854.93	4.5
538	SLU 39	-40	6	4910	7.17	-871.13	1.58
538	SLU 40	-41	18	4919	7.04	-870.54	4.67
538	SLU 41	-40	6	4964	7.29	-880.98	1.59
538	SLU 42	-41	18	4973	7.17	-880.4	4.68
538	SLU 43	-46	6	4584	6.3	-811.7	1.53
538	SLU 44	-48	26	4600	6.09	-810.72	6.69
538	SLU 45	-47	6	4667	6.48	-826.83	1.48
538	SLU 46	-48	18	4677	6.36	-826.24	4.58
538	SLU 47	-48	26	4653	6.21	-820.58	6.69
538	SLU 48	-47	6	4721	6.6	-836.69	1.49
538	SLU 49	-48	18	4731	6.48	-836.1	4.58
538	SLU 50	-47	6	4691	6.55	-831.41	1.55
538	SLU 51	-48	18	4701	6.42	-830.83	4.64
538	SLU 52	-48	28	5065	6.81	-893.14	7.13
538	SLU 53	-48	7	5132	7.2	-909.25	1.93
538	SLU 54	-48	20	5142	7.08	-908.67	5.02
538	SLU 55	-48	28	5119	6.94	-903	7.14
538	SLU 56	-48	7	5186	7.33	-919.11	1.93
538	SLU 57	-49	20	5196	7.2	-918.52	5.03
538	SLU 58	-48	8	5157	7.27	-913.84	1.99
538	SLU 59	-48	20	5166	7.14	-913.25	5.08
538	SLU 60	-47	8	5248	7.33	-929.45	2.16
538	SLU 61	-48	21	5258	7.2	-928.86	5.26
538	SLU 62	-47	8	5302	7.45	-939.31	2.17
538	SLU 63	-48	21	5312	7.33	-938.72	5.26
538	SLU 64	-49	5	5153	7.32	-913.77	1.35
538	SLU 65	-50	26	5168	7.11	-912.79	6.5
538	SLU 66	-50	5	5236	7.5	-928.9	1.3
538	SLU 67	-51	17	5246	7.38	-928.31	4.39
538	SLU 68	-51	26	5222	7.24	-922.65	6.51
538	SLU 69	-50	5	5290	7.63	-938.76	1.31
538	SLU 70	-51	17	5299	7.5	-938.17	4.4
538	SLU 71	-50	5	5260	7.57	-933.49	1.36
538	SLU 72	-51	17	5270	7.44	-932.9	4.46
538	SLU 73	-51	27	5634	7.84	-995.22	6.95
538	SLU 74	-50	7	5701	8.23	-1011.33	1.74
538	SLU 75	-51	19	5711	8.1	-1010.74	4.84
538	SLU 76	-51	27	5688	7.96	-1005.08	6.95
538	SLU 77	-51	7	5755	8.35	-1021.18	1.75
538	SLU 78	-51	19	5765	8.22	-1020.6	4.84
538	SLU 79	-50	7	5726	8.29	-1015.91	1.81
538	SLU 80	-51	19	5735	8.17	-1015.33	4.9
538	SLU 81	-50	8	5817	8.35	-1031.52	1.98
538	SLU 82	-51	20	5827	8.23	-1030.93	5.07
538	SLU 83	-50	8	5871	8.48	-1041.38	1.99
538	SLU 84	-51	20	5881	8.35	-1040.79	5.08
538	SLE RA 1	-37	4	3838	5.41	-680.47	1.08
538	SLE RA 2	-38	18	3849	5.27	-679.82	4.51
538	SLE RA 3	-38	4	3894	5.53	-690.55	1.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
538	SLE RA 4	-38	12	3900	5.45	-690.16	3.11
538	SLE RA 5	-38	18	3885	5.35	-686.39	4.52
538	SLE RA 6	-38	4	3930	5.61	-697.13	1.05
538	SLE RA 7	-38	12	3936	5.53	-696.73	3.11
538	SLE RA 8	-38	4	3910	5.57	-693.61	1.09
538	SLE RA 9	-38	12	3917	5.49	-693.22	3.15
538	SLE RA 10	-38	19	4159	5.75	-734.77	4.81
538	SLE RA 11	-38	5	4204	6.01	-745.5	1.34
538	SLE RA 12	-38	13	4211	5.93	-745.11	3.4
538	SLE RA 13	-39	19	4195	5.83	-741.34	4.81
538	SLE RA 14	-38	5	4240	6.09	-752.08	1.35
538	SLE RA 15	-39	13	4247	6.01	-751.68	3.41
538	SLE RA 16	-38	5	4221	6.05	-748.56	1.38
538	SLE RA 17	-38	14	4227	5.97	-748.17	3.44
538	SLE RA 18	-38	6	4282	6.1	-758.97	1.5
538	SLE RA 19	-38	14	4288	6.01	-758.58	3.56
538	SLE RA 20	-38	6	4318	6.18	-765.54	1.5
538	SLE RA 21	-38	14	4324	6.09	-765.15	3.57
538	SLE FR 1	-37	4	3838	5.41	-680.47	1.08
538	SLE FR 2	-37	7	3841	5.38	-680.34	1.77
538	SLE FR 3	-37	4	3853	5.44	-683.1	1.08
538	SLE FR 4	-38	7	3974	5.59	-703.89	1.89
538	SLE FR 5	-37	5	3986	5.65	-706.65	1.21
538	SLE FR 6	-37	5	4060	5.75	-719.72	1.29
538	SLE QP 1	-37	4	3838	5.41	-680.47	1.08
538	SLE QP 2	-37	5	3971	5.62	-704.02	1.2
538	SLD 1	219	157	5225	5.73	-886.82	39.19
538	SLD 2	233	53	5209	6	-889.84	13.38
538	SLD 3	231	-109	4956	8.65	-893.79	-27.06
538	SLD 4	245	-212	4939	8.92	-896.81	-52.87
538	SLD 5	19	470	4759	1.17	-747.76	117.55
538	SLD 6	28	403	4749	1.34	-749.72	100.86
538	SLD 7	59	-414	3861	10.92	-771	-103.28
538	SLD 8	68	-481	3850	11.09	-772.95	-119.97
538	SLD 9	-143	490	4093	0.14	-635.08	122.38
538	SLD 10	-133	423	4082	0.31	-637.04	105.68
538	SLD 11	-103	-394	3194	9.89	-658.32	-98.45
538	SLD 12	-94	-461	3184	10.06	-660.27	-115.14
538	SLD 13	-320	222	3004	2.31	-511.23	55.28
538	SLD 14	-305	118	2987	2.58	-514.25	29.47
538	SLD 15	-308	-44	2734	5.23	-518.2	-10.97
538	SLD 16	-293	-148	2718	5.5	-521.22	-36.78
538	SLV 1	363	260	5945	5.6	-988.7	64.87
538	SLV 2	385	96	5919	6.03	-993.46	24.24
538	SLV 3	383	-189	5489	10.54	-1000.48	-47.08
538	SLV 4	405	-352	5463	10.97	-1005.24	-87.72
538	SLV 5	48	791	5259	-1.96	-770.67	197.69
538	SLV 6	63	681	5242	-1.67	-773.87	170.33
538	SLV 7	115	-703	3741	14.51	-809.94	-175.5
538	SLV 8	130	-813	3723	14.79	-813.14	-202.85
538	SLV 9	-205	822	4220	-3.56	-594.89	205.26
538	SLV 10	-189	712	4202	-3.28	-598.1	177.91
538	SLV 11	-138	-672	2701	12.9	-634.17	-167.92
538	SLV 12	-123	-782	2683	13.19	-637.37	-195.28
538	SLV 13	-480	361	2479	0.26	-402.8	90.13
538	SLV 14	-457	198	2454	0.69	-407.55	49.49
538	SLV 15	-460	-87	2024	5.2	-414.58	-21.83
538	SLV 16	-437	-250	1998	5.63	-419.33	-62.46
538	SLV FO 1	403	285	6142	5.6	-1017.17	71.24
538	SLV FO 2	428	105	6114	6.07	-1022.4	26.54
538	SLV FO 3	425	-208	5641	11.03	-1030.13	-51.91
538	SLV FO 4	450	-388	5613	11.5	-1035.36	-96.61
538	SLV FO 5	57	870	5388	-2.72	-777.33	217.34
538	SLV FO 6	73	749	5369	-2.4	-780.85	187.24
538	SLV FO 7	130	-773	3717	15.39	-820.53	-193.17
538	SLV FO 8	147	-895	3698	15.71	-824.05	-223.26
538	SLV FO 9	-221	904	4245	-4.48	-583.98	225.67
538	SLV FO 10	-205	783	4225	-4.16	-587.5	195.58
538	SLV FO 11	-148	-740	2574	13.63	-627.18	-184.83
538	SLV FO 12	-131	-861	2555	13.95	-630.71	-214.93
538	SLV FO 13	-524	397	2330	-0.27	-372.67	99.02
538	SLV FO 14	-499	217	2302	0.2	-377.91	54.32
538	SLV FO 15	-502	-96	1829	5.16	-385.63	-24.13
538	SLV FO 16	-477	-276	1801	5.63	-390.87	-68.83
538	CRTFP Ux+	0	0	0	0	0	0
538	CRTFP Ux-	0	0	0	0	0	0
538	CRTFP Uy+	0	0	0	0	0	0
538	CRTFP Uy-	0	0	0	0	0	0
541	SLU 1	-54	-21	6242	2.71	-22.73	-0.62
541	SLU 2	-55	11	6258	2.25	-21.6	-0.74
541	SLU 3	-55	-22	6380	2.92	-23.38	-0.65
541	SLU 4	-55	-3	6389	2.65	-22.71	-0.72
541	SLU 5	-55	10	6347	2.41	-22.08	-0.76
541	SLU 6	-55	-22	6469	3.07	-23.86	-0.67
541	SLU 7	-56	-3	6479	2.8	-23.18	-0.74
541	SLU 8	-55	-22	6421	3.02	-23.68	-0.66
541	SLU 9	-55	-3	6430	2.74	-23	-0.73
541	SLU 10	-55	10	7090	2.77	-26.01	-0.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
541	SLU 11	-55	-23	7212	3.43	-27.79	-0.74
541	SLU 12	-56	-4	7222	3.16	-27.12	-0.8
541	SLU 13	-55	9	7179	2.92	-26.49	-0.84
541	SLU 14	-56	-23	7301	3.59	-28.27	-0.76
541	SLU 15	-56	-4	7311	3.31	-27.59	-0.83
541	SLU 16	-55	-23	7253	3.53	-28.09	-0.75
541	SLU 17	-56	-4	7262	3.26	-27.41	-0.82
541	SLU 18	-54	-23	7431	3.44	-29.03	-0.75
541	SLU 19	-55	-4	7440	3.17	-28.35	-0.81
541	SLU 20	-55	-23	7520	3.6	-29.5	-0.77
541	SLU 21	-55	-4	7529	3.32	-28.83	-0.84
541	SLU 22	-58	-24	7221	3.63	-26.59	-0.8
541	SLU 23	-59	8	7236	3.18	-25.46	-0.91
541	SLU 24	-59	-24	7359	3.84	-27.25	-0.82
541	SLU 25	-60	-5	7368	3.57	-26.57	-0.89
541	SLU 26	-60	8	7326	3.33	-25.94	-0.93
541	SLU 27	-60	-25	7448	4	-27.72	-0.85
541	SLU 28	-60	-5	7458	3.72	-27.05	-0.91
541	SLU 29	-59	-24	7399	3.94	-27.54	-0.84
541	SLU 30	-60	-5	7409	3.66	-26.87	-0.91
541	SLU 31	-59	7	8069	3.69	-29.87	-1
541	SLU 32	-60	-25	8191	4.35	-31.66	-0.91
541	SLU 33	-60	-6	8200	4.08	-30.98	-0.98
541	SLU 34	-60	7	8158	3.84	-30.35	-1.02
541	SLU 35	-60	-26	8280	4.51	-32.13	-0.93
541	SLU 36	-60	-6	8290	4.24	-31.45	-1
541	SLU 37	-60	-26	8232	4.45	-31.95	-0.93
541	SLU 38	-60	-6	8241	4.18	-31.27	-0.99
541	SLU 39	-59	-25	8409	4.36	-32.89	-0.92
541	SLU 40	-59	-6	8419	4.09	-32.21	-0.99
541	SLU 41	-59	-26	8499	4.52	-33.36	-0.94
541	SLU 42	-60	-6	8508	4.24	-32.69	-1.01
541	SLU 43	-69	-27	7779	3.21	-28.22	-0.75
541	SLU 44	-69	5	7795	2.75	-27.1	-0.86
541	SLU 45	-70	-28	7917	3.42	-28.88	-0.78
541	SLU 46	-70	-8	7926	3.14	-28.2	-0.84
541	SLU 47	-70	5	7884	2.9	-27.57	-0.88
541	SLU 48	-70	-28	8006	3.57	-29.35	-0.8
541	SLU 49	-70	-9	8016	3.3	-28.68	-0.87
541	SLU 50	-69	-28	7958	3.51	-29.17	-0.79
541	SLU 51	-70	-8	7967	3.24	-28.5	-0.86
541	SLU 52	-70	4	8627	3.26	-31.51	-0.95
541	SLU 53	-70	-29	8749	3.93	-33.29	-0.86
541	SLU 54	-70	-9	8759	3.66	-32.61	-0.93
541	SLU 55	-70	4	8716	3.42	-31.98	-0.97
541	SLU 56	-70	-29	8838	4.08	-33.76	-0.88
541	SLU 57	-71	-10	8848	3.81	-33.09	-0.95
541	SLU 58	-70	-29	8790	4.02	-33.58	-0.88
541	SLU 59	-70	-10	8799	3.75	-32.91	-0.95
541	SLU 60	-69	-29	8968	3.94	-34.52	-0.87
541	SLU 61	-69	-9	8977	3.67	-33.85	-0.94
541	SLU 62	-69	-29	9057	4.09	-35	-0.9
541	SLU 63	-70	-10	9066	3.82	-34.32	-0.96
541	SLU 64	-73	-29	8758	4.13	-32.09	-0.92
541	SLU 65	-74	3	8773	3.67	-30.96	-1.04
541	SLU 66	-74	-30	8896	4.34	-32.74	-0.95
541	SLU 67	-74	-11	8905	4.07	-32.06	-1.02
541	SLU 68	-74	2	8863	3.83	-31.43	-1.06
541	SLU 69	-74	-30	8985	4.49	-33.22	-0.97
541	SLU 70	-75	-11	8995	4.22	-32.54	-1.04
541	SLU 71	-74	-30	8936	4.43	-33.03	-0.97
541	SLU 72	-74	-11	8946	4.16	-32.36	-1.03
541	SLU 73	-74	2	9606	4.19	-35.37	-1.12
541	SLU 74	-74	-31	9728	4.85	-37.15	-1.04
541	SLU 75	-75	-12	9737	4.58	-36.47	-1.11
541	SLU 76	-74	1	9695	4.34	-35.84	-1.14
541	SLU 77	-75	-31	9817	5	-37.62	-1.06
541	SLU 78	-75	-12	9827	4.73	-36.95	-1.13
541	SLU 79	-74	-31	9768	4.95	-37.44	-1.05
541	SLU 80	-75	-12	9778	4.67	-36.77	-1.12
541	SLU 81	-73	-31	9946	4.86	-38.38	-1.05
541	SLU 82	-74	-12	9956	4.59	-37.71	-1.12
541	SLU 83	-74	-31	10036	5.01	-38.86	-1.07
541	SLU 84	-74	-12	10045	4.74	-38.18	-1.14
541	SLE RA 1	-55	-22	6522	2.97	-23.83	-0.67
541	SLE RA 2	-56	-1	6532	2.67	-23.08	-0.75
541	SLE RA 3	-56	-22	6614	3.11	-24.27	-0.69
541	SLE RA 4	-56	-10	6620	2.93	-23.82	-0.74
541	SLE RA 5	-56	-1	6592	2.77	-23.4	-0.76
541	SLE RA 6	-56	-23	6673	3.22	-24.59	-0.7
541	SLE RA 7	-56	-10	6679	3.03	-24.13	-0.75
541	SLE RA 8	-56	-23	6641	3.18	-24.47	-0.7
541	SLE RA 9	-56	-10	6647	2.99	-24.01	-0.75
541	SLE RA 10	-56	-1	7087	3.01	-26.02	-0.81
541	SLE RA 11	-56	-23	7168	3.46	-27.21	-0.75
541	SLE RA 12	-56	-10	7175	3.27	-26.76	-0.79
541	SLE RA 13	-56	-2	7146	3.11	-26.34	-0.82
541	SLE RA 14	-56	-23	7228	3.56	-27.52	-0.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
541	SLE RA 15	-57	-11	7234	3.38	-27.07	-0.81
541	SLE RA 16	-56	-23	7195	3.52	-27.4	-0.76
541	SLE RA 17	-56	-10	7202	3.34	-26.95	-0.8
541	SLE RA 18	-56	-23	7314	3.46	-28.03	-0.76
541	SLE RA 19	-56	-10	7320	3.28	-27.58	-0.8
541	SLE RA 20	-56	-23	7374	3.56	-28.35	-0.77
541	SLE RA 21	-56	-10	7380	3.38	-27.9	-0.81
541	SLE FR 1	-55	-22	6522	2.97	-23.83	-0.67
541	SLE FR 2	-55	-18	6524	2.91	-23.68	-0.69
541	SLE FR 3	-55	-22	6545	3.01	-23.96	-0.68
541	SLE FR 4	-55	-18	6761	3.06	-24.94	-0.71
541	SLE FR 5	-55	-22	6783	3.16	-25.22	-0.7
541	SLE FR 6	-55	-23	6918	3.22	-25.93	-0.71
541	SLE QP 1	-55	-22	6522	2.97	-23.83	-0.67
541	SLE QP 2	-55	-22	6759	3.12	-25.09	-0.7
541	SLD 1	486	187	7602	0.3	-0.78	-0.38
541	SLD 2	513	105	7585	0.64	-2.5	1.88
541	SLD 3	493	-224	7325	6.78	-13.35	0.73
541	SLD 4	520	-306	7308	7.12	-15.07	2.99
541	SLD 5	92	678	7435	-7.6	1.56	-2.68
541	SLD 6	109	625	7424	-7.38	0.45	-1.22
541	SLD 7	115	-692	6512	13.98	-40.34	1.02
541	SLD 8	133	-745	6501	14.2	-41.45	2.48
541	SLD 9	-243	700	7017	-7.96	-8.73	-3.88
541	SLD 10	-226	647	7006	-7.74	-9.85	-2.42
541	SLD 11	-220	-670	6095	13.62	-50.63	-0.18
541	SLD 12	-202	-723	6084	13.84	-51.75	1.28
541	SLD 13	-631	261	6210	-0.88	-35.11	-4.38
541	SLD 14	-604	179	6193	-0.54	-36.83	-2.12
541	SLD 15	-624	-150	5934	5.59	-47.68	-3.27
541	SLD 16	-597	-232	5916	5.94	-49.4	-1.01
541	SLV 1	791	332	8092	-1.69	13.68	-0.29
541	SLV 2	834	202	8065	-1.16	10.97	3.27
541	SLV 3	803	-363	7624	9.25	-7.55	1.58
541	SLV 4	846	-492	7597	9.78	-10.26	5.14
541	SLV 5	173	1161	7874	-15.02	19.24	-4.08
541	SLV 6	202	1074	7856	-14.66	17.42	-1.68
541	SLV 7	212	-1154	6313	21.45	-51.52	2.16
541	SLV 8	241	-1241	6295	21.81	-53.35	4.55
541	SLV 9	-352	1196	7223	-15.57	3.16	-5.95
541	SLV 10	-323	1109	7205	-15.21	1.34	-3.56
541	SLV 11	-312	-1119	5662	20.89	-67.6	0.29
541	SLV 12	-283	-1206	5644	21.25	-69.43	2.68
541	SLV 13	-957	448	5922	-3.55	-39.92	-6.53
541	SLV 14	-914	318	5895	-3.01	-42.63	-2.98
541	SLV 15	-945	-247	5453	7.39	-61.15	-4.66
541	SLV 16	-902	-376	5426	7.93	-63.86	-1.11
541	SLV FO 1	876	367	8225	-2.17	17.56	-0.25
541	SLV FO 2	923	225	8196	-1.58	14.57	3.67
541	SLV FO 3	889	-397	7710	9.86	-5.8	1.81
541	SLV FO 4	936	-539	7681	10.45	-8.78	5.72
541	SLV FO 5	196	1280	7986	-16.83	23.68	-4.41
541	SLV FO 6	227	1184	7966	-16.43	21.67	-1.78
541	SLV FO 7	239	-1267	6269	23.28	-54.16	2.45
541	SLV FO 8	271	-1363	6249	23.68	-56.17	5.08
541	SLV FO 9	-381	1318	7270	-17.44	5.99	-6.47
541	SLV FO 10	-349	1222	7250	-17.04	3.98	-3.84
541	SLV FO 11	-338	-1228	5553	22.67	-71.85	0.38
541	SLV FO 12	-306	-1324	5533	23.07	-73.86	3.02
541	SLV FO 13	-1047	495	5838	-4.21	-41.41	-7.12
541	SLV FO 14	-1000	352	5808	-3.62	-44.39	-3.21
541	SLV FO 15	-1034	-269	5323	7.82	-64.76	-5.06
541	SLV FO 16	-987	-412	5293	8.41	-67.74	-1.15
541	CRTFP Ux+	0	0	0	0	0	0
541	CRTFP Ux-	0	0	0	0	0	0
541	CRTFP Uy+	0	0	0	0	0	0
541	CRTFP Uy-	0	0	0	0	0	0
544	SLU 1	112	-64	6200	2.16	21.69	-1.33
544	SLU 2	113	-31	6221	1.66	20.12	-1.31
544	SLU 3	114	-65	6328	2.37	22.37	-1.39
544	SLU 4	115	-46	6341	2.07	21.43	-1.38
544	SLU 5	114	-32	6301	1.82	20.66	-1.36
544	SLU 6	116	-66	6409	2.52	22.91	-1.44
544	SLU 7	116	-46	6421	2.22	21.97	-1.43
544	SLU 8	114	-66	6360	2.47	22.76	-1.44
544	SLU 9	115	-46	6373	2.17	21.82	-1.42
544	SLU 10	121	-37	7026	2.04	22.74	-1.47
544	SLU 11	122	-71	7133	2.75	24.98	-1.56
544	SLU 12	123	-51	7146	2.45	24.05	-1.54
544	SLU 13	122	-38	7106	2.2	23.27	-1.53
544	SLU 14	124	-72	7213	2.9	25.52	-1.61
544	SLU 15	124	-52	7226	2.6	24.58	-1.59
544	SLU 16	122	-71	7165	2.85	25.38	-1.6
544	SLU 17	123	-51	7178	2.55	24.44	-1.59
544	SLU 18	124	-72	7350	2.7	25.42	-1.57
544	SLU 19	124	-52	7362	2.4	24.48	-1.56
544	SLU 20	125	-73	7430	2.86	25.96	-1.62
544	SLU 21	125	-53	7442	2.56	25.02	-1.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
544	SLU 22	126	-71	7152	2.98	24.41	-1.52
544	SLU 23	126	-38	7173	2.47	22.85	-1.49
544	SLU 24	128	-73	7281	3.18	25.1	-1.58
544	SLU 25	129	-53	7293	2.88	24.16	-1.56
544	SLU 26	127	-39	7253	2.63	23.38	-1.54
544	SLU 27	129	-73	7361	3.34	25.63	-1.63
544	SLU 28	130	-53	7373	3.03	24.69	-1.61
544	SLU 29	128	-73	7312	3.29	25.49	-1.62
544	SLU 30	128	-53	7325	2.98	24.55	-1.61
544	SLU 31	134	-44	7978	2.85	25.46	-1.66
544	SLU 32	136	-78	8085	3.56	27.71	-1.74
544	SLU 33	137	-58	8098	3.26	26.77	-1.73
544	SLU 34	135	-45	8058	3.01	26	-1.71
544	SLU 35	137	-79	8166	3.71	28.25	-1.79
544	SLU 36	138	-59	8178	3.41	27.31	-1.78
544	SLU 37	136	-78	8117	3.66	28.1	-1.79
544	SLU 38	136	-58	8130	3.36	27.16	-1.77
544	SLU 39	138	-79	8302	3.51	28.15	-1.76
544	SLU 40	138	-60	8315	3.21	27.21	-1.74
544	SLU 41	139	-80	8382	3.67	28.68	-1.81
544	SLU 42	139	-60	8395	3.37	27.74	-1.79
544	SLU 43	141	-81	7733	2.54	27.26	-1.67
544	SLU 44	141	-48	7754	2.04	25.7	-1.65
544	SLU 45	143	-82	7862	2.74	27.94	-1.73
544	SLU 46	144	-63	7874	2.44	27	-1.71
544	SLU 47	142	-49	7834	2.19	26.23	-1.7
544	SLU 48	144	-83	7942	2.9	28.48	-1.78
544	SLU 49	145	-63	7955	2.6	27.54	-1.77
544	SLU 50	143	-82	7894	2.85	28.33	-1.77
544	SLU 51	143	-63	7906	2.54	27.39	-1.76
544	SLU 52	149	-54	8559	2.41	28.31	-1.81
544	SLU 53	151	-88	8667	3.12	30.56	-1.9
544	SLU 54	152	-68	8679	2.82	29.62	-1.88
544	SLU 55	150	-54	8639	2.57	28.85	-1.86
544	SLU 56	152	-88	8747	3.27	31.09	-1.95
544	SLU 57	153	-69	8759	2.97	30.15	-1.93
544	SLU 58	151	-88	8699	3.22	30.95	-1.94
544	SLU 59	151	-68	8711	2.92	30.01	-1.92
544	SLU 60	153	-89	8883	3.08	31	-1.91
544	SLU 61	153	-69	8896	2.77	30.06	-1.89
544	SLU 62	154	-90	8963	3.23	31.53	-1.96
544	SLU 63	154	-70	8976	2.93	30.59	-1.94
544	SLU 64	155	-88	8686	3.35	29.99	-1.86
544	SLU 65	155	-55	8707	2.85	28.42	-1.83
544	SLU 66	157	-89	8814	3.55	30.67	-1.91
544	SLU 67	157	-70	8827	3.25	29.73	-1.9
544	SLU 68	156	-56	8787	3	28.96	-1.88
544	SLU 69	158	-90	8894	3.71	31.2	-1.97
544	SLU 70	158	-70	8907	3.41	30.26	-1.95
544	SLU 71	157	-89	8846	3.66	31.06	-1.96
544	SLU 72	157	-70	8858	3.36	30.12	-1.94
544	SLU 73	163	-61	9511	3.22	31.03	-2
544	SLU 74	165	-95	9619	3.93	33.28	-2.08
544	SLU 75	165	-75	9632	3.63	32.34	-2.07
544	SLU 76	164	-61	9592	3.38	31.57	-2.05
544	SLU 77	166	-96	9699	4.08	33.82	-2.13
544	SLU 78	166	-76	9712	3.78	32.88	-2.12
544	SLU 79	165	-95	9651	4.03	33.67	-2.12
544	SLU 80	165	-75	9663	3.73	32.73	-2.11
544	SLU 81	166	-96	9835	3.89	33.72	-2.09
544	SLU 82	167	-76	9848	3.59	32.78	-2.08
544	SLU 83	168	-97	9916	4.04	34.26	-2.14
544	SLU 84	168	-77	9928	3.74	33.32	-2.13
544	SLE RA 1	116	-66	6472	2.4	22.47	-1.39
544	SLE RA 2	116	-44	6486	2.06	21.42	-1.37
544	SLE RA 3	118	-67	6558	2.53	22.92	-1.43
544	SLE RA 4	118	-54	6566	2.33	22.3	-1.42
544	SLE RA 5	117	-45	6539	2.17	21.78	-1.4
544	SLE RA 6	118	-67	6611	2.64	23.28	-1.46
544	SLE RA 7	118	-54	6619	2.44	22.65	-1.45
544	SLE RA 8	118	-67	6579	2.6	23.18	-1.45
544	SLE RA 9	118	-54	6587	2.4	22.56	-1.44
544	SLE RA 10	122	-48	7023	2.31	23.17	-1.48
544	SLE RA 11	123	-71	7094	2.78	24.66	-1.54
544	SLE RA 12	123	-58	7103	2.58	24.04	-1.53
544	SLE RA 13	122	-48	7076	2.42	23.52	-1.51
544	SLE RA 14	124	-71	7148	2.89	25.02	-1.57
544	SLE RA 15	124	-58	7156	2.69	24.4	-1.56
544	SLE RA 16	123	-71	7115	2.85	24.92	-1.57
544	SLE RA 17	123	-58	7124	2.65	24.3	-1.56
544	SLE RA 18	124	-72	7239	2.76	24.96	-1.55
544	SLE RA 19	124	-58	7247	2.56	24.33	-1.53
544	SLE RA 20	125	-72	7292	2.86	25.31	-1.58
544	SLE RA 21	125	-59	7300	2.66	24.69	-1.57
544	SLE FR 1	116	-66	6472	2.4	22.47	-1.39
544	SLE FR 2	116	-62	6475	2.33	22.26	-1.38
544	SLE FR 3	116	-66	6493	2.44	22.61	-1.4
544	SLE FR 4	119	-63	6705	2.44	23.01	-1.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
544	SLE FR 5	119	-68	6723	2.55	23.36	-1.45
544	SLE FR 6	120	-69	6855	2.58	23.71	-1.47
544	SLE QP 1	116	-66	6472	2.4	22.47	-1.39
544	SLE QP 2	118	-68	6702	2.5	23.21	-1.43
544	SLD 1	650	163	6281	-1.13	25.02	0.23
544	SLD 2	682	244	6298	-1.53	22.35	2.52
544	SLD 3	655	-271	5920	5.97	41.3	0.06
544	SLD 4	687	-190	5936	5.57	38.64	2.35
544	SLD 5	266	646	7120	-9.29	-0.48	-1.08
544	SLD 6	287	698	7131	-9.55	-2.21	0.4
544	SLD 7	280	-801	5917	14.39	53.8	-1.64
544	SLD 8	301	-749	5927	14.12	52.08	-0.15
544	SLD 9	-64	614	7476	-9.12	-5.65	-2.71
544	SLD 10	-43	666	7487	-9.38	-7.38	-1.23
544	SLD 11	-50	-834	6273	14.56	48.64	-3.27
544	SLD 12	-29	-782	6283	14.29	46.91	-1.79
544	SLD 13	-450	55	7467	-0.56	7.79	-5.22
544	SLD 14	-418	135	7484	-0.97	5.13	-2.93
544	SLD 15	-445	-380	7106	6.54	24.08	-5.39
544	SLD 16	-413	-299	7123	6.14	21.41	-3.1
544	SLV 1	950	321	6068	-3.64	25.2	1.15
544	SLV 2	1001	448	6095	-4.28	21	4.76
544	SLV 3	958	-413	5458	8.36	52.7	0.87
544	SLV 4	1008	-286	5485	7.72	48.51	4.48
544	SLV 5	347	1138	7433	-17.42	-17.13	-0.91
544	SLV 6	381	1224	7450	-17.85	-19.95	1.52
544	SLV 7	372	-1308	5398	22.58	74.56	-1.84
544	SLV 8	406	-1223	5416	22.15	71.74	0.59
544	SLV 9	-169	1087	7988	-17.14	-25.31	-3.46
544	SLV 10	-135	1173	8006	-17.57	-28.14	-1.03
544	SLV 11	-144	-1359	5953	22.86	66.38	-4.39
544	SLV 12	-110	-1274	5971	22.43	63.56	-1.96
544	SLV 13	-771	151	7919	-2.71	-2.08	-7.35
544	SLV 14	-721	277	7946	-3.35	-6.28	-3.74
544	SLV 15	-764	-583	7309	9.29	25.43	-7.63
544	SLV 16	-713	-457	7336	8.65	21.23	-4.02
544	SLV FO 1	1033	360	6005	-4.25	25.39	1.41
544	SLV FO 2	1089	499	6034	-4.96	20.78	5.38
544	SLV FO 3	1042	-448	5334	8.95	55.65	1.1
544	SLV FO 4	1097	-308	5363	8.24	51.04	5.07
544	SLV FO 5	370	1259	7506	-19.41	-21.16	-0.85
544	SLV FO 6	408	1353	7525	-19.88	-24.27	1.82
544	SLV FO 7	397	-1432	5268	24.59	79.7	-1.88
544	SLV FO 8	435	-1339	5287	24.11	76.59	0.79
544	SLV FO 9	-198	1203	8116	-19.11	-30.16	-3.66
544	SLV FO 10	-160	1297	8136	-19.58	-33.27	-0.99
544	SLV FO 11	-171	-1489	5879	24.89	70.7	-4.69
544	SLV FO 12	-133	-1395	5898	24.42	67.59	-2.01
544	SLV FO 13	-860	173	8041	-3.23	-4.61	-7.94
544	SLV FO 14	-805	312	8070	-3.94	-9.23	-3.97
544	SLV FO 15	-852	-635	7370	9.96	25.65	-8.25
544	SLV FO 16	-796	-495	7399	9.26	21.03	-4.28
544	CRTFP Ux+	0	0	0	0	0	0
544	CRTFP Ux-	0	0	0	0	0	0
544	CRTFP Uy+	0	0	0	0	0	0
544	CRTFP Uy-	0	0	0	0	0	0
547	SLU 1	59	27	4225	6.62	1116.44	-9.77
547	SLU 2	60	51	4242	6.38	1116.29	-18.09
547	SLU 3	60	28	4313	6.84	1140.09	-10.1
547	SLU 4	61	42	4323	6.7	1140	-15.1
547	SLU 5	60	52	4294	6.54	1130.83	-18.5
547	SLU 6	60	29	4365	7	1154.63	-10.52
547	SLU 7	61	43	4375	6.86	1154.54	-15.51
547	SLU 8	60	29	4330	6.93	1145.52	-10.6
547	SLU 9	61	44	4340	6.79	1145.43	-15.59
547	SLU 10	63	54	4768	7.28	1253.75	-19.31
547	SLU 11	63	31	4838	7.74	1277.55	-11.32
547	SLU 12	64	46	4848	7.6	1277.46	-16.32
547	SLU 13	64	55	4820	7.44	1268.29	-19.72
547	SLU 14	64	33	4891	7.9	1292.09	-11.74
547	SLU 15	64	47	4901	7.76	1292	-16.73
547	SLU 16	63	33	4856	7.83	1282.98	-11.82
547	SLU 17	64	47	4866	7.69	1282.89	-16.81
547	SLU 18	63	32	4976	7.9	1312.81	-11.51
547	SLU 19	64	46	4986	7.76	1312.72	-16.5
547	SLU 20	64	33	5029	8.06	1327.35	-11.92
547	SLU 21	65	47	5039	7.92	1327.26	-16.92
547	SLU 22	65	29	4861	7.89	1284.9	-10.31
547	SLU 23	66	52	4878	7.65	1284.75	-18.63
547	SLU 24	66	29	4948	8.11	1308.55	-10.64
547	SLU 25	67	44	4958	7.97	1308.46	-15.64
547	SLU 26	67	53	4930	7.81	1299.29	-19.04
547	SLU 27	67	31	5001	8.27	1323.09	-11.06
547	SLU 28	68	45	5011	8.13	1323	-16.05
547	SLU 29	66	31	4966	8.2	1313.98	-11.14
547	SLU 30	67	45	4976	8.06	1313.89	-16.13
547	SLU 31	69	56	5403	8.55	1422.21	-19.85
547	SLU 32	69	33	5474	9.01	1446.01	-11.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
547	SLU 33	70	47	5484	8.87	1445.92	-16.86
547	SLU 34	70	57	5456	8.71	1436.75	-20.26
547	SLU 35	70	34	5527	9.17	1460.55	-12.28
547	SLU 36	71	48	5537	9.03	1460.46	-17.27
547	SLU 37	70	34	5492	9.1	1451.44	-12.36
547	SLU 38	70	49	5502	8.96	1451.35	-17.35
547	SLU 39	70	33	5612	9.17	1481.27	-12.05
547	SLU 40	70	48	5622	9.03	1481.18	-17.04
547	SLU 41	70	35	5665	9.33	1495.81	-12.47
547	SLU 42	71	49	5675	9.19	1495.72	-17.46
547	SLU 43	74	35	5275	8.17	1393.61	-12.51
547	SLU 44	75	59	5291	7.93	1393.47	-20.84
547	SLU 45	75	36	5362	8.39	1417.26	-12.85
547	SLU 46	76	50	5372	8.25	1417.18	-17.84
547	SLU 47	76	60	5344	8.09	1408	-21.25
547	SLU 48	76	37	5415	8.55	1431.8	-13.26
547	SLU 49	77	51	5425	8.41	1431.71	-18.26
547	SLU 50	75	37	5380	8.48	1422.69	-13.34
547	SLU 51	76	51	5390	8.34	1422.6	-18.33
547	SLU 52	78	62	5817	8.83	1530.93	-22.05
547	SLU 53	78	39	5888	9.29	1554.73	-14.07
547	SLU 54	79	53	5898	9.15	1554.64	-19.06
547	SLU 55	79	63	5870	8.99	1545.46	-22.47
547	SLU 56	79	40	5940	9.45	1569.26	-14.48
547	SLU 57	80	54	5950	9.31	1569.17	-19.47
547	SLU 58	78	40	5906	9.38	1560.15	-14.56
547	SLU 59	79	55	5915	9.24	1560.06	-19.55
547	SLU 60	78	40	6026	9.46	1589.99	-14.26
547	SLU 61	79	54	6036	9.31	1589.9	-19.25
547	SLU 62	79	41	6078	9.61	1604.53	-14.67
547	SLU 63	80	55	6088	9.47	1604.44	-19.66
547	SLU 64	80	36	5911	9.44	1562.08	-13.06
547	SLU 65	82	60	5927	9.2	1561.93	-21.38
547	SLU 66	82	37	5998	9.66	1585.73	-13.39
547	SLU 67	82	51	6008	9.52	1585.64	-18.38
547	SLU 68	82	61	5980	9.36	1576.46	-21.79
547	SLU 69	82	38	6050	9.82	1600.26	-13.8
547	SLU 70	83	53	6060	9.68	1600.17	-18.8
547	SLU 71	82	38	6016	9.75	1591.15	-13.88
547	SLU 72	82	53	6025	9.61	1591.06	-18.88
547	SLU 73	85	63	6453	10.1	1699.39	-22.59
547	SLU 74	85	40	6524	10.56	1723.19	-14.61
547	SLU 75	86	55	6534	10.42	1723.1	-19.6
547	SLU 76	85	65	6505	10.26	1713.93	-23.01
547	SLU 77	85	42	6576	10.72	1737.72	-15.02
547	SLU 78	86	56	6586	10.58	1737.63	-20.02
547	SLU 79	85	42	6541	10.65	1728.61	-15.1
547	SLU 80	86	56	6551	10.51	1728.52	-20.09
547	SLU 81	85	41	6662	10.72	1758.45	-14.8
547	SLU 82	86	55	6672	10.58	1758.36	-19.79
547	SLU 83	86	42	6714	10.88	1772.99	-15.21
547	SLU 84	86	56	6724	10.74	1772.9	-20.2
547	SLE RA 1	60	27	4407	6.98	1164.57	-9.92
547	SLE RA 2	61	43	4418	6.82	1164.47	-15.47
547	SLE RA 3	61	28	4465	7.13	1180.34	-10.15
547	SLE RA 4	62	38	4472	7.04	1180.28	-13.48
547	SLE RA 5	62	44	4453	6.93	1174.16	-15.75
547	SLE RA 6	62	29	4500	7.23	1190.03	-10.42
547	SLE RA 7	62	38	4507	7.14	1189.97	-13.75
547	SLE RA 8	61	29	4477	7.19	1183.96	-10.48
547	SLE RA 9	62	39	4483	7.09	1183.9	-13.8
547	SLE RA 10	63	46	4768	7.42	1256.11	-16.28
547	SLE RA 11	63	30	4816	7.73	1271.98	-10.96
547	SLE RA 12	64	40	4822	7.64	1271.92	-14.29
547	SLE RA 13	64	46	4803	7.53	1265.81	-16.56
547	SLE RA 14	64	31	4851	7.84	1281.67	-11.24
547	SLE RA 15	64	41	4857	7.74	1281.61	-14.56
547	SLE RA 16	63	31	4827	7.79	1275.6	-11.29
547	SLE RA 17	64	41	4834	7.69	1275.54	-14.62
547	SLE RA 18	63	31	4908	7.84	1295.49	-11.08
547	SLE RA 19	64	40	4914	7.74	1295.43	-14.41
547	SLE RA 20	64	32	4943	7.94	1305.18	-11.36
547	SLE RA 21	64	41	4949	7.85	1305.12	-14.69
547	SLE FR 1	60	27	4407	6.98	1164.57	-9.92
547	SLE FR 2	61	31	4409	6.95	1164.55	-11.03
547	SLE FR 3	61	28	4421	7.02	1168.45	-10.03
547	SLE FR 4	61	32	4559	7.21	1203.83	-11.38
547	SLE FR 5	61	29	4571	7.28	1207.72	-10.38
547	SLE FR 6	62	29	4657	7.41	1230.03	-10.5
547	SLE QP 1	60	27	4407	6.98	1164.57	-9.92
547	SLE QP 2	61	28	4557	7.24	1203.85	-10.27
547	SLD 1	376	86	3501	3.76	919.53	-30.65
547	SLD 2	396	207	3522	3.47	918.81	-72.57
547	SLD 3	364	-220	3235	7.13	916.61	76.43
547	SLD 4	383	-99	3256	6.85	915.9	34.5
547	SLD 5	172	489	4640	1.13	1123.1	-171.51
547	SLD 6	184	567	4653	0.95	1122.63	-198.63
547	SLD 7	130	-531	3754	12.37	1113.38	185.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
547	SLD 8	142	-453	3767	12.18	1112.92	158.28
547	SLD 9	-19	510	5347	2.29	1294.78	-178.83
547	SLD 10	-7	588	5360	2.11	1294.31	-205.95
547	SLD 11	-61	-510	4461	13.53	1285.06	178.09
547	SLD 12	-49	-432	4474	13.34	1284.6	150.96
547	SLD 13	-260	156	5858	7.63	1491.8	-55.05
547	SLD 14	-241	277	5879	7.34	1491.08	-96.97
547	SLD 15	-273	-150	5592	11	1488.88	52.03
547	SLD 16	-254	-29	5613	10.71	1488.16	10.1
547	SLV 1	555	137	2927	1.6	760.43	-48.51
547	SLV 2	585	327	2959	1.15	759.3	-114.52
547	SLV 3	534	-380	2478	7.29	755.62	132.48
547	SLV 4	564	-191	2510	6.84	754.49	66.46
547	SLV 5	236	810	4742	-3.01	1078.33	-283.91
547	SLV 6	256	938	4764	-3.31	1077.57	-328.36
547	SLV 7	165	-914	3247	15.98	1062.29	319.37
547	SLV 8	185	-787	3269	15.67	1061.53	274.92
547	SLV 9	-63	843	5846	-1.2	1346.16	-295.46
547	SLV 10	-43	971	5867	-1.5	1345.4	-339.91
547	SLV 11	-134	-881	4350	17.79	1330.13	307.82
547	SLV 12	-114	-753	4372	17.48	1329.37	263.37
547	SLV 13	-441	248	6604	7.63	1653.21	-87.01
547	SLV 14	-411	437	6636	7.18	1652.08	-153.02
547	SLV 15	-463	-270	6155	13.33	1648.4	93.98
547	SLV 16	-433	-80	6188	12.88	1647.27	27.96
547	SLV FO 1	605	148	2764	1.03	716.09	-52.33
547	SLV FO 2	638	357	2799	0.54	714.84	-124.95
547	SLV FO 3	581	-421	2270	7.3	710.8	146.75
547	SLV FO 4	614	-213	2306	6.8	709.55	74.14
547	SLV FO 5	254	889	4761	-4.03	1065.77	-311.28
547	SLV FO 6	276	1029	4785	-4.37	1064.94	-360.17
547	SLV FO 7	176	-1008	3116	16.85	1048.14	352.33
547	SLV FO 8	198	-868	3140	16.52	1047.3	303.44
547	SLV FO 9	-75	925	5974	-2.04	1360.39	-323.98
547	SLV FO 10	-53	1065	5998	-2.37	1359.55	-372.87
547	SLV FO 11	-153	-972	4329	18.84	1342.76	339.63
547	SLV FO 12	-131	-832	4353	18.51	1341.92	290.74
547	SLV FO 13	-492	269	6808	7.67	1698.14	-94.68
547	SLV FO 14	-459	478	6844	7.18	1696.9	-167.3
547	SLV FO 15	-515	-300	6315	13.94	1692.85	104.4
547	SLV FO 16	-482	-91	6351	13.44	1691.61	31.79
547	CRTFP Ux+	0	0	0	0	0	0
547	CRTFP Ux-	0	0	0	0	0	0
547	CRTFP Uy+	0	0	0	0	0	0
547	CRTFP Uy-	0	0	0	0	0	0
550	SLU 1	36	-41	3493	0.22	1371.93	16.23
550	SLU 2	35	-22	3498	0.04	1373.43	8.71
550	SLU 3	36	-42	3569	0.28	1401.63	16.68
550	SLU 4	36	-30	3572	0.18	1402.52	12.16
550	SLU 5	36	-23	3547	0.1	1392.61	9.05
550	SLU 6	37	-43	3617	0.33	1420.81	17.02
550	SLU 7	37	-31	3620	0.23	1421.71	12.51
550	SLU 8	36	-42	3590	0.32	1410.3	16.92
550	SLU 9	36	-31	3593	0.22	1411.2	12.4
550	SLU 10	39	-27	3966	0.11	1558.32	10.74
550	SLU 11	40	-47	4036	0.34	1586.52	18.71
550	SLU 12	40	-36	4039	0.24	1587.42	14.2
550	SLU 13	40	-28	4014	0.16	1577.51	11.08
550	SLU 14	40	-48	4085	0.39	1605.71	19.05
550	SLU 15	40	-36	4088	0.29	1606.61	14.54
550	SLU 16	40	-47	4058	0.38	1595.2	18.95
550	SLU 17	40	-36	4061	0.28	1596.1	14.44
550	SLU 18	41	-48	4161	0.3	1636.07	19.13
550	SLU 19	41	-37	4164	0.2	1636.97	14.62
550	SLU 20	41	-49	4210	0.36	1655.26	19.48
550	SLU 21	41	-37	4213	0.25	1656.15	14.97
550	SLU 22	40	-46	4019	0.45	1578.53	18.47
550	SLU 23	40	-27	4024	0.28	1580.03	10.95
550	SLU 24	41	-47	4094	0.52	1608.23	18.92
550	SLU 25	41	-36	4097	0.41	1609.13	14.4
550	SLU 26	41	-28	4073	0.33	1599.22	11.29
550	SLU 27	42	-48	4143	0.57	1627.42	19.26
550	SLU 28	41	-37	4146	0.47	1628.31	14.75
550	SLU 29	41	-48	4116	0.55	1616.91	19.16
550	SLU 30	41	-37	4119	0.45	1617.8	14.64
550	SLU 31	44	-33	4492	0.34	1764.93	12.98
550	SLU 32	45	-52	4562	0.58	1793.13	20.95
550	SLU 33	45	-41	4565	0.48	1794.02	16.44
550	SLU 34	44	-33	4540	0.39	1784.11	13.32
550	SLU 35	45	-53	4610	0.63	1812.31	21.29
550	SLU 36	45	-42	4613	0.53	1813.21	16.78
550	SLU 37	45	-53	4584	0.62	1801.8	21.19
550	SLU 38	45	-42	4587	0.51	1802.7	16.68
550	SLU 39	46	-54	4687	0.54	1842.67	21.37
550	SLU 40	46	-42	4690	0.44	1843.57	16.86
550	SLU 41	46	-54	4735	0.59	1861.86	21.72
550	SLU 42	46	-43	4738	0.49	1862.76	17.2
550	SLU 43	45	-51	4361	0.2	1712.68	20.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
550	SLU 44	45	-32	4366	0.03	1714.17	12.81
550	SLU 45	45	-52	4436	0.27	1742.37	20.78
550	SLU 46	45	-41	4439	0.16	1743.27	16.26
550	SLU 47	45	-33	4415	0.08	1733.36	13.15
550	SLU 48	46	-53	4485	0.32	1761.56	21.12
550	SLU 49	46	-42	4488	0.21	1762.46	16.61
550	SLU 50	46	-53	4458	0.3	1751.05	21.02
550	SLU 51	45	-41	4461	0.2	1751.95	16.5
550	SLU 52	48	-37	4834	0.09	1899.07	14.84
550	SLU 53	49	-57	4904	0.33	1927.27	22.81
550	SLU 54	49	-46	4907	0.22	1928.17	18.3
550	SLU 55	49	-38	4882	0.14	1918.26	15.19
550	SLU 56	50	-58	4952	0.38	1946.46	23.15
550	SLU 57	49	-47	4956	0.28	1947.35	18.64
550	SLU 58	49	-58	4926	0.36	1935.95	23.05
550	SLU 59	49	-46	4929	0.26	1936.84	18.54
550	SLU 60	50	-58	5029	0.29	1976.81	23.24
550	SLU 61	50	-47	5032	0.18	1977.71	18.72
550	SLU 62	50	-59	5077	0.34	1996	23.58
550	SLU 63	50	-48	5081	0.24	1996.9	19.07
550	SLU 64	50	-57	4887	0.44	1919.28	22.57
550	SLU 65	49	-38	4892	0.26	1920.77	15.05
550	SLU 66	50	-58	4962	0.5	1948.97	23.02
550	SLU 67	50	-46	4965	0.4	1949.87	18.5
550	SLU 68	50	-39	4940	0.32	1939.96	15.39
550	SLU 69	51	-58	5011	0.55	1968.16	23.36
550	SLU 70	50	-47	5014	0.45	1969.06	18.85
550	SLU 71	50	-58	4984	0.54	1957.65	23.26
550	SLU 72	50	-47	4987	0.44	1958.55	18.74
550	SLU 73	53	-43	5359	0.32	2105.67	17.08
550	SLU 74	54	-63	5430	0.56	2133.87	25.05
550	SLU 75	54	-51	5433	0.46	2134.77	20.54
550	SLU 76	53	-44	5408	0.38	2124.86	17.43
550	SLU 77	54	-64	5478	0.61	2153.06	25.39
550	SLU 78	54	-52	5481	0.51	2153.95	20.88
550	SLU 79	54	-63	5451	0.6	2142.55	25.29
550	SLU 80	54	-52	5454	0.5	2143.45	20.78
550	SLU 81	55	-64	5555	0.52	2183.42	25.48
550	SLU 82	55	-52	5558	0.42	2184.31	20.96
550	SLU 83	55	-65	5603	0.57	2202.6	25.82
550	SLU 84	55	-53	5606	0.47	2203.5	21.31
550	SLE RA 1	37	-42	3644	0.28	1430.96	16.87
550	SLE RA 2	37	-30	3647	0.17	1431.96	11.85
550	SLE RA 3	37	-43	3694	0.33	1450.76	17.17
550	SLE RA 4	37	-35	3696	0.26	1451.36	14.16
550	SLE RA 5	37	-30	3679	0.2	1444.75	12.08
550	SLE RA 6	38	-44	3726	0.36	1463.55	17.4
550	SLE RA 7	38	-36	3728	0.29	1464.15	14.39
550	SLE RA 8	38	-43	3708	0.35	1456.54	17.33
550	SLE RA 9	37	-36	3710	0.28	1457.14	14.32
550	SLE RA 10	39	-33	3959	0.21	1555.22	13.21
550	SLE RA 11	40	-46	4005	0.37	1574.02	18.52
550	SLE RA 12	40	-39	4007	0.3	1574.62	15.51
550	SLE RA 13	40	-34	3991	0.24	1568.01	13.44
550	SLE RA 14	40	-47	4038	0.4	1586.81	18.75
550	SLE RA 15	40	-39	4040	0.33	1587.41	15.74
550	SLE RA 16	40	-47	4020	0.39	1579.81	18.68
550	SLE RA 17	40	-39	4022	0.32	1580.41	15.67
550	SLE RA 18	41	-47	4089	0.34	1607.05	18.81
550	SLE RA 19	40	-40	4091	0.27	1607.65	15.8
550	SLE RA 20	41	-48	4121	0.38	1619.84	19.04
550	SLE RA 21	41	-40	4123	0.31	1620.44	16.03
550	SLE FR 1	37	-42	3644	0.28	1430.96	16.87
550	SLE FR 2	37	-40	3644	0.26	1431.16	15.87
550	SLE FR 3	37	-42	3656	0.3	1436.08	16.96
550	SLE FR 4	38	-41	3778	0.28	1483.99	16.45
550	SLE FR 5	38	-44	3790	0.31	1488.9	17.54
550	SLE FR 6	39	-45	3866	0.31	1519.01	17.84
550	SLE QP 1	37	-42	3644	0.28	1430.96	16.87
550	SLE QP 2	38	-44	3777	0.3	1483.79	17.45
550	SLD 1	301	78	3880	-0.52	1522.87	-31.18
550	SLD 2	313	82	3884	-0.54	1523.73	-32.68
550	SLD 3	305	-160	3763	2.04	1483.14	64.01
550	SLD 4	317	-156	3767	2.01	1484	62.51
550	SLD 5	109	354	3985	-3.81	1555.62	-141.26
550	SLD 6	117	356	3987	-3.83	1556.18	-142.23
550	SLD 7	122	-441	3595	4.7	1423.18	176.05
550	SLD 8	130	-438	3597	4.68	1423.74	175.08
550	SLD 9	-53	351	3957	-4.08	1543.83	-140.18
550	SLD 10	-46	354	3959	-4.1	1544.39	-141.15
550	SLD 11	-41	-444	3567	4.43	1411.4	177.13
550	SLD 12	-33	-441	3569	4.42	1411.95	176.16
550	SLD 13	-241	69	3787	-1.41	1483.58	-27.61
550	SLD 14	-229	73	3791	-1.43	1484.44	-29.11
550	SLD 15	-237	-169	3670	1.15	1443.85	67.59
550	SLD 16	-225	-165	3674	1.12	1444.71	66.09
550	SLV 1	450	162	3946	-1.14	1547.62	-64.81
550	SLV 2	468	168	3953	-1.18	1548.98	-67.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
550	SLV 3	456	-241	3748	3.17	1480.38	96.03
550	SLV 4	475	-234	3755	3.13	1481.73	93.67
550	SLV 5	148	628	4127	-6.67	1604.67	-250.72
550	SLV 6	161	632	4131	-6.7	1605.58	-252.31
550	SLV 7	170	-715	3467	7.71	1380.53	285.4
550	SLV 8	182	-711	3471	7.69	1381.44	283.81
550	SLV 9	-106	623	4083	-7.09	1586.14	-248.91
550	SLV 10	-94	627	4087	-7.11	1587.05	-250.5
550	SLV 11	-85	-719	3423	7.3	1361.99	287.22
550	SLV 12	-72	-715	3427	7.27	1362.9	285.63
550	SLV 13	-398	147	3800	-2.53	1485.84	-58.77
550	SLV 14	-380	153	3806	-2.57	1487.2	-61.13
550	SLV 15	-392	-256	3602	1.78	1418.6	102.07
550	SLV 16	-374	-249	3608	1.74	1419.95	99.71
550	SLV FO 1	491	183	3963	-1.29	1554.01	-73.03
550	SLV FO 2	511	190	3970	-1.33	1555.49	-75.63
550	SLV FO 3	498	-260	3746	3.46	1480.04	103.89
550	SLV FO 4	518	-253	3752	3.42	1481.53	101.29
550	SLV FO 5	159	695	4162	-7.37	1616.76	-277.54
550	SLV FO 6	173	700	4167	-7.4	1617.76	-279.29
550	SLV FO 7	183	-782	3436	8.46	1370.2	312.2
550	SLV FO 8	197	-777	3441	8.43	1371.2	310.45
550	SLV FO 9	-120	690	4113	-7.82	1596.37	-275.55
550	SLV FO 10	-107	695	4118	-7.85	1597.38	-277.3
550	SLV FO 11	-97	-787	3388	8	1349.81	314.19
550	SLV FO 12	-83	-782	3392	7.97	1350.81	312.44
550	SLV FO 13	-442	166	3802	-2.81	1486.05	-66.39
550	SLV FO 14	-422	173	3809	-2.86	1487.54	-68.99
550	SLV FO 15	-435	-277	3584	1.93	1412.08	110.53
550	SLV FO 16	-415	-270	3591	1.89	1413.57	107.93
550	CRTFP Ux+	0	0	0	0	0	0
550	CRTFP Ux-	0	0	0	0	0	0
550	CRTFP Uy+	0	0	0	0	0	0
550	CRTFP Uy-	0	0	0	0	0	0
554	SLU 1	-40	2	3823	4.31	-766.24	0.54
554	SLU 2	-41	22	3833	4.12	-765.22	5.69
554	SLU 3	-41	1	3912	4.46	-784.31	0.47
554	SLU 4	-41	14	3917	4.35	-783.7	3.56
554	SLU 5	-41	22	3890	4.23	-777	5.68
554	SLU 6	-41	1	3969	4.57	-796.09	0.47
554	SLU 7	-42	14	3975	4.46	-795.48	3.55
554	SLU 8	-41	1	3938	4.52	-789.8	0.53
554	SLU 9	-41	14	3944	4.41	-789.19	3.62
554	SLU 10	-41	24	4319	4.72	-863.12	6.06
554	SLU 11	-41	3	4398	5.06	-882.21	0.84
554	SLU 12	-42	15	4403	4.95	-881.6	3.93
554	SLU 13	-42	24	4376	4.83	-874.9	6.05
554	SLU 14	-42	3	4455	5.17	-893.99	0.84
554	SLU 15	-42	15	4461	5.06	-893.38	3.92
554	SLU 16	-41	3	4424	5.12	-887.69	0.9
554	SLU 17	-42	15	4430	5.01	-887.08	3.99
554	SLU 18	-41	4	4517	5.16	-906.09	1.07
554	SLU 19	-41	16	4523	5.05	-905.48	4.16
554	SLU 20	-41	4	4575	5.27	-917.87	1.06
554	SLU 21	-42	16	4581	5.16	-917.26	4.15
554	SLU 22	-43	0	4421	5.17	-887.67	0.26
554	SLU 23	-44	21	4431	4.99	-886.66	5.41
554	SLU 24	-44	0	4510	5.33	-905.75	0.2
554	SLU 25	-44	12	4516	5.22	-905.14	3.28
554	SLU 26	-44	21	4489	5.09	-898.43	5.4
554	SLU 27	-44	0	4567	5.43	-917.52	0.19
554	SLU 28	-45	12	4573	5.32	-916.91	3.28
554	SLU 29	-44	0	4536	5.39	-911.23	0.25
554	SLU 30	-44	13	4542	5.27	-910.62	3.34
554	SLU 31	-44	22	4917	5.59	-984.55	5.78
554	SLU 32	-44	2	4996	5.93	-1003.64	0.57
554	SLU 33	-45	14	5002	5.82	-1003.03	3.65
554	SLU 34	-45	22	4975	5.69	-996.33	5.77
554	SLU 35	-45	1	5053	6.03	-1015.42	0.56
554	SLU 36	-45	14	5059	5.92	-1014.81	3.65
554	SLU 37	-44	2	5022	5.99	-1009.12	0.62
554	SLU 38	-45	14	5028	5.88	-1008.51	3.71
554	SLU 39	-44	2	5115	6.03	-1027.52	0.79
554	SLU 40	-44	15	5121	5.92	-1026.91	3.88
554	SLU 41	-44	2	5173	6.14	-1039.3	0.79
554	SLU 42	-45	15	5179	6.03	-1038.69	3.87
554	SLU 43	-51	2	4765	5.3	-954.48	0.8
554	SLU 44	-52	23	4774	5.12	-953.46	5.94
554	SLU 45	-52	2	4853	5.46	-972.55	0.73
554	SLU 46	-52	14	4859	5.34	-971.94	3.82
554	SLU 47	-52	23	4832	5.22	-965.24	5.94
554	SLU 48	-52	2	4911	5.56	-984.33	0.72
554	SLU 49	-53	14	4917	5.45	-983.72	3.81
554	SLU 50	-52	2	4880	5.51	-978.03	0.79
554	SLU 51	-52	15	4885	5.4	-977.42	3.87
554	SLU 52	-52	24	5260	5.72	-1051.36	6.31
554	SLU 53	-52	4	5339	6.06	-1070.45	1.1
554	SLU 54	-53	16	5345	5.94	-1069.84	4.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
554	SLU 55	-53	24	5318	5.82	-1063.14	6.31
554	SLU 56	-53	4	5397	6.16	-1082.22	1.09
554	SLU 57	-53	16	5403	6.05	-1081.62	4.18
554	SLU 58	-52	4	5366	6.11	-1075.93	1.16
554	SLU 59	-53	16	5371	6	-1075.32	4.24
554	SLU 60	-52	4	5459	6.16	-1094.33	1.33
554	SLU 61	-52	17	5465	6.05	-1093.72	4.41
554	SLU 62	-52	4	5516	6.26	-1106.11	1.32
554	SLU 63	-53	17	5522	6.15	-1105.5	4.41
554	SLU 64	-54	1	5363	6.17	-1075.91	0.52
554	SLU 65	-55	22	5373	5.98	-1074.89	5.67
554	SLU 66	-55	1	5452	6.32	-1093.98	0.45
554	SLU 67	-55	13	5458	6.21	-1093.37	3.54
554	SLU 68	-55	22	5430	6.09	-1086.67	5.66
554	SLU 69	-55	1	5509	6.43	-1105.76	0.45
554	SLU 70	-56	13	5515	6.32	-1105.15	3.53
554	SLU 71	-55	1	5478	6.38	-1099.47	0.51
554	SLU 72	-55	14	5484	6.27	-1098.86	3.6
554	SLU 73	-55	23	5859	6.58	-1172.79	6.04
554	SLU 74	-55	2	5938	6.92	-1191.88	0.82
554	SLU 75	-56	15	5944	6.81	-1191.27	3.91
554	SLU 76	-56	23	5916	6.69	-1184.57	6.03
554	SLU 77	-56	2	5995	7.03	-1203.66	0.82
554	SLU 78	-56	15	6001	6.92	-1203.05	3.9
554	SLU 79	-55	3	5964	6.98	-1197.36	0.88
554	SLU 80	-56	15	5970	6.87	-1196.75	3.97
554	SLU 81	-55	3	6057	7.02	-1215.76	1.05
554	SLU 82	-55	16	6063	6.91	-1215.15	4.14
554	SLU 83	-55	3	6115	7.13	-1227.54	1.04
554	SLU 84	-56	16	6121	7.02	-1226.93	4.13
554	SLE RA 1	-41	1	3994	4.55	-800.93	0.46
554	SLE RA 2	-41	15	4000	4.43	-800.26	3.89
554	SLE RA 3	-41	1	4053	4.66	-812.98	0.42
554	SLE RA 4	-42	9	4057	4.58	-812.58	2.47
554	SLE RA 5	-42	15	4039	4.5	-808.11	3.89
554	SLE RA 6	-42	1	4091	4.73	-820.84	0.41
554	SLE RA 7	-42	9	4095	4.65	-820.43	2.47
554	SLE RA 8	-41	1	4070	4.7	-816.64	0.45
554	SLE RA 9	-42	9	4074	4.62	-816.23	2.51
554	SLE RA 10	-42	16	4324	4.83	-865.52	4.14
554	SLE RA 11	-42	2	4377	5.06	-878.25	0.66
554	SLE RA 12	-42	10	4381	4.98	-877.84	2.72
554	SLE RA 13	-42	16	4363	4.9	-873.37	4.13
554	SLE RA 14	-42	2	4415	5.13	-886.1	0.66
554	SLE RA 15	-42	10	4419	5.05	-885.69	2.72
554	SLE RA 16	-42	2	4394	5.1	-881.9	0.7
554	SLE RA 17	-42	10	4398	5.02	-881.5	2.76
554	SLE RA 18	-41	3	4457	5.12	-894.17	0.81
554	SLE RA 19	-42	11	4461	5.05	-893.76	2.87
554	SLE RA 20	-42	3	4495	5.2	-902.02	0.81
554	SLE RA 21	-42	11	4499	5.12	-901.61	2.87
554	SLE FR 1	-41	1	3994	4.55	-800.93	0.46
554	SLE FR 2	-41	4	3995	4.53	-800.8	1.15
554	SLE FR 3	-41	1	4009	4.58	-804.08	0.46
554	SLE FR 4	-41	4	4134	4.7	-828.77	1.25
554	SLE FR 5	-41	2	4148	4.75	-832.05	0.57
554	SLE FR 6	-41	2	4225	4.84	-847.55	0.64
554	SLE QP 1	-41	1	3994	4.55	-800.93	0.46
554	SLE QP 2	-41	2	4133	4.72	-828.9	0.57
554	SLD 1	218	153	5389	4.72	-1046.07	38.34
554	SLD 2	228	49	5380	4.94	-1048.93	12.59
554	SLD 3	227	-111	5204	7.36	-1052.09	-27.61
554	SLD 4	237	-215	5195	7.59	-1054.95	-53.37
554	SLD 5	21	466	4791	0.67	-884.43	116.4
554	SLD 6	27	399	4786	0.82	-886.28	99.73
554	SLD 7	52	-415	4175	9.49	-904.49	-103.45
554	SLD 8	58	-482	4170	9.63	-906.34	-120.11
554	SLD 9	-140	485	4096	-0.18	-751.47	121.24
554	SLD 10	-134	418	4090	-0.04	-753.32	104.58
554	SLD 11	-109	-396	3480	8.63	-771.53	-98.6
554	SLD 12	-103	-463	3474	8.78	-773.38	-115.26
554	SLD 13	-319	218	3070	1.86	-602.86	54.5
554	SLD 14	-309	114	3062	2.09	-605.72	28.75
554	SLD 15	-310	-46	2886	4.51	-608.88	-11.45
554	SLD 16	-300	-150	2877	4.73	-611.74	-37.21
554	SLV 1	364	255	6104	4.54	-1167.29	63.89
554	SLV 2	379	92	6090	4.89	-1171.8	23.34
554	SLV 3	380	-191	5792	9	-1177.41	-47.57
554	SLV 4	394	-354	5778	9.36	-1181.92	-88.11
554	SLV 5	54	786	5201	-2.17	-914.22	196.17
554	SLV 6	64	676	5191	-1.93	-917.26	168.87
554	SLV 7	106	-703	4159	12.71	-947.97	-175.35
554	SLV 8	116	-813	4150	12.95	-951.01	-202.64
554	SLV 9	-198	816	4116	-3.5	-706.8	203.78
554	SLV 10	-188	706	4106	-3.26	-709.83	176.48
554	SLV 11	-146	-673	3074	11.38	-740.55	-167.74
554	SLV 12	-136	-782	3065	11.62	-743.59	-195.04
554	SLV 13	-477	358	2488	0.09	-475.89	89.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
554	SLV 14	-462	194	2474	0.45	-480.4	48.7
554	SLV 15	-461	-89	2175	4.56	-486.01	-22.21
554	SLV 16	-446	-252	2161	4.91	-490.52	-62.75
554	SLV FO 1	405	281	6301	4.52	-1201.13	70.22
554	SLV FO 2	421	101	6286	4.91	-1206.09	25.62
554	SLV FO 3	422	-210	5958	9.43	-1212.27	-52.38
554	SLV FO 4	438	-390	5942	9.82	-1217.23	-96.98
554	SLV FO 5	64	864	5307	-2.86	-922.75	215.73
554	SLV FO 6	75	743	5297	-2.6	-926.09	185.7
554	SLV FO 7	121	-774	4162	13.51	-959.88	-192.94
554	SLV FO 8	132	-895	4151	13.78	-963.22	-222.97
554	SLV FO 9	-214	898	4114	-4.33	-694.59	224.1
554	SLV FO 10	-203	777	4104	-4.06	-697.93	194.07
554	SLV FO 11	-157	-740	2968	12.04	-731.72	-184.57
554	SLV FO 12	-146	-861	2958	12.31	-735.06	-214.6
554	SLV FO 13	-520	393	2323	-0.37	-440.58	98.12
554	SLV FO 14	-504	214	2308	0.02	-445.54	53.51
554	SLV FO 15	-503	-98	1979	4.54	-451.72	-24.48
554	SLV FO 16	-487	-278	1964	4.93	-456.68	-69.09
554	CRTFP Ux+	0	0	0	0	0	0
554	CRTFP Ux-	0	0	0	0	0	0
554	CRTFP Uy+	0	0	0	0	0	0
554	CRTFP Uy-	0	0	0	0	0	0
557	SLU 1	-52	-17	6329	2.91	-19.73	-0.29
557	SLU 2	-52	15	6332	2.51	-18.55	-0.38
557	SLU 3	-52	-18	6473	3.11	-20.35	-0.3
557	SLU 4	-53	2	6475	2.87	-19.64	-0.36
557	SLU 5	-52	15	6426	2.65	-19	-0.39
557	SLU 6	-53	-18	6567	3.26	-20.8	-0.32
557	SLU 7	-53	1	6569	3.02	-20.09	-0.37
557	SLU 8	-52	-18	6517	3.2	-20.63	-0.31
557	SLU 9	-52	1	6519	2.96	-19.93	-0.37
557	SLU 10	-52	14	7180	3.04	-22.58	-0.43
557	SLU 11	-52	-18	7322	3.64	-24.38	-0.35
557	SLU 12	-52	1	7323	3.4	-23.67	-0.41
557	SLU 13	-52	14	7274	3.19	-23.03	-0.44
557	SLU 14	-53	-19	7416	3.79	-24.83	-0.37
557	SLU 15	-53	1	7417	3.55	-24.12	-0.42
557	SLU 16	-52	-19	7365	3.73	-24.67	-0.36
557	SLU 17	-52	1	7367	3.49	-23.96	-0.42
557	SLU 18	-52	-18	7541	3.67	-25.49	-0.36
557	SLU 19	-52	1	7542	3.43	-24.78	-0.41
557	SLU 20	-52	-18	7635	3.81	-25.94	-0.37
557	SLU 21	-52	1	7636	3.57	-25.23	-0.43
557	SLU 22	-55	-19	7336	3.84	-23.18	-0.38
557	SLU 23	-56	13	7339	3.44	-22	-0.47
557	SLU 24	-56	-20	7481	4.04	-23.79	-0.4
557	SLU 25	-56	0	7482	3.8	-23.08	-0.45
557	SLU 26	-56	13	7433	3.58	-22.45	-0.49
557	SLU 27	-57	-20	7575	4.19	-24.24	-0.41
557	SLU 28	-57	-1	7576	3.95	-23.53	-0.47
557	SLU 29	-56	-20	7524	4.13	-24.08	-0.41
557	SLU 30	-56	0	7526	3.89	-23.37	-0.47
557	SLU 31	-55	12	8187	3.97	-26.03	-0.52
557	SLU 32	-56	-20	8329	4.57	-27.82	-0.45
557	SLU 33	-56	-1	8330	4.33	-27.11	-0.5
557	SLU 34	-56	12	8281	4.12	-26.48	-0.54
557	SLU 35	-57	-20	8423	4.72	-28.27	-0.46
557	SLU 36	-57	-1	8424	4.48	-27.56	-0.52
557	SLU 37	-56	-20	8372	4.66	-28.11	-0.46
557	SLU 38	-56	-1	8374	4.42	-27.4	-0.52
557	SLU 39	-55	-20	8548	4.59	-28.94	-0.46
557	SLU 40	-55	-1	8550	4.35	-28.23	-0.51
557	SLU 41	-56	-20	8642	4.74	-29.39	-0.47
557	SLU 42	-56	-1	8644	4.5	-28.68	-0.52
557	SLU 43	-66	-22	7882	3.46	-24.47	-0.34
557	SLU 44	-66	10	7885	3.06	-23.29	-0.43
557	SLU 45	-67	-22	8027	3.67	-25.08	-0.35
557	SLU 46	-67	-3	8028	3.43	-24.38	-0.41
557	SLU 47	-66	10	7979	3.21	-23.74	-0.44
557	SLU 48	-67	-23	8121	3.81	-25.53	-0.37
557	SLU 49	-67	-3	8122	3.57	-24.83	-0.42
557	SLU 50	-67	-22	8070	3.76	-25.37	-0.37
557	SLU 51	-67	-3	8072	3.52	-24.66	-0.42
557	SLU 52	-66	10	8733	3.59	-27.32	-0.48
557	SLU 53	-67	-23	8875	4.2	-29.11	-0.4
557	SLU 54	-67	-4	8876	3.96	-28.41	-0.46
557	SLU 55	-66	9	8827	3.74	-27.77	-0.49
557	SLU 56	-67	-23	8969	4.34	-29.57	-0.42
557	SLU 57	-67	-4	8971	4.1	-28.86	-0.47
557	SLU 58	-66	-23	8918	4.29	-29.4	-0.42
557	SLU 59	-67	-4	8920	4.05	-28.7	-0.47
557	SLU 60	-66	-23	9094	4.22	-30.23	-0.41
557	SLU 61	-66	-3	9096	3.98	-29.52	-0.46
557	SLU 62	-66	-23	9188	4.37	-30.68	-0.42
557	SLU 63	-66	-4	9190	4.13	-29.97	-0.48
557	SLU 64	-70	-24	8889	4.39	-27.92	-0.44
557	SLU 65	-70	8	8892	3.99	-26.74	-0.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
557	SLU 66	-70	-24	9034	4.59	-28.53	-0.45
557	SLU 67	-71	-5	9035	4.35	-27.82	-0.51
557	SLU 68	-70	8	8986	4.14	-27.19	-0.54
557	SLU 69	-71	-24	9128	4.74	-28.98	-0.47
557	SLU 70	-71	-5	9130	4.5	-28.27	-0.52
557	SLU 71	-70	-24	9077	4.69	-28.82	-0.46
557	SLU 72	-70	-5	9079	4.45	-28.11	-0.52
557	SLU 73	-70	8	9740	4.52	-30.77	-0.58
557	SLU 74	-70	-25	9882	5.13	-32.56	-0.5
557	SLU 75	-70	-5	9884	4.89	-31.85	-0.56
557	SLU 76	-70	8	9834	4.67	-31.22	-0.59
557	SLU 77	-71	-25	9976	5.27	-33.01	-0.52
557	SLU 78	-71	-6	9978	5.03	-32.3	-0.57
557	SLU 79	-70	-25	9926	5.22	-32.85	-0.52
557	SLU 80	-70	-6	9927	4.98	-32.14	-0.57
557	SLU 81	-70	-25	10101	5.15	-33.67	-0.51
557	SLU 82	-70	-5	10103	4.91	-32.97	-0.56
557	SLU 83	-70	-25	10195	5.3	-34.13	-0.52
557	SLU 84	-70	-6	10197	5.06	-33.42	-0.58
557	SLE RA 1	-53	-18	6617	3.17	-20.72	-0.31
557	SLE RA 2	-53	4	6618	2.91	-19.93	-0.37
557	SLE RA 3	-53	-18	6713	3.31	-21.13	-0.32
557	SLE RA 4	-53	-5	6714	3.15	-20.65	-0.36
557	SLE RA 5	-53	3	6681	3	-20.23	-0.38
557	SLE RA 6	-53	-18	6776	3.41	-21.43	-0.33
557	SLE RA 7	-54	-5	6777	3.25	-20.95	-0.37
557	SLE RA 8	-53	-18	6742	3.37	-21.32	-0.33
557	SLE RA 9	-53	-5	6743	3.21	-20.85	-0.37
557	SLE RA 10	-53	3	7184	3.26	-22.62	-0.41
557	SLE RA 11	-53	-18	7278	3.66	-23.81	-0.36
557	SLE RA 12	-53	-6	7280	3.5	-23.34	-0.39
557	SLE RA 13	-53	3	7247	3.36	-22.92	-0.42
557	SLE RA 14	-53	-19	7341	3.76	-24.11	-0.37
557	SLE RA 15	-53	-6	7342	3.6	-23.64	-0.4
557	SLE RA 16	-53	-19	7307	3.72	-24.01	-0.37
557	SLE RA 17	-53	-6	7309	3.56	-23.53	-0.4
557	SLE RA 18	-53	-18	7424	3.68	-24.56	-0.36
557	SLE RA 19	-53	-6	7426	3.52	-24.08	-0.4
557	SLE RA 20	-53	-19	7487	3.78	-24.86	-0.37
557	SLE RA 21	-53	-6	7488	3.62	-24.38	-0.41
557	SLE FR 1	-53	-18	6617	3.17	-20.72	-0.31
557	SLE FR 2	-53	-13	6617	3.12	-20.56	-0.33
557	SLE FR 3	-53	-18	6642	3.21	-20.84	-0.32
557	SLE FR 4	-53	-14	6859	3.27	-21.71	-0.34
557	SLE FR 5	-53	-18	6884	3.36	-21.99	-0.33
557	SLE FR 6	-53	-18	7021	3.43	-22.64	-0.34
557	SLE QP 1	-53	-18	6617	3.17	-20.72	-0.31
557	SLE QP 2	-53	-18	6859	3.32	-21.87	-0.33
557	SLD 1	487	193	7621	0.88	3.33	-0.45
557	SLD 2	503	111	7614	1.17	1.64	1.54
557	SLD 3	492	-218	7531	6.67	-10.59	0.45
557	SLD 4	508	-300	7523	6.96	-12.28	2.44
557	SLD 5	100	682	7226	-6.25	7.1	-2.07
557	SLD 6	110	629	7221	-6.06	6	-0.78
557	SLD 7	115	-686	6925	13.07	-39.3	0.92
557	SLD 8	125	-739	6920	13.26	-40.4	2.21
557	SLD 9	-230	704	6798	-6.61	-3.34	-2.86
557	SLD 10	-220	651	6793	-6.42	-4.44	-1.58
557	SLD 11	-215	-665	6497	12.71	-49.74	0.12
557	SLD 12	-205	-718	6492	12.9	-50.83	1.41
557	SLD 13	-613	264	6194	-0.31	-31.45	-3.1
557	SLD 14	-597	182	6187	-0.02	-33.15	-1.11
557	SLD 15	-608	-147	6104	5.48	-45.37	-2.2
557	SLD 16	-593	-229	6097	5.77	-47.07	-0.21
557	SLV 1	792	338	8054	-0.87	18.38	-0.58
557	SLV 2	817	209	8042	-0.41	15.71	2.55
557	SLV 3	800	-356	7901	8.92	-5.13	0.93
557	SLV 4	825	-485	7889	9.38	-7.8	4.06
557	SLV 5	184	1165	7452	-12.87	26.36	-3.28
557	SLV 6	201	1078	7444	-12.56	24.56	-1.17
557	SLV 7	210	-1148	6942	19.77	-52	1.75
557	SLV 8	227	-1234	6934	20.08	-53.8	3.86
557	SLV 9	-332	1198	6784	-13.43	10.07	-4.52
557	SLV 10	-316	1112	6776	-13.12	8.27	-2.41
557	SLV 11	-306	-1114	6274	19.21	-68.3	0.51
557	SLV 12	-290	-1201	6266	19.52	-70.1	2.62
557	SLV 13	-930	449	5829	-2.73	-35.94	-4.72
557	SLV 14	-905	320	5817	-2.28	-38.61	-1.59
557	SLV 15	-922	-245	5676	7.06	-59.45	-3.21
557	SLV 16	-897	-374	5664	7.52	-62.12	-0.07
557	SLV FO 1	877	373	8173	-1.29	22.41	-0.61
557	SLV FO 2	904	231	8161	-0.78	19.47	2.84
557	SLV FO 3	885	-390	8005	9.48	-3.45	1.05
557	SLV FO 4	912	-532	7992	9.99	-6.39	4.5
557	SLV FO 5	208	1283	7511	-14.49	31.19	-3.58
557	SLV FO 6	226	1188	7502	-14.15	29.21	-1.26
557	SLV FO 7	236	-1261	6950	21.41	-55.02	1.96
557	SLV FO 8	255	-1356	6941	21.75	-57	4.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
557	SLV FO 9	-360	1320	6777	-15.1	13.26	-4.94
557	SLV FO 10	-342	1225	6768	-14.76	11.28	-2.62
557	SLV FO 11	-332	-1224	6216	20.8	-72.94	0.6
557	SLV FO 12	-313	-1319	6207	21.14	-74.92	2.92
557	SLV FO 13	-1018	496	5726	-3.34	-37.35	-5.16
557	SLV FO 14	-990	354	5713	-2.84	-40.28	-1.71
557	SLV FO 15	-1009	-267	5557	7.43	-63.21	-3.49
557	SLV FO 16	-982	-409	5544	7.93	-66.14	-0.05
557	CRTFP Ux+	0	0	0	0	0	0
557	CRTFP Ux-	0	0	0	0	0	0
557	CRTFP Uy+	0	0	0	0	0	0
557	CRTFP Uy-	0	0	0	0	0	0
560	SLU 1	117	-60	6280	3.09	18.05	-0.07
560	SLU 2	117	-27	6286	2.59	16.37	-0.09
560	SLU 3	119	-62	6415	3.32	18.67	-0.1
560	SLU 4	119	-42	6418	3.02	17.67	-0.11
560	SLU 5	118	-28	6371	2.76	16.87	-0.12
560	SLU 6	121	-62	6500	3.49	19.17	-0.14
560	SLU 7	121	-42	6504	3.18	18.17	-0.14
560	SLU 8	119	-62	6450	3.43	19.05	-0.14
560	SLU 9	120	-42	6454	3.13	18.05	-0.15
560	SLU 10	126	-33	7104	3.1	18.4	-0.12
560	SLU 11	128	-67	7234	3.83	20.7	-0.14
560	SLU 12	128	-47	7237	3.53	19.69	-0.14
560	SLU 13	127	-33	7189	3.27	18.9	-0.15
560	SLU 14	129	-67	7319	4	21.2	-0.17
560	SLU 15	129	-47	7322	3.7	20.19	-0.18
560	SLU 16	128	-67	7269	3.94	21.08	-0.17
560	SLU 17	128	-47	7272	3.64	20.07	-0.18
560	SLU 18	129	-68	7449	3.83	20.94	-0.12
560	SLU 19	129	-48	7453	3.53	19.94	-0.13
560	SLU 20	130	-68	7534	4	21.44	-0.15
560	SLU 21	131	-48	7538	3.7	20.44	-0.16
560	SLU 22	131	-67	7259	4.06	20.18	-0.11
560	SLU 23	132	-34	7265	3.56	18.5	-0.12
560	SLU 24	134	-68	7394	4.29	20.8	-0.14
560	SLU 25	134	-48	7398	3.99	19.79	-0.14
560	SLU 26	133	-35	7350	3.73	19	-0.15
560	SLU 27	135	-69	7480	4.45	21.3	-0.17
560	SLU 28	135	-49	7483	4.15	20.29	-0.18
560	SLU 29	134	-68	7430	4.4	21.18	-0.17
560	SLU 30	134	-48	7433	4.1	20.17	-0.18
560	SLU 31	140	-39	8084	4.07	20.52	-0.15
560	SLU 32	143	-73	8213	4.8	22.83	-0.17
560	SLU 33	143	-53	8216	4.5	21.82	-0.18
560	SLU 34	142	-40	8169	4.24	21.03	-0.18
560	SLU 35	144	-74	8298	4.97	23.33	-0.2
560	SLU 36	144	-54	8301	4.67	22.32	-0.21
560	SLU 37	143	-73	8248	4.91	23.2	-0.2
560	SLU 38	143	-54	8251	4.61	22.2	-0.21
560	SLU 39	144	-74	8429	4.8	23.07	-0.15
560	SLU 40	144	-54	8432	4.5	22.06	-0.16
560	SLU 41	145	-75	8514	4.97	23.57	-0.19
560	SLU 42	145	-55	8517	4.66	22.56	-0.19
560	SLU 43	147	-76	7828	3.69	22.74	-0.09
560	SLU 44	147	-43	7834	3.18	21.06	-0.1
560	SLU 45	149	-77	7963	3.91	23.36	-0.11
560	SLU 46	149	-58	7967	3.61	22.35	-0.12
560	SLU 47	148	-44	7919	3.35	21.56	-0.13
560	SLU 48	151	-78	8048	4.08	23.86	-0.15
560	SLU 49	151	-58	8052	3.78	22.85	-0.15
560	SLU 50	149	-77	7998	4.02	23.74	-0.15
560	SLU 51	150	-58	8002	3.72	22.73	-0.16
560	SLU 52	156	-48	8652	3.7	23.08	-0.13
560	SLU 53	158	-82	8782	4.43	25.38	-0.15
560	SLU 54	158	-63	8785	4.13	24.38	-0.16
560	SLU 55	157	-49	8737	3.87	23.58	-0.16
560	SLU 56	159	-83	8867	4.6	25.89	-0.18
560	SLU 57	159	-63	8870	4.3	24.88	-0.19
560	SLU 58	158	-82	8817	4.54	25.76	-0.18
560	SLU 59	158	-63	8820	4.24	24.76	-0.19
560	SLU 60	159	-83	8998	4.42	25.63	-0.13
560	SLU 61	159	-64	9001	4.12	24.62	-0.14
560	SLU 62	161	-84	9083	4.59	26.13	-0.16
560	SLU 63	161	-64	9086	4.29	25.12	-0.17
560	SLU 64	161	-83	8808	4.65	24.86	-0.12
560	SLU 65	162	-50	8813	4.15	23.18	-0.13
560	SLU 66	164	-84	8943	4.88	25.49	-0.15
560	SLU 67	164	-64	8946	4.58	24.48	-0.15
560	SLU 68	163	-51	8898	4.32	23.69	-0.16
560	SLU 69	165	-85	9028	5.05	25.99	-0.18
560	SLU 70	165	-65	9031	4.75	24.98	-0.19
560	SLU 71	164	-84	8978	4.99	25.86	-0.18
560	SLU 72	164	-64	8981	4.69	24.86	-0.19
560	SLU 73	170	-55	9632	4.67	25.21	-0.16
560	SLU 74	173	-89	9761	5.4	27.51	-0.18
560	SLU 75	173	-69	9765	5.1	26.5	-0.19
560	SLU 76	172	-56	9717	4.84	25.71	-0.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
560	SLU 77	174	-90	9846	5.57	28.01	-0.21
560	SLU 78	174	-70	9850	5.26	27.01	-0.22
560	SLU 79	173	-89	9796	5.51	27.89	-0.22
560	SLU 80	173	-69	9800	5.21	26.88	-0.22
560	SLU 81	174	-90	9977	5.39	27.76	-0.17
560	SLU 82	174	-70	9980	5.09	26.75	-0.17
560	SLU 83	175	-91	10062	5.56	28.26	-0.2
560	SLU 84	175	-71	10065	5.26	27.25	-0.2
560	SLE RA 1	121	-62	6560	3.37	18.66	-0.08
560	SLE RA 2	121	-40	6564	3.03	17.54	-0.09
560	SLE RA 3	123	-63	6650	3.52	19.07	-0.1
560	SLE RA 4	123	-50	6652	3.32	18.4	-0.11
560	SLE RA 5	122	-41	6620	3.15	17.87	-0.11
560	SLE RA 6	124	-63	6707	3.63	19.41	-0.12
560	SLE RA 7	124	-50	6709	3.43	18.74	-0.13
560	SLE RA 8	123	-63	6673	3.59	19.33	-0.13
560	SLE RA 9	123	-50	6676	3.39	18.65	-0.13
560	SLE RA 10	127	-44	7109	3.38	18.89	-0.11
560	SLE RA 11	128	-66	7196	3.86	20.42	-0.13
560	SLE RA 12	128	-53	7198	3.66	19.75	-0.13
560	SLE RA 13	128	-44	7166	3.49	19.22	-0.14
560	SLE RA 14	129	-67	7252	3.97	20.76	-0.15
560	SLE RA 15	129	-54	7255	3.77	20.09	-0.15
560	SLE RA 16	128	-66	7219	3.94	20.68	-0.15
560	SLE RA 17	129	-53	7221	3.74	20	-0.15
560	SLE RA 18	129	-67	7339	3.86	20.59	-0.12
560	SLE RA 19	129	-54	7342	3.66	19.92	-0.12
560	SLE RA 20	130	-67	7396	3.97	20.92	-0.14
560	SLE RA 21	130	-54	7398	3.77	20.25	-0.14
560	SLE FR 1	121	-62	6560	3.37	18.66	-0.08
560	SLE FR 2	121	-58	6561	3.3	18.43	-0.09
560	SLE FR 3	121	-62	6583	3.41	18.79	-0.09
560	SLE FR 4	123	-59	6794	3.45	19.01	-0.09
560	SLE FR 5	124	-64	6816	3.56	19.37	-0.1
560	SLE FR 6	125	-65	6950	3.61	19.62	-0.1
560	SLE QP 1	121	-62	6560	3.37	18.66	-0.08
560	SLE QP 2	123	-64	6794	3.51	19.24	-0.09
560	SLD 1	654	166	6262	-0.3	19.73	0.35
560	SLD 2	674	246	6267	-0.71	17	2.42
560	SLD 3	649	-268	6117	6.84	37.96	0.84
560	SLD 4	670	-188	6121	6.42	35.23	2.91
560	SLD 5	286	649	6854	-8.38	-7.78	-1.06
560	SLD 6	299	701	6857	-8.65	-9.55	0.27
560	SLD 7	271	-797	6370	15.4	52.97	0.58
560	SLD 8	284	-745	6373	15.13	51.2	1.91
560	SLD 9	-37	618	7215	-8.11	-12.73	-2.1
560	SLD 10	-24	670	7218	-8.37	-14.5	-0.76
560	SLD 11	-52	-828	6731	15.68	48.03	-0.46
560	SLD 12	-39	-777	6734	15.41	46.26	0.88
560	SLD 13	-423	61	7466	0.61	3.24	-3.1
560	SLD 14	-403	141	7470	0.19	0.51	-1.03
560	SLD 15	-427	-373	7321	7.74	21.47	-2.61
560	SLD 16	-407	-293	7325	7.33	18.74	-0.54
560	SLV 1	954	322	5974	-2.91	19.11	0.56
560	SLV 2	986	448	5981	-3.57	14.81	3.81
560	SLV 3	946	-411	5729	9.14	49.9	1.39
560	SLV 4	979	-285	5736	8.49	45.59	4.64
560	SLV 5	378	1141	6919	-16.57	-26.69	-1.77
560	SLV 6	399	1226	6924	-17.02	-29.59	0.42
560	SLV 7	353	-1303	6100	23.61	75.93	1.01
560	SLV 8	375	-1218	6105	23.17	73.03	3.2
560	SLV 9	-128	1091	7482	-16.14	-34.56	-3.38
560	SLV 10	-106	1176	7487	-16.58	-37.46	-1.19
560	SLV 11	-153	-1353	6664	24.04	68.06	-0.61
560	SLV 12	-131	-1268	6668	23.6	65.16	1.58
560	SLV 13	-732	157	7852	-1.46	-7.12	-4.83
560	SLV 14	-699	283	7859	-2.11	-11.43	-1.57
560	SLV 15	-739	-576	7606	10.6	23.67	-4
560	SLV 16	-707	-450	7613	9.94	19.36	-0.74
560	SLV FO 1	1037	361	5892	-3.56	19.1	0.62
560	SLV FO 2	1072	500	5900	-4.28	14.36	4.2
560	SLV FO 3	1029	-445	5622	9.71	52.97	1.54
560	SLV FO 4	1064	-307	5630	8.98	48.23	5.12
560	SLV FO 5	403	1261	6932	-18.58	-31.28	-1.94
560	SLV FO 6	427	1354	6937	-19.07	-34.47	0.48
560	SLV FO 7	376	-1427	6031	25.62	81.6	1.12
560	SLV FO 8	400	-1334	6036	25.13	78.41	3.53
560	SLV FO 9	-153	1207	7551	-18.1	-39.94	-3.71
560	SLV FO 10	-129	1300	7556	-18.59	-43.13	-1.3
560	SLV FO 11	-180	-1482	6651	26.1	72.94	-0.66
560	SLV FO 12	-156	-1388	6656	25.61	69.76	1.75
560	SLV FO 13	-817	179	7958	-1.96	-9.76	-5.3
560	SLV FO 14	-782	318	7965	-2.68	-14.49	-1.72
560	SLV FO 15	-825	-627	7688	11.31	24.11	-4.39
560	SLV FO 16	-790	-488	7695	10.58	19.37	-0.81
560	CRTFP Ux+	0	0	0	0	0	0
560	CRTFP Ux-	0	0	0	0	0	0
560	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
560	CRTFP Uy-	0	0	0	0	0	0
563	SLU 1	67	26	4420	5.93	1277.78	-9.45
563	SLU 2	68	50	4430	5.72	1277.04	-17.77
563	SLU 3	69	27	4514	6.13	1305.46	-9.77
563	SLU 4	70	41	4520	6.01	1305.02	-14.76
563	SLU 5	69	51	4487	5.86	1294.1	-18.18
563	SLU 6	70	28	4571	6.27	1322.52	-10.18
563	SLU 7	70	43	4577	6.15	1322.08	-15.17
563	SLU 8	69	28	4534	6.21	1311.91	-10.26
563	SLU 9	70	43	4540	6.09	1311.46	-15.25
563	SLU 10	73	53	4982	6.52	1436.22	-18.94
563	SLU 11	73	30	5066	6.93	1464.64	-10.95
563	SLU 12	74	45	5072	6.81	1464.2	-15.94
563	SLU 13	73	54	5039	6.66	1453.29	-19.35
563	SLU 14	74	32	5123	7.08	1481.71	-11.35
563	SLU 15	74	46	5129	6.95	1481.26	-16.35
563	SLU 16	73	32	5086	7.01	1471.09	-11.44
563	SLU 17	74	46	5092	6.89	1470.65	-16.43
563	SLU 18	73	31	5209	7.07	1505.18	-11.13
563	SLU 19	74	45	5215	6.95	1504.74	-16.12
563	SLU 20	74	32	5266	7.22	1522.25	-11.53
563	SLU 21	75	46	5272	7.09	1521.8	-16.53
563	SLU 22	75	27	5093	7.06	1473.44	-9.93
563	SLU 23	76	51	5103	6.86	1472.7	-18.25
563	SLU 24	77	28	5187	7.27	1501.12	-10.26
563	SLU 25	77	43	5193	7.14	1500.68	-15.25
563	SLU 26	77	52	5160	7	1489.77	-18.66
563	SLU 27	77	30	5244	7.41	1518.19	-10.66
563	SLU 28	78	44	5250	7.29	1517.74	-15.66
563	SLU 29	77	30	5207	7.35	1507.57	-10.75
563	SLU 30	77	44	5213	7.22	1507.13	-15.74
563	SLU 31	80	55	5655	7.66	1631.89	-19.43
563	SLU 32	81	32	5739	8.07	1660.31	-11.43
563	SLU 33	81	46	5745	7.95	1659.86	-16.42
563	SLU 34	81	56	5712	7.8	1648.95	-19.84
563	SLU 35	81	33	5797	8.21	1677.37	-11.84
563	SLU 36	82	47	5802	8.09	1676.93	-16.83
563	SLU 37	81	33	5760	8.15	1666.75	-11.92
563	SLU 38	81	47	5765	8.03	1666.31	-16.91
563	SLU 39	81	32	5882	8.21	1700.85	-11.61
563	SLU 40	81	46	5888	8.09	1700.4	-16.6
563	SLU 41	82	33	5939	8.35	1717.91	-12.02
563	SLU 42	82	48	5945	8.23	1717.47	-17.01
563	SLU 43	85	34	5515	7.31	1594.02	-12.12
563	SLU 44	86	57	5525	7.11	1593.29	-20.44
563	SLU 45	87	34	5609	7.52	1621.71	-12.44
563	SLU 46	87	49	5615	7.39	1621.26	-17.43
563	SLU 47	87	59	5582	7.25	1610.35	-20.85
563	SLU 48	87	36	5666	7.66	1638.77	-12.85
563	SLU 49	88	50	5672	7.54	1638.33	-17.84
563	SLU 50	87	36	5629	7.6	1628.15	-12.93
563	SLU 51	87	50	5635	7.47	1627.71	-17.92
563	SLU 52	90	61	6077	7.91	1752.47	-21.61
563	SLU 53	91	38	6162	8.32	1780.89	-13.62
563	SLU 54	91	52	6167	8.2	1780.45	-18.61
563	SLU 55	91	62	6134	8.05	1769.54	-22.02
563	SLU 56	92	39	6219	8.46	1797.95	-14.02
563	SLU 57	92	53	6225	8.34	1797.51	-19.01
563	SLU 58	91	39	6182	8.4	1787.34	-14.11
563	SLU 59	91	53	6188	8.28	1786.9	-19.1
563	SLU 60	91	38	6304	8.46	1821.43	-13.8
563	SLU 61	92	53	6310	8.34	1820.99	-18.79
563	SLU 62	92	39	6361	8.6	1838.5	-14.2
563	SLU 63	92	54	6367	8.48	1838.05	-19.2
563	SLU 64	93	35	6188	8.45	1789.69	-12.6
563	SLU 65	94	59	6198	8.24	1788.95	-20.92
563	SLU 66	94	36	6282	8.66	1817.37	-12.93
563	SLU 67	95	50	6288	8.53	1816.93	-17.92
563	SLU 68	94	60	6255	8.39	1806.02	-21.33
563	SLU 69	95	37	6340	8.8	1834.43	-13.33
563	SLU 70	96	51	6345	8.67	1833.99	-18.32
563	SLU 71	94	37	6303	8.74	1823.82	-13.42
563	SLU 72	95	51	6308	8.61	1823.38	-18.41
563	SLU 73	98	62	6750	9.05	1948.13	-22.1
563	SLU 74	98	39	6835	9.46	1976.55	-14.1
563	SLU 75	99	53	6841	9.34	1976.11	-19.09
563	SLU 76	99	63	6808	9.19	1965.2	-22.5
563	SLU 77	99	40	6892	9.6	1993.62	-14.51
563	SLU 78	100	54	6898	9.48	1993.18	-19.5
563	SLU 79	98	40	6855	9.54	1983	-14.59
563	SLU 80	99	55	6861	9.41	1982.56	-19.58
563	SLU 81	98	40	6977	9.6	2017.09	-14.28
563	SLU 82	99	54	6983	9.48	2016.65	-19.27
563	SLU 83	99	41	7034	9.74	2034.16	-14.69
563	SLU 84	100	55	7040	9.62	2033.72	-19.68
563	SLE RA 1	70	27	4612	6.25	1333.68	-9.59
563	SLE RA 2	70	42	4619	6.11	1333.19	-15.13
563	SLE RA 3	71	27	4675	6.39	1352.13	-9.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
563	SLE RA 4	71	37	4679	6.3	1351.84	-13.13
563	SLE RA 5	71	43	4657	6.21	1344.57	-15.41
563	SLE RA 6	71	28	4713	6.48	1363.51	-10.07
563	SLE RA 7	72	37	4717	6.4	1363.22	-13.4
563	SLE RA 8	71	28	4688	6.44	1356.43	-10.13
563	SLE RA 9	71	38	4692	6.36	1356.14	-13.46
563	SLE RA 10	73	45	4987	6.65	1439.31	-15.92
563	SLE RA 11	73	29	5043	6.92	1458.26	-10.59
563	SLE RA 12	74	39	5047	6.84	1457.96	-13.91
563	SLE RA 13	74	45	5025	6.74	1450.69	-16.19
563	SLE RA 14	74	30	5081	7.02	1469.63	-10.86
563	SLE RA 15	74	40	5085	6.94	1469.34	-14.19
563	SLE RA 16	73	30	5057	6.98	1462.56	-10.91
563	SLE RA 17	74	40	5061	6.89	1462.26	-14.24
563	SLE RA 18	73	30	5138	7.02	1485.28	-10.71
563	SLE RA 19	74	39	5142	6.93	1484.99	-14.04
563	SLE RA 20	74	30	5176	7.11	1496.66	-10.98
563	SLE RA 21	74	40	5180	7.03	1496.37	-14.31
563	SLE FR 1	70	27	4612	6.25	1333.68	-9.59
563	SLE FR 2	70	30	4614	6.22	1333.58	-10.7
563	SLE FR 3	70	27	4628	6.29	1338.23	-9.7
563	SLE FR 4	71	31	4771	6.45	1379.06	-11.03
563	SLE FR 5	71	28	4785	6.52	1383.71	-10.03
563	SLE FR 6	72	28	4875	6.63	1409.48	-10.15
563	SLE QP 1	70	27	4612	6.25	1333.68	-9.59
563	SLE QP 2	71	27	4770	6.48	1379.16	-9.92
563	SLD 1	383	85	3612	3.31	1045.64	-30.22
563	SLD 2	396	205	3625	3.05	1044.41	-72.13
563	SLD 3	373	-220	3444	6.36	1051.43	76.64
563	SLD 4	386	-100	3457	6.11	1050.21	34.73
563	SLD 5	178	487	4675	0.93	1270.53	-170.81
563	SLD 6	187	565	4683	0.77	1269.74	-197.92
563	SLD 7	143	-531	4116	11.13	1289.84	185.38
563	SLD 8	152	-453	4124	10.96	1289.05	158.27
563	SLD 9	-10	508	5417	2	1469.28	-178.11
563	SLD 10	-2	586	5425	1.83	1468.48	-205.23
563	SLD 11	-45	-510	4857	12.19	1488.58	178.08
563	SLD 12	-37	-432	4865	12.03	1487.79	150.96
563	SLD 13	-244	155	6084	6.85	1708.12	-54.58
563	SLD 14	-231	275	6096	6.6	1706.89	-96.49
563	SLD 15	-255	-151	5916	9.91	1713.91	52.28
563	SLD 16	-242	-30	5928	9.66	1712.68	10.37
563	SLV 1	561	136	2974	1.33	858.43	-48.02
563	SLV 2	581	325	2994	0.93	856.5	-114.01
563	SLV 3	543	-381	2691	6.5	868.27	132.6
563	SLV 4	564	-191	2710	6.1	866.35	66.61
563	SLV 5	241	808	4657	-2.83	1208.37	-282.97
563	SLV 6	255	936	4670	-3.09	1207.08	-327.4
563	SLV 7	182	-914	3713	14.4	1241.18	319.08
563	SLV 8	196	-786	3726	14.13	1239.89	274.65
563	SLV 9	-54	841	5814	-1.17	1518.44	-294.5
563	SLV 10	-40	969	5827	-1.44	1517.14	-338.93
563	SLV 11	-113	-881	4870	16.06	1551.25	307.55
563	SLV 12	-99	-753	4883	15.79	1549.95	263.12
563	SLV 13	-422	246	6830	6.86	1891.98	-86.45
563	SLV 14	-402	436	6850	6.46	1890.05	-152.45
563	SLV 15	-440	-270	6547	12.03	1901.82	94.16
563	SLV 16	-419	-81	6566	11.63	1899.89	28.17
563	SLV FO 1	610	147	2794	0.81	806.36	-51.82
563	SLV FO 2	632	355	2816	0.38	804.24	-124.42
563	SLV FO 3	590	-421	2483	6.5	817.18	146.85
563	SLV FO 4	613	-213	2504	6.06	815.06	74.26
563	SLV FO 5	258	886	4646	-3.76	1191.29	-310.27
563	SLV FO 6	273	1026	4660	-4.05	1189.87	-359.15
563	SLV FO 7	193	-1008	3607	15.19	1227.39	351.98
563	SLV FO 8	208	-867	3622	14.9	1225.96	303.11
563	SLV FO 9	-67	922	5919	-1.93	1532.36	-322.96
563	SLV FO 10	-51	1063	5933	-2.23	1530.94	-371.83
563	SLV FO 11	-131	-971	4880	17.01	1568.46	339.3
563	SLV FO 12	-116	-831	4894	16.72	1567.03	290.42
563	SLV FO 13	-471	268	7036	6.9	1943.26	-94.11
563	SLV FO 14	-449	476	7058	6.46	1941.14	-166.7
563	SLV FO 15	-491	-300	6724	12.58	1954.09	104.57
563	SLV FO 16	-468	-92	6746	12.15	1951.97	31.98
563	CRTFP Ux+	0	0	0	0	0	0
563	CRTFP Ux-	0	0	0	0	0	0
563	CRTFP Uy+	0	0	0	0	0	0
563	CRTFP Uy-	0	0	0	0	0	0
566	SLU 1	35	-40	3491	-0.34	1377.23	16.03
566	SLU 2	34	-21	3490	-0.51	1376.31	8.51
566	SLU 3	35	-41	3569	-0.29	1407.93	16.47
566	SLU 4	35	-30	3568	-0.39	1407.38	11.96
566	SLU 5	35	-22	3540	-0.47	1396.26	8.85
566	SLU 6	36	-42	3619	-0.24	1427.88	16.81
566	SLU 7	36	-31	3618	-0.34	1427.33	12.3
566	SLU 8	36	-42	3592	-0.25	1417.13	16.71
566	SLU 9	35	-30	3591	-0.35	1416.58	12.2
566	SLU 10	38	-26	3959	-0.52	1562.16	10.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
566	SLU 11	39	-46	4037	-0.3	1593.78	18.46
566	SLU 12	39	-35	4037	-0.4	1593.23	13.95
566	SLU 13	38	-27	4009	-0.48	1582.11	10.84
566	SLU 14	39	-47	4087	-0.25	1613.72	18.8
566	SLU 15	39	-36	4087	-0.35	1613.17	14.29
566	SLU 16	39	-47	4060	-0.26	1602.97	18.7
566	SLU 17	39	-35	4059	-0.36	1602.42	14.19
566	SLU 18	40	-47	4160	-0.35	1642.73	18.88
566	SLU 19	40	-36	4160	-0.46	1642.18	14.37
566	SLU 20	40	-48	4211	-0.31	1662.67	19.22
566	SLU 21	40	-37	4210	-0.41	1662.13	14.71
566	SLU 22	40	-45	4024	-0.18	1587.49	18.23
566	SLU 23	39	-27	4023	-0.35	1586.58	10.71
566	SLU 24	40	-47	4101	-0.13	1618.19	18.68
566	SLU 25	40	-35	4101	-0.23	1617.64	14.16
566	SLU 26	40	-27	4073	-0.31	1606.53	11.05
566	SLU 27	41	-47	4152	-0.08	1638.14	19.02
566	SLU 28	41	-36	4151	-0.19	1637.59	14.51
566	SLU 29	40	-47	4124	-0.09	1627.39	18.91
566	SLU 30	40	-36	4124	-0.2	1626.84	14.4
566	SLU 31	43	-32	4491	-0.36	1772.43	12.71
566	SLU 32	44	-52	4570	-0.14	1804.04	20.67
566	SLU 33	44	-40	4569	-0.24	1803.49	16.16
566	SLU 34	43	-32	4542	-0.32	1792.37	13.05
566	SLU 35	44	-52	4620	-0.09	1823.99	21.01
566	SLU 36	44	-41	4619	-0.2	1823.44	16.5
566	SLU 37	44	-52	4593	-0.1	1813.24	20.91
566	SLU 38	44	-41	4592	-0.21	1812.69	16.4
566	SLU 39	45	-53	4693	-0.2	1852.99	21.08
566	SLU 40	45	-41	4693	-0.3	1852.44	16.57
566	SLU 41	45	-53	4743	-0.15	1872.94	21.43
566	SLU 42	45	-42	4743	-0.25	1872.39	16.91
566	SLU 43	43	-50	4356	-0.5	1718.31	20.08
566	SLU 44	43	-31	4355	-0.66	1717.39	12.56
566	SLU 45	44	-51	4434	-0.44	1749.01	20.52
566	SLU 46	44	-40	4433	-0.54	1748.46	16.01
566	SLU 47	44	-32	4405	-0.62	1737.34	12.9
566	SLU 48	45	-52	4484	-0.4	1768.95	20.86
566	SLU 49	44	-41	4483	-0.5	1768.41	16.35
566	SLU 50	44	-52	4456	-0.41	1758.2	20.76
566	SLU 51	44	-40	4456	-0.51	1757.66	16.25
566	SLU 52	47	-36	4824	-0.67	1903.24	14.55
566	SLU 53	48	-56	4902	-0.45	1934.85	22.52
566	SLU 54	48	-45	4901	-0.55	1934.3	18
566	SLU 55	47	-37	4874	-0.63	1923.19	14.89
566	SLU 56	48	-57	4952	-0.41	1954.8	22.86
566	SLU 57	48	-46	4952	-0.51	1954.25	18.34
566	SLU 58	48	-57	4925	-0.42	1944.05	22.75
566	SLU 59	48	-45	4924	-0.52	1943.5	18.24
566	SLU 60	49	-57	5025	-0.51	1983.8	22.93
566	SLU 61	48	-46	5025	-0.61	1983.26	18.42
566	SLU 62	49	-58	5075	-0.47	2003.75	23.27
566	SLU 63	49	-47	5075	-0.57	2003.2	18.76
566	SLU 64	48	-56	4889	-0.34	1928.57	22.28
566	SLU 65	48	-37	4888	-0.51	1927.66	14.76
566	SLU 66	49	-57	4966	-0.28	1959.27	22.73
566	SLU 67	49	-45	4966	-0.39	1958.72	18.22
566	SLU 68	48	-38	4938	-0.46	1947.61	15.11
566	SLU 69	49	-58	5016	-0.24	1979.22	23.07
566	SLU 70	49	-46	5016	-0.34	1978.67	18.56
566	SLU 71	49	-57	4989	-0.25	1968.47	22.97
566	SLU 72	49	-46	4988	-0.35	1967.92	18.45
566	SLU 73	52	-42	5356	-0.52	2113.5	16.76
566	SLU 74	53	-62	5435	-0.29	2145.12	24.72
566	SLU 75	52	-50	5434	-0.4	2144.57	20.21
566	SLU 76	52	-43	5406	-0.47	2133.45	17.1
566	SLU 77	53	-62	5485	-0.25	2165.07	25.06
566	SLU 78	53	-51	5484	-0.35	2164.52	20.55
566	SLU 79	53	-62	5457	-0.26	2154.32	24.96
566	SLU 80	53	-51	5457	-0.36	2153.77	20.45
566	SLU 81	53	-63	5558	-0.35	2194.07	25.14
566	SLU 82	53	-51	5557	-0.45	2193.52	20.62
566	SLU 83	54	-64	5608	-0.31	2214.02	25.48
566	SLU 84	54	-52	5607	-0.41	2213.47	20.96
566	SLE RA 1	36	-42	3643	-0.29	1437.3	16.66
566	SLE RA 2	36	-29	3643	-0.41	1436.7	11.64
566	SLE RA 3	37	-42	3695	-0.26	1457.77	16.95
566	SLE RA 4	36	-35	3695	-0.33	1457.4	13.94
566	SLE RA 5	36	-30	3676	-0.38	1449.99	11.87
566	SLE RA 6	37	-43	3729	-0.23	1471.07	17.18
566	SLE RA 7	37	-35	3728	-0.3	1470.7	14.17
566	SLE RA 8	37	-43	3710	-0.24	1463.9	17.11
566	SLE RA 9	37	-35	3710	-0.3	1463.54	14.1
566	SLE RA 10	38	-32	3955	-0.41	1560.59	12.97
566	SLE RA 11	39	-46	4007	-0.27	1581.67	18.28
566	SLE RA 12	39	-38	4007	-0.33	1581.3	15.27
566	SLE RA 13	39	-33	3989	-0.38	1573.89	13.2
566	SLE RA 14	39	-46	4041	-0.24	1594.97	18.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
566	SLE RA 15	39	-39	4040	-0.3	1594.6	15.5
566	SLE RA 16	39	-46	4023	-0.24	1587.8	18.44
566	SLE RA 17	39	-38	4022	-0.31	1587.43	15.43
566	SLE RA 18	39	-46	4090	-0.3	1614.3	18.56
566	SLE RA 19	39	-39	4089	-0.37	1613.94	15.55
566	SLE RA 20	40	-47	4123	-0.27	1627.6	18.78
566	SLE RA 21	40	-39	4123	-0.34	1627.24	15.78
566	SLE FR 1	36	-42	3643	-0.29	1437.3	16.66
566	SLE FR 2	36	-39	3643	-0.32	1437.18	15.65
566	SLE FR 3	36	-42	3657	-0.28	1442.62	16.75
566	SLE FR 4	37	-40	3777	-0.32	1490.28	16.22
566	SLE FR 5	37	-43	3791	-0.29	1495.72	17.32
566	SLE FR 6	38	-44	3867	-0.3	1525.8	17.61
566	SLE QP 1	36	-42	3643	-0.29	1437.3	16.66
566	SLE QP 2	37	-43	3777	-0.3	1490.4	17.23
566	SLD 1	304	79	3853	-1.1	1523.01	-31.46
566	SLD 2	312	83	3856	-1.12	1523.75	-32.98
566	SLD 3	308	-159	3822	1.42	1515.92	63.71
566	SLD 4	315	-155	3825	1.4	1516.66	62.19
566	SLD 5	110	354	3846	-4.36	1510.81	-141.46
566	SLD 6	115	357	3848	-4.37	1511.29	-142.45
566	SLD 7	123	-440	3744	4.05	1487.17	175.78
566	SLD 8	128	-437	3746	4.03	1487.66	174.8
566	SLD 9	-54	351	3809	-4.63	1493.15	-140.34
566	SLD 10	-49	354	3811	-4.64	1493.63	-141.33
566	SLD 11	-41	-443	3707	3.78	1469.51	176.9
566	SLD 12	-36	-440	3709	3.76	1470	175.91
566	SLD 13	-241	69	3729	-2	1464.14	-27.73
566	SLD 14	-234	74	3732	-2.02	1464.89	-29.26
566	SLD 15	-237	-169	3699	0.52	1457.05	67.44
566	SLD 16	-230	-165	3702	0.5	1457.8	65.92
566	SLV 1	455	163	3898	-1.71	1542.07	-65.11
566	SLV 2	466	169	3903	-1.74	1543.24	-67.5
566	SLV 3	461	-240	3846	2.55	1529.85	95.69
566	SLV 4	473	-233	3851	2.52	1531.02	93.3
566	SLV 5	150	628	3891	-7.17	1524.22	-250.91
566	SLV 6	158	632	3895	-7.2	1525.01	-252.52
566	SLV 7	172	-713	3718	7.02	1483.48	285.1
566	SLV 8	180	-709	3721	7	1484.27	283.49
566	SLV 9	-106	623	3833	-7.6	1496.54	-249.03
566	SLV 10	-98	628	3837	-7.62	1497.33	-250.65
566	SLV 11	-84	-718	3660	6.6	1455.8	286.98
566	SLV 12	-76	-714	3663	6.58	1456.59	285.37
566	SLV 13	-399	147	3704	-3.12	1449.79	-58.85
566	SLV 14	-387	154	3709	-3.15	1450.96	-61.24
566	SLV 15	-392	-255	3652	1.14	1437.57	101.96
566	SLV 16	-380	-249	3657	1.11	1438.74	99.56
566	SLV FO 1	496	183	3910	-1.85	1547.23	-73.34
566	SLV FO 2	509	190	3915	-1.88	1548.53	-75.98
566	SLV FO 3	503	-259	3853	2.84	1533.79	103.54
566	SLV FO 4	516	-252	3858	2.8	1535.08	100.91
566	SLV FO 5	162	695	3903	-7.86	1527.6	-277.73
566	SLV FO 6	170	700	3906	-7.89	1528.47	-279.5
566	SLV FO 7	185	-780	3712	7.76	1482.79	311.89
566	SLV FO 8	194	-776	3716	7.73	1483.66	310.11
566	SLV FO 9	-120	690	3839	-8.33	1497.15	-275.66
566	SLV FO 10	-111	695	3843	-8.35	1498.02	-277.43
566	SLV FO 11	-96	-786	3648	7.29	1452.34	313.95
566	SLV FO 12	-87	-781	3652	7.27	1453.21	312.18
566	SLV FO 13	-442	166	3697	-3.4	1445.73	-66.45
566	SLV FO 14	-429	173	3702	-3.43	1447.02	-69.09
566	SLV FO 15	-435	-276	3639	1.29	1432.28	110.43
566	SLV FO 16	-422	-269	3645	1.25	1433.58	107.8
566	CRTFP Ux+	0	0	0	0	0	0
566	CRTFP Ux-	0	0	0	0	0	0
566	CRTFP Uy+	0	0	0	0	0	0
566	CRTFP Uy-	0	0	0	0	0	0
570	SLU 1	-31	0	2696	-166.52	-590.95	-1.91
570	SLU 2	-31	14	2700	-166.8	-590.56	1.62
570	SLU 3	-31	-1	2760	-170.42	-604.97	-2.01
570	SLU 4	-31	8	2762	-170.59	-604.74	0.11
570	SLU 5	-31	14	2741	-169.33	-599.69	1.58
570	SLU 6	-31	-1	2801	-172.96	-614.11	-2.04
570	SLU 7	-32	8	2803	-173.13	-613.87	0.08
570	SLU 8	-31	0	2779	-171.59	-609.22	-1.98
570	SLU 9	-31	8	2781	-171.76	-608.98	0.14
570	SLU 10	-31	15	3043	-188.01	-666.27	1.78
570	SLU 11	-32	0	3103	-191.63	-680.68	-1.84
570	SLU 12	-32	9	3105	-191.8	-680.45	0.28
570	SLU 13	-32	15	3085	-190.54	-675.4	1.75
570	SLU 14	-32	0	3144	-194.16	-689.82	-1.87
570	SLU 15	-32	9	3147	-194.33	-689.58	0.24
570	SLU 16	-32	0	3122	-192.79	-684.93	-1.81
570	SLU 17	-32	9	3124	-192.96	-684.69	0.31
570	SLU 18	-31	1	3187	-196.81	-699.11	-1.67
570	SLU 19	-32	9	3189	-196.98	-698.87	0.44
570	SLU 20	-32	1	3228	-199.34	-708.24	-1.7
570	SLU 21	-32	9	3230	-199.51	-708.01	0.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
570	SLU 22	-33	-1	3121	-192.72	-684.91	-2.31
570	SLU 23	-33	13	3125	-193.01	-684.52	1.22
570	SLU 24	-34	-2	3185	-196.63	-698.93	-2.41
570	SLU 25	-34	7	3187	-196.8	-698.7	-0.29
570	SLU 26	-34	13	3166	-195.54	-693.65	1.18
570	SLU 27	-34	-2	3226	-199.16	-708.07	-2.44
570	SLU 28	-34	7	3228	-199.33	-707.83	-0.32
570	SLU 29	-34	-1	3204	-197.79	-703.18	-2.37
570	SLU 30	-34	7	3206	-197.96	-702.94	-0.26
570	SLU 31	-34	14	3468	-214.21	-760.23	1.38
570	SLU 32	-34	-1	3528	-217.83	-774.64	-2.24
570	SLU 33	-34	8	3530	-218	-774.41	-0.12
570	SLU 34	-34	14	3510	-216.74	-769.36	1.35
570	SLU 35	-34	-1	3569	-220.37	-783.78	-2.27
570	SLU 36	-35	8	3572	-220.54	-783.54	-0.15
570	SLU 37	-34	-1	3547	-219	-778.89	-2.21
570	SLU 38	-34	8	3549	-219.17	-778.65	-0.09
570	SLU 39	-34	0	3612	-223.02	-793.07	-2.07
570	SLU 40	-34	8	3614	-223.18	-792.83	0.04
570	SLU 41	-34	0	3653	-225.55	-802.2	-2.1
570	SLU 42	-34	8	3655	-225.72	-801.97	0.01
570	SLU 43	-39	0	3359	-207.49	-736.02	-2.35
570	SLU 44	-39	14	3363	-207.77	-735.63	1.18
570	SLU 45	-39	0	3423	-211.39	-750.04	-2.45
570	SLU 46	-40	8	3425	-211.56	-749.81	-0.33
570	SLU 47	-39	14	3404	-210.31	-744.76	1.15
570	SLU 48	-40	0	3464	-213.93	-759.18	-2.48
570	SLU 49	-40	8	3466	-214.1	-758.94	-0.36
570	SLU 50	-39	0	3442	-212.56	-754.29	-2.41
570	SLU 51	-40	8	3444	-212.73	-754.05	-0.3
570	SLU 52	-40	15	3706	-228.98	-811.34	1.35
570	SLU 53	-40	1	3766	-232.6	-825.75	-2.28
570	SLU 54	-40	9	3768	-232.77	-825.52	-0.16
570	SLU 55	-40	15	3748	-231.51	-820.47	1.31
570	SLU 56	-40	0	3807	-235.13	-834.89	-2.31
570	SLU 57	-41	9	3810	-235.3	-834.65	-0.19
570	SLU 58	-40	1	3785	-233.76	-830	-2.24
570	SLU 59	-40	9	3787	-233.93	-829.76	-0.13
570	SLU 60	-40	1	3850	-237.78	-844.18	-2.11
570	SLU 61	-40	10	3852	-237.95	-843.94	0.01
570	SLU 62	-40	1	3891	-240.32	-853.31	-2.14
570	SLU 63	-40	10	3893	-240.48	-853.08	-0.02
570	SLU 64	-41	-1	3784	-233.69	-829.98	-2.75
570	SLU 65	-42	13	3788	-233.98	-829.59	0.78
570	SLU 66	-42	-1	3848	-237.6	-844	-2.84
570	SLU 67	-42	7	3850	-237.77	-843.77	-0.73
570	SLU 68	-42	13	3829	-236.51	-838.72	0.75
570	SLU 69	-42	-1	3889	-240.13	-853.14	-2.88
570	SLU 70	-42	7	3891	-240.3	-852.9	-0.76
570	SLU 71	-42	-1	3867	-238.76	-848.25	-2.81
570	SLU 72	-42	7	3869	-238.93	-848.01	-0.69
570	SLU 73	-42	14	4131	-255.18	-905.3	0.95
570	SLU 74	-43	0	4191	-258.8	-919.71	-2.68
570	SLU 75	-43	8	4193	-258.97	-919.48	-0.56
570	SLU 76	-43	14	4173	-257.71	-914.43	0.92
570	SLU 77	-43	-1	4232	-261.34	-928.85	-2.71
570	SLU 78	-43	8	4235	-261.51	-928.61	-0.59
570	SLU 79	-43	0	4210	-259.97	-923.96	-2.64
570	SLU 80	-43	8	4212	-260.14	-923.72	-0.53
570	SLU 81	-42	0	4275	-263.99	-938.14	-2.51
570	SLU 82	-42	9	4277	-264.16	-937.9	-0.39
570	SLU 83	-43	0	4316	-266.52	-947.27	-2.54
570	SLU 84	-43	9	4318	-266.69	-947.04	-0.42
570	SLE RA 1	-31	-1	2818	-174.01	-617.8	-2.03
570	SLE RA 2	-31	9	2820	-174.19	-617.53	0.33
570	SLE RA 3	-32	-1	2860	-176.61	-627.15	-2.09
570	SLE RA 4	-32	5	2861	-176.72	-626.99	-0.68
570	SLE RA 5	-32	9	2848	-175.88	-623.62	0.3
570	SLE RA 6	-32	-1	2887	-178.3	-633.23	-2.11
570	SLE RA 7	-32	5	2889	-178.41	-633.08	-0.7
570	SLE RA 8	-32	-1	2873	-177.38	-629.98	-2.07
570	SLE RA 9	-32	5	2874	-177.5	-629.82	-0.66
570	SLE RA 10	-32	9	3049	-188.33	-668.01	0.44
570	SLE RA 11	-32	0	3089	-190.74	-677.62	-1.98
570	SLE RA 12	-32	5	3090	-190.86	-677.46	-0.57
570	SLE RA 13	-32	9	3077	-190.02	-674.1	0.42
570	SLE RA 14	-32	0	3116	-192.43	-683.71	-2
570	SLE RA 15	-32	5	3118	-192.55	-683.55	-0.59
570	SLE RA 16	-32	0	3102	-191.52	-680.45	-1.96
570	SLE RA 17	-32	6	3103	-191.63	-680.29	-0.55
570	SLE RA 18	-32	0	3145	-194.2	-689.9	-1.87
570	SLE RA 19	-32	6	3146	-194.31	-689.74	-0.46
570	SLE RA 20	-32	0	3172	-195.89	-695.99	-1.89
570	SLE RA 21	-32	6	3174	-196	-695.83	-0.48
570	SLE FR 1	-31	-1	2818	-174.01	-617.8	-2.03
570	SLE FR 2	-31	1	2818	-174.04	-617.74	-1.56
570	SLE FR 3	-31	-1	2829	-174.68	-620.23	-2.03
570	SLE FR 4	-31	2	2916	-180.1	-639.38	-1.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
570	SLE FR 5	-31	0	2927	-180.74	-641.86	-1.99
570	SLE FR 6	-32	0	2981	-184.1	-653.85	-1.95
570	SLE QP 1	-31	-1	2818	-174.01	-617.8	-2.03
570	SLE QP 2	-31	0	2916	-180.06	-639.43	-1.98
570	SLD 1	150	104	3777	-233.68	-810	39.09
570	SLD 2	153	32	3775	-233.46	-811.24	21.53
570	SLD 3	153	-78	3695	-227.78	-807.8	-6.04
570	SLD 4	157	-149	3692	-227.57	-809.04	-23.6
570	SLD 5	17	319	3300	-205.13	-693.72	81.83
570	SLD 6	19	272	3298	-204.99	-694.52	70.47
570	SLD 7	29	-287	3025	-185.47	-686.39	-68.59
570	SLD 8	31	-333	3023	-185.33	-687.19	-79.95
570	SLD 9	-94	332	2808	-174.79	-591.67	75.99
570	SLD 10	-92	286	2807	-174.66	-592.47	64.63
570	SLD 11	-82	-273	2533	-155.14	-584.34	-74.42
570	SLD 12	-80	-319	2532	-155	-585.14	-85.78
570	SLD 13	-220	149	2139	-132.56	-469.82	19.64
570	SLD 14	-216	77	2137	-132.35	-471.06	2.08
570	SLD 15	-216	-33	2057	-126.66	-467.62	-25.48
570	SLD 16	-213	-104	2054	-126.45	-468.86	-43.05
570	SLV 1	252	174	4265	-264.1	-905.64	65.31
570	SLV 2	257	62	4261	-263.76	-907.59	37.66
570	SLV 3	258	-133	4125	-254.12	-901.96	-10.95
570	SLV 4	263	-245	4121	-253.79	-903.91	-38.6
570	SLV 5	43	538	3533	-220.47	-724.5	139.03
570	SLV 6	47	463	3530	-220.24	-725.81	120.41
570	SLV 7	64	-485	3068	-187.21	-712.25	-115.17
570	SLV 8	67	-560	3065	-186.99	-713.56	-133.79
570	SLV 9	-130	559	2767	-173.14	-565.3	129.83
570	SLV 10	-126	484	2764	-172.91	-566.61	111.21
570	SLV 11	-110	-463	2301	-139.89	-553.04	-124.37
570	SLV 12	-106	-539	2299	-139.66	-554.36	-142.99
570	SLV 13	-326	244	1710	-106.34	-374.95	34.64
570	SLV 14	-321	132	1706	-106.01	-376.9	6.99
570	SLV 15	-320	-62	1571	-96.37	-371.27	-41.62
570	SLV 16	-315	-175	1567	-96.03	-373.22	-69.27
570	SLV FO 1	280	191	4400	-272.5	-932.26	72.04
570	SLV FO 2	286	68	4395	-272.13	-934.4	41.63
570	SLV FO 3	287	-146	4246	-261.53	-928.21	-11.85
570	SLV FO 4	293	-270	4242	-261.16	-930.36	-42.26
570	SLV FO 5	51	592	3595	-224.51	-733.01	153.13
570	SLV FO 6	55	509	3592	-224.26	-734.45	132.65
570	SLV FO 7	73	-533	3083	-187.93	-719.53	-126.49
570	SLV FO 8	77	-616	3080	-187.68	-720.98	-146.97
570	SLV FO 9	-140	615	2752	-172.45	-557.88	143.01
570	SLV FO 10	-136	532	2749	-172.2	-559.33	122.53
570	SLV FO 11	-118	-510	2240	-135.87	-544.4	-136.61
570	SLV FO 12	-114	-593	2237	-135.62	-545.85	-157.09
570	SLV FO 13	-356	269	1590	-98.97	-348.5	38.3
570	SLV FO 14	-350	145	1585	-98.6	-350.64	7.89
570	SLV FO 15	-349	-69	1436	-88	-344.45	-45.58
570	SLV FO 16	-343	-192	1432	-87.63	-346.6	-76
570	CRTFP Ux+	0	0	0	0	0	0
570	CRTFP Ux-	0	0	0	0	0	0
570	CRTFP Uy+	0	0	0	0	0	0
570	CRTFP Uy-	0	0	0	0	0	0
573	SLU 1	-44	-12	5510	-152.29	-14.72	-1.25
573	SLU 2	-44	16	5504	-152.31	-13.65	-1.29
573	SLU 3	-44	-12	5639	-155.77	-15.22	-1.27
573	SLU 4	-44	4	5635	-155.79	-14.58	-1.3
573	SLU 5	-44	16	5588	-154.58	-14.03	-1.31
573	SLU 6	-45	-12	5723	-158.05	-15.59	-1.28
573	SLU 7	-45	4	5719	-158.06	-14.95	-1.31
573	SLU 8	-44	-12	5679	-156.83	-15.46	-1.27
573	SLU 9	-44	4	5675	-156.85	-14.82	-1.3
573	SLU 10	-43	15	6245	-172.74	-16.85	-1.31
573	SLU 11	-44	-12	6381	-176.2	-18.41	-1.28
573	SLU 12	-44	4	6377	-176.22	-17.77	-1.31
573	SLU 13	-44	15	6329	-175.01	-17.22	-1.32
573	SLU 14	-45	-13	6465	-178.48	-18.78	-1.29
573	SLU 15	-44	4	6461	-178.49	-18.14	-1.32
573	SLU 16	-44	-13	6420	-177.26	-18.65	-1.28
573	SLU 17	-44	4	6416	-177.28	-18.02	-1.31
573	SLU 18	-44	-12	6570	-181.47	-19.28	-1.26
573	SLU 19	-43	4	6566	-181.49	-18.64	-1.29
573	SLU 20	-44	-12	6654	-183.74	-19.65	-1.28
573	SLU 21	-44	4	6650	-183.76	-19.01	-1.31
573	SLU 22	-47	-13	6398	-176.56	-17.37	-1.35
573	SLU 23	-47	14	6391	-176.59	-16.31	-1.4
573	SLU 24	-47	-13	6527	-180.05	-17.87	-1.37
573	SLU 25	-47	3	6523	-180.07	-17.23	-1.4
573	SLU 26	-47	14	6476	-178.86	-16.68	-1.41
573	SLU 27	-48	-14	6611	-182.32	-18.24	-1.39
573	SLU 28	-48	3	6607	-182.34	-17.6	-1.41
573	SLU 29	-47	-14	6566	-181.11	-18.12	-1.38
573	SLU 30	-47	3	6562	-181.12	-17.48	-1.41
573	SLU 31	-46	14	7133	-197.02	-19.5	-1.41
573	SLU 32	-47	-14	7268	-200.48	-21.06	-1.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
573	SLU 33	-47	3	7264	-200.5	-20.42	-1.41
573	SLU 34	-47	14	7217	-199.29	-19.87	-1.42
573	SLU 35	-48	-14	7353	-202.75	-21.43	-1.4
573	SLU 36	-47	3	7349	-202.77	-20.79	-1.43
573	SLU 37	-47	-14	7308	-201.54	-21.31	-1.39
573	SLU 38	-47	3	7304	-201.55	-20.67	-1.42
573	SLU 39	-47	-13	7457	-205.75	-21.93	-1.37
573	SLU 40	-46	3	7453	-205.76	-21.29	-1.4
573	SLU 41	-47	-14	7541	-208.02	-22.3	-1.38
573	SLU 42	-47	3	7538	-208.04	-21.66	-1.41
573	SLU 43	-56	-15	6859	-189.65	-18.23	-1.59
573	SLU 44	-56	13	6852	-189.67	-17.16	-1.63
573	SLU 45	-57	-15	6988	-193.14	-18.72	-1.61
573	SLU 46	-56	1	6984	-193.15	-18.08	-1.64
573	SLU 47	-56	12	6937	-191.95	-17.53	-1.65
573	SLU 48	-57	-16	7072	-195.41	-19.09	-1.62
573	SLU 49	-57	1	7068	-195.42	-18.46	-1.65
573	SLU 50	-56	-15	7027	-194.19	-18.97	-1.61
573	SLU 51	-56	1	7023	-194.21	-18.33	-1.64
573	SLU 52	-56	12	7594	-210.1	-20.35	-1.64
573	SLU 53	-56	-16	7729	-213.57	-21.91	-1.62
573	SLU 54	-56	1	7725	-213.58	-21.28	-1.65
573	SLU 55	-56	12	7678	-212.38	-20.72	-1.66
573	SLU 56	-57	-16	7814	-215.84	-22.29	-1.63
573	SLU 57	-57	1	7810	-215.85	-21.65	-1.66
573	SLU 58	-56	-16	7769	-214.62	-22.16	-1.62
573	SLU 59	-56	1	7765	-214.64	-21.52	-1.65
573	SLU 60	-56	-15	7918	-218.84	-22.79	-1.6
573	SLU 61	-56	1	7914	-218.85	-22.15	-1.63
573	SLU 62	-56	-16	8002	-221.11	-23.16	-1.62
573	SLU 63	-56	1	7999	-221.12	-22.52	-1.64
573	SLU 64	-59	-16	7746	-213.93	-20.88	-1.69
573	SLU 65	-59	11	7740	-213.95	-19.81	-1.74
573	SLU 66	-60	-17	7875	-217.41	-21.38	-1.71
573	SLU 67	-59	0	7872	-217.43	-20.74	-1.74
573	SLU 68	-59	11	7824	-216.22	-20.19	-1.75
573	SLU 69	-60	-17	7960	-219.69	-21.75	-1.73
573	SLU 70	-60	0	7956	-219.7	-21.11	-1.75
573	SLU 71	-59	-17	7915	-218.47	-21.62	-1.72
573	SLU 72	-59	0	7911	-218.48	-20.98	-1.74
573	SLU 73	-58	11	8482	-234.38	-23.01	-1.75
573	SLU 74	-59	-17	8617	-237.84	-24.57	-1.72
573	SLU 75	-59	0	8613	-237.86	-23.93	-1.75
573	SLU 76	-59	11	8566	-236.65	-23.38	-1.76
573	SLU 77	-60	-17	8701	-240.12	-24.94	-1.74
573	SLU 78	-59	0	8697	-240.13	-24.3	-1.77
573	SLU 79	-59	-17	8657	-238.9	-24.81	-1.73
573	SLU 80	-59	0	8653	-238.91	-24.17	-1.76
573	SLU 81	-59	-17	8806	-243.11	-25.44	-1.71
573	SLU 82	-59	0	8802	-243.13	-24.8	-1.73
573	SLU 83	-59	-17	8890	-245.38	-25.81	-1.72
573	SLU 84	-59	0	8886	-245.4	-25.17	-1.75
573	SLE RA 1	-45	-12	5764	-159.22	-15.48	-1.28
573	SLE RA 2	-45	6	5759	-159.24	-14.77	-1.31
573	SLE RA 3	-45	-12	5850	-161.55	-15.81	-1.29
573	SLE RA 4	-45	-1	5847	-161.56	-15.38	-1.31
573	SLE RA 5	-45	6	5816	-160.75	-15.02	-1.32
573	SLE RA 6	-45	-13	5906	-163.06	-16.06	-1.3
573	SLE RA 7	-45	-2	5903	-163.07	-15.63	-1.32
573	SLE RA 8	-45	-13	5876	-162.25	-15.97	-1.29
573	SLE RA 9	-45	-1	5873	-162.26	-15.55	-1.31
573	SLE RA 10	-44	6	6254	-172.86	-16.9	-1.32
573	SLE RA 11	-45	-13	6344	-175.17	-17.94	-1.3
573	SLE RA 12	-45	-2	6341	-175.18	-17.51	-1.32
573	SLE RA 13	-45	6	6310	-174.37	-17.14	-1.32
573	SLE RA 14	-45	-13	6400	-176.68	-18.18	-1.31
573	SLE RA 15	-45	-2	6398	-176.69	-17.76	-1.33
573	SLE RA 16	-45	-13	6370	-175.87	-18.1	-1.3
573	SLE RA 17	-45	-2	6368	-175.88	-17.68	-1.32
573	SLE RA 18	-44	-12	6470	-178.68	-18.52	-1.29
573	SLE RA 19	-44	-1	6467	-178.69	-18.09	-1.31
573	SLE RA 20	-45	-13	6526	-180.2	-18.77	-1.3
573	SLE RA 21	-45	-2	6524	-180.2	-18.34	-1.32
573	SLE FR 1	-45	-12	5764	-159.22	-15.48	-1.28
573	SLE FR 2	-45	-9	5763	-159.23	-15.34	-1.28
573	SLE FR 3	-45	-12	5786	-159.83	-15.58	-1.28
573	SLE FR 4	-45	-9	5975	-165.06	-16.25	-1.29
573	SLE FR 5	-45	-12	5998	-165.67	-16.49	-1.28
573	SLE FR 6	-45	-12	6117	-168.95	-17	-1.28
573	SLE QP 1	-45	-12	5764	-159.22	-15.48	-1.28
573	SLE QP 2	-45	-12	5976	-165.06	-16.39	-1.28
573	SLD 1	425	169	6575	-183.1	6.14	11.32
573	SLD 2	430	99	6575	-182.96	4.69	12.85
573	SLD 3	419	-183	6631	-181.49	-6.98	11.79
573	SLD 4	425	-253	6631	-181.35	-8.43	13.32
573	SLD 5	103	589	6070	-172.93	10.52	1.52
573	SLD 6	107	544	6070	-172.84	9.58	2.51
573	SLD 7	86	-586	6258	-167.58	-33.21	3.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
573	SLD 8	89	-631	6258	-167.49	-34.15	4.08
573	SLD 9	-179	607	5693	-162.64	1.37	-6.64
573	SLD 10	-175	561	5693	-162.54	0.44	-5.65
573	SLD 11	-196	-568	5881	-157.28	-42.36	-5.07
573	SLD 12	-192	-614	5881	-157.19	-43.3	-4.08
573	SLD 13	-514	229	5320	-148.77	-24.35	-15.88
573	SLD 14	-509	159	5320	-148.63	-25.8	-14.35
573	SLD 15	-519	-124	5377	-147.16	-37.47	-15.41
573	SLD 16	-514	-194	5376	-147.02	-38.92	-13.88
573	SLV 1	690	294	6907	-193.31	19.64	18.41
573	SLV 2	699	184	6907	-193.09	17.36	20.82
573	SLV 3	681	-301	7002	-190.58	-2.52	19.19
573	SLV 4	690	-412	7002	-190.36	-4.8	21.61
573	SLV 5	188	1004	6111	-177.72	28.46	2.98
573	SLV 6	194	929	6111	-177.57	26.92	4.61
573	SLV 7	158	-982	6428	-168.62	-45.42	5.6
573	SLV 8	164	-1056	6427	-168.47	-46.95	7.23
573	SLV 9	-253	1031	5524	-161.65	14.17	-9.79
573	SLV 10	-247	957	5524	-161.5	12.64	-8.17
573	SLV 11	-283	-954	5840	-152.55	-59.7	-7.17
573	SLV 12	-277	-1028	5840	-152.4	-61.24	-5.54
573	SLV 13	-779	387	4950	-139.76	-27.98	-24.17
573	SLV 14	-771	277	4950	-139.54	-30.26	-21.76
573	SLV 15	-788	-208	5045	-137.03	-50.14	-23.38
573	SLV 16	-779	-319	5044	-136.81	-52.42	-20.97
573	SLV FO 1	764	325	7000	-196.14	23.25	20.38
573	SLV FO 2	773	204	7000	-195.89	20.74	23.03
573	SLV FO 3	754	-330	7104	-193.13	-1.13	21.24
573	SLV FO 4	764	-452	7104	-192.89	-3.64	23.9
573	SLV FO 5	211	1105	6124	-178.98	32.94	3.41
573	SLV FO 6	217	1023	6124	-178.82	31.25	5.2
573	SLV FO 7	178	-1079	6473	-168.97	-48.32	6.29
573	SLV FO 8	185	-1160	6473	-168.81	-50.01	8.08
573	SLV FO 9	-274	1136	5479	-161.31	17.23	-10.64
573	SLV FO 10	-268	1054	5479	-161.15	15.54	-8.85
573	SLV FO 11	-307	-1048	5827	-151.3	-64.03	-7.76
573	SLV FO 12	-300	-1130	5827	-151.14	-65.72	-5.97
573	SLV FO 13	-853	427	4847	-137.23	-29.14	-26.46
573	SLV FO 14	-843	306	4847	-136.99	-31.65	-23.8
573	SLV FO 15	-863	-228	4952	-134.23	-53.52	-25.59
573	SLV FO 16	-853	-349	4951	-133.98	-56.02	-22.94
573	CRTFP Ux+	0	0	0	0	0	0
573	CRTFP Ux-	0	0	0	0	0	0
573	CRTFP Uy+	0	0	0	0	0	0
573	CRTFP Uy-	0	0	0	0	0	0
576	SLU 1	98	-49	5488	-150.66	12.77	3.97
576	SLU 2	99	-21	5480	-150.77	11.22	3.94
576	SLU 3	100	-50	5610	-153.9	13.26	4.04
576	SLU 4	101	-33	5605	-153.97	12.34	4.02
576	SLU 5	100	-21	5558	-152.82	11.63	3.97
576	SLU 6	102	-51	5687	-155.95	13.67	4.07
576	SLU 7	102	-34	5683	-156.02	12.74	4.05
576	SLU 8	101	-50	5643	-154.75	13.58	4.03
576	SLU 9	101	-33	5638	-154.82	12.66	4.01
576	SLU 10	106	-25	6199	-170.41	12.52	4.26
576	SLU 11	108	-54	6328	-173.54	14.55	4.36
576	SLU 12	108	-37	6324	-173.61	13.63	4.34
576	SLU 13	107	-25	6276	-172.46	12.92	4.28
576	SLU 14	109	-55	6406	-175.59	14.96	4.38
576	SLU 15	109	-38	6401	-175.66	14.03	4.36
576	SLU 16	108	-54	6361	-174.39	14.87	4.34
576	SLU 17	108	-37	6357	-174.46	13.95	4.32
576	SLU 18	109	-55	6514	-178.71	14.61	4.42
576	SLU 19	109	-38	6509	-178.78	13.68	4.4
576	SLU 20	110	-55	6591	-180.76	15.02	4.45
576	SLU 21	110	-38	6587	-180.83	14.09	4.43
576	SLU 22	111	-54	6356	-174.17	14.14	4.45
576	SLU 23	111	-26	6348	-174.29	12.6	4.42
576	SLU 24	113	-55	6478	-177.42	14.63	4.52
576	SLU 25	113	-38	6473	-177.49	13.71	4.5
576	SLU 26	112	-27	6426	-176.33	13	4.44
576	SLU 27	114	-56	6555	-179.47	15.04	4.54
576	SLU 28	114	-39	6551	-179.53	14.11	4.52
576	SLU 29	113	-55	6511	-178.26	14.95	4.5
576	SLU 30	113	-39	6506	-178.33	14.03	4.48
576	SLU 31	118	-30	7067	-193.93	13.89	4.73
576	SLU 32	120	-59	7196	-197.06	15.92	4.83
576	SLU 33	120	-43	7191	-197.13	15	4.81
576	SLU 34	119	-31	7144	-195.97	14.29	4.76
576	SLU 35	121	-60	7273	-199.1	16.33	4.86
576	SLU 36	121	-43	7269	-199.17	15.4	4.84
576	SLU 37	120	-59	7229	-197.9	16.24	4.82
576	SLU 38	121	-43	7224	-197.97	15.32	4.8
576	SLU 39	121	-60	7382	-202.23	15.98	4.9
576	SLU 40	121	-43	7377	-202.3	15.06	4.88
576	SLU 41	122	-61	7459	-204.27	16.39	4.93
576	SLU 42	122	-44	7455	-204.34	15.46	4.91
576	SLU 43	123	-62	6837	-187.79	16.13	5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
576	SLU 44	124	-34	6829	-187.91	14.58	4.97
576	SLU 45	126	-63	6959	-191.04	16.62	5.07
576	SLU 46	126	-46	6954	-191.11	15.7	5.05
576	SLU 47	125	-34	6907	-189.95	14.99	5
576	SLU 48	127	-63	7036	-193.09	17.03	5.1
576	SLU 49	127	-47	7032	-193.15	16.1	5.08
576	SLU 50	126	-63	6992	-191.89	16.94	5.06
576	SLU 51	126	-46	6987	-191.95	16.01	5.04
576	SLU 52	131	-38	7547	-207.55	15.88	5.28
576	SLU 53	133	-67	7677	-210.68	17.91	5.39
576	SLU 54	133	-50	7672	-210.75	16.99	5.37
576	SLU 55	132	-38	7625	-209.59	16.28	5.31
576	SLU 56	134	-68	7754	-212.72	18.32	5.41
576	SLU 57	134	-51	7750	-212.79	17.39	5.39
576	SLU 58	133	-67	7710	-211.52	18.23	5.37
576	SLU 59	133	-50	7705	-211.59	17.31	5.35
576	SLU 60	134	-68	7863	-215.85	17.97	5.45
576	SLU 61	134	-51	7858	-215.92	17.04	5.43
576	SLU 62	135	-68	7940	-217.89	18.38	5.48
576	SLU 63	135	-51	7936	-217.96	17.45	5.46
576	SLU 64	136	-67	7705	-211.31	17.5	5.48
576	SLU 65	136	-39	7697	-211.42	15.96	5.45
576	SLU 66	138	-68	7827	-214.55	17.99	5.55
576	SLU 67	138	-51	7822	-214.62	17.07	5.53
576	SLU 68	137	-40	7775	-213.47	16.36	5.47
576	SLU 69	139	-69	7904	-216.6	18.4	5.57
576	SLU 70	139	-52	7900	-216.67	17.47	5.55
576	SLU 71	138	-68	7860	-215.4	18.31	5.53
576	SLU 72	138	-51	7855	-215.47	17.39	5.51
576	SLU 73	143	-43	8415	-231.06	17.25	5.76
576	SLU 74	145	-72	8545	-234.19	19.28	5.86
576	SLU 75	146	-55	8540	-234.26	18.36	5.84
576	SLU 76	145	-44	8493	-233.11	17.65	5.79
576	SLU 77	147	-73	8622	-236.24	19.69	5.89
576	SLU 78	147	-56	8618	-236.31	18.76	5.87
576	SLU 79	146	-72	8578	-235.04	19.6	5.85
576	SLU 80	146	-55	8573	-235.11	18.68	5.83
576	SLU 81	146	-73	8731	-239.36	19.34	5.93
576	SLU 82	146	-56	8726	-239.43	18.42	5.91
576	SLU 83	147	-74	8808	-241.41	19.75	5.95
576	SLU 84	148	-57	8804	-241.48	18.82	5.94
576	SLE RA 1	102	-51	5736	-157.38	13.16	4.11
576	SLE RA 2	102	-32	5731	-157.45	12.13	4.09
576	SLE RA 3	103	-51	5817	-159.54	13.49	4.15
576	SLE RA 4	103	-40	5814	-159.59	12.87	4.14
576	SLE RA 5	103	-32	5783	-158.82	12.4	4.11
576	SLE RA 6	104	-52	5869	-160.9	13.76	4.17
576	SLE RA 7	104	-40	5866	-160.95	13.14	4.16
576	SLE RA 8	103	-51	5839	-160.1	13.7	4.15
576	SLE RA 9	104	-40	5836	-160.15	13.08	4.13
576	SLE RA 10	107	-35	6210	-170.55	12.99	4.3
576	SLE RA 11	108	-54	6296	-172.63	14.35	4.36
576	SLE RA 12	108	-43	6293	-172.68	13.73	4.35
576	SLE RA 13	108	-35	6261	-171.91	13.26	4.32
576	SLE RA 14	109	-54	6348	-174	14.62	4.38
576	SLE RA 15	109	-43	6345	-174.04	14	4.37
576	SLE RA 16	108	-54	6318	-173.2	14.56	4.36
576	SLE RA 17	108	-43	6315	-173.24	13.94	4.34
576	SLE RA 18	109	-55	6420	-176.08	14.39	4.41
576	SLE RA 19	109	-43	6417	-176.13	13.77	4.4
576	SLE RA 20	110	-55	6472	-177.44	14.66	4.43
576	SLE RA 21	110	-44	6469	-177.49	14.04	4.41
576	SLE FR 1	102	-51	5736	-157.38	13.16	4.11
576	SLE FR 2	102	-47	5735	-157.39	12.95	4.11
576	SLE FR 3	102	-51	5757	-157.92	13.27	4.12
576	SLE FR 4	104	-48	5940	-163	13.32	4.2
576	SLE FR 5	104	-52	5962	-163.53	13.63	4.21
576	SLE FR 6	105	-53	6078	-166.73	13.77	4.26
576	SLE QP 1	102	-51	5736	-157.38	13.16	4.11
576	SLE QP 2	104	-52	5941	-162.99	13.53	4.2
576	SLD 1	560	144	5387	-150.14	12.95	16.24
576	SLD 2	570	213	5381	-150.23	10.53	17.98
576	SLD 3	555	-228	5443	-146.95	30.27	17.04
576	SLD 4	564	-160	5436	-147.04	27.85	18.78
576	SLD 5	248	560	5691	-163.96	-12.49	6.29
576	SLD 6	254	604	5687	-164.02	-14.05	7.42
576	SLD 7	229	-682	5878	-153.31	45.23	8.97
576	SLD 8	235	-637	5873	-153.37	43.66	10.09
576	SLD 9	-27	534	6009	-172.6	-16.61	-1.69
576	SLD 10	-21	578	6004	-172.66	-18.18	-0.57
576	SLD 11	-46	-708	6195	-161.95	41.11	0.98
576	SLD 12	-40	-664	6191	-162.01	39.54	2.11
576	SLD 13	-356	56	6446	-178.94	-0.79	-10.38
576	SLD 14	-347	125	6439	-179.03	-3.22	-8.64
576	SLD 15	-362	-316	6502	-175.74	16.52	-9.58
576	SLD 16	-353	-248	6495	-175.83	14.1	-7.84
576	SLV 1	819	278	5073	-143.16	11.8	22.98
576	SLV 2	833	386	5063	-143.3	7.98	25.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
576	SLV 3	809	-351	5168	-137.75	41.05	24.34
576	SLV 4	824	-244	5158	-137.9	37.23	27.07
576	SLV 5	330	982	5539	-165.21	-30.64	7.27
576	SLV 6	340	1054	5532	-165.3	-33.21	9.12
576	SLV 7	298	-1117	5855	-147.2	66.85	11.78
576	SLV 8	308	-1044	5848	-147.29	64.28	13.62
576	SLV 9	-100	940	6034	-178.68	-37.23	-5.22
576	SLV 10	-91	1013	6027	-178.78	-39.8	-3.38
576	SLV 11	-132	-1158	6350	-160.67	60.26	-0.72
576	SLV 12	-122	-1085	6343	-160.77	57.69	1.13
576	SLV 13	-616	140	6725	-188.08	-10.18	-18.67
576	SLV 14	-601	248	6714	-188.22	-14	-15.94
576	SLV 15	-626	-490	6819	-182.68	19.07	-17.32
576	SLV 16	-611	-382	6809	-182.82	15.25	-14.59
576	SLV FO 1	890	311	4986	-141.17	11.63	24.86
576	SLV FO 2	906	430	4975	-141.33	7.43	27.87
576	SLV FO 3	880	-381	5091	-135.23	43.8	26.35
576	SLV FO 4	896	-263	5079	-135.39	39.6	29.36
576	SLV FO 5	353	1085	5498	-165.43	-35.06	7.58
576	SLV FO 6	363	1165	5491	-165.53	-37.88	9.61
576	SLV FO 7	318	-1223	5846	-145.62	72.19	12.54
576	SLV FO 8	329	-1143	5839	-145.72	69.36	14.57
576	SLV FO 9	-121	1040	6043	-180.25	-42.31	-6.17
576	SLV FO 10	-110	1119	6036	-180.36	-45.13	-4.14
576	SLV FO 11	-156	-1269	6391	-160.44	64.93	-1.21
576	SLV FO 12	-145	-1189	6384	-160.55	62.11	0.82
576	SLV FO 13	-688	159	6803	-190.59	-12.55	-20.96
576	SLV FO 14	-672	278	6792	-190.75	-16.75	-17.95
576	SLV FO 15	-698	-533	6907	-184.65	19.62	-19.47
576	SLV FO 16	-682	-415	6896	-184.8	15.42	-16.46
576	CRTFP Ux+	0	0	0	0	0	0
576	CRTFP Ux-	0	0	0	0	0	0
576	CRTFP Uy+	0	0	0	0	0	0
576	CRTFP Uy-	0	0	0	0	0	0
579	SLU 1	64	22	3922	-107.21	1217.1	-6.11
579	SLU 2	65	43	3925	-107.43	1216.45	-13.25
579	SLU 3	66	23	4007	-109.5	1243.8	-6.34
579	SLU 4	66	35	4009	-109.63	1243.4	-10.62
579	SLU 5	66	44	3978	-108.82	1232.92	-13.57
579	SLU 6	67	24	4059	-110.89	1260.27	-6.66
579	SLU 7	67	36	4061	-111.02	1259.88	-10.94
579	SLU 8	66	24	4026	-109.99	1250.05	-6.75
579	SLU 9	66	36	4028	-110.12	1249.66	-11.04
579	SLU 10	69	45	4417	-120.84	1369.1	-14.12
579	SLU 11	70	26	4498	-122.91	1396.45	-7.2
579	SLU 12	70	38	4500	-123.04	1396.06	-11.49
579	SLU 13	70	46	4469	-122.23	1385.58	-14.44
579	SLU 14	71	27	4550	-124.3	1412.93	-7.52
579	SLU 15	71	39	4553	-124.43	1412.53	-11.81
579	SLU 16	70	27	4517	-123.4	1402.71	-7.61
579	SLU 17	70	39	4520	-123.53	1402.31	-11.9
579	SLU 18	70	26	4624	-126.37	1435.18	-7.35
579	SLU 19	71	38	4626	-126.5	1434.79	-11.63
579	SLU 20	71	27	4676	-127.76	1451.65	-7.67
579	SLU 21	71	39	4678	-127.89	1451.26	-11.95
579	SLU 22	72	23	4524	-123.57	1404.98	-6.28
579	SLU 23	72	44	4528	-123.79	1404.33	-13.42
579	SLU 24	73	24	4610	-125.86	1431.68	-6.51
579	SLU 25	73	36	4612	-125.99	1431.28	-10.79
579	SLU 26	73	45	4580	-125.18	1420.8	-13.74
579	SLU 27	74	25	4662	-127.25	1448.15	-6.83
579	SLU 28	74	37	4664	-127.38	1447.76	-11.11
579	SLU 29	73	25	4629	-126.35	1437.93	-6.92
579	SLU 30	74	37	4631	-126.48	1437.54	-11.21
579	SLU 31	76	46	5019	-137.2	1556.98	-14.29
579	SLU 32	77	27	5101	-139.27	1584.33	-7.37
579	SLU 33	78	39	5103	-139.4	1583.94	-11.66
579	SLU 34	77	47	5071	-138.59	1573.46	-14.61
579	SLU 35	78	28	5153	-140.66	1600.81	-7.69
579	SLU 36	78	40	5155	-140.79	1600.41	-11.98
579	SLU 37	77	28	5120	-139.76	1590.59	-7.79
579	SLU 38	78	40	5122	-139.89	1590.19	-12.07
579	SLU 39	78	27	5226	-142.73	1623.06	-7.52
579	SLU 40	78	39	5228	-142.86	1622.67	-11.8
579	SLU 41	78	28	5278	-144.12	1639.53	-7.84
579	SLU 42	79	40	5280	-144.25	1639.14	-12.12
579	SLU 43	81	29	4892	-133.77	1517.82	-7.89
579	SLU 44	82	49	4895	-133.99	1517.16	-15.03
579	SLU 45	83	29	4977	-136.06	1544.51	-8.11
579	SLU 46	83	42	4979	-136.19	1544.12	-12.4
579	SLU 47	82	50	4948	-135.38	1533.64	-15.35
579	SLU 48	83	30	5029	-137.45	1560.99	-8.43
579	SLU 49	84	43	5031	-137.58	1560.59	-12.72
579	SLU 50	83	30	4996	-136.55	1550.77	-8.53
579	SLU 51	83	43	4998	-136.68	1550.38	-12.81
579	SLU 52	86	52	5387	-147.4	1669.82	-15.89
579	SLU 53	87	32	5468	-149.47	1697.17	-8.98
579	SLU 54	87	44	5470	-149.6	1696.77	-13.26

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
579	SLU 55	87	53	5439	-148.79	1686.29	-16.21
579	SLU 56	88	33	5520	-150.86	1713.64	-9.3
579	SLU 57	88	45	5523	-150.99	1713.25	-13.58
579	SLU 58	87	33	5487	-149.96	1703.42	-9.39
579	SLU 59	87	45	5490	-150.09	1703.03	-13.67
579	SLU 60	87	32	5594	-152.93	1735.89	-9.12
579	SLU 61	87	45	5596	-153.06	1735.5	-13.4
579	SLU 62	88	33	5646	-154.32	1752.37	-9.44
579	SLU 63	88	46	5648	-154.45	1751.98	-13.72
579	SLU 64	88	30	5494	-150.13	1705.7	-8.06
579	SLU 65	89	50	5498	-150.34	1705.04	-15.2
579	SLU 66	90	30	5580	-152.41	1732.39	-8.28
579	SLU 67	90	43	5582	-152.55	1732	-12.57
579	SLU 68	90	51	5550	-151.73	1721.52	-15.52
579	SLU 69	91	31	5632	-153.8	1748.87	-8.6
579	SLU 70	91	44	5634	-153.93	1748.47	-12.89
579	SLU 71	90	31	5599	-152.9	1738.65	-8.7
579	SLU 72	90	44	5601	-153.04	1738.25	-12.98
579	SLU 73	93	53	5989	-163.75	1857.7	-16.06
579	SLU 74	94	33	6071	-165.82	1885.05	-9.15
579	SLU 75	94	45	6073	-165.96	1884.65	-13.43
579	SLU 76	94	54	6041	-165.14	1874.17	-16.38
579	SLU 77	95	34	6123	-167.21	1901.52	-9.47
579	SLU 78	95	46	6125	-167.34	1901.13	-13.75
579	SLU 79	94	34	6090	-166.31	1891.3	-9.56
579	SLU 80	95	47	6092	-166.45	1890.91	-13.85
579	SLU 81	94	33	6196	-169.28	1923.77	-9.29
579	SLU 82	95	46	6198	-169.41	1923.38	-13.58
579	SLU 83	95	34	6248	-170.67	1940.25	-9.61
579	SLU 84	95	47	6250	-170.8	1939.86	-13.9
579	SLE RA 1	66	22	4094	-111.89	1270.78	-6.16
579	SLE RA 2	67	36	4096	-112.03	1270.35	-10.92
579	SLE RA 3	67	23	4151	-113.41	1288.58	-6.31
579	SLE RA 4	68	31	4152	-113.5	1288.32	-9.17
579	SLE RA 5	67	37	4131	-112.96	1281.33	-11.13
579	SLE RA 6	68	24	4186	-114.34	1299.56	-6.52
579	SLE RA 7	68	32	4187	-114.43	1299.3	-9.38
579	SLE RA 8	67	24	4164	-113.74	1292.75	-6.59
579	SLE RA 9	68	32	4165	-113.83	1292.49	-9.44
579	SLE RA 10	70	38	4424	-120.97	1372.12	-11.5
579	SLE RA 11	70	25	4478	-122.35	1390.35	-6.89
579	SLE RA 12	70	33	4480	-122.44	1390.09	-9.74
579	SLE RA 13	70	39	4459	-121.9	1383.1	-11.71
579	SLE RA 14	71	25	4513	-123.28	1401.33	-7.1
579	SLE RA 15	71	34	4515	-123.37	1401.07	-9.96
579	SLE RA 16	70	26	4491	-122.68	1394.52	-7.16
579	SLE RA 17	70	34	4492	-122.77	1394.26	-10.02
579	SLE RA 18	70	25	4562	-124.66	1416.17	-6.98
579	SLE RA 19	71	33	4563	-124.75	1415.91	-9.84
579	SLE RA 20	71	26	4597	-125.58	1427.15	-7.2
579	SLE RA 21	71	34	4598	-125.67	1426.89	-10.05
579	SLE FR 1	66	22	4094	-111.89	1270.78	-6.16
579	SLE FR 2	66	25	4094	-111.92	1270.69	-7.11
579	SLE FR 3	67	23	4108	-112.26	1275.18	-6.25
579	SLE FR 4	68	26	4235	-115.75	1314.31	-7.36
579	SLE FR 5	68	24	4248	-116.09	1318.79	-6.49
579	SLE FR 6	68	24	4328	-118.27	1343.47	-6.57
579	SLE QP 1	66	22	4094	-111.89	1270.78	-6.16
579	SLE QP 2	68	23	4234	-115.72	1314.4	-6.41
579	SLD 1	335	73	3169	-87.51	994.68	-20.66
579	SLD 2	342	176	3174	-87.78	993.85	-56.56
579	SLD 3	329	-190	3096	-83.69	999.17	70.91
579	SLD 4	335	-86	3101	-83.97	998.35	35.01
579	SLD 5	156	418	4025	-112.99	1211.8	-143.33
579	SLD 6	160	485	4028	-113.17	1211.26	-166.56
579	SLD 7	135	-456	3781	-100.28	1226.8	161.9
579	SLD 8	139	-390	3784	-100.46	1226.26	138.67
579	SLD 9	-4	436	4684	-130.98	1402.53	-151.48
579	SLD 10	0	503	4688	-131.16	1402	-174.71
579	SLD 11	-25	-438	4441	-118.27	1417.53	153.75
579	SLD 12	-21	-372	4444	-118.45	1416.99	130.52
579	SLD 13	-200	133	5368	-147.47	1630.45	-47.82
579	SLD 14	-194	236	5373	-147.74	1629.62	-83.73
579	SLD 15	-207	-130	5295	-143.65	1634.95	43.74
579	SLD 16	-200	-26	5299	-143.93	1634.12	7.84
579	SLV 1	487	116	2577	-71.94	815.28	-34.17
579	SLV 2	497	279	2585	-72.38	813.98	-90.7
579	SLV 3	477	-327	2454	-65.51	822.9	120.6
579	SLV 4	486	-164	2462	-65.95	821.6	64.08
579	SLV 5	208	693	3923	-112.26	1153.35	-238.93
579	SLV 6	214	803	3928	-112.55	1152.47	-276.98
579	SLV 7	172	-785	3512	-90.82	1178.75	276.98
579	SLV 8	179	-675	3517	-91.11	1177.87	238.93
579	SLV 9	-44	722	4952	-140.32	1450.92	-251.74
579	SLV 10	-37	831	4957	-140.62	1450.05	-289.8
579	SLV 11	-79	-756	4541	-118.89	1476.32	264.17
579	SLV 12	-73	-647	4546	-119.18	1475.45	226.11
579	SLV 13	-351	211	6007	-165.49	1807.2	-76.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
579	SLV 14	-342	374	6015	-165.93	1805.89	-133.42
579	SLV 15	-362	-232	5884	-159.06	1814.82	77.88
579	SLV 16	-352	-70	5892	-159.49	1813.51	21.36
579	SLV FO 1	529	125	2411	-67.57	765.37	-36.95
579	SLV FO 2	540	305	2420	-68.04	763.93	-99.13
579	SLV FO 3	518	-362	2276	-60.49	773.75	133.3
579	SLV FO 4	528	-183	2284	-60.97	772.32	71.12
579	SLV FO 5	222	760	3891	-111.91	1137.24	-262.18
579	SLV FO 6	229	881	3897	-112.24	1136.28	-304.04
579	SLV FO 7	183	-866	3440	-88.33	1165.18	305.32
579	SLV FO 8	190	-745	3445	-88.65	1164.22	263.46
579	SLV FO 9	-55	792	5023	-142.78	1464.58	-276.27
579	SLV FO 10	-48	912	5029	-143.11	1463.61	-318.14
579	SLV FO 11	-94	-834	4571	-119.2	1492.52	291.23
579	SLV FO 12	-87	-714	4577	-119.52	1491.55	249.36
579	SLV FO 13	-393	230	6184	-170.47	1856.48	-83.94
579	SLV FO 14	-383	409	6193	-170.95	1855.04	-146.12
579	SLV FO 15	-405	-258	6049	-163.39	1864.86	86.31
579	SLV FO 16	-394	-79	6057	-163.87	1863.43	24.13
579	CRTFP Ux+	0	0	0	0	0	0
579	CRTFP Ux-	0	0	0	0	0	0
579	CRTFP Uy+	0	0	0	0	0	0
579	CRTFP Uy-	0	0	0	0	0	0
582	SLU 1	26	-33	2914	-81.94	1152.35	13.99
582	SLU 2	26	-17	2909	-81.89	1149.8	7.68
582	SLU 3	26	-34	2981	-83.77	1178.71	14.37
582	SLU 4	26	-24	2977	-83.74	1177.17	10.59
582	SLU 5	26	-18	2952	-83.07	1167.01	7.97
582	SLU 6	27	-35	3024	-84.95	1195.92	14.67
582	SLU 7	27	-25	3021	-84.92	1194.38	10.88
582	SLU 8	26	-34	3001	-84.31	1186.77	14.58
582	SLU 9	26	-25	2997	-84.28	1185.24	10.79
582	SLU 10	28	-21	3301	-92.88	1305.55	9.4
582	SLU 11	29	-38	3373	-94.77	1334.46	16.1
582	SLU 12	29	-28	3369	-94.73	1332.93	12.31
582	SLU 13	29	-22	3344	-94.07	1322.76	9.69
582	SLU 14	29	-39	3416	-95.95	1351.67	16.39
582	SLU 15	29	-29	3413	-95.92	1350.14	12.6
582	SLU 16	29	-38	3393	-95.31	1342.53	16.3
582	SLU 17	29	-29	3390	-95.28	1340.99	12.51
582	SLU 18	30	-39	3474	-97.65	1374.86	16.45
582	SLU 19	30	-29	3471	-97.62	1373.32	12.66
582	SLU 20	30	-39	3518	-98.84	1392.07	16.74
582	SLU 21	30	-30	3514	-98.81	1390.53	12.95
582	SLU 22	30	-37	3365	-94.47	1330.54	15.92
582	SLU 23	29	-22	3359	-94.42	1327.98	9.61
582	SLU 24	30	-38	3431	-96.3	1356.89	16.31
582	SLU 25	30	-29	3428	-96.27	1355.36	12.52
582	SLU 26	30	-22	3402	-95.61	1345.19	9.91
582	SLU 27	31	-39	3474	-97.49	1374.1	16.6
582	SLU 28	30	-30	3471	-97.46	1372.57	12.81
582	SLU 29	30	-39	3451	-96.85	1364.96	16.51
582	SLU 30	30	-29	3448	-96.81	1363.43	12.72
582	SLU 31	32	-26	3751	-105.42	1483.74	11.33
582	SLU 32	33	-42	3823	-107.3	1512.65	18.03
582	SLU 33	33	-33	3820	-107.27	1511.12	14.24
582	SLU 34	33	-26	3794	-106.61	1500.95	11.63
582	SLU 35	33	-43	3866	-108.49	1529.86	18.32
582	SLU 36	33	-34	3863	-108.46	1528.33	14.54
582	SLU 37	33	-43	3843	-107.84	1520.71	18.23
582	SLU 38	33	-33	3840	-107.81	1519.18	14.45
582	SLU 39	33	-43	3925	-110.19	1553.04	18.38
582	SLU 40	33	-34	3921	-110.15	1551.51	14.6
582	SLU 41	34	-44	3968	-111.37	1570.26	18.68
582	SLU 42	34	-35	3965	-111.34	1568.72	14.89
582	SLU 43	32	-41	3634	-102.22	1436.96	17.52
582	SLU 44	32	-25	3629	-102.17	1434.41	11.21
582	SLU 45	33	-42	3701	-104.05	1463.32	17.91
582	SLU 46	33	-33	3697	-104.02	1461.79	14.12
582	SLU 47	32	-26	3672	-103.36	1451.62	11.5
582	SLU 48	33	-43	3744	-105.24	1480.53	18.2
582	SLU 49	33	-33	3741	-105.21	1479	14.41
582	SLU 50	33	-43	3721	-104.59	1471.38	18.11
582	SLU 51	33	-33	3717	-104.56	1469.85	14.32
582	SLU 52	35	-30	4021	-113.17	1590.16	12.93
582	SLU 53	35	-46	4093	-115.05	1619.07	19.63
582	SLU 54	35	-37	4089	-115.02	1617.54	15.84
582	SLU 55	35	-30	4064	-114.35	1607.37	13.23
582	SLU 56	36	-47	4136	-116.24	1636.28	19.92
582	SLU 57	36	-37	4133	-116.2	1634.75	16.13
582	SLU 58	36	-47	4113	-115.59	1627.14	19.83
582	SLU 59	35	-37	4109	-115.56	1625.6	16.04
582	SLU 60	36	-47	4194	-117.93	1659.47	19.98
582	SLU 61	36	-38	4191	-117.9	1657.94	16.19
582	SLU 62	36	-48	4237	-119.12	1676.68	20.28
582	SLU 63	36	-38	4234	-119.09	1675.15	16.49
582	SLU 64	36	-46	4084	-114.76	1615.15	19.46
582	SLU 65	36	-30	4079	-114.7	1612.6	13.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
582	SLU 66	37	-47	4151	-116.59	1641.51	19.84
582	SLU 67	36	-37	4148	-116.55	1639.97	16.05
582	SLU 68	36	-31	4122	-115.89	1629.81	13.44
582	SLU 69	37	-47	4194	-117.77	1658.72	20.14
582	SLU 70	37	-38	4191	-117.74	1657.18	16.35
582	SLU 71	37	-47	4171	-117.13	1649.57	20.05
582	SLU 72	37	-38	4168	-117.1	1648.04	16.26
582	SLU 73	39	-34	4471	-125.7	1768.35	14.87
582	SLU 74	39	-51	4543	-127.59	1797.26	21.56
582	SLU 75	39	-41	4540	-127.55	1795.73	17.78
582	SLU 76	39	-35	4514	-126.89	1785.56	15.16
582	SLU 77	40	-51	4586	-128.77	1814.47	21.86
582	SLU 78	40	-42	4583	-128.74	1812.94	18.07
582	SLU 79	39	-51	4563	-128.13	1805.33	21.77
582	SLU 80	39	-42	4560	-128.1	1803.79	17.98
582	SLU 81	40	-52	4645	-130.47	1837.66	21.92
582	SLU 82	40	-42	4641	-130.44	1836.12	18.13
582	SLU 83	40	-52	4688	-131.66	1854.87	22.21
582	SLU 84	40	-43	4685	-131.62	1853.33	18.42
582	SLE RA 1	27	-34	3043	-85.52	1203.26	14.54
582	SLE RA 2	27	-24	3039	-85.48	1201.56	10.33
582	SLE RA 3	27	-35	3087	-86.74	1220.83	14.8
582	SLE RA 4	27	-29	3085	-86.72	1219.81	12.27
582	SLE RA 5	27	-24	3068	-86.28	1213.03	10.53
582	SLE RA 6	27	-35	3116	-87.53	1232.31	14.99
582	SLE RA 7	27	-29	3114	-87.51	1231.28	12.47
582	SLE RA 8	27	-35	3100	-87.1	1226.21	14.93
582	SLE RA 9	27	-29	3098	-87.08	1225.19	12.41
582	SLE RA 10	29	-26	3301	-92.82	1305.39	11.48
582	SLE RA 11	29	-38	3348	-94.07	1324.67	15.95
582	SLE RA 12	29	-31	3346	-94.05	1323.65	13.42
582	SLE RA 13	29	-27	3330	-93.61	1316.87	11.68
582	SLE RA 14	29	-38	3377	-94.86	1336.14	16.14
582	SLE RA 15	29	-32	3375	-94.84	1335.12	13.62
582	SLE RA 16	29	-38	3362	-94.43	1330.04	16.08
582	SLE RA 17	29	-32	3360	-94.41	1329.02	13.56
582	SLE RA 18	29	-38	3416	-96	1351.6	16.18
582	SLE RA 19	29	-32	3414	-95.97	1350.58	13.66
582	SLE RA 20	30	-39	3445	-96.79	1363.07	16.38
582	SLE RA 21	30	-32	3443	-96.76	1362.05	13.85
582	SLE FR 1	27	-34	3043	-85.52	1203.26	14.54
582	SLE FR 2	27	-32	3042	-85.51	1202.92	13.7
582	SLE FR 3	27	-34	3054	-85.84	1207.85	14.62
582	SLE FR 4	28	-33	3154	-88.66	1247.42	14.19
582	SLE FR 5	28	-36	3166	-88.98	1252.35	15.11
582	SLE FR 6	28	-36	3230	-90.76	1277.43	15.36
582	SLE QP 1	27	-34	3043	-85.52	1203.26	14.54
582	SLE QP 2	28	-35	3155	-88.66	1247.76	15.03
582	SLD 1	256	67	3193	-90.37	1266.82	-18.49
582	SLD 2	259	70	3196	-90.44	1267.4	-19.72
582	SLD 3	258	-133	3239	-89.98	1290.95	61.41
582	SLD 4	262	-130	3241	-90.05	1291.53	60.18
582	SLD 5	92	297	3097	-89.74	1216.78	-116
582	SLD 6	94	300	3099	-89.79	1217.15	-116.8
582	SLD 7	100	-368	3248	-88.47	1297.22	150.35
582	SLD 8	102	-366	3250	-88.51	1297.59	149.55
582	SLD 9	-47	295	3060	-88.81	1197.93	-119.48
582	SLD 10	-44	297	3061	-88.86	1198.31	-120.28
582	SLD 11	-39	-371	3211	-87.54	1278.37	146.86
582	SLD 12	-37	-368	3213	-87.58	1278.75	146.07
582	SLD 13	-206	59	3069	-87.27	1203.99	-30.11
582	SLD 14	-203	62	3071	-87.34	1204.57	-31.34
582	SLD 15	-204	-141	3114	-86.89	1228.13	49.79
582	SLD 16	-201	-137	3116	-86.96	1228.7	48.56
582	SLV 1	385	137	3213	-91.37	1276.13	-42.38
582	SLV 2	390	143	3216	-91.47	1277.04	-44.32
582	SLV 3	389	-200	3289	-90.71	1316.88	92.62
582	SLV 4	394	-195	3293	-90.82	1317.79	90.68
582	SLV 5	128	527	3056	-90.45	1194.3	-206.59
582	SLV 6	132	531	3058	-90.53	1194.91	-207.89
582	SLV 7	141	-598	3311	-88.26	1330.14	243.43
582	SLV 8	144	-594	3313	-88.33	1330.75	242.12
582	SLV 9	-89	523	2997	-89	1164.78	-212.05
582	SLV 10	-85	527	2999	-89.07	1165.39	-213.36
582	SLV 11	-76	-602	3252	-86.8	1300.62	237.96
582	SLV 12	-73	-598	3254	-86.87	1301.23	236.65
582	SLV 13	-339	124	3017	-86.51	1177.73	-60.61
582	SLV 14	-333	129	3021	-86.62	1178.64	-62.55
582	SLV 15	-335	-213	3094	-85.85	1218.49	74.39
582	SLV 16	-330	-208	3097	-85.96	1219.4	72.45
582	SLV FO 1	421	154	3218	-91.64	1278.97	-48.13
582	SLV FO 2	426	160	3222	-91.76	1279.97	-50.26
582	SLV FO 3	425	-217	3303	-90.91	1323.79	100.38
582	SLV FO 4	430	-211	3306	-91.03	1324.79	98.25
582	SLV FO 5	138	583	3046	-90.63	1188.95	-228.75
582	SLV FO 6	142	587	3048	-90.71	1189.62	-230.18
582	SLV FO 7	152	-654	3326	-88.22	1338.37	266.27
582	SLV FO 8	156	-650	3329	-88.3	1339.05	264.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
582	SLV FO 9	-101	579	2981	-89.03	1156.48	-234.76
582	SLV FO 10	-97	583	2984	-89.11	1157.15	-236.2
582	SLV FO 11	-87	-658	3262	-86.61	1305.9	260.25
582	SLV FO 12	-83	-654	3264	-86.69	1306.58	258.82
582	SLV FO 13	-375	140	3004	-86.29	1170.73	-68.18
582	SLV FO 14	-370	146	3007	-86.41	1171.73	-70.31
582	SLV FO 15	-371	-231	3088	-85.57	1215.56	80.33
582	SLV FO 16	-365	-225	3092	-85.69	1216.56	78.19
582	CRTFP Ux+	0	0	0	0	0	0
582	CRTFP Ux-	0	0	0	0	0	0
582	CRTFP Uy+	0	0	0	0	0	0
582	CRTFP Uy-	0	0	0	0	0	0
601	SLU 1	-78	0	8161	2938.05	-479.83	26.19
601	SLU 2	-77	40	8152	2931.59	-478.63	28.32
601	SLU 3	-79	0	8356	3009.4	-491.32	26.64
601	SLU 4	-79	24	8350	3005.53	-490.6	27.91
601	SLU 5	-77	40	8279	2978.35	-486.16	28.5
601	SLU 6	-80	-1	8483	3056.16	-498.85	26.82
601	SLU 7	-79	24	8477	3052.29	-498.13	28.09
601	SLU 8	-79	0	8415	3031.56	-494.89	26.55
601	SLU 9	-78	24	8410	3027.69	-494.17	27.83
601	SLU 10	-78	41	9246	3325.8	-543.16	28.62
601	SLU 11	-80	1	9450	3403.62	-555.85	26.94
601	SLU 12	-79	25	9445	3399.74	-555.13	28.21
601	SLU 13	-78	41	9373	3372.56	-550.69	28.8
601	SLU 14	-81	0	9577	3450.37	-563.39	27.12
601	SLU 15	-80	25	9572	3446.5	-562.66	28.39
601	SLU 16	-80	1	9510	3425.78	-559.43	26.85
601	SLU 17	-79	25	9504	3421.9	-558.71	28.13
601	SLU 18	-79	1	9725	3501.21	-572.02	26.62
601	SLU 19	-79	25	9719	3497.33	-571.3	27.89
601	SLU 20	-80	1	9852	3547.97	-579.55	26.8
601	SLU 21	-79	25	9846	3544.09	-578.83	28.07
601	SLU 22	-84	-1	9494	3422.19	-558.06	28.33
601	SLU 23	-83	39	9484	3415.73	-556.86	30.46
601	SLU 24	-85	-1	9688	3493.54	-569.55	28.78
601	SLU 25	-85	23	9683	3489.67	-568.83	30.05
601	SLU 26	-84	39	9612	3462.49	-564.39	30.64
601	SLU 27	-86	-1	9815	3540.3	-577.08	28.96
601	SLU 28	-85	23	9810	3536.43	-576.36	30.24
601	SLU 29	-85	-1	9748	3515.71	-573.12	28.7
601	SLU 30	-85	23	9742	3511.83	-572.4	29.97
601	SLU 31	-84	40	10579	3809.94	-621.4	30.76
601	SLU 32	-86	0	10783	3887.76	-634.09	29.08
601	SLU 33	-86	24	10777	3883.88	-633.37	30.35
601	SLU 34	-85	40	10706	3856.7	-628.93	30.94
601	SLU 35	-87	0	10910	3934.52	-641.62	29.26
601	SLU 36	-86	24	10904	3930.64	-640.9	30.53
601	SLU 37	-86	0	10842	3909.92	-637.66	28.99
601	SLU 38	-86	24	10837	3906.04	-636.94	30.27
601	SLU 39	-85	1	11057	3985.35	-650.26	28.76
601	SLU 40	-85	25	11052	3981.48	-649.53	30.03
601	SLU 41	-86	0	11184	4032.11	-657.79	28.94
601	SLU 42	-85	25	11179	4028.23	-657.07	30.22
601	SLU 43	-99	0	10152	3653.47	-596.95	33.31
601	SLU 44	-98	40	10143	3647.01	-595.75	35.44
601	SLU 45	-100	0	10347	3724.82	-608.44	33.76
601	SLU 46	-100	24	10341	3720.95	-607.72	35.04
601	SLU 47	-99	40	10270	3693.77	-603.28	35.62
601	SLU 48	-101	0	10474	3771.58	-615.97	33.94
601	SLU 49	-100	24	10469	3767.71	-615.25	35.22
601	SLU 50	-100	0	10407	3746.99	-612.02	33.68
601	SLU 51	-99	24	10401	3743.11	-611.3	34.95
601	SLU 52	-99	41	11238	4041.22	-660.29	35.74
601	SLU 53	-101	1	11441	4119.04	-672.98	34.06
601	SLU 54	-101	25	11436	4115.16	-672.26	35.33
601	SLU 55	-100	41	11365	4087.98	-667.82	35.92
601	SLU 56	-102	1	11569	4165.8	-680.51	34.24
601	SLU 57	-101	25	11563	4161.92	-679.79	35.52
601	SLU 58	-101	1	11501	4141.2	-676.55	33.98
601	SLU 59	-100	25	11496	4137.32	-675.83	35.25
601	SLU 60	-100	1	11716	4216.63	-689.15	33.74
601	SLU 61	-100	25	11710	4212.75	-688.43	35.02
601	SLU 62	-101	1	11843	4263.39	-696.68	33.92
601	SLU 63	-100	25	11838	4259.51	-695.96	35.2
601	SLU 64	-105	-1	11485	4137.61	-675.19	35.46
601	SLU 65	-104	39	11476	4131.15	-673.98	37.58
601	SLU 66	-106	-1	11680	4208.97	-686.68	35.9
601	SLU 67	-106	23	11674	4205.09	-685.95	37.18
601	SLU 68	-105	39	11603	4177.91	-681.52	37.76
601	SLU 69	-107	-1	11807	4255.73	-694.21	36.08
601	SLU 70	-107	23	11801	4251.85	-693.49	37.36
601	SLU 71	-106	-1	11739	4231.13	-690.25	35.82
601	SLU 72	-106	23	11734	4227.25	-689.53	37.09
601	SLU 73	-105	41	12570	4525.36	-738.52	37.88
601	SLU 74	-107	0	12774	4603.18	-751.21	36.2
601	SLU 75	-107	24	12769	4599.3	-750.49	37.48
601	SLU 76	-106	40	12697	4572.12	-746.05	38.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
601	SLU 77	-108	0	12901	4649.94	-758.74	36.38
601	SLU 78	-107	24	12896	4646.06	-758.02	37.66
601	SLU 79	-107	0	12834	4625.34	-754.79	36.12
601	SLU 80	-107	24	12828	4621.47	-754.07	37.39
601	SLU 81	-106	1	13049	4700.77	-767.38	35.88
601	SLU 82	-106	25	13043	4696.9	-766.66	37.16
601	SLU 83	-107	1	13176	4747.53	-774.91	36.06
601	SLU 84	-107	25	13170	4743.66	-774.19	37.34
601	SLE RA 1	-79	0	8542	3076.37	-502.18	26.8
601	SLE RA 2	-79	26	8536	3072.07	-501.38	28.22
601	SLE RA 3	-80	-1	8671	3123.94	-509.84	27.1
601	SLE RA 4	-80	16	8668	3121.36	-509.36	27.95
601	SLE RA 5	-79	26	8620	3103.24	-506.4	28.34
601	SLE RA 6	-81	-1	8756	3155.12	-514.86	27.22
601	SLE RA 7	-80	15	8753	3152.53	-514.38	28.07
601	SLE RA 8	-80	-1	8711	3138.72	-512.22	27.04
601	SLE RA 9	-80	16	8708	3136.13	-511.74	27.89
601	SLE RA 10	-80	27	9265	3334.88	-544.4	28.42
601	SLE RA 11	-81	0	9401	3386.75	-552.86	27.3
601	SLE RA 12	-81	16	9397	3384.17	-552.38	28.15
601	SLE RA 13	-80	27	9350	3366.05	-549.42	28.54
601	SLE RA 14	-81	0	9486	3417.92	-557.88	27.42
601	SLE RA 15	-81	16	9482	3415.34	-557.4	28.27
601	SLE RA 16	-81	0	9441	3401.53	-555.25	27.24
601	SLE RA 17	-81	16	9437	3398.94	-554.77	28.09
601	SLE RA 18	-80	1	9584	3451.81	-563.64	27.09
601	SLE RA 19	-80	17	9580	3449.23	-563.16	27.94
601	SLE RA 20	-81	0	9669	3482.99	-568.66	27.21
601	SLE RA 21	-80	17	9665	3480.4	-568.18	28.06
601	SLE FR 1	-79	0	8542	3076.37	-502.18	26.8
601	SLE FR 2	-79	5	8541	3075.51	-502.02	27.09
601	SLE FR 3	-80	0	8576	3088.84	-504.19	26.85
601	SLE FR 4	-80	5	8853	3188.14	-520.46	27.17
601	SLE FR 5	-80	0	8888	3201.47	-522.63	26.94
601	SLE FR 6	-80	0	9063	3264.09	-532.91	26.95
601	SLE QP 1	-79	0	8542	3076.37	-502.18	26.8
601	SLE QP 2	-80	0	8854	3189	-520.62	26.89
601	SLD 1	604	271	9807	3507.61	-571.42	-201.09
601	SLD 2	599	154	9798	3505.86	-571.66	-204.44
601	SLD 3	593	-239	9911	3596.19	-586.53	-228.58
601	SLD 4	588	-357	9902	3594.43	-586.76	-231.92
601	SLD 5	142	876	8984	3150.56	-512.91	0.77
601	SLD 6	139	800	8978	3149.42	-513.06	-1.4
601	SLD 7	107	-826	9331	3445.8	-563.26	-90.86
601	SLD 8	103	-902	9325	3444.66	-563.41	-93.03
601	SLD 9	-263	902	8384	2933.34	-477.83	146.8
601	SLD 10	-266	826	8378	2932.21	-477.98	144.64
601	SLD 11	-299	-801	8731	3228.59	-528.18	55.17
601	SLD 12	-302	-877	8725	3227.45	-528.33	53.01
601	SLD 13	-747	357	7807	2783.57	-454.48	285.7
601	SLD 14	-752	239	7798	2781.82	-454.71	282.36
601	SLD 15	-758	-154	7911	2872.15	-469.58	258.21
601	SLD 16	-763	-272	7902	2870.39	-469.81	254.87
601	SLV 1	991	457	10335	3680.45	-598.9	-328.3
601	SLV 2	983	272	10320	3677.69	-599.27	-333.56
601	SLV 3	973	-406	10510	3829.99	-624.39	-374.66
601	SLV 4	965	-591	10495	3827.23	-624.76	-379.92
601	SLV 5	271	1481	9036	3110.15	-505.37	-8.37
601	SLV 6	265	1356	9026	3108.29	-505.62	-11.91
601	SLV 7	210	-1396	9620	3608.62	-590.34	-162.91
601	SLV 8	204	-1521	9610	3606.77	-590.59	-166.46
601	SLV 9	-364	1521	8099	2771.24	-450.65	220.23
601	SLV 10	-369	1396	8089	2769.39	-450.89	216.69
601	SLV 11	-425	-1356	8683	3269.72	-535.62	65.69
601	SLV 12	-430	-1481	8673	3267.86	-535.87	62.14
601	SLV 13	-1124	591	7214	2550.78	-416.48	433.7
601	SLV 14	-1132	406	7199	2548.02	-416.85	428.44
601	SLV 15	-1143	-272	7389	2700.32	-441.97	387.34
601	SLV 16	-1151	-457	7374	2697.56	-442.34	382.07
601	SLV FO 1	1098	503	10483	3729.59	-606.73	-363.82
601	SLV FO 2	1089	299	10467	3726.56	-607.13	-369.6
601	SLV FO 3	1078	-447	10675	3894.09	-634.77	-414.82
601	SLV FO 4	1069	-650	10659	3891.06	-635.17	-420.61
601	SLV FO 5	306	1629	9054	3102.26	-503.85	-11.89
601	SLV FO 6	300	1491	9043	3100.22	-504.12	-15.79
601	SLV FO 7	239	-1536	9696	3650.58	-597.32	-181.89
601	SLV FO 8	233	-1673	9685	3648.54	-597.59	-185.79
601	SLV FO 9	-392	1673	8024	2729.47	-443.65	239.57
601	SLV FO 10	-398	1536	8013	2727.42	-443.92	235.67
601	SLV FO 11	-459	-1492	8666	3277.79	-537.12	69.57
601	SLV FO 12	-465	-1629	8655	3275.75	-537.39	65.67
601	SLV FO 13	-1229	650	7050	2486.95	-406.06	474.38
601	SLV FO 14	-1237	446	7034	2483.92	-406.47	468.59
601	SLV FO 15	-1249	-299	7242	2651.45	-434.11	423.38
601	SLV FO 16	-1258	-503	7226	2648.42	-434.51	417.59
601	CRTFP Ux+	0	0	0	0	0	0
601	CRTFP Ux-	0	0	0	0	0	0
601	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
601	CRTFP Uy-	0	0	0	0	0	0
639	SLU 1	7	-6	2242	1033.81	-41.56	-3.43
639	SLU 2	8	6	2234	1029.49	-41.44	-3.4
639	SLU 3	8	-6	2294	1058.2	-42.52	-3.56
639	SLU 4	8	1	2290	1055.61	-42.45	-3.55
639	SLU 5	8	5	2268	1045.47	-42.07	-3.5
639	SLU 6	8	-7	2329	1074.19	-43.14	-3.66
639	SLU 7	8	0	2324	1071.6	-43.07	-3.64
639	SLU 8	8	-7	2310	1065.77	-42.81	-3.62
639	SLU 9	8	0	2306	1063.18	-42.74	-3.6
639	SLU 10	9	4	2535	1168.55	-47	-3.83
639	SLU 11	9	-8	2595	1197.26	-48.07	-3.99
639	SLU 12	9	-1	2590	1194.67	-48	-3.98
639	SLU 13	9	4	2569	1184.53	-47.62	-3.93
639	SLU 14	9	-8	2629	1213.24	-48.7	-4.09
639	SLU 15	9	-1	2625	1210.65	-48.63	-4.07
639	SLU 16	9	-8	2611	1204.83	-48.36	-4.05
639	SLU 17	9	-1	2607	1202.24	-48.29	-4.03
639	SLU 18	9	-8	2672	1232.46	-49.49	-4.05
639	SLU 19	9	-1	2667	1229.87	-49.42	-4.03
639	SLU 20	9	-8	2706	1248.44	-50.12	-4.14
639	SLU 21	9	-1	2701	1245.85	-50.05	-4.13
639	SLU 22	9	-8	2596	1198.13	-48.1	-4.25
639	SLU 23	10	4	2588	1193.82	-47.98	-4.23
639	SLU 24	10	-8	2648	1222.53	-49.06	-4.39
639	SLU 25	10	-1	2643	1219.94	-48.99	-4.37
639	SLU 26	10	4	2622	1209.8	-48.61	-4.32
639	SLU 27	10	-8	2682	1238.51	-49.68	-4.48
639	SLU 28	10	-1	2677	1235.92	-49.61	-4.47
639	SLU 29	10	-8	2664	1230.1	-49.35	-4.44
639	SLU 30	10	-1	2659	1227.51	-49.28	-4.43
639	SLU 31	11	3	2889	1332.87	-53.54	-4.66
639	SLU 32	10	-9	2949	1361.59	-54.61	-4.82
639	SLU 33	11	-2	2944	1358.99	-54.54	-4.81
639	SLU 34	11	2	2923	1348.86	-54.16	-4.76
639	SLU 35	11	-10	2983	1377.57	-55.24	-4.92
639	SLU 36	11	-3	2978	1374.98	-55.17	-4.9
639	SLU 37	11	-10	2965	1369.15	-54.9	-4.88
639	SLU 38	11	-3	2960	1366.56	-54.83	-4.86
639	SLU 39	11	-9	3025	1396.79	-56.03	-4.87
639	SLU 40	11	-2	3021	1394.2	-55.96	-4.86
639	SLU 41	11	-10	3059	1412.77	-56.66	-4.97
639	SLU 42	11	-3	3055	1410.18	-56.59	-4.95
639	SLU 43	9	-7	2793	1287.61	-51.79	-4.17
639	SLU 44	10	4	2786	1283.3	-51.67	-4.14
639	SLU 45	9	-8	2846	1312.01	-52.75	-4.3
639	SLU 46	10	-1	2841	1309.42	-52.68	-4.29
639	SLU 47	10	4	2820	1299.28	-52.29	-4.24
639	SLU 48	10	-8	2880	1327.99	-53.37	-4.4
639	SLU 49	10	-1	2875	1325.4	-53.3	-4.38
639	SLU 50	10	-8	2862	1319.58	-53.03	-4.36
639	SLU 51	10	-1	2857	1316.99	-52.96	-4.35
639	SLU 52	10	3	3086	1422.35	-57.22	-4.58
639	SLU 53	10	-9	3147	1451.06	-58.3	-4.74
639	SLU 54	11	-2	3142	1448.47	-58.23	-4.72
639	SLU 55	11	3	3121	1438.33	-57.85	-4.67
639	SLU 56	11	-10	3181	1467.05	-58.92	-4.83
639	SLU 57	11	-3	3176	1464.46	-58.85	-4.82
639	SLU 58	10	-10	3163	1458.63	-58.59	-4.79
639	SLU 59	11	-2	3158	1456.04	-58.52	-4.78
639	SLU 60	10	-9	3223	1486.27	-59.72	-4.79
639	SLU 61	11	-2	3218	1483.68	-59.65	-4.77
639	SLU 62	11	-10	3257	1502.25	-60.34	-4.89
639	SLU 63	11	-3	3253	1499.66	-60.27	-4.87
639	SLU 64	11	-9	3147	1451.94	-58.33	-5
639	SLU 65	11	3	3139	1447.62	-58.21	-4.97
639	SLU 66	11	-9	3199	1476.33	-59.28	-5.13
639	SLU 67	11	-2	3195	1473.74	-59.22	-5.12
639	SLU 68	11	2	3173	1463.6	-58.83	-5.07
639	SLU 69	11	-10	3234	1492.31	-59.91	-5.23
639	SLU 70	12	-3	3229	1489.72	-59.84	-5.21
639	SLU 71	11	-10	3215	1483.9	-59.57	-5.19
639	SLU 72	12	-3	3211	1481.31	-59.5	-5.17
639	SLU 73	12	2	3440	1586.68	-63.76	-5.41
639	SLU 74	12	-11	3500	1615.39	-64.84	-5.57
639	SLU 75	12	-4	3495	1612.8	-64.77	-5.55
639	SLU 76	12	1	3474	1602.66	-64.39	-5.5
639	SLU 77	12	-11	3534	1631.37	-65.46	-5.66
639	SLU 78	13	-4	3530	1628.78	-65.39	-5.65
639	SLU 79	12	-11	3516	1622.96	-65.13	-5.62
639	SLU 80	12	-4	3511	1620.37	-65.06	-5.61
639	SLU 81	12	-11	3577	1650.59	-66.26	-5.62
639	SLU 82	12	-4	3572	1648	-66.19	-5.6
639	SLU 83	12	-11	3611	1666.57	-66.88	-5.71
639	SLU 84	13	-4	3606	1663.98	-66.81	-5.7
639	SLE RA 1	8	-7	2343	1080.76	-43.43	-3.66
639	SLE RA 2	8	1	2338	1077.88	-43.35	-3.65
639	SLE RA 3	8	-7	2378	1097.02	-44.07	-3.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
639	SLE RA 4	8	-2	2375	1095.3	-44.02	-3.74
639	SLE RA 5	8	1	2361	1088.54	-43.77	-3.71
639	SLE RA 6	8	-7	2401	1107.68	-44.48	-3.82
639	SLE RA 7	8	-2	2398	1105.95	-44.44	-3.81
639	SLE RA 8	8	-7	2389	1102.07	-44.26	-3.79
639	SLE RA 9	8	-2	2386	1100.34	-44.21	-3.78
639	SLE RA 10	9	0	2538	1170.59	-47.05	-3.93
639	SLE RA 11	9	-8	2578	1189.73	-47.77	-4.04
639	SLE RA 12	9	-3	2575	1188	-47.72	-4.03
639	SLE RA 13	9	0	2561	1181.24	-47.47	-4
639	SLE RA 14	9	-8	2601	1200.38	-48.19	-4.11
639	SLE RA 15	9	-3	2598	1198.65	-48.14	-4.09
639	SLE RA 16	9	-8	2589	1194.77	-47.96	-4.08
639	SLE RA 17	9	-3	2586	1193.05	-47.92	-4.07
639	SLE RA 18	9	-8	2630	1213.19	-48.72	-4.08
639	SLE RA 19	9	-3	2626	1211.47	-48.67	-4.07
639	SLE RA 20	9	-8	2652	1223.85	-49.13	-4.14
639	SLE RA 21	9	-3	2649	1222.12	-49.09	-4.13
639	SLE FR 1	8	-7	2343	1080.76	-43.43	-3.66
639	SLE FR 2	8	-5	2342	1080.18	-43.41	-3.66
639	SLE FR 3	8	-7	2352	1085.02	-43.6	-3.69
639	SLE FR 4	8	-5	2428	1119.91	-45	-3.78
639	SLE FR 5	8	-7	2438	1124.75	-45.18	-3.81
639	SLE FR 6	8	-7	2486	1146.98	-46.07	-3.87
639	SLE QP 1	8	-7	2343	1080.76	-43.43	-3.66
639	SLE QP 2	8	-7	2429	1120.49	-45.02	-3.79
639	SLD 1	198	59	2397	1100.73	-44.01	-91.53
639	SLD 2	197	66	2400	1101.77	-44.06	-90.71
639	SLD 3	193	-89	2492	1156.3	-45.42	-92.24
639	SLD 4	191	-82	2495	1157.35	-45.47	-91.42
639	SLD 5	73	236	2275	1030.09	-42.56	-29.18
639	SLD 6	73	241	2276	1030.77	-42.59	-28.65
639	SLD 7	56	-257	2592	1215.34	-47.28	-31.53
639	SLD 8	55	-253	2593	1216.02	-47.31	-31
639	SLD 9	-38	239	2265	1024.96	-42.72	23.43
639	SLD 10	-39	244	2266	1025.64	-42.76	23.96
639	SLD 11	-56	-255	2582	1210.21	-47.44	21.08
639	SLD 12	-57	-250	2583	1210.89	-47.47	21.61
639	SLD 13	-175	68	2363	1083.64	-44.56	83.84
639	SLD 14	-176	75	2366	1084.68	-44.61	84.66
639	SLD 15	-180	-80	2458	1139.21	-45.97	83.14
639	SLD 16	-181	-73	2461	1140.25	-46.02	83.96
639	SLV 1	306	105	2375	1086.46	-43.34	-141.05
639	SLV 2	303	117	2378	1088.1	-43.42	-139.76
639	SLV 3	296	-145	2535	1180.32	-45.73	-142.24
639	SLV 4	294	-133	2538	1181.96	-45.81	-140.94
639	SLV 5	112	404	2169	967.62	-40.88	-43.41
639	SLV 6	110	412	2171	968.73	-40.93	-42.54
639	SLV 7	81	-430	2704	1280.48	-48.84	-47.36
639	SLV 8	80	-422	2706	1281.59	-48.89	-46.49
639	SLV 9	-63	408	2152	959.39	-41.14	38.92
639	SLV 10	-65	416	2155	960.5	-41.19	39.79
639	SLV 11	-94	-425	2687	1272.25	-49.1	34.96
639	SLV 12	-95	-418	2689	1273.36	-49.15	35.83
639	SLV 13	-278	120	2320	1059.02	-44.22	133.37
639	SLV 14	-280	131	2323	1060.66	-44.3	134.66
639	SLV 15	-287	-130	2480	1152.88	-46.61	132.18
639	SLV 16	-289	-119	2484	1154.52	-46.69	133.48
639	SLV FO 1	335	117	2369	1083.06	-43.18	-154.78
639	SLV FO 2	333	129	2373	1084.86	-43.26	-153.35
639	SLV FO 3	325	-158	2546	1186.3	-45.8	-156.08
639	SLV FO 4	323	-146	2549	1188.1	-45.89	-154.66
639	SLV FO 5	122	445	2143	952.34	-40.46	-47.37
639	SLV FO 6	120	454	2145	953.55	-40.52	-46.41
639	SLV FO 7	89	-472	2731	1296.48	-49.22	-51.72
639	SLV FO 8	87	-464	2733	1297.7	-49.28	-50.76
639	SLV FO 9	-71	450	2125	943.28	-40.75	43.19
639	SLV FO 10	-72	458	2127	944.5	-40.81	44.15
639	SLV FO 11	-104	-467	2713	1287.43	-49.51	38.84
639	SLV FO 12	-105	-459	2715	1288.64	-49.57	39.8
639	SLV FO 13	-306	132	2309	1052.88	-44.14	147.09
639	SLV FO 14	-309	145	2313	1054.68	-44.23	148.51
639	SLV FO 15	-316	-143	2485	1156.12	-46.77	145.78
639	SLV FO 16	-319	-130	2489	1157.92	-46.85	147.2
639	CRTFP Ux+	0	0	0	0	0	0
639	CRTFP Ux-	0	0	0	0	0	0
639	CRTFP Uy+	0	0	0	0	0	0
639	CRTFP Uy-	0	0	0	0	0	0
640	SLU 1	10	5	2528	1156.89	0.79	-4.32
640	SLU 2	10	18	2521	1153.08	0.74	-4.54
640	SLU 3	10	5	2586	1183.79	0.82	-4.47
640	SLU 4	10	12	2582	1181.5	0.79	-4.61
640	SLU 5	11	17	2559	1170.63	0.76	-4.65
640	SLU 6	10	4	2624	1201.34	0.85	-4.58
640	SLU 7	11	12	2620	1199.05	0.82	-4.71
640	SLU 8	10	4	2604	1192	0.84	-4.53
640	SLU 9	11	12	2600	1189.71	0.81	-4.66
640	SLU 10	11	17	2859	1308.22	0.87	-5.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
640	SLU 11	11	4	2924	1338.93	0.96	-4.96
640	SLU 12	12	12	2920	1336.64	0.93	-5.1
640	SLU 13	12	17	2897	1325.77	0.9	-5.14
640	SLU 14	12	4	2962	1356.49	0.99	-5.07
640	SLU 15	12	12	2958	1354.2	0.96	-5.2
640	SLU 16	11	4	2942	1347.14	0.98	-5.02
640	SLU 17	12	12	2938	1344.85	0.95	-5.15
640	SLU 18	11	4	3011	1378.53	0.98	-5.02
640	SLU 19	12	12	3007	1376.24	0.95	-5.15
640	SLU 20	12	4	3049	1396.08	1.01	-5.12
640	SLU 21	12	12	3045	1393.79	0.98	-5.26
640	SLU 22	12	5	2926	1340.27	0.94	-5.29
640	SLU 23	12	18	2919	1336.46	0.89	-5.51
640	SLU 24	12	4	2984	1367.17	0.98	-5.45
640	SLU 25	13	12	2980	1364.88	0.95	-5.58
640	SLU 26	13	17	2957	1354.01	0.92	-5.62
640	SLU 27	13	4	3022	1384.72	1.01	-5.55
640	SLU 28	13	12	3018	1382.43	0.98	-5.69
640	SLU 29	12	4	3002	1375.38	1	-5.5
640	SLU 30	13	12	2998	1373.09	0.97	-5.64
640	SLU 31	14	17	3257	1491.6	1.03	-6
640	SLU 32	13	4	3322	1522.31	1.11	-5.94
640	SLU 33	14	12	3318	1520.02	1.08	-6.07
640	SLU 34	14	17	3295	1509.15	1.05	-6.11
640	SLU 35	14	4	3360	1539.87	1.14	-6.04
640	SLU 36	14	11	3356	1537.58	1.11	-6.18
640	SLU 37	14	4	3340	1530.52	1.13	-5.99
640	SLU 38	14	11	3336	1528.23	1.1	-6.13
640	SLU 39	14	4	3409	1561.9	1.13	-5.99
640	SLU 40	14	12	3404	1559.62	1.1	-6.13
640	SLU 41	14	4	3447	1579.46	1.16	-6.1
640	SLU 42	14	12	3442	1577.17	1.13	-6.23
640	SLU 43	12	6	3150	1441.09	0.97	-5.28
640	SLU 44	13	19	3143	1437.27	0.92	-5.5
640	SLU 45	12	6	3209	1467.99	1.01	-5.43
640	SLU 46	13	14	3204	1465.7	0.98	-5.57
640	SLU 47	13	19	3181	1454.83	0.95	-5.61
640	SLU 48	13	6	3246	1485.54	1.04	-5.54
640	SLU 49	13	14	3242	1483.25	1.01	-5.67
640	SLU 50	13	6	3226	1476.19	1.03	-5.49
640	SLU 51	13	14	3222	1473.9	1	-5.62
640	SLU 52	14	19	3481	1592.41	1.06	-5.99
640	SLU 53	14	6	3546	1623.13	1.15	-5.92
640	SLU 54	14	14	3542	1620.84	1.12	-6.06
640	SLU 55	14	19	3519	1609.97	1.09	-6.1
640	SLU 56	14	6	3584	1640.68	1.17	-6.03
640	SLU 57	14	13	3580	1638.39	1.14	-6.16
640	SLU 58	14	5	3564	1631.34	1.16	-5.98
640	SLU 59	14	13	3560	1629.05	1.13	-6.11
640	SLU 60	14	6	3633	1662.72	1.17	-5.98
640	SLU 61	14	14	3629	1660.43	1.14	-6.11
640	SLU 62	14	6	3671	1680.27	1.19	-6.08
640	SLU 63	14	13	3667	1677.98	1.16	-6.22
640	SLU 64	14	6	3548	1624.47	1.12	-6.25
640	SLU 65	15	19	3541	1620.65	1.07	-6.47
640	SLU 66	15	6	3606	1651.37	1.16	-6.41
640	SLU 67	15	14	3602	1649.08	1.13	-6.54
640	SLU 68	15	19	3579	1638.2	1.1	-6.58
640	SLU 69	15	6	3644	1668.92	1.19	-6.51
640	SLU 70	15	13	3640	1666.63	1.16	-6.65
640	SLU 71	15	6	3624	1659.57	1.18	-6.46
640	SLU 72	15	13	3620	1657.28	1.15	-6.6
640	SLU 73	16	19	3879	1775.79	1.21	-6.97
640	SLU 74	16	6	3944	1806.51	1.3	-6.9
640	SLU 75	16	13	3940	1804.22	1.27	-7.03
640	SLU 76	16	18	3917	1793.35	1.24	-7.07
640	SLU 77	16	5	3982	1824.06	1.33	-7.01
640	SLU 78	16	13	3978	1821.77	1.3	-7.14
640	SLU 79	16	5	3962	1814.72	1.32	-6.95
640	SLU 80	16	13	3958	1812.43	1.29	-7.09
640	SLU 81	16	6	4031	1846.1	1.32	-6.95
640	SLU 82	16	13	4027	1843.81	1.29	-7.09
640	SLU 83	16	5	4069	1863.65	1.35	-7.06
640	SLU 84	16	13	4064	1861.36	1.32	-7.19
640	SLE RA 1	10	5	2642	1209.29	0.83	-4.59
640	SLE RA 2	11	13	2637	1206.74	0.8	-4.74
640	SLE RA 3	11	5	2681	1227.22	0.85	-4.7
640	SLE RA 4	11	10	2678	1225.69	0.83	-4.79
640	SLE RA 5	11	13	2662	1218.45	0.82	-4.81
640	SLE RA 6	11	4	2706	1238.92	0.87	-4.77
640	SLE RA 7	11	10	2703	1237.39	0.85	-4.86
640	SLE RA 8	11	4	2692	1232.69	0.87	-4.74
640	SLE RA 9	11	10	2690	1231.16	0.85	-4.83
640	SLE RA 10	12	13	2862	1310.17	0.89	-5.07
640	SLE RA 11	11	4	2906	1330.65	0.95	-5.03
640	SLE RA 12	12	10	2903	1329.12	0.93	-5.12
640	SLE RA 13	12	13	2888	1321.87	0.91	-5.14
640	SLE RA 14	12	4	2931	1342.35	0.97	-5.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
640	SLE RA 15	12	9	2928	1340.82	0.95	-5.19
640	SLE RA 16	12	4	2918	1336.12	0.96	-5.06
640	SLE RA 17	12	9	2915	1334.59	0.94	-5.15
640	SLE RA 18	12	5	2964	1357.04	0.96	-5.06
640	SLE RA 19	12	10	2961	1355.52	0.94	-5.15
640	SLE RA 20	12	4	2989	1368.74	0.98	-5.13
640	SLE RA 21	12	9	2986	1367.22	0.96	-5.22
640	SLE FR 1	10	5	2642	1209.29	0.83	-4.59
640	SLE FR 2	11	7	2641	1208.78	0.82	-4.62
640	SLE FR 3	11	5	2652	1213.97	0.84	-4.62
640	SLE FR 4	11	6	2737	1253.11	0.86	-4.76
640	SLE FR 5	11	5	2748	1258.29	0.88	-4.76
640	SLE FR 6	11	5	2803	1283.16	0.9	-4.83
640	SLE QP 1	10	5	2642	1209.29	0.83	-4.59
640	SLE QP 2	11	5	2738	1253.61	0.87	-4.73
640	SLD 1	227	75	2677	1220.36	1.48	-106.3
640	SLD 2	225	85	2679	1221.89	1.46	-105.53
640	SLD 3	221	-88	2763	1269.34	2.12	-103.3
640	SLD 4	219	-78	2766	1270.87	2.1	-102.53
640	SLD 5	85	271	2589	1169.08	0.08	-39.89
640	SLD 6	84	278	2590	1170.07	0.07	-39.4
640	SLD 7	65	-272	2876	1332.36	2.22	-29.88
640	SLD 8	64	-265	2878	1333.35	2.21	-29.38
640	SLD 9	-42	275	2599	1173.88	-0.47	19.91
640	SLD 10	-43	281	2601	1174.87	-0.48	20.41
640	SLD 11	-62	-268	2886	1337.16	1.66	29.93
640	SLD 12	-63	-262	2888	1338.15	1.65	30.42
640	SLD 13	-197	87	2711	1236.36	-0.36	93.06
640	SLD 14	-199	97	2714	1237.89	-0.38	93.83
640	SLD 15	-204	-76	2797	1285.34	0.28	96.06
640	SLD 16	-205	-66	2800	1286.87	0.26	96.83
640	SLV 1	349	125	2636	1198.26	1.78	-163.87
640	SLV 2	347	141	2640	1200.67	1.75	-162.66
640	SLV 3	339	-150	2781	1280.98	2.86	-158.76
640	SLV 4	336	-135	2786	1283.39	2.84	-157.55
640	SLV 5	128	455	2486	1111.1	-0.49	-60.45
640	SLV 6	127	466	2489	1112.72	-0.51	-59.63
640	SLV 7	94	-462	2971	1386.83	3.11	-43.42
640	SLV 8	92	-451	2974	1388.46	3.09	-42.61
640	SLV 9	-71	461	2502	1118.77	-1.36	33.14
640	SLV 10	-72	471	2506	1120.4	-1.37	33.95
640	SLV 11	-105	-456	2988	1394.51	2.25	50.16
640	SLV 12	-107	-446	2991	1396.13	2.23	50.98
640	SLV 13	-315	144	2691	1223.84	-1.1	148.08
640	SLV 14	-317	160	2695	1226.25	-1.12	149.29
640	SLV 15	-325	-131	2836	1306.56	-0.02	153.19
640	SLV 16	-327	-115	2841	1308.97	-0.04	154.4
640	SLV FO 1	383	137	2625	1192.72	1.87	-179.79
640	SLV FO 2	380	154	2630	1195.37	1.84	-178.45
640	SLV FO 3	371	-166	2785	1283.71	3.06	-174.17
640	SLV FO 4	369	-149	2791	1286.37	3.03	-172.83
640	SLV FO 5	140	500	2461	1096.85	-0.63	-66.02
640	SLV FO 6	138	512	2464	1098.63	-0.65	-65.12
640	SLV FO 7	102	-509	2994	1400.15	3.33	-47.29
640	SLV FO 8	100	-497	2998	1401.94	3.32	-46.39
640	SLV FO 9	-79	507	2479	1105.29	-1.58	36.92
640	SLV FO 10	-81	518	2482	1107.07	-1.6	37.82
640	SLV FO 11	-117	-502	3013	1408.6	2.39	55.65
640	SLV FO 12	-119	-491	3016	1410.38	2.37	56.55
640	SLV FO 13	-347	158	2686	1220.86	-1.29	163.36
640	SLV FO 14	-350	175	2691	1223.51	-1.32	164.7
640	SLV FO 15	-359	-145	2846	1311.85	-0.1	168.98
640	SLV FO 16	-361	-127	2851	1314.51	-0.13	170.32
640	CRTFP Ux+	0	0	0	0	0	0
640	CRTFP Ux-	0	0	0	0	0	0
640	CRTFP Uy+	0	0	0	0	0	0
640	CRTFP Uy-	0	0	0	0	0	0
643	SLU 1	-104	-4	8405	149.42	-1453.93	2.09
643	SLU 2	-103	40	8405	146.86	-1454.08	9.65
643	SLU 3	-106	-5	8607	153.74	-1488.68	2
643	SLU 4	-105	22	8607	152.2	-1488.77	6.54
643	SLU 5	-104	40	8536	149.76	-1476.71	9.64
643	SLU 6	-107	-5	8738	156.65	-1511.32	1.99
643	SLU 7	-106	22	8738	155.11	-1511.41	6.53
643	SLU 8	-106	-4	8668	155.23	-1499.2	2.07
643	SLU 9	-105	22	8668	153.69	-1499.29	6.61
643	SLU 10	-106	42	9474	165.63	-1639.65	10.18
643	SLU 11	-109	-2	9676	172.52	-1674.25	2.52
643	SLU 12	-108	24	9676	170.98	-1674.34	7.06
643	SLU 13	-107	42	9606	168.54	-1662.28	10.17
643	SLU 14	-110	-3	9807	175.42	-1696.89	2.52
643	SLU 15	-109	24	9807	173.88	-1696.98	7.05
643	SLU 16	-109	-2	9737	174	-1684.77	2.6
643	SLU 17	-108	24	9737	172.47	-1684.86	7.14
643	SLU 18	-108	-1	9933	176.24	-1719.03	2.84
643	SLU 19	-107	26	9933	174.7	-1719.12	7.38
643	SLU 20	-109	-1	10064	179.15	-1741.67	2.83
643	SLU 21	-108	26	10064	177.61	-1741.75	7.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
643	SLU 22	-112	-7	9738	174.94	-1684.93	1.74
643	SLU 23	-112	37	9738	172.38	-1685.08	9.3
643	SLU 24	-114	-8	9940	179.26	-1719.68	1.65
643	SLU 25	-114	18	9940	177.72	-1719.77	6.19
643	SLU 26	-113	36	9869	175.28	-1707.71	9.3
643	SLU 27	-116	-9	10071	182.17	-1742.32	1.64
643	SLU 28	-115	18	10071	180.63	-1742.41	6.18
643	SLU 29	-115	-8	10001	180.75	-1730.21	1.72
643	SLU 30	-114	19	10001	179.21	-1730.29	6.26
643	SLU 31	-115	39	10807	191.15	-1870.65	9.83
643	SLU 32	-117	-6	11009	198.04	-1905.25	2.18
643	SLU 33	-117	20	11009	196.5	-1905.34	6.72
643	SLU 34	-116	39	10939	194.06	-1893.28	9.82
643	SLU 35	-119	-6	11140	200.94	-1927.89	2.17
643	SLU 36	-118	20	11140	199.41	-1927.98	6.71
643	SLU 37	-118	-6	11070	199.53	-1915.78	2.25
643	SLU 38	-117	21	11070	197.99	-1915.86	6.79
643	SLU 39	-117	-4	11266	201.76	-1950.03	2.49
643	SLU 40	-116	22	11266	200.23	-1950.12	7.03
643	SLU 41	-118	-5	11397	204.67	-1972.67	2.48
643	SLU 42	-117	22	11397	203.13	-1972.75	7.02
643	SLU 43	-132	-4	10470	185.49	-1810.91	2.83
643	SLU 44	-131	40	10470	182.93	-1811.05	10.4
643	SLU 45	-134	-5	10671	189.81	-1845.66	2.74
643	SLU 46	-133	22	10671	188.28	-1845.75	7.28
643	SLU 47	-132	40	10601	185.84	-1833.69	10.39
643	SLU 48	-135	-5	10803	192.72	-1868.3	2.74
643	SLU 49	-134	22	10802	191.18	-1868.38	7.27
643	SLU 50	-134	-4	10732	191.3	-1856.18	2.82
643	SLU 51	-133	22	10732	189.77	-1856.27	7.35
643	SLU 52	-134	43	11539	201.71	-1996.62	10.92
643	SLU 53	-137	-2	11740	208.59	-2031.23	3.27
643	SLU 54	-136	24	11740	207.05	-2031.32	7.81
643	SLU 55	-135	42	11670	204.61	-2019.26	10.91
643	SLU 56	-138	-3	11872	211.5	-2053.87	3.26
643	SLU 57	-137	24	11871	209.96	-2053.95	7.8
643	SLU 58	-137	-2	11801	210.08	-2041.75	3.34
643	SLU 59	-136	25	11801	208.54	-2041.84	7.88
643	SLU 60	-136	-1	11997	212.31	-2076.01	3.58
643	SLU 61	-135	26	11997	210.78	-2076.1	8.12
643	SLU 62	-137	-1	12129	215.22	-2098.65	3.58
643	SLU 63	-137	26	12128	213.68	-2098.73	8.11
643	SLU 64	-140	-7	11803	211.01	-2041.91	2.48
643	SLU 65	-140	37	11803	208.45	-2042.05	10.05
643	SLU 66	-143	-8	12004	215.34	-2076.66	2.4
643	SLU 67	-142	18	12004	213.8	-2076.75	6.93
643	SLU 68	-141	37	11934	211.36	-2064.69	10.04
643	SLU 69	-144	-8	12136	218.24	-2099.3	2.39
643	SLU 70	-143	18	12135	216.71	-2099.39	6.93
643	SLU 71	-143	-8	12065	216.83	-2087.18	2.47
643	SLU 72	-142	19	12065	215.29	-2087.27	7.01
643	SLU 73	-143	39	12872	227.23	-2227.62	10.57
643	SLU 74	-145	-6	13074	234.11	-2262.23	2.92
643	SLU 75	-145	20	13073	232.58	-2262.32	7.46
643	SLU 76	-144	39	13003	230.13	-2250.26	10.57
643	SLU 77	-147	-6	13205	237.02	-2284.87	2.91
643	SLU 78	-146	20	13205	235.48	-2284.96	7.45
643	SLU 79	-146	-6	13135	235.6	-2272.75	3
643	SLU 80	-145	21	13134	234.06	-2272.84	7.53
643	SLU 81	-145	-4	13330	237.84	-2307.01	3.24
643	SLU 82	-144	22	13330	236.3	-2307.1	7.77
643	SLU 83	-146	-4	13462	240.74	-2329.65	3.23
643	SLU 84	-145	22	13461	239.21	-2329.73	7.77
643	SLE RA 1	-106	-5	8786	156.71	-1519.93	1.99
643	SLE RA 2	-106	25	8786	155	-1520.03	7.03
643	SLE RA 3	-107	-5	8921	159.59	-1543.1	1.93
643	SLE RA 4	-107	12	8920	158.57	-1543.16	4.95
643	SLE RA 5	-106	24	8874	156.94	-1535.12	7.02
643	SLE RA 6	-108	-6	9008	161.53	-1558.19	1.92
643	SLE RA 7	-108	12	9008	160.5	-1558.25	4.95
643	SLE RA 8	-108	-5	8961	160.58	-1550.11	1.98
643	SLE RA 9	-107	12	8961	159.56	-1550.17	5
643	SLE RA 10	-108	26	9499	167.52	-1643.74	7.38
643	SLE RA 11	-109	-4	9633	172.11	-1666.81	2.28
643	SLE RA 12	-109	14	9633	171.08	-1666.87	5.3
643	SLE RA 13	-108	26	9586	169.46	-1658.83	7.38
643	SLE RA 14	-110	-4	9721	174.05	-1681.9	2.27
643	SLE RA 15	-110	14	9721	173.02	-1681.96	5.3
643	SLE RA 16	-110	-4	9674	173.1	-1673.83	2.33
643	SLE RA 17	-109	14	9674	172.08	-1673.88	5.35
643	SLE RA 18	-109	-3	9805	174.59	-1696.66	2.49
643	SLE RA 19	-109	15	9804	173.57	-1696.72	5.51
643	SLE RA 20	-110	-3	9892	176.53	-1711.75	2.48
643	SLE RA 21	-109	15	9892	175.5	-1711.81	5.51
643	SLE FR 1	-106	-5	8786	156.71	-1519.93	1.99
643	SLE FR 2	-106	1	8786	156.37	-1519.95	3
643	SLE FR 3	-106	-5	8821	157.48	-1525.97	1.99
643	SLE FR 4	-107	2	9092	161.73	-1572.97	3.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
643	SLE FR 5	-107	-4	9127	162.85	-1578.99	2.14
643	SLE FR 6	-108	-4	9295	165.65	-1608.3	2.24
643	SLE QP 1	-106	-5	8786	156.71	-1519.93	1.99
643	SLE QP 2	-107	-4	9092	162.07	-1572.95	2.14
643	SLD 1	466	318	11707	186.22	-2008.94	50.41
643	SLD 2	461	96	11711	188.78	-2009.02	13.07
643	SLD 3	455	-245	11628	224.55	-1993.57	-46.2
643	SLD 4	450	-467	11632	227.12	-1993.65	-83.54
643	SLD 5	82	984	9995	110.73	-1727.05	169.62
643	SLD 6	79	840	9999	112.39	-1727.1	145.47
643	SLD 7	46	-891	9732	238.51	-1675.81	-152.41
643	SLD 8	43	-1034	9735	240.17	-1675.86	-176.57
643	SLD 9	-257	1026	8449	83.97	-1470.04	180.84
643	SLD 10	-260	882	8452	85.63	-1470.09	156.69
643	SLD 11	-293	-849	8185	211.76	-1418.8	-141.19
643	SLD 12	-296	-992	8188	213.42	-1418.85	-165.35
643	SLD 13	-664	458	6551	97.03	-1152.25	87.81
643	SLD 14	-669	236	6556	99.6	-1152.33	50.48
643	SLD 15	-675	-104	6472	135.37	-1136.88	-8.8
643	SLD 16	-680	-326	6477	137.93	-1136.96	-46.13
643	SLV 1	791	536	13176	197.24	-2254.17	83.94
643	SLV 2	784	186	13184	201.29	-2254.3	25.15
643	SLV 3	772	-415	13042	261.99	-2228.12	-79.31
643	SLV 4	765	-764	13050	266.03	-2228.25	-138.1
643	SLV 5	192	1665	10519	73.67	-1816.8	285.26
643	SLV 6	187	1429	10524	76.39	-1816.88	245.68
643	SLV 7	129	-1504	10072	289.5	-1729.97	-258.93
643	SLV 8	125	-1739	10077	292.22	-1730.06	-298.51
643	SLV 9	-339	1731	8106	31.93	-1415.84	302.79
643	SLV 10	-343	1495	8111	34.65	-1415.93	263.21
643	SLV 11	-401	-1438	7659	247.76	-1329.02	-241.4
643	SLV 12	-406	-1673	7664	250.48	-1329.1	-280.98
643	SLV 13	-979	756	5134	58.11	-917.65	142.38
643	SLV 14	-986	406	5141	62.16	-917.78	83.59
643	SLV 15	-998	-195	5000	122.86	-891.6	-20.88
643	SLV 16	-1004	-544	5007	126.9	-891.73	-79.67
643	SLV FO 1	880	590	13585	200.76	-2322.29	92.12
643	SLV FO 2	873	205	13593	205.21	-2322.43	27.46
643	SLV FO 3	860	-456	13437	271.98	-2293.64	-87.46
643	SLV FO 4	852	-840	13446	276.43	-2293.78	-152.13
643	SLV FO 5	222	1831	10662	64.83	-1841.18	313.57
643	SLV FO 6	217	1572	10667	67.82	-1841.28	270.03
643	SLV FO 7	153	-1654	10170	302.24	-1745.68	-285.04
643	SLV FO 8	148	-1912	10176	305.23	-1745.77	-328.58
643	SLV FO 9	-362	1904	8008	18.91	-1400.13	332.85
643	SLV FO 10	-367	1645	8013	21.91	-1400.22	289.31
643	SLV FO 11	-431	-1581	7516	256.33	-1304.62	-265.75
643	SLV FO 12	-436	-1840	7522	259.32	-1304.72	-309.29
643	SLV FO 13	-1066	832	4738	47.72	-852.12	156.4
643	SLV FO 14	-1073	447	4746	52.16	-852.26	91.73
643	SLV FO 15	-1087	-214	4590	118.94	-823.47	-23.18
643	SLV FO 16	-1094	-598	4599	123.39	-823.61	-87.85
643	CRTFP Ux+	0	0	0	0	0	0
643	CRTFP Ux-	0	0	0	0	0	0
643	CRTFP Uy+	0	0	0	0	0	0
643	CRTFP Uy-	0	0	0	0	0	0
645	SLU 1	-82	0	6583	1.76	-181.6	0.71
645	SLU 2	-81	34	6583	-1.12	-181.63	1.43
645	SLU 3	-83	-1	6740	2.64	-185.94	0.71
645	SLU 4	-83	19	6741	0.92	-185.95	1.15
645	SLU 5	-82	34	6686	-0.44	-184.45	1.44
645	SLU 6	-84	-1	6843	3.32	-188.76	0.72
645	SLU 7	-84	19	6843	1.6	-188.78	1.15
645	SLU 8	-83	-1	6788	3.12	-187.25	0.72
645	SLU 9	-83	20	6788	1.39	-187.27	1.15
645	SLU 10	-84	36	7424	-1.18	-204.95	1.54
645	SLU 11	-86	1	7581	2.58	-209.25	0.82
645	SLU 12	-85	21	7581	0.86	-209.27	1.26
645	SLU 13	-84	36	7527	-0.5	-207.77	1.55
645	SLU 14	-87	1	7683	3.26	-212.08	0.83
645	SLU 15	-86	21	7684	1.53	-212.09	1.26
645	SLU 16	-86	1	7628	3.06	-210.56	0.83
645	SLU 17	-85	22	7629	1.33	-210.58	1.27
645	SLU 18	-85	2	7784	1.67	-214.91	0.87
645	SLU 19	-85	23	7784	-0.05	-214.93	1.3
645	SLU 20	-86	2	7886	2.35	-217.73	0.87
645	SLU 21	-86	23	7887	0.62	-217.75	1.31
645	SLU 22	-89	-3	7629	4.09	-210.56	0.76
645	SLU 23	-88	31	7630	1.21	-210.59	1.48
645	SLU 24	-90	-3	7786	4.98	-214.9	0.76
645	SLU 25	-90	17	7787	3.25	-214.92	1.2
645	SLU 26	-89	31	7732	1.89	-213.42	1.49
645	SLU 27	-91	-4	7889	5.65	-217.72	0.77
645	SLU 28	-91	17	7889	3.93	-217.74	1.2
645	SLU 29	-90	-3	7834	5.45	-216.21	0.77
645	SLU 30	-90	17	7834	3.72	-216.23	1.2
645	SLU 31	-91	33	8470	1.15	-233.91	1.59
645	SLU 32	-93	-1	8627	4.91	-238.22	0.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
645	SLU 33	-92	19	8627	3.19	-238.23	1.31
645	SLU 34	-91	33	8573	1.83	-236.73	1.6
645	SLU 35	-94	-2	8730	5.59	-241.04	0.88
645	SLU 36	-93	19	8730	3.87	-241.06	1.31
645	SLU 37	-93	-1	8675	5.39	-239.53	0.88
645	SLU 38	-92	19	8675	3.66	-239.54	1.31
645	SLU 39	-92	0	8830	4	-243.87	0.91
645	SLU 40	-92	20	8830	2.28	-243.89	1.35
645	SLU 41	-93	0	8932	4.68	-246.7	0.92
645	SLU 42	-93	20	8933	2.95	-246.71	1.36
645	SLU 43	-104	0	8199	1.49	-226.15	0.9
645	SLU 44	-103	34	8200	-1.39	-226.18	1.63
645	SLU 45	-106	0	8356	2.37	-230.49	0.91
645	SLU 46	-105	20	8357	0.65	-230.5	1.34
645	SLU 47	-104	34	8302	-0.71	-229	1.64
645	SLU 48	-106	0	8459	3.05	-233.31	0.91
645	SLU 49	-106	20	8459	1.32	-233.33	1.35
645	SLU 50	-106	0	8404	2.84	-231.8	0.92
645	SLU 51	-105	21	8404	1.12	-231.82	1.35
645	SLU 52	-106	36	9040	-1.45	-249.5	1.74
645	SLU 53	-108	2	9197	2.31	-253.8	1.02
645	SLU 54	-108	22	9197	0.59	-253.82	1.45
645	SLU 55	-107	36	9143	-0.77	-252.32	1.75
645	SLU 56	-109	2	9299	2.99	-256.63	1.02
645	SLU 57	-108	22	9300	1.26	-256.64	1.46
645	SLU 58	-108	2	9245	2.78	-255.11	1.03
645	SLU 59	-108	23	9245	1.06	-255.13	1.46
645	SLU 60	-107	3	9400	1.4	-259.46	1.06
645	SLU 61	-107	24	9400	-0.33	-259.48	1.5
645	SLU 62	-108	3	9502	2.08	-262.28	1.07
645	SLU 63	-108	23	9503	0.35	-262.3	1.5
645	SLU 64	-111	-2	9245	3.82	-255.11	0.95
645	SLU 65	-110	32	9246	0.94	-255.14	1.68
645	SLU 66	-113	-3	9403	4.7	-259.45	0.96
645	SLU 67	-112	18	9403	2.98	-259.47	1.39
645	SLU 68	-111	32	9348	1.62	-257.97	1.68
645	SLU 69	-113	-3	9505	5.38	-262.27	0.96
645	SLU 70	-113	18	9505	3.66	-262.29	1.4
645	SLU 71	-113	-2	9450	5.18	-260.76	0.96
645	SLU 72	-112	18	9451	3.45	-260.78	1.4
645	SLU 73	-113	34	10086	0.88	-278.46	1.79
645	SLU 74	-115	-1	10243	4.64	-282.77	1.07
645	SLU 75	-115	20	10244	2.92	-282.78	1.5
645	SLU 76	-114	34	10189	1.56	-281.28	1.79
645	SLU 77	-116	-1	10346	5.32	-285.59	1.07
645	SLU 78	-115	20	10346	3.59	-285.61	1.51
645	SLU 79	-115	0	10291	5.11	-284.08	1.07
645	SLU 80	-115	20	10291	3.39	-284.09	1.51
645	SLU 81	-114	1	10446	3.73	-288.42	1.11
645	SLU 82	-114	21	10446	2.01	-288.44	1.55
645	SLU 83	-115	1	10549	4.41	-291.25	1.12
645	SLU 84	-115	21	10549	2.68	-291.26	1.55
645	SLE RA 1	-84	-1	6882	2.43	-189.87	0.72
645	SLE RA 2	-83	22	6882	0.51	-189.9	1.21
645	SLE RA 3	-85	-1	6987	3.02	-192.77	0.73
645	SLE RA 4	-85	12	6987	1.86	-192.78	1.02
645	SLE RA 5	-84	22	6950	0.96	-191.78	1.21
645	SLE RA 6	-85	-2	7055	3.47	-194.65	0.73
645	SLE RA 7	-85	12	7055	2.32	-194.66	1.02
645	SLE RA 8	-85	-1	7018	3.33	-193.64	0.73
645	SLE RA 9	-85	12	7019	2.18	-193.65	1.02
645	SLE RA 10	-85	23	7443	0.47	-205.44	1.28
645	SLE RA 11	-86	0	7547	2.97	-208.31	0.8
645	SLE RA 12	-86	13	7547	1.82	-208.32	1.09
645	SLE RA 13	-86	23	7511	0.92	-207.32	1.28
645	SLE RA 14	-87	0	7615	3.43	-210.19	0.8
645	SLE RA 15	-87	13	7616	2.28	-210.2	1.09
645	SLE RA 16	-86	0	7579	3.29	-209.18	0.8
645	SLE RA 17	-86	14	7579	2.14	-209.2	1.09
645	SLE RA 18	-86	1	7682	2.37	-212.08	0.83
645	SLE RA 19	-86	14	7683	1.22	-212.09	1.12
645	SLE RA 20	-87	1	7751	2.82	-213.96	0.83
645	SLE RA 21	-86	14	7751	1.67	-213.98	1.12
645	SLE FR 1	-84	-1	6882	2.43	-189.87	0.72
645	SLE FR 2	-84	3	6882	2.04	-189.88	0.82
645	SLE FR 3	-84	-1	6909	2.61	-190.63	0.72
645	SLE FR 4	-84	4	7122	2.02	-196.54	0.85
645	SLE FR 5	-85	-1	7149	2.59	-197.29	0.76
645	SLE FR 6	-85	0	7282	2.4	-200.98	0.77
645	SLE QP 1	-84	-1	6882	2.43	-189.87	0.72
645	SLE QP 2	-84	-1	7122	2.41	-196.54	0.75
645	SLD 1	369	249	9104	-23.53	-248.61	7.59
645	SLD 2	366	80	9106	-20.74	-248.58	4.72
645	SLD 3	361	-186	9034	21.16	-246.54	-1.73
645	SLD 4	358	-355	9035	23.95	-246.51	-4.6
645	SLD 5	64	764	7823	-73.64	-215.31	17.44
645	SLD 6	62	654	7824	-71.84	-215.29	15.58
645	SLD 7	37	-687	7589	75.33	-208.4	-13.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
645	SLD 8	35	-796	7590	77.14	-208.38	-15.48
645	SLD 9	-204	795	6654	-72.32	-184.69	16.99
645	SLD 10	-206	686	6655	-70.52	-184.67	15.13
645	SLD 11	-231	-655	6420	76.65	-177.79	-14.07
645	SLD 12	-233	-765	6421	78.46	-177.77	-15.93
645	SLD 13	-526	354	5209	-19.13	-146.56	6.1
645	SLD 14	-529	185	5210	-16.34	-146.53	3.23
645	SLD 15	-535	-81	5138	25.56	-144.49	-3.21
645	SLD 16	-538	-250	5140	28.35	-144.46	-6.08
645	SLV 1	626	418	10219	-40.99	-277.92	12.06
645	SLV 2	621	151	10221	-36.59	-277.87	7.54
645	SLV 3	612	-318	10100	34.52	-274.41	-3.68
645	SLV 4	607	-584	10102	38.91	-274.36	-8.21
645	SLV 5	151	1290	8231	-125.94	-226.28	28.87
645	SLV 6	147	1111	8233	-122.99	-226.25	25.83
645	SLV 7	104	-1161	7834	125.73	-214.59	-23.61
645	SLV 8	101	-1341	7836	128.69	-214.55	-26.66
645	SLV 9	-270	1340	6408	-123.87	-178.52	28.17
645	SLV 10	-273	1160	6410	-120.92	-178.49	25.12
645	SLV 11	-316	-1112	6011	127.8	-166.82	-24.32
645	SLV 12	-319	-1291	6013	130.76	-166.79	-27.36
645	SLV 13	-776	583	4142	-34.09	-118.71	9.71
645	SLV 14	-781	317	4144	-29.7	-118.66	5.19
645	SLV 15	-790	-152	4023	41.41	-115.2	-6.03
645	SLV 16	-795	-419	4025	45.8	-115.15	-10.55
645	SLV FO 1	697	459	10529	-45.33	-286.06	13.19
645	SLV FO 2	691	166	10531	-40.49	-286.01	8.22
645	SLV FO 3	681	-349	10398	37.73	-282.2	-4.13
645	SLV FO 4	676	-643	10400	42.56	-282.15	-9.1
645	SLV FO 5	174	1419	8342	-138.78	-229.26	31.68
645	SLV FO 6	171	1222	8344	-135.52	-229.22	28.33
645	SLV FO 7	123	-1277	7906	138.07	-216.39	-26.05
645	SLV FO 8	120	-1475	7907	141.32	-216.35	-29.4
645	SLV FO 9	-288	1474	6337	-136.5	-176.72	30.91
645	SLV FO 10	-292	1276	6338	-133.25	-176.68	27.56
645	SLV FO 11	-339	-1223	5900	140.34	-163.85	-26.83
645	SLV FO 12	-343	-1420	5902	143.59	-163.82	-30.17
645	SLV FO 13	-845	642	3844	-37.74	-110.93	10.61
645	SLV FO 14	-850	348	3846	-32.91	-110.88	5.64
645	SLV FO 15	-860	-167	3713	45.31	-107.07	-6.71
645	SLV FO 16	-866	-460	3715	50.14	-107.02	-11.68
645	CRTFP Ux+	0	0	0	0	0	0
645	CRTFP Ux-	0	0	0	0	0	0
645	CRTFP Uy+	0	0	0	0	0	0
645	CRTFP Uy-	0	0	0	0	0	0
646	SLU 1	-95	3	7599	0.64	2.13	0.62
646	SLU 2	-95	41	7601	-2.61	2.11	0.33
646	SLU 3	-97	3	7781	1.62	2.19	0.64
646	SLU 4	-97	26	7782	-0.33	2.18	0.47
646	SLU 5	-96	41	7719	-1.85	2.15	0.34
646	SLU 6	-98	2	7899	2.37	2.23	0.65
646	SLU 7	-98	25	7900	0.42	2.22	0.47
646	SLU 8	-97	3	7836	2.15	2.21	0.63
646	SLU 9	-97	26	7837	0.2	2.2	0.46
646	SLU 10	-97	44	8577	-2.87	2.17	0.36
646	SLU 11	-100	5	8757	1.35	2.25	0.67
646	SLU 12	-99	28	8758	-0.59	2.24	0.5
646	SLU 13	-98	44	8695	-2.12	2.21	0.37
646	SLU 14	-101	5	8876	2.11	2.29	0.68
646	SLU 15	-100	28	8876	0.16	2.28	0.51
646	SLU 16	-100	5	8812	1.88	2.27	0.66
646	SLU 17	-100	28	8813	-0.06	2.26	0.49
646	SLU 18	-99	7	8994	0.26	2.22	0.66
646	SLU 19	-99	30	8995	-1.69	2.21	0.49
646	SLU 20	-100	7	9113	1.02	2.26	0.67
646	SLU 21	-100	30	9113	-0.93	2.25	0.5
646	SLU 22	-103	1	8812	3.08	2.31	0.72
646	SLU 23	-103	39	8813	-0.16	2.28	0.44
646	SLU 24	-105	0	8994	4.06	2.37	0.74
646	SLU 25	-105	23	8994	2.11	2.35	0.57
646	SLU 26	-104	39	8932	0.59	2.32	0.45
646	SLU 27	-106	0	9112	4.81	2.41	0.75
646	SLU 28	-106	23	9112	2.87	2.39	0.58
646	SLU 29	-105	1	9048	4.59	2.39	0.74
646	SLU 30	-105	24	9049	2.64	2.37	0.57
646	SLU 31	-105	42	9790	-0.43	2.34	0.47
646	SLU 32	-108	3	9970	3.8	2.43	0.78
646	SLU 33	-108	26	9971	1.85	2.41	0.61
646	SLU 34	-106	42	9908	0.33	2.38	0.48
646	SLU 35	-109	3	10088	4.55	2.47	0.78
646	SLU 36	-109	26	10089	2.6	2.45	0.61
646	SLU 37	-108	3	10025	4.32	2.45	0.77
646	SLU 38	-108	26	10026	2.38	2.43	0.6
646	SLU 39	-107	4	10207	2.7	2.39	0.77
646	SLU 40	-107	27	10208	0.76	2.38	0.6
646	SLU 41	-108	4	10325	3.46	2.43	0.78
646	SLU 42	-108	27	10326	1.51	2.42	0.61
646	SLU 43	-121	5	9464	-0.01	2.72	0.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
646	SLU 44	-120	43	9465	-3.25	2.69	0.48
646	SLU 45	-123	4	9645	0.97	2.78	0.79
646	SLU 46	-123	27	9646	-0.98	2.76	0.62
646	SLU 47	-121	43	9583	-2.5	2.73	0.49
646	SLU 48	-124	4	9763	1.73	2.82	0.79
646	SLU 49	-124	27	9764	-0.22	2.8	0.62
646	SLU 50	-123	5	9700	1.5	2.8	0.78
646	SLU 51	-123	28	9701	-0.45	2.78	0.61
646	SLU 52	-123	46	10441	-3.52	2.75	0.51
646	SLU 53	-126	7	10621	0.71	2.84	0.82
646	SLU 54	-125	30	10622	-1.24	2.82	0.65
646	SLU 55	-124	46	10560	-2.76	2.79	0.52
646	SLU 56	-127	7	10740	1.46	2.88	0.83
646	SLU 57	-126	30	10740	-0.49	2.86	0.65
646	SLU 58	-126	7	10676	1.24	2.86	0.81
646	SLU 59	-125	30	10677	-0.71	2.84	0.64
646	SLU 60	-125	8	10859	-0.38	2.8	0.81
646	SLU 61	-125	31	10859	-2.33	2.79	0.64
646	SLU 62	-126	8	10977	0.37	2.84	0.82
646	SLU 63	-126	31	10977	-1.58	2.83	0.65
646	SLU 64	-129	3	10676	2.44	2.89	0.87
646	SLU 65	-128	41	10678	-0.81	2.86	0.59
646	SLU 66	-131	2	10858	3.41	2.95	0.89
646	SLU 67	-131	25	10858	1.47	2.93	0.72
646	SLU 68	-129	41	10796	-0.06	2.9	0.6
646	SLU 69	-132	2	10976	4.17	2.99	0.9
646	SLU 70	-132	25	10977	2.22	2.97	0.73
646	SLU 71	-131	2	10912	3.94	2.97	0.89
646	SLU 72	-131	25	10913	2	2.95	0.72
646	SLU 73	-131	43	11654	-1.07	2.93	0.62
646	SLU 74	-134	4	11834	3.15	3.01	0.93
646	SLU 75	-133	27	11835	1.2	2.99	0.75
646	SLU 76	-132	43	11772	-0.32	2.96	0.63
646	SLU 77	-135	4	11952	3.9	3.05	0.93
646	SLU 78	-134	27	11953	1.96	3.03	0.76
646	SLU 79	-134	5	11889	3.68	3.03	0.92
646	SLU 80	-133	28	11890	1.73	3.01	0.75
646	SLU 81	-133	6	12071	2.06	2.97	0.92
646	SLU 82	-133	29	12072	0.11	2.96	0.75
646	SLU 83	-134	6	12189	2.81	3.01	0.93
646	SLU 84	-134	29	12190	0.86	3	0.76
646	SLE RA 1	-98	2	7946	1.34	2.18	0.65
646	SLE RA 2	-97	28	7947	-0.83	2.17	0.46
646	SLE RA 3	-99	2	8067	1.99	2.22	0.66
646	SLE RA 4	-99	17	8067	0.69	2.21	0.55
646	SLE RA 5	-98	28	8026	-0.32	2.19	0.46
646	SLE RA 6	-99	2	8146	2.49	2.25	0.67
646	SLE RA 7	-99	17	8146	1.19	2.24	0.55
646	SLE RA 8	-99	2	8103	2.34	2.24	0.66
646	SLE RA 9	-99	18	8104	1.04	2.23	0.54
646	SLE RA 10	-99	30	8598	-1	2.21	0.48
646	SLE RA 11	-101	4	8718	1.81	2.26	0.68
646	SLE RA 12	-100	19	8718	0.51	2.25	0.57
646	SLE RA 13	-100	30	8677	-0.5	2.24	0.48
646	SLE RA 14	-101	4	8797	2.32	2.29	0.69
646	SLE RA 15	-101	19	8797	1.02	2.28	0.57
646	SLE RA 16	-101	4	8754	2.17	2.28	0.68
646	SLE RA 17	-100	19	8755	0.87	2.27	0.57
646	SLE RA 18	-100	5	8876	1.09	2.24	0.68
646	SLE RA 19	-100	20	8876	-0.21	2.23	0.56
646	SLE RA 20	-101	5	8955	1.59	2.27	0.68
646	SLE RA 21	-101	20	8955	0.29	2.26	0.57
646	SLE FR 1	-98	2	7946	1.34	2.18	0.65
646	SLE FR 2	-97	8	7946	0.9	2.18	0.61
646	SLE FR 3	-98	2	7977	1.54	2.19	0.65
646	SLE FR 4	-98	8	8225	0.83	2.2	0.62
646	SLE FR 5	-99	3	8256	1.46	2.21	0.66
646	SLE FR 6	-99	4	8411	1.21	2.21	0.66
646	SLE QP 1	-98	2	7946	1.34	2.18	0.65
646	SLE QP 2	-98	3	8225	1.26	2.2	0.66
646	SLD 1	431	284	10395	-28.14	6.89	-1.41
646	SLD 2	427	98	10393	-25.05	6.99	0.88
646	SLD 3	422	-206	10308	22.43	7.1	2.21
646	SLD 4	418	-392	10306	25.52	7.2	4.5
646	SLD 5	75	862	9008	-84.8	3.27	-5.86
646	SLD 6	73	742	9007	-82.8	3.34	-4.38
646	SLD 7	44	-770	8718	83.78	3.97	6.23
646	SLD 8	42	-890	8717	85.78	4.04	7.71
646	SLD 9	-238	897	7733	-83.26	0.36	-6.4
646	SLD 10	-241	776	7732	-81.26	0.43	-4.91
646	SLD 11	-270	-736	7443	85.32	1.06	5.69
646	SLD 12	-272	-856	7442	87.32	1.13	7.18
646	SLD 13	-615	398	6144	-23	-2.8	-3.19
646	SLD 14	-618	212	6142	-19.91	-2.7	-0.9
646	SLD 15	-624	-91	6056	27.57	-2.59	0.44
646	SLD 16	-628	-278	6055	30.67	-2.49	2.73
646	SLV 1	731	474	11616	-47.92	9.5	-2.82
646	SLV 2	726	181	11614	-43.05	9.66	0.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
646	SLV 3	715	-354	11468	37.52	9.85	3.31
646	SLV 4	710	-647	11466	42.39	10.01	6.92
646	SLV 5	176	1454	9466	-143.99	3.82	-10.36
646	SLV 6	172	1257	9465	-140.71	3.93	-7.93
646	SLV 7	122	-1304	8975	140.82	5	10.08
646	SLV 8	119	-1502	8973	144.1	5.11	12.51
646	SLV 9	-315	1508	7477	-141.57	-0.71	-11.19
646	SLV 10	-319	1311	7475	-138.29	-0.6	-8.76
646	SLV 11	-369	-1251	6985	143.23	0.47	9.24
646	SLV 12	-373	-1448	6983	146.51	0.58	11.67
646	SLV 13	-906	653	4984	-39.87	-5.61	-5.6
646	SLV 14	-912	360	4981	-35	-5.45	-1.99
646	SLV 15	-922	-174	4836	45.57	-5.26	0.53
646	SLV 16	-928	-467	4834	50.45	-5.1	4.14
646	SLV FO 1	814	521	11955	-52.84	10.23	-3.17
646	SLV FO 2	808	199	11953	-47.48	10.4	0.8
646	SLV FO 3	796	-389	11793	41.14	10.62	3.57
646	SLV FO 4	790	-712	11790	46.5	10.79	7.54
646	SLV FO 5	203	1599	9591	-158.52	3.98	-11.46
646	SLV FO 6	199	1382	9589	-154.91	4.1	-8.79
646	SLV FO 7	144	-1435	9050	154.77	5.28	11.02
646	SLV FO 8	140	-1652	9048	158.38	5.4	13.69
646	SLV FO 9	-337	1658	7402	-155.86	-1	-12.38
646	SLV FO 10	-341	1441	7400	-152.25	-0.88	-9.7
646	SLV FO 11	-396	-1376	6861	157.43	0.3	10.1
646	SLV FO 12	-400	-1593	6859	161.04	0.42	12.77
646	SLV FO 13	-987	718	4659	-43.98	-6.39	-6.23
646	SLV FO 14	-993	396	4657	-38.62	-6.22	-2.26
646	SLV FO 15	-1005	-192	4497	50.01	-6	0.52
646	SLV FO 16	-1011	-514	4495	55.36	-5.83	4.49
646	CRTFP Ux+	0	0	0	0	0	0
646	CRTFP Ux-	0	0	0	0	0	0
646	CRTFP Uy+	0	0	0	0	0	0
646	CRTFP Uy-	0	0	0	0	0	0
647	SLU 1	-95	6	7543	-0.9	1.6	0.38
647	SLU 2	-94	43	7545	-4.05	1.58	0.1
647	SLU 3	-97	5	7722	0.03	1.65	0.39
647	SLU 4	-96	27	7724	-1.86	1.64	0.23
647	SLU 5	-95	42	7662	-3.33	1.61	0.11
647	SLU 6	-98	5	7840	0.74	1.68	0.4
647	SLU 7	-97	27	7841	-1.14	1.67	0.23
647	SLU 8	-97	5	7777	0.54	1.66	0.39
647	SLU 9	-96	28	7778	-1.35	1.65	0.22
647	SLU 10	-97	45	8520	-4.52	1.58	0.1
647	SLU 11	-100	8	8698	-0.45	1.64	0.4
647	SLU 12	-99	30	8699	-2.34	1.63	0.23
647	SLU 13	-98	45	8638	-3.81	1.61	0.11
647	SLU 14	-101	8	8815	0.27	1.67	0.4
647	SLU 15	-100	30	8817	-1.62	1.66	0.23
647	SLU 16	-100	8	8753	0.06	1.66	0.39
647	SLU 17	-99	30	8754	-1.83	1.65	0.22
647	SLU 18	-99	9	8937	-1.58	1.6	0.38
647	SLU 19	-98	31	8938	-3.47	1.58	0.22
647	SLU 20	-100	9	9054	-0.86	1.63	0.38
647	SLU 21	-99	31	9055	-2.75	1.61	0.22
647	SLU 22	-103	4	8751	1.26	1.69	0.45
647	SLU 23	-102	41	8753	-1.89	1.67	0.18
647	SLU 24	-105	3	8931	2.18	1.74	0.47
647	SLU 25	-105	25	8932	0.3	1.73	0.3
647	SLU 26	-103	41	8871	-1.17	1.7	0.18
647	SLU 27	-106	3	9048	2.9	1.77	0.47
647	SLU 28	-105	25	9050	1.01	1.76	0.31
647	SLU 29	-105	4	8986	2.69	1.75	0.46
647	SLU 30	-105	26	8987	0.81	1.74	0.3
647	SLU 31	-105	43	9729	-2.37	1.67	0.18
647	SLU 32	-108	6	9907	1.71	1.73	0.47
647	SLU 33	-107	28	9908	-0.18	1.72	0.3
647	SLU 34	-106	43	9846	-1.65	1.7	0.18
647	SLU 35	-109	6	10024	2.43	1.76	0.47
647	SLU 36	-108	28	10025	0.54	1.75	0.31
647	SLU 37	-108	6	9961	2.22	1.75	0.46
647	SLU 38	-107	28	9963	0.33	1.74	0.3
647	SLU 39	-107	8	10145	0.58	1.68	0.45
647	SLU 40	-107	30	10147	-1.31	1.67	0.29
647	SLU 41	-108	7	10262	1.29	1.72	0.46
647	SLU 42	-108	30	10264	-0.59	1.7	0.29
647	SLU 43	-121	8	9391	-1.91	2.05	0.47
647	SLU 44	-120	45	9393	-5.06	2.03	0.19
647	SLU 45	-122	8	9571	-0.98	2.1	0.48
647	SLU 46	-122	30	9572	-2.87	2.09	0.32
647	SLU 47	-121	45	9510	-4.34	2.06	0.2
647	SLU 48	-123	7	9688	-0.27	2.13	0.49
647	SLU 49	-123	30	9689	-2.15	2.12	0.32
647	SLU 50	-123	8	9625	-0.47	2.11	0.48
647	SLU 51	-122	30	9626	-2.36	2.1	0.31
647	SLU 52	-123	47	10369	-5.53	2.03	0.19
647	SLU 53	-125	10	10547	-1.46	2.09	0.48
647	SLU 54	-125	32	10548	-3.35	2.08	0.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
647	SLU 55	-124	47	10486	-4.82	2.06	0.2
647	SLU 56	-126	10	10664	-0.74	2.12	0.49
647	SLU 57	-126	32	10665	-2.63	2.11	0.32
647	SLU 58	-125	10	10601	-0.95	2.11	0.48
647	SLU 59	-125	32	10602	-2.84	2.1	0.31
647	SLU 60	-125	12	10785	-2.59	2.05	0.47
647	SLU 61	-124	34	10786	-4.48	2.03	0.3
647	SLU 62	-125	12	10902	-1.87	2.08	0.47
647	SLU 63	-125	34	10903	-3.76	2.06	0.31
647	SLU 64	-129	6	10600	0.25	2.14	0.54
647	SLU 65	-128	43	10602	-2.9	2.12	0.27
647	SLU 66	-131	6	10780	1.17	2.19	0.56
647	SLU 67	-130	28	10781	-0.71	2.18	0.39
647	SLU 68	-129	43	10719	-2.18	2.15	0.27
647	SLU 69	-132	6	10897	1.89	2.22	0.56
647	SLU 70	-131	28	10898	0	2.21	0.4
647	SLU 71	-131	6	10834	1.68	2.2	0.55
647	SLU 72	-130	28	10835	-0.2	2.19	0.38
647	SLU 73	-131	46	11578	-3.38	2.12	0.27
647	SLU 74	-133	8	11755	0.7	2.18	0.56
647	SLU 75	-133	30	11757	-1.19	2.17	0.39
647	SLU 76	-132	45	11695	-2.66	2.15	0.27
647	SLU 77	-134	8	11872	1.42	2.21	0.56
647	SLU 78	-134	30	11874	-0.47	2.2	0.4
647	SLU 79	-133	9	11810	1.21	2.2	0.55
647	SLU 80	-133	31	11811	-0.68	2.19	0.38
647	SLU 81	-133	10	11994	-0.43	2.14	0.54
647	SLU 82	-132	32	11995	-2.32	2.12	0.38
647	SLU 83	-134	10	12111	0.28	2.17	0.55
647	SLU 84	-133	32	12112	-1.6	2.15	0.38
647	SLE RA 1	-97	5	7888	-0.28	1.63	0.4
647	SLE RA 2	-97	30	7889	-2.38	1.61	0.22
647	SLE RA 3	-98	5	8008	0.33	1.66	0.41
647	SLE RA 4	-98	20	8009	-0.92	1.65	0.3
647	SLE RA 5	-97	30	7967	-1.9	1.63	0.22
647	SLE RA 6	-99	5	8086	0.81	1.68	0.41
647	SLE RA 7	-99	19	8087	-0.45	1.67	0.3
647	SLE RA 8	-99	5	8044	0.67	1.67	0.41
647	SLE RA 9	-98	20	8045	-0.58	1.66	0.3
647	SLE RA 10	-99	31	8540	-2.7	1.61	0.22
647	SLE RA 11	-100	7	8658	0.02	1.66	0.41
647	SLE RA 12	-100	21	8659	-1.24	1.65	0.3
647	SLE RA 13	-99	31	8618	-2.22	1.63	0.22
647	SLE RA 14	-101	6	8736	0.49	1.68	0.41
647	SLE RA 15	-101	21	8737	-0.76	1.67	0.3
647	SLE RA 16	-100	7	8695	0.36	1.67	0.41
647	SLE RA 17	-100	21	8695	-0.9	1.66	0.3
647	SLE RA 18	-100	8	8817	-0.74	1.62	0.4
647	SLE RA 19	-100	22	8818	-2	1.61	0.29
647	SLE RA 20	-100	8	8895	-0.26	1.64	0.4
647	SLE RA 21	-100	22	8896	-1.52	1.64	0.29
647	SLE FR 1	-97	5	7888	-0.28	1.63	0.4
647	SLE FR 2	-97	10	7888	-0.7	1.63	0.36
647	SLE FR 3	-97	5	7919	-0.09	1.64	0.4
647	SLE FR 4	-98	11	8167	-0.84	1.62	0.36
647	SLE FR 5	-98	6	8198	-0.23	1.63	0.4
647	SLE FR 6	-99	6	8353	-0.51	1.63	0.4
647	SLE QP 1	-97	5	7888	-0.28	1.63	0.4
647	SLE QP 2	-98	6	8167	-0.42	1.63	0.4
647	SLD 1	432	275	10195	-29.25	6.07	-1.71
647	SLD 2	429	101	10190	-26.31	6.16	0.53
647	SLD 3	423	-195	10102	19.99	6.27	1.83
647	SLD 4	419	-369	10098	22.93	6.36	4.07
647	SLD 5	76	830	8917	-84.26	2.63	-6
647	SLD 6	73	718	8914	-82.36	2.69	-4.55
647	SLD 7	45	-738	8607	79.88	3.32	5.82
647	SLD 8	43	-850	8605	81.78	3.37	7.27
647	SLD 9	-239	862	7729	-82.62	-0.12	-6.47
647	SLD 10	-241	749	7726	-80.72	-0.06	-5.02
647	SLD 11	-269	-706	7420	81.52	0.56	5.36
647	SLD 12	-272	-819	7417	83.42	0.62	6.8
647	SLD 13	-615	381	6236	-23.78	-3.11	-3.27
647	SLD 14	-619	207	6232	-20.83	-3.02	-1.03
647	SLD 15	-625	-89	6143	25.47	-2.9	0.28
647	SLD 16	-628	-264	6139	28.41	-2.81	2.52
647	SLV 1	733	457	11337	-48.62	8.54	-3.14
647	SLV 2	727	183	11330	-43.99	8.68	0.39
647	SLV 3	717	-338	11180	34.57	8.88	2.86
647	SLV 4	712	-612	11173	39.21	9.03	6.39
647	SLV 5	176	1398	9358	-141.92	3.15	-10.42
647	SLV 6	173	1214	9353	-138.81	3.24	-8.04
647	SLV 7	123	-1252	8834	135.39	4.3	9.58
647	SLV 8	120	-1436	8829	138.51	4.4	11.95
647	SLV 9	-316	1448	7505	-139.35	-1.15	-11.15
647	SLV 10	-319	1263	7500	-136.23	-1.05	-8.77
647	SLV 11	-369	-1202	6981	137.96	0.01	8.84
647	SLV 12	-372	-1386	6976	141.08	0.11	11.22
647	SLV 13	-908	623	5161	-40.05	-5.77	-5.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
647	SLV 14	-913	349	5154	-35.42	-5.63	-2.06
647	SLV 15	-923	-172	5004	43.15	-5.43	0.41
647	SLV 16	-929	-446	4997	47.78	-5.28	3.94
647	SLV FO 1	816	503	11654	-53.44	9.23	-3.49
647	SLV FO 2	810	201	11646	-48.35	9.39	0.39
647	SLV FO 3	798	-372	11481	38.07	9.61	3.1
647	SLV FO 4	792	-673	11474	43.17	9.77	6.98
647	SLV FO 5	204	1537	9477	-156.07	3.3	-11.5
647	SLV FO 6	200	1334	9471	-152.64	3.41	-8.89
647	SLV FO 7	146	-1377	8900	148.97	4.57	10.49
647	SLV FO 8	142	-1580	8895	152.4	4.68	13.11
647	SLV FO 9	-338	1592	7438	-153.24	-1.42	-12.3
647	SLV FO 10	-342	1389	7433	-149.81	-1.32	-9.69
647	SLV FO 11	-396	-1323	6862	151.8	-0.15	9.69
647	SLV FO 12	-400	-1526	6857	155.23	-0.05	12.3
647	SLV FO 13	-988	685	4860	-44.01	-6.51	-6.18
647	SLV FO 14	-994	384	4852	-38.91	-6.36	-2.3
647	SLV FO 15	-1006	-189	4687	47.51	-6.13	0.42
647	SLV FO 16	-1012	-491	4680	52.6	-5.98	4.3
647	CRTFP Ux+	0	0	0	0	0	0
647	CRTFP Ux-	0	0	0	0	0	0
647	CRTFP Uy+	0	0	0	0	0	0
647	CRTFP Uy-	0	0	0	0	0	0
648	SLU 1	-94	7	7494	-2.44	1.55	0.19
648	SLU 2	-94	43	7497	-5.49	1.53	-0.06
648	SLU 3	-96	7	7673	-1.56	1.59	0.2
648	SLU 4	-96	28	7674	-3.39	1.58	0.05
648	SLU 5	-95	42	7613	-4.81	1.56	-0.06
648	SLU 6	-97	7	7789	-0.88	1.62	0.2
648	SLU 7	-97	28	7790	-2.71	1.61	0.05
648	SLU 8	-96	7	7727	-1.07	1.61	0.19
648	SLU 9	-96	28	7728	-2.9	1.59	0.04
648	SLU 10	-97	45	8473	-6.18	1.53	-0.09
648	SLU 11	-99	9	8649	-2.25	1.59	0.17
648	SLU 12	-99	30	8650	-4.08	1.58	0.02
648	SLU 13	-98	45	8589	-5.5	1.56	-0.09
648	SLU 14	-100	9	8765	-1.57	1.62	0.17
648	SLU 15	-100	30	8766	-3.4	1.61	0.02
648	SLU 16	-99	9	8703	-1.76	1.61	0.16
648	SLU 17	-99	31	8704	-3.59	1.59	0.01
648	SLU 18	-98	11	8889	-3.43	1.55	0.15
648	SLU 19	-98	32	8890	-5.26	1.53	0
648	SLU 20	-99	11	9005	-2.74	1.58	0.15
648	SLU 21	-99	32	9006	-4.57	1.56	0
648	SLU 22	-103	6	8700	-0.56	1.64	0.23
648	SLU 23	-102	41	8703	-3.61	1.62	-0.02
648	SLU 24	-104	5	8879	0.31	1.68	0.24
648	SLU 25	-104	26	8880	-1.52	1.67	0.09
648	SLU 26	-103	41	8819	-2.93	1.65	-0.02
648	SLU 27	-105	5	8995	1	1.71	0.24
648	SLU 28	-105	26	8997	-0.83	1.7	0.09
648	SLU 29	-104	5	8933	0.81	1.7	0.23
648	SLU 30	-104	27	8934	-1.02	1.69	0.08
648	SLU 31	-105	43	9679	-4.3	1.62	-0.04
648	SLU 32	-107	8	9855	-0.38	1.68	0.22
648	SLU 33	-107	29	9856	-2.21	1.67	0.07
648	SLU 34	-106	43	9795	-3.62	1.65	-0.04
648	SLU 35	-108	8	9971	0.31	1.71	0.22
648	SLU 36	-108	29	9973	-1.52	1.7	0.07
648	SLU 37	-107	8	9909	0.12	1.7	0.21
648	SLU 38	-107	29	9910	-1.71	1.69	0.06
648	SLU 39	-107	9	10095	-1.55	1.64	0.2
648	SLU 40	-106	30	10096	-3.38	1.63	0.05
648	SLU 41	-108	9	10211	-0.86	1.67	0.2
648	SLU 42	-107	30	10212	-2.69	1.66	0.05
648	SLU 43	-120	10	9329	-3.81	1.98	0.23
648	SLU 44	-119	45	9332	-6.87	1.96	-0.02
648	SLU 45	-122	9	9508	-2.94	2.02	0.24
648	SLU 46	-121	31	9509	-4.77	2.01	0.09
648	SLU 47	-120	45	9448	-6.18	1.99	-0.02
648	SLU 48	-123	9	9624	-2.25	2.05	0.24
648	SLU 49	-122	30	9625	-4.08	2.04	0.09
648	SLU 50	-122	10	9561	-2.44	2.04	0.23
648	SLU 51	-121	31	9563	-4.28	2.03	0.08
648	SLU 52	-122	48	10308	-7.56	1.96	-0.05
648	SLU 53	-125	12	10483	-3.63	2.02	0.21
648	SLU 54	-124	33	10485	-5.46	2.01	0.06
648	SLU 55	-123	48	10424	-6.87	1.99	-0.05
648	SLU 56	-126	12	10600	-2.94	2.05	0.21
648	SLU 57	-125	33	10601	-4.77	2.04	0.06
648	SLU 58	-125	12	10537	-3.14	2.04	0.2
648	SLU 59	-124	33	10539	-4.97	2.03	0.05
648	SLU 60	-124	13	10723	-4.8	1.98	0.19
648	SLU 61	-124	35	10725	-6.63	1.97	0.04
648	SLU 62	-125	13	10839	-4.12	2.01	0.19
648	SLU 63	-125	34	10841	-5.95	2	0.04
648	SLU 64	-128	8	10535	-1.94	2.07	0.27
648	SLU 65	-127	44	10538	-4.99	2.05	0.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
648	SLU 66	-130	8	10714	-1.06	2.12	0.28
648	SLU 67	-130	29	10715	-2.89	2.1	0.13
648	SLU 68	-128	44	10654	-4.3	2.08	0.02
648	SLU 69	-131	8	10830	-0.38	2.15	0.28
648	SLU 70	-131	29	10831	-2.21	2.13	0.13
648	SLU 71	-130	8	10767	-0.57	2.13	0.27
648	SLU 72	-130	29	10769	-2.4	2.12	0.12
648	SLU 73	-130	46	11514	-5.68	2.05	0
648	SLU 74	-133	10	11690	-1.75	2.12	0.26
648	SLU 75	-132	32	11691	-3.58	2.1	0.11
648	SLU 76	-131	46	11630	-4.99	2.08	0
648	SLU 77	-134	10	11806	-1.07	2.15	0.26
648	SLU 78	-133	31	11807	-2.9	2.13	0.11
648	SLU 79	-133	11	11743	-1.26	2.13	0.25
648	SLU 80	-132	32	11745	-3.09	2.12	0.1
648	SLU 81	-132	12	11929	-2.92	2.07	0.24
648	SLU 82	-132	33	11931	-4.75	2.06	0.09
648	SLU 83	-133	12	12046	-2.24	2.1	0.24
648	SLU 84	-133	33	12047	-4.07	2.09	0.09
648	SLE RA 1	-97	7	7839	-1.9	1.57	0.2
648	SLE RA 2	-96	30	7841	-3.94	1.56	0.03
648	SLE RA 3	-98	6	7958	-1.32	1.6	0.21
648	SLE RA 4	-98	21	7959	-2.54	1.59	0.11
648	SLE RA 5	-97	30	7918	-3.48	1.58	0.03
648	SLE RA 6	-99	6	8035	-0.86	1.62	0.21
648	SLE RA 7	-98	20	8036	-2.08	1.61	0.11
648	SLE RA 8	-98	7	7994	-0.99	1.61	0.2
648	SLE RA 9	-98	21	7995	-2.21	1.6	0.1
648	SLE RA 10	-98	32	8491	-4.4	1.56	0.02
648	SLE RA 11	-100	8	8609	-1.78	1.6	0.19
648	SLE RA 12	-100	22	8610	-3	1.59	0.09
648	SLE RA 13	-99	32	8569	-3.94	1.58	0.02
648	SLE RA 14	-100	8	8686	-1.32	1.62	0.19
648	SLE RA 15	-100	22	8687	-2.54	1.61	0.09
648	SLE RA 16	-100	8	8644	-1.45	1.61	0.18
648	SLE RA 17	-100	22	8645	-2.67	1.6	0.08
648	SLE RA 18	-99	9	8768	-2.56	1.57	0.18
648	SLE RA 19	-99	23	8769	-3.78	1.56	0.08
648	SLE RA 20	-100	9	8846	-2.1	1.59	0.18
648	SLE RA 21	-100	23	8847	-3.32	1.58	0.08
648	SLE FR 1	-97	7	7839	-1.9	1.57	0.2
648	SLE FR 2	-97	11	7839	-2.31	1.57	0.17
648	SLE FR 3	-97	7	7870	-1.72	1.58	0.2
648	SLE FR 4	-97	12	8118	-2.51	1.57	0.16
648	SLE FR 5	-98	7	8149	-1.92	1.58	0.19
648	SLE FR 6	-98	8	8304	-2.23	1.57	0.19
648	SLE QP 1	-97	7	7839	-1.9	1.57	0.2
648	SLE QP 2	-98	7	8118	-2.1	1.57	0.19
648	SLD 1	433	266	10009	-30.52	5.91	-1.82
648	SLD 2	430	103	10002	-27.72	5.99	0.3
648	SLD 3	424	-187	9911	17.46	6.11	1.43
648	SLD 4	421	-349	9904	20.26	6.19	3.55
648	SLD 5	76	799	8836	-83.88	2.56	-5.71
648	SLD 6	74	694	8831	-82.07	2.61	-4.34
648	SLD 7	46	-709	8508	76.05	3.22	5.13
648	SLD 8	44	-814	8503	77.86	3.27	6.5
648	SLD 9	-239	828	7733	-82.06	-0.13	-6.12
648	SLD 10	-241	723	7728	-80.25	-0.08	-4.74
648	SLD 11	-269	-679	7404	77.87	0.54	4.73
648	SLD 12	-271	-784	7400	79.68	0.59	6.1
648	SLD 13	-616	364	6332	-24.46	-3.04	-3.16
648	SLD 14	-619	201	6325	-21.66	-2.96	-1.04
648	SLD 15	-625	-88	6233	23.52	-2.84	0.09
648	SLD 16	-628	-251	6226	26.32	-2.76	2.21
648	SLV 1	734	440	11076	-49.57	8.32	-3.18
648	SLV 2	729	184	11064	-45.18	8.45	0.16
648	SLV 3	719	-324	10909	31.49	8.66	2.32
648	SLV 4	714	-580	10898	35.89	8.79	5.66
648	SLV 5	177	1344	9260	-140.11	3.06	-9.78
648	SLV 6	173	1172	9253	-137.15	3.15	-7.53
648	SLV 7	125	-1203	8704	130.1	4.18	8.55
648	SLV 8	121	-1376	8697	133.07	4.27	10.8
648	SLV 9	-316	1390	7539	-137.26	-1.13	-10.41
648	SLV 10	-320	1218	7531	-134.3	-1.04	-8.16
648	SLV 11	-368	-1157	6983	132.95	0	7.92
648	SLV 12	-372	-1329	6975	135.91	0.08	10.17
648	SLV 13	-909	594	5338	-40.09	-5.64	-5.28
648	SLV 14	-914	339	5327	-35.69	-5.51	-1.94
648	SLV 15	-924	-170	5171	40.98	-5.31	0.22
648	SLV 16	-929	-426	5160	45.37	-5.18	3.56
648	SLV FO 1	818	484	11371	-54.32	9	-3.51
648	SLV FO 2	812	202	11359	-49.48	9.14	0.16
648	SLV FO 3	800	-357	11188	34.85	9.37	2.54
648	SLV FO 4	795	-638	11175	39.69	9.51	6.21
648	SLV FO 5	204	1478	9374	-153.91	3.21	-10.78
648	SLV FO 6	200	1288	9366	-150.66	3.31	-8.31
648	SLV FO 7	147	-1324	8763	143.33	4.45	9.39
648	SLV FO 8	143	-1514	8754	146.58	4.54	11.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
648	SLV FO 9	-338	1529	7481	-150.78	-1.4	-11.47
648	SLV FO 10	-342	1339	7473	-147.53	-1.3	-9
648	SLV FO 11	-395	-1273	6869	146.46	-0.16	8.69
648	SLV FO 12	-399	-1463	6861	149.71	-0.07	11.17
648	SLV FO 13	-990	653	5060	-43.89	-6.36	-5.83
648	SLV FO 14	-995	372	5048	-39.05	-6.22	-2.15
648	SLV FO 15	-1007	-187	4877	45.28	-5.99	0.22
648	SLV FO 16	-1013	-469	4864	50.12	-5.85	3.9
648	CRTFP Ux+	0	0	0	0	0	0
648	CRTFP Ux-	0	0	0	0	0	0
648	CRTFP Uy+	0	0	0	0	0	0
648	CRTFP Uy-	0	0	0	0	0	0
649	SLU 1	-94	8	7444	-3.98	1.74	0.04
649	SLU 2	-93	42	7447	-6.94	1.72	-0.18
649	SLU 3	-96	7	7621	-3.15	1.79	0.04
649	SLU 4	-95	28	7623	-4.93	1.77	-0.09
649	SLU 5	-94	42	7562	-6.29	1.75	-0.18
649	SLU 6	-97	7	7736	-2.5	1.82	0.04
649	SLU 7	-96	28	7738	-4.28	1.81	-0.09
649	SLU 8	-96	7	7674	-2.68	1.8	0.03
649	SLU 9	-95	28	7676	-4.45	1.79	-0.09
649	SLU 10	-96	44	8422	-7.84	1.76	-0.22
649	SLU 11	-98	10	8596	-4.06	1.83	0
649	SLU 12	-98	30	8598	-5.83	1.82	-0.13
649	SLU 13	-97	44	8537	-7.19	1.79	-0.22
649	SLU 14	-99	9	8711	-3.4	1.86	0
649	SLU 15	-99	30	8713	-5.18	1.85	-0.13
649	SLU 16	-99	10	8649	-3.58	1.85	-0.01
649	SLU 17	-98	30	8651	-5.36	1.83	-0.14
649	SLU 18	-98	11	8837	-5.27	1.8	-0.02
649	SLU 19	-97	31	8839	-7.05	1.79	-0.15
649	SLU 20	-99	11	8952	-4.62	1.83	-0.02
649	SLU 21	-98	31	8954	-6.4	1.82	-0.15
649	SLU 22	-102	6	8646	-2.38	1.88	0.06
649	SLU 23	-101	40	8649	-5.34	1.86	-0.15
649	SLU 24	-104	6	8823	-1.55	1.93	0.07
649	SLU 25	-103	26	8825	-3.33	1.92	-0.06
649	SLU 26	-102	40	8765	-4.69	1.89	-0.15
649	SLU 27	-105	6	8938	-0.9	1.96	0.07
649	SLU 28	-104	26	8940	-2.68	1.95	-0.06
649	SLU 29	-104	6	8876	-1.08	1.94	0.06
649	SLU 30	-103	27	8878	-2.85	1.93	-0.07
649	SLU 31	-104	43	9625	-6.25	1.9	-0.19
649	SLU 32	-107	8	9798	-2.46	1.97	0.03
649	SLU 33	-106	29	9800	-4.23	1.96	-0.1
649	SLU 34	-105	43	9740	-5.59	1.93	-0.2
649	SLU 35	-108	8	9914	-1.81	2	0.02
649	SLU 36	-107	29	9916	-3.58	1.99	-0.1
649	SLU 37	-107	8	9852	-1.98	1.99	0.02
649	SLU 38	-106	29	9854	-3.76	1.97	-0.11
649	SLU 39	-106	10	10039	-3.67	1.94	0
649	SLU 40	-106	30	10041	-5.45	1.93	-0.13
649	SLU 41	-107	9	10155	-3.02	1.97	0
649	SLU 42	-107	30	10157	-4.8	1.96	-0.13
649	SLU 43	-119	10	9264	-5.72	2.21	0.04
649	SLU 44	-118	45	9268	-8.68	2.19	-0.18
649	SLU 45	-121	10	9441	-4.89	2.26	0.04
649	SLU 46	-121	30	9443	-6.67	2.25	-0.08
649	SLU 47	-119	44	9383	-8.03	2.22	-0.18
649	SLU 48	-122	10	9557	-4.24	2.29	0.04
649	SLU 49	-121	30	9559	-6.02	2.28	-0.08
649	SLU 50	-121	10	9495	-4.42	2.28	0.04
649	SLU 51	-121	31	9497	-6.19	2.26	-0.09
649	SLU 52	-121	47	10243	-9.59	2.23	-0.22
649	SLU 53	-124	12	10417	-5.8	2.3	0
649	SLU 54	-123	33	10419	-7.57	2.29	-0.12
649	SLU 55	-122	47	10358	-8.93	2.27	-0.22
649	SLU 56	-125	12	10532	-5.15	2.33	0
649	SLU 57	-124	33	10534	-6.92	2.32	-0.13
649	SLU 58	-124	12	10470	-5.32	2.32	-0.01
649	SLU 59	-123	33	10472	-7.1	2.31	-0.13
649	SLU 60	-123	14	10658	-7.01	2.27	-0.02
649	SLU 61	-123	34	10660	-8.79	2.26	-0.15
649	SLU 62	-124	14	10773	-6.36	2.3	-0.02
649	SLU 63	-124	34	10775	-8.14	2.29	-0.15
649	SLU 64	-127	9	10467	-4.12	2.35	0.06
649	SLU 65	-127	43	10470	-7.08	2.33	-0.15
649	SLU 66	-129	9	10644	-3.29	2.4	0.07
649	SLU 67	-129	29	10646	-5.07	2.39	-0.06
649	SLU 68	-128	43	10585	-6.43	2.36	-0.15
649	SLU 69	-130	8	10759	-2.64	2.43	0.07
649	SLU 70	-130	29	10761	-4.42	2.42	-0.06
649	SLU 71	-129	9	10697	-2.82	2.42	0.06
649	SLU 72	-129	29	10699	-4.6	2.4	-0.07
649	SLU 73	-129	45	11446	-7.99	2.37	-0.19
649	SLU 74	-132	11	11619	-4.2	2.44	0.03
649	SLU 75	-132	31	11621	-5.97	2.43	-0.1
649	SLU 76	-130	45	11561	-7.34	2.41	-0.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
649	SLU 77	-133	11	11734	-3.55	2.48	0.03
649	SLU 78	-133	31	11736	-5.32	2.46	-0.1
649	SLU 79	-132	11	11673	-3.72	2.46	0.02
649	SLU 80	-132	32	11675	-5.5	2.45	-0.11
649	SLU 81	-131	12	11860	-5.41	2.41	0
649	SLU 82	-131	33	11862	-7.19	2.4	-0.12
649	SLU 83	-132	12	11975	-4.76	2.44	0
649	SLU 84	-132	33	11977	-6.54	2.43	-0.13
649	SLE RA 1	-96	7	7787	-3.52	1.78	0.04
649	SLE RA 2	-96	30	7789	-5.5	1.76	-0.1
649	SLE RA 3	-97	7	7905	-2.97	1.81	0.05
649	SLE RA 4	-97	21	7906	-4.15	1.8	-0.04
649	SLE RA 5	-96	30	7866	-5.06	1.79	-0.1
649	SLE RA 6	-98	7	7982	-2.54	1.83	0.05
649	SLE RA 7	-98	21	7983	-3.72	1.82	-0.04
649	SLE RA 8	-97	7	7941	-2.65	1.82	0.04
649	SLE RA 9	-97	21	7942	-3.84	1.81	-0.04
649	SLE RA 10	-98	32	8440	-6.1	1.79	-0.13
649	SLE RA 11	-99	8	8555	-3.57	1.84	0.02
649	SLE RA 12	-99	22	8557	-4.76	1.83	-0.07
649	SLE RA 13	-98	31	8516	-5.66	1.81	-0.13
649	SLE RA 14	-100	8	8632	-3.14	1.86	0.02
649	SLE RA 15	-100	22	8633	-4.32	1.85	-0.07
649	SLE RA 16	-99	9	8591	-3.26	1.85	0.01
649	SLE RA 17	-99	22	8592	-4.44	1.84	-0.07
649	SLE RA 18	-99	9	8716	-4.38	1.82	0
649	SLE RA 19	-99	23	8717	-5.57	1.81	-0.08
649	SLE RA 20	-99	9	8793	-3.95	1.84	0
649	SLE RA 21	-99	23	8794	-5.13	1.83	-0.08
649	SLE FR 1	-96	7	7787	-3.52	1.78	0.04
649	SLE FR 2	-96	12	7788	-3.92	1.77	0.01
649	SLE FR 3	-96	7	7818	-3.35	1.79	0.04
649	SLE FR 4	-97	12	8066	-4.17	1.79	0
649	SLE FR 5	-97	8	8097	-3.61	1.8	0.03
649	SLE FR 6	-97	8	8252	-3.95	1.8	0.02
649	SLE QP 1	-96	7	7787	-3.52	1.78	0.04
649	SLE QP 2	-97	8	8066	-3.78	1.79	0.03
649	SLD 1	435	256	9823	-31.91	6.09	-1.78
649	SLD 2	431	104	9813	-29.27	6.17	0.17
649	SLD 3	426	-180	9719	14.87	6.28	1.02
649	SLD 4	422	-332	9709	17.52	6.36	2.98
649	SLD 5	77	770	8752	-83.64	2.78	-5.1
649	SLD 6	75	672	8746	-81.92	2.83	-3.84
649	SLD 7	47	-684	8406	72.32	3.41	4.24
649	SLD 8	45	-782	8399	74.03	3.46	5.5
649	SLD 9	-239	798	7732	-81.59	0.12	-5.44
649	SLD 10	-241	699	7726	-79.88	0.17	-4.17
649	SLD 11	-268	-656	7385	74.36	0.75	3.9
649	SLD 12	-271	-754	7379	76.08	0.8	5.16
649	SLD 13	-616	348	6422	-25.08	-2.78	-2.91
649	SLD 14	-619	196	6413	-22.43	-2.71	-0.96
649	SLD 15	-625	-88	6318	21.7	-2.59	-0.11
649	SLD 16	-628	-240	6309	24.35	-2.51	1.85
649	SLV 1	736	424	10814	-50.73	8.49	-2.99
649	SLV 2	731	185	10799	-46.57	8.61	0.09
649	SLV 3	721	-313	10638	28.32	8.81	1.75
649	SLV 4	716	-552	10623	32.49	8.93	4.83
649	SLV 5	177	1295	9161	-138.54	3.29	-8.64
649	SLV 6	174	1134	9150	-135.73	3.37	-6.56
649	SLV 7	126	-1162	8573	124.97	4.36	7.16
649	SLV 8	123	-1322	8563	127.77	4.44	9.23
649	SLV 9	-316	1338	7569	-135.33	-0.86	-9.17
649	SLV 10	-320	1177	7559	-132.53	-0.78	-7.09
649	SLV 11	-368	-1118	6981	128.17	0.21	6.62
649	SLV 12	-371	-1279	6971	130.98	0.29	8.7
649	SLV 13	-909	568	5509	-40.05	-5.35	-4.77
649	SLV 14	-915	329	5494	-35.88	-5.23	-1.69
649	SLV 15	-925	-169	5332	39.01	-5.03	-0.03
649	SLV 16	-930	-408	5317	43.17	-4.91	3.05
649	SLV FO 1	819	465	11089	-55.43	9.16	-3.29
649	SLV FO 2	814	203	11073	-50.85	9.29	0.1
649	SLV FO 3	803	-345	10895	31.53	9.52	1.92
649	SLV FO 4	797	-608	10879	36.11	9.64	5.31
649	SLV FO 5	205	1424	9270	-152.02	3.44	-9.5
649	SLV FO 6	201	1247	9259	-148.93	3.53	-7.22
649	SLV FO 7	148	-1279	8624	137.84	4.62	7.87
649	SLV FO 8	145	-1455	8613	140.93	4.71	10.15
649	SLV FO 9	-338	1471	7519	-148.49	-1.13	-10.09
649	SLV FO 10	-342	1294	7508	-145.4	-1.04	-7.81
649	SLV FO 11	-395	-1231	6873	141.37	0.05	7.28
649	SLV FO 12	-398	-1408	6862	144.46	0.14	9.57
649	SLV FO 13	-991	624	5253	-43.67	-6.07	-5.25
649	SLV FO 14	-996	361	5236	-39.09	-5.94	-1.86
649	SLV FO 15	-1008	-187	5059	43.28	-5.71	-0.04
649	SLV FO 16	-1013	-450	5043	47.87	-5.58	3.35
649	CRTFP Ux+	0	0	0	0	0	0
649	CRTFP Ux-	0	0	0	0	0	0
649	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
649	CRTFP Uy-	0	0	0	0	0	0
650	SLU 1	-93	7	7385	-5.52	2.08	-0.07
650	SLU 2	-92	41	7388	-8.4	2.06	-0.24
650	SLU 3	-95	7	7560	-4.74	2.14	-0.07
650	SLU 4	-94	27	7562	-6.47	2.13	-0.17
650	SLU 5	-93	40	7502	-7.78	2.1	-0.25
650	SLU 6	-96	7	7674	-4.12	2.17	-0.07
650	SLU 7	-95	27	7676	-5.85	2.16	-0.17
650	SLU 8	-95	7	7613	-4.28	2.16	-0.08
650	SLU 9	-94	27	7615	-6.01	2.14	-0.18
650	SLU 10	-95	43	8361	-9.52	2.17	-0.29
650	SLU 11	-98	9	8533	-5.86	2.25	-0.12
650	SLU 12	-97	29	8535	-7.59	2.24	-0.22
650	SLU 13	-96	43	8475	-8.9	2.21	-0.3
650	SLU 14	-99	9	8647	-5.24	2.28	-0.12
650	SLU 15	-98	29	8649	-6.97	2.27	-0.22
650	SLU 16	-98	9	8586	-5.4	2.27	-0.13
650	SLU 17	-97	29	8588	-7.13	2.25	-0.23
650	SLU 18	-97	10	8775	-7.12	2.24	-0.15
650	SLU 19	-97	30	8777	-8.85	2.23	-0.25
650	SLU 20	-98	10	8889	-6.5	2.27	-0.15
650	SLU 21	-98	30	8891	-8.23	2.26	-0.25
650	SLU 22	-101	6	8581	-4.2	2.3	-0.06
650	SLU 23	-100	39	8585	-7.07	2.28	-0.23
650	SLU 24	-103	6	8757	-3.42	2.35	-0.06
650	SLU 25	-103	26	8759	-5.14	2.34	-0.16
650	SLU 26	-101	39	8699	-6.46	2.32	-0.23
650	SLU 27	-104	6	8871	-2.8	2.39	-0.06
650	SLU 28	-103	26	8873	-4.53	2.38	-0.16
650	SLU 29	-103	6	8810	-2.96	2.37	-0.07
650	SLU 30	-103	26	8812	-4.69	2.36	-0.17
650	SLU 31	-103	41	9558	-8.19	2.39	-0.28
650	SLU 32	-106	8	9730	-4.54	2.46	-0.11
650	SLU 33	-105	28	9732	-6.26	2.45	-0.21
650	SLU 34	-104	41	9672	-7.58	2.43	-0.29
650	SLU 35	-107	8	9844	-3.92	2.5	-0.11
650	SLU 36	-106	28	9846	-5.65	2.49	-0.21
650	SLU 37	-106	8	9783	-4.08	2.48	-0.12
650	SLU 38	-106	28	9785	-5.81	2.47	-0.22
650	SLU 39	-105	9	9972	-5.8	2.45	-0.14
650	SLU 40	-105	29	9974	-7.53	2.44	-0.24
650	SLU 41	-106	9	10086	-5.18	2.49	-0.14
650	SLU 42	-106	29	10088	-6.91	2.48	-0.24
650	SLU 43	-118	10	9189	-7.63	2.63	-0.1
650	SLU 44	-117	43	9193	-10.51	2.61	-0.27
650	SLU 45	-120	10	9365	-6.85	2.69	-0.09
650	SLU 46	-119	30	9367	-8.58	2.67	-0.2
650	SLU 47	-118	43	9307	-9.89	2.65	-0.27
650	SLU 48	-121	10	9479	-6.23	2.72	-0.1
650	SLU 49	-120	30	9481	-7.96	2.71	-0.2
650	SLU 50	-120	10	9418	-6.39	2.7	-0.1
650	SLU 51	-119	30	9420	-8.12	2.69	-0.21
650	SLU 52	-120	45	10166	-11.63	2.72	-0.32
650	SLU 53	-123	12	10338	-7.97	2.8	-0.15
650	SLU 54	-122	32	10340	-9.7	2.78	-0.25
650	SLU 55	-121	45	10280	-11.01	2.76	-0.32
650	SLU 56	-124	12	10452	-7.35	2.83	-0.15
650	SLU 57	-123	32	10454	-9.08	2.82	-0.25
650	SLU 58	-123	12	10391	-7.51	2.81	-0.16
650	SLU 59	-122	32	10393	-9.24	2.8	-0.26
650	SLU 60	-122	13	10579	-9.23	2.79	-0.17
650	SLU 61	-122	33	10582	-10.96	2.77	-0.27
650	SLU 62	-123	13	10694	-8.61	2.82	-0.17
650	SLU 63	-123	33	10696	-10.34	2.81	-0.28
650	SLU 64	-126	9	10386	-6.31	2.85	-0.09
650	SLU 65	-125	42	10390	-9.18	2.83	-0.26
650	SLU 66	-128	8	10562	-5.53	2.9	-0.08
650	SLU 67	-128	28	10564	-7.25	2.89	-0.19
650	SLU 68	-126	42	10504	-8.57	2.87	-0.26
650	SLU 69	-129	8	10676	-4.91	2.94	-0.09
650	SLU 70	-129	28	10678	-6.64	2.93	-0.19
650	SLU 71	-128	9	10615	-5.07	2.92	-0.09
650	SLU 72	-128	28	10617	-6.8	2.91	-0.19
650	SLU 73	-128	44	11363	-10.3	2.94	-0.31
650	SLU 74	-131	10	11535	-6.65	3.01	-0.13
650	SLU 75	-131	30	11537	-8.38	3	-0.24
650	SLU 76	-129	44	11477	-9.69	2.98	-0.31
650	SLU 77	-132	10	11649	-6.03	3.05	-0.14
650	SLU 78	-131	30	11651	-7.76	3.04	-0.24
650	SLU 79	-131	11	11588	-6.19	3.03	-0.14
650	SLU 80	-131	31	11590	-7.92	3.02	-0.25
650	SLU 81	-130	12	11776	-7.91	3	-0.16
650	SLU 82	-130	32	11779	-9.64	2.99	-0.26
650	SLU 83	-131	12	11891	-7.29	3.04	-0.16
650	SLU 84	-131	32	11893	-9.02	3.03	-0.27
650	SLE RA 1	-95	7	7726	-5.14	2.14	-0.07
650	SLE RA 2	-95	29	7729	-7.06	2.13	-0.18
650	SLE RA 3	-96	7	7843	-4.62	2.18	-0.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
650	SLE RA 4	-96	20	7845	-5.77	2.17	-0.14
650	SLE RA 5	-95	29	7805	-6.65	2.15	-0.18
650	SLE RA 6	-97	7	7919	-4.21	2.21	-0.07
650	SLE RA 7	-97	20	7921	-5.36	2.2	-0.14
650	SLE RA 8	-96	7	7879	-4.32	2.19	-0.07
650	SLE RA 9	-96	20	7880	-5.47	2.18	-0.14
650	SLE RA 10	-97	31	8378	-7.81	2.2	-0.22
650	SLE RA 11	-98	8	8492	-5.37	2.25	-0.1
650	SLE RA 12	-98	21	8494	-6.52	2.25	-0.17
650	SLE RA 13	-97	30	8454	-7.4	2.23	-0.22
650	SLE RA 14	-99	8	8568	-4.96	2.28	-0.1
650	SLE RA 15	-99	21	8570	-6.11	2.27	-0.17
650	SLE RA 16	-98	8	8527	-5.07	2.27	-0.11
650	SLE RA 17	-98	22	8529	-6.22	2.26	-0.18
650	SLE RA 18	-98	9	8653	-6.21	2.25	-0.12
650	SLE RA 19	-98	22	8655	-7.36	2.24	-0.19
650	SLE RA 20	-99	9	8729	-5.8	2.27	-0.12
650	SLE RA 21	-98	22	8731	-6.95	2.26	-0.19
650	SLE FR 1	-95	7	7726	-5.14	2.14	-0.07
650	SLE FR 2	-95	11	7727	-5.53	2.14	-0.09
650	SLE FR 3	-95	7	7757	-4.98	2.15	-0.07
650	SLE FR 4	-96	12	8005	-5.85	2.17	-0.11
650	SLE FR 5	-96	8	8035	-5.3	2.18	-0.09
650	SLE FR 6	-97	8	8190	-5.68	2.19	-0.09
650	SLE QP 1	-95	7	7726	-5.14	2.14	-0.07
650	SLE QP 2	-96	8	8005	-5.46	2.17	-0.08
650	SLD 1	436	247	9627	-33.42	6.48	-1.63
650	SLD 2	433	105	9616	-30.91	6.55	0.14
650	SLD 3	427	-176	9518	12.25	6.66	0.63
650	SLD 4	424	-318	9506	14.75	6.72	2.4
650	SLD 5	78	745	8659	-83.54	3.19	-4.27
650	SLD 6	75	653	8652	-81.92	3.23	-3.12
650	SLD 7	48	-664	8295	68.67	3.77	3.24
650	SLD 8	46	-756	8287	70.29	3.81	4.38
650	SLD 9	-238	771	7722	-81.22	0.53	-4.55
650	SLD 10	-240	679	7714	-79.6	0.58	-3.41
650	SLD 11	-268	-638	7357	70.99	1.11	2.95
650	SLD 12	-270	-730	7350	72.61	1.16	4.1
650	SLD 13	-616	333	6503	-25.68	-2.38	-2.57
650	SLD 14	-619	191	6491	-23.18	-2.31	-0.8
650	SLD 15	-625	-90	6393	19.98	-2.2	-0.31
650	SLD 16	-628	-232	6382	22.49	-2.14	1.46
650	SLV 1	738	409	10544	-52.06	8.88	-2.64
650	SLV 2	733	185	10526	-48.12	8.99	0.15
650	SLV 3	723	-306	10359	25.09	9.18	1.17
650	SLV 4	718	-529	10341	29.04	9.28	3.95
650	SLV 5	178	1253	9051	-137.2	3.72	-7.15
650	SLV 6	175	1103	9038	-134.55	3.8	-5.27
650	SLV 7	128	-1128	8433	119.99	4.7	5.55
650	SLV 8	124	-1278	8421	122.64	4.77	7.43
650	SLV 9	-316	1294	7588	-133.57	-0.42	-7.6
650	SLV 10	-320	1143	7576	-130.92	-0.35	-5.72
650	SLV 11	-367	-1087	6971	123.62	0.55	5.1
650	SLV 12	-370	-1238	6958	126.27	0.62	6.98
650	SLV 13	-910	544	5668	-39.97	-4.94	-4.12
650	SLV 14	-915	321	5650	-36.02	-4.83	-1.34
650	SLV 15	-925	-170	5483	37.19	-4.64	-0.32
650	SLV 16	-930	-393	5465	41.13	-4.54	2.47
650	SLV FO 1	821	449	10798	-56.72	9.55	-2.9
650	SLV FO 2	816	203	10778	-52.38	9.67	0.17
650	SLV FO 3	805	-337	10594	28.15	9.88	1.29
650	SLV FO 4	799	-583	10574	32.49	9.99	4.36
650	SLV FO 5	205	1378	9155	-150.37	3.88	-7.86
650	SLV FO 6	202	1212	9142	-147.45	3.96	-5.79
650	SLV FO 7	150	-1242	8476	132.53	4.95	6.11
650	SLV FO 8	146	-1407	8463	135.45	5.03	8.18
650	SLV FO 9	-338	1422	7546	-146.38	-0.68	-8.35
650	SLV FO 10	-342	1257	7533	-143.46	-0.6	-6.28
650	SLV FO 11	-394	-1197	6867	136.52	0.39	5.62
650	SLV FO 12	-397	-1362	6854	139.44	0.47	7.69
650	SLV FO 13	-991	598	5435	-43.42	-5.65	-4.53
650	SLV FO 14	-997	352	5415	-39.08	-5.53	-1.46
650	SLV FO 15	-1008	-188	5231	41.45	-5.33	-0.34
650	SLV FO 16	-1013	-434	5211	45.79	-5.21	2.73
650	CRTFP Ux+	0	0	0	0	0	0
650	CRTFP Ux-	0	0	0	0	0	0
650	CRTFP Uy+	0	0	0	0	0	0
650	CRTFP Uy-	0	0	0	0	0	0
651	SLU 1	-92	7	7313	-7.07	2.56	-0.14
651	SLU 2	-91	39	7317	-9.87	2.55	-0.26
651	SLU 3	-94	6	7486	-6.34	2.63	-0.14
651	SLU 4	-93	26	7489	-8.02	2.62	-0.21
651	SLU 5	-92	39	7430	-9.28	2.59	-0.27
651	SLU 6	-94	6	7599	-5.75	2.68	-0.14
651	SLU 7	-94	26	7601	-7.43	2.67	-0.21
651	SLU 8	-94	7	7538	-5.9	2.65	-0.15
651	SLU 9	-93	26	7541	-7.57	2.64	-0.22
651	SLU 10	-94	41	8285	-11.2	2.74	-0.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
651	SLU 11	-97	8	8454	-7.68	2.83	-0.19
651	SLU 12	-96	28	8457	-9.35	2.82	-0.27
651	SLU 13	-95	41	8398	-10.62	2.79	-0.32
651	SLU 14	-97	8	8567	-7.09	2.87	-0.2
651	SLU 15	-97	28	8570	-8.77	2.86	-0.27
651	SLU 16	-97	8	8506	-7.24	2.85	-0.2
651	SLU 17	-96	28	8509	-8.91	2.84	-0.28
651	SLU 18	-96	9	8696	-8.98	2.85	-0.22
651	SLU 19	-96	29	8698	-10.66	2.84	-0.29
651	SLU 20	-97	9	8809	-8.4	2.89	-0.22
651	SLU 21	-97	29	8811	-10.07	2.88	-0.3
651	SLU 22	-100	6	8501	-6.03	2.88	-0.14
651	SLU 23	-99	38	8506	-8.82	2.87	-0.26
651	SLU 24	-102	5	8675	-5.29	2.95	-0.13
651	SLU 25	-101	25	8677	-6.97	2.94	-0.21
651	SLU 26	-100	38	8618	-8.23	2.91	-0.26
651	SLU 27	-103	5	8787	-4.71	3	-0.14
651	SLU 28	-102	24	8790	-6.38	2.99	-0.21
651	SLU 29	-102	5	8727	-4.85	2.97	-0.14
651	SLU 30	-101	25	8729	-6.53	2.96	-0.22
651	SLU 31	-102	40	9474	-10.15	3.07	-0.31
651	SLU 32	-105	7	9643	-6.63	3.15	-0.19
651	SLU 33	-104	26	9646	-8.3	3.14	-0.26
651	SLU 34	-103	40	9587	-9.57	3.11	-0.32
651	SLU 35	-106	7	9756	-6.04	3.2	-0.19
651	SLU 36	-105	26	9758	-7.72	3.19	-0.27
651	SLU 37	-105	7	9695	-6.19	3.17	-0.2
651	SLU 38	-104	27	9698	-7.86	3.16	-0.27
651	SLU 39	-104	8	9884	-7.94	3.17	-0.22
651	SLU 40	-104	27	9887	-9.61	3.16	-0.29
651	SLU 41	-105	8	9997	-7.35	3.21	-0.22
651	SLU 42	-105	27	10000	-9.02	3.2	-0.29
651	SLU 43	-116	9	9099	-9.56	3.22	-0.19
651	SLU 44	-116	42	9103	-12.35	3.2	-0.31
651	SLU 45	-118	9	9272	-8.82	3.29	-0.18
651	SLU 46	-118	28	9275	-10.5	3.28	-0.26
651	SLU 47	-117	42	9216	-11.76	3.25	-0.31
651	SLU 48	-119	9	9385	-8.24	3.33	-0.19
651	SLU 49	-119	28	9388	-9.91	3.32	-0.26
651	SLU 50	-118	9	9324	-8.38	3.31	-0.19
651	SLU 51	-118	28	9327	-10.06	3.3	-0.27
651	SLU 52	-119	43	10072	-13.68	3.4	-0.36
651	SLU 53	-121	11	10240	-10.16	3.49	-0.24
651	SLU 54	-121	30	10243	-11.83	3.48	-0.31
651	SLU 55	-120	43	10184	-13.1	3.45	-0.37
651	SLU 56	-122	11	10353	-9.57	3.53	-0.24
651	SLU 57	-122	30	10356	-11.25	3.52	-0.31
651	SLU 58	-121	11	10293	-9.72	3.51	-0.25
651	SLU 59	-121	30	10295	-11.39	3.5	-0.32
651	SLU 60	-121	12	10482	-11.47	3.51	-0.26
651	SLU 61	-120	31	10485	-13.14	3.49	-0.34
651	SLU 62	-122	12	10595	-10.88	3.55	-0.27
651	SLU 63	-121	31	10597	-12.55	3.54	-0.34
651	SLU 64	-125	8	10287	-8.51	3.54	-0.18
651	SLU 65	-124	40	10292	-11.3	3.53	-0.3
651	SLU 66	-126	8	10461	-7.77	3.61	-0.18
651	SLU 67	-126	27	10464	-9.45	3.6	-0.25
651	SLU 68	-125	40	10405	-10.71	3.57	-0.31
651	SLU 69	-127	8	10574	-7.19	3.66	-0.18
651	SLU 70	-127	27	10576	-8.86	3.65	-0.25
651	SLU 71	-126	8	10513	-7.33	3.63	-0.19
651	SLU 72	-126	27	10516	-9.01	3.62	-0.26
651	SLU 73	-127	42	11260	-12.64	3.72	-0.36
651	SLU 74	-129	9	11429	-9.11	3.81	-0.23
651	SLU 75	-129	29	11432	-10.79	3.8	-0.31
651	SLU 76	-128	42	11373	-12.05	3.77	-0.36
651	SLU 77	-130	9	11542	-8.52	3.85	-0.24
651	SLU 78	-130	29	11545	-10.2	3.84	-0.31
651	SLU 79	-129	10	11481	-8.67	3.83	-0.24
651	SLU 80	-129	29	11484	-10.34	3.82	-0.32
651	SLU 81	-129	10	11671	-10.42	3.83	-0.26
651	SLU 82	-129	30	11673	-12.09	3.82	-0.33
651	SLU 83	-130	10	11783	-9.83	3.87	-0.26
651	SLU 84	-129	30	11786	-11.51	3.86	-0.34
651	SLE RA 1	-94	6	7652	-6.78	2.65	-0.14
651	SLE RA 2	-94	28	7655	-8.64	2.64	-0.22
651	SLE RA 3	-95	6	7768	-6.29	2.7	-0.14
651	SLE RA 4	-95	19	7770	-7.4	2.69	-0.19
651	SLE RA 5	-94	28	7730	-8.24	2.67	-0.22
651	SLE RA 6	-96	6	7843	-5.89	2.73	-0.14
651	SLE RA 7	-96	19	7845	-7.01	2.72	-0.19
651	SLE RA 8	-95	6	7803	-5.99	2.71	-0.14
651	SLE RA 9	-95	19	7804	-7.11	2.71	-0.19
651	SLE RA 10	-96	29	8301	-9.53	2.78	-0.26
651	SLE RA 11	-97	7	8413	-7.18	2.83	-0.17
651	SLE RA 12	-97	20	8415	-8.29	2.83	-0.22
651	SLE RA 13	-96	29	8376	-9.14	2.81	-0.26
651	SLE RA 14	-98	7	8488	-6.79	2.86	-0.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
651	SLE RA 15	-98	20	8490	-7.9	2.86	-0.23
651	SLE RA 16	-97	7	8448	-6.88	2.85	-0.18
651	SLE RA 17	-97	20	8450	-8	2.84	-0.23
651	SLE RA 18	-97	8	8574	-8.05	2.84	-0.19
651	SLE RA 19	-97	21	8576	-9.17	2.84	-0.24
651	SLE RA 20	-98	8	8650	-7.66	2.87	-0.19
651	SLE RA 21	-97	21	8651	-8.77	2.87	-0.24
651	SLE FR 1	-94	6	7652	-6.78	2.65	-0.14
651	SLE FR 2	-94	11	7653	-7.15	2.65	-0.16
651	SLE FR 3	-94	6	7682	-6.62	2.67	-0.14
651	SLE FR 4	-95	11	7929	-7.53	2.71	-0.17
651	SLE FR 5	-95	7	7959	-7	2.72	-0.16
651	SLE FR 6	-95	7	8113	-7.41	2.75	-0.17
651	SLE QP 1	-94	6	7652	-6.78	2.65	-0.14
651	SLE QP 2	-95	7	7929	-7.16	2.71	-0.16
651	SLD 1	438	239	9417	-35.01	7.03	-1.39
651	SLD 2	435	106	9404	-32.64	7.09	0.19
651	SLD 3	429	-174	9304	9.6	7.17	0.27
651	SLD 4	426	-307	9290	11.96	7.23	1.85
651	SLD 5	79	725	8550	-83.58	3.79	-3.32
651	SLD 6	77	639	8541	-82.05	3.83	-2.3
651	SLD 7	50	-650	8171	65.11	4.24	2.22
651	SLD 8	48	-736	8162	66.64	4.28	3.24
651	SLD 9	-238	750	7695	-80.96	1.14	-3.55
651	SLD 10	-240	664	7687	-79.43	1.18	-2.53
651	SLD 11	-266	-625	7316	67.73	1.59	1.98
651	SLD 12	-268	-711	7307	69.26	1.63	3.01
651	SLD 13	-616	321	6568	-26.28	-1.81	-2.16
651	SLD 14	-619	188	6554	-23.91	-1.75	-0.59
651	SLD 15	-624	-92	6454	18.33	-1.67	-0.5
651	SLD 16	-628	-225	6440	20.69	-1.61	1.07
651	SLV 1	740	396	10259	-53.53	9.44	-2.19
651	SLV 2	735	186	10238	-49.81	9.54	0.29
651	SLV 3	725	-301	10067	21.84	9.67	0.62
651	SLV 4	720	-511	10045	25.57	9.77	3.11
651	SLV 5	179	1220	8924	-136.09	4.36	-5.49
651	SLV 6	176	1079	8910	-133.58	4.43	-3.82
651	SLV 7	130	-1103	8282	115.17	5.13	3.88
651	SLV 8	126	-1245	8267	117.68	5.19	5.55
651	SLV 9	-316	1258	7590	-131.99	0.23	-5.86
651	SLV 10	-319	1117	7576	-129.48	0.29	-4.19
651	SLV 11	-365	-1065	6948	119.26	0.99	3.51
651	SLV 12	-369	-1206	6933	121.77	1.06	5.18
651	SLV 13	-910	525	5813	-39.88	-4.35	-3.42
651	SLV 14	-915	315	5791	-36.16	-4.25	-0.93
651	SLV 15	-925	-172	5620	35.49	-4.12	-0.61
651	SLV 16	-930	-382	5598	39.22	-4.02	1.88
651	SLV FO 1	823	435	10492	-58.17	10.12	-2.39
651	SLV FO 2	818	204	10468	-54.07	10.22	0.34
651	SLV FO 3	807	-332	10280	24.74	10.37	0.7
651	SLV FO 4	802	-563	10257	28.84	10.48	3.43
651	SLV FO 5	206	1341	9024	-148.98	4.53	-6.03
651	SLV FO 6	203	1186	9008	-146.22	4.6	-4.19
651	SLV FO 7	152	-1214	8317	127.4	5.37	4.28
651	SLV FO 8	148	-1370	8301	130.16	5.44	6.12
651	SLV FO 9	-338	1384	7556	-144.47	-0.02	-6.43
651	SLV FO 10	-342	1228	7540	-141.72	0.05	-4.59
651	SLV FO 11	-392	-1172	6850	131.91	0.82	3.87
651	SLV FO 12	-396	-1327	6834	134.66	0.89	5.71
651	SLV FO 13	-991	576	5601	-43.16	-5.05	-3.74
651	SLV FO 14	-997	346	5577	-39.06	-4.95	-1.01
651	SLV FO 15	-1008	-190	5389	39.76	-4.8	-0.65
651	SLV FO 16	-1013	-421	5365	43.86	-4.7	2.08
651	CRTFP Ux+	0	0	0	0	0	0
651	CRTFP Ux-	0	0	0	0	0	0
651	CRTFP Uy+	0	0	0	0	0	0
651	CRTFP Uy-	0	0	0	0	0	0
652	SLU 1	-90	6	7223	-8.64	3.22	-0.17
652	SLU 2	-90	38	7228	-11.35	3.21	-0.25
652	SLU 3	-92	6	7394	-7.95	3.3	-0.17
652	SLU 4	-92	25	7397	-9.58	3.29	-0.21
652	SLU 5	-90	38	7339	-10.79	3.26	-0.25
652	SLU 6	-93	5	7505	-7.39	3.36	-0.17
652	SLU 7	-92	25	7508	-9.02	3.35	-0.22
652	SLU 8	-92	6	7446	-7.52	3.33	-0.17
652	SLU 9	-92	25	7448	-9.15	3.32	-0.22
652	SLU 10	-93	39	8188	-12.9	3.52	-0.3
652	SLU 11	-95	7	8354	-9.5	3.62	-0.22
652	SLU 12	-95	26	8357	-11.13	3.61	-0.26
652	SLU 13	-94	39	8300	-12.35	3.58	-0.3
652	SLU 14	-96	7	8466	-8.95	3.67	-0.22
652	SLU 15	-96	26	8469	-10.57	3.66	-0.27
652	SLU 16	-95	7	8406	-9.08	3.64	-0.23
652	SLU 17	-95	26	8409	-10.71	3.64	-0.27
652	SLU 18	-94	8	8595	-10.86	3.67	-0.24
652	SLU 19	-94	27	8598	-12.49	3.66	-0.29
652	SLU 20	-95	8	8706	-10.3	3.72	-0.25
652	SLU 21	-95	27	8709	-11.93	3.72	-0.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
652	SLU 22	-98	5	8400	-7.86	3.67	-0.17
652	SLU 23	-98	37	8405	-10.57	3.66	-0.24
652	SLU 24	-100	4	8571	-7.17	3.76	-0.16
652	SLU 25	-100	23	8574	-8.8	3.75	-0.21
652	SLU 26	-99	36	8516	-10.02	3.72	-0.25
652	SLU 27	-101	4	8682	-6.62	3.81	-0.16
652	SLU 28	-101	23	8685	-8.24	3.81	-0.21
652	SLU 29	-100	4	8622	-6.75	3.78	-0.17
652	SLU 30	-100	24	8625	-8.37	3.78	-0.22
652	SLU 31	-101	38	9365	-12.13	3.98	-0.29
652	SLU 32	-103	6	9531	-8.73	4.07	-0.21
652	SLU 33	-103	25	9534	-10.36	4.07	-0.26
652	SLU 34	-102	38	9476	-11.57	4.03	-0.3
652	SLU 35	-104	6	9642	-8.17	4.13	-0.22
652	SLU 36	-104	25	9645	-9.8	4.12	-0.26
652	SLU 37	-103	6	9582	-8.3	4.1	-0.22
652	SLU 38	-103	25	9585	-9.93	4.09	-0.27
652	SLU 39	-103	7	9772	-10.08	4.12	-0.24
652	SLU 40	-102	26	9774	-11.71	4.12	-0.29
652	SLU 41	-104	7	9883	-9.53	4.18	-0.24
652	SLU 42	-103	26	9886	-11.15	4.17	-0.29
652	SLU 43	-114	8	8987	-11.49	4.03	-0.22
652	SLU 44	-114	40	8991	-14.21	4.01	-0.3
652	SLU 45	-116	8	9158	-10.81	4.11	-0.22
652	SLU 46	-116	27	9161	-12.43	4.1	-0.27
652	SLU 47	-115	40	9103	-13.65	4.07	-0.3
652	SLU 48	-117	8	9269	-10.25	4.16	-0.22
652	SLU 49	-117	27	9272	-11.88	4.16	-0.27
652	SLU 50	-116	8	9209	-10.38	4.14	-0.23
652	SLU 51	-116	27	9212	-12.01	4.13	-0.27
652	SLU 52	-117	41	9952	-15.76	4.33	-0.35
652	SLU 53	-119	9	10118	-12.36	4.42	-0.27
652	SLU 54	-119	28	10121	-13.99	4.42	-0.32
652	SLU 55	-118	41	10063	-15.2	4.38	-0.35
652	SLU 56	-120	9	10229	-11.8	4.48	-0.27
652	SLU 57	-120	28	10232	-13.43	4.47	-0.32
652	SLU 58	-119	9	10169	-11.94	4.45	-0.28
652	SLU 59	-119	28	10172	-13.56	4.44	-0.33
652	SLU 60	-119	10	10358	-13.72	4.48	-0.3
652	SLU 61	-118	29	10361	-15.34	4.47	-0.34
652	SLU 62	-120	10	10470	-13.16	4.53	-0.3
652	SLU 63	-119	29	10473	-14.79	4.52	-0.34
652	SLU 64	-123	7	10163	-10.72	4.48	-0.22
652	SLU 65	-122	39	10168	-13.43	4.47	-0.3
652	SLU 66	-124	6	10334	-10.03	4.57	-0.21
652	SLU 67	-124	26	10337	-11.66	4.56	-0.26
652	SLU 68	-123	39	10279	-12.87	4.53	-0.3
652	SLU 69	-125	6	10445	-9.47	4.62	-0.22
652	SLU 70	-125	25	10448	-11.1	4.61	-0.26
652	SLU 71	-124	7	10386	-9.6	4.59	-0.22
652	SLU 72	-124	26	10389	-11.23	4.59	-0.27
652	SLU 73	-125	40	11128	-14.99	4.79	-0.35
652	SLU 74	-127	8	11295	-11.59	4.88	-0.27
652	SLU 75	-127	27	11297	-13.21	4.87	-0.31
652	SLU 76	-126	40	11240	-14.43	4.84	-0.35
652	SLU 77	-128	8	11406	-11.03	4.94	-0.27
652	SLU 78	-128	27	11409	-12.66	4.93	-0.32
652	SLU 79	-127	8	11346	-11.16	4.91	-0.27
652	SLU 80	-127	27	11349	-12.79	4.9	-0.32
652	SLU 81	-127	9	11535	-12.94	4.93	-0.29
652	SLU 82	-127	28	11538	-14.57	4.93	-0.34
652	SLU 83	-128	9	11646	-12.38	4.99	-0.29
652	SLU 84	-127	28	11649	-14.01	4.98	-0.34
652	SLE RA 1	-93	6	7559	-8.41	3.35	-0.17
652	SLE RA 2	-92	27	7563	-10.22	3.34	-0.22
652	SLE RA 3	-94	5	7673	-7.96	3.4	-0.17
652	SLE RA 4	-93	18	7675	-9.04	3.4	-0.2
652	SLE RA 5	-93	27	7637	-9.85	3.38	-0.22
652	SLE RA 6	-94	5	7747	-7.58	3.44	-0.17
652	SLE RA 7	-94	18	7749	-8.67	3.44	-0.2
652	SLE RA 8	-94	5	7708	-7.67	3.42	-0.17
652	SLE RA 9	-93	18	7710	-8.76	3.42	-0.2
652	SLE RA 10	-94	28	8203	-11.26	3.55	-0.25
652	SLE RA 11	-96	6	8313	-8.99	3.61	-0.2
652	SLE RA 12	-95	19	8315	-10.08	3.61	-0.23
652	SLE RA 13	-95	28	8277	-10.89	3.59	-0.26
652	SLE RA 14	-96	6	8388	-8.62	3.65	-0.2
652	SLE RA 15	-96	19	8390	-9.71	3.65	-0.23
652	SLE RA 16	-96	6	8348	-8.71	3.63	-0.21
652	SLE RA 17	-95	19	8350	-9.79	3.63	-0.24
652	SLE RA 18	-95	7	8474	-9.9	3.65	-0.22
652	SLE RA 19	-95	20	8476	-10.98	3.64	-0.25
652	SLE RA 20	-96	7	8548	-9.53	3.68	-0.22
652	SLE RA 21	-96	20	8550	-10.61	3.68	-0.25
652	SLE FR 1	-93	6	7559	-8.41	3.35	-0.17
652	SLE FR 2	-92	10	7560	-8.78	3.35	-0.18
652	SLE FR 3	-93	5	7589	-8.27	3.36	-0.17
652	SLE FR 4	-93	10	7834	-9.22	3.44	-0.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
652	SLE FR 5	-94	6	7863	-8.71	3.45	-0.18
652	SLE FR 6	-94	6	8017	-9.16	3.5	-0.19
652	SLE QP 1	-93	6	7559	-8.41	3.35	-0.17
652	SLE QP 2	-93	6	7834	-8.86	3.44	-0.18
652	SLD 1	440	232	9188	-36.68	7.75	-1.75
652	SLD 2	437	107	9172	-34.45	7.8	-0.35
652	SLD 3	431	-173	9071	6.94	7.82	-0.66
652	SLD 4	428	-299	9056	9.16	7.87	0.73
652	SLD 5	80	710	8419	-83.75	4.62	-2.54
652	SLD 6	78	629	8409	-82.31	4.65	-1.63
652	SLD 7	52	-641	8031	61.65	4.84	1.07
652	SLD 8	50	-722	8021	63.09	4.88	1.98
652	SLD 9	-237	734	7646	-80.81	2	-2.34
652	SLD 10	-238	653	7636	-79.37	2.03	-1.44
652	SLD 11	-265	-617	7258	64.59	2.22	1.27
652	SLD 12	-267	-698	7248	66.03	2.26	2.17
652	SLD 13	-615	311	6611	-26.88	-0.99	-1.1
652	SLD 14	-618	185	6596	-24.66	-0.94	0.3
652	SLD 15	-623	-95	6495	16.73	-0.92	-0.02
652	SLD 16	-626	-220	6480	18.96	-0.87	1.38
652	SLV 1	742	385	9954	-55.12	10.16	-2.71
652	SLV 2	737	188	9930	-51.62	10.24	-0.51
652	SLV 3	727	-300	9757	18.59	10.27	-0.88
652	SLV 4	723	-497	9733	22.09	10.35	1.32
652	SLV 5	180	1195	8773	-135.19	5.27	-4.13
652	SLV 6	177	1063	8757	-132.83	5.32	-2.65
652	SLV 7	132	-1088	8116	110.51	5.64	1.98
652	SLV 8	129	-1221	8100	112.87	5.7	3.46
652	SLV 9	-315	1233	7567	-130.59	1.18	-3.82
652	SLV 10	-318	1100	7551	-128.23	1.23	-2.34
652	SLV 11	-364	-1051	6910	115.11	1.55	2.28
652	SLV 12	-367	-1184	6894	117.47	1.61	3.76
652	SLV 13	-909	509	5934	-39.81	-3.48	-1.69
652	SLV 14	-914	311	5910	-36.3	-3.39	0.51
652	SLV 15	-924	-176	5737	33.9	-3.36	0.14
652	SLV 16	-929	-374	5713	37.41	-3.28	2.35
652	SLV FO 1	825	423	10166	-59.75	10.83	-2.96
652	SLV FO 2	820	206	10140	-55.89	10.92	-0.54
652	SLV FO 3	809	-330	9950	21.33	10.95	-0.95
652	SLV FO 4	804	-547	9923	25.19	11.04	1.47
652	SLV FO 5	207	1314	8867	-147.82	5.45	-4.52
652	SLV FO 6	204	1168	8849	-145.22	5.51	-2.9
652	SLV FO 7	154	-1197	8145	122.45	5.86	2.19
652	SLV FO 8	151	-1343	8127	125.05	5.92	3.82
652	SLV FO 9	-338	1355	7541	-142.77	0.95	-4.19
652	SLV FO 10	-341	1209	7523	-140.17	1.01	-2.56
652	SLV FO 11	-391	-1156	6818	127.5	1.36	2.53
652	SLV FO 12	-394	-1303	6800	130.1	1.42	4.16
652	SLV FO 13	-991	559	5745	-42.91	-4.17	-1.84
652	SLV FO 14	-996	342	5718	-39.05	-4.08	0.58
652	SLV FO 15	-1007	-194	5528	38.17	-4.04	0.18
652	SLV FO 16	-1012	-411	5501	42.03	-3.95	2.6
652	CRTFP Ux+	0	0	0	0	0	0
652	CRTFP Ux-	0	0	0	0	0	0
652	CRTFP Uy+	0	0	0	0	0	0
652	CRTFP Uy-	0	0	0	0	0	0
653	SLU 1	-88	5	7110	-10.21	4.08	-0.16
653	SLU 2	-88	37	7115	-12.85	4.08	-0.2
653	SLU 3	-90	5	7278	-9.57	4.18	-0.15
653	SLU 4	-90	24	7281	-11.15	4.18	-0.18
653	SLU 5	-88	36	7224	-12.32	4.14	-0.2
653	SLU 6	-91	4	7387	-9.04	4.25	-0.15
653	SLU 7	-90	23	7391	-10.62	4.25	-0.18
653	SLU 8	-90	5	7329	-9.16	4.21	-0.16
653	SLU 9	-90	24	7332	-10.74	4.21	-0.18
653	SLU 10	-91	38	8063	-14.62	4.54	-0.24
653	SLU 11	-93	6	8226	-11.34	4.64	-0.2
653	SLU 12	-92	25	8229	-12.93	4.64	-0.22
653	SLU 13	-91	38	8173	-14.1	4.61	-0.24
653	SLU 14	-94	6	8336	-10.82	4.71	-0.2
653	SLU 15	-93	25	8339	-12.4	4.71	-0.22
653	SLU 16	-93	6	8277	-10.93	4.67	-0.2
653	SLU 17	-93	25	8280	-12.51	4.67	-0.23
653	SLU 18	-92	7	8465	-12.75	4.74	-0.22
653	SLU 19	-92	26	8468	-14.33	4.74	-0.24
653	SLU 20	-93	7	8574	-12.22	4.8	-0.22
653	SLU 21	-93	25	8577	-13.8	4.8	-0.24
653	SLU 22	-96	4	8270	-9.71	4.71	-0.15
653	SLU 23	-96	35	8275	-12.34	4.71	-0.19
653	SLU 24	-98	3	8438	-9.06	4.81	-0.14
653	SLU 25	-98	22	8441	-10.65	4.81	-0.17
653	SLU 26	-97	35	8384	-11.82	4.77	-0.19
653	SLU 27	-99	3	8547	-8.54	4.88	-0.14
653	SLU 28	-98	22	8550	-10.12	4.88	-0.17
653	SLU 29	-98	3	8488	-8.65	4.84	-0.15
653	SLU 30	-98	22	8492	-10.23	4.84	-0.17
653	SLU 31	-99	37	9223	-14.12	5.17	-0.23
653	SLU 32	-101	5	9386	-10.84	5.27	-0.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
653	SLU 33	-101	24	9389	-12.42	5.27	-0.21
653	SLU 34	-99	36	9333	-13.59	5.23	-0.23
653	SLU 35	-102	4	9496	-10.31	5.34	-0.19
653	SLU 36	-101	23	9499	-11.9	5.34	-0.21
653	SLU 37	-101	5	9437	-10.43	5.3	-0.19
653	SLU 38	-101	24	9440	-12.01	5.3	-0.21
653	SLU 39	-100	5	9624	-12.25	5.37	-0.21
653	SLU 40	-100	24	9628	-13.83	5.37	-0.23
653	SLU 41	-101	5	9734	-11.72	5.43	-0.21
653	SLU 42	-101	24	9737	-13.3	5.43	-0.23
653	SLU 43	-112	7	8845	-13.45	5.09	-0.21
653	SLU 44	-111	38	8850	-16.08	5.08	-0.25
653	SLU 45	-114	7	9013	-12.8	5.19	-0.21
653	SLU 46	-113	25	9017	-14.39	5.19	-0.23
653	SLU 47	-112	38	8960	-15.56	5.15	-0.25
653	SLU 48	-114	6	9123	-12.28	5.26	-0.21
653	SLU 49	-114	25	9126	-13.86	5.25	-0.23
653	SLU 50	-114	7	9064	-12.39	5.22	-0.21
653	SLU 51	-113	26	9067	-13.97	5.22	-0.24
653	SLU 52	-114	40	9799	-17.86	5.55	-0.29
653	SLU 53	-117	8	9962	-14.58	5.65	-0.25
653	SLU 54	-116	27	9965	-16.16	5.65	-0.27
653	SLU 55	-115	40	9908	-17.33	5.61	-0.29
653	SLU 56	-117	8	10071	-14.05	5.72	-0.25
653	SLU 57	-117	27	10074	-15.64	5.72	-0.27
653	SLU 58	-117	8	10012	-14.17	5.68	-0.25
653	SLU 59	-116	27	10015	-15.75	5.68	-0.28
653	SLU 60	-116	9	10200	-15.99	5.74	-0.27
653	SLU 61	-116	28	10203	-17.57	5.74	-0.29
653	SLU 62	-117	8	10309	-15.46	5.81	-0.27
653	SLU 63	-117	27	10312	-17.04	5.81	-0.3
653	SLU 64	-120	6	10005	-12.94	5.71	-0.2
653	SLU 65	-119	37	10010	-15.58	5.71	-0.24
653	SLU 66	-122	5	10173	-12.3	5.82	-0.19
653	SLU 67	-121	24	10176	-13.88	5.82	-0.22
653	SLU 68	-120	37	10120	-15.05	5.78	-0.24
653	SLU 69	-122	5	10283	-11.77	5.89	-0.19
653	SLU 70	-122	24	10286	-13.35	5.88	-0.22
653	SLU 71	-122	5	10224	-11.89	5.85	-0.2
653	SLU 72	-121	24	10227	-13.47	5.85	-0.22
653	SLU 73	-122	38	10959	-17.36	6.17	-0.28
653	SLU 74	-125	7	11122	-14.08	6.28	-0.24
653	SLU 75	-124	25	11125	-15.66	6.28	-0.26
653	SLU 76	-123	38	11068	-16.83	6.24	-0.28
653	SLU 77	-125	6	11231	-13.55	6.35	-0.24
653	SLU 78	-125	25	11234	-15.13	6.35	-0.26
653	SLU 79	-125	7	11172	-13.67	6.31	-0.24
653	SLU 80	-124	26	11175	-15.25	6.31	-0.27
653	SLU 81	-124	7	11360	-15.48	6.37	-0.26
653	SLU 82	-124	26	11363	-17.06	6.37	-0.28
653	SLU 83	-125	7	11469	-14.95	6.44	-0.26
653	SLU 84	-125	26	11472	-16.54	6.44	-0.28
653	SLE RA 1	-90	5	7441	-10.07	4.26	-0.15
653	SLE RA 2	-90	26	7445	-11.82	4.26	-0.18
653	SLE RA 3	-92	4	7553	-9.64	4.33	-0.15
653	SLE RA 4	-91	17	7556	-10.69	4.33	-0.17
653	SLE RA 5	-91	26	7518	-11.47	4.3	-0.18
653	SLE RA 6	-92	4	7626	-9.29	4.37	-0.15
653	SLE RA 7	-92	17	7628	-10.34	4.37	-0.17
653	SLE RA 8	-92	4	7587	-9.36	4.35	-0.16
653	SLE RA 9	-91	17	7589	-10.42	4.35	-0.17
653	SLE RA 10	-92	26	8077	-13.01	4.56	-0.21
653	SLE RA 11	-94	5	8186	-10.82	4.63	-0.18
653	SLE RA 12	-93	18	8188	-11.88	4.63	-0.2
653	SLE RA 13	-93	26	8150	-12.66	4.61	-0.21
653	SLE RA 14	-94	5	8259	-10.47	4.68	-0.18
653	SLE RA 15	-94	18	8261	-11.53	4.68	-0.2
653	SLE RA 16	-94	5	8219	-10.55	4.66	-0.18
653	SLE RA 17	-93	18	8221	-11.6	4.65	-0.2
653	SLE RA 18	-93	6	8344	-11.76	4.7	-0.2
653	SLE RA 19	-93	18	8347	-12.81	4.7	-0.21
653	SLE RA 20	-94	6	8417	-11.41	4.74	-0.2
653	SLE RA 21	-94	18	8419	-12.46	4.74	-0.21
653	SLE FR 1	-90	5	7441	-10.07	4.26	-0.15
653	SLE FR 2	-90	9	7442	-10.42	4.26	-0.16
653	SLE FR 3	-91	5	7471	-9.93	4.28	-0.16
653	SLE FR 4	-91	9	7713	-10.93	4.39	-0.17
653	SLE FR 5	-92	5	7741	-10.43	4.41	-0.17
653	SLE FR 6	-92	5	7893	-10.91	4.48	-0.18
653	SLE QP 1	-90	5	7441	-10.07	4.26	-0.15
653	SLE QP 2	-91	5	7712	-10.57	4.39	-0.17
653	SLD 1	442	227	8933	-38.43	8.66	-1.35
653	SLD 2	439	108	8916	-36.33	8.7	-0.11
653	SLD 3	434	-174	8817	4.27	8.52	-0.78
653	SLD 4	431	-293	8801	6.36	8.56	0.46
653	SLD 5	82	701	8256	-84.05	5.87	-1.6
653	SLD 6	80	624	8245	-82.69	5.89	-0.8
653	SLD 7	54	-637	7872	58.27	5.42	0.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
653	SLD 8	52	-714	7861	59.62	5.44	1.1
653	SLD 9	-235	723	7564	-80.77	3.34	-1.44
653	SLD 10	-237	647	7553	-79.42	3.36	-0.63
653	SLD 11	-263	-614	7179	61.54	2.89	0.46
653	SLD 12	-264	-691	7169	62.9	2.91	1.27
653	SLD 13	-614	303	6624	-27.51	0.22	-0.8
653	SLD 14	-616	184	6607	-25.42	0.26	0.45
653	SLD 15	-622	-98	6509	15.19	0.08	-0.23
653	SLD 16	-625	-217	6492	17.28	0.12	1.02
653	SLV 1	744	378	9624	-56.83	11.06	-2.07
653	SLV 2	740	191	9598	-53.53	11.12	-0.11
653	SLV 3	730	-300	9429	15.32	10.83	-1.1
653	SLV 4	726	-487	9403	18.62	10.89	0.86
653	SLV 5	182	1180	8587	-134.5	6.73	-2.57
653	SLV 6	179	1054	8569	-132.28	6.77	-1.25
653	SLV 7	134	-1080	7937	106.01	5.96	0.65
653	SLV 8	131	-1206	7919	108.23	6	1.97
653	SLV 9	-314	1216	7506	-129.38	2.78	-2.31
653	SLV 10	-317	1090	7488	-127.16	2.82	-0.99
653	SLV 11	-361	-1044	6856	111.13	2.01	0.91
653	SLV 12	-364	-1170	6838	113.35	2.05	2.24
653	SLV 13	-908	497	6022	-39.77	-2.11	-1.19
653	SLV 14	-913	310	5995	-36.47	-2.05	0.77
653	SLV 15	-923	-181	5827	32.38	-2.34	-0.23
653	SLV 16	-927	-368	5800	35.68	-2.28	1.74
653	SLV FO 1	828	415	9816	-61.46	11.73	-2.26
653	SLV FO 2	823	210	9786	-57.83	11.79	-0.1
653	SLV FO 3	812	-331	9601	17.91	11.47	-1.2
653	SLV FO 4	807	-536	9572	21.54	11.54	0.96
653	SLV FO 5	209	1297	8674	-146.89	6.96	-2.81
653	SLV FO 6	206	1159	8655	-144.45	7.01	-1.36
653	SLV FO 7	157	-1189	7959	117.67	6.12	0.73
653	SLV FO 8	154	-1327	7939	120.11	6.16	2.19
653	SLV FO 9	-336	1337	7485	-141.26	2.62	-2.52
653	SLV FO 10	-340	1199	7466	-138.82	2.66	-1.07
653	SLV FO 11	-388	-1149	6770	123.3	1.77	1.02
653	SLV FO 12	-392	-1288	6750	125.74	1.82	2.48
653	SLV FO 13	-990	546	5853	-42.69	-2.76	-1.3
653	SLV FO 14	-995	341	5824	-39.06	-2.69	0.86
653	SLV FO 15	-1006	-200	5638	36.68	-3.01	-0.23
653	SLV FO 16	-1011	-405	5609	40.31	-2.95	1.93
653	CRTFP Ux+	0	0	0	0	0	0
653	CRTFP Ux-	0	0	0	0	0	0
653	CRTFP Uy+	0	0	0	0	0	0
653	CRTFP Uy-	0	0	0	0	0	0
654	SLU 1	-85	4	6967	-11.8	5.11	-0.11
654	SLU 2	-85	36	6972	-14.36	5.12	-0.12
654	SLU 3	-87	4	7132	-11.2	5.23	-0.1
654	SLU 4	-87	23	7135	-12.74	5.24	-0.11
654	SLU 5	-86	36	7079	-13.87	5.21	-0.12
654	SLU 6	-88	4	7239	-10.7	5.32	-0.1
654	SLU 7	-88	23	7242	-12.24	5.33	-0.11
654	SLU 8	-87	4	7181	-10.8	5.27	-0.11
654	SLU 9	-87	23	7184	-12.34	5.28	-0.11
654	SLU 10	-88	37	7904	-16.36	5.76	-0.15
654	SLU 11	-90	5	8063	-13.2	5.87	-0.13
654	SLU 12	-90	24	8066	-14.74	5.88	-0.13
654	SLU 13	-89	37	8011	-15.87	5.84	-0.14
654	SLU 14	-91	5	8170	-12.7	5.95	-0.13
654	SLU 15	-90	24	8173	-14.24	5.96	-0.13
654	SLU 16	-90	5	8113	-12.8	5.9	-0.13
654	SLU 17	-90	24	8116	-14.34	5.91	-0.14
654	SLU 18	-90	6	8298	-14.66	6.01	-0.15
654	SLU 19	-89	25	8301	-16.2	6.02	-0.15
654	SLU 20	-90	5	8405	-14.16	6.09	-0.15
654	SLU 21	-90	24	8408	-15.7	6.1	-0.15
654	SLU 22	-93	3	8104	-11.57	5.94	-0.08
654	SLU 23	-93	35	8109	-14.13	5.96	-0.09
654	SLU 24	-95	3	8269	-10.97	6.07	-0.07
654	SLU 25	-95	22	8272	-12.51	6.08	-0.08
654	SLU 26	-94	34	8216	-13.63	6.04	-0.09
654	SLU 27	-96	3	8376	-10.47	6.15	-0.07
654	SLU 28	-95	22	8379	-12.01	6.16	-0.08
654	SLU 29	-95	3	8318	-10.57	6.1	-0.08
654	SLU 30	-95	22	8321	-12.11	6.11	-0.09
654	SLU 31	-96	36	9041	-16.13	6.59	-0.12
654	SLU 32	-98	4	9200	-12.97	6.7	-0.1
654	SLU 33	-97	23	9203	-14.51	6.71	-0.11
654	SLU 34	-96	35	9148	-15.63	6.67	-0.12
654	SLU 35	-99	4	9307	-12.47	6.78	-0.1
654	SLU 36	-98	23	9310	-14.01	6.79	-0.11
654	SLU 37	-98	4	9250	-12.57	6.73	-0.11
654	SLU 38	-97	23	9253	-14.11	6.75	-0.11
654	SLU 39	-97	4	9435	-14.43	6.84	-0.12
654	SLU 40	-97	23	9438	-15.96	6.85	-0.13
654	SLU 41	-98	4	9542	-13.93	6.92	-0.12
654	SLU 42	-98	23	9545	-15.47	6.94	-0.13
654	SLU 43	-108	6	8668	-15.42	6.35	-0.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
654	SLU 44	-108	37	8673	-17.98	6.37	-0.16
654	SLU 45	-110	6	8832	-14.82	6.48	-0.14
654	SLU 46	-110	24	8835	-16.36	6.49	-0.15
654	SLU 47	-109	37	8780	-17.48	6.45	-0.16
654	SLU 48	-111	5	8939	-14.32	6.56	-0.14
654	SLU 49	-111	24	8942	-15.86	6.57	-0.15
654	SLU 50	-110	6	8882	-14.42	6.52	-0.15
654	SLU 51	-110	24	8885	-15.96	6.53	-0.15
654	SLU 52	-111	38	9604	-19.98	7	-0.19
654	SLU 53	-113	7	9764	-16.82	7.11	-0.17
654	SLU 54	-113	25	9766	-18.36	7.12	-0.18
654	SLU 55	-112	38	9711	-19.49	7.09	-0.19
654	SLU 56	-114	6	9871	-16.32	7.19	-0.17
654	SLU 57	-113	25	9873	-17.86	7.21	-0.18
654	SLU 58	-113	7	9813	-16.42	7.15	-0.18
654	SLU 59	-113	25	9816	-17.96	7.16	-0.18
654	SLU 60	-113	7	9998	-18.28	7.26	-0.19
654	SLU 61	-112	26	10001	-19.82	7.27	-0.2
654	SLU 62	-113	7	10105	-17.78	7.34	-0.19
654	SLU 63	-113	26	10108	-19.32	7.35	-0.19
654	SLU 64	-116	5	9805	-15.19	7.19	-0.12
654	SLU 65	-116	36	9810	-17.75	7.2	-0.13
654	SLU 66	-118	4	9969	-14.59	7.31	-0.12
654	SLU 67	-118	23	9972	-16.13	7.32	-0.12
654	SLU 68	-117	36	9917	-17.25	7.29	-0.13
654	SLU 69	-119	4	10076	-14.09	7.39	-0.12
654	SLU 70	-118	23	10079	-15.63	7.4	-0.12
654	SLU 71	-118	4	10019	-14.19	7.35	-0.12
654	SLU 72	-118	23	10022	-15.73	7.36	-0.13
654	SLU 73	-119	37	10741	-19.75	7.84	-0.16
654	SLU 74	-121	5	10901	-16.59	7.95	-0.14
654	SLU 75	-120	24	10904	-18.13	7.96	-0.15
654	SLU 76	-119	37	10848	-19.25	7.92	-0.16
654	SLU 77	-122	5	11008	-16.09	8.03	-0.14
654	SLU 78	-121	24	11011	-17.63	8.04	-0.15
654	SLU 79	-121	5	10950	-16.19	7.98	-0.15
654	SLU 80	-120	24	10953	-17.73	7.99	-0.15
654	SLU 81	-120	6	11135	-18.04	8.09	-0.16
654	SLU 82	-120	25	11138	-19.58	8.1	-0.17
654	SLU 83	-121	6	11242	-17.55	8.17	-0.16
654	SLU 84	-121	25	11245	-19.09	8.18	-0.17
654	SLE RA 1	-88	4	7292	-11.73	5.35	-0.1
654	SLE RA 2	-87	25	7295	-13.44	5.36	-0.11
654	SLE RA 3	-89	4	7402	-11.33	5.43	-0.1
654	SLE RA 4	-89	16	7404	-12.36	5.44	-0.1
654	SLE RA 5	-88	25	7367	-13.11	5.41	-0.11
654	SLE RA 6	-89	4	7473	-11	5.48	-0.1
654	SLE RA 7	-89	16	7475	-12.03	5.49	-0.1
654	SLE RA 8	-89	4	7435	-11.07	5.45	-0.1
654	SLE RA 9	-89	16	7437	-12.09	5.46	-0.1
654	SLE RA 10	-89	26	7916	-14.78	5.78	-0.13
654	SLE RA 11	-91	4	8023	-12.67	5.85	-0.11
654	SLE RA 12	-90	17	8025	-13.69	5.86	-0.12
654	SLE RA 13	-90	25	7988	-14.44	5.83	-0.13
654	SLE RA 14	-91	4	8094	-12.34	5.91	-0.11
654	SLE RA 15	-91	17	8096	-13.36	5.91	-0.12
654	SLE RA 16	-91	4	8056	-12.4	5.88	-0.12
654	SLE RA 17	-90	17	8058	-13.43	5.88	-0.12
654	SLE RA 18	-90	5	8179	-13.64	5.95	-0.13
654	SLE RA 19	-90	17	8181	-14.66	5.95	-0.13
654	SLE RA 20	-91	5	8251	-13.31	6	-0.13
654	SLE RA 21	-91	17	8252	-14.33	6.01	-0.13
654	SLE FR 1	-88	4	7292	-11.73	5.35	-0.1
654	SLE FR 2	-88	8	7293	-12.07	5.35	-0.1
654	SLE FR 3	-88	4	7321	-11.6	5.37	-0.1
654	SLE FR 4	-88	8	7559	-12.65	5.53	-0.11
654	SLE FR 5	-89	4	7587	-12.17	5.55	-0.11
654	SLE FR 6	-89	4	7736	-12.69	5.65	-0.11
654	SLE QP 1	-88	4	7292	-11.73	5.35	-0.1
654	SLE QP 2	-89	4	7558	-12.3	5.53	-0.11
654	SLD 1	445	223	8648	-40.24	9.62	-1.02
654	SLD 2	442	111	8631	-38.28	9.63	0.12
654	SLD 3	437	-176	8541	1.59	9.2	-0.84
654	SLD 4	434	-289	8524	3.55	9.21	0.3
654	SLD 5	84	696	8051	-84.47	7.39	-0.86
654	SLD 6	83	623	8039	-83.2	7.4	-0.13
654	SLD 7	57	-637	7694	54.97	5.99	-0.24
654	SLD 8	55	-709	7682	56.24	5.99	0.49
654	SLD 9	-233	718	7434	-80.85	5.06	-0.71
654	SLD 10	-234	645	7423	-79.58	5.06	0.02
654	SLD 11	-260	-615	7077	58.6	3.65	-0.09
654	SLD 12	-261	-687	7066	59.87	3.66	0.64
654	SLD 13	-611	297	6593	-28.16	1.84	-0.52
654	SLD 14	-614	185	6575	-26.2	1.85	0.62
654	SLD 15	-619	-103	6486	13.67	1.42	-0.34
654	SLD 16	-622	-215	6468	15.64	1.43	0.8
654	SLV 1	748	372	9267	-58.64	11.95	-1.56
654	SLV 2	743	196	9239	-55.55	11.96	0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
654	SLV 3	734	-303	9085	12.06	11.23	-1.24
654	SLV 4	729	-480	9058	15.15	11.25	0.55
654	SLV 5	184	1172	8351	-134.01	8.53	-1.36
654	SLV 6	181	1053	8332	-131.93	8.54	-0.15
654	SLV 7	138	-1079	7747	101.66	6.15	-0.31
654	SLV 8	135	-1198	7728	103.74	6.16	0.9
654	SLV 9	-312	1207	7389	-128.35	4.89	-1.12
654	SLV 10	-315	1087	7370	-126.27	4.9	0.09
654	SLV 11	-358	-1044	6784	107.32	2.51	-0.07
654	SLV 12	-361	-1164	6766	109.4	2.52	1.14
654	SLV 13	-906	488	6059	-39.76	-0.2	-0.77
654	SLV 14	-911	311	6031	-36.67	-0.18	1.03
654	SLV 15	-920	-187	5878	30.94	-0.91	-0.45
654	SLV 16	-925	-364	5850	34.03	-0.9	1.34
654	SLV FO 1	831	409	9438	-63.27	12.59	-1.7
654	SLV FO 2	826	215	9407	-59.87	12.61	0.27
654	SLV FO 3	816	-334	9238	14.5	11.8	-1.36
654	SLV FO 4	811	-528	9208	17.9	11.82	0.62
654	SLV FO 5	212	1289	8430	-146.18	8.83	-1.48
654	SLV FO 6	208	1158	8410	-143.89	8.84	-0.15
654	SLV FO 7	160	-1187	7766	113.05	6.22	-0.33
654	SLV FO 8	157	-1318	7745	115.34	6.23	1
654	SLV FO 9	-334	1327	7372	-139.95	4.82	-1.22
654	SLV FO 10	-337	1196	7351	-137.66	4.83	0.11
654	SLV FO 11	-385	-1149	6707	119.28	2.21	-0.06
654	SLV FO 12	-389	-1280	6686	121.57	2.22	1.26
654	SLV FO 13	-988	536	5909	-42.51	-0.77	-0.83
654	SLV FO 14	-993	342	5878	-39.11	-0.75	1.14
654	SLV FO 15	-1003	-206	5710	35.26	-1.56	-0.49
654	SLV FO 16	-1008	-401	5679	38.66	-1.54	1.49
654	CRTFP Ux+	0	0	0	0	0	0
654	CRTFP Ux-	0	0	0	0	0	0
654	CRTFP Uy+	0	0	0	0	0	0
654	CRTFP Uy-	0	0	0	0	0	0
655	SLU 1	-82	4	6793	-13.41	6.08	-0.02
655	SLU 2	-81	35	6797	-15.9	6.13	-0.02
655	SLU 3	-83	4	6953	-12.85	6.23	-0.01
655	SLU 4	-83	22	6955	-14.35	6.26	-0.01
655	SLU 5	-82	35	6901	-15.43	6.23	-0.01
655	SLU 6	-84	3	7057	-12.38	6.32	-0.01
655	SLU 7	-84	22	7060	-13.88	6.35	0
655	SLU 8	-83	3	7001	-12.47	6.27	-0.01
655	SLU 9	-83	22	7004	-13.96	6.3	-0.01
655	SLU 10	-84	36	7706	-18.13	6.93	-0.02
655	SLU 11	-86	4	7862	-15.08	7.02	-0.02
655	SLU 12	-86	23	7864	-16.57	7.05	-0.01
655	SLU 13	-85	36	7810	-17.66	7.02	-0.02
655	SLU 14	-87	4	7966	-14.61	7.12	-0.01
655	SLU 15	-87	23	7969	-16.1	7.15	-0.01
655	SLU 16	-86	4	7910	-14.69	7.06	-0.02
655	SLU 17	-86	23	7913	-16.19	7.09	-0.02
655	SLU 18	-86	5	8091	-16.59	7.22	-0.03
655	SLU 19	-85	24	8094	-18.08	7.25	-0.03
655	SLU 20	-86	5	8196	-16.12	7.31	-0.03
655	SLU 21	-86	24	8198	-17.61	7.34	-0.02
655	SLU 22	-89	3	7901	-13.44	7.11	0.03
655	SLU 23	-89	34	7905	-15.94	7.16	0.03
655	SLU 24	-91	3	8061	-12.89	7.25	0.04
655	SLU 25	-91	21	8063	-14.39	7.28	0.04
655	SLU 26	-90	34	8009	-15.47	7.25	0.04
655	SLU 27	-92	2	8165	-12.42	7.35	0.04
655	SLU 28	-91	21	8168	-13.92	7.38	0.05
655	SLU 29	-91	3	8109	-12.5	7.29	0.04
655	SLU 30	-91	21	8112	-14	7.32	0.04
655	SLU 31	-91	35	8814	-18.17	7.95	0.03
655	SLU 32	-94	3	8970	-15.12	8.05	0.03
655	SLU 33	-93	22	8972	-16.61	8.08	0.04
655	SLU 34	-92	35	8918	-17.7	8.04	0.03
655	SLU 35	-94	3	9074	-14.65	8.14	0.04
655	SLU 36	-94	22	9077	-16.14	8.17	0.04
655	SLU 37	-94	3	9018	-14.73	8.09	0.03
655	SLU 38	-93	22	9021	-16.23	8.12	0.03
655	SLU 39	-93	4	9199	-16.63	8.24	0.02
655	SLU 40	-93	23	9202	-18.12	8.27	0.02
655	SLU 41	-94	4	9304	-16.16	8.33	0.02
655	SLU 42	-94	23	9306	-17.65	8.36	0.03
655	SLU 43	-104	5	8451	-17.41	7.56	-0.04
655	SLU 44	-103	37	8454	-19.91	7.61	-0.04
655	SLU 45	-106	5	8611	-16.86	7.7	-0.03
655	SLU 46	-105	24	8613	-18.35	7.73	-0.03
655	SLU 47	-104	37	8559	-19.44	7.7	-0.04
655	SLU 48	-106	5	8715	-16.39	7.8	-0.03
655	SLU 49	-106	24	8718	-17.89	7.83	-0.03
655	SLU 50	-106	5	8659	-16.47	7.74	-0.04
655	SLU 51	-105	24	8662	-17.97	7.77	-0.03
655	SLU 52	-106	38	9364	-22.14	8.4	-0.05
655	SLU 53	-108	6	9520	-19.09	8.5	-0.04
655	SLU 54	-108	25	9522	-20.58	8.53	-0.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
655	SLU 55	-107	37	9468	-21.67	8.49	-0.04
655	SLU 56	-109	6	9624	-18.62	8.59	-0.04
655	SLU 57	-109	25	9627	-20.11	8.62	-0.03
655	SLU 58	-108	6	9568	-18.7	8.54	-0.04
655	SLU 59	-108	25	9571	-20.2	8.57	-0.04
655	SLU 60	-108	7	9749	-20.6	8.69	-0.05
655	SLU 61	-107	25	9752	-22.09	8.72	-0.05
655	SLU 62	-108	6	9853	-20.13	8.78	-0.05
655	SLU 63	-108	25	9856	-21.62	8.81	-0.05
655	SLU 64	-111	4	9559	-17.45	8.58	0.01
655	SLU 65	-111	36	9563	-19.95	8.63	0.01
655	SLU 66	-113	4	9719	-16.9	8.73	0.02
655	SLU 67	-113	23	9721	-18.39	8.76	0.02
655	SLU 68	-112	36	9667	-19.48	8.72	0.01
655	SLU 69	-114	4	9823	-16.43	8.82	0.02
655	SLU 70	-113	23	9826	-17.92	8.85	0.02
655	SLU 71	-113	4	9767	-16.51	8.77	0.01
655	SLU 72	-113	23	9770	-18.01	8.8	0.02
655	SLU 73	-113	37	10472	-22.17	9.42	0
655	SLU 74	-116	5	10628	-19.12	9.52	0.01
655	SLU 75	-115	24	10630	-20.62	9.55	0.01
655	SLU 76	-114	37	10576	-21.71	9.52	0.01
655	SLU 77	-116	5	10732	-18.65	9.61	0.01
655	SLU 78	-116	24	10735	-20.15	9.64	0.02
655	SLU 79	-116	5	10676	-18.74	9.56	0.01
655	SLU 80	-115	24	10679	-20.24	9.59	0.01
655	SLU 81	-115	6	10857	-20.63	9.71	0
655	SLU 82	-115	24	10860	-22.13	9.74	0
655	SLU 83	-116	5	10962	-20.17	9.81	0
655	SLU 84	-116	24	10964	-21.66	9.84	0
655	SLE RA 1	-84	3	7109	-13.42	6.38	-0.01
655	SLE RA 2	-84	24	7112	-15.08	6.41	0
655	SLE RA 3	-85	3	7216	-13.05	6.47	0
655	SLE RA 4	-85	16	7218	-14.04	6.49	0
655	SLE RA 5	-84	24	7181	-14.77	6.47	0
655	SLE RA 6	-86	3	7286	-12.73	6.54	0
655	SLE RA 7	-85	16	7287	-13.73	6.56	0.01
655	SLE RA 8	-85	3	7248	-12.79	6.5	0
655	SLE RA 9	-85	16	7250	-13.79	6.52	0
655	SLE RA 10	-85	25	7718	-16.56	6.94	-0.01
655	SLE RA 11	-87	4	7822	-14.53	7	0
655	SLE RA 12	-87	17	7824	-15.53	7.02	0
655	SLE RA 13	-86	25	7787	-16.25	7	0
655	SLE RA 14	-87	4	7892	-14.22	7.06	0
655	SLE RA 15	-87	16	7893	-15.22	7.08	0
655	SLE RA 16	-87	4	7854	-14.28	7.03	-0.01
655	SLE RA 17	-87	17	7856	-15.27	7.05	0
655	SLE RA 18	-87	4	7975	-15.54	7.13	-0.01
655	SLE RA 19	-86	17	7977	-16.54	7.15	-0.01
655	SLE RA 20	-87	4	8045	-15.22	7.19	-0.01
655	SLE RA 21	-87	17	8046	-16.22	7.21	-0.01
655	SLE FR 1	-84	3	7109	-13.42	6.38	-0.01
655	SLE FR 2	-84	8	7110	-13.75	6.38	-0.01
655	SLE FR 3	-84	3	7137	-13.29	6.4	-0.01
655	SLE FR 4	-85	8	7370	-14.39	6.61	-0.01
655	SLE FR 5	-85	4	7397	-13.93	6.63	-0.01
655	SLE FR 6	-85	4	7542	-14.48	6.75	-0.01
655	SLE QP 1	-84	3	7109	-13.42	6.38	-0.01
655	SLE QP 2	-85	4	7369	-14.05	6.6	-0.01
655	SLD 1	449	221	8336	-42.13	10.37	-0.26
655	SLD 2	446	115	8319	-40.3	10.33	0.83
655	SLD 3	441	-179	8249	-1.1	9.48	-0.36
655	SLD 4	438	-285	8232	0.74	9.45	0.74
655	SLD 5	88	694	7795	-85.02	9.07	-0.13
655	SLD 6	86	625	7783	-83.84	9.05	0.58
655	SLD 7	61	-639	7504	51.75	6.14	-0.45
655	SLD 8	59	-708	7493	52.93	6.11	0.26
655	SLD 9	-229	715	7245	-81.04	7.09	-0.27
655	SLD 10	-231	646	7234	-79.85	7.07	0.43
655	SLD 11	-256	-617	6955	55.73	4.15	-0.6
655	SLD 12	-258	-686	6943	56.92	4.13	0.11
655	SLD 13	-608	293	6506	-28.84	3.75	-0.75
655	SLD 14	-611	186	6489	-27.01	3.72	0.34
655	SLD 15	-616	-107	6419	12.19	2.87	-0.85
655	SLD 16	-619	-214	6402	14.02	2.84	0.24
655	SLV 1	752	369	8885	-60.55	12.53	-0.4
655	SLV 2	747	201	8857	-57.66	12.48	1.32
655	SLV 3	738	-306	8737	8.8	11.04	-0.56
655	SLV 4	734	-474	8710	11.69	10.99	1.16
655	SLV 5	188	1169	8053	-133.72	10.65	-0.2
655	SLV 6	185	1056	8035	-131.78	10.62	0.96
655	SLV 7	142	-1082	7560	97.44	5.68	-0.74
655	SLV 8	139	-1195	7542	99.39	5.65	0.42
655	SLV 9	-309	1203	7196	-127.49	7.56	-0.44
655	SLV 10	-311	1090	7178	-125.55	7.52	0.72
655	SLV 11	-355	-1049	6704	103.67	2.59	-0.97
655	SLV 12	-357	-1162	6685	105.61	2.55	0.18
655	SLV 13	-903	482	6028	-39.79	2.21	-1.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
655	SLV 14	-907	314	6001	-36.91	2.16	0.54
655	SLV 15	-917	-194	5881	29.55	0.72	-1.34
655	SLV 16	-921	-362	5853	32.44	0.67	0.38
655	SLV FO 1	835	406	9036	-65.2	13.13	-0.44
655	SLV FO 2	831	221	9006	-62.02	13.07	1.46
655	SLV FO 3	820	-337	8874	11.09	11.49	-0.61
655	SLV FO 4	815	-522	8844	14.26	11.43	1.28
655	SLV FO 5	215	1286	8121	-145.69	11.06	-0.22
655	SLV FO 6	212	1161	8101	-143.55	11.02	1.05
655	SLV FO 7	164	-1191	7580	108.59	5.59	-0.81
655	SLV FO 8	161	-1315	7559	110.73	5.55	0.46
655	SLV FO 9	-331	1323	7179	-138.84	7.65	-0.48
655	SLV FO 10	-334	1199	7158	-136.7	7.61	0.8
655	SLV FO 11	-382	-1154	6637	115.44	2.19	-1.07
655	SLV FO 12	-385	-1278	6617	117.58	2.15	0.2
655	SLV FO 13	-985	529	5894	-42.37	1.77	-1.3
655	SLV FO 14	-990	345	5864	-39.19	1.72	0.6
655	SLV FO 15	-1000	-214	5732	33.92	0.14	-1.47
655	SLV FO 16	-1005	-398	5702	37.09	0.08	0.42
655	CRTFP Ux+	0	0	0	0	0	0
655	CRTFP Ux-	0	0	0	0	0	0
655	CRTFP Uy+	0	0	0	0	0	0
655	CRTFP Uy-	0	0	0	0	0	0
656	SLU 1	-100	5	8619	877.86	296.43	9.91
656	SLU 2	-100	46	8620	875.65	297.01	8.55
656	SLU 3	-102	5	8823	899.46	303.4	10.13
656	SLU 4	-102	30	8824	898.13	303.75	9.31
656	SLU 5	-101	46	8753	889.83	301.53	8.65
656	SLU 6	-103	5	8956	913.63	307.92	10.23
656	SLU 7	-103	29	8957	912.31	308.27	9.41
656	SLU 8	-102	5	8885	906.21	305.47	10.12
656	SLU 9	-102	30	8886	904.88	305.82	9.3
656	SLU 10	-103	48	9773	992.73	336.6	8.8
656	SLU 11	-105	6	9977	1016.54	342.99	10.37
656	SLU 12	-105	31	9977	1015.21	343.34	9.56
656	SLU 13	-104	47	9906	1006.9	341.12	8.9
656	SLU 14	-106	6	10110	1030.71	347.51	10.48
656	SLU 15	-106	31	10110	1029.39	347.85	9.66
656	SLU 16	-105	6	10039	1023.29	345.06	10.37
656	SLU 17	-105	31	10039	1021.96	345.41	9.55
656	SLU 18	-105	7	10267	1045.11	352.99	10.27
656	SLU 19	-104	32	10267	1043.79	353.34	9.45
656	SLU 20	-105	7	10400	1059.29	357.51	10.37
656	SLU 21	-105	31	10400	1057.96	357.85	9.55
656	SLU 22	-110	4	10026	1023.12	344.88	10.92
656	SLU 23	-109	45	10026	1020.91	345.46	9.56
656	SLU 24	-111	4	10230	1044.72	351.85	11.13
656	SLU 25	-111	29	10230	1043.4	352.2	10.31
656	SLU 26	-110	45	10159	1035.09	349.98	9.66
656	SLU 27	-112	4	10363	1058.9	356.37	11.23
656	SLU 28	-112	29	10363	1057.57	356.72	10.42
656	SLU 29	-111	4	10292	1051.47	353.92	11.13
656	SLU 30	-111	29	10292	1050.15	354.27	10.31
656	SLU 31	-112	47	11180	1137.99	385.05	9.81
656	SLU 32	-114	5	11383	1161.8	391.44	11.38
656	SLU 33	-114	30	11383	1160.48	391.78	10.56
656	SLU 34	-113	47	11313	1152.17	389.57	9.91
656	SLU 35	-115	5	11516	1175.98	395.96	11.48
656	SLU 36	-115	30	11517	1174.65	396.3	10.67
656	SLU 37	-114	5	11445	1168.55	393.51	11.38
656	SLU 38	-114	30	11445	1167.23	393.85	10.56
656	SLU 39	-114	6	11673	1190.38	401.44	11.28
656	SLU 40	-113	31	11674	1189.05	401.78	10.46
656	SLU 41	-115	6	11806	1204.55	405.95	11.38
656	SLU 42	-114	31	11807	1203.23	406.3	10.56
656	SLU 43	-127	7	10723	1091.41	368.75	12.54
656	SLU 44	-127	48	10723	1089.2	369.33	11.18
656	SLU 45	-129	7	10927	1113.01	375.72	12.75
656	SLU 46	-129	31	10927	1111.69	376.07	11.94
656	SLU 47	-128	48	10856	1103.38	373.85	11.28
656	SLU 48	-130	6	11060	1127.19	380.24	12.86
656	SLU 49	-130	31	11060	1125.86	380.59	12.04
656	SLU 50	-129	7	10989	1119.76	377.79	12.75
656	SLU 51	-129	31	10989	1118.44	378.14	11.93
656	SLU 52	-130	49	11877	1206.28	408.92	11.43
656	SLU 53	-132	8	12081	1230.09	415.31	13
656	SLU 54	-132	33	12081	1228.76	415.66	12.19
656	SLU 55	-131	49	12010	1220.46	413.44	11.53
656	SLU 56	-133	8	12214	1244.27	419.83	13.1
656	SLU 57	-133	32	12214	1242.94	420.17	12.29
656	SLU 58	-132	8	12142	1236.84	417.38	13
656	SLU 59	-132	33	12143	1235.52	417.73	12.18
656	SLU 60	-132	9	12371	1258.66	425.31	12.9
656	SLU 61	-131	33	12371	1257.34	425.66	12.08
656	SLU 62	-133	8	12504	1272.84	429.83	13
656	SLU 63	-132	33	12504	1271.52	430.17	12.18
656	SLU 64	-137	6	12129	1236.67	417.2	13.55
656	SLU 65	-136	47	12130	1234.47	417.78	12.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
656	SLU 66	-138	6	12333	1258.27	424.17	13.76
656	SLU 67	-138	31	12334	1256.95	424.52	12.94
656	SLU 68	-137	47	12263	1248.64	422.3	12.29
656	SLU 69	-139	6	12466	1272.45	428.69	13.86
656	SLU 70	-139	30	12467	1271.13	429.03	13.05
656	SLU 71	-138	6	12395	1265.03	426.24	13.75
656	SLU 72	-138	30	12396	1263.7	426.59	12.94
656	SLU 73	-139	48	13283	1351.54	457.37	12.44
656	SLU 74	-141	7	13487	1375.35	463.76	14.01
656	SLU 75	-141	32	13487	1374.03	464.1	13.19
656	SLU 76	-140	48	13416	1365.72	461.89	12.54
656	SLU 77	-142	7	13620	1389.53	468.28	14.11
656	SLU 78	-142	32	13620	1388.21	468.62	13.29
656	SLU 79	-141	7	13549	1382.1	465.83	14
656	SLU 80	-141	32	13549	1380.78	466.17	13.19
656	SLU 81	-141	8	13777	1403.93	473.76	13.91
656	SLU 82	-140	32	13777	1402.6	474.1	13.09
656	SLU 83	-142	8	13910	1418.1	478.27	14.01
656	SLU 84	-141	32	13910	1416.78	478.62	13.19
656	SLE RA 1	-103	5	9021	919.36	310.28	10.2
656	SLE RA 2	-103	32	9021	917.89	310.66	9.29
656	SLE RA 3	-104	5	9157	933.76	314.92	10.34
656	SLE RA 4	-104	21	9157	932.88	315.15	9.8
656	SLE RA 5	-103	32	9110	927.34	313.67	9.36
656	SLE RA 6	-105	5	9246	943.21	317.93	10.41
656	SLE RA 7	-105	21	9246	942.33	318.17	9.87
656	SLE RA 8	-104	5	9199	938.26	316.3	10.34
656	SLE RA 9	-104	21	9199	937.38	316.53	9.79
656	SLE RA 10	-104	33	9790	995.94	337.05	9.46
656	SLE RA 11	-106	5	9926	1011.81	341.31	10.51
656	SLE RA 12	-106	22	9926	1010.93	341.54	9.96
656	SLE RA 13	-105	33	9879	1005.39	340.07	9.53
656	SLE RA 14	-107	5	10015	1021.26	344.33	10.58
656	SLE RA 15	-107	22	10015	1020.38	344.56	10.03
656	SLE RA 16	-106	5	9967	1016.31	342.69	10.5
656	SLE RA 17	-106	22	9968	1015.43	342.92	9.96
656	SLE RA 18	-106	6	10120	1030.86	347.98	10.44
656	SLE RA 19	-106	22	10120	1029.98	348.21	9.89
656	SLE RA 20	-106	6	10208	1040.31	350.99	10.51
656	SLE RA 21	-106	22	10209	1039.43	351.22	9.96
656	SLE FR 1	-103	5	9021	919.36	310.28	10.2
656	SLE FR 2	-103	10	9021	919.07	310.35	10.02
656	SLE FR 3	-103	5	9057	923.14	311.48	10.23
656	SLE FR 4	-104	11	9351	952.52	321.66	10.09
656	SLE FR 5	-104	5	9386	956.59	322.79	10.3
656	SLE FR 6	-104	5	9570	975.11	329.13	10.32
656	SLE QP 1	-103	5	9021	919.36	310.28	10.2
656	SLE QP 2	-104	5	9351	952.81	321.59	10.27
656	SLD 1	594	288	10458	1039.82	371.42	-71.72
656	SLD 2	589	155	10439	1039.4	370.31	-65.67
656	SLD 3	584	-236	10420	1073.61	361.57	-54.5
656	SLD 4	578	-368	10401	1073.19	360.46	-48.45
656	SLD 5	123	907	9744	927.74	351.67	-41.49
656	SLD 6	119	822	9731	927.47	350.95	-37.57
656	SLD 7	87	-838	9617	1040.37	318.84	15.9
656	SLD 8	84	-924	9605	1040.1	318.12	19.82
656	SLD 9	-291	935	9097	865.52	325.05	0.73
656	SLD 10	-295	849	9084	865.25	324.34	4.65
656	SLD 11	-327	-811	8970	978.16	292.23	58.11
656	SLD 12	-330	-897	8958	977.88	291.51	62.03
656	SLD 13	-786	379	8300	832.44	282.71	69
656	SLD 14	-791	246	8281	832.01	281.6	75.05
656	SLD 15	-797	-145	8263	866.23	272.86	86.21
656	SLD 16	-802	-278	8243	865.8	271.76	92.27
656	SLV 1	990	481	11082	1086.43	400.03	-119.22
656	SLV 2	981	272	11051	1085.76	398.28	-109.69
656	SLV 3	972	-404	11017	1143.51	383.37	-90.11
656	SLV 4	963	-613	10987	1142.85	381.62	-80.58
656	SLV 5	254	1529	9973	906.44	370.71	-74.51
656	SLV 6	248	1388	9953	905.99	369.54	-68.09
656	SLV 7	193	-1421	9758	1096.72	315.18	22.53
656	SLV 8	187	-1561	9738	1096.28	314.01	28.95
656	SLV 9	-395	1572	8963	809.35	329.17	-8.4
656	SLV 10	-400	1431	8943	808.9	327.99	-1.99
656	SLV 11	-456	-1378	8748	999.63	273.64	88.64
656	SLV 12	-461	-1519	8728	999.18	272.46	95.06
656	SLV 13	-1171	623	7715	762.78	261.55	101.12
656	SLV 14	-1179	414	7684	762.11	259.81	110.66
656	SLV 15	-1189	-262	7650	819.86	244.89	130.24
656	SLV 16	-1198	-471	7620	819.2	243.15	139.77
656	SLV FO 1	1099	529	11255	1099.79	407.87	-132.17
656	SLV FO 2	1090	299	11222	1099.06	405.95	-121.69
656	SLV FO 3	1079	-445	11184	1162.58	389.55	-100.15
656	SLV FO 4	1070	-675	11151	1161.85	387.63	-89.66
656	SLV FO 5	289	1681	10036	901.8	375.62	-82.99
656	SLV FO 6	283	1527	10013	901.31	374.33	-75.93
656	SLV FO 7	222	-1563	9799	1111.12	314.54	23.76
656	SLV FO 8	216	-1718	9777	1110.62	313.25	30.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
656	SLV FO 9	-424	1728	8925	795	329.93	-10.27
656	SLV FO 10	-430	1574	8902	794.51	328.63	-3.21
656	SLV FO 11	-491	-1516	8688	1004.31	268.84	96.47
656	SLV FO 12	-497	-1671	8666	1003.82	267.55	103.53
656	SLV FO 13	-1278	685	7551	743.77	255.55	110.21
656	SLV FO 14	-1287	455	7518	743.04	253.63	120.7
656	SLV FO 15	-1298	-288	7480	806.57	237.22	142.23
656	SLV FO 16	-1307	-518	7447	805.84	235.3	152.72
656	CRTFP Ux+	0	0	0	0	0	0
656	CRTFP Ux-	0	0	0	0	0	0
656	CRTFP Uy+	0	0	0	0	0	0
656	CRTFP Uy-	0	0	0	0	0	0
657	SLU 1	-23	1	2061	-490.92	-19.74	-5.73
657	SLU 2	-23	11	2062	-491.42	-19.73	-5.58
657	SLU 3	-23	1	2109	-502.21	-20.2	-5.83
657	SLU 4	-23	7	2110	-502.51	-20.19	-5.74
657	SLU 5	-23	11	2093	-498.76	-20.03	-5.63
657	SLU 6	-24	1	2141	-509.56	-20.5	-5.87
657	SLU 7	-23	7	2141	-509.86	-20.5	-5.79
657	SLU 8	-23	1	2124	-505.6	-20.34	-5.82
657	SLU 9	-23	7	2124	-505.9	-20.33	-5.74
657	SLU 10	-23	11	2338	-556.97	-22.37	-5.72
657	SLU 11	-24	1	2385	-567.77	-22.84	-5.96
657	SLU 12	-24	7	2386	-568.07	-22.84	-5.87
657	SLU 13	-23	11	2369	-564.32	-22.67	-5.76
657	SLU 14	-24	1	2417	-575.12	-23.15	-6.01
657	SLU 15	-24	7	2417	-575.42	-23.14	-5.92
657	SLU 16	-24	1	2400	-571.16	-22.99	-5.96
657	SLU 17	-24	7	2400	-571.46	-22.98	-5.87
657	SLU 18	-24	1	2455	-584.57	-23.52	-5.92
657	SLU 19	-24	7	2456	-584.87	-23.51	-5.83
657	SLU 20	-24	1	2487	-591.91	-23.82	-5.97
657	SLU 21	-24	7	2487	-592.21	-23.81	-5.88
657	SLU 22	-25	1	2395	-569.71	-22.93	-6.21
657	SLU 23	-25	11	2396	-570.21	-22.92	-6.06
657	SLU 24	-25	1	2444	-581.01	-23.39	-6.31
657	SLU 25	-25	7	2444	-581.31	-23.39	-6.22
657	SLU 26	-25	11	2428	-577.55	-23.22	-6.11
657	SLU 27	-25	1	2475	-588.35	-23.7	-6.35
657	SLU 28	-25	7	2476	-588.65	-23.69	-6.27
657	SLU 29	-25	1	2458	-584.4	-23.54	-6.3
657	SLU 30	-25	7	2459	-584.7	-23.53	-6.21
657	SLU 31	-25	11	2672	-635.77	-25.57	-6.2
657	SLU 32	-26	1	2720	-646.57	-26.04	-6.44
657	SLU 33	-26	7	2720	-646.87	-26.03	-6.35
657	SLU 34	-25	11	2704	-643.11	-25.87	-6.24
657	SLU 35	-26	1	2751	-653.91	-26.34	-6.49
657	SLU 36	-26	7	2752	-654.21	-26.34	-6.4
657	SLU 37	-26	1	2734	-649.96	-26.18	-6.43
657	SLU 38	-26	7	2735	-650.26	-26.18	-6.35
657	SLU 39	-26	1	2790	-663.37	-26.71	-6.4
657	SLU 40	-25	7	2790	-663.67	-26.7	-6.31
657	SLU 41	-26	1	2821	-670.71	-27.01	-6.44
657	SLU 42	-26	7	2822	-671.01	-27.01	-6.36
657	SLU 43	-29	1	2565	-611.18	-24.56	-7.28
657	SLU 44	-29	11	2566	-611.68	-24.55	-7.14
657	SLU 45	-30	1	2613	-622.47	-25.02	-7.38
657	SLU 46	-29	7	2613	-622.77	-25.02	-7.3
657	SLU 47	-29	11	2597	-619.02	-24.85	-7.19
657	SLU 48	-30	1	2644	-629.82	-25.33	-7.43
657	SLU 49	-30	7	2645	-630.12	-25.32	-7.34
657	SLU 50	-30	1	2627	-625.86	-25.17	-7.38
657	SLU 51	-29	7	2628	-626.16	-25.16	-7.29
657	SLU 52	-30	12	2842	-677.23	-27.2	-7.27
657	SLU 53	-30	2	2889	-688.03	-27.67	-7.52
657	SLU 54	-30	8	2890	-688.33	-27.66	-7.43
657	SLU 55	-30	12	2873	-684.58	-27.5	-7.32
657	SLU 56	-30	2	2920	-695.38	-27.97	-7.56
657	SLU 57	-30	8	2921	-695.68	-27.97	-7.48
657	SLU 58	-30	2	2903	-691.42	-27.81	-7.51
657	SLU 59	-30	8	2904	-691.72	-27.81	-7.42
657	SLU 60	-30	2	2959	-704.83	-28.34	-7.47
657	SLU 61	-30	8	2960	-705.13	-28.34	-7.39
657	SLU 62	-30	2	2990	-712.17	-28.64	-7.52
657	SLU 63	-30	8	2991	-712.47	-28.64	-7.43
657	SLU 64	-31	1	2899	-689.97	-27.76	-7.76
657	SLU 65	-31	11	2900	-690.47	-27.75	-7.62
657	SLU 66	-31	1	2947	-701.27	-28.22	-7.86
657	SLU 67	-31	7	2948	-701.57	-28.21	-7.77
657	SLU 68	-31	11	2931	-697.81	-28.05	-7.66
657	SLU 69	-32	1	2979	-708.61	-28.52	-7.91
657	SLU 70	-32	7	2979	-708.91	-28.52	-7.82
657	SLU 71	-31	1	2962	-704.66	-28.36	-7.85
657	SLU 72	-31	7	2962	-704.96	-28.36	-7.77
657	SLU 73	-31	12	3176	-756.03	-30.39	-7.75
657	SLU 74	-32	2	3223	-766.83	-30.87	-7.99
657	SLU 75	-32	8	3224	-767.13	-30.86	-7.91
657	SLU 76	-32	12	3207	-763.37	-30.69	-7.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
657	SLU 77	-32	1	3255	-774.17	-31.17	-8.04
657	SLU 78	-32	7	3255	-774.47	-31.16	-7.95
657	SLU 79	-32	2	3238	-770.22	-31.01	-7.99
657	SLU 80	-32	8	3238	-770.52	-31	-7.9
657	SLU 81	-32	2	3293	-783.63	-31.54	-7.95
657	SLU 82	-32	8	3294	-783.93	-31.53	-7.86
657	SLU 83	-32	2	3325	-790.97	-31.84	-8
657	SLU 84	-32	8	3325	-791.27	-31.83	-7.91
657	SLE RA 1	-23	1	2156	-513.43	-20.65	-5.86
657	SLE RA 2	-23	8	2157	-513.76	-20.64	-5.77
657	SLE RA 3	-24	1	2189	-520.96	-20.96	-5.93
657	SLE RA 4	-24	5	2189	-521.16	-20.95	-5.87
657	SLE RA 5	-23	8	2178	-518.66	-20.84	-5.8
657	SLE RA 6	-24	1	2210	-525.86	-21.16	-5.96
657	SLE RA 7	-24	5	2210	-526.06	-21.16	-5.9
657	SLE RA 8	-24	1	2198	-523.22	-21.05	-5.93
657	SLE RA 9	-24	5	2199	-523.42	-21.05	-5.87
657	SLE RA 10	-24	8	2341	-557.47	-22.41	-5.86
657	SLE RA 11	-24	1	2373	-564.67	-22.72	-6.02
657	SLE RA 12	-24	5	2373	-564.87	-22.72	-5.96
657	SLE RA 13	-24	8	2362	-562.36	-22.61	-5.89
657	SLE RA 14	-24	1	2394	-569.56	-22.92	-6.05
657	SLE RA 15	-24	5	2394	-569.76	-22.92	-5.99
657	SLE RA 16	-24	1	2382	-566.93	-22.82	-6.02
657	SLE RA 17	-24	5	2383	-567.13	-22.81	-5.96
657	SLE RA 18	-24	1	2419	-575.87	-23.17	-5.99
657	SLE RA 19	-24	5	2420	-576.07	-23.16	-5.93
657	SLE RA 20	-24	1	2440	-580.76	-23.37	-6.02
657	SLE RA 21	-24	5	2441	-580.96	-23.37	-5.97
657	SLE FR 1	-23	1	2156	-513.43	-20.65	-5.86
657	SLE FR 2	-23	2	2157	-513.5	-20.65	-5.85
657	SLE FR 3	-24	1	2165	-515.39	-20.73	-5.88
657	SLE FR 4	-24	2	2235	-532.23	-21.4	-5.88
657	SLE FR 5	-24	1	2244	-534.12	-21.49	-5.92
657	SLE FR 6	-24	1	2288	-544.65	-21.91	-5.93
657	SLE QP 1	-23	1	2156	-513.43	-20.65	-5.86
657	SLE QP 2	-24	1	2235	-532.16	-21.4	-5.9
657	SLD 1	145	69	2504	-607.01	-23.73	37
657	SLD 2	146	38	2499	-605.71	-23.7	36.82
657	SLD 3	143	-58	2479	-596.45	-23.78	35.14
657	SLD 4	143	-89	2474	-595.15	-23.75	34.96
657	SLD 5	31	220	2354	-570.86	-22.04	9.82
657	SLD 6	31	200	2351	-570.02	-22.02	9.7
657	SLD 7	22	-204	2272	-535.66	-22.19	3.62
657	SLD 8	22	-224	2268	-534.82	-22.17	3.51
657	SLD 9	-70	226	2202	-529.5	-20.64	-15.31
657	SLD 10	-69	206	2199	-528.67	-20.62	-15.43
657	SLD 11	-78	-197	2120	-494.3	-20.79	-21.51
657	SLD 12	-78	-217	2116	-493.46	-20.77	-21.62
657	SLD 13	-190	91	1997	-469.17	-19.06	-46.77
657	SLD 14	-190	60	1992	-467.87	-19.03	-46.94
657	SLD 15	-193	-36	1972	-458.61	-19.11	-48.63
657	SLD 16	-193	-67	1967	-457.31	-19.08	-48.8
657	SLV 1	241	116	2656	-649.64	-25.03	61.39
657	SLV 2	242	67	2648	-647.6	-24.99	61.11
657	SLV 3	236	-99	2614	-631.76	-25.11	58.23
657	SLV 4	237	-147	2606	-629.72	-25.06	57.95
657	SLV 5	63	370	2427	-594.89	-22.39	19.12
657	SLV 6	63	337	2421	-593.52	-22.36	18.94
657	SLV 7	47	-345	2286	-535.31	-22.63	8.6
657	SLV 8	48	-378	2281	-533.94	-22.6	8.41
657	SLV 9	-95	380	2190	-530.38	-20.21	-20.22
657	SLV 10	-95	348	2184	-529.01	-20.18	-20.41
657	SLV 11	-110	-335	2049	-470.8	-20.45	-30.74
657	SLV 12	-110	-368	2044	-469.43	-20.42	-30.93
657	SLV 13	-284	150	1865	-434.6	-17.75	-69.75
657	SLV 14	-284	101	1857	-432.56	-17.7	-70.03
657	SLV 15	-289	-65	1823	-416.72	-17.82	-72.91
657	SLV 16	-288	-114	1815	-414.68	-17.78	-73.19
657	SLV FO 1	267	127	2698	-661.39	-25.4	68.11
657	SLV FO 2	268	74	2689	-659.14	-25.35	67.81
657	SLV FO 3	262	-109	2651	-641.72	-25.48	64.64
657	SLV FO 4	263	-162	2643	-639.48	-25.43	64.33
657	SLV FO 5	71	407	2446	-601.17	-22.49	21.63
657	SLV FO 6	72	371	2440	-599.66	-22.46	21.42
657	SLV FO 7	55	-380	2292	-535.63	-22.76	10.05
657	SLV FO 8	55	-416	2286	-534.12	-22.72	9.84
657	SLV FO 9	-102	418	2185	-530.2	-20.09	-21.65
657	SLV FO 10	-102	382	2179	-528.69	-20.05	-21.86
657	SLV FO 11	-119	-369	2031	-464.66	-20.35	-33.23
657	SLV FO 12	-118	-405	2025	-463.15	-20.32	-33.43
657	SLV FO 13	-310	164	1828	-424.84	-17.38	-76.14
657	SLV FO 14	-310	111	1819	-422.6	-17.33	-76.45
657	SLV FO 15	-315	-72	1782	-405.18	-17.46	-79.61
657	SLV FO 16	-315	-125	1773	-402.94	-17.41	-79.92
657	CRTFP Ux+	0	0	0	0	0	0
657	CRTFP Ux-	0	0	0	0	0	0
657	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
657	CRTFP Uy-	0	0	0	0	0	0
658	SLU 1	-51	-7	5817	11.61	484.43	-0.14
658	SLU 2	-51	22	5807	9.11	483.72	-2.56
658	SLU 3	-52	-8	5956	12.89	495.95	-0.13
658	SLU 4	-52	10	5950	11.39	495.53	-1.58
658	SLU 5	-51	21	5898	10.05	491.25	-2.56
658	SLU 6	-53	-8	6047	13.82	503.49	-0.12
658	SLU 7	-52	10	6041	12.32	503.06	-1.58
658	SLU 8	-52	-8	5999	13.48	499.5	-0.13
658	SLU 9	-52	10	5993	11.98	499.07	-1.58
658	SLU 10	-51	22	6589	11.06	548.76	-2.64
658	SLU 11	-52	-7	6738	14.84	561	-0.2
658	SLU 12	-52	10	6732	13.34	560.57	-1.66
658	SLU 13	-51	22	6680	12	556.29	-2.63
658	SLU 14	-53	-8	6828	15.77	568.53	-0.2
658	SLU 15	-52	10	6822	14.27	568.1	-1.65
658	SLU 16	-52	-8	6781	15.43	564.55	-0.2
658	SLU 17	-52	10	6774	13.93	564.12	-1.66
658	SLU 18	-52	-7	6934	14.4	577.35	-0.24
658	SLU 19	-51	10	6928	12.9	576.92	-1.7
658	SLU 20	-52	-7	7025	15.34	584.88	-0.24
658	SLU 21	-52	10	7019	13.84	584.46	-1.69
658	SLU 22	-55	-8	6765	16.93	563.32	-0.1
658	SLU 23	-55	21	6755	14.43	562.61	-2.52
658	SLU 24	-56	-9	6903	18.2	574.85	-0.09
658	SLU 25	-56	9	6897	16.7	574.42	-1.54
658	SLU 26	-55	20	6845	15.36	570.14	-2.52
658	SLU 27	-56	-9	6994	19.14	582.38	-0.08
658	SLU 28	-56	9	6988	17.64	581.95	-1.54
658	SLU 29	-56	-9	6946	18.8	578.4	-0.09
658	SLU 30	-56	9	6940	17.3	577.97	-1.54
658	SLU 31	-55	21	7536	16.38	627.65	-2.6
658	SLU 32	-56	-8	7685	20.15	639.89	-0.16
658	SLU 33	-56	9	7679	18.65	639.46	-1.62
658	SLU 34	-55	21	7627	17.31	635.19	-2.59
658	SLU 35	-57	-9	7776	21.09	647.42	-0.16
658	SLU 36	-56	9	7770	19.59	647	-1.61
658	SLU 37	-56	-9	7728	20.75	643.44	-0.16
658	SLU 38	-56	9	7722	19.25	643.01	-1.62
658	SLU 39	-56	-8	7882	19.72	656.24	-0.21
658	SLU 40	-55	9	7875	18.22	655.81	-1.66
658	SLU 41	-56	-8	7972	20.65	663.78	-0.2
658	SLU 42	-56	9	7966	19.15	663.35	-1.66
658	SLU 43	-66	-9	7238	13.27	602.71	-0.19
658	SLU 44	-65	20	7228	10.77	602	-2.61
658	SLU 45	-66	-10	7376	14.55	614.23	-0.18
658	SLU 46	-66	8	7370	13.05	613.81	-1.63
658	SLU 47	-65	20	7318	11.71	609.53	-2.61
658	SLU 48	-67	-10	7467	15.48	621.77	-0.17
658	SLU 49	-66	8	7461	13.98	621.34	-1.63
658	SLU 50	-66	-10	7419	15.14	617.78	-0.18
658	SLU 51	-66	8	7413	13.64	617.36	-1.63
658	SLU 52	-65	20	8009	12.73	667.04	-2.69
658	SLU 53	-67	-9	8158	16.5	679.28	-0.26
658	SLU 54	-66	8	8152	15	678.85	-1.71
658	SLU 55	-66	20	8100	13.66	674.58	-2.68
658	SLU 56	-67	-10	8249	17.43	686.81	-0.25
658	SLU 57	-67	8	8243	15.93	686.38	-1.7
658	SLU 58	-66	-9	8201	17.09	682.83	-0.26
658	SLU 59	-66	8	8195	15.59	682.4	-1.71
658	SLU 60	-66	-9	8355	16.06	695.63	-0.3
658	SLU 61	-66	8	8348	14.56	695.2	-1.75
658	SLU 62	-66	-9	8445	17	703.16	-0.29
658	SLU 63	-66	8	8439	15.5	702.74	-1.75
658	SLU 64	-69	-10	8185	18.59	681.6	-0.15
658	SLU 65	-69	19	8175	16.09	680.89	-2.58
658	SLU 66	-70	-11	8324	19.86	693.13	-0.14
658	SLU 67	-70	7	8318	18.36	692.7	-1.6
658	SLU 68	-69	19	8266	17.02	688.43	-2.57
658	SLU 69	-71	-11	8414	20.8	700.66	-0.14
658	SLU 70	-70	7	8408	19.3	700.23	-1.59
658	SLU 71	-70	-11	8367	20.46	696.68	-0.14
658	SLU 72	-70	7	8360	18.96	696.25	-1.6
658	SLU 73	-69	19	8957	18.04	745.93	-2.65
658	SLU 74	-70	-10	9106	21.82	758.17	-0.22
658	SLU 75	-70	7	9099	20.32	757.74	-1.67
658	SLU 76	-69	19	9047	18.98	753.47	-2.65
658	SLU 77	-71	-11	9196	22.75	765.7	-0.21
658	SLU 78	-70	7	9190	21.25	765.28	-1.67
658	SLU 79	-70	-10	9148	22.41	761.72	-0.22
658	SLU 80	-70	7	9142	20.91	761.29	-1.67
658	SLU 81	-70	-10	9302	21.38	774.52	-0.26
658	SLU 82	-69	7	9296	19.88	774.09	-1.71
658	SLU 83	-70	-10	9393	22.31	782.06	-0.26
658	SLU 84	-70	7	9387	20.81	781.63	-1.71
658	SLE RA 1	-53	-8	6088	13.13	506.97	-0.13
658	SLE RA 2	-52	12	6081	11.46	506.5	-1.74
658	SLE RA 3	-53	-8	6180	13.98	514.65	-0.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
658	SLE RA 4	-53	4	6176	12.98	514.37	-1.09
658	SLE RA 5	-52	12	6142	12.09	511.52	-1.74
658	SLE RA 6	-53	-8	6241	14.6	519.68	-0.12
658	SLE RA 7	-53	4	6237	13.6	519.39	-1.09
658	SLE RA 8	-53	-8	6209	14.38	517.02	-0.12
658	SLE RA 9	-53	4	6205	13.38	516.73	-1.09
658	SLE RA 10	-52	12	6602	12.77	549.86	-1.79
658	SLE RA 11	-53	-8	6702	15.28	558.01	-0.17
658	SLE RA 12	-53	4	6698	14.28	557.73	-1.14
658	SLE RA 13	-53	12	6663	13.39	554.88	-1.79
658	SLE RA 14	-53	-8	6762	15.9	563.04	-0.17
658	SLE RA 15	-53	4	6758	14.9	562.75	-1.14
658	SLE RA 16	-53	-8	6730	15.68	560.38	-0.17
658	SLE RA 17	-53	4	6726	14.68	560.1	-1.14
658	SLE RA 18	-53	-8	6833	14.99	568.92	-0.2
658	SLE RA 19	-53	4	6829	13.99	568.63	-1.17
658	SLE RA 20	-53	-8	6893	15.61	573.94	-0.19
658	SLE RA 21	-53	4	6889	14.61	573.65	-1.16
658	SLE FR 1	-53	-8	6088	13.13	506.97	-0.13
658	SLE FR 2	-52	-4	6087	12.8	506.88	-0.45
658	SLE FR 3	-53	-8	6112	13.38	508.98	-0.12
658	SLE FR 4	-53	-4	6310	13.36	525.46	-0.47
658	SLE FR 5	-53	-8	6336	13.94	527.56	-0.15
658	SLE FR 6	-53	-8	6460	14.06	537.94	-0.16
658	SLE QP 1	-53	-8	6088	13.13	506.97	-0.13
658	SLE QP 2	-53	-8	6311	13.69	525.56	-0.15
658	SLD 1	441	186	6959	-1.61	580.76	-16.67
658	SLD 2	439	106	6957	-0.22	580.5	-8.98
658	SLD 3	433	-184	7078	38.07	588.91	14.1
658	SLD 4	432	-264	7077	39.46	588.65	21.78
658	SLD 5	107	625	6324	-51.32	529.8	-53.1
658	SLD 6	106	573	6324	-50.42	529.63	-48.12
658	SLD 7	82	-607	6723	80.94	556.97	49.45
658	SLD 8	81	-659	6722	81.84	556.8	54.43
658	SLD 9	-186	643	5901	-54.46	494.31	-54.72
658	SLD 10	-187	592	5900	-53.56	494.14	-49.75
658	SLD 11	-211	-588	6299	77.8	521.48	47.83
658	SLD 12	-212	-640	6298	78.7	521.31	52.8
658	SLD 13	-537	248	5546	-12.08	462.46	-22.08
658	SLD 14	-539	168	5545	-10.69	462.2	-14.39
658	SLD 15	-544	-121	5665	27.59	470.61	8.69
658	SLD 16	-546	-201	5664	28.99	470.35	16.37
658	SLV 1	721	319	7313	-12.73	611.16	-27.94
658	SLV 2	718	192	7312	-10.54	610.76	-15.84
658	SLV 3	708	-306	7515	54.34	624.9	24.04
658	SLV 4	705	-432	7513	56.53	624.5	36.14
658	SLV 5	199	1060	6306	-96.36	530.48	-89.58
658	SLV 6	197	976	6305	-94.89	530.2	-81.43
658	SLV 7	157	-1020	6979	127.19	576.27	83.69
658	SLV 8	155	-1105	6978	128.66	576	91.83
658	SLV 9	-260	1090	5645	-101.29	475.11	-92.13
658	SLV 10	-262	1005	5644	-99.81	474.84	-83.98
658	SLV 11	-303	-991	6318	122.26	520.91	81.14
658	SLV 12	-305	-1076	6316	123.74	520.63	89.29
658	SLV 13	-810	417	5110	-29.15	426.61	-36.43
658	SLV 14	-813	290	5108	-26.96	426.21	-24.33
658	SLV 15	-823	-208	5311	37.91	440.35	15.55
658	SLV 16	-826	-334	5310	40.1	439.95	27.65
658	SLV FO 1	798	351	7414	-15.37	619.73	-30.72
658	SLV FO 2	795	212	7412	-12.96	619.28	-17.41
658	SLV FO 3	784	-335	7635	58.4	634.84	26.46
658	SLV FO 4	781	-474	7633	60.81	634.39	39.77
658	SLV FO 5	225	1167	6306	-107.36	530.97	-98.52
658	SLV FO 6	222	1074	6305	-105.74	530.67	-89.56
658	SLV FO 7	177	-1121	7045	138.54	581.34	92.07
658	SLV FO 8	175	-1215	7044	140.16	581.04	101.03
658	SLV FO 9	-280	1200	5579	-112.78	470.07	-101.33
658	SLV FO 10	-283	1106	5577	-111.16	469.77	-92.36
658	SLV FO 11	-328	-1089	6318	133.12	520.44	89.27
658	SLV FO 12	-330	-1183	6317	134.74	520.14	98.23
658	SLV FO 13	-886	459	4989	-33.43	416.72	-40.06
658	SLV FO 14	-889	320	4988	-31.03	416.27	-26.75
658	SLV FO 15	-900	-228	5211	40.34	431.83	17.12
658	SLV FO 16	-903	-366	5209	42.75	431.38	30.43
658	CRTFP Ux+	0	0	0	0	0	0
658	CRTFP Ux-	0	0	0	0	0	0
658	CRTFP Uy+	0	0	0	0	0	0
658	CRTFP Uy-	0	0	0	0	0	0
660	SLU 1	-21	-4	2524	5.65	46.94	-0.02
660	SLU 2	-21	8	2518	4.52	46.84	-0.26
660	SLU 3	-21	-4	2584	6.23	48.06	-0.02
660	SLU 4	-21	3	2581	5.55	48	-0.16
660	SLU 5	-21	8	2557	4.95	47.57	-0.26
660	SLU 6	-21	-4	2623	6.66	48.79	-0.02
660	SLU 7	-21	3	2620	5.98	48.73	-0.16
660	SLU 8	-21	-4	2603	6.5	48.4	-0.02
660	SLU 9	-21	3	2599	5.82	48.35	-0.17
660	SLU 10	-21	8	2858	5.48	53.15	-0.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
660	SLU 11	-21	-4	2924	7.2	54.37	-0.03
660	SLU 12	-21	3	2920	6.52	54.31	-0.17
660	SLU 13	-21	8	2897	5.91	53.89	-0.27
660	SLU 14	-21	-4	2963	7.62	55.1	-0.03
660	SLU 15	-21	3	2960	6.95	55.05	-0.17
660	SLU 16	-21	-4	2942	7.47	54.72	-0.03
660	SLU 17	-21	3	2939	6.79	54.66	-0.18
660	SLU 18	-21	-4	3009	7.03	55.96	-0.03
660	SLU 19	-21	3	3006	6.35	55.9	-0.18
660	SLU 20	-21	-4	3049	7.45	56.69	-0.03
660	SLU 21	-21	3	3045	6.78	56.63	-0.18
660	SLU 22	-22	-5	2935	8.13	54.58	-0.01
660	SLU 23	-22	8	2929	7	54.48	-0.25
660	SLU 24	-23	-5	2995	8.71	55.7	-0.01
660	SLU 25	-23	3	2992	8.03	55.64	-0.16
660	SLU 26	-22	8	2969	7.43	55.22	-0.26
660	SLU 27	-23	-5	3034	9.14	56.43	-0.01
660	SLU 28	-23	3	3031	8.46	56.38	-0.16
660	SLU 29	-23	-5	3014	8.98	56.05	-0.01
660	SLU 30	-22	3	3010	8.3	55.99	-0.16
660	SLU 31	-22	8	3269	7.96	60.8	-0.26
660	SLU 32	-23	-5	3335	9.68	62.01	-0.02
660	SLU 33	-22	3	3331	9	61.96	-0.17
660	SLU 34	-22	8	3308	8.39	61.53	-0.27
660	SLU 35	-23	-5	3374	10.1	62.75	-0.02
660	SLU 36	-23	3	3371	9.43	62.69	-0.17
660	SLU 37	-23	-5	3354	9.95	62.36	-0.02
660	SLU 38	-22	3	3350	9.27	62.3	-0.17
660	SLU 39	-22	-5	3420	9.51	63.6	-0.02
660	SLU 40	-22	3	3417	8.83	63.54	-0.17
660	SLU 41	-22	-5	3460	9.93	64.33	-0.03
660	SLU 42	-22	3	3456	9.26	64.28	-0.17
660	SLU 43	-27	-5	3140	6.49	58.4	-0.03
660	SLU 44	-26	7	3134	5.36	58.3	-0.27
660	SLU 45	-27	-6	3200	7.08	59.52	-0.03
660	SLU 46	-27	2	3197	6.4	59.46	-0.17
660	SLU 47	-27	7	3174	5.79	59.03	-0.27
660	SLU 48	-27	-6	3240	7.5	60.25	-0.03
660	SLU 49	-27	2	3236	6.82	60.19	-0.17
660	SLU 50	-27	-6	3219	7.35	59.86	-0.03
660	SLU 51	-27	2	3215	6.67	59.81	-0.18
660	SLU 52	-26	7	3474	6.33	64.61	-0.28
660	SLU 53	-27	-6	3540	8.04	65.83	-0.04
660	SLU 54	-27	2	3537	7.36	65.77	-0.18
660	SLU 55	-26	7	3513	6.75	65.35	-0.28
660	SLU 56	-27	-6	3579	8.47	66.57	-0.04
660	SLU 57	-27	2	3576	7.79	66.51	-0.18
660	SLU 58	-27	-6	3559	8.31	66.18	-0.04
660	SLU 59	-27	2	3555	7.63	66.12	-0.19
660	SLU 60	-27	-5	3625	7.87	67.42	-0.04
660	SLU 61	-26	2	3622	7.19	67.36	-0.19
660	SLU 62	-27	-5	3665	8.3	68.15	-0.04
660	SLU 63	-27	2	3661	7.62	68.09	-0.19
660	SLU 64	-28	-6	3551	8.97	66.04	-0.02
660	SLU 65	-28	7	3545	7.84	65.94	-0.26
660	SLU 66	-28	-6	3611	9.56	67.16	-0.02
660	SLU 67	-28	2	3608	8.88	67.1	-0.16
660	SLU 68	-28	7	3585	8.27	66.68	-0.26
660	SLU 69	-29	-6	3651	9.98	67.89	-0.02
660	SLU 70	-28	1	3647	9.3	67.84	-0.16
660	SLU 71	-28	-6	3630	9.83	67.51	-0.02
660	SLU 72	-28	1	3626	9.15	67.45	-0.17
660	SLU 73	-28	7	3885	8.81	72.26	-0.27
660	SLU 74	-28	-6	3951	10.52	73.48	-0.03
660	SLU 75	-28	2	3948	9.84	73.42	-0.17
660	SLU 76	-28	7	3925	9.23	72.99	-0.27
660	SLU 77	-29	-6	3990	10.95	74.21	-0.03
660	SLU 78	-28	1	3987	10.27	74.15	-0.17
660	SLU 79	-28	-6	3970	10.79	73.82	-0.03
660	SLU 80	-28	1	3966	10.11	73.76	-0.18
660	SLU 81	-28	-6	4036	10.35	75.06	-0.03
660	SLU 82	-28	2	4033	9.67	75	-0.18
660	SLU 83	-28	-6	4076	10.78	75.8	-0.03
660	SLU 84	-28	2	4072	10.1	75.74	-0.18
660	SLE RA 1	-21	-4	2641	6.36	49.12	-0.02
660	SLE RA 2	-21	4	2637	5.6	49.06	-0.18
660	SLE RA 3	-22	-4	2681	6.75	49.87	-0.02
660	SLE RA 4	-21	1	2679	6.29	49.83	-0.11
660	SLE RA 5	-21	4	2664	5.89	49.55	-0.18
660	SLE RA 6	-22	-5	2708	7.03	50.36	-0.02
660	SLE RA 7	-22	0	2705	6.58	50.32	-0.11
660	SLE RA 8	-21	-5	2694	6.93	50.1	-0.02
660	SLE RA 9	-21	0	2691	6.47	50.06	-0.11
660	SLE RA 10	-21	4	2864	6.25	53.27	-0.19
660	SLE RA 11	-21	-5	2908	7.39	54.08	-0.02
660	SLE RA 12	-21	1	2906	6.94	54.04	-0.12
660	SLE RA 13	-21	4	2890	6.53	53.75	-0.19
660	SLE RA 14	-22	-5	2934	7.67	54.57	-0.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
660	SLE RA 15	-21	0	2932	7.22	54.53	-0.12
660	SLE RA 16	-21	-5	2920	7.57	54.31	-0.02
660	SLE RA 17	-21	0	2918	7.12	54.27	-0.12
660	SLE RA 18	-21	-4	2965	7.28	55.13	-0.03
660	SLE RA 19	-21	1	2962	6.82	55.1	-0.12
660	SLE RA 20	-21	-4	2991	7.56	55.62	-0.03
660	SLE RA 21	-21	1	2989	7.11	55.58	-0.12
660	SLE FR 1	-21	-4	2641	6.36	49.12	-0.02
660	SLE FR 2	-21	-3	2640	6.21	49.11	-0.05
660	SLE FR 3	-21	-4	2652	6.47	49.32	-0.02
660	SLE FR 4	-21	-3	2737	6.48	50.91	-0.05
660	SLE FR 5	-21	-4	2749	6.75	51.12	-0.02
660	SLE FR 6	-21	-4	2803	6.82	52.13	-0.02
660	SLE QP 1	-21	-4	2641	6.36	49.12	-0.02
660	SLE QP 2	-21	-4	2738	6.63	50.93	-0.02
660	SLD 1	194	79	3004	-0.11	56	-1.74
660	SLD 2	193	46	3005	0.52	56.01	-0.69
660	SLD 3	190	-81	3073	17.73	57.17	1.34
660	SLD 4	189	-115	3074	18.37	57.18	2.38
660	SLD 5	48	270	2713	-22.57	50.66	-5.38
660	SLD 6	48	248	2714	-22.15	50.67	-4.71
660	SLD 7	37	-265	2943	36.92	54.58	4.87
660	SLD 8	37	-287	2943	37.33	54.58	5.55
660	SLD 9	-79	278	2533	-24.06	47.27	-5.59
660	SLD 10	-80	256	2534	-23.65	47.27	-4.91
660	SLD 11	-90	-257	2762	35.42	51.18	4.67
660	SLD 12	-91	-278	2763	35.83	51.19	5.34
660	SLD 13	-232	106	2403	-5.11	44.67	-2.42
660	SLD 14	-233	73	2404	-4.47	44.68	-1.38
660	SLD 15	-235	-55	2471	12.74	45.84	0.66
660	SLD 16	-236	-88	2472	13.38	45.86	1.7
660	SLV 1	315	136	3148	-5.04	58.76	-2.91
660	SLV 2	314	84	3150	-4.04	58.78	-1.26
660	SLV 3	310	-135	3264	25.12	60.74	2.29
660	SLV 4	308	-187	3266	26.13	60.76	3.94
660	SLV 5	88	459	2685	-42.8	50.27	-9.08
660	SLV 6	88	423	2686	-42.13	50.28	-7.97
660	SLV 7	70	-445	3072	57.74	56.87	8.25
660	SLV 8	69	-480	3073	58.42	56.88	9.36
660	SLV 9	-111	471	2403	-45.15	44.97	-9.4
660	SLV 10	-112	436	2405	-44.47	44.98	-8.29
660	SLV 11	-130	-432	2790	55.39	51.57	7.93
660	SLV 12	-131	-467	2792	56.07	51.58	9.04
660	SLV 13	-351	178	2210	-12.86	41.09	-3.97
660	SLV 14	-352	126	2212	-11.86	41.11	-2.33
660	SLV 15	-357	-93	2326	17.3	43.07	1.22
660	SLV 16	-358	-145	2328	18.31	43.09	2.87
660	SLV FO 1	349	150	3189	-6.21	59.54	-3.19
660	SLV FO 2	348	93	3191	-5.1	59.56	-1.39
660	SLV FO 3	343	-148	3317	26.97	61.72	2.52
660	SLV FO 4	341	-205	3319	28.08	61.74	4.33
660	SLV FO 5	99	505	2680	-47.75	50.2	-9.98
660	SLV FO 6	98	466	2681	-47	50.22	-8.76
660	SLV FO 7	79	-489	3105	62.85	57.46	9.08
660	SLV FO 8	78	-528	3106	63.59	57.48	10.29
660	SLV FO 9	-121	519	2370	-50.33	44.37	-10.33
660	SLV FO 10	-121	480	2371	-49.58	44.39	-9.12
660	SLV FO 11	-141	-475	2796	60.27	51.63	8.72
660	SLV FO 12	-142	-514	2797	61.01	51.65	9.94
660	SLV FO 13	-384	197	2157	-14.81	40.11	-4.37
660	SLV FO 14	-385	139	2159	-13.71	40.13	-2.56
660	SLV FO 15	-390	-101	2285	18.37	42.29	1.35
660	SLV FO 16	-391	-159	2287	19.47	42.31	3.16
660	CRTFP Ux+	0	0	0	0	0	0
660	CRTFP Ux-	0	0	0	0	0	0
660	CRTFP Uy+	0	0	0	0	0	0
660	CRTFP Uy-	0	0	0	0	0	0
661	SLU 1	-79	-17	10012	-516.44	-292.9	-4.38
661	SLU 2	-78	32	9988	-517.96	-291.28	-3.01
661	SLU 3	-81	-18	10251	-527.65	-300.04	-4.45
661	SLU 4	-80	12	10237	-528.56	-299.07	-3.63
661	SLU 5	-79	32	10145	-525.2	-296	-3.05
661	SLU 6	-81	-18	10408	-534.9	-304.76	-4.48
661	SLU 7	-80	12	10393	-535.81	-303.79	-3.66
661	SLU 8	-80	-18	10325	-530.92	-302.34	-4.45
661	SLU 9	-80	12	10311	-531.83	-301.37	-3.63
661	SLU 10	-78	32	11339	-587.12	-331.83	-2.98
661	SLU 11	-80	-18	11602	-596.82	-340.59	-4.42
661	SLU 12	-80	12	11588	-597.73	-339.62	-3.6
661	SLU 13	-78	32	11496	-594.36	-336.55	-3.02
661	SLU 14	-80	-18	11759	-604.06	-345.31	-4.45
661	SLU 15	-80	12	11744	-604.97	-344.34	-3.63
661	SLU 16	-80	-18	11677	-600.09	-342.9	-4.42
661	SLU 17	-79	12	11662	-601	-341.92	-3.6
661	SLU 18	-79	-17	11942	-615.24	-350.83	-4.34
661	SLU 19	-78	13	11928	-616.16	-349.86	-3.52
661	SLU 20	-79	-18	12099	-622.49	-355.55	-4.37
661	SLU 21	-79	12	12084	-623.4	-354.58	-3.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
661	SLU 22	-85	-19	11641	-596.61	-340.87	-4.65
661	SLU 23	-84	31	11617	-598.13	-339.24	-3.28
661	SLU 24	-86	-19	11880	-607.83	-348	-4.72
661	SLU 25	-85	10	11866	-608.74	-347.03	-3.9
661	SLU 26	-84	30	11774	-605.38	-343.96	-3.32
661	SLU 27	-86	-20	12037	-615.07	-352.72	-4.75
661	SLU 28	-86	10	12022	-615.98	-351.75	-3.93
661	SLU 29	-86	-20	11955	-611.1	-350.31	-4.72
661	SLU 30	-85	10	11940	-612.01	-349.33	-3.9
661	SLU 31	-83	31	12968	-667.3	-379.79	-3.25
661	SLU 32	-85	-19	13231	-677	-388.55	-4.69
661	SLU 33	-85	10	13217	-677.91	-387.58	-3.87
661	SLU 34	-84	30	13125	-674.54	-384.51	-3.29
661	SLU 35	-86	-20	13388	-684.24	-393.27	-4.72
661	SLU 36	-85	10	13374	-685.15	-392.3	-3.9
661	SLU 37	-85	-20	13306	-680.26	-390.86	-4.69
661	SLU 38	-85	10	13291	-681.18	-389.88	-3.87
661	SLU 39	-84	-19	13572	-695.42	-398.79	-4.61
661	SLU 40	-84	11	13557	-696.33	-397.82	-3.79
661	SLU 41	-84	-19	13728	-702.66	-403.52	-4.64
661	SLU 42	-84	10	13714	-703.58	-402.54	-3.82
661	SLU 43	-101	-22	12457	-643.88	-364.33	-5.6
661	SLU 44	-100	28	12433	-645.4	-362.71	-4.23
661	SLU 45	-102	-22	12696	-655.1	-371.47	-5.67
661	SLU 46	-102	8	12682	-656.01	-370.49	-4.85
661	SLU 47	-101	28	12590	-652.64	-367.43	-4.27
661	SLU 48	-103	-22	12853	-662.34	-376.19	-5.7
661	SLU 49	-102	7	12838	-663.25	-375.21	-4.88
661	SLU 50	-102	-22	12770	-658.36	-373.77	-5.67
661	SLU 51	-102	7	12756	-659.28	-372.8	-4.85
661	SLU 52	-100	28	13784	-714.56	-403.26	-4.2
661	SLU 53	-102	-22	14047	-724.26	-412.02	-5.64
661	SLU 54	-101	8	14033	-725.17	-411.04	-4.82
661	SLU 55	-100	28	13941	-721.81	-407.98	-4.24
661	SLU 56	-102	-23	14204	-731.5	-416.74	-5.67
661	SLU 57	-102	7	14189	-732.41	-415.76	-4.85
661	SLU 58	-102	-22	14122	-727.53	-414.32	-5.64
661	SLU 59	-101	7	14107	-728.44	-413.35	-4.82
661	SLU 60	-101	-22	14387	-742.69	-422.26	-5.56
661	SLU 61	-100	8	14373	-743.6	-421.29	-4.74
661	SLU 62	-101	-22	14544	-749.93	-426.98	-5.59
661	SLU 63	-101	8	14529	-750.84	-426.01	-4.77
661	SLU 64	-107	-23	14086	-724.06	-412.29	-5.87
661	SLU 65	-106	26	14062	-725.58	-410.67	-4.5
661	SLU 66	-108	-24	14325	-735.27	-419.43	-5.94
661	SLU 67	-107	6	14311	-736.18	-418.45	-5.12
661	SLU 68	-106	26	14219	-732.82	-415.39	-4.54
661	SLU 69	-108	-24	14482	-742.52	-424.15	-5.97
661	SLU 70	-108	5	14468	-743.43	-423.17	-5.15
661	SLU 71	-107	-24	14400	-738.54	-421.73	-5.94
661	SLU 72	-107	6	14385	-739.45	-420.76	-5.12
661	SLU 73	-105	26	15413	-794.74	-451.22	-4.48
661	SLU 74	-107	-24	15677	-804.44	-459.98	-5.91
661	SLU 75	-107	6	15662	-805.35	-459.01	-5.09
661	SLU 76	-106	26	15570	-801.98	-455.94	-4.51
661	SLU 77	-108	-24	15833	-811.68	-464.7	-5.95
661	SLU 78	-107	5	15819	-812.59	-463.73	-5.13
661	SLU 79	-107	-24	15751	-807.71	-462.28	-5.91
661	SLU 80	-107	5	15736	-808.62	-461.31	-5.09
661	SLU 81	-106	-24	16017	-822.86	-470.22	-5.83
661	SLU 82	-106	6	16002	-823.77	-469.25	-5.01
661	SLU 83	-106	-24	16173	-830.11	-474.94	-5.86
661	SLU 84	-106	6	16159	-831.02	-473.97	-5.04
661	SLE RA 1	-81	-18	10478	-539.35	-306.61	-4.46
661	SLE RA 2	-80	15	10461	-540.36	-305.52	-3.55
661	SLE RA 3	-82	-18	10637	-546.82	-311.37	-4.5
661	SLE RA 4	-81	2	10627	-547.43	-310.72	-3.96
661	SLE RA 5	-81	15	10566	-545.19	-308.67	-3.57
661	SLE RA 6	-82	-18	10741	-551.65	-314.51	-4.53
661	SLE RA 7	-82	2	10732	-552.26	-313.86	-3.98
661	SLE RA 8	-81	-18	10687	-549	-312.9	-4.5
661	SLE RA 9	-81	2	10677	-549.61	-312.25	-3.96
661	SLE RA 10	-80	15	11362	-586.47	-332.56	-3.53
661	SLE RA 11	-81	-18	11538	-592.93	-338.4	-4.48
661	SLE RA 12	-81	2	11528	-593.54	-337.75	-3.94
661	SLE RA 13	-80	15	11467	-591.3	-335.7	-3.55
661	SLE RA 14	-82	-18	11642	-597.76	-341.55	-4.51
661	SLE RA 15	-81	2	11632	-598.37	-340.9	-3.96
661	SLE RA 16	-81	-18	11587	-595.11	-339.93	-4.48
661	SLE RA 17	-81	2	11578	-595.72	-339.28	-3.94
661	SLE RA 18	-80	-18	11764	-605.22	-345.23	-4.43
661	SLE RA 19	-80	2	11755	-605.82	-344.58	-3.88
661	SLE RA 20	-81	-18	11869	-610.05	-348.37	-4.45
661	SLE RA 21	-80	2	11859	-610.65	-347.72	-3.91
661	SLE FR 1	-81	-18	10478	-539.35	-306.61	-4.46
661	SLE FR 2	-81	-11	10474	-539.55	-306.39	-4.28
661	SLE FR 3	-81	-18	10519	-541.28	-307.87	-4.47
661	SLE FR 4	-81	-11	10860	-559.31	-317.98	-4.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
661	SLE FR 5	-81	-18	10905	-561.04	-319.45	-4.46
661	SLE FR 6	-81	-18	11121	-572.28	-325.92	-4.44
661	SLE QP 1	-81	-18	10478	-539.35	-306.61	-4.46
661	SLE QP 2	-81	-18	10864	-559.11	-318.19	-4.45
661	SLD 1	770	310	11863	-629.24	-326.97	49.11
661	SLD 2	768	185	11871	-628.05	-328.42	47.65
661	SLD 3	757	-323	12153	-600.26	-347.11	31.5
661	SLD 4	756	-448	12161	-599.07	-348.55	30.04
661	SLD 5	194	1063	10722	-624.3	-290.03	38.59
661	SLD 6	193	982	10727	-623.54	-290.96	37.64
661	SLD 7	152	-1048	11690	-527.7	-357.16	-20.13
661	SLD 8	151	-1129	11695	-526.94	-358.1	-21.07
661	SLD 9	-312	1094	10033	-591.28	-278.29	12.17
661	SLD 10	-313	1013	10038	-590.51	-279.22	11.23
661	SLD 11	-354	-1017	11001	-494.67	-345.42	-46.54
661	SLD 12	-355	-1098	11006	-493.91	-346.35	-47.49
661	SLD 13	-917	413	9566	-519.14	-287.83	-38.93
661	SLD 14	-919	288	9574	-517.96	-289.27	-40.4
661	SLD 15	-930	-220	9857	-490.16	-307.97	-56.55
661	SLD 16	-931	-345	9864	-488.98	-309.41	-58.01
661	SLV 1	1251	535	12404	-670.43	-330.58	80.52
661	SLV 2	1249	338	12416	-668.56	-332.85	78.21
661	SLV 3	1230	-535	12894	-621.39	-364.59	50.74
661	SLV 4	1227	-732	12906	-619.53	-366.86	48.43
661	SLV 5	352	1807	10580	-667.22	-269.91	66.64
661	SLV 6	350	1675	10589	-665.97	-271.44	65.08
661	SLV 7	280	-1759	12213	-503.77	-383.26	-32.63
661	SLV 8	279	-1891	12222	-502.51	-384.79	-34.18
661	SLV 9	-440	1856	9506	-615.7	-251.6	25.28
661	SLV 10	-442	1724	9514	-614.45	-253.12	23.73
661	SLV 11	-512	-1710	11139	-452.24	-364.95	-73.98
661	SLV 12	-514	-1843	11147	-450.99	-366.48	-75.53
661	SLV 13	-1389	697	8821	-498.69	-269.53	-57.33
661	SLV 14	-1391	500	8834	-496.83	-271.8	-59.63
661	SLV 15	-1410	-373	9311	-449.65	-303.54	-87.11
661	SLV 16	-1413	-570	9324	-447.79	-305.81	-89.41
661	SLV FO 1	1385	590	12558	-681.56	-331.82	89.01
661	SLV FO 2	1382	373	12571	-679.51	-334.32	86.48
661	SLV FO 3	1361	-587	13097	-627.62	-369.23	56.26
661	SLV FO 4	1358	-804	13110	-625.57	-371.72	53.72
661	SLV FO 5	395	1990	10552	-678.03	-265.08	73.74
661	SLV FO 6	394	1844	10561	-676.66	-266.76	72.04
661	SLV FO 7	316	-1933	12348	-498.23	-389.77	-35.45
661	SLV FO 8	314	-2079	12357	-496.85	-391.45	-37.15
661	SLV FO 9	-476	2043	9370	-621.36	-244.94	28.25
661	SLV FO 10	-478	1898	9379	-619.98	-246.62	26.55
661	SLV FO 11	-555	-1879	11166	-441.56	-369.62	-80.94
661	SLV FO 12	-557	-2025	11175	-440.18	-371.3	-82.64
661	SLV FO 13	-1520	768	8617	-492.65	-264.66	-62.62
661	SLV FO 14	-1522	552	8631	-490.6	-267.16	-65.15
661	SLV FO 15	-1543	-409	9156	-438.7	-302.07	-95.38
661	SLV FO 16	-1546	-625	9169	-436.66	-304.57	-97.91
661	CRTFP Ux+	0	0	0	0	0	0
661	CRTFP Ux-	0	0	0	0	0	0
661	CRTFP Uy+	0	0	0	0	0	0
661	CRTFP Uy-	0	0	0	0	0	0
663	SLU 1	-42	-6	5662	10.39	-106.66	0.99
663	SLU 2	-41	22	5645	8.05	-106.33	1.46
663	SLU 3	-42	-6	5798	11.57	-109.23	1.01
663	SLU 4	-42	10	5788	10.17	-109.03	1.3
663	SLU 5	-41	21	5735	8.93	-108.02	1.47
663	SLU 6	-42	-6	5887	12.44	-110.92	1.02
663	SLU 7	-42	10	5877	11.04	-110.72	1.3
663	SLU 8	-42	-6	5840	12.13	-110.04	1.01
663	SLU 9	-42	10	5830	10.73	-109.84	1.29
663	SLU 10	-41	22	6413	9.84	-120.88	1.55
663	SLU 11	-42	-6	6565	13.36	-123.78	1.1
663	SLU 12	-41	11	6555	11.96	-123.58	1.38
663	SLU 13	-41	22	6502	10.72	-122.57	1.56
663	SLU 14	-42	-6	6654	14.23	-125.47	1.1
663	SLU 15	-42	10	6645	12.84	-125.27	1.39
663	SLU 16	-41	-6	6608	13.92	-124.59	1.09
663	SLU 17	-41	10	6598	12.52	-124.39	1.37
663	SLU 18	-41	-6	6758	12.94	-127.45	1.11
663	SLU 19	-41	11	6748	11.55	-127.25	1.39
663	SLU 20	-41	-6	6847	13.82	-129.14	1.12
663	SLU 21	-41	11	6838	12.42	-128.94	1.4
663	SLU 22	-44	-6	6585	15.4	-124.1	1.14
663	SLU 23	-44	21	6569	13.06	-123.76	1.61
663	SLU 24	-45	-7	6721	16.58	-126.67	1.16
663	SLU 25	-45	10	6711	15.18	-126.47	1.44
663	SLU 26	-44	21	6658	13.93	-125.45	1.62
663	SLU 27	-45	-7	6810	17.45	-128.36	1.17
663	SLU 28	-45	10	6801	16.05	-128.15	1.45
663	SLU 29	-45	-7	6764	17.14	-127.48	1.15
663	SLU 30	-44	10	6754	15.74	-127.27	1.44
663	SLU 31	-43	21	7337	14.85	-138.31	1.69
663	SLU 32	-44	-6	7489	18.37	-141.22	1.24

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
663	SLU 33	-44	10	7479	16.97	-141.02	1.53
663	SLU 34	-43	21	7426	15.72	-140	1.7
663	SLU 35	-45	-7	7578	19.24	-142.91	1.25
663	SLU 36	-44	10	7568	17.84	-142.71	1.53
663	SLU 37	-44	-7	7531	18.93	-142.03	1.24
663	SLU 38	-44	10	7521	17.53	-141.83	1.52
663	SLU 39	-44	-6	7682	17.95	-144.89	1.26
663	SLU 40	-43	10	7672	16.55	-144.69	1.54
663	SLU 41	-44	-6	7771	18.82	-146.58	1.27
663	SLU 42	-43	10	7761	17.43	-146.37	1.55
663	SLU 43	-53	-8	7044	11.79	-132.68	1.24
663	SLU 44	-53	20	7027	9.45	-132.35	1.71
663	SLU 45	-54	-8	7180	12.97	-135.25	1.26
663	SLU 46	-53	9	7170	11.57	-135.05	1.54
663	SLU 47	-53	20	7117	10.32	-134.04	1.72
663	SLU 48	-54	-8	7269	13.84	-136.94	1.27
663	SLU 49	-54	9	7259	12.44	-136.74	1.55
663	SLU 50	-54	-8	7222	13.53	-136.06	1.25
663	SLU 51	-53	9	7212	12.13	-135.86	1.54
663	SLU 52	-52	20	7795	11.24	-146.9	1.79
663	SLU 53	-53	-8	7947	14.76	-149.81	1.34
663	SLU 54	-53	9	7937	13.36	-149.6	1.63
663	SLU 55	-52	20	7884	12.11	-148.59	1.8
663	SLU 56	-53	-8	8036	15.63	-151.49	1.35
663	SLU 57	-53	9	8026	14.23	-151.29	1.63
663	SLU 58	-53	-8	7990	15.32	-150.61	1.34
663	SLU 59	-53	9	7980	13.92	-150.41	1.62
663	SLU 60	-52	-7	8140	14.34	-153.47	1.36
663	SLU 61	-52	9	8130	12.94	-153.27	1.64
663	SLU 62	-53	-8	8229	15.21	-155.16	1.36
663	SLU 63	-52	9	8220	13.81	-154.96	1.65
663	SLU 64	-56	-8	7967	16.79	-150.12	1.38
663	SLU 65	-55	20	7951	14.46	-149.78	1.86
663	SLU 66	-56	-8	8103	17.98	-152.69	1.41
663	SLU 67	-56	8	8093	16.58	-152.49	1.69
663	SLU 68	-56	19	8040	15.33	-151.47	1.86
663	SLU 69	-57	-8	8192	18.85	-154.38	1.41
663	SLU 70	-56	8	8183	17.45	-154.18	1.7
663	SLU 71	-56	-8	8146	18.54	-153.5	1.4
663	SLU 72	-56	8	8136	17.14	-153.3	1.68
663	SLU 73	-55	20	8718	16.25	-164.34	1.94
663	SLU 74	-56	-8	8871	19.77	-167.24	1.49
663	SLU 75	-56	8	8861	18.37	-167.04	1.77
663	SLU 76	-55	20	8808	17.12	-166.02	1.95
663	SLU 77	-56	-8	8960	20.64	-168.93	1.5
663	SLU 78	-56	8	8950	19.24	-168.73	1.78
663	SLU 79	-56	-8	8913	20.33	-168.05	1.48
663	SLU 80	-55	8	8903	18.93	-167.85	1.77
663	SLU 81	-55	-8	9064	19.35	-170.91	1.5
663	SLU 82	-55	9	9054	17.95	-170.71	1.79
663	SLU 83	-55	-8	9153	20.22	-172.6	1.51
663	SLU 84	-55	9	9143	18.82	-172.4	1.8
663	SLE RA 1	-42	-6	5926	11.82	-111.64	1.03
663	SLE RA 2	-42	12	5915	10.26	-111.42	1.35
663	SLE RA 3	-43	-6	6016	12.61	-113.36	1.05
663	SLE RA 4	-43	5	6010	11.68	-113.22	1.24
663	SLE RA 5	-42	12	5974	10.84	-112.55	1.35
663	SLE RA 6	-43	-6	6076	13.19	-114.48	1.05
663	SLE RA 7	-43	5	6069	12.26	-114.35	1.24
663	SLE RA 8	-43	-6	6045	12.98	-113.9	1.04
663	SLE RA 9	-42	5	6038	12.05	-113.76	1.23
663	SLE RA 10	-42	12	6426	11.46	-121.12	1.4
663	SLE RA 11	-42	-6	6528	13.8	-123.06	1.1
663	SLE RA 12	-42	5	6521	12.87	-122.92	1.29
663	SLE RA 13	-42	12	6486	12.04	-122.25	1.41
663	SLE RA 14	-43	-6	6587	14.38	-124.18	1.11
663	SLE RA 15	-42	5	6581	13.45	-124.05	1.3
663	SLE RA 16	-42	-6	6556	14.17	-123.6	1.1
663	SLE RA 17	-42	5	6550	13.24	-123.46	1.29
663	SLE RA 18	-42	-6	6657	13.52	-125.5	1.11
663	SLE RA 19	-42	5	6650	12.59	-125.37	1.3
663	SLE RA 20	-42	-6	6716	14.1	-126.63	1.12
663	SLE RA 21	-42	5	6710	13.17	-126.5	1.31
663	SLE FR 1	-42	-6	5926	11.82	-111.64	1.03
663	SLE FR 2	-42	-2	5924	11.51	-111.6	1.09
663	SLE FR 3	-42	-6	5950	12.05	-112.1	1.03
663	SLE FR 4	-42	-2	6143	12.02	-115.76	1.12
663	SLE FR 5	-42	-6	6169	12.56	-116.25	1.06
663	SLE FR 6	-42	-6	6291	12.67	-118.57	1.07
663	SLE QP 1	-42	-6	5926	11.82	-111.64	1.03
663	SLE QP 2	-42	-6	6145	12.33	-115.8	1.06
663	SLD 1	436	175	6641	-1.05	-123.3	4.28
663	SLD 2	434	111	6648	0.23	-123.46	4.13
663	SLD 3	429	-177	6841	36.06	-127.44	-1.75
663	SLD 4	427	-242	6848	37.34	-127.6	-1.9
663	SLD 5	113	594	5988	-48.19	-111.74	11.19
663	SLD 6	112	553	5993	-47.36	-111.85	11.09
663	SLD 7	88	-581	6657	75.51	-125.54	-8.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
663	SLD 8	87	-623	6661	76.34	-125.65	-9
663	SLD 9	-171	610	5629	-51.68	-105.95	11.11
663	SLD 10	-172	569	5633	-50.85	-106.06	11.01
663	SLD 11	-196	-565	6297	72.02	-119.75	-8.98
663	SLD 12	-197	-606	6302	72.85	-119.86	-9.07
663	SLD 13	-511	229	5442	-12.68	-104	4.01
663	SLD 14	-513	165	5449	-11.4	-104.17	3.86
663	SLD 15	-519	-123	5642	24.43	-108.14	-2.02
663	SLD 16	-521	-187	5649	25.71	-108.31	-2.16
663	SLV 1	707	300	6905	-10.94	-127.22	6.49
663	SLV 2	705	199	6917	-8.92	-127.49	6.25
663	SLV 3	694	-296	7243	51.79	-134.21	-3.7
663	SLV 4	692	-397	7255	53.81	-134.48	-3.93
663	SLV 5	203	1008	5858	-90.17	-108.58	18.17
663	SLV 6	201	940	5866	-88.81	-108.76	18.01
663	SLV 7	160	-977	6985	118.93	-131.88	-15.77
663	SLV 8	158	-1046	6993	120.29	-132.05	-15.92
663	SLV 9	-242	1034	5297	-95.63	-99.55	18.04
663	SLV 10	-244	965	5305	-94.27	-99.73	17.88
663	SLV 11	-285	-952	6425	113.47	-122.85	-15.9
663	SLV 12	-287	-1020	6432	114.83	-123.03	-16.06
663	SLV 13	-776	385	5035	-29.15	-97.13	6.04
663	SLV 14	-779	284	5047	-27.13	-97.39	5.81
663	SLV 15	-789	-211	5373	33.58	-104.12	-4.14
663	SLV 16	-792	-312	5385	35.6	-104.38	-4.37
663	SLV FO 1	782	331	6981	-13.27	-128.37	7.03
663	SLV FO 2	779	219	6994	-11.04	-128.66	6.77
663	SLV FO 3	768	-325	7353	55.74	-136.05	-4.17
663	SLV FO 4	765	-436	7366	57.96	-136.35	-4.43
663	SLV FO 5	227	1109	5829	-100.42	-107.86	19.88
663	SLV FO 6	225	1034	5838	-98.92	-108.05	19.71
663	SLV FO 7	180	-1075	7070	129.59	-133.48	-17.45
663	SLV FO 8	178	-1150	7078	131.09	-133.68	-17.62
663	SLV FO 9	-263	1137	5212	-106.43	-97.93	19.73
663	SLV FO 10	-265	1062	5220	-104.93	-98.12	19.56
663	SLV FO 11	-309	-1047	6452	123.58	-123.55	-17.6
663	SLV FO 12	-312	-1122	6461	125.08	-123.75	-17.77
663	SLV FO 13	-850	424	4924	-33.3	-95.26	6.54
663	SLV FO 14	-853	312	4937	-31.08	-95.55	6.28
663	SLV FO 15	-864	-231	5296	35.7	-102.95	-4.66
663	SLV FO 16	-867	-343	5309	37.93	-103.24	-4.92
663	CRTFP Ux+	0	0	0	0	0	0
663	CRTFP Ux-	0	0	0	0	0	0
663	CRTFP Uy+	0	0	0	0	0	0
663	CRTFP Uy-	0	0	0	0	0	0
664	SLU 1	-43	3	6324	7.94	-1.77	2.14
664	SLU 2	-42	33	6305	5.6	-1.77	2.1
664	SLU 3	-43	3	6476	9.09	-1.82	2.19
664	SLU 4	-43	21	6465	7.69	-1.83	2.17
664	SLU 5	-42	33	6405	6.46	-1.81	2.13
664	SLU 6	-44	3	6576	9.95	-1.86	2.22
664	SLU 7	-43	21	6564	8.54	-1.86	2.19
664	SLU 8	-43	2	6523	9.65	-1.84	2.19
664	SLU 9	-43	21	6512	8.24	-1.85	2.17
664	SLU 10	-42	34	7166	7	-2.15	2.27
664	SLU 11	-43	4	7337	10.49	-2.2	2.35
664	SLU 12	-42	22	7326	9.09	-2.2	2.33
664	SLU 13	-42	34	7266	7.86	-2.18	2.29
664	SLU 14	-43	3	7437	11.35	-2.23	2.38
664	SLU 15	-43	22	7426	9.94	-2.23	2.35
664	SLU 16	-42	3	7385	11.05	-2.22	2.35
664	SLU 17	-42	22	7373	9.64	-2.22	2.33
664	SLU 18	-42	4	7554	9.94	-2.3	2.38
664	SLU 19	-41	22	7543	8.54	-2.3	2.35
664	SLU 20	-42	4	7654	10.79	-2.34	2.4
664	SLU 21	-42	22	7643	9.39	-2.34	2.38
664	SLU 22	-46	3	7357	12.73	-2.11	2.43
664	SLU 23	-45	34	7338	10.39	-2.12	2.39
664	SLU 24	-46	3	7509	13.89	-2.17	2.48
664	SLU 25	-46	22	7498	12.48	-2.17	2.46
664	SLU 26	-45	34	7438	11.25	-2.15	2.42
664	SLU 27	-46	3	7609	14.74	-2.2	2.51
664	SLU 28	-46	21	7598	13.34	-2.2	2.48
664	SLU 29	-46	3	7557	14.44	-2.19	2.48
664	SLU 30	-45	21	7545	13.04	-2.19	2.46
664	SLU 31	-44	35	8199	11.79	-2.49	2.56
664	SLU 32	-45	4	8370	15.29	-2.54	2.65
664	SLU 33	-45	22	8359	13.88	-2.54	2.62
664	SLU 34	-44	34	8299	12.65	-2.52	2.58
664	SLU 35	-45	4	8470	16.14	-2.58	2.67
664	SLU 36	-45	22	8459	14.74	-2.58	2.65
664	SLU 37	-45	4	8418	15.84	-2.56	2.65
664	SLU 38	-45	22	8407	14.44	-2.56	2.62
664	SLU 39	-44	5	8587	14.73	-2.65	2.67
664	SLU 40	-44	23	8576	13.33	-2.65	2.64
664	SLU 41	-45	5	8687	15.59	-2.68	2.69
664	SLU 42	-44	23	8676	14.18	-2.68	2.67
664	SLU 43	-55	3	7867	8.68	-2.19	2.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
664	SLU 44	-54	33	7848	6.34	-2.19	2.64
664	SLU 45	-55	3	8019	9.83	-2.24	2.73
664	SLU 46	-55	21	8007	8.43	-2.24	2.71
664	SLU 47	-54	33	7948	7.19	-2.22	2.67
664	SLU 48	-56	3	8119	10.69	-2.27	2.76
664	SLU 49	-55	21	8107	9.28	-2.28	2.73
664	SLU 50	-55	3	8066	10.39	-2.26	2.73
664	SLU 51	-55	21	8055	8.98	-2.26	2.71
664	SLU 52	-54	34	8709	7.74	-2.56	2.81
664	SLU 53	-55	4	8880	11.23	-2.61	2.9
664	SLU 54	-54	22	8869	9.83	-2.61	2.87
664	SLU 55	-54	34	8809	8.59	-2.6	2.83
664	SLU 56	-55	4	8980	12.09	-2.65	2.92
664	SLU 57	-55	22	8968	10.68	-2.65	2.9
664	SLU 58	-54	4	8928	11.79	-2.63	2.9
664	SLU 59	-54	22	8916	10.38	-2.63	2.87
664	SLU 60	-54	4	9097	10.68	-2.72	2.92
664	SLU 61	-53	23	9086	9.28	-2.72	2.89
664	SLU 62	-54	4	9197	11.53	-2.75	2.94
664	SLU 63	-54	23	9185	10.13	-2.75	2.92
664	SLU 64	-57	4	8900	13.47	-2.53	2.98
664	SLU 65	-57	34	8881	11.13	-2.53	2.94
664	SLU 66	-58	4	9052	14.63	-2.58	3.02
664	SLU 67	-58	22	9041	13.22	-2.58	3
664	SLU 68	-57	34	8981	11.99	-2.57	2.96
664	SLU 69	-58	4	9152	15.48	-2.62	3.05
664	SLU 70	-58	22	9140	14.08	-2.62	3.03
664	SLU 71	-58	4	9100	15.18	-2.6	3.02
664	SLU 72	-57	22	9088	13.78	-2.6	3
664	SLU 73	-56	35	9742	12.53	-2.9	3.1
664	SLU 74	-57	5	9913	16.03	-2.95	3.19
664	SLU 75	-57	23	9902	14.62	-2.95	3.16
664	SLU 76	-56	35	9842	13.39	-2.94	3.12
664	SLU 77	-57	5	10013	16.88	-2.99	3.21
664	SLU 78	-57	23	10002	15.48	-2.99	3.19
664	SLU 79	-57	5	9961	16.58	-2.97	3.19
664	SLU 80	-57	23	9949	15.18	-2.97	3.16
664	SLU 81	-56	5	10130	15.47	-3.06	3.21
664	SLU 82	-56	23	10119	14.07	-3.06	3.19
664	SLU 83	-57	5	10230	16.33	-3.1	3.23
664	SLU 84	-56	23	10219	14.92	-3.1	3.21
664	SLE RA 1	-44	3	6619	9.31	-1.87	2.22
664	SLE RA 2	-43	23	6606	7.75	-1.87	2.2
664	SLE RA 3	-44	3	6720	10.08	-1.9	2.26
664	SLE RA 4	-44	15	6713	9.14	-1.91	2.24
664	SLE RA 5	-43	23	6673	8.32	-1.89	2.21
664	SLE RA 6	-44	3	6787	10.65	-1.93	2.27
664	SLE RA 7	-44	15	6779	9.71	-1.93	2.26
664	SLE RA 8	-44	3	6752	10.45	-1.92	2.26
664	SLE RA 9	-44	15	6745	9.51	-1.92	2.24
664	SLE RA 10	-43	24	7180	8.68	-2.12	2.31
664	SLE RA 11	-44	3	7294	11.01	-2.15	2.37
664	SLE RA 12	-43	16	7287	10.08	-2.15	2.35
664	SLE RA 13	-43	24	7247	9.25	-2.14	2.32
664	SLE RA 14	-44	3	7361	11.58	-2.18	2.38
664	SLE RA 15	-43	15	7353	10.65	-2.18	2.37
664	SLE RA 16	-43	3	7326	11.38	-2.17	2.37
664	SLE RA 17	-43	15	7319	10.45	-2.17	2.35
664	SLE RA 18	-43	4	7439	10.64	-2.22	2.38
664	SLE RA 19	-43	16	7431	9.71	-2.22	2.36
664	SLE RA 20	-43	4	7506	11.21	-2.25	2.4
664	SLE RA 21	-43	16	7498	10.28	-2.25	2.38
664	SLE FR 1	-44	3	6619	9.31	-1.87	2.22
664	SLE FR 2	-44	7	6616	9	-1.87	2.22
664	SLE FR 3	-44	3	6645	9.54	-1.88	2.23
664	SLE FR 4	-43	7	6862	9.4	-1.98	2.27
664	SLE FR 5	-43	3	6892	9.94	-1.99	2.28
664	SLE FR 6	-43	3	7029	9.98	-2.05	2.3
664	SLE QP 1	-44	3	6619	9.31	-1.87	2.22
664	SLE QP 2	-43	3	6865	9.71	-1.98	2.27
664	SLD 1	487	202	7338	-2.76	0.69	2.02
664	SLD 2	485	136	7346	-1.54	0.71	3.12
664	SLD 3	479	-185	7568	34.98	0.64	2.68
664	SLD 4	477	-250	7576	36.2	0.66	3.77
664	SLD 5	129	661	6657	-51.49	-1.11	1.01
664	SLD 6	128	618	6662	-50.7	-1.1	1.72
664	SLD 7	101	-629	7423	74.33	-1.26	3.19
664	SLD 8	99	-671	7428	75.11	-1.25	3.9
664	SLD 9	-186	677	6301	-55.69	-2.7	0.64
664	SLD 10	-188	635	6307	-54.91	-2.69	1.35
664	SLD 11	-215	-612	7068	70.12	-2.85	2.82
664	SLD 12	-216	-655	7073	70.91	-2.84	3.53
664	SLD 13	-564	257	6154	-16.78	-4.61	0.77
664	SLD 14	-566	191	6162	-15.56	-4.6	1.87
664	SLD 15	-572	-130	6383	20.96	-4.66	1.42
664	SLD 16	-574	-196	6392	22.18	-4.64	2.52
664	SLV 1	788	339	7588	-12.19	2.18	1.83
664	SLV 2	785	235	7601	-10.27	2.21	3.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
664	SLV 3	773	-315	7976	51.62	2.11	2.94
664	SLV 4	770	-418	7989	53.54	2.14	4.67
664	SLV 5	229	1115	6491	-93.99	-0.62	0.14
664	SLV 6	227	1045	6500	-92.7	-0.6	1.3
664	SLV 7	180	-1064	7784	118.7	-0.87	3.83
664	SLV 8	178	-1134	7793	119.99	-0.85	4.99
664	SLV 9	-265	1140	5937	-100.57	-3.1	-0.45
664	SLV 10	-267	1071	5946	-99.28	-3.08	0.72
664	SLV 11	-313	-1039	7230	112.12	-3.35	3.24
664	SLV 12	-315	-1108	7239	113.41	-3.33	4.4
664	SLV 13	-857	424	5741	-34.12	-6.09	-0.12
664	SLV 14	-860	321	5754	-32.2	-6.06	1.6
664	SLV 15	-872	-229	6129	29.69	-6.16	0.98
664	SLV 16	-875	-333	6142	31.61	-6.13	2.71
664	SLV FO 1	871	372	7660	-14.38	2.6	1.79
664	SLV FO 2	868	259	7675	-12.26	2.63	3.69
664	SLV FO 3	855	-347	8087	55.81	2.52	3.01
664	SLV FO 4	852	-460	8102	57.92	2.55	4.91
664	SLV FO 5	256	1226	6454	-104.36	-0.48	-0.07
664	SLV FO 6	254	1149	6463	-102.94	-0.46	1.21
664	SLV FO 7	202	-1171	7876	129.59	-0.76	3.98
664	SLV FO 8	200	-1248	7886	131.02	-0.74	5.26
664	SLV FO 9	-287	1254	5844	-111.6	-3.21	-0.72
664	SLV FO 10	-289	1177	5854	-110.17	-3.19	0.56
664	SLV FO 11	-340	-1143	7266	122.36	-3.49	3.34
664	SLV FO 12	-343	-1220	7276	123.78	-3.47	4.62
664	SLV FO 13	-939	467	5628	-38.5	-6.5	-0.36
664	SLV FO 14	-942	353	5643	-36.39	-6.47	1.54
664	SLV FO 15	-955	-253	6055	31.68	-6.58	0.85
664	SLV FO 16	-958	-366	6069	33.8	-6.55	2.75
664	CRTFP Ux+	0	0	0	0	0	0
664	CRTFP Ux-	0	0	0	0	0	0
664	CRTFP Uy+	0	0	0	0	0	0
664	CRTFP Uy-	0	0	0	0	0	0
665	SLU 1	-40	16	6372	4.17	-1.21	2.63
665	SLU 2	-40	46	6354	2.08	-1.24	2.6
665	SLU 3	-41	16	6525	5.16	-1.24	2.69
665	SLU 4	-40	34	6515	3.91	-1.26	2.67
665	SLU 5	-40	46	6455	2.82	-1.26	2.63
665	SLU 6	-41	16	6626	5.9	-1.27	2.72
665	SLU 7	-41	34	6615	4.65	-1.29	2.7
665	SLU 8	-41	16	6574	5.65	-1.26	2.69
665	SLU 9	-40	34	6563	4.39	-1.27	2.68
665	SLU 10	-39	48	7226	2.87	-1.52	2.81
665	SLU 11	-40	18	7397	5.94	-1.53	2.89
665	SLU 12	-40	36	7386	4.69	-1.55	2.88
665	SLU 13	-39	48	7326	3.6	-1.55	2.84
665	SLU 14	-40	18	7498	6.68	-1.55	2.92
665	SLU 15	-40	36	7487	5.43	-1.57	2.91
665	SLU 16	-40	18	7445	6.43	-1.54	2.89
665	SLU 17	-39	36	7435	5.18	-1.56	2.88
665	SLU 18	-39	19	7617	5.29	-1.61	2.92
665	SLU 19	-39	37	7606	4.04	-1.63	2.9
665	SLU 20	-39	19	7718	6.03	-1.64	2.95
665	SLU 21	-39	37	7707	4.78	-1.66	2.93
665	SLU 22	-43	18	7414	8.18	-1.45	2.98
665	SLU 23	-42	48	7396	6.09	-1.48	2.96
665	SLU 24	-43	19	7568	9.17	-1.48	3.04
665	SLU 25	-43	37	7557	7.92	-1.5	3.03
665	SLU 26	-42	49	7497	6.83	-1.5	2.99
665	SLU 27	-43	19	7669	9.91	-1.5	3.07
665	SLU 28	-43	37	7658	8.66	-1.52	3.06
665	SLU 29	-43	18	7616	9.66	-1.49	3.04
665	SLU 30	-42	37	7605	8.41	-1.51	3.03
665	SLU 31	-41	50	8268	6.88	-1.76	3.16
665	SLU 32	-42	21	8440	9.96	-1.77	3.24
665	SLU 33	-42	39	8429	8.7	-1.78	3.23
665	SLU 34	-41	50	8369	7.61	-1.79	3.19
665	SLU 35	-42	21	8541	10.69	-1.79	3.28
665	SLU 36	-42	39	8530	9.44	-1.81	3.26
665	SLU 37	-42	20	8488	10.44	-1.78	3.25
665	SLU 38	-42	38	8477	9.19	-1.8	3.23
665	SLU 39	-41	21	8660	9.3	-1.85	3.27
665	SLU 40	-41	39	8649	8.05	-1.87	3.26
665	SLU 41	-41	21	8761	10.04	-1.88	3.3
665	SLU 42	-41	39	8750	8.79	-1.9	3.29
665	SLU 43	-52	20	7926	4.05	-1.49	3.29
665	SLU 44	-51	50	7908	1.96	-1.52	3.27
665	SLU 45	-52	20	8080	5.04	-1.52	3.35
665	SLU 46	-52	38	8069	3.78	-1.54	3.34
665	SLU 47	-51	50	8009	2.7	-1.54	3.3
665	SLU 48	-52	20	8180	5.78	-1.55	3.39
665	SLU 49	-52	38	8170	4.52	-1.57	3.37
665	SLU 50	-52	20	8128	5.52	-1.54	3.36
665	SLU 51	-51	38	8117	4.27	-1.56	3.34
665	SLU 52	-50	52	8780	2.74	-1.81	3.47
665	SLU 53	-51	22	8951	5.82	-1.81	3.56
665	SLU 54	-51	40	8940	4.57	-1.83	3.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
665	SLU 55	-50	52	8881	3.48	-1.83	3.5
665	SLU 56	-51	22	9052	6.56	-1.83	3.59
665	SLU 57	-51	40	9041	5.31	-1.85	3.57
665	SLU 58	-51	22	9000	6.31	-1.82	3.56
665	SLU 59	-51	40	8989	5.05	-1.84	3.54
665	SLU 60	-50	22	9171	5.17	-1.89	3.58
665	SLU 61	-50	41	9160	3.91	-1.91	3.57
665	SLU 62	-50	23	9272	5.91	-1.92	3.61
665	SLU 63	-50	41	9261	4.65	-1.94	3.6
665	SLU 64	-54	22	8969	8.06	-1.73	3.65
665	SLU 65	-53	52	8950	5.97	-1.76	3.62
665	SLU 66	-54	23	9122	9.05	-1.76	3.71
665	SLU 67	-54	41	9111	7.79	-1.78	3.69
665	SLU 68	-53	52	9051	6.71	-1.78	3.66
665	SLU 69	-54	23	9223	9.79	-1.79	3.74
665	SLU 70	-54	41	9212	8.53	-1.8	3.73
665	SLU 71	-54	22	9170	9.54	-1.77	3.71
665	SLU 72	-54	40	9160	8.28	-1.79	3.7
665	SLU 73	-52	54	9822	6.75	-2.04	3.83
665	SLU 74	-54	24	9994	9.83	-2.05	3.91
665	SLU 75	-53	43	9983	8.58	-2.07	3.9
665	SLU 76	-53	54	9923	7.49	-2.07	3.86
665	SLU 77	-54	25	10095	10.57	-2.07	3.94
665	SLU 78	-53	43	10084	9.32	-2.09	3.93
665	SLU 79	-53	24	10042	10.32	-2.06	3.91
665	SLU 80	-53	42	10031	9.07	-2.08	3.9
665	SLU 81	-53	25	10214	9.18	-2.13	3.94
665	SLU 82	-52	43	10203	7.92	-2.15	3.92
665	SLU 83	-53	25	10315	9.92	-2.16	3.97
665	SLU 84	-52	43	10304	8.66	-2.18	3.95
665	SLE RA 1	-41	17	6670	5.32	-1.28	2.73
665	SLE RA 2	-41	37	6658	3.92	-1.3	2.71
665	SLE RA 3	-41	17	6772	5.98	-1.3	2.77
665	SLE RA 4	-41	29	6765	5.14	-1.31	2.76
665	SLE RA 5	-41	37	6725	4.42	-1.31	2.73
665	SLE RA 6	-41	17	6839	6.47	-1.31	2.79
665	SLE RA 7	-41	29	6832	5.63	-1.33	2.78
665	SLE RA 8	-41	17	6804	6.3	-1.31	2.77
665	SLE RA 9	-41	29	6797	5.47	-1.32	2.76
665	SLE RA 10	-40	38	7239	4.45	-1.49	2.85
665	SLE RA 11	-41	18	7353	6.5	-1.49	2.9
665	SLE RA 12	-40	30	7346	5.66	-1.5	2.89
665	SLE RA 13	-40	38	7306	4.94	-1.5	2.87
665	SLE RA 14	-41	18	7421	6.99	-1.5	2.92
665	SLE RA 15	-41	30	7413	6.16	-1.52	2.91
665	SLE RA 16	-41	18	7385	6.82	-1.5	2.91
665	SLE RA 17	-40	30	7378	5.99	-1.51	2.9
665	SLE RA 18	-40	18	7500	6.06	-1.55	2.92
665	SLE RA 19	-40	30	7493	5.23	-1.56	2.91
665	SLE RA 20	-40	18	7567	6.56	-1.56	2.94
665	SLE RA 21	-40	30	7560	5.72	-1.58	2.93
665	SLE FR 1	-41	17	6670	5.32	-1.28	2.73
665	SLE FR 2	-41	21	6667	5.04	-1.28	2.73
665	SLE FR 3	-41	17	6697	5.51	-1.28	2.74
665	SLE FR 4	-41	21	6916	5.26	-1.36	2.78
665	SLE FR 5	-41	17	6946	5.74	-1.36	2.8
665	SLE FR 6	-41	17	7085	5.69	-1.41	2.83
665	SLE QP 1	-41	17	6670	5.32	-1.28	2.73
665	SLE QP 2	-41	17	6919	5.54	-1.36	2.79
665	SLD 1	491	215	7305	-4.49	1.46	2.74
665	SLD 2	489	155	7312	-3.48	1.52	3.74
665	SLD 3	482	-169	7528	29.89	1.85	3.28
665	SLD 4	480	-229	7536	30.9	1.91	4.29
665	SLD 5	132	669	6695	-49.78	-1.11	1.77
665	SLD 6	131	630	6699	-49.12	-1.08	2.42
665	SLD 7	103	-610	7439	64.81	0.19	3.59
665	SLD 8	102	-649	7444	65.46	0.23	4.24
665	SLD 9	-183	683	6394	-54.38	-2.94	1.34
665	SLD 10	-185	644	6399	-53.72	-2.9	1.99
665	SLD 11	-212	-595	7138	60.21	-1.64	3.15
665	SLD 12	-214	-634	7143	60.86	-1.6	3.8
665	SLD 13	-561	263	6302	-19.81	-4.62	1.29
665	SLD 14	-563	203	6309	-18.8	-4.57	2.29
665	SLD 15	-570	-120	6525	14.56	-4.23	1.83
665	SLD 16	-572	-181	6533	15.57	-4.18	2.83
665	SLV 1	792	351	7507	-12.33	3.01	2.67
665	SLV 2	789	256	7518	-10.74	3.11	4.25
665	SLV 3	777	-297	7884	45.79	3.67	3.59
665	SLV 4	774	-392	7895	47.38	3.77	5.17
665	SLV 5	232	1118	6522	-88.26	-1.06	1.06
665	SLV 6	230	1054	6529	-87.19	-1	2.12
665	SLV 7	183	-1042	7778	105.46	1.14	4.13
665	SLV 8	180	-1106	7786	106.53	1.2	5.2
665	SLV 9	-262	1140	6052	-95.45	-3.91	0.38
665	SLV 10	-264	1077	6060	-94.38	-3.85	1.44
665	SLV 11	-311	-1020	7309	98.27	-1.71	3.45
665	SLV 12	-314	-1084	7316	99.34	-1.65	4.52
665	SLV 13	-855	426	5942	-36.29	-6.48	0.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
665	SLV 14	-858	332	5954	-34.7	-6.39	1.98
665	SLV 15	-870	-222	6319	21.82	-5.82	1.33
665	SLV 16	-873	-316	6331	23.41	-5.73	2.9
665	SLV FO 1	875	384	7566	-14.12	3.45	2.66
665	SLV FO 2	872	280	7578	-12.37	3.55	4.39
665	SLV FO 3	859	-329	7981	49.81	4.18	3.67
665	SLV FO 4	855	-433	7993	51.56	4.28	5.41
665	SLV FO 5	259	1228	6482	-97.64	-1.03	0.88
665	SLV FO 6	257	1158	6490	-96.46	-0.97	2.05
665	SLV FO 7	205	-1148	7864	115.45	1.39	4.27
665	SLV FO 8	203	-1219	7872	116.63	1.45	5.44
665	SLV FO 9	-284	1253	5966	-105.55	-4.17	0.14
665	SLV FO 10	-286	1183	5974	-104.37	-4.1	1.31
665	SLV FO 11	-339	-1123	7348	107.54	-1.75	3.52
665	SLV FO 12	-341	-1194	7356	108.72	-1.68	4.69
665	SLV FO 13	-937	467	5845	-40.48	-6.99	0.16
665	SLV FO 14	-940	363	5857	-38.73	-6.89	1.9
665	SLV FO 15	-953	-245	6259	23.45	-6.27	1.18
665	SLV FO 16	-956	-350	6272	25.2	-6.17	2.92
665	CRTFP Ux+	0	0	0	0	0	0
665	CRTFP Ux-	0	0	0	0	0	0
665	CRTFP Uy+	0	0	0	0	0	0
665	CRTFP Uy-	0	0	0	0	0	0
666	SLU 1	-38	30	6395	0.4	-0.22	2.65
666	SLU 2	-38	60	6379	-1.44	-0.27	2.65
666	SLU 3	-39	31	6549	1.23	-0.23	2.71
666	SLU 4	-38	49	6539	0.12	-0.26	2.71
666	SLU 5	-38	61	6480	-0.82	-0.27	2.68
666	SLU 6	-39	31	6651	1.85	-0.23	2.75
666	SLU 7	-38	49	6641	0.75	-0.26	2.74
666	SLU 8	-38	31	6598	1.65	-0.23	2.72
666	SLU 9	-38	49	6588	0.55	-0.26	2.72
666	SLU 10	-37	64	7257	-1.27	-0.4	2.86
666	SLU 11	-38	34	7428	1.4	-0.35	2.92
666	SLU 12	-37	52	7418	0.29	-0.38	2.92
666	SLU 13	-37	64	7358	-0.65	-0.4	2.89
666	SLU 14	-38	34	7529	2.02	-0.36	2.95
666	SLU 15	-37	52	7519	0.91	-0.39	2.95
666	SLU 16	-37	34	7476	1.82	-0.36	2.92
666	SLU 17	-37	52	7466	0.71	-0.38	2.92
666	SLU 18	-37	35	7650	0.64	-0.4	2.94
666	SLU 19	-37	53	7640	-0.46	-0.43	2.94
666	SLU 20	-37	35	7751	1.27	-0.41	2.98
666	SLU 21	-37	53	7741	0.16	-0.44	2.97
666	SLU 22	-40	35	7443	3.64	-0.27	3.02
666	SLU 23	-40	65	7426	1.79	-0.32	3.01
666	SLU 24	-41	36	7597	4.46	-0.28	3.08
666	SLU 25	-40	54	7587	3.36	-0.31	3.07
666	SLU 26	-40	65	7527	2.42	-0.33	3.04
666	SLU 27	-41	36	7698	5.09	-0.28	3.11
666	SLU 28	-40	54	7688	3.98	-0.31	3.1
666	SLU 29	-41	35	7645	4.89	-0.28	3.08
666	SLU 30	-40	53	7635	3.78	-0.31	3.08
666	SLU 31	-39	68	8304	1.96	-0.45	3.22
666	SLU 32	-40	39	8475	4.63	-0.41	3.28
666	SLU 33	-40	57	8465	3.52	-0.44	3.28
666	SLU 34	-39	68	8406	2.58	-0.45	3.25
666	SLU 35	-40	39	8577	5.25	-0.41	3.31
666	SLU 36	-40	57	8566	4.15	-0.44	3.31
666	SLU 37	-40	38	8524	5.05	-0.41	3.28
666	SLU 38	-39	56	8514	3.95	-0.44	3.28
666	SLU 39	-39	39	8697	3.88	-0.46	3.31
666	SLU 40	-39	57	8687	2.77	-0.49	3.3
666	SLU 41	-39	39	8799	4.5	-0.46	3.34
666	SLU 42	-39	58	8789	3.39	-0.49	3.33
666	SLU 43	-49	38	7955	-0.58	-0.27	3.33
666	SLU 44	-48	68	7938	-2.43	-0.32	3.33
666	SLU 45	-49	39	8109	0.24	-0.27	3.39
666	SLU 46	-49	57	8099	-0.87	-0.3	3.39
666	SLU 47	-48	68	8039	-1.8	-0.32	3.36
666	SLU 48	-49	39	8210	0.87	-0.28	3.42
666	SLU 49	-49	57	8200	-0.24	-0.31	3.42
666	SLU 50	-49	38	8158	0.66	-0.28	3.39
666	SLU 51	-49	56	8147	-0.44	-0.31	3.39
666	SLU 52	-47	71	8816	-2.26	-0.44	3.53
666	SLU 53	-48	42	8987	0.41	-0.4	3.59
666	SLU 54	-48	60	8977	-0.7	-0.43	3.59
666	SLU 55	-47	71	8918	-1.64	-0.45	3.56
666	SLU 56	-49	42	9089	1.03	-0.4	3.62
666	SLU 57	-48	60	9079	-0.07	-0.43	3.62
666	SLU 58	-48	42	9036	0.83	-0.4	3.59
666	SLU 59	-48	60	9026	-0.28	-0.43	3.59
666	SLU 60	-48	42	9210	-0.35	-0.45	3.62
666	SLU 61	-47	60	9200	-1.45	-0.48	3.62
666	SLU 62	-48	43	9311	0.28	-0.45	3.65
666	SLU 63	-47	61	9301	-0.83	-0.48	3.65
666	SLU 64	-51	42	9002	2.65	-0.32	3.69
666	SLU 65	-50	73	8985	0.81	-0.37	3.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
666	SLU 66	-51	43	9156	3.47	-0.33	3.75
666	SLU 67	-51	61	9146	2.37	-0.36	3.75
666	SLU 68	-50	73	9087	1.43	-0.38	3.72
666	SLU 69	-52	43	9258	4.1	-0.33	3.78
666	SLU 70	-51	61	9248	2.99	-0.36	3.78
666	SLU 71	-51	43	9205	3.9	-0.33	3.75
666	SLU 72	-51	61	9195	2.79	-0.36	3.75
666	SLU 73	-50	76	9864	0.97	-0.5	3.89
666	SLU 74	-51	46	10035	3.64	-0.45	3.95
666	SLU 75	-50	64	10025	2.54	-0.48	3.95
666	SLU 76	-50	76	9965	1.6	-0.5	3.92
666	SLU 77	-51	46	10136	4.27	-0.46	3.98
666	SLU 78	-50	64	10126	3.16	-0.49	3.98
666	SLU 79	-50	46	10083	4.07	-0.46	3.95
666	SLU 80	-50	64	10073	2.96	-0.49	3.95
666	SLU 81	-50	47	10257	2.89	-0.5	3.98
666	SLU 82	-49	65	10247	1.78	-0.53	3.98
666	SLU 83	-50	47	10358	3.51	-0.51	4.01
666	SLU 84	-50	65	10348	2.41	-0.54	4.01
666	SLE RA 1	-39	32	6695	1.33	-0.24	2.76
666	SLE RA 2	-38	52	6683	0.1	-0.27	2.76
666	SLE RA 3	-39	32	6797	1.88	-0.24	2.8
666	SLE RA 4	-39	44	6791	1.14	-0.26	2.8
666	SLE RA 5	-38	52	6751	0.51	-0.27	2.78
666	SLE RA 6	-39	32	6865	2.29	-0.24	2.82
666	SLE RA 7	-39	44	6858	1.56	-0.26	2.82
666	SLE RA 8	-39	32	6830	2.16	-0.24	2.8
666	SLE RA 9	-39	44	6823	1.42	-0.26	2.8
666	SLE RA 10	-38	54	7269	0.21	-0.35	2.89
666	SLE RA 11	-39	34	7383	1.99	-0.32	2.93
666	SLE RA 12	-38	46	7376	1.25	-0.34	2.93
666	SLE RA 13	-38	54	7336	0.63	-0.36	2.91
666	SLE RA 14	-39	34	7450	2.41	-0.33	2.95
666	SLE RA 15	-38	46	7444	1.67	-0.35	2.95
666	SLE RA 16	-38	34	7415	2.27	-0.33	2.93
666	SLE RA 17	-38	46	7409	1.53	-0.35	2.93
666	SLE RA 18	-38	35	7531	1.49	-0.36	2.95
666	SLE RA 19	-38	47	7524	0.75	-0.38	2.95
666	SLE RA 20	-38	35	7599	1.9	-0.36	2.97
666	SLE RA 21	-38	47	7592	1.17	-0.38	2.97
666	SLE FR 1	-39	32	6695	1.33	-0.24	2.76
666	SLE FR 2	-39	36	6692	1.08	-0.24	2.76
666	SLE FR 3	-39	32	6722	1.49	-0.24	2.77
666	SLE FR 4	-38	37	6943	1.13	-0.28	2.82
666	SLE FR 5	-39	33	6973	1.54	-0.27	2.82
666	SLE FR 6	-38	33	7113	1.41	-0.3	2.85
666	SLE QP 1	-39	32	6695	1.33	-0.24	2.76
666	SLE QP 2	-39	33	6946	1.38	-0.27	2.82
666	SLD 1	493	230	7241	-6.22	2.61	2.96
666	SLD 2	491	175	7246	-5.42	2.69	3.89
666	SLD 3	484	-151	7449	24.83	3.22	3.29
666	SLD 4	482	-207	7454	25.63	3.3	4.22
666	SLD 5	135	679	6719	-48.14	-0.34	2.2
666	SLD 6	133	644	6722	-47.62	-0.29	2.81
666	SLD 7	105	-591	7410	55.37	1.68	3.29
666	SLD 8	104	-627	7413	55.89	1.73	3.89
666	SLD 9	-181	692	6478	-53.14	-2.27	1.74
666	SLD 10	-182	656	6481	-52.62	-2.22	2.34
666	SLD 11	-210	-579	7169	50.37	-0.26	2.83
666	SLD 12	-212	-614	7172	50.89	-0.21	3.43
666	SLD 13	-559	272	6437	-22.88	-3.84	1.42
666	SLD 14	-561	216	6442	-22.08	-3.76	2.35
666	SLD 15	-568	-110	6645	8.17	-3.23	1.74
666	SLD 16	-570	-165	6650	8.97	-3.16	2.67
666	SLV 1	794	365	7394	-12.49	4.19	3.01
666	SLV 2	791	278	7401	-11.23	4.31	4.48
666	SLV 3	779	-279	7744	40.02	5.21	3.56
666	SLV 4	776	-366	7751	41.28	5.33	5.03
666	SLV 5	235	1125	6548	-82.65	-0.5	1.76
666	SLV 6	233	1067	6553	-81.8	-0.42	2.75
666	SLV 7	184	-1021	7714	92.37	2.9	3.61
666	SLV 8	182	-1080	7720	93.22	2.98	4.59
666	SLV 9	-259	1145	6172	-90.47	-3.52	1.04
666	SLV 10	-262	1086	6177	-89.62	-3.44	2.03
666	SLV 11	-310	-1002	7338	84.55	-0.12	2.88
666	SLV 12	-312	-1060	7343	85.4	-0.04	3.87
666	SLV 13	-853	431	6140	-38.53	-5.88	0.6
666	SLV 14	-856	344	6147	-37.27	-5.76	2.07
666	SLV 15	-868	-213	6490	13.98	-4.86	1.16
666	SLV 16	-871	-300	6497	15.24	-4.74	2.62
666	SLV FO 1	877	398	7438	-13.88	4.64	3.03
666	SLV FO 2	874	303	7447	-12.49	4.77	4.64
666	SLV FO 3	861	-310	7823	43.88	5.76	3.64
666	SLV FO 4	857	-406	7832	45.27	5.89	5.25
666	SLV FO 5	262	1235	6508	-91.06	-0.53	1.66
666	SLV FO 6	260	1170	6514	-90.12	-0.44	2.74
666	SLV FO 7	207	-1127	7791	101.47	3.22	3.68
666	SLV FO 8	204	-1191	7797	102.4	3.31	4.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
666	SLV FO 9	-282	1256	6094	-99.65	-3.85	0.86
666	SLV FO 10	-284	1192	6100	-98.72	-3.76	1.95
666	SLV FO 11	-337	-1105	7377	92.87	-0.11	2.89
666	SLV FO 12	-339	-1169	7383	93.81	-0.02	3.97
666	SLV FO 13	-935	471	6059	-42.52	-6.44	0.38
666	SLV FO 14	-938	375	6068	-41.13	-6.3	1.99
666	SLV FO 15	-951	-238	6444	15.24	-5.31	0.99
666	SLV FO 16	-955	-333	6453	16.63	-5.18	2.6
666	CRTFP Ux+	0	0	0	0	0	0
666	CRTFP Ux-	0	0	0	0	0	0
666	CRTFP Uy+	0	0	0	0	0	0
666	CRTFP Uy-	0	0	0	0	0	0
667	SLU 1	-36	44	6382	-3.37	1.06	2.22
667	SLU 2	-36	74	6367	-4.97	1.01	2.24
667	SLU 3	-37	45	6536	-2.71	1.09	2.27
667	SLU 4	-36	63	6527	-3.67	1.06	2.28
667	SLU 5	-36	74	6468	-4.46	1.03	2.27
667	SLU 6	-37	45	6637	-2.19	1.11	2.29
667	SLU 7	-37	63	6628	-3.15	1.08	2.31
667	SLU 8	-37	45	6585	-2.35	1.1	2.27
667	SLU 9	-36	63	6576	-3.31	1.07	2.28
667	SLU 10	-35	78	7247	-5.42	1.08	2.41
667	SLU 11	-36	49	7416	-3.15	1.17	2.43
667	SLU 12	-36	67	7406	-4.12	1.13	2.45
667	SLU 13	-35	78	7348	-4.91	1.1	2.43
667	SLU 14	-36	49	7517	-2.64	1.19	2.46
667	SLU 15	-36	67	7508	-3.6	1.16	2.47
667	SLU 16	-36	49	7464	-2.8	1.18	2.43
667	SLU 17	-35	67	7455	-3.76	1.15	2.45
667	SLU 18	-35	50	7639	-4.01	1.17	2.46
667	SLU 19	-35	68	7629	-4.97	1.14	2.47
667	SLU 20	-35	50	7740	-3.5	1.19	2.48
667	SLU 21	-35	68	7731	-4.46	1.16	2.49
667	SLU 22	-38	50	7428	-0.91	1.25	2.53
667	SLU 23	-38	80	7413	-2.51	1.19	2.55
667	SLU 24	-39	51	7582	-0.25	1.28	2.58
667	SLU 25	-38	69	7572	-1.21	1.25	2.59
667	SLU 26	-38	81	7514	-2	1.21	2.57
667	SLU 27	-39	52	7683	0.27	1.3	2.6
667	SLU 28	-39	70	7674	-0.69	1.27	2.62
667	SLU 29	-39	51	7630	0.11	1.29	2.58
667	SLU 30	-38	69	7621	-0.85	1.26	2.59
667	SLU 31	-37	84	8292	-2.96	1.27	2.71
667	SLU 32	-38	55	8461	-0.69	1.35	2.74
667	SLU 33	-38	73	8452	-1.65	1.32	2.76
667	SLU 34	-37	85	8393	-2.45	1.29	2.74
667	SLU 35	-38	56	8562	-0.18	1.37	2.77
667	SLU 36	-38	74	8553	-1.14	1.34	2.78
667	SLU 37	-38	55	8509	-0.33	1.36	2.74
667	SLU 38	-37	73	8500	-1.3	1.33	2.76
667	SLU 39	-37	56	8684	-1.55	1.36	2.76
667	SLU 40	-37	74	8675	-2.51	1.32	2.78
667	SLU 41	-37	56	8785	-1.04	1.38	2.79
667	SLU 42	-37	75	8776	-2	1.34	2.8
667	SLU 43	-47	55	7939	-5.22	1.32	2.78
667	SLU 44	-46	85	7924	-6.82	1.26	2.8
667	SLU 45	-47	56	8093	-4.56	1.35	2.83
667	SLU 46	-47	74	8084	-5.52	1.31	2.84
667	SLU 47	-46	85	8025	-6.31	1.28	2.83
667	SLU 48	-47	56	8194	-4.05	1.37	2.85
667	SLU 49	-47	74	8185	-5.01	1.33	2.87
667	SLU 50	-47	56	8141	-4.2	1.36	2.83
667	SLU 51	-46	74	8132	-5.16	1.32	2.84
667	SLU 52	-45	89	8803	-7.27	1.34	2.97
667	SLU 53	-46	60	8972	-5.01	1.42	3
667	SLU 54	-46	78	8963	-5.97	1.39	3.01
667	SLU 55	-45	89	8904	-6.76	1.36	2.99
667	SLU 56	-46	60	9073	-4.5	1.44	3.02
667	SLU 57	-46	78	9064	-5.46	1.41	3.03
667	SLU 58	-46	60	9020	-4.65	1.43	2.99
667	SLU 59	-46	78	9011	-5.61	1.4	3.01
667	SLU 60	-45	61	9195	-5.86	1.42	3.02
667	SLU 61	-45	79	9186	-6.82	1.39	3.03
667	SLU 62	-46	61	9296	-5.35	1.44	3.04
667	SLU 63	-45	79	9287	-6.31	1.41	3.05
667	SLU 64	-49	61	8984	-2.76	1.5	3.09
667	SLU 65	-48	91	8969	-4.36	1.45	3.11
667	SLU 66	-49	62	9138	-2.1	1.53	3.14
667	SLU 67	-49	80	9129	-3.06	1.5	3.15
667	SLU 68	-48	92	9070	-3.85	1.47	3.13
667	SLU 69	-49	63	9239	-1.59	1.55	3.16
667	SLU 70	-49	81	9230	-2.55	1.52	3.18
667	SLU 71	-49	62	9186	-1.74	1.54	3.14
667	SLU 72	-48	80	9177	-2.7	1.51	3.15
667	SLU 73	-47	95	9848	-4.81	1.52	3.27
667	SLU 74	-48	66	10017	-2.55	1.61	3.3
667	SLU 75	-48	84	10008	-3.51	1.58	3.32
667	SLU 76	-47	96	9949	-4.3	1.54	3.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
667	SLU 77	-48	67	10118	-2.04	1.63	3.33
667	SLU 78	-48	85	10109	-3	1.6	3.34
667	SLU 79	-48	66	10066	-2.19	1.62	3.3
667	SLU 80	-48	84	10056	-3.15	1.59	3.32
667	SLU 81	-48	67	10240	-3.4	1.61	3.32
667	SLU 82	-47	85	10231	-4.36	1.58	3.34
667	SLU 83	-48	67	10341	-2.89	1.63	3.35
667	SLU 84	-47	86	10332	-3.85	1.6	3.36
667	SLE RA 1	-37	46	6681	-2.67	1.12	2.31
667	SLE RA 2	-37	66	6671	-3.73	1.08	2.32
667	SLE RA 3	-37	46	6784	-2.22	1.14	2.34
667	SLE RA 4	-37	58	6778	-2.86	1.11	2.35
667	SLE RA 5	-37	66	6738	-3.39	1.09	2.34
667	SLE RA 6	-37	47	6851	-1.88	1.15	2.36
667	SLE RA 7	-37	59	6845	-2.52	1.13	2.37
667	SLE RA 8	-37	46	6816	-1.98	1.14	2.34
667	SLE RA 9	-37	58	6810	-2.62	1.12	2.35
667	SLE RA 10	-36	69	7257	-4.03	1.13	2.43
667	SLE RA 11	-37	49	7370	-2.52	1.19	2.45
667	SLE RA 12	-36	61	7364	-3.16	1.16	2.46
667	SLE RA 13	-36	69	7325	-3.69	1.14	2.45
667	SLE RA 14	-37	49	7437	-2.18	1.2	2.47
667	SLE RA 15	-37	61	7431	-2.82	1.18	2.48
667	SLE RA 16	-37	49	7402	-2.28	1.19	2.45
667	SLE RA 17	-36	61	7396	-2.92	1.17	2.46
667	SLE RA 18	-36	50	7519	-3.09	1.19	2.46
667	SLE RA 19	-36	62	7512	-3.73	1.17	2.47
667	SLE RA 20	-36	50	7586	-2.75	1.2	2.48
667	SLE RA 21	-36	62	7580	-3.39	1.18	2.49
667	SLE FR 1	-37	46	6681	-2.67	1.12	2.31
667	SLE FR 2	-37	50	6679	-2.88	1.11	2.31
667	SLE FR 3	-37	46	6708	-2.53	1.12	2.31
667	SLE FR 4	-37	51	6930	-3.01	1.13	2.36
667	SLE FR 5	-37	47	6959	-2.66	1.14	2.36
667	SLE FR 6	-37	48	7100	-2.88	1.15	2.39
667	SLE QP 1	-37	46	6681	-2.67	1.12	2.31
667	SLE QP 2	-37	47	6932	-2.79	1.14	2.35
667	SLD 1	495	280	7137	-7.97	3.98	2.64
667	SLD 2	493	230	7140	-7.37	4.06	3.52
667	SLD 3	486	-100	7324	19.81	4.65	2.71
667	SLD 4	484	-151	7327	20.4	4.73	3.59
667	SLD 5	137	702	6710	-46.58	0.96	2.17
667	SLD 6	135	670	6712	-46.19	1.01	2.75
667	SLD 7	107	-565	7333	46.01	3.2	2.42
667	SLD 8	106	-598	7335	46.39	3.25	2.99
667	SLD 9	-179	691	6530	-51.98	-0.97	1.72
667	SLD 10	-180	659	6532	-51.6	-0.92	2.29
667	SLD 11	-209	-576	7153	40.6	1.26	1.96
667	SLD 12	-210	-608	7155	40.99	1.32	2.54
667	SLD 13	-557	244	6538	-25.99	-2.46	1.11
667	SLD 14	-559	194	6541	-25.4	-2.38	2
667	SLD 15	-566	-136	6725	1.79	-1.79	1.19
667	SLD 16	-568	-186	6727	2.38	-1.71	2.07
667	SLV 1	796	436	7240	-12.67	5.53	2.78
667	SLV 2	793	357	7244	-11.73	5.66	4.18
667	SLV 3	781	-206	7556	34.31	6.66	2.91
667	SLV 4	777	-286	7560	35.24	6.79	4.3
667	SLV 5	237	1153	6545	-77.17	0.71	2.03
667	SLV 6	235	1099	6548	-76.54	0.8	2.97
667	SLV 7	186	-988	7597	79.4	4.49	2.45
667	SLV 8	184	-1042	7600	80.03	4.58	3.39
667	SLV 9	-257	1136	6265	-85.62	-2.3	1.32
667	SLV 10	-259	1082	6268	-84.99	-2.22	2.26
667	SLV 11	-308	-1005	7317	70.95	1.48	1.74
667	SLV 12	-310	-1059	7319	71.58	1.56	2.67
667	SLV 13	-851	379	6305	-40.83	-4.52	0.41
667	SLV 14	-854	300	6309	-39.89	-4.39	1.8
667	SLV 15	-866	-263	6621	6.14	-3.38	0.53
667	SLV 16	-869	-343	6625	7.08	-3.26	1.93
667	SLV FO 1	879	475	7271	-13.65	5.97	2.83
667	SLV FO 2	876	388	7275	-12.62	6.11	4.36
667	SLV FO 3	862	-231	7618	38.02	7.22	2.96
667	SLV FO 4	859	-319	7622	39.05	7.36	4.5
667	SLV FO 5	264	1263	6507	-84.61	0.67	2
667	SLV FO 6	262	1204	6510	-83.92	0.76	3.03
667	SLV FO 7	208	-1092	7664	87.62	4.83	2.46
667	SLV FO 8	206	-1151	7667	88.32	4.92	3.49
667	SLV FO 9	-279	1245	6198	-93.9	-2.65	1.22
667	SLV FO 10	-282	1186	6201	-93.21	-2.55	2.25
667	SLV FO 11	-335	-1111	7355	78.33	1.51	1.68
667	SLV FO 12	-338	-1170	7358	79.02	1.6	2.71
667	SLV FO 13	-932	413	6242	-44.63	-5.08	0.21
667	SLV FO 14	-936	325	6247	-43.6	-4.94	1.75
667	SLV FO 15	-949	-294	6589	7.04	-3.84	0.35
667	SLV FO 16	-953	-382	6594	8.07	-3.7	1.88
667	CRTFP Ux+	0	0	0	0	0	0
667	CRTFP Ux-	0	0	0	0	0	0
667	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
667	CRTFP Uy-	0	0	0	0	0	0
668	SLU 1	-35	54	6327	-7.15	2.46	1.32
668	SLU 2	-34	84	6313	-8.51	2.41	1.36
668	SLU 3	-35	55	6479	-6.65	2.53	1.35
668	SLU 4	-35	73	6471	-7.46	2.5	1.37
668	SLU 5	-34	85	6413	-8.11	2.46	1.37
668	SLU 6	-35	56	6579	-6.25	2.57	1.36
668	SLU 7	-35	74	6571	-7.06	2.54	1.39
668	SLU 8	-35	55	6527	-6.35	2.55	1.34
668	SLU 9	-35	73	6519	-7.17	2.52	1.37
668	SLU 10	-33	89	7187	-9.57	2.7	1.45
668	SLU 11	-34	60	7352	-7.71	2.82	1.43
668	SLU 12	-34	78	7344	-8.53	2.79	1.46
668	SLU 13	-33	90	7287	-9.17	2.75	1.46
668	SLU 14	-34	60	7452	-7.32	2.86	1.45
668	SLU 15	-34	79	7444	-8.13	2.84	1.47
668	SLU 16	-34	60	7400	-7.42	2.84	1.43
668	SLU 17	-34	78	7392	-8.23	2.81	1.46
668	SLU 18	-34	61	7574	-8.67	2.88	1.44
668	SLU 19	-33	79	7566	-9.49	2.85	1.47
668	SLU 20	-34	61	7674	-8.27	2.92	1.46
668	SLU 21	-33	80	7666	-9.09	2.89	1.48
668	SLU 22	-37	62	7362	-5.46	2.91	1.51
668	SLU 23	-36	92	7348	-6.82	2.86	1.56
668	SLU 24	-37	63	7514	-4.96	2.98	1.54
668	SLU 25	-37	81	7506	-5.77	2.95	1.57
668	SLU 26	-36	93	7448	-6.42	2.91	1.57
668	SLU 27	-37	63	7614	-4.56	3.02	1.55
668	SLU 28	-37	82	7606	-5.37	2.99	1.58
668	SLU 29	-37	63	7562	-4.66	3	1.54
668	SLU 30	-36	81	7554	-5.48	2.97	1.56
668	SLU 31	-35	97	8222	-7.88	3.15	1.65
668	SLU 32	-36	68	8387	-6.02	3.27	1.63
668	SLU 33	-36	86	8379	-6.84	3.24	1.66
668	SLU 34	-35	97	8322	-7.48	3.2	1.66
668	SLU 35	-36	68	8488	-5.63	3.31	1.64
668	SLU 36	-36	86	8479	-6.44	3.29	1.67
668	SLU 37	-36	68	8435	-5.73	3.29	1.63
668	SLU 38	-36	86	8427	-6.54	3.26	1.65
668	SLU 39	-36	69	8610	-6.98	3.33	1.64
668	SLU 40	-35	87	8601	-7.8	3.3	1.67
668	SLU 41	-36	69	8710	-6.58	3.37	1.65
668	SLU 42	-35	87	8702	-7.4	3.34	1.68
668	SLU 43	-45	68	7870	-9.87	3.04	1.64
668	SLU 44	-44	98	7856	-11.23	2.99	1.69
668	SLU 45	-45	69	8022	-9.37	3.11	1.67
668	SLU 46	-45	87	8014	-10.19	3.08	1.7
668	SLU 47	-44	98	7956	-10.83	3.04	1.7
668	SLU 48	-45	69	8122	-8.97	3.15	1.69
668	SLU 49	-45	87	8114	-9.79	3.13	1.71
668	SLU 50	-45	69	8070	-9.07	3.13	1.67
668	SLU 51	-44	87	8062	-9.89	3.1	1.7
668	SLU 52	-43	103	8730	-12.3	3.29	1.78
668	SLU 53	-44	73	8895	-10.44	3.4	1.76
668	SLU 54	-44	92	8887	-11.25	3.37	1.79
668	SLU 55	-43	103	8830	-11.9	3.33	1.79
668	SLU 56	-44	74	8995	-10.04	3.45	1.78
668	SLU 57	-44	92	8987	-10.85	3.42	1.8
668	SLU 58	-44	73	8943	-10.14	3.42	1.76
668	SLU 59	-44	91	8935	-10.96	3.4	1.79
668	SLU 60	-44	74	9117	-11.4	3.46	1.77
668	SLU 61	-43	93	9109	-12.21	3.43	1.8
668	SLU 62	-44	75	9217	-11	3.51	1.78
668	SLU 63	-43	93	9209	-11.81	3.48	1.81
668	SLU 64	-46	75	8905	-8.18	3.49	1.84
668	SLU 65	-46	106	8891	-9.54	3.44	1.89
668	SLU 66	-47	76	9057	-7.68	3.56	1.87
668	SLU 67	-46	95	9049	-8.5	3.53	1.9
668	SLU 68	-46	106	8991	-9.14	3.49	1.9
668	SLU 69	-47	77	9157	-7.28	3.6	1.88
668	SLU 70	-47	95	9149	-8.1	3.58	1.91
668	SLU 71	-47	76	9105	-7.39	3.58	1.87
668	SLU 72	-46	94	9097	-8.2	3.55	1.89
668	SLU 73	-45	110	9765	-10.61	3.74	1.97
668	SLU 74	-46	81	9931	-8.75	3.85	1.96
668	SLU 75	-46	99	9922	-9.56	3.82	1.99
668	SLU 76	-45	111	9865	-10.21	3.78	1.99
668	SLU 77	-46	82	10031	-8.35	3.9	1.97
668	SLU 78	-46	100	10022	-9.16	3.87	2
668	SLU 79	-46	81	9978	-8.45	3.87	1.95
668	SLU 80	-45	99	9970	-9.27	3.85	1.98
668	SLU 81	-45	82	10153	-9.71	3.91	1.97
668	SLU 82	-45	100	10145	-10.52	3.88	1.99
668	SLU 83	-45	83	10253	-9.31	3.96	1.98
668	SLU 84	-45	101	10245	-10.12	3.93	2.01
668	SLE RA 1	-35	56	6622	-6.67	2.59	1.37
668	SLE RA 2	-35	76	6613	-7.57	2.56	1.4
668	SLE RA 3	-36	57	6724	-6.33	2.63	1.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
668	SLE RA 4	-35	69	6718	-6.87	2.61	1.41
668	SLE RA 5	-35	77	6680	-7.31	2.59	1.41
668	SLE RA 6	-36	57	6791	-6.07	2.66	1.4
668	SLE RA 7	-35	69	6785	-6.61	2.64	1.42
668	SLE RA 8	-35	57	6756	-6.13	2.65	1.39
668	SLE RA 9	-35	69	6750	-6.68	2.63	1.41
668	SLE RA 10	-34	80	7196	-8.28	2.75	1.46
668	SLE RA 11	-35	60	7306	-7.04	2.83	1.45
668	SLE RA 12	-35	72	7301	-7.59	2.81	1.47
668	SLE RA 13	-34	80	7262	-8.02	2.78	1.47
668	SLE RA 14	-35	61	7373	-6.78	2.86	1.46
668	SLE RA 15	-35	73	7367	-7.32	2.84	1.48
668	SLE RA 16	-35	60	7338	-6.85	2.84	1.45
668	SLE RA 17	-35	72	7333	-7.39	2.82	1.47
668	SLE RA 18	-35	61	7454	-7.68	2.87	1.46
668	SLE RA 19	-34	73	7449	-8.22	2.85	1.48
668	SLE RA 20	-35	61	7521	-7.42	2.9	1.47
668	SLE RA 21	-34	73	7516	-7.96	2.88	1.48
668	SLE FR 1	-35	56	6622	-6.67	2.59	1.37
668	SLE FR 2	-35	60	6621	-6.85	2.58	1.38
668	SLE FR 3	-35	56	6649	-6.56	2.6	1.38
668	SLE FR 4	-35	62	6870	-7.15	2.66	1.4
668	SLE FR 5	-35	58	6899	-6.86	2.68	1.4
668	SLE FR 6	-35	58	7038	-7.17	2.73	1.41
668	SLE QP 1	-35	56	6622	-6.67	2.59	1.37
668	SLE QP 2	-35	58	6872	-6.97	2.67	1.4
668	SLD 1	496	287	6989	-9.73	5.35	1.8
668	SLD 2	494	241	6989	-9.34	5.43	2.67
668	SLD 3	487	-94	7156	14.81	5.92	1.51
668	SLD 4	485	-140	7156	15.2	6	2.39
668	SLD 5	138	712	6654	-45.08	2.6	1.8
668	SLD 6	137	682	6654	-44.83	2.65	2.36
668	SLD 7	108	-558	7210	36.72	4.5	0.85
668	SLD 8	107	-587	7210	36.97	4.54	1.41
668	SLD 9	-177	702	6533	-50.91	0.8	1.38
668	SLD 10	-179	673	6533	-50.66	0.84	1.95
668	SLD 11	-207	-567	7090	30.89	2.69	0.43
668	SLD 12	-208	-597	7090	31.14	2.74	1
668	SLD 13	-555	255	6588	-29.14	-0.66	0.41
668	SLD 14	-557	209	6588	-28.75	-0.58	1.28
668	SLD 15	-564	-125	6755	-4.6	-0.09	0.12
668	SLD 16	-566	-172	6755	-4.21	-0.01	1
668	SLV 1	797	441	7045	-12.86	6.82	2.04
668	SLV 2	794	368	7045	-12.25	6.93	3.41
668	SLV 3	782	-203	7327	28.65	7.78	1.56
668	SLV 4	778	-275	7327	29.26	7.9	2.93
668	SLV 5	238	1162	6496	-71.81	2.44	2.06
668	SLV 6	236	1113	6496	-71.4	2.51	2.99
668	SLV 7	187	-983	7436	66.56	5.64	0.46
668	SLV 8	185	-1032	7436	66.97	5.72	1.39
668	SLV 9	-255	1147	6308	-80.91	-0.38	1.41
668	SLV 10	-258	1098	6308	-80.5	-0.3	2.33
668	SLV 11	-306	-998	7248	57.46	2.83	-0.19
668	SLV 12	-308	-1047	7248	57.87	2.9	0.74
668	SLV 13	-849	391	6417	-43.2	-2.55	-0.14
668	SLV 14	-852	318	6417	-42.59	-2.44	1.24
668	SLV 15	-864	-253	6699	-1.69	-1.59	-0.62
668	SLV 16	-867	-325	6699	-1.08	-1.48	0.76
668	SLV FO 1	880	479	7062	-13.45	7.23	2.1
668	SLV FO 2	877	399	7062	-12.78	7.36	3.61
668	SLV FO 3	863	-229	7372	32.21	8.29	1.57
668	SLV FO 4	860	-309	7372	32.88	8.42	3.09
668	SLV FO 5	265	1272	6459	-78.29	2.41	2.13
668	SLV FO 6	263	1218	6459	-77.84	2.5	3.14
668	SLV FO 7	210	-1087	7492	73.91	5.94	0.37
668	SLV FO 8	207	-1141	7492	74.37	6.02	1.39
668	SLV FO 9	-278	1256	6252	-88.31	-0.68	1.41
668	SLV FO 10	-280	1202	6252	-87.85	-0.6	2.43
668	SLV FO 11	-333	-1103	7285	63.9	2.84	-0.35
668	SLV FO 12	-336	-1157	7285	64.35	2.93	0.67
668	SLV FO 13	-930	424	6372	-46.82	-3.08	-0.29
668	SLV FO 14	-933	344	6372	-46.15	-2.95	1.22
668	SLV FO 15	-947	-284	6682	-1.16	-2.02	-0.82
668	SLV FO 16	-950	-364	6682	-0.49	-1.89	0.69
668	CRTFP Ux+	0	0	0	0	0	0
668	CRTFP Ux-	0	0	0	0	0	0
668	CRTFP Uy+	0	0	0	0	0	0
668	CRTFP Uy-	0	0	0	0	0	0
669	SLU 1	-34	60	6398	38.87	-30.45	0.46
669	SLU 2	-33	91	6385	37.63	-30.4	0.69
669	SLU 3	-34	61	6552	40.42	-31.18	0.47
669	SLU 4	-34	80	6544	39.68	-31.14	0.6
669	SLU 5	-33	92	6486	38.72	-30.87	0.69
669	SLU 6	-34	62	6653	41.51	-31.66	0.46
669	SLU 7	-34	80	6645	40.77	-31.62	0.6
669	SLU 8	-34	61	6600	41.04	-31.41	0.45
669	SLU 9	-34	80	6592	40.3	-31.37	0.59
669	SLU 10	-33	96	7270	42.91	-34.63	0.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
669	SLU 11	-34	66	7436	45.7	-35.42	0.46
669	SLU 12	-33	85	7429	44.96	-35.38	0.6
669	SLU 13	-33	97	7371	43.99	-35.11	0.68
669	SLU 14	-34	67	7537	46.79	-35.89	0.46
669	SLU 15	-33	86	7530	46.05	-35.86	0.6
669	SLU 16	-33	66	7485	46.32	-35.65	0.45
669	SLU 17	-33	85	7477	45.58	-35.61	0.58
669	SLU 18	-33	67	7662	46.4	-36.51	0.45
669	SLU 19	-33	86	7654	45.66	-36.47	0.59
669	SLU 20	-33	68	7763	47.49	-36.98	0.45
669	SLU 21	-33	87	7755	46.75	-36.95	0.59
669	SLU 22	-36	68	7443	48.09	-35.36	0.54
669	SLU 23	-35	100	7430	46.85	-35.3	0.77
669	SLU 24	-36	70	7597	49.64	-36.08	0.55
669	SLU 25	-36	89	7589	48.9	-36.05	0.69
669	SLU 26	-35	100	7531	47.94	-35.78	0.77
669	SLU 27	-36	70	7698	50.73	-36.56	0.54
669	SLU 28	-36	89	7690	49.99	-36.53	0.68
669	SLU 29	-36	69	7645	50.26	-36.31	0.53
669	SLU 30	-35	88	7637	49.52	-36.28	0.67
669	SLU 31	-34	105	8315	52.13	-39.54	0.77
669	SLU 32	-35	75	8481	54.92	-40.32	0.54
669	SLU 33	-35	94	8473	54.18	-40.29	0.68
669	SLU 34	-34	106	8416	53.21	-40.02	0.76
669	SLU 35	-35	75	8582	56.01	-40.8	0.54
669	SLU 36	-35	94	8574	55.27	-40.77	0.68
669	SLU 37	-35	75	8529	55.54	-40.55	0.53
669	SLU 38	-35	94	8522	54.8	-40.52	0.67
669	SLU 39	-35	76	8707	55.62	-41.41	0.53
669	SLU 40	-34	95	8699	54.88	-41.38	0.67
669	SLU 41	-35	76	8808	56.71	-41.89	0.53
669	SLU 42	-34	95	8800	55.97	-41.86	0.67
669	SLU 43	-43	75	7959	47.37	-37.91	0.57
669	SLU 44	-43	106	7947	46.13	-37.85	0.8
669	SLU 45	-44	76	8113	48.92	-38.63	0.58
669	SLU 46	-43	95	8105	48.18	-38.6	0.71
669	SLU 47	-43	107	8047	47.22	-38.33	0.8
669	SLU 48	-44	76	8214	50.01	-39.11	0.57
669	SLU 49	-43	95	8206	49.27	-39.08	0.71
669	SLU 50	-43	76	8161	49.54	-38.86	0.56
669	SLU 51	-43	95	8154	48.8	-38.83	0.7
669	SLU 52	-42	111	8831	51.41	-42.09	0.79
669	SLU 53	-43	81	8997	54.2	-42.87	0.57
669	SLU 54	-43	100	8990	53.46	-42.84	0.71
669	SLU 55	-42	112	8932	52.49	-42.56	0.79
669	SLU 56	-43	82	9098	55.29	-43.35	0.57
669	SLU 57	-43	101	9091	54.54	-43.31	0.71
669	SLU 58	-43	81	9046	54.82	-43.1	0.56
669	SLU 59	-42	100	9038	54.07	-43.07	0.69
669	SLU 60	-42	82	9223	54.9	-43.96	0.56
669	SLU 61	-42	101	9215	54.16	-43.93	0.7
669	SLU 62	-43	83	9324	55.99	-44.44	0.56
669	SLU 63	-42	101	9316	55.25	-44.4	0.7
669	SLU 64	-45	83	9004	56.59	-42.81	0.65
669	SLU 65	-45	115	8991	55.35	-42.76	0.88
669	SLU 66	-46	85	9158	58.14	-43.54	0.66
669	SLU 67	-45	103	9150	57.4	-43.5	0.8
669	SLU 68	-45	115	9092	56.44	-43.23	0.88
669	SLU 69	-46	85	9259	59.23	-44.02	0.65
669	SLU 70	-45	104	9251	58.49	-43.98	0.79
669	SLU 71	-45	84	9206	58.76	-43.77	0.64
669	SLU 72	-45	103	9199	58.02	-43.73	0.78
669	SLU 73	-44	120	9876	60.63	-46.99	0.88
669	SLU 74	-45	90	10042	63.42	-47.78	0.65
669	SLU 75	-45	109	10035	62.68	-47.74	0.79
669	SLU 76	-44	120	9977	61.71	-47.47	0.87
669	SLU 77	-45	90	10143	64.5	-48.25	0.65
669	SLU 78	-45	109	10136	63.76	-48.22	0.79
669	SLU 79	-45	90	10091	64.03	-48.01	0.64
669	SLU 80	-44	108	10083	63.29	-47.97	0.78
669	SLU 81	-44	91	10268	64.12	-48.87	0.64
669	SLU 82	-44	110	10260	63.38	-48.83	0.78
669	SLU 83	-44	91	10369	65.21	-49.34	0.64
669	SLU 84	-44	110	10361	64.47	-49.31	0.78
669	SLE RA 1	-34	62	6697	41.5	-31.86	0.48
669	SLE RA 2	-34	83	6688	40.68	-31.82	0.64
669	SLE RA 3	-35	63	6799	42.54	-32.34	0.49
669	SLE RA 4	-34	76	6794	42.05	-32.32	0.58
669	SLE RA 5	-34	84	6755	41.4	-32.13	0.63
669	SLE RA 6	-35	63	6866	43.26	-32.66	0.48
669	SLE RA 7	-34	76	6861	42.77	-32.63	0.58
669	SLE RA 8	-34	63	6831	42.95	-32.49	0.48
669	SLE RA 9	-34	75	6826	42.46	-32.47	0.57
669	SLE RA 10	-34	87	7278	44.2	-34.64	0.63
669	SLE RA 11	-34	67	7389	46.06	-35.16	0.48
669	SLE RA 12	-34	79	7384	45.56	-35.14	0.58
669	SLE RA 13	-34	87	7345	44.92	-34.96	0.63
669	SLE RA 14	-34	67	7456	46.78	-35.48	0.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
669	SLE RA 15	-34	79	7451	46.29	-35.46	0.57
669	SLE RA 16	-34	66	7421	46.47	-35.32	0.47
669	SLE RA 17	-34	79	7416	45.97	-35.29	0.57
669	SLE RA 18	-34	67	7539	46.53	-35.89	0.48
669	SLE RA 19	-34	80	7534	46.03	-35.87	0.57
669	SLE RA 20	-34	67	7606	47.25	-36.21	0.47
669	SLE RA 21	-34	80	7601	46.76	-36.19	0.57
669	SLE FR 1	-34	62	6697	41.5	-31.86	0.48
669	SLE FR 2	-34	66	6695	41.34	-31.85	0.51
669	SLE FR 3	-34	62	6724	41.79	-31.98	0.48
669	SLE FR 4	-34	68	6948	42.84	-33.06	0.51
669	SLE FR 5	-34	64	6976	43.3	-33.19	0.48
669	SLE FR 6	-34	65	7118	44.01	-33.87	0.48
669	SLE QP 1	-34	62	6697	41.5	-31.86	0.48
669	SLE QP 2	-34	64	6949	43.01	-33.07	0.48
669	SLD 1	511	296	6987	42.02	-30.64	-1.62
669	SLD 2	509	254	6985	42.17	-30.57	-0.9
669	SLD 3	502	-97	7146	64.95	-31.44	-4.26
669	SLD 4	499	-140	7144	65.11	-31.37	-3.54
669	SLD 5	143	738	6720	7.9	-31.14	3.74
669	SLD 6	142	710	6718	8	-31.09	4.21
669	SLD 7	113	-574	7250	84.35	-33.81	-5.08
669	SLD 8	112	-602	7248	84.45	-33.76	-4.62
669	SLD 9	-180	729	6650	1.57	-32.37	5.58
669	SLD 10	-182	702	6649	1.67	-32.33	6.04
669	SLD 11	-210	-583	7180	78.02	-35.04	-3.25
669	SLD 12	-212	-610	7179	78.12	-35	-2.78
669	SLD 13	-568	267	6755	20.91	-34.76	4.5
669	SLD 14	-570	225	6753	21.07	-34.69	5.22
669	SLD 15	-577	-126	6914	43.85	-35.56	1.86
669	SLD 16	-579	-169	6912	44	-35.49	2.58
669	SLV 1	819	453	6998	39.96	-29.23	-2.64
669	SLV 2	816	386	6995	40.21	-29.12	-1.51
669	SLV 3	804	-212	7267	78.77	-30.58	-7.11
669	SLV 4	800	-279	7264	79.01	-30.48	-5.98
669	SLV 5	246	1202	6557	-16.81	-29.88	6.11
669	SLV 6	244	1156	6555	-16.64	-29.81	6.87
669	SLV 7	194	-1015	7452	112.55	-34.4	-8.79
669	SLV 8	192	-1060	7450	112.71	-34.32	-8.02
669	SLV 9	-260	1188	6449	-26.69	-31.81	8.98
669	SLV 10	-263	1142	6446	-26.53	-31.74	9.75
669	SLV 11	-312	-1029	7344	102.66	-36.32	-5.91
669	SLV 12	-314	-1074	7341	102.82	-36.25	-5.15
669	SLV 13	-869	407	6635	7	-35.65	6.94
669	SLV 14	-872	339	6632	7.25	-35.55	8.07
669	SLV 15	-884	-258	6904	45.81	-37.01	2.47
669	SLV 16	-888	-326	6900	46.05	-36.9	3.6
669	SLV FO 1	905	492	7003	39.66	-28.85	-2.95
669	SLV FO 2	901	418	7000	39.93	-28.73	-1.71
669	SLV FO 3	887	-240	7299	82.34	-30.34	-7.87
669	SLV FO 4	884	-313	7295	82.61	-30.22	-6.62
669	SLV FO 5	274	1315	6518	-22.79	-29.56	6.67
669	SLV FO 6	272	1266	6516	-22.61	-29.48	7.51
669	SLV FO 7	217	-1123	7503	119.5	-34.53	-9.71
669	SLV FO 8	215	-1173	7500	119.68	-34.45	-8.87
669	SLV FO 9	-283	1300	6398	-33.66	-31.68	9.83
669	SLV FO 10	-285	1250	6396	-33.48	-31.6	10.67
669	SLV FO 11	-340	-1138	7383	108.63	-36.65	-6.55
669	SLV FO 12	-342	-1188	7380	108.81	-36.57	-5.71
669	SLV FO 13	-952	441	6604	3.4	-35.91	7.58
669	SLV FO 14	-956	367	6600	3.67	-35.8	8.83
669	SLV FO 15	-969	-291	6899	46.09	-37.4	2.67
669	SLV FO 16	-973	-365	6896	46.36	-37.29	3.91
669	CRTFP Ux+	0	0	0	0	0	0
669	CRTFP Ux-	0	0	0	0	0	0
669	CRTFP Uy+	0	0	0	0	0	0
669	CRTFP Uy-	0	0	0	0	0	0
670	SLU 1	-19	27	3072	-720.23	1.57	-4.86
670	SLU 2	-18	42	3066	-719.21	1.59	-4.74
670	SLU 3	-19	27	3145	-737.14	1.6	-4.92
670	SLU 4	-19	36	3142	-736.53	1.62	-4.85
670	SLU 5	-19	42	3114	-730.3	1.62	-4.76
670	SLU 6	-19	27	3193	-748.23	1.62	-4.94
670	SLU 7	-19	37	3190	-747.62	1.64	-4.87
670	SLU 8	-19	27	3168	-742.41	1.61	-4.9
670	SLU 9	-19	36	3165	-741.8	1.63	-4.83
670	SLU 10	-18	44	3492	-818.47	1.79	-4.77
670	SLU 11	-19	29	3571	-836.41	1.8	-4.94
670	SLU 12	-19	39	3567	-835.79	1.81	-4.87
670	SLU 13	-19	45	3540	-829.56	1.81	-4.79
670	SLU 14	-19	30	3619	-847.5	1.82	-4.96
670	SLU 15	-19	39	3615	-846.88	1.84	-4.89
670	SLU 16	-19	29	3594	-841.68	1.81	-4.92
670	SLU 17	-19	39	3590	-841.06	1.82	-4.85
670	SLU 18	-19	30	3680	-862.04	1.85	-4.89
670	SLU 19	-19	39	3676	-861.42	1.86	-4.82
670	SLU 20	-19	30	3728	-873.13	1.87	-4.91
670	SLU 21	-19	39	3724	-872.51	1.89	-4.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
670	SLU 22	-20	31	3570	-835.42	1.86	-5.17
670	SLU 23	-20	46	3565	-834.39	1.89	-5.06
670	SLU 24	-20	31	3644	-852.33	1.89	-5.23
670	SLU 25	-20	40	3640	-851.71	1.91	-5.16
670	SLU 26	-20	46	3613	-845.48	1.91	-5.08
670	SLU 27	-20	31	3692	-863.42	1.92	-5.25
670	SLU 28	-20	41	3688	-862.81	1.93	-5.18
670	SLU 29	-20	31	3667	-857.6	1.9	-5.21
670	SLU 30	-20	40	3663	-856.99	1.92	-5.14
670	SLU 31	-20	48	3990	-933.66	2.08	-5.08
670	SLU 32	-20	33	4069	-951.59	2.09	-5.26
670	SLU 33	-20	43	4066	-950.98	2.11	-5.19
670	SLU 34	-20	49	4038	-944.75	2.11	-5.1
670	SLU 35	-20	34	4117	-962.68	2.11	-5.27
670	SLU 36	-20	43	4114	-962.07	2.13	-5.2
670	SLU 37	-20	33	4092	-956.86	2.1	-5.23
670	SLU 38	-20	43	4089	-956.25	2.12	-5.16
670	SLU 39	-20	34	4178	-977.22	2.14	-5.2
670	SLU 40	-20	43	4175	-976.61	2.16	-5.13
670	SLU 41	-20	34	4226	-988.31	2.16	-5.22
670	SLU 42	-20	43	4223	-987.7	2.18	-5.15
670	SLU 43	-24	33	3823	-896.81	1.94	-6.21
670	SLU 44	-24	49	3817	-895.78	1.96	-6.1
670	SLU 45	-24	34	3896	-913.72	1.97	-6.27
670	SLU 46	-24	43	3893	-913.1	1.99	-6.2
670	SLU 47	-24	49	3865	-906.87	1.99	-6.12
670	SLU 48	-24	34	3944	-924.81	1.99	-6.29
670	SLU 49	-24	43	3941	-924.19	2.01	-6.22
670	SLU 50	-24	34	3919	-918.99	1.98	-6.25
670	SLU 51	-24	43	3915	-918.37	2	-6.18
670	SLU 52	-24	51	4242	-995.05	2.16	-6.12
670	SLU 53	-24	36	4321	-1012.98	2.17	-6.3
670	SLU 54	-24	45	4318	-1012.37	2.18	-6.23
670	SLU 55	-24	51	4290	-1006.14	2.18	-6.14
670	SLU 56	-24	36	4369	-1024.07	2.19	-6.31
670	SLU 57	-24	46	4366	-1023.46	2.21	-6.24
670	SLU 58	-24	36	4344	-1018.25	2.18	-6.27
670	SLU 59	-24	45	4341	-1017.64	2.19	-6.2
670	SLU 60	-24	36	4430	-1038.61	2.22	-6.24
670	SLU 61	-24	46	4427	-1038	2.23	-6.17
670	SLU 62	-24	37	4478	-1049.7	2.24	-6.26
670	SLU 63	-24	46	4475	-1049.09	2.26	-6.19
670	SLU 64	-25	37	4321	-1012	2.23	-6.53
670	SLU 65	-25	53	4315	-1010.97	2.26	-6.41
670	SLU 66	-26	38	4394	-1028.91	2.26	-6.59
670	SLU 67	-25	47	4391	-1028.29	2.28	-6.52
670	SLU 68	-25	53	4363	-1022.06	2.28	-6.43
670	SLU 69	-26	38	4443	-1040	2.28	-6.61
670	SLU 70	-25	47	4439	-1039.38	2.3	-6.54
670	SLU 71	-25	38	4417	-1034.18	2.27	-6.56
670	SLU 72	-25	47	4414	-1033.56	2.29	-6.49
670	SLU 73	-25	55	4741	-1110.23	2.45	-6.43
670	SLU 74	-26	40	4820	-1128.17	2.46	-6.61
670	SLU 75	-25	49	4816	-1127.55	2.48	-6.54
670	SLU 76	-25	55	4789	-1121.32	2.48	-6.45
670	SLU 77	-26	40	4868	-1139.26	2.48	-6.63
670	SLU 78	-25	49	4864	-1138.65	2.5	-6.56
670	SLU 79	-25	40	4843	-1133.44	2.47	-6.58
670	SLU 80	-25	49	4839	-1132.83	2.49	-6.51
670	SLU 81	-25	40	4929	-1153.8	2.51	-6.55
670	SLU 82	-25	50	4925	-1153.18	2.53	-6.48
670	SLU 83	-25	41	4977	-1164.89	2.53	-6.57
670	SLU 84	-25	50	4973	-1164.28	2.55	-6.5
670	SLE RA 1	-19	28	3214	-753.14	1.65	-4.95
670	SLE RA 2	-19	38	3211	-752.46	1.67	-4.87
670	SLE RA 3	-19	28	3263	-764.42	1.67	-4.99
670	SLE RA 4	-19	34	3261	-764.01	1.68	-4.94
670	SLE RA 5	-19	38	3243	-759.85	1.68	-4.89
670	SLE RA 6	-19	28	3295	-771.81	1.69	-5
670	SLE RA 7	-19	34	3293	-771.4	1.7	-4.96
670	SLE RA 8	-19	28	3279	-767.93	1.68	-4.98
670	SLE RA 9	-19	34	3276	-767.52	1.69	-4.93
670	SLE RA 10	-19	40	3494	-818.63	1.8	-4.89
670	SLE RA 11	-19	30	3547	-830.59	1.8	-5.01
670	SLE RA 12	-19	36	3544	-830.18	1.82	-4.96
670	SLE RA 13	-19	40	3526	-826.03	1.81	-4.9
670	SLE RA 14	-19	30	3579	-837.99	1.82	-5.02
670	SLE RA 15	-19	36	3577	-837.58	1.83	-4.97
670	SLE RA 16	-19	30	3562	-834.11	1.81	-4.99
670	SLE RA 17	-19	36	3560	-833.7	1.82	-4.94
670	SLE RA 18	-19	30	3619	-847.68	1.84	-4.97
670	SLE RA 19	-19	36	3617	-847.27	1.85	-4.92
670	SLE RA 20	-19	30	3652	-855.07	1.85	-4.98
670	SLE RA 21	-19	36	3649	-854.66	1.86	-4.94
670	SLE FR 1	-19	28	3214	-753.14	1.65	-4.95
670	SLE FR 2	-19	30	3214	-753.01	1.65	-4.94
670	SLE FR 3	-19	28	3227	-756.1	1.66	-4.96
670	SLE FR 4	-19	30	3335	-781.37	1.71	-4.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
670	SLE FR 5	-19	28	3349	-784.46	1.71	-4.96
670	SLE FR 6	-19	29	3417	-800.41	1.74	-4.96
670	SLE QP 1	-19	28	3214	-753.14	1.65	-4.95
670	SLE QP 2	-19	28	3336	-781.5	1.71	-4.96
670	SLD 1	246	141	3317	-782.35	3.04	61.33
670	SLD 2	247	122	3315	-781.94	3.03	61.58
670	SLD 3	240	-53	3384	-791.81	2.64	59.87
670	SLD 4	241	-71	3382	-791.4	2.63	60.12
670	SLD 5	69	359	3229	-767.47	2.71	17.11
670	SLD 6	69	347	3228	-767.21	2.71	17.27
670	SLD 7	50	-286	3452	-799.02	1.38	12.23
670	SLD 8	50	-298	3451	-798.76	1.38	12.39
670	SLD 9	-89	355	3221	-764.25	2.03	-22.3
670	SLD 10	-88	343	3220	-763.98	2.03	-22.14
670	SLD 11	-108	-290	3444	-795.8	0.7	-27.18
670	SLD 12	-107	-302	3443	-795.53	0.7	-27.02
670	SLD 13	-279	128	3290	-771.6	0.78	-70.03
670	SLD 14	-279	109	3288	-771.19	0.77	-69.78
670	SLD 15	-285	-66	3357	-781.07	0.38	-71.5
670	SLD 16	-284	-84	3355	-780.66	0.37	-71.24
670	SLV 1	396	217	3304	-782.4	3.81	98.9
670	SLV 2	397	188	3301	-781.75	3.8	99.29
670	SLV 3	387	-110	3417	-798.37	3.13	96.4
670	SLV 4	388	-139	3415	-797.72	3.13	96.79
670	SLV 5	120	586	3155	-757.67	3.36	29.91
670	SLV 6	120	566	3153	-757.24	3.35	30.18
670	SLV 7	88	-503	3532	-810.9	1.11	21.59
670	SLV 8	89	-523	3531	-810.47	1.11	21.85
670	SLV 9	-127	580	3141	-752.54	2.3	-31.77
670	SLV 10	-126	560	3140	-752.1	2.3	-31.5
670	SLV 11	-159	-510	3518	-805.77	0.06	-40.09
670	SLV 12	-158	-529	3517	-805.33	0.05	-39.83
670	SLV 13	-426	196	3257	-765.28	0.28	-106.71
670	SLV 14	-425	167	3255	-764.63	0.28	-106.31
670	SLV 15	-436	-131	3370	-781.25	-0.39	-109.2
670	SLV 16	-435	-160	3368	-780.6	-0.4	-108.81
670	SLV FO 1	438	235	3300	-782.49	4.02	109.28
670	SLV FO 2	439	204	3298	-781.78	4.01	109.72
670	SLV FO 3	427	-124	3425	-800.06	3.28	106.53
670	SLV FO 4	428	-156	3422	-799.34	3.27	106.97
670	SLV FO 5	134	642	3137	-755.29	3.52	33.4
670	SLV FO 6	134	620	3135	-754.81	3.52	33.69
670	SLV FO 7	99	-557	3552	-813.84	1.05	24.24
670	SLV FO 8	99	-578	3550	-813.36	1.05	24.53
670	SLV FO 9	-138	635	3122	-749.64	2.36	-34.45
670	SLV FO 10	-137	613	3120	-749.16	2.36	-34.16
670	SLV FO 11	-173	-563	3537	-808.19	-0.11	-43.61
670	SLV FO 12	-172	-585	3535	-807.71	-0.11	-43.31
670	SLV FO 13	-467	213	3249	-763.66	0.14	-116.88
670	SLV FO 14	-466	181	3247	-762.95	0.13	-116.45
670	SLV FO 15	-477	-147	3374	-781.23	-0.6	-119.63
670	SLV FO 16	-476	-179	3371	-780.51	-0.61	-119.19
670	CRTFP Ux+	0	0	0	0	0	0
670	CRTFP Ux-	0	0	0	0	0	0
670	CRTFP Uy+	0	0	0	0	0	0
670	CRTFP Uy-	0	0	0	0	0	0
672	SLU 1	-91	121	17968	1654.06	-193.86	-8.21
672	SLU 2	-89	215	17924	1649.41	-192	-6.31
672	SLU 3	-91	123	18399	1694.5	-198.03	-8.51
672	SLU 4	-90	180	18373	1691.72	-196.91	-7.37
672	SLU 5	-89	216	18208	1676.09	-194.73	-6.59
672	SLU 6	-91	124	18682	1721.18	-200.77	-8.78
672	SLU 7	-90	181	18656	1718.4	-199.65	-7.65
672	SLU 8	-91	122	18534	1707.42	-199.33	-8.76
672	SLU 9	-90	179	18508	1704.63	-198.21	-7.63
672	SLU 10	-87	225	20412	1877.6	-219.85	-8.16
672	SLU 11	-90	133	20886	1922.69	-225.89	-10.35
672	SLU 12	-89	189	20860	1919.91	-224.77	-9.22
672	SLU 13	-87	225	20695	1904.28	-222.59	-8.44
672	SLU 14	-90	133	21170	1949.37	-228.62	-10.63
672	SLU 15	-89	190	21143	1946.59	-227.5	-9.5
672	SLU 16	-89	132	21022	1935.61	-227.19	-10.61
672	SLU 17	-88	188	20996	1932.82	-226.07	-9.47
672	SLU 18	-88	134	21522	1980.04	-233.66	-10.85
672	SLU 19	-87	191	21496	1977.26	-232.54	-9.71
672	SLU 20	-88	135	21805	2006.73	-236.39	-11.12
672	SLU 21	-87	191	21779	2003.94	-235.27	-9.99
672	SLU 22	-95	140	20886	1928.14	-220.36	-9.61
672	SLU 23	-94	235	20842	1923.49	-218.49	-7.71
672	SLU 24	-96	143	21316	1968.58	-224.53	-9.91
672	SLU 25	-95	199	21290	1965.8	-223.41	-8.77
672	SLU 26	-94	235	21125	1950.17	-221.23	-7.99
672	SLU 27	-96	143	21600	1995.27	-227.26	-10.19
672	SLU 28	-95	200	21574	1992.48	-226.14	-9.05
672	SLU 29	-95	142	21452	1981.5	-225.83	-10.16
672	SLU 30	-94	198	21426	1978.71	-224.71	-9.03
672	SLU 31	-92	244	23330	2151.68	-246.35	-9.56
672	SLU 32	-95	152	23804	2196.78	-252.38	-11.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
672	SLU 33	-94	209	23778	2193.99	-251.26	-10.62
672	SLU 34	-92	245	23613	2178.36	-249.09	-9.84
672	SLU 35	-95	153	24087	2223.46	-255.12	-12.03
672	SLU 36	-94	209	24061	2220.67	-254	-10.9
672	SLU 37	-94	151	23940	2209.69	-253.69	-12.01
672	SLU 38	-93	208	23914	2206.9	-252.57	-10.87
672	SLU 39	-93	154	24439	2254.13	-260.15	-12.25
672	SLU 40	-92	210	24413	2251.34	-259.03	-11.11
672	SLU 41	-93	154	24723	2280.81	-262.89	-12.52
672	SLU 42	-92	211	24697	2278.02	-261.77	-11.39
672	SLU 43	-116	150	22358	2056.3	-242.94	-10.19
672	SLU 44	-114	245	22314	2051.66	-241.07	-8.29
672	SLU 45	-117	153	22789	2096.75	-247.1	-10.49
672	SLU 46	-116	210	22762	2093.96	-245.98	-9.35
672	SLU 47	-114	245	22598	2078.34	-243.81	-8.57
672	SLU 48	-117	154	23072	2123.43	-249.84	-10.76
672	SLU 49	-116	210	23046	2120.64	-248.72	-9.63
672	SLU 50	-116	152	22924	2109.66	-248.41	-10.74
672	SLU 51	-115	208	22898	2106.88	-247.29	-9.61
672	SLU 52	-113	254	24802	2279.85	-268.93	-10.14
672	SLU 53	-115	162	25276	2324.94	-274.96	-12.34
672	SLU 54	-114	219	25250	2322.15	-273.84	-11.2
672	SLU 55	-113	255	25085	2306.53	-271.66	-10.42
672	SLU 56	-115	163	25559	2351.62	-277.7	-12.61
672	SLU 57	-114	220	25533	2348.83	-276.58	-11.48
672	SLU 58	-115	161	25412	2337.86	-276.26	-12.59
672	SLU 59	-114	218	25386	2335.07	-275.14	-11.45
672	SLU 60	-114	164	25912	2382.29	-282.73	-12.83
672	SLU 61	-113	220	25886	2379.5	-281.61	-11.69
672	SLU 62	-114	164	26195	2408.97	-285.47	-13.1
672	SLU 63	-113	221	26169	2406.18	-284.35	-11.97
672	SLU 64	-121	170	25276	2330.39	-269.43	-11.59
672	SLU 65	-119	264	25232	2325.74	-267.57	-9.7
672	SLU 66	-122	172	25706	2370.83	-273.6	-11.89
672	SLU 67	-121	229	25680	2368.04	-272.48	-10.75
672	SLU 68	-119	265	25515	2352.42	-270.3	-9.97
672	SLU 69	-122	173	25990	2397.51	-276.34	-12.17
672	SLU 70	-121	230	25964	2394.72	-275.22	-11.03
672	SLU 71	-121	171	25842	2383.75	-274.91	-12.14
672	SLU 72	-120	228	25816	2380.96	-273.79	-11.01
672	SLU 73	-118	274	27720	2553.93	-295.42	-11.54
672	SLU 74	-120	182	28194	2599.02	-301.46	-13.74
672	SLU 75	-119	238	28168	2596.23	-300.34	-12.6
672	SLU 76	-118	274	28003	2580.61	-298.16	-11.82
672	SLU 77	-120	182	28477	2625.7	-304.19	-14.01
672	SLU 78	-119	239	28451	2622.91	-303.07	-12.88
672	SLU 79	-119	181	28330	2611.94	-302.76	-13.99
672	SLU 80	-118	237	28304	2609.15	-301.64	-12.86
672	SLU 81	-119	183	28829	2656.37	-309.23	-14.23
672	SLU 82	-118	240	28803	2653.58	-308.11	-13.09
672	SLU 83	-119	184	29113	2683.05	-311.96	-14.51
672	SLU 84	-118	241	29087	2680.27	-310.84	-13.37
672	SLE RA 1	-92	126	18801	1732.37	-201.43	-8.61
672	SLE RA 2	-91	189	18773	1729.27	-200.19	-7.34
672	SLE RA 3	-93	128	19089	1759.33	-204.21	-8.81
672	SLE RA 4	-92	166	19071	1757.47	-203.47	-8.05
672	SLE RA 5	-91	190	18961	1747.06	-202.01	-7.53
672	SLE RA 6	-93	129	19277	1777.12	-206.04	-8.99
672	SLE RA 7	-92	166	19260	1775.26	-205.29	-8.23
672	SLE RA 8	-92	127	19179	1767.94	-205.08	-8.98
672	SLE RA 9	-91	165	19162	1766.08	-204.33	-8.22
672	SLE RA 10	-90	196	20431	1881.4	-218.76	-8.58
672	SLE RA 11	-92	134	20747	1911.46	-222.78	-10.04
672	SLE RA 12	-91	172	20730	1909.6	-222.04	-9.28
672	SLE RA 13	-90	196	20620	1899.18	-220.58	-8.76
672	SLE RA 14	-92	135	20936	1929.24	-224.61	-10.22
672	SLE RA 15	-91	172	20919	1927.39	-223.86	-9.47
672	SLE RA 16	-91	134	20838	1920.07	-223.65	-10.21
672	SLE RA 17	-90	171	20820	1918.21	-222.91	-9.45
672	SLE RA 18	-90	135	21171	1949.69	-227.96	-10.37
672	SLE RA 19	-90	173	21153	1947.83	-227.22	-9.61
672	SLE RA 20	-91	136	21360	1967.48	-229.79	-10.55
672	SLE RA 21	-90	173	21342	1965.62	-229.04	-9.79
672	SLE FR 1	-92	126	18801	1732.37	-201.43	-8.61
672	SLE FR 2	-92	139	18796	1731.75	-201.18	-8.35
672	SLE FR 3	-92	127	18877	1739.48	-202.16	-8.68
672	SLE FR 4	-91	142	19506	1796.94	-209.14	-8.88
672	SLE FR 5	-92	129	19588	1804.68	-210.12	-9.21
672	SLE FR 6	-91	131	19986	1841.03	-214.7	-9.49
672	SLE QP 1	-92	126	18801	1732.37	-201.43	-8.61
672	SLE QP 2	-92	129	19512	1797.56	-209.39	-9.13
672	SLD 1	1494	799	19290	1809.69	-146.71	-143.77
672	SLD 2	1485	705	19278	1807.6	-146.2	-137.94
672	SLD 3	1469	-376	19845	1882.05	-167.88	-166.57
672	SLD 4	1460	-471	19834	1879.95	-167.37	-160.74
672	SLD 5	424	2130	18605	1691.83	-158.57	-15.96
672	SLD 6	418	2069	18597	1690.48	-158.23	-12.18
672	SLD 7	340	-1789	20457	1933	-229.14	-91.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
672	SLD 8	334	-1850	20450	1931.65	-228.81	-88.18
672	SLD 9	-517	2108	18575	1663.48	-189.98	69.91
672	SLD 10	-523	2047	18567	1662.12	-189.65	73.69
672	SLD 11	-601	-1810	20427	1904.65	-260.55	-6.08
672	SLD 12	-607	-1871	20420	1903.29	-260.22	-2.31
672	SLD 13	-1643	729	19191	1715.18	-251.42	142.47
672	SLD 14	-1652	635	19179	1713.08	-250.9	148.3
672	SLD 15	-1668	-447	19746	1787.53	-272.59	119.67
672	SLD 16	-1677	-541	19735	1785.43	-272.08	125.5
672	SLV 1	2392	1254	19141	1811.81	-110.18	-218.44
672	SLV 2	2377	1105	19122	1808.51	-109.37	-209.25
672	SLV 3	2349	-733	20079	1934.14	-145.99	-256.91
672	SLV 4	2334	-881	20061	1930.84	-145.18	-247.72
672	SLV 5	721	3507	17981	1616.92	-125.47	-15.3
672	SLV 6	712	3407	17968	1614.7	-124.93	-9.11
672	SLV 7	578	-3114	21109	2024.69	-244.83	-143.53
672	SLV 8	569	-3214	21097	2022.46	-244.29	-137.34
672	SLV 9	-752	3472	17927	1572.66	-174.5	119.07
672	SLV 10	-761	3372	17915	1570.44	-173.95	125.26
672	SLV 11	-895	-3148	21056	1980.43	-293.86	-9.16
672	SLV 12	-904	-3248	21044	1978.21	-293.31	-2.97
672	SLV 13	-2517	1139	18963	1664.29	-273.61	229.45
672	SLV 14	-2532	991	18945	1660.99	-272.8	238.64
672	SLV 15	-2560	-847	19902	1786.62	-309.41	190.99
672	SLV 16	-2575	-995	19884	1783.32	-308.61	200.17
672	SLV FO 1	2640	1366	19104	1813.23	-100.26	-239.37
672	SLV FO 2	2624	1203	19083	1809.6	-99.37	-229.27
672	SLV FO 3	2593	-819	20136	1947.79	-139.65	-281.69
672	SLV FO 4	2577	-982	20116	1944.16	-138.76	-271.58
672	SLV FO 5	802	3844	17827	1598.85	-117.08	-15.91
672	SLV FO 6	792	3734	17814	1596.41	-116.48	-9.11
672	SLV FO 7	645	-3439	21269	2047.4	-248.37	-156.97
672	SLV FO 8	635	-3548	21256	2044.95	-247.78	-150.16
672	SLV FO 9	-818	3807	17769	1550.17	-171.01	131.89
672	SLV FO 10	-828	3697	17755	1547.73	-170.41	138.7
672	SLV FO 11	-975	-3476	21211	1998.72	-302.31	-9.16
672	SLV FO 12	-985	-3586	21197	1996.27	-301.71	-2.36
672	SLV FO 13	-2760	1240	18908	1650.96	-280.03	253.31
672	SLV FO 14	-2776	1077	18888	1647.33	-279.14	263.42
672	SLV FO 15	-2807	-945	19941	1785.53	-319.42	211
672	SLV FO 16	-2823	-1108	19921	1781.9	-318.53	221.1
672	CRTFP Ux+	0	0	0	0	0	0
672	CRTFP Ux-	0	0	0	0	0	0
672	CRTFP Uy+	0	0	0	0	0	0
672	CRTFP Uy-	0	0	0	0	0	0
675	SLU 1	-118	-30	15595	-2643.9	296.42	-42.84
675	SLU 2	-116	59	15544	-2636.32	297.05	-43.95
675	SLU 3	-120	-31	15966	-2705.42	303.44	-43.61
675	SLU 4	-119	22	15935	-2700.87	303.82	-44.27
675	SLU 5	-117	57	15788	-2676.67	301.65	-44.35
675	SLU 6	-120	-32	16211	-2745.77	308.05	-44
675	SLU 7	-119	21	16180	-2741.22	308.42	-44.67
675	SLU 8	-119	-33	16083	-2724.61	305.63	-43.63
675	SLU 9	-118	20	16053	-2720.06	306	-44.3
675	SLU 10	-119	53	17702	-2999.23	337.71	-46.69
675	SLU 11	-123	-37	18125	-3068.33	344.11	-46.35
675	SLU 12	-122	16	18094	-3063.78	344.48	-47.02
675	SLU 13	-120	51	17946	-3039.59	342.32	-47.09
675	SLU 14	-124	-39	18369	-3108.69	348.71	-46.74
675	SLU 15	-122	15	18338	-3104.14	349.09	-47.41
675	SLU 16	-123	-39	18242	-3087.53	346.29	-46.38
675	SLU 17	-121	14	18211	-3082.98	346.67	-47.05
675	SLU 18	-123	-39	18679	-3162.35	354.51	-46.75
675	SLU 19	-121	14	18648	-3157.8	354.89	-47.42
675	SLU 20	-123	-41	18923	-3202.7	359.12	-47.15
675	SLU 21	-122	13	18892	-3198.15	359.49	-47.82
675	SLU 22	-127	-30	18090	-3057.65	345.91	-47.36
675	SLU 23	-125	59	18038	-3050.07	346.54	-48.48
675	SLU 24	-129	-30	18461	-3119.17	352.93	-48.13
675	SLU 25	-128	23	18430	-3114.62	353.31	-48.8
675	SLU 26	-126	58	18282	-3090.43	351.14	-48.88
675	SLU 27	-130	-32	18705	-3159.53	357.54	-48.53
675	SLU 28	-128	22	18674	-3154.98	357.91	-49.2
675	SLU 29	-129	-33	18578	-3138.37	355.12	-48.16
675	SLU 30	-127	21	18547	-3133.82	355.49	-48.83
675	SLU 31	-128	53	20197	-3412.99	387.2	-51.22
675	SLU 32	-132	-37	20619	-3482.08	393.6	-50.87
675	SLU 33	-131	17	20589	-3477.54	393.97	-51.54
675	SLU 34	-129	52	20441	-3453.34	391.81	-51.62
675	SLU 35	-133	-38	20864	-3522.44	398.2	-51.27
675	SLU 36	-131	15	20833	-3517.89	398.58	-51.94
675	SLU 37	-132	-39	20736	-3501.28	395.78	-50.9
675	SLU 38	-130	15	20706	-3496.73	396.16	-51.57
675	SLU 39	-132	-39	21173	-3576.1	404.01	-51.28
675	SLU 40	-130	15	21142	-3571.55	404.38	-51.95
675	SLU 41	-132	-40	21417	-3616.46	408.61	-51.68
675	SLU 42	-131	13	21386	-3611.91	408.98	-52.35
675	SLU 43	-151	-40	19418	-3295.21	368.38	-54.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
675	SLU 44	-149	49	19367	-3287.63	369.01	-55.25
675	SLU 45	-152	-40	19790	-3356.73	375.4	-54.91
675	SLU 46	-151	13	19759	-3352.18	375.78	-55.57
675	SLU 47	-149	48	19611	-3327.98	373.61	-55.65
675	SLU 48	-153	-42	20034	-3397.08	380.01	-55.3
675	SLU 49	-152	12	20003	-3392.53	380.38	-55.97
675	SLU 50	-152	-42	19907	-3375.92	377.59	-54.93
675	SLU 51	-151	11	19876	-3371.37	377.96	-55.6
675	SLU 52	-152	43	21525	-3650.54	409.67	-57.99
675	SLU 53	-155	-47	21948	-3719.64	416.07	-57.65
675	SLU 54	-154	7	21917	-3715.09	416.44	-58.32
675	SLU 55	-152	42	21770	-3690.9	414.27	-58.39
675	SLU 56	-156	-48	22192	-3760	420.67	-58.05
675	SLU 57	-155	5	22161	-3755.45	421.05	-58.71
675	SLU 58	-155	-49	22065	-3738.84	418.25	-57.68
675	SLU 59	-154	5	22034	-3734.29	418.63	-58.35
675	SLU 60	-155	-48	22502	-3813.66	426.47	-58.05
675	SLU 61	-154	5	22471	-3809.11	426.85	-58.72
675	SLU 62	-156	-50	22746	-3854.01	431.08	-58.45
675	SLU 63	-154	3	22715	-3849.47	431.45	-59.12
675	SLU 64	-160	-39	21913	-3708.97	417.87	-58.66
675	SLU 65	-158	50	21861	-3701.38	418.5	-59.78
675	SLU 66	-161	-40	22284	-3770.48	424.89	-59.43
675	SLU 67	-160	14	22253	-3765.93	425.27	-60.1
675	SLU 68	-158	49	22106	-3741.74	423.1	-60.18
675	SLU 69	-162	-41	22528	-3810.84	429.5	-59.83
675	SLU 70	-161	12	22497	-3806.29	429.87	-60.5
675	SLU 71	-161	-42	22401	-3789.68	427.08	-59.46
675	SLU 72	-160	12	22370	-3785.13	427.45	-60.13
675	SLU 73	-161	44	24020	-4064.3	459.16	-62.52
675	SLU 74	-164	-46	24443	-4133.4	465.56	-62.17
675	SLU 75	-163	7	24412	-4128.85	465.93	-62.84
675	SLU 76	-161	42	24264	-4104.65	463.77	-62.92
675	SLU 77	-165	-47	24687	-4173.75	470.16	-62.57
675	SLU 78	-164	6	24656	-4169.2	470.54	-63.24
675	SLU 79	-164	-48	24560	-4152.59	467.74	-62.2
675	SLU 80	-163	5	24529	-4148.04	468.12	-62.87
675	SLU 81	-164	-48	24996	-4227.41	475.96	-62.58
675	SLU 82	-163	6	24966	-4222.86	476.34	-63.25
675	SLU 83	-165	-49	25241	-4267.77	480.57	-62.98
675	SLU 84	-163	4	25210	-4263.22	480.94	-63.65
675	SLE RA 1	-121	-30	16308	-2762.11	310.56	-44.13
675	SLE RA 2	-119	29	16273	-2757.06	310.98	-44.87
675	SLE RA 3	-122	-31	16555	-2803.13	315.24	-44.64
675	SLE RA 4	-121	5	16535	-2800.09	315.49	-45.09
675	SLE RA 5	-120	28	16436	-2783.96	314.05	-45.14
675	SLE RA 6	-122	-32	16718	-2830.03	318.31	-44.91
675	SLE RA 7	-121	4	16698	-2827	318.56	-45.35
675	SLE RA 8	-122	-32	16633	-2815.92	316.7	-44.66
675	SLE RA 9	-121	4	16613	-2812.89	316.95	-45.11
675	SLE RA 10	-122	25	17712	-2999	338.09	-46.7
675	SLE RA 11	-124	-35	17994	-3045.07	342.35	-46.47
675	SLE RA 12	-123	1	17974	-3042.04	342.6	-46.92
675	SLE RA 13	-122	24	17875	-3025.91	341.16	-46.97
675	SLE RA 14	-124	-36	18157	-3071.97	345.42	-46.74
675	SLE RA 15	-124	0	18137	-3068.94	345.67	-47.18
675	SLE RA 16	-124	-36	18072	-3057.87	343.81	-46.49
675	SLE RA 17	-123	-1	18052	-3054.83	344.06	-46.94
675	SLE RA 18	-124	-36	18363	-3107.75	349.29	-46.74
675	SLE RA 19	-123	0	18343	-3104.71	349.54	-47.19
675	SLE RA 20	-124	-37	18526	-3134.65	352.36	-47.01
675	SLE RA 21	-123	-1	18506	-3131.62	352.61	-47.45
675	SLE FR 1	-121	-30	16308	-2762.11	310.56	-44.13
675	SLE FR 2	-121	-18	16301	-2761.1	310.65	-44.28
675	SLE FR 3	-121	-30	16373	-2772.88	311.79	-44.24
675	SLE FR 4	-121	-20	16918	-2864.79	322.27	-45.06
675	SLE FR 5	-122	-32	16990	-2876.57	323.41	-45.02
675	SLE FR 6	-122	-33	17336	-2934.93	329.93	-45.44
675	SLE QP 1	-121	-30	16308	-2762.11	310.56	-44.13
675	SLE QP 2	-122	-32	16924	-2865.8	322.18	-44.91
675	SLD 1	1314	575	16380	-2756.58	332.94	208.17
675	SLD 2	1319	520	16373	-2756.3	332.18	214.95
675	SLD 3	1285	-532	17016	-2838.59	325.5	221.75
675	SLD 4	1290	-587	17009	-2838.31	324.75	228.54
675	SLD 5	353	1838	15798	-2708.7	336.81	9.22
675	SLD 6	356	1802	15793	-2708.52	336.33	13.61
675	SLD 7	255	-1850	17918	-2982.07	312.03	54.52
675	SLD 8	258	-1886	17913	-2981.89	311.55	58.91
675	SLD 9	-502	1822	15936	-2749.72	332.82	-148.74
675	SLD 10	-499	1787	15931	-2749.54	332.33	-144.35
675	SLD 11	-599	-1866	18056	-3023.09	308.04	-103.44
675	SLD 12	-596	-1902	18051	-3022.91	307.55	-99.05
675	SLD 13	-1533	523	16840	-2893.3	319.62	-318.37
675	SLD 14	-1529	468	16833	-2893.02	318.86	-311.58
675	SLD 15	-1562	-583	17475	-2975.31	312.18	-304.78
675	SLD 16	-1558	-638	17469	-2975.03	311.43	-297.99
675	SLV 1	2128	989	16034	-2690	339.71	350.37
675	SLV 2	2135	902	16023	-2689.56	338.52	361.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
675	SLV 3	2078	-880	17108	-2828.54	327.11	373.23
675	SLV 4	2085	-967	17097	-2828.1	325.92	383.92
675	SLV 5	627	3126	15030	-2603.03	346.78	37.01
675	SLV 6	632	3068	15023	-2602.74	345.98	44.21
675	SLV 7	461	-3105	18611	-3064.82	304.77	113.2
675	SLV 8	466	-3164	18604	-3064.52	303.97	120.4
675	SLV 9	-710	3100	15245	-2667.09	340.4	-210.22
675	SLV 10	-705	3042	15238	-2666.79	339.6	-203.03
675	SLV 11	-876	-3131	18826	-3128.87	298.39	-134.03
675	SLV 12	-871	-3190	18819	-3128.58	297.59	-126.83
675	SLV 13	-2329	903	16752	-2903.51	318.44	-473.74
675	SLV 14	-2322	816	16741	-2903.07	317.26	-463.05
675	SLV 15	-2379	-966	17826	-3042.05	305.84	-450.88
675	SLV 16	-2371	-1053	17815	-3041.61	304.66	-440.2
675	SLV FO 1	2353	1091	15945	-2672.42	341.46	389.9
675	SLV FO 2	2361	996	15933	-2671.94	340.16	401.65
675	SLV FO 3	2298	-965	17126	-2824.81	327.6	415.04
675	SLV FO 4	2306	-1060	17114	-2824.33	326.29	426.8
675	SLV FO 5	702	3442	14841	-2576.76	349.23	45.2
675	SLV FO 6	708	3377	14832	-2576.43	348.36	53.12
675	SLV FO 7	520	-3413	18780	-3084.72	303.02	129.01
675	SLV FO 8	525	-3477	18771	-3084.39	302.15	136.93
675	SLV FO 9	-768	3413	15077	-2647.21	342.22	-226.76
675	SLV FO 10	-763	3349	15069	-2646.89	341.34	-218.84
675	SLV FO 11	-951	-3441	19016	-3155.18	296.01	-142.94
675	SLV FO 12	-946	-3505	19008	-3154.85	295.13	-135.03
675	SLV FO 13	-2549	997	16734	-2907.28	318.07	-516.63
675	SLV FO 14	-2542	901	16722	-2906.8	316.77	-504.87
675	SLV FO 15	-2604	-1060	17916	-3059.67	304.21	-491.48
675	SLV FO 16	-2596	-1155	17904	-3059.19	302.9	-479.72
675	CRTFP Ux+	0	0	0	0	0	0
675	CRTFP Ux-	0	0	0	0	0	0
675	CRTFP Uy+	0	0	0	0	0	0
675	CRTFP Uy-	0	0	0	0	0	0
676	SLU 1	-3	-10	1779	376.93	-55.29	0.3
676	SLU 2	-3	0	1772	375.28	-55.05	0.57
676	SLU 3	-3	-10	1822	385.89	-56.63	0.28
676	SLU 4	-3	-4	1817	384.9	-56.48	0.44
676	SLU 5	-3	0	1800	381.19	-55.93	0.54
676	SLU 6	-3	-10	1850	391.8	-57.51	0.25
676	SLU 7	-3	-4	1846	390.81	-57.36	0.41
676	SLU 8	-3	-10	1835	388.75	-57.05	0.25
676	SLU 9	-3	-4	1831	387.76	-56.91	0.41
676	SLU 10	-2	-1	2019	426.71	-62.75	0.35
676	SLU 11	-2	-11	2069	437.33	-64.32	0.06
676	SLU 12	-2	-6	2065	436.34	-64.18	0.23
676	SLU 13	-2	-2	2048	432.62	-63.63	0.33
676	SLU 14	-2	-12	2098	443.24	-65.2	0.04
676	SLU 15	-2	-6	2093	442.25	-65.06	0.2
676	SLU 16	-2	-12	2083	440.18	-64.75	0.03
676	SLU 17	-2	-6	2079	439.19	-64.61	0.19
676	SLU 18	-2	-12	2133	450.4	-66.29	-0.01
676	SLU 19	-2	-6	2128	449.42	-66.15	0.15
676	SLU 20	-2	-12	2161	456.31	-67.17	-0.03
676	SLU 21	-2	-6	2157	455.33	-67.02	0.13
676	SLU 22	-2	-11	2066	437.05	-64.2	0.18
676	SLU 23	-2	-1	2059	435.4	-63.96	0.45
676	SLU 24	-2	-11	2109	446.01	-65.53	0.16
676	SLU 25	-2	-5	2104	445.02	-65.39	0.32
676	SLU 26	-2	-1	2087	441.31	-64.84	0.42
676	SLU 27	-2	-11	2137	451.92	-66.41	0.14
676	SLU 28	-2	-5	2133	450.93	-66.27	0.3
676	SLU 29	-2	-11	2122	448.87	-65.96	0.13
676	SLU 30	-2	-5	2118	447.88	-65.82	0.29
676	SLU 31	-2	-2	2306	486.83	-71.66	0.24
676	SLU 32	-2	-12	2356	497.45	-73.23	-0.05
676	SLU 33	-2	-6	2352	496.46	-73.09	0.11
676	SLU 34	-2	-2	2334	492.74	-72.54	0.21
676	SLU 35	-2	-12	2385	503.36	-74.11	-0.08
676	SLU 36	-2	-7	2380	502.37	-73.97	0.08
676	SLU 37	-2	-12	2370	500.3	-73.66	-0.09
676	SLU 38	-2	-7	2366	499.31	-73.51	0.07
676	SLU 39	-2	-12	2420	510.53	-75.19	-0.12
676	SLU 40	-1	-7	2415	509.54	-75.05	0.04
676	SLU 41	-1	-13	2448	516.44	-76.07	-0.15
676	SLU 42	-1	-7	2443	515.45	-75.93	0.01
676	SLU 43	-4	-12	2214	469.39	-68.82	0.43
676	SLU 44	-4	-3	2207	467.74	-68.59	0.7
676	SLU 45	-4	-13	2257	478.36	-70.16	0.41
676	SLU 46	-4	-7	2253	477.37	-70.02	0.57
676	SLU 47	-3	-3	2235	473.65	-69.47	0.67
676	SLU 48	-4	-13	2285	484.27	-71.04	0.38
676	SLU 49	-4	-7	2281	483.28	-70.9	0.54
676	SLU 50	-4	-13	2271	481.21	-70.58	0.38
676	SLU 51	-3	-7	2266	480.22	-70.44	0.54
676	SLU 52	-3	-4	2455	519.18	-76.28	0.48
676	SLU 53	-3	-14	2505	529.79	-77.86	0.19
676	SLU 54	-3	-8	2500	528.8	-77.71	0.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
676	SLU 55	-3	-4	2483	525.09	-77.16	0.46
676	SLU 56	-3	-14	2533	535.7	-78.74	0.17
676	SLU 57	-3	-8	2529	534.71	-78.59	0.33
676	SLU 58	-3	-14	2518	532.65	-78.28	0.16
676	SLU 59	-3	-8	2514	531.66	-78.14	0.32
676	SLU 60	-3	-14	2568	542.87	-79.82	0.12
676	SLU 61	-3	-9	2564	541.88	-79.68	0.28
676	SLU 62	-3	-15	2596	548.78	-80.7	0.1
676	SLU 63	-3	-9	2592	547.79	-80.56	0.26
676	SLU 64	-3	-13	2501	529.51	-77.73	0.31
676	SLU 65	-3	-4	2494	527.86	-77.49	0.58
676	SLU 66	-3	-13	2544	538.48	-79.07	0.29
676	SLU 67	-3	-8	2540	537.49	-78.92	0.45
676	SLU 68	-3	-4	2522	533.77	-78.37	0.55
676	SLU 69	-3	-14	2572	544.39	-79.95	0.27
676	SLU 70	-3	-8	2568	543.4	-79.8	0.43
676	SLU 71	-3	-14	2558	541.33	-79.49	0.26
676	SLU 72	-3	-8	2553	540.34	-79.35	0.42
676	SLU 73	-3	-5	2741	579.3	-85.19	0.37
676	SLU 74	-3	-15	2792	589.91	-86.76	0.08
676	SLU 75	-3	-9	2787	588.92	-86.62	0.24
676	SLU 76	-3	-5	2770	585.21	-86.07	0.34
676	SLU 77	-3	-15	2820	595.82	-87.64	0.05
676	SLU 78	-3	-9	2816	594.83	-87.5	0.21
676	SLU 79	-3	-15	2805	592.77	-87.19	0.04
676	SLU 80	-3	-9	2801	591.78	-87.05	0.2
676	SLU 81	-2	-15	2855	602.99	-88.73	0.01
676	SLU 82	-2	-9	2850	602	-88.59	0.17
676	SLU 83	-2	-15	2883	608.9	-89.61	-0.02
676	SLU 84	-2	-10	2879	607.91	-89.47	0.14
676	SLE RA 1	-3	-10	1861	394.1	-57.84	0.27
676	SLE RA 2	-3	-4	1856	393.01	-57.68	0.45
676	SLE RA 3	-3	-10	1889	400.08	-58.73	0.25
676	SLE RA 4	-3	-6	1887	399.42	-58.63	0.36
676	SLE RA 5	-3	-4	1875	396.95	-58.26	0.43
676	SLE RA 6	-3	-10	1908	404.02	-59.31	0.24
676	SLE RA 7	-3	-6	1905	403.36	-59.22	0.34
676	SLE RA 8	-3	-10	1899	401.98	-59.01	0.23
676	SLE RA 9	-3	-6	1896	401.32	-58.91	0.34
676	SLE RA 10	-2	-4	2021	427.29	-62.81	0.3
676	SLE RA 11	-2	-11	2055	434.37	-63.86	0.11
676	SLE RA 12	-2	-7	2052	433.71	-63.76	0.22
676	SLE RA 13	-2	-5	2040	431.23	-63.4	0.28
676	SLE RA 14	-2	-11	2073	438.31	-64.44	0.09
676	SLE RA 15	-2	-7	2071	437.65	-64.35	0.2
676	SLE RA 16	-2	-11	2064	436.27	-64.14	0.09
676	SLE RA 17	-2	-7	2061	435.61	-64.05	0.19
676	SLE RA 18	-2	-11	2097	443.09	-65.17	0.06
676	SLE RA 19	-2	-7	2094	442.43	-65.07	0.17
676	SLE RA 20	-2	-11	2116	447.03	-65.75	0.04
676	SLE RA 21	-2	-8	2113	446.37	-65.66	0.15
676	SLE FR 1	-3	-10	1861	394.1	-57.84	0.27
676	SLE FR 2	-3	-9	1860	393.88	-57.8	0.3
676	SLE FR 3	-3	-10	1868	395.68	-58.07	0.26
676	SLE FR 4	-2	-9	1931	408.58	-60	0.24
676	SLE FR 5	-2	-10	1939	410.38	-60.27	0.2
676	SLE FR 6	-2	-11	1979	418.6	-61.5	0.17
676	SLE QP 1	-3	-10	1861	394.1	-57.84	0.27
676	SLE QP 2	-2	-10	1932	408.8	-60.03	0.21
676	SLD 1	153	55	1865	403.43	-57.86	-36.67
676	SLD 2	151	50	1864	403.16	-57.84	-36.43
676	SLD 3	151	-65	1958	425.31	-60.92	-39.98
676	SLD 4	149	-70	1958	425.05	-60.9	-39.74
676	SLD 5	48	192	1770	374.05	-54.76	-5.88
676	SLD 6	47	189	1769	373.88	-54.74	-5.73
676	SLD 7	41	-208	2082	446.98	-64.93	-16.91
676	SLD 8	40	-211	2081	446.81	-64.92	-16.75
676	SLD 9	-45	190	1782	370.79	-55.15	17.17
676	SLD 10	-45	187	1781	370.62	-55.13	17.32
676	SLD 11	-52	-210	2094	443.72	-65.33	6.14
676	SLD 12	-53	-213	2094	443.55	-65.31	6.29
676	SLD 13	-154	49	1906	392.55	-59.17	40.15
676	SLD 14	-156	45	1905	392.29	-59.15	40.39
676	SLD 15	-156	-71	1999	414.43	-62.23	36.85
676	SLD 16	-158	-75	1998	414.17	-62.2	37.08
676	SLV 1	241	99	1821	399.02	-56.45	-57.31
676	SLV 2	239	92	1820	398.6	-56.42	-56.93
676	SLV 3	237	-104	1979	435.98	-61.61	-62.88
676	SLV 4	235	-111	1978	435.57	-61.57	-62.51
676	SLV 5	77	332	1659	349.88	-51.14	-8.66
676	SLV 6	75	327	1658	349.6	-51.12	-8.41
676	SLV 7	64	-344	2186	473.09	-68.34	-27.25
676	SLV 8	63	-350	2185	472.81	-68.31	-27
676	SLV 9	-68	329	1678	344.78	-51.75	27.41
676	SLV 10	-69	324	1677	344.51	-51.73	27.66
676	SLV 11	-80	-347	2205	468	-68.95	8.82
676	SLV 12	-81	-352	2204	467.72	-68.93	9.07
676	SLV 13	-240	90	1885	382.03	-58.49	62.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
676	SLV 14	-242	83	1884	381.62	-58.46	63.3
676	SLV 15	-244	-113	2043	419	-63.65	57.34
676	SLV 16	-246	-120	2042	418.58	-63.62	57.72
676	SLV FO 1	265	110	1810	398.04	-56.09	-63.06
676	SLV FO 2	263	102	1809	397.58	-56.05	-62.65
676	SLV FO 3	261	-113	1984	438.7	-61.76	-69.19
676	SLV FO 4	259	-121	1983	438.24	-61.73	-68.78
676	SLV FO 5	84	366	1631	343.99	-50.25	-9.55
676	SLV FO 6	83	360	1631	343.68	-50.23	-9.27
676	SLV FO 7	71	-378	2212	479.52	-69.17	-29.99
676	SLV FO 8	69	-383	2211	479.22	-69.14	-29.72
676	SLV FO 9	-74	363	1653	338.38	-50.93	30.13
676	SLV FO 10	-76	357	1652	338.08	-50.9	30.41
676	SLV FO 11	-88	-381	2233	473.92	-69.84	9.68
676	SLV FO 12	-89	-386	2232	473.61	-69.82	9.96
676	SLV FO 13	-264	100	1880	379.36	-58.34	69.19
676	SLV FO 14	-266	92	1879	378.9	-58.31	69.61
676	SLV FO 15	-268	-123	2054	420.02	-64.02	63.06
676	SLV FO 16	-270	-131	2053	419.56	-63.98	63.47
676	CRTFP Ux+	0	0	0	0	0	0
676	CRTFP Ux-	0	0	0	0	0	0
676	CRTFP Uy+	0	0	0	0	0	0
676	CRTFP Uy-	0	0	0	0	0	0
678	SLU 1	-4	-45	4637	924.71	-695.45	-7.01
678	SLU 2	-4	-20	4616	919.93	-692.12	-3.25
678	SLU 3	-4	-47	4749	946.64	-712.24	-7.23
678	SLU 4	-4	-31	4736	943.77	-710.25	-4.98
678	SLU 5	-4	-21	4690	934.4	-703.19	-3.46
678	SLU 6	-4	-47	4823	961.11	-723.31	-7.44
678	SLU 7	-4	-32	4810	958.25	-721.32	-5.18
678	SLU 8	-4	-47	4785	953.66	-717.59	-7.42
678	SLU 9	-4	-32	4772	950.79	-715.59	-5.17
678	SLU 10	-2	-26	5261	1044.67	-788.73	-4.66
678	SLU 11	-2	-52	5394	1071.38	-808.85	-8.65
678	SLU 12	-2	-37	5381	1068.51	-806.86	-6.39
678	SLU 13	-2	-27	5334	1059.14	-799.8	-4.87
678	SLU 14	-2	-53	5468	1085.86	-819.92	-8.85
678	SLU 15	-2	-38	5455	1082.99	-817.93	-6.59
678	SLU 16	-2	-53	5429	1078.4	-814.2	-8.83
678	SLU 17	-2	-38	5417	1075.53	-812.2	-6.58
678	SLU 18	-2	-54	5558	1102.91	-833.46	-9.03
678	SLU 19	-2	-38	5545	1100.04	-831.47	-6.77
678	SLU 20	-2	-55	5632	1117.38	-844.54	-9.23
678	SLU 21	-1	-39	5619	1114.52	-842.54	-6.98
678	SLU 22	-3	-50	5382	1070.36	-806.99	-8.17
678	SLU 23	-3	-25	5361	1065.58	-803.66	-4.41
678	SLU 24	-3	-51	5494	1092.29	-823.78	-8.4
678	SLU 25	-3	-36	5481	1089.42	-821.78	-6.14
678	SLU 26	-2	-26	5435	1080.05	-814.73	-4.62
678	SLU 27	-3	-52	5568	1106.77	-834.85	-8.6
678	SLU 28	-2	-37	5555	1103.9	-832.85	-6.34
678	SLU 29	-3	-52	5530	1099.31	-829.13	-8.58
678	SLU 30	-2	-37	5517	1096.44	-827.13	-6.33
678	SLU 31	-1	-30	6006	1190.32	-900.27	-5.82
678	SLU 32	-1	-57	6139	1217.03	-920.39	-9.81
678	SLU 33	-1	-42	6126	1214.16	-918.39	-7.55
678	SLU 34	-1	-31	6080	1204.8	-911.34	-6.03
678	SLU 35	-1	-58	6213	1231.51	-931.46	-10.01
678	SLU 36	-1	-42	6200	1228.64	-929.46	-7.76
678	SLU 37	-1	-58	6175	1224.05	-925.74	-9.99
678	SLU 38	-1	-42	6162	1221.18	-923.74	-7.74
678	SLU 39	-1	-58	6303	1248.56	-945	-10.19
678	SLU 40	0	-43	6291	1245.69	-943.01	-7.93
678	SLU 41	0	-59	6377	1263.04	-956.07	-10.39
678	SLU 42	0	-44	6364	1260.17	-954.08	-8.14
678	SLU 43	-6	-58	5773	1152.18	-865.85	-8.72
678	SLU 44	-6	-32	5751	1147.4	-862.52	-4.95
678	SLU 45	-6	-59	5885	1174.11	-882.64	-8.94
678	SLU 46	-6	-43	5872	1171.24	-880.64	-6.68
678	SLU 47	-5	-33	5825	1161.88	-873.59	-5.16
678	SLU 48	-6	-59	5959	1188.59	-893.71	-9.15
678	SLU 49	-5	-44	5946	1185.72	-891.71	-6.89
678	SLU 50	-6	-59	5920	1181.13	-887.99	-9.13
678	SLU 51	-5	-44	5908	1178.26	-885.99	-6.87
678	SLU 52	-4	-38	6396	1272.14	-959.13	-6.37
678	SLU 53	-4	-64	6530	1298.85	-979.25	-10.35
678	SLU 54	-4	-49	6517	1295.99	-977.25	-8.09
678	SLU 55	-4	-39	6470	1286.62	-970.2	-6.57
678	SLU 56	-4	-65	6603	1313.33	-990.32	-10.56
678	SLU 57	-4	-50	6591	1310.46	-988.32	-8.3
678	SLU 58	-4	-65	6565	1305.87	-984.6	-10.54
678	SLU 59	-4	-50	6552	1303.01	-982.6	-8.28
678	SLU 60	-4	-66	6694	1330.38	-1003.86	-10.73
678	SLU 61	-3	-50	6681	1327.51	-1001.86	-8.47
678	SLU 62	-3	-67	6768	1344.86	-1014.93	-10.94
678	SLU 63	-3	-51	6755	1341.99	-1012.93	-8.68
678	SLU 64	-5	-62	6518	1297.83	-977.38	-9.88
678	SLU 65	-4	-37	6497	1293.05	-974.05	-6.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
678	SLU 66	-5	-63	6630	1319.76	-994.18	-10.1
678	SLU 67	-4	-48	6617	1316.9	-992.18	-7.84
678	SLU 68	-4	-38	6570	1307.53	-985.12	-6.32
678	SLU 69	-4	-64	6704	1334.24	-1005.25	-10.31
678	SLU 70	-4	-49	6691	1331.37	-1003.25	-8.05
678	SLU 71	-4	-64	6665	1326.78	-999.52	-10.29
678	SLU 72	-4	-49	6653	1323.92	-997.53	-8.03
678	SLU 73	-3	-42	7141	1417.79	-1070.66	-7.53
678	SLU 74	-3	-69	7275	1444.51	-1090.79	-11.51
678	SLU 75	-3	-54	7262	1441.64	-1088.79	-9.25
678	SLU 76	-2	-43	7215	1432.27	-1081.73	-7.73
678	SLU 77	-3	-70	7348	1458.98	-1101.86	-11.72
678	SLU 78	-2	-55	7336	1456.11	-1099.86	-9.46
678	SLU 79	-3	-70	7310	1451.53	-1096.13	-11.7
678	SLU 80	-2	-54	7297	1448.66	-1094.14	-9.44
678	SLU 81	-2	-70	7439	1476.03	-1115.4	-11.89
678	SLU 82	-2	-55	7426	1473.17	-1113.4	-9.64
678	SLU 83	-2	-71	7513	1490.51	-1126.47	-12.1
678	SLU 84	-2	-56	7500	1487.64	-1124.47	-9.84
678	SLE RA 1	-4	-47	4850	966.32	-727.32	-7.34
678	SLE RA 2	-4	-30	4836	963.13	-725.1	-4.83
678	SLE RA 3	-4	-48	4925	980.94	-738.51	-7.49
678	SLE RA 4	-4	-37	4916	979.03	-737.18	-5.99
678	SLE RA 5	-4	-30	4885	972.79	-732.48	-4.97
678	SLE RA 6	-4	-48	4974	990.59	-745.9	-7.63
678	SLE RA 7	-3	-38	4965	988.68	-744.56	-6.12
678	SLE RA 8	-4	-48	4948	985.62	-742.08	-7.62
678	SLE RA 9	-3	-38	4940	983.71	-740.75	-6.11
678	SLE RA 10	-3	-34	5266	1046.3	-789.51	-5.78
678	SLE RA 11	-3	-51	5354	1064.1	-802.92	-8.43
678	SLE RA 12	-3	-41	5346	1062.19	-801.59	-6.93
678	SLE RA 13	-2	-34	5315	1055.95	-796.89	-5.91
678	SLE RA 14	-3	-52	5404	1073.75	-810.3	-8.57
678	SLE RA 15	-2	-42	5395	1071.84	-808.97	-7.07
678	SLE RA 16	-3	-52	5378	1068.78	-806.49	-8.56
678	SLE RA 17	-2	-42	5370	1066.87	-805.15	-7.05
678	SLE RA 18	-2	-52	5464	1085.12	-819.33	-8.69
678	SLE RA 19	-2	-42	5456	1083.21	-818	-7.18
678	SLE RA 20	-2	-53	5513	1094.77	-826.71	-8.82
678	SLE RA 21	-2	-43	5505	1092.86	-825.38	-7.32
678	SLE FR 1	-4	-47	4850	966.32	-727.32	-7.34
678	SLE FR 2	-4	-43	4847	965.68	-726.88	-6.84
678	SLE FR 3	-4	-47	4870	970.18	-730.27	-7.4
678	SLE FR 4	-3	-45	5031	1001.32	-754.48	-7.24
678	SLE FR 5	-3	-49	5054	1005.82	-757.87	-7.8
678	SLE FR 6	-3	-50	5157	1025.72	-773.32	-8.01
678	SLE QP 1	-4	-47	4850	966.32	-727.32	-7.34
678	SLE QP 2	-3	-48	5034	1001.96	-754.92	-7.75
678	SLD 1	402	122	4851	1003.3	-727.62	-84.34
678	SLD 2	398	113	4850	1003.13	-727.48	-84.52
678	SLD 3	395	-196	5125	1065.43	-770.45	-131.17
678	SLD 4	392	-205	5124	1065.26	-770.31	-131.35
678	SLD 5	128	487	4564	908.17	-681.8	40.34
678	SLD 6	126	481	4563	908.06	-681.71	40.22
678	SLD 7	107	-574	5477	1115.25	-824.56	-115.77
678	SLD 8	105	-580	5476	1115.15	-824.47	-115.89
678	SLD 9	-112	483	4592	888.78	-685.37	100.4
678	SLD 10	-114	477	4591	888.67	-685.28	100.28
678	SLD 11	-133	-578	5505	1095.86	-828.14	-55.71
678	SLD 12	-135	-584	5504	1095.75	-828.05	-55.83
678	SLD 13	-398	108	4944	938.66	-739.53	115.86
678	SLD 14	-402	100	4943	938.5	-739.4	115.68
678	SLD 15	-405	-210	5218	1000.79	-782.36	69.03
678	SLD 16	-409	-219	5217	1000.62	-782.23	68.84
678	SLV 1	631	239	4731	1000.11	-709.48	-124.68
678	SLV 2	625	225	4729	999.85	-709.26	-124.97
678	SLV 3	620	-299	5194	1105.05	-781.83	-203.77
678	SLV 4	614	-313	5192	1104.79	-781.61	-204.06
678	SLV 5	204	856	4242	842.29	-631.59	77.18
678	SLV 6	200	846	4241	842.12	-631.45	76.99
678	SLV 7	168	-937	5784	1192.1	-872.77	-186.45
678	SLV 8	164	-946	5783	1191.92	-872.62	-186.65
678	SLV 9	-171	849	4286	812	-637.22	171.16
678	SLV 10	-175	840	4284	811.82	-637.08	170.96
678	SLV 11	-207	-943	5828	1161.81	-878.4	-92.48
678	SLV 12	-211	-953	5826	1161.63	-878.25	-92.67
678	SLV 13	-621	216	4877	899.13	-728.23	188.57
678	SLV 14	-627	202	4875	898.87	-728.02	188.27
678	SLV 15	-632	-322	5339	1004.08	-800.59	109.48
678	SLV 16	-638	-336	5337	1003.81	-800.37	109.18
678	SLV FO 1	694	267	4701	999.93	-704.93	-136.37
678	SLV FO 2	688	252	4699	999.63	-704.69	-136.69
678	SLV FO 3	683	-324	5210	1115.36	-784.52	-223.37
678	SLV FO 4	676	-339	5208	1115.07	-784.28	-223.69
678	SLV FO 5	225	946	4163	826.33	-619.26	85.68
678	SLV FO 6	221	936	4161	826.13	-619.1	85.46
678	SLV FO 7	186	-1025	5859	1211.11	-884.55	-204.32
678	SLV FO 8	181	-1036	5858	1210.92	-884.39	-204.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
678	SLV FO 9	-188	939	4211	793.01	-625.45	189.05
678	SLV FO 10	-192	928	4209	792.81	-625.29	188.83
678	SLV FO 11	-228	-1033	5907	1177.79	-890.74	-100.95
678	SLV FO 12	-232	-1043	5906	1177.59	-890.58	-101.17
678	SLV FO 13	-683	242	4861	888.85	-725.56	208.2
678	SLV FO 14	-689	227	4859	888.56	-725.33	207.88
678	SLV FO 15	-695	-349	5370	1004.29	-805.15	121.2
678	SLV FO 16	-701	-364	5368	1003.99	-804.91	120.88
678	CRTFP Ux+	0	0	0	0	0	0
678	CRTFP Ux-	0	0	0	0	0	0
678	CRTFP Uy+	0	0	0	0	0	0
678	CRTFP Uy-	0	0	0	0	0	0
679	SLU 1	1	-82	5843	1056.05	862.53	10.91
679	SLU 2	2	-49	5814	1050.55	858.26	5.9
679	SLU 3	2	-84	5984	1081.25	883.34	11.07
679	SLU 4	2	-64	5966	1077.95	880.78	8.06
679	SLU 5	2	-50	5907	1067.22	871.99	6.02
679	SLU 6	2	-85	6077	1097.91	897.07	11.18
679	SLU 7	2	-65	6059	1094.61	894.51	8.18
679	SLU 8	2	-85	6029	1089.38	889.98	11.14
679	SLU 9	2	-65	6011	1086.08	887.42	8.14
679	SLU 10	4	-59	6621	1187.63	977.91	6.71
679	SLU 11	4	-94	6792	1218.33	1002.99	11.87
679	SLU 12	4	-74	6774	1215.03	1000.43	8.86
679	SLU 13	4	-60	6714	1204.3	991.63	6.82
679	SLU 14	4	-95	6884	1234.99	1016.71	11.99
679	SLU 15	5	-75	6867	1231.7	1014.15	8.98
679	SLU 16	4	-95	6836	1226.47	1009.62	11.95
679	SLU 17	4	-75	6819	1223.17	1007.06	8.94
679	SLU 18	4	-96	6997	1251.88	1033.45	12.06
679	SLU 19	5	-76	6979	1248.58	1030.89	9.05
679	SLU 20	5	-97	7090	1268.55	1047.18	12.18
679	SLU 21	5	-78	7072	1265.25	1044.62	9.17
679	SLU 22	4	-91	6776	1220.74	1000.61	11.55
679	SLU 23	4	-58	6747	1215.24	996.34	6.54
679	SLU 24	4	-93	6917	1245.93	1021.42	11.71
679	SLU 25	4	-73	6899	1242.63	1018.86	8.7
679	SLU 26	5	-60	6839	1231.9	1010.07	6.66
679	SLU 27	4	-95	7010	1262.6	1035.15	11.82
679	SLU 28	5	-75	6992	1259.3	1032.59	8.82
679	SLU 29	4	-94	6962	1254.07	1028.06	11.79
679	SLU 30	5	-74	6944	1250.77	1025.5	8.78
679	SLU 31	6	-68	7554	1352.32	1115.99	7.35
679	SLU 32	6	-103	7724	1383.01	1141.07	12.51
679	SLU 33	7	-83	7707	1379.71	1138.51	9.5
679	SLU 34	7	-69	7647	1368.98	1129.71	7.46
679	SLU 35	6	-104	7817	1399.68	1154.79	12.63
679	SLU 36	7	-84	7799	1396.38	1152.23	9.62
679	SLU 37	6	-104	7769	1391.15	1147.7	12.59
679	SLU 38	7	-84	7751	1387.85	1145.14	9.58
679	SLU 39	7	-105	7930	1416.57	1171.53	12.7
679	SLU 40	7	-85	7912	1413.27	1168.97	9.7
679	SLU 41	7	-107	8022	1433.23	1185.25	12.82
679	SLU 42	7	-87	8005	1429.93	1182.7	9.81
679	SLU 43	1	-103	7277	1316.4	1073.95	13.96
679	SLU 44	1	-70	7247	1310.9	1069.68	8.95
679	SLU 45	1	-105	7417	1341.6	1094.76	14.12
679	SLU 46	2	-85	7400	1338.3	1092.2	11.11
679	SLU 47	2	-72	7340	1327.57	1083.4	9.07
679	SLU 48	1	-107	7510	1358.26	1108.48	14.24
679	SLU 49	2	-87	7492	1354.96	1105.93	11.23
679	SLU 50	1	-106	7462	1349.74	1101.39	14.2
679	SLU 51	2	-86	7444	1346.44	1098.83	11.19
679	SLU 52	4	-80	8054	1447.99	1189.33	9.76
679	SLU 53	3	-115	8225	1478.68	1214.41	14.92
679	SLU 54	4	-95	8207	1475.38	1211.85	11.92
679	SLU 55	4	-81	8147	1464.65	1203.05	9.88
679	SLU 56	4	-116	8318	1495.35	1228.13	15.04
679	SLU 57	4	-97	8300	1492.05	1225.57	12.03
679	SLU 58	4	-116	8270	1486.82	1221.04	15
679	SLU 59	4	-96	8252	1483.52	1218.48	12
679	SLU 60	4	-117	8430	1512.24	1244.87	15.11
679	SLU 61	4	-98	8412	1508.94	1242.31	12.11
679	SLU 62	4	-119	8523	1528.9	1258.59	15.23
679	SLU 63	5	-99	8505	1525.6	1256.03	12.22
679	SLU 64	3	-113	8209	1481.09	1212.03	14.61
679	SLU 65	4	-80	8180	1475.59	1207.76	9.6
679	SLU 66	3	-115	8350	1506.28	1232.84	14.76
679	SLU 67	4	-95	8332	1502.98	1230.28	11.75
679	SLU 68	4	-81	8273	1492.25	1221.48	9.71
679	SLU 69	4	-116	8443	1522.95	1246.56	14.88
679	SLU 70	4	-96	8425	1519.65	1244	11.87
679	SLU 71	4	-116	8395	1514.42	1239.47	14.84
679	SLU 72	4	-96	8377	1511.12	1236.91	11.83
679	SLU 73	6	-89	8987	1612.67	1327.41	10.4
679	SLU 74	6	-124	9158	1643.37	1352.49	15.56
679	SLU 75	6	-104	9140	1640.07	1349.93	12.56
679	SLU 76	6	-91	9080	1629.34	1341.13	10.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
679	SLU 77	6	-126	9250	1660.03	1366.21	15.68
679	SLU 78	6	-106	9233	1656.73	1363.65	12.67
679	SLU 79	6	-125	9202	1651.5	1359.12	15.64
679	SLU 80	6	-105	9185	1648.2	1356.56	12.64
679	SLU 81	6	-127	9363	1676.92	1382.95	15.75
679	SLU 82	7	-107	9345	1673.62	1380.39	12.75
679	SLU 83	7	-128	9456	1693.59	1396.67	15.87
679	SLU 84	7	-108	9438	1690.29	1394.11	12.87
679	SLE RA 1	2	-85	6110	1103.1	901.98	11.09
679	SLE RA 2	2	-63	6090	1099.44	899.14	7.75
679	SLE RA 3	2	-86	6204	1119.9	915.86	11.2
679	SLE RA 4	2	-73	6192	1117.7	914.15	9.19
679	SLE RA 5	3	-64	6152	1110.55	908.29	7.83
679	SLE RA 6	2	-87	6266	1131.01	925.01	11.27
679	SLE RA 7	3	-74	6254	1128.81	923.3	9.27
679	SLE RA 8	2	-87	6234	1125.33	920.28	11.25
679	SLE RA 9	3	-73	6222	1123.13	918.57	9.25
679	SLE RA 10	4	-69	6628	1190.83	978.9	8.29
679	SLE RA 11	4	-92	6742	1211.29	995.62	11.73
679	SLE RA 12	4	-79	6730	1209.09	993.91	9.73
679	SLE RA 13	4	-70	6690	1201.94	988.05	8.37
679	SLE RA 14	4	-93	6804	1222.4	1004.77	11.81
679	SLE RA 15	4	-80	6792	1220.2	1003.06	9.81
679	SLE RA 16	4	-93	6772	1216.71	1000.04	11.79
679	SLE RA 17	4	-80	6760	1214.51	998.34	9.78
679	SLE RA 18	4	-94	6879	1233.66	1015.93	11.86
679	SLE RA 19	4	-81	6867	1231.46	1014.22	9.86
679	SLE RA 20	4	-95	6941	1244.77	1025.08	11.94
679	SLE RA 21	4	-82	6929	1242.57	1023.37	9.93
679	SLE FR 1	2	-85	6110	1103.1	901.98	11.09
679	SLE FR 2	2	-80	6106	1102.37	901.41	10.43
679	SLE FR 3	2	-85	6135	1107.55	905.64	11.13
679	SLE FR 4	3	-83	6337	1141.54	935.6	10.66
679	SLE FR 5	3	-88	6365	1146.71	939.82	11.36
679	SLE FR 6	3	-89	6494	1168.38	958.95	11.48
679	SLE QP 1	2	-85	6110	1103.1	901.98	11.09
679	SLE QP 2	3	-87	6341	1142.27	936.16	11.32
679	SLD 1	515	131	6130	1176.2	903.29	-147.48
679	SLD 2	510	126	6129	1177.27	903.17	-145.18
679	SLD 3	505	-284	6507	1245.13	958.04	-84.81
679	SLD 4	501	-290	6507	1246.2	957.92	-82.51
679	SLD 5	171	609	5705	1047.72	843.28	-131.76
679	SLD 6	168	606	5704	1048.41	843.2	-130.28
679	SLD 7	140	-776	6963	1277.49	1025.79	77.14
679	SLD 8	137	-779	6963	1278.18	1025.72	78.62
679	SLD 9	-132	604	5718	1006.36	846.61	-55.97
679	SLD 10	-135	601	5718	1007.05	846.53	-54.49
679	SLD 11	-163	-780	6977	1236.13	1029.13	152.93
679	SLD 12	-166	-784	6977	1236.82	1029.05	154.41
679	SLD 13	-496	115	6174	1038.34	914.41	105.16
679	SLD 14	-500	109	6174	1039.41	914.29	107.46
679	SLD 15	-505	-301	6552	1107.27	969.16	167.83
679	SLD 16	-510	-306	6552	1108.34	969.04	170.13
679	SLV 1	805	282	5984	1190.84	881.16	-241.17
679	SLV 2	798	273	5984	1192.53	880.97	-237.56
679	SLV 3	788	-420	6622	1307.25	973.66	-135.24
679	SLV 4	781	-429	6622	1308.94	973.46	-131.63
679	SLV 5	269	1090	5266	979.97	779.41	-225.76
679	SLV 6	264	1084	5266	981.11	779.28	-223.32
679	SLV 7	215	-1250	7393	1368	1087.74	127.34
679	SLV 8	210	-1256	7392	1369.14	1087.61	129.77
679	SLV 9	-205	1081	5289	915.4	784.72	-107.12
679	SLV 10	-210	1075	5289	916.54	784.59	-104.69
679	SLV 11	-259	-1259	7415	1303.44	1093.05	245.97
679	SLV 12	-264	-1264	7415	1304.57	1092.92	248.4
679	SLV 13	-776	254	6059	975.61	898.86	154.28
679	SLV 14	-783	245	6059	977.29	898.67	157.89
679	SLV 15	-793	-448	6697	1092.02	991.36	260.2
679	SLV 16	-800	-457	6697	1093.7	991.17	263.82
679	SLV FO 1	885	319	5949	1195.69	875.66	-266.42
679	SLV FO 2	877	309	5948	1197.55	875.45	-262.44
679	SLV FO 3	867	-453	6650	1323.75	977.4	-149.9
679	SLV FO 4	859	-463	6650	1325.6	977.19	-145.92
679	SLV FO 5	296	1207	5159	963.74	763.73	-249.46
679	SLV FO 6	291	1201	5159	964.99	763.59	-246.79
679	SLV FO 7	236	-1366	7498	1390.58	1102.89	138.94
679	SLV FO 8	231	-1373	7498	1391.83	1102.75	141.62
679	SLV FO 9	-226	1198	5184	892.71	769.58	-118.97
679	SLV FO 10	-231	1191	5183	893.96	769.44	-116.29
679	SLV FO 11	-286	-1376	7523	1319.55	1108.74	269.44
679	SLV FO 12	-291	-1382	7522	1320.8	1108.6	272.11
679	SLV FO 13	-854	288	6031	958.94	895.13	168.57
679	SLV FO 14	-862	278	6031	960.8	894.92	172.55
679	SLV FO 15	-872	-484	6733	1086.99	996.88	285.09
679	SLV FO 16	-880	-494	6733	1088.85	996.67	289.07
679	CRTFP Ux+	0	0	0	0	0	0
679	CRTFP Ux-	0	0	0	0	0	0
679	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
679	CRTFP Uy-	0	0	0	0	0	0
681	SLU 1	8	-86	5937	1153.23	-1334.42	-20.55
681	SLU 2	9	-52	5907	1146.91	-1327.81	-13.15
681	SLU 3	8	-88	6079	1180.56	-1366.3	-21.13
681	SLU 4	9	-67	6061	1176.77	-1362.33	-16.69
681	SLU 5	9	-53	6001	1164.97	-1348.79	-13.59
681	SLU 6	9	-89	6173	1198.62	-1387.28	-21.58
681	SLU 7	9	-69	6155	1194.83	-1383.31	-17.14
681	SLU 8	9	-89	6124	1189.34	-1376.4	-21.44
681	SLU 9	9	-69	6106	1185.55	-1372.42	-17
681	SLU 10	11	-62	6719	1296.32	-1509.65	-15.93
681	SLU 11	11	-98	6891	1329.97	-1548.15	-23.92
681	SLU 12	11	-78	6873	1326.18	-1544.18	-19.48
681	SLU 13	11	-64	6812	1314.38	-1530.64	-16.38
681	SLU 14	11	-100	6984	1348.02	-1569.13	-24.36
681	SLU 15	12	-79	6966	1344.23	-1565.16	-19.92
681	SLU 16	11	-99	6936	1338.75	-1558.24	-24.23
681	SLU 17	11	-79	6918	1334.96	-1554.27	-19.79
681	SLU 18	11	-100	7096	1366.67	-1594.21	-24.53
681	SLU 19	12	-80	7078	1362.88	-1590.24	-20.09
681	SLU 20	11	-102	7190	1384.73	-1615.19	-24.98
681	SLU 21	12	-82	7172	1380.94	-1611.22	-20.54
681	SLU 22	11	-96	6879	1332.6	-1546	-23.69
681	SLU 23	12	-62	6849	1326.28	-1539.38	-16.28
681	SLU 24	12	-98	7021	1359.93	-1577.87	-24.27
681	SLU 25	12	-78	7004	1356.14	-1573.9	-19.82
681	SLU 26	12	-64	6943	1344.33	-1560.36	-16.73
681	SLU 27	12	-100	7115	1377.98	-1598.86	-24.71
681	SLU 28	12	-80	7097	1374.19	-1594.88	-20.27
681	SLU 29	12	-99	7067	1368.71	-1587.97	-24.58
681	SLU 30	12	-79	7049	1364.92	-1584	-20.14
681	SLU 31	14	-73	7661	1475.69	-1721.23	-19.07
681	SLU 32	14	-109	7833	1509.34	-1759.72	-27.05
681	SLU 33	14	-88	7815	1505.54	-1755.75	-22.61
681	SLU 34	15	-74	7755	1493.74	-1742.21	-19.52
681	SLU 35	14	-110	7927	1527.39	-1780.7	-27.5
681	SLU 36	15	-90	7909	1523.6	-1776.73	-23.06
681	SLU 37	14	-110	7878	1518.12	-1769.81	-27.37
681	SLU 38	15	-89	7860	1514.33	-1765.84	-22.92
681	SLU 39	14	-111	8039	1546.04	-1805.78	-27.67
681	SLU 40	15	-90	8021	1542.25	-1801.81	-23.23
681	SLU 41	15	-112	8132	1564.09	-1826.76	-28.11
681	SLU 42	15	-92	8114	1560.3	-1822.79	-23.67
681	SLU 43	9	-108	7395	1437.7	-1662.21	-25.64
681	SLU 44	10	-74	7365	1431.38	-1655.6	-18.24
681	SLU 45	10	-110	7537	1465.03	-1694.09	-26.22
681	SLU 46	10	-90	7519	1461.24	-1690.12	-21.78
681	SLU 47	10	-76	7459	1449.44	-1676.58	-18.68
681	SLU 48	10	-112	7631	1483.09	-1715.07	-26.67
681	SLU 49	10	-91	7613	1479.3	-1711.1	-22.23
681	SLU 50	10	-111	7582	1473.81	-1704.18	-26.53
681	SLU 51	10	-91	7564	1470.02	-1700.21	-22.09
681	SLU 52	12	-84	8177	1580.79	-1837.44	-21.02
681	SLU 53	12	-120	8349	1614.44	-1875.94	-29.01
681	SLU 54	12	-100	8331	1610.65	-1871.96	-24.57
681	SLU 55	13	-86	8270	1598.85	-1858.43	-21.47
681	SLU 56	12	-122	8442	1632.5	-1896.92	-29.45
681	SLU 57	13	-101	8424	1628.71	-1892.95	-25.01
681	SLU 58	12	-121	8394	1623.22	-1886.03	-29.32
681	SLU 59	13	-101	8376	1619.43	-1882.06	-24.88
681	SLU 60	12	-123	8554	1651.14	-1922	-29.62
681	SLU 61	13	-102	8536	1647.35	-1918.03	-25.18
681	SLU 62	13	-124	8648	1669.2	-1942.98	-30.07
681	SLU 63	13	-104	8630	1665.41	-1939.01	-25.63
681	SLU 64	12	-118	8337	1617.07	-1873.78	-28.77
681	SLU 65	13	-85	8307	1610.75	-1867.17	-21.37
681	SLU 66	13	-121	8479	1644.4	-1905.66	-29.36
681	SLU 67	13	-100	8461	1640.61	-1901.69	-24.91
681	SLU 68	13	-86	8401	1628.81	-1888.15	-21.82
681	SLU 69	13	-122	8573	1662.46	-1926.64	-29.8
681	SLU 70	14	-102	8555	1658.66	-1922.67	-25.36
681	SLU 71	13	-122	8525	1653.18	-1915.76	-29.67
681	SLU 72	14	-101	8507	1649.39	-1911.78	-25.23
681	SLU 73	15	-95	9119	1760.16	-2049.01	-24.16
681	SLU 74	15	-131	9291	1793.81	-2087.51	-32.14
681	SLU 75	16	-110	9273	1790.02	-2083.54	-27.7
681	SLU 76	16	-96	9213	1778.21	-2070	-24.61
681	SLU 77	15	-132	9385	1811.86	-2108.49	-32.59
681	SLU 78	16	-112	9367	1808.07	-2104.52	-28.15
681	SLU 79	15	-132	9336	1802.59	-2097.6	-32.46
681	SLU 80	16	-111	9318	1798.8	-2093.63	-28.01
681	SLU 81	16	-133	9497	1830.51	-2133.57	-32.76
681	SLU 82	16	-113	9479	1826.72	-2129.6	-28.32
681	SLU 83	16	-135	9590	1848.57	-2154.55	-33.2
681	SLU 84	16	-114	9572	1844.77	-2150.58	-28.76
681	SLE RA 1	9	-89	6206	1204.48	-1394.87	-21.45
681	SLE RA 2	9	-66	6186	1200.27	-1390.46	-16.51
681	SLE RA 3	9	-90	6301	1222.7	-1416.12	-21.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
681	SLE RA 4	9	-77	6289	1220.17	-1413.48	-18.87
681	SLE RA 5	10	-67	6249	1212.3	-1404.45	-16.81
681	SLE RA 6	9	-91	6363	1234.74	-1430.11	-22.13
681	SLE RA 7	10	-78	6351	1232.21	-1427.47	-19.17
681	SLE RA 8	9	-91	6331	1228.55	-1422.85	-22.04
681	SLE RA 9	10	-77	6319	1226.03	-1420.21	-19.08
681	SLE RA 10	11	-73	6727	1299.87	-1511.69	-18.37
681	SLE RA 11	11	-97	6842	1322.3	-1537.36	-23.69
681	SLE RA 12	11	-83	6830	1319.78	-1534.71	-20.73
681	SLE RA 13	11	-74	6790	1311.91	-1525.68	-18.67
681	SLE RA 14	11	-98	6904	1334.34	-1551.35	-23.99
681	SLE RA 15	11	-84	6892	1331.81	-1548.7	-21.03
681	SLE RA 16	11	-98	6872	1328.16	-1544.09	-23.9
681	SLE RA 17	11	-84	6860	1325.63	-1541.44	-20.94
681	SLE RA 18	11	-99	6979	1346.77	-1568.06	-24.1
681	SLE RA 19	11	-85	6967	1344.24	-1565.42	-21.14
681	SLE RA 20	11	-100	7042	1358.81	-1582.05	-24.4
681	SLE RA 21	12	-86	7030	1356.28	-1579.41	-21.44
681	SLE FR 1	9	-89	6206	1204.48	-1394.87	-21.45
681	SLE FR 2	9	-84	6202	1203.64	-1393.99	-20.46
681	SLE FR 3	9	-89	6231	1209.29	-1400.47	-21.56
681	SLE FR 4	10	-87	6434	1246.32	-1445.95	-21.25
681	SLE FR 5	10	-92	6463	1251.98	-1452.43	-22.36
681	SLE FR 6	10	-94	6593	1275.63	-1481.47	-22.77
681	SLE QP 1	9	-89	6206	1204.48	-1394.87	-21.45
681	SLE QP 2	9	-92	6438	1247.17	-1446.83	-22.24
681	SLD 1	525	131	6343	1307.48	-1430.96	-102.16
681	SLD 2	521	132	6344	1309.01	-1431.38	-100.53
681	SLD 3	514	-297	6721	1385.97	-1514.31	-195.48
681	SLD 4	510	-296	6723	1387.5	-1514.74	-193.85
681	SLD 5	182	624	5835	1145.96	-1315.58	95.04
681	SLD 6	179	624	5836	1146.95	-1315.85	96.1
681	SLD 7	144	-802	7097	1407.57	-1593.42	-216.04
681	SLD 8	142	-802	7098	1408.56	-1593.7	-214.98
681	SLD 9	-123	619	5778	1085.77	-1299.96	170.5
681	SLD 10	-126	619	5779	1086.76	-1300.24	171.55
681	SLD 11	-160	-808	7040	1347.38	-1577.81	-140.58
681	SLD 12	-163	-808	7041	1348.37	-1578.09	-139.52
681	SLD 13	-491	113	6153	1106.84	-1378.92	149.37
681	SLD 14	-495	113	6155	1108.37	-1379.35	151
681	SLD 15	-502	-315	6532	1185.32	-1462.28	56.04
681	SLD 16	-506	-315	6533	1186.85	-1462.7	57.67
681	SLV 1	817	285	6266	1336.35	-1416.98	-141.47
681	SLV 2	810	286	6269	1338.76	-1417.65	-138.9
681	SLV 3	798	-438	6906	1468.88	-1557.77	-299.11
681	SLV 4	791	-437	6908	1471.29	-1558.44	-296.54
681	SLV 5	282	1118	5416	1072.47	-1224.22	180.59
681	SLV 6	277	1118	5418	1074.09	-1224.67	182.32
681	SLV 7	218	-1293	7548	1514.23	-1693.52	-344.86
681	SLV 8	214	-1292	7550	1515.85	-1693.96	-343.13
681	SLV 9	-195	1108	5327	978.48	-1199.7	298.65
681	SLV 10	-199	1109	5328	980.1	-1200.15	300.38
681	SLV 11	-259	-1302	7459	1420.24	-1668.99	-226.8
681	SLV 12	-263	-1301	7460	1421.86	-1669.44	-225.08
681	SLV 13	-772	254	5968	1023.04	-1335.22	252.06
681	SLV 14	-779	255	5970	1025.45	-1335.89	254.63
681	SLV 15	-792	-469	6608	1155.57	-1476.01	94.42
681	SLV 16	-798	-468	6610	1157.98	-1476.68	96.99
681	SLV FO 1	898	322	6249	1345.27	-1414	-153.4
681	SLV FO 2	890	323	6252	1347.92	-1414.73	-150.57
681	SLV FO 3	877	-473	6953	1491.05	-1568.86	-326.8
681	SLV FO 4	869	-472	6955	1493.7	-1569.6	-323.97
681	SLV FO 5	309	1239	5314	1055	-1201.96	200.88
681	SLV FO 6	304	1239	5316	1056.79	-1202.46	202.78
681	SLV FO 7	239	-1413	7659	1540.94	-1718.18	-377.13
681	SLV FO 8	234	-1412	7661	1542.72	-1718.68	-375.22
681	SLV FO 9	-215	1228	5216	951.61	-1174.98	330.74
681	SLV FO 10	-220	1229	5217	953.39	-1175.48	332.64
681	SLV FO 11	-285	-1423	7561	1437.55	-1691.2	-247.26
681	SLV FO 12	-290	-1422	7562	1439.33	-1691.7	-245.36
681	SLV FO 13	-851	288	5921	1000.63	-1324.06	279.49
681	SLV FO 14	-858	289	5924	1003.28	-1324.8	282.31
681	SLV FO 15	-872	-507	6625	1146.41	-1478.93	106.09
681	SLV FO 16	-879	-506	6627	1149.06	-1479.66	108.91
681	CRTFP Ux+	0	0	0	0	0	0
681	CRTFP Ux-	0	0	0	0	0	0
681	CRTFP Uy+	0	0	0	0	0	0
681	CRTFP Uy-	0	0	0	0	0	0
685	SLU 1	34	-91	9326	1422.12	2580.38	27.13
685	SLU 2	35	-40	9289	1413.33	2569.42	12.51
685	SLU 3	35	-94	9545	1456.63	2641.34	27.8
685	SLU 4	36	-63	9523	1451.35	2634.76	19.03
685	SLU 5	36	-42	9433	1436.11	2609.45	13.04
685	SLU 6	36	-96	9689	1479.41	2681.37	28.33
685	SLU 7	37	-65	9667	1474.14	2674.8	19.56
685	SLU 8	36	-95	9614	1467.69	2660.45	28.18
685	SLU 9	37	-65	9591	1462.41	2653.87	19.41
685	SLU 10	40	-52	10548	1604.78	2919.04	15.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
685	SLU 11	40	-105	10805	1648.08	2990.96	31.01
685	SLU 12	41	-75	10782	1642.8	2984.39	22.24
685	SLU 13	41	-54	10692	1627.56	2959.08	16.25
685	SLU 14	41	-108	10949	1670.86	3031	31.54
685	SLU 15	41	-77	10926	1665.58	3024.42	22.76
685	SLU 16	40	-107	10873	1659.13	3010.08	31.39
685	SLU 17	41	-76	10851	1653.86	3003.5	22.62
685	SLU 18	41	-108	11125	1695.62	3079.85	31.72
685	SLU 19	41	-77	11103	1690.34	3073.27	22.95
685	SLU 20	41	-110	11269	1718.4	3119.88	32.24
685	SLU 21	42	-79	11246	1713.12	3113.3	23.47
685	SLU 22	42	-104	10796	1650.02	2987.03	30.27
685	SLU 23	43	-53	10759	1641.23	2976.06	15.65
685	SLU 24	43	-107	11016	1684.53	3047.99	30.94
685	SLU 25	44	-76	10993	1679.26	3041.41	22.17
685	SLU 26	44	-55	10903	1664.02	3016.1	16.17
685	SLU 27	44	-109	11159	1707.32	3088.02	31.46
685	SLU 28	44	-78	11137	1702.04	3081.44	22.69
685	SLU 29	43	-108	11084	1695.59	3067.1	31.32
685	SLU 30	44	-78	11061	1690.31	3060.52	22.54
685	SLU 31	47	-65	12018	1832.68	3325.69	18.86
685	SLU 32	47	-118	12275	1875.98	3397.61	34.15
685	SLU 33	48	-88	12252	1870.71	3391.03	25.38
685	SLU 34	48	-67	12162	1855.46	3365.73	19.38
685	SLU 35	48	-120	12419	1898.76	3437.65	34.67
685	SLU 36	49	-90	12396	1893.49	3431.07	25.9
685	SLU 37	48	-120	12343	1887.04	3416.73	34.52
685	SLU 38	49	-89	12321	1881.76	3410.15	25.75
685	SLU 39	48	-121	12595	1923.52	3486.49	34.85
685	SLU 40	49	-90	12573	1918.25	3479.92	26.08
685	SLU 41	49	-123	12739	1946.3	3526.53	35.38
685	SLU 42	50	-92	12716	1941.03	3519.95	26.61
685	SLU 43	42	-114	11620	1770.62	3215.07	34.2
685	SLU 44	43	-63	11582	1761.83	3204.11	19.58
685	SLU 45	43	-116	11839	1805.13	3276.03	34.87
685	SLU 46	44	-86	11817	1799.85	3269.45	26.1
685	SLU 47	44	-65	11726	1784.61	3244.14	20.1
685	SLU 48	44	-119	11983	1827.91	3316.07	35.39
685	SLU 49	45	-88	11961	1822.63	3309.49	26.62
685	SLU 50	43	-118	11908	1816.18	3295.14	35.24
685	SLU 51	44	-87	11885	1810.91	3288.56	26.47
685	SLU 52	48	-74	12842	1953.27	3553.73	22.79
685	SLU 53	48	-128	13098	1996.57	3625.66	38.08
685	SLU 54	48	-98	13076	1991.3	3619.08	29.3
685	SLU 55	48	-77	12986	1976.06	3593.77	23.31
685	SLU 56	48	-130	13242	2019.36	3665.69	38.6
685	SLU 57	49	-100	13220	2014.08	3659.11	29.83
685	SLU 58	48	-130	13167	2007.63	3644.77	38.45
685	SLU 59	49	-99	13144	2002.36	3638.19	29.68
685	SLU 60	48	-131	13419	2044.12	3714.54	38.78
685	SLU 61	49	-100	13396	2038.84	3707.96	30.01
685	SLU 62	49	-133	13563	2066.9	3754.57	39.3
685	SLU 63	50	-102	13540	2061.62	3748	30.53
685	SLU 64	49	-127	13090	1998.52	3621.72	37.33
685	SLU 65	51	-76	13053	1989.73	3610.76	22.71
685	SLU 66	51	-129	13309	2033.03	3682.68	38
685	SLU 67	51	-99	13287	2027.76	3676.1	29.23
685	SLU 68	51	-78	13196	2012.51	3650.79	23.24
685	SLU 69	51	-132	13453	2055.81	3722.71	38.53
685	SLU 70	52	-101	13431	2050.54	3716.13	29.76
685	SLU 71	51	-131	13378	2044.09	3701.79	38.38
685	SLU 72	52	-100	13355	2038.81	3695.21	29.61
685	SLU 73	55	-87	14312	2181.18	3960.38	25.92
685	SLU 74	55	-141	14569	2224.48	4032.3	41.21
685	SLU 75	56	-110	14546	2219.2	4025.73	32.44
685	SLU 76	56	-90	14456	2203.96	4000.42	26.45
685	SLU 77	56	-143	14712	2247.26	4072.34	41.74
685	SLU 78	57	-113	14690	2241.99	4065.76	32.96
685	SLU 79	56	-143	14637	2235.53	4051.42	41.59
685	SLU 80	56	-112	14614	2230.26	4044.84	32.82
685	SLU 81	56	-143	14889	2272.02	4121.19	41.92
685	SLU 82	57	-113	14866	2266.74	4114.61	33.15
685	SLU 83	57	-146	15033	2294.8	4161.22	42.44
685	SLU 84	57	-115	15010	2289.53	4154.64	33.67
685	SLE RA 1	36	-95	9746	1487.24	2696.56	28.03
685	SLE RA 2	37	-61	9721	1481.37	2689.26	18.28
685	SLE RA 3	37	-96	9892	1510.24	2737.2	28.47
685	SLE RA 4	38	-76	9877	1506.72	2732.82	22.63
685	SLE RA 5	38	-62	9817	1496.56	2715.95	18.63
685	SLE RA 6	38	-98	9988	1525.43	2763.89	28.82
685	SLE RA 7	38	-77	9973	1521.91	2759.51	22.98
685	SLE RA 8	37	-97	9938	1517.61	2749.95	28.73
685	SLE RA 9	38	-77	9923	1514.1	2745.56	22.88
685	SLE RA 10	40	-68	10561	1609.01	2922.34	20.42
685	SLE RA 11	40	-104	10732	1637.87	2970.29	30.61
685	SLE RA 12	41	-84	10717	1634.36	2965.9	24.77
685	SLE RA 13	41	-70	10657	1624.19	2949.03	20.77
685	SLE RA 14	41	-106	10828	1653.06	2996.98	30.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
685	SLE RA 15	41	-85	10813	1649.54	2992.59	25.12
685	SLE RA 16	40	-105	10777	1645.24	2983.03	30.87
685	SLE RA 17	41	-85	10762	1641.73	2978.64	25.02
685	SLE RA 18	41	-106	10945	1669.57	3029.54	31.08
685	SLE RA 19	41	-85	10930	1666.05	3025.16	25.24
685	SLE RA 20	41	-107	11041	1684.76	3056.23	31.43
685	SLE RA 21	42	-87	11026	1681.24	3051.85	25.59
685	SLE FR 1	36	-95	9746	1487.24	2696.56	28.03
685	SLE FR 2	36	-88	9741	1486.06	2695.1	26.08
685	SLE FR 3	37	-95	9784	1493.31	2707.24	28.17
685	SLE FR 4	38	-91	10101	1540.76	2795	27
685	SLE FR 5	38	-99	10144	1548.01	2807.13	29.08
685	SLE FR 6	38	-100	10346	1578.4	2863.05	29.56
685	SLE QP 1	36	-95	9746	1487.24	2696.56	28.03
685	SLE QP 2	38	-98	10106	1541.94	2796.46	28.94
685	SLD 1	821	229	10066	1526.14	2795.26	-190.54
685	SLD 2	817	244	10072	1527.1	2796.47	-192.2
685	SLD 3	804	-417	10521	1642.5	2928.73	-5.55
685	SLD 4	800	-402	10527	1643.46	2929.94	-7.21
685	SLD 5	298	977	9404	1360.55	2593.46	-317.19
685	SLD 6	296	987	9407	1361.18	2594.24	-318.27
685	SLD 7	243	-1176	10919	1748.41	3038.36	299.46
685	SLD 8	241	-1166	10922	1749.04	3039.15	298.39
685	SLD 9	-165	970	9289	1334.83	2553.77	-240.5
685	SLD 10	-168	980	9293	1335.46	2554.56	-241.57
685	SLD 11	-221	-1183	10804	1722.69	2998.67	376.16
685	SLD 12	-223	-1173	10808	1723.32	2999.46	375.08
685	SLD 13	-725	206	9685	1440.41	2662.97	65.1
685	SLD 14	-729	221	9691	1441.37	2664.19	63.44
685	SLD 15	-742	-440	10139	1556.77	2796.45	250.09
685	SLD 16	-746	-425	10145	1557.73	2797.66	248.43
685	SLV 1	1264	455	10017	1510.04	2786.47	-326.14
685	SLV 2	1258	479	10026	1511.57	2788.38	-328.76
685	SLV 3	1236	-636	10784	1706.58	3011.88	-13.53
685	SLV 4	1230	-612	10794	1708.1	3013.79	-16.15
685	SLV 5	450	1719	8913	1234	2451.23	-551.22
685	SLV 6	446	1735	8920	1235.03	2452.52	-552.98
685	SLV 7	355	-1919	11472	1889.12	3202.6	490.82
685	SLV 8	351	-1903	11478	1890.15	3203.89	489.06
685	SLV 9	-276	1707	8734	1193.72	2389.03	-431.17
685	SLV 10	-280	1723	8740	1194.75	2390.31	-432.93
685	SLV 11	-370	-1931	11292	1848.84	3140.4	610.87
685	SLV 12	-374	-1915	11298	1849.87	3141.69	609.11
685	SLV 13	-1155	417	9418	1375.77	2579.12	74.04
685	SLV 14	-1161	440	9427	1377.29	2581.04	71.42
685	SLV 15	-1183	-675	10185	1572.3	2804.53	386.65
685	SLV 16	-1189	-651	10195	1573.83	2806.45	384.03
685	SLV FO 1	1387	511	10008	1506.85	2785.47	-361.65
685	SLV FO 2	1380	537	10018	1508.53	2787.57	-364.53
685	SLV FO 3	1356	-690	10852	1723.04	3033.42	-17.77
685	SLV FO 4	1349	-664	10862	1724.72	3035.53	-20.65
685	SLV FO 5	491	1901	8794	1203.21	2416.71	-609.23
685	SLV FO 6	486	1918	8801	1204.34	2418.12	-611.17
685	SLV FO 7	387	-2101	11608	1923.84	3243.22	537.01
685	SLV FO 8	383	-2084	11615	1924.97	3244.63	535.07
685	SLV FO 9	-308	1888	8596	1158.9	2348.28	-477.18
685	SLV FO 10	-312	1905	8603	1160.03	2349.7	-479.12
685	SLV FO 11	-411	-2114	11411	1879.53	3174.79	669.06
685	SLV FO 12	-416	-2097	11417	1880.66	3176.21	667.12
685	SLV FO 13	-1274	468	9349	1359.15	2557.39	78.54
685	SLV FO 14	-1281	494	9359	1360.83	2559.49	75.66
685	SLV FO 15	-1305	-733	10193	1575.34	2805.34	422.42
685	SLV FO 16	-1312	-707	10203	1577.02	2807.45	419.54
685	CRTFP Ux+	0	0	0	0	0	0
685	CRTFP Ux-	0	0	0	0	0	0
685	CRTFP Uy+	0	0	0	0	0	0
685	CRTFP Uy-	0	0	0	0	0	0
688	SLU 1	28	36	5409	1354.37	109.2	-7.2
688	SLU 2	29	63	5398	1351.42	108.16	-7.93
688	SLU 3	29	36	5532	1385.23	112.01	-7.41
688	SLU 4	30	52	5525	1383.46	111.39	-7.86
688	SLU 5	30	62	5477	1371.45	110.05	-8.07
688	SLU 6	30	35	5611	1405.26	113.91	-7.55
688	SLU 7	30	51	5605	1403.49	113.28	-7.99
688	SLU 8	29	35	5568	1394.43	112.99	-7.47
688	SLU 9	30	51	5562	1392.66	112.36	-7.91
688	SLU 10	32	64	6118	1532.26	123.3	-8.64
688	SLU 11	32	37	6252	1566.07	127.15	-8.12
688	SLU 12	33	54	6246	1564.3	126.53	-8.56
688	SLU 13	33	64	6198	1552.28	125.19	-8.78
688	SLU 14	33	37	6332	1586.09	129.05	-8.26
688	SLU 15	33	53	6325	1584.32	128.42	-8.7
688	SLU 16	32	36	6289	1575.26	128.13	-8.18
688	SLU 17	33	53	6282	1573.49	127.5	-8.62
688	SLU 18	32	38	6438	1612.71	130.83	-8.21
688	SLU 19	33	54	6431	1610.94	130.2	-8.65
688	SLU 20	33	38	6518	1632.74	132.72	-8.34
688	SLU 21	34	54	6511	1630.97	132.09	-8.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
688	SLU 22	34	38	6257	1567.86	126.87	-8.55
688	SLU 23	35	65	6246	1564.91	125.83	-9.29
688	SLU 24	35	38	6380	1598.72	129.68	-8.77
688	SLU 25	35	54	6374	1596.95	129.06	-9.21
688	SLU 26	35	65	6326	1584.94	127.72	-9.42
688	SLU 27	35	38	6460	1618.75	131.58	-8.91
688	SLU 28	36	54	6453	1616.98	130.95	-9.35
688	SLU 29	35	37	6417	1607.91	130.66	-8.83
688	SLU 30	35	54	6410	1606.14	130.03	-9.27
688	SLU 31	37	67	6967	1745.74	140.96	-9.99
688	SLU 32	38	40	7101	1779.56	144.82	-9.48
688	SLU 33	38	56	7094	1777.78	144.19	-9.92
688	SLU 34	38	66	7046	1765.77	142.86	-10.13
688	SLU 35	38	39	7180	1799.58	146.71	-9.61
688	SLU 36	39	56	7174	1797.81	146.09	-10.05
688	SLU 37	38	39	7137	1788.75	145.79	-9.53
688	SLU 38	38	55	7131	1786.98	145.17	-9.97
688	SLU 39	38	41	7286	1826.2	148.49	-9.56
688	SLU 40	38	57	7280	1824.43	147.87	-10
688	SLU 41	38	40	7366	1846.22	150.39	-9.7
688	SLU 42	39	56	7360	1844.45	149.76	-10.14
688	SLU 43	35	46	6740	1687.49	135.9	-8.89
688	SLU 44	36	73	6729	1684.54	134.86	-9.63
688	SLU 45	36	46	6863	1718.35	138.72	-9.11
688	SLU 46	36	62	6857	1716.58	138.09	-9.55
688	SLU 47	36	72	6809	1704.56	136.76	-9.76
688	SLU 48	36	45	6943	1738.37	140.61	-9.25
688	SLU 49	37	61	6937	1736.6	139.99	-9.69
688	SLU 50	36	45	6900	1727.54	139.69	-9.17
688	SLU 51	37	61	6893	1725.77	139.07	-9.61
688	SLU 52	39	74	7450	1865.37	150	-10.33
688	SLU 53	39	47	7584	1899.18	153.85	-9.82
688	SLU 54	39	63	7577	1897.41	153.23	-10.26
688	SLU 55	39	74	7530	1885.4	151.89	-10.47
688	SLU 56	39	47	7664	1919.21	155.75	-9.95
688	SLU 57	40	63	7657	1917.44	155.12	-10.39
688	SLU 58	39	46	7620	1908.38	154.83	-9.87
688	SLU 59	39	63	7614	1906.61	154.2	-10.31
688	SLU 60	39	48	7770	1945.82	157.53	-9.9
688	SLU 61	40	64	7763	1944.05	156.9	-10.34
688	SLU 62	40	48	7849	1965.85	159.42	-10.04
688	SLU 63	40	64	7843	1964.08	158.8	-10.48
688	SLU 64	40	48	7589	1900.98	153.57	-10.25
688	SLU 65	41	75	7578	1898.02	152.53	-10.98
688	SLU 66	41	48	7712	1931.84	156.38	-10.46
688	SLU 67	42	64	7705	1930.06	155.76	-10.91
688	SLU 68	42	75	7658	1918.05	154.42	-11.12
688	SLU 69	42	48	7792	1951.86	158.28	-10.6
688	SLU 70	42	64	7785	1950.09	157.65	-11.04
688	SLU 71	41	47	7748	1941.03	157.36	-10.52
688	SLU 72	42	63	7742	1939.26	156.73	-10.96
688	SLU 73	44	77	8298	2078.86	167.67	-11.69
688	SLU 74	44	50	8432	2112.67	171.52	-11.17
688	SLU 75	45	66	8426	2110.9	170.9	-11.61
688	SLU 76	45	76	8378	2098.89	169.56	-11.82
688	SLU 77	45	49	8512	2132.7	173.42	-11.31
688	SLU 78	45	65	8506	2130.93	172.79	-11.75
688	SLU 79	44	49	8469	2121.87	172.5	-11.23
688	SLU 80	45	65	8462	2120.09	171.87	-11.67
688	SLU 81	44	50	8618	2159.31	175.2	-11.26
688	SLU 82	45	67	8612	2157.54	174.57	-11.7
688	SLU 83	45	50	8698	2179.34	177.09	-11.39
688	SLU 84	46	66	8691	2177.57	176.46	-11.83
688	SLE RA 1	30	36	5651	1415.37	114.25	-7.58
688	SLE RA 2	30	54	5644	1413.4	113.55	-8.07
688	SLE RA 3	30	36	5733	1435.94	116.12	-7.73
688	SLE RA 4	31	47	5729	1434.76	115.71	-8.02
688	SLE RA 5	31	54	5697	1426.75	114.82	-8.17
688	SLE RA 6	31	36	5786	1449.29	117.39	-7.82
688	SLE RA 7	31	47	5782	1448.11	116.97	-8.11
688	SLE RA 8	31	36	5757	1442.07	116.77	-7.77
688	SLE RA 9	31	47	5753	1440.89	116.36	-8.06
688	SLE RA 10	32	56	6124	1533.96	123.65	-8.55
688	SLE RA 11	32	38	6213	1556.5	126.22	-8.2
688	SLE RA 12	33	48	6209	1555.32	125.8	-8.49
688	SLE RA 13	33	55	6177	1547.31	124.91	-8.64
688	SLE RA 14	33	37	6267	1569.85	127.48	-8.29
688	SLE RA 15	33	48	6262	1568.67	127.06	-8.59
688	SLE RA 16	33	37	6238	1562.63	126.87	-8.24
688	SLE RA 17	33	48	6233	1561.45	126.45	-8.53
688	SLE RA 18	33	38	6337	1587.59	128.67	-8.26
688	SLE RA 19	33	49	6333	1586.41	128.25	-8.55
688	SLE RA 20	33	38	6390	1600.94	129.93	-8.35
688	SLE RA 21	33	49	6386	1599.76	129.51	-8.64
688	SLE FR 1	30	36	5651	1415.37	114.25	-7.58
688	SLE FR 2	30	40	5650	1414.98	114.11	-7.68
688	SLE FR 3	30	36	5672	1420.71	114.75	-7.62
688	SLE FR 4	31	41	5856	1466.64	118.43	-7.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
688	SLE FR 5	31	37	5878	1472.38	119.08	-7.82
688	SLE FR 6	31	37	5994	1501.48	121.46	-7.92
688	SLE QP 1	30	36	5651	1415.37	114.25	-7.58
688	SLE QP 2	31	37	5857	1467.04	118.57	-7.79
688	SLD 1	499	181	5674	1416.44	127.68	-130.96
688	SLD 2	495	206	5682	1418.63	127.56	-130.31
688	SLD 3	487	-161	5806	1453.62	140.76	-121.53
688	SLD 4	483	-136	5813	1455.81	140.64	-120.87
688	SLD 5	189	594	5602	1395.08	101.48	-59.16
688	SLD 6	187	611	5607	1396.5	101.4	-58.74
688	SLD 7	150	-545	6039	1519.03	145.1	-27.71
688	SLD 8	148	-529	6044	1520.44	145.02	-27.29
688	SLD 9	-87	603	5670	1413.63	92.13	11.72
688	SLD 10	-89	619	5675	1415.04	92.05	12.14
688	SLD 11	-126	-537	6107	1537.58	135.75	43.17
688	SLD 12	-128	-520	6112	1538.99	135.67	43.59
688	SLD 13	-422	210	5901	1478.26	96.5	105.3
688	SLD 14	-426	235	5908	1480.45	96.38	105.95
688	SLD 15	-434	-132	6032	1515.45	109.59	114.73
688	SLD 16	-437	-107	6040	1517.63	109.47	115.39
688	SLV 1	764	283	5563	1385.65	131.96	-201.14
688	SLV 2	758	323	5575	1389.1	131.77	-200.11
688	SLV 3	744	-294	5785	1448.43	154.06	-185.16
688	SLV 4	738	-255	5797	1451.88	153.87	-184.13
688	SLV 5	282	980	5430	1346.76	89.1	-90.22
688	SLV 6	278	1006	5438	1349.08	88.97	-89.52
688	SLV 7	215	-946	6169	1556.03	162.78	-36.96
688	SLV 8	212	-919	6177	1558.35	162.65	-36.26
688	SLV 9	-150	993	5537	1375.72	74.49	20.69
688	SLV 10	-154	1020	5545	1378.04	74.37	21.38
688	SLV 11	-217	-932	6276	1585	148.18	73.95
688	SLV 12	-221	-906	6284	1587.31	148.05	74.65
688	SLV 13	-677	329	5917	1482.19	83.27	168.56
688	SLV 14	-682	368	5929	1485.64	83.08	169.59
688	SLV 15	-697	-249	6139	1544.98	105.38	184.53
688	SLV 16	-702	-210	6151	1548.42	105.19	185.57
688	SLV FO 1	837	308	5534	1377.51	133.3	-220.47
688	SLV FO 2	831	352	5547	1381.3	133.09	-219.34
688	SLV FO 3	815	-327	5778	1446.57	157.61	-202.9
688	SLV FO 4	809	-284	5791	1450.36	157.4	-201.76
688	SLV FO 5	307	1074	5388	1334.73	86.15	-98.46
688	SLV FO 6	303	1103	5397	1337.28	86.01	-97.7
688	SLV FO 7	234	-1044	6201	1564.93	167.2	-39.87
688	SLV FO 8	230	-1015	6210	1567.48	167.06	-39.11
688	SLV FO 9	-168	1089	5504	1366.59	70.09	23.54
688	SLV FO 10	-172	1118	5513	1369.14	69.95	24.3
688	SLV FO 11	-242	-1029	6317	1596.79	151.14	82.13
688	SLV FO 12	-246	-1000	6326	1599.34	151	82.89
688	SLV FO 13	-748	358	5923	1483.71	79.74	186.19
688	SLV FO 14	-754	401	5936	1487.5	79.54	187.32
688	SLV FO 15	-770	-278	6167	1552.77	104.06	203.77
688	SLV FO 16	-776	-234	6180	1556.56	103.85	204.9
688	CRTFP Ux+	0	0	0	0	0	0
688	CRTFP Ux-	0	0	0	0	0	0
688	CRTFP Uy+	0	0	0	0	0	0
688	CRTFP Uy-	0	0	0	0	0	0
690	SLU 1	60	61	7533	953.37	-525.29	-3.12
690	SLU 2	61	97	7519	951.22	-524.31	-0.91
690	SLU 3	62	61	7704	975.25	-537.35	-3.33
690	SLU 4	62	82	7696	973.96	-536.76	-2.01
690	SLU 5	62	96	7630	965.45	-532.1	-1.09
690	SLU 6	63	60	7814	989.49	-545.14	-3.51
690	SLU 7	63	82	7806	988.19	-544.55	-2.19
690	SLU 8	62	60	7754	981.84	-540.86	-3.47
690	SLU 9	63	81	7746	980.55	-540.28	-2.15
690	SLU 10	66	99	8516	1078.93	-594.11	-1.29
690	SLU 11	67	64	8701	1102.97	-607.15	-3.71
690	SLU 12	67	85	8693	1101.68	-606.56	-2.39
690	SLU 13	67	99	8627	1093.17	-601.9	-1.47
690	SLU 14	68	63	8812	1117.2	-614.94	-3.89
690	SLU 15	68	84	8803	1115.91	-614.35	-2.57
690	SLU 16	67	62	8751	1109.56	-610.66	-3.85
690	SLU 17	67	84	8743	1108.27	-610.08	-2.53
690	SLU 18	67	65	8958	1135.82	-625	-3.66
690	SLU 19	67	87	8949	1134.53	-624.42	-2.33
690	SLU 20	68	64	9068	1150.06	-632.79	-3.84
690	SLU 21	68	86	9060	1148.77	-632.2	-2.51
690	SLU 22	70	65	8710	1105.33	-608.13	-4.02
690	SLU 23	70	101	8697	1103.18	-607.15	-1.82
690	SLU 24	71	65	8881	1127.21	-620.19	-4.24
690	SLU 25	72	87	8873	1125.92	-619.61	-2.92
690	SLU 26	71	100	8807	1117.41	-614.94	-2
690	SLU 27	72	64	8992	1141.45	-627.98	-4.42
690	SLU 28	73	86	8984	1140.15	-627.39	-3.09
690	SLU 29	72	64	8931	1133.8	-623.7	-4.38
690	SLU 30	72	85	8923	1132.51	-623.12	-3.06
690	SLU 31	75	104	9694	1230.89	-676.95	-2.2
690	SLU 32	76	68	9879	1254.93	-689.99	-4.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
690	SLU 33	77	89	9870	1253.64	-689.41	-3.3
690	SLU 34	76	103	9804	1245.13	-684.74	-2.37
690	SLU 35	77	67	9989	1269.16	-697.78	-4.8
690	SLU 36	78	89	9981	1267.87	-697.19	-3.47
690	SLU 37	76	67	9929	1261.52	-693.5	-4.76
690	SLU 38	77	88	9920	1260.23	-692.92	-3.43
690	SLU 39	77	69	10135	1287.78	-707.84	-4.57
690	SLU 40	77	91	10127	1286.49	-707.26	-3.24
690	SLU 41	78	69	10245	1302.02	-715.63	-4.74
690	SLU 42	78	90	10237	1300.73	-715.05	-3.42
690	SLU 43	75	78	9389	1187.28	-654.47	-3.74
690	SLU 44	76	114	9375	1185.13	-653.5	-1.53
690	SLU 45	77	78	9560	1209.16	-666.53	-3.96
690	SLU 46	77	99	9552	1207.87	-665.95	-2.63
690	SLU 47	77	113	9486	1199.36	-661.28	-1.71
690	SLU 48	78	77	9671	1223.4	-674.32	-4.13
690	SLU 49	78	98	9662	1222.11	-673.74	-2.81
690	SLU 50	77	77	9610	1215.75	-670.05	-4.1
690	SLU 51	77	98	9602	1214.46	-669.46	-2.77
690	SLU 52	81	116	10373	1312.85	-723.3	-1.91
690	SLU 53	81	81	10558	1336.88	-736.33	-4.34
690	SLU 54	82	102	10549	1335.59	-735.75	-3.01
690	SLU 55	82	116	10483	1327.08	-731.08	-2.09
690	SLU 56	82	80	10668	1351.11	-744.12	-4.51
690	SLU 57	83	101	10660	1349.82	-743.54	-3.19
690	SLU 58	82	79	10607	1343.47	-739.85	-4.47
690	SLU 59	82	101	10599	1342.18	-739.26	-3.15
690	SLU 60	82	82	10814	1369.74	-754.19	-4.28
690	SLU 61	82	103	10806	1368.44	-753.6	-2.96
690	SLU 62	83	81	10924	1383.97	-761.97	-4.46
690	SLU 63	83	103	10916	1382.68	-761.39	-3.14
690	SLU 64	85	82	10567	1339.24	-737.31	-4.65
690	SLU 65	85	118	10553	1337.09	-736.34	-2.44
690	SLU 66	86	82	10738	1361.12	-749.37	-4.86
690	SLU 67	87	103	10729	1359.83	-748.79	-3.54
690	SLU 68	86	117	10663	1351.32	-744.12	-2.62
690	SLU 69	87	81	10848	1375.36	-757.16	-5.04
690	SLU 70	88	103	10840	1374.06	-756.58	-3.72
690	SLU 71	87	81	10787	1367.71	-752.89	-5
690	SLU 72	87	102	10779	1366.42	-752.3	-3.68
690	SLU 73	90	121	11550	1464.81	-806.14	-2.82
690	SLU 74	91	85	11735	1488.84	-819.17	-5.24
690	SLU 75	91	106	11727	1487.55	-818.59	-3.92
690	SLU 76	91	120	11660	1479.04	-813.92	-3
690	SLU 77	92	84	11845	1503.07	-826.96	-5.42
690	SLU 78	92	105	11837	1501.78	-826.38	-4.1
690	SLU 79	91	84	11785	1495.43	-822.69	-5.38
690	SLU 80	92	105	11776	1494.14	-822.1	-4.06
690	SLU 81	91	86	11991	1521.69	-837.03	-5.19
690	SLU 82	92	108	11983	1520.4	-836.44	-3.87
690	SLU 83	92	86	12102	1535.93	-844.81	-5.37
690	SLU 84	93	107	12093	1534.64	-844.23	-4.04
690	SLE RA 1	63	62	7869	996.79	-548.96	-3.38
690	SLE RA 2	63	86	7860	995.35	-548.31	-1.91
690	SLE RA 3	64	62	7983	1011.37	-557	-3.52
690	SLE RA 4	64	76	7978	1010.51	-556.61	-2.64
690	SLE RA 5	64	86	7934	1004.84	-553.5	-2.02
690	SLE RA 6	65	62	8057	1020.87	-562.19	-3.64
690	SLE RA 7	65	76	8052	1020	-561.8	-2.76
690	SLE RA 8	64	61	8017	1015.77	-559.34	-3.61
690	SLE RA 9	65	76	8011	1014.91	-558.95	-2.73
690	SLE RA 10	67	88	8525	1080.5	-594.84	-2.16
690	SLE RA 11	67	64	8648	1096.52	-603.53	-3.77
690	SLE RA 12	67	78	8643	1095.66	-603.14	-2.89
690	SLE RA 13	67	87	8599	1089.99	-600.03	-2.28
690	SLE RA 14	68	64	8722	1106.01	-608.72	-3.89
690	SLE RA 15	68	78	8716	1105.15	-608.33	-3.01
690	SLE RA 16	67	63	8681	1100.91	-605.87	-3.87
690	SLE RA 17	68	77	8676	1100.05	-605.48	-2.98
690	SLE RA 18	67	65	8819	1118.42	-615.43	-3.74
690	SLE RA 19	68	79	8814	1117.56	-615.04	-2.85
690	SLE RA 20	68	65	8893	1127.91	-620.62	-3.86
690	SLE RA 21	68	79	8887	1127.05	-620.23	-2.97
690	SLE FR 1	63	62	7869	996.79	-548.96	-3.38
690	SLE FR 2	63	67	7868	996.5	-548.83	-3.08
690	SLE FR 3	63	62	7899	1000.58	-551.03	-3.42
690	SLE FR 4	64	68	8152	1032.99	-568.77	-3.19
690	SLE FR 5	65	63	8184	1037.08	-570.98	-3.53
690	SLE FR 6	65	64	8344	1057.61	-582.19	-3.56
690	SLE QP 1	63	62	7869	996.79	-548.96	-3.38
690	SLE QP 2	64	63	8154	1033.28	-568.9	-3.48
690	SLD 1	692	243	7771	972.51	-527.09	-81.48
690	SLD 2	690	287	7781	974.92	-527.65	-77.25
690	SLD 3	681	-206	7934	1003.78	-538.48	-109.39
690	SLD 4	678	-162	7944	1006.19	-539.04	-105.16
690	SLD 5	270	791	7792	967.2	-538.98	14.71
690	SLD 6	268	819	7798	968.76	-539.34	17.45
690	SLD 7	233	-706	8332	1071.44	-576.96	-78.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
690	SLD 8	231	-678	8339	1073	-577.32	-75.58
690	SLD 9	-102	804	7970	993.56	-560.48	68.61
690	SLD 10	-104	833	7976	995.11	-560.84	71.35
690	SLD 11	-140	-693	8510	1097.8	-598.46	-24.42
690	SLD 12	-141	-664	8517	1099.36	-598.82	-21.68
690	SLD 13	-550	289	8365	1060.37	-598.76	98.19
690	SLD 14	-552	333	8375	1062.77	-599.32	102.42
690	SLD 15	-561	-160	8527	1091.64	-610.15	70.28
690	SLD 16	-564	-116	8537	1094.05	-610.71	74.51
690	SLV 1	1048	372	7546	936.44	-502.92	-123.82
690	SLV 2	1043	441	7562	940.23	-503.8	-117.15
690	SLV 3	1029	-387	7820	989.26	-522.17	-170.94
690	SLV 4	1024	-318	7836	993.05	-523.04	-164.27
690	SLV 5	389	1294	7554	923.41	-519.76	30.64
690	SLV 6	386	1340	7564	925.96	-520.35	35.13
690	SLV 7	326	-1236	8466	1099.48	-583.9	-126.43
690	SLV 8	323	-1189	8477	1102.03	-584.49	-121.94
690	SLV 9	-194	1315	7832	964.53	-553.31	114.98
690	SLV 10	-197	1362	7842	967.08	-553.9	119.46
690	SLV 11	-257	-1214	8744	1140.6	-617.45	-42.1
690	SLV 12	-260	-1167	8755	1143.15	-618.04	-37.61
690	SLV 13	-896	444	8473	1073.51	-614.76	157.3
690	SLV 14	-900	514	8488	1077.3	-615.63	163.97
690	SLV 15	-915	-314	8747	1126.33	-634	110.18
690	SLV 16	-919	-245	8762	1130.12	-634.88	116.85
690	SLV FO 1	1146	402	7486	926.76	-496.33	-135.85
690	SLV FO 2	1141	479	7503	930.92	-497.29	-128.52
690	SLV FO 3	1125	-432	7787	984.86	-517.49	-187.68
690	SLV FO 4	1120	-356	7804	989.02	-518.46	-180.35
690	SLV FO 5	421	1417	7494	912.43	-514.84	34.05
690	SLV FO 6	418	1468	7505	915.23	-515.49	38.99
690	SLV FO 7	352	-1365	8498	1106.1	-585.4	-138.73
690	SLV FO 8	349	-1314	8509	1108.9	-586.05	-133.79
690	SLV FO 9	-220	1441	7799	957.66	-551.75	126.82
690	SLV FO 10	-223	1492	7811	960.46	-552.4	131.76
690	SLV FO 11	-290	-1341	8803	1151.33	-622.31	-45.96
690	SLV FO 12	-293	-1290	8815	1154.13	-622.96	-41.02
690	SLV FO 13	-992	482	8505	1077.54	-619.34	173.38
690	SLV FO 14	-996	559	8522	1081.7	-620.31	180.71
690	SLV FO 15	-1013	-352	8806	1135.64	-640.51	121.55
690	SLV FO 16	-1017	-276	8823	1139.8	-641.47	128.88
690	CRTFP Ux+	0	0	0	0	0	0
690	CRTFP Ux-	0	0	0	0	0	0
690	CRTFP Uy+	0	0	0	0	0	0
690	CRTFP Uy-	0	0	0	0	0	0
692	SLU 1	46	46	5483	-183.91	-90.32	1.67
692	SLU 2	46	71	5473	-184.06	-90.15	1.98
692	SLU 3	47	46	5608	-187.8	-92.4	1.7
692	SLU 4	48	61	5602	-187.89	-92.3	1.88
692	SLU 5	47	71	5554	-186.44	-91.49	1.99
692	SLU 6	48	46	5688	-190.17	-93.74	1.71
692	SLU 7	48	61	5683	-190.26	-93.64	1.9
692	SLU 8	48	45	5644	-188.67	-93	1.7
692	SLU 9	48	60	5638	-188.76	-92.9	1.88
692	SLU 10	50	73	6199	-206.66	-102.17	2.11
692	SLU 11	51	49	6334	-210.39	-104.41	1.83
692	SLU 12	51	63	6328	-210.48	-104.31	2.01
692	SLU 13	51	73	6280	-209.03	-103.51	2.12
692	SLU 14	52	48	6414	-212.77	-105.75	1.84
692	SLU 15	52	63	6409	-212.86	-105.65	2.03
692	SLU 16	51	48	6370	-211.26	-105.02	1.83
692	SLU 17	51	62	6364	-211.35	-104.92	2.01
692	SLU 18	51	50	6520	-216.19	-107.49	1.86
692	SLU 19	51	64	6514	-216.28	-107.39	2.04
692	SLU 20	52	49	6601	-218.57	-108.83	1.87
692	SLU 21	52	64	6595	-218.66	-108.72	2.06
692	SLU 22	53	50	6341	-209.18	-104.59	1.87
692	SLU 23	54	74	6331	-209.33	-104.42	2.18
692	SLU 24	54	50	6466	-213.07	-106.66	1.9
692	SLU 25	55	65	6460	-213.16	-106.56	2.08
692	SLU 26	54	74	6412	-211.71	-105.76	2.19
692	SLU 27	55	49	6546	-215.45	-108	1.91
692	SLU 28	55	64	6540	-215.54	-107.9	2.1
692	SLU 29	55	49	6502	-213.94	-107.27	1.9
692	SLU 30	55	64	6496	-214.03	-107.17	2.08
692	SLU 31	57	77	7057	-231.93	-116.43	2.31
692	SLU 32	58	52	7192	-235.66	-118.68	2.03
692	SLU 33	58	67	7186	-235.75	-118.58	2.21
692	SLU 34	58	76	7138	-234.31	-117.77	2.32
692	SLU 35	59	52	7272	-238.04	-120.02	2.04
692	SLU 36	59	66	7266	-238.13	-119.92	2.23
692	SLU 37	58	51	7228	-236.53	-119.28	2.03
692	SLU 38	58	66	7222	-236.62	-119.18	2.21
692	SLU 39	58	53	7378	-241.46	-121.75	2.06
692	SLU 40	59	68	7372	-241.55	-121.65	2.24
692	SLU 41	59	53	7459	-243.84	-123.09	2.07
692	SLU 42	59	67	7453	-243.93	-122.99	2.26
692	SLU 43	58	59	6834	-230.42	-112.53	2.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
692	SLU 44	58	84	6824	-230.57	-112.36	2.41
692	SLU 45	59	59	6959	-234.3	-114.6	2.13
692	SLU 46	59	74	6953	-234.4	-114.5	2.32
692	SLU 47	59	83	6905	-232.95	-113.7	2.42
692	SLU 48	59	59	7039	-236.68	-115.94	2.14
692	SLU 49	60	73	7033	-236.77	-115.84	2.33
692	SLU 50	59	58	6995	-235.18	-115.21	2.13
692	SLU 51	59	73	6989	-235.27	-115.11	2.31
692	SLU 52	61	86	7550	-253.16	-124.37	2.54
692	SLU 53	62	61	7685	-256.9	-126.62	2.26
692	SLU 54	62	76	7679	-256.99	-126.52	2.45
692	SLU 55	62	86	7630	-255.54	-125.71	2.56
692	SLU 56	63	61	7765	-259.28	-127.96	2.27
692	SLU 57	63	76	7759	-259.37	-127.86	2.46
692	SLU 58	63	60	7721	-257.77	-127.22	2.26
692	SLU 59	63	75	7715	-257.86	-127.12	2.44
692	SLU 60	63	62	7871	-262.7	-129.69	2.29
692	SLU 61	63	77	7865	-262.79	-129.59	2.47
692	SLU 62	63	62	7951	-265.08	-131.03	2.3
692	SLU 63	63	77	7946	-265.17	-130.93	2.49
692	SLU 64	65	63	7692	-255.69	-126.79	2.3
692	SLU 65	65	87	7682	-255.84	-126.62	2.61
692	SLU 66	66	63	7817	-259.58	-128.87	2.33
692	SLU 67	66	77	7811	-259.67	-128.77	2.52
692	SLU 68	66	87	7762	-258.22	-127.96	2.63
692	SLU 69	67	62	7897	-261.96	-130.21	2.34
692	SLU 70	67	77	7891	-262.05	-130.11	2.53
692	SLU 71	66	62	7853	-260.45	-129.47	2.33
692	SLU 72	66	76	7847	-260.54	-129.37	2.51
692	SLU 73	68	89	8408	-278.44	-138.64	2.74
692	SLU 74	69	65	8543	-282.17	-140.88	2.46
692	SLU 75	70	80	8537	-282.26	-140.78	2.65
692	SLU 76	69	89	8488	-280.82	-139.98	2.76
692	SLU 77	70	64	8623	-284.55	-142.22	2.47
692	SLU 78	70	79	8617	-284.64	-142.12	2.66
692	SLU 79	70	64	8579	-283.04	-141.49	2.46
692	SLU 80	70	79	8573	-283.13	-141.39	2.65
692	SLU 81	70	66	8729	-287.97	-143.96	2.49
692	SLU 82	70	81	8723	-288.06	-143.86	2.67
692	SLU 83	70	65	8809	-290.35	-145.3	2.5
692	SLU 84	71	80	8803	-290.44	-145.2	2.69
692	SLE RA 1	48	47	5728	-191.13	-94.4	1.73
692	SLE RA 2	48	64	5722	-191.23	-94.29	1.93
692	SLE RA 3	49	47	5811	-193.72	-95.78	1.75
692	SLE RA 4	49	57	5807	-193.78	-95.71	1.87
692	SLE RA 5	49	63	5775	-192.82	-95.18	1.94
692	SLE RA 6	49	47	5865	-195.31	-96.68	1.75
692	SLE RA 7	50	57	5861	-195.37	-96.61	1.88
692	SLE RA 8	49	47	5835	-194.3	-96.18	1.74
692	SLE RA 9	49	57	5832	-194.36	-96.12	1.87
692	SLE RA 10	51	65	6206	-206.3	-102.3	2.02
692	SLE RA 11	51	49	6295	-208.79	-103.79	1.83
692	SLE RA 12	51	59	6291	-208.85	-103.72	1.96
692	SLE RA 13	51	65	6259	-207.88	-103.19	2.03
692	SLE RA 14	52	49	6349	-210.37	-104.69	1.84
692	SLE RA 15	52	58	6345	-210.43	-104.62	1.97
692	SLE RA 16	52	48	6319	-209.37	-104.19	1.83
692	SLE RA 17	52	58	6316	-209.43	-104.13	1.96
692	SLE RA 18	52	50	6420	-212.65	-105.84	1.85
692	SLE RA 19	52	59	6416	-212.71	-105.77	1.98
692	SLE RA 20	52	49	6473	-214.24	-106.73	1.86
692	SLE RA 21	52	59	6469	-214.3	-106.67	1.98
692	SLE FR 1	48	47	5728	-191.13	-94.4	1.73
692	SLE FR 2	48	51	5727	-191.15	-94.38	1.77
692	SLE FR 3	48	47	5750	-191.77	-94.76	1.73
692	SLE FR 4	49	51	5934	-197.61	-97.81	1.81
692	SLE FR 5	49	48	5957	-198.22	-98.19	1.77
692	SLE FR 6	50	48	6074	-201.89	-100.12	1.79
692	SLE QP 1	48	47	5728	-191.13	-94.4	1.73
692	SLE QP 2	49	48	5936	-197.59	-97.83	1.76
692	SLD 1	493	172	5605	-198.56	-90.44	6.6
692	SLD 2	493	206	5611	-197.49	-90.52	7.78
692	SLD 3	488	-140	5714	-189.52	-92.39	2.57
692	SLD 4	487	-106	5720	-188.46	-92.47	3.74
692	SLD 5	191	553	5670	-211.77	-92.64	9.13
692	SLD 6	191	575	5673	-211.08	-92.69	9.89
692	SLD 7	172	-488	6034	-181.65	-99.14	-4.32
692	SLD 8	172	-466	6038	-180.96	-99.19	-3.55
692	SLD 9	-74	562	5833	-214.22	-96.47	7.08
692	SLD 10	-74	584	5837	-213.53	-96.52	7.84
692	SLD 11	-93	-479	6198	-184.09	-102.97	-6.36
692	SLD 12	-93	-457	6201	-183.41	-103.02	-5.6
692	SLD 13	-389	202	6151	-206.72	-103.2	-0.22
692	SLD 14	-389	236	6157	-205.66	-103.28	0.96
692	SLD 15	-395	-110	6260	-197.68	-105.15	-4.25
692	SLD 16	-395	-76	6266	-196.62	-105.23	-3.07
692	SLV 1	745	262	5413	-199.18	-86.16	9.58
692	SLV 2	744	315	5421	-197.51	-86.29	11.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
692	SLV 3	735	-266	5598	-183.88	-89.46	2.77
692	SLV 4	735	-213	5606	-182.21	-89.59	4.62
692	SLV 5	273	903	5497	-221.59	-89.31	14.1
692	SLV 6	272	939	5503	-220.46	-89.4	15.35
692	SLV 7	240	-857	6113	-170.58	-100.29	-8.62
692	SLV 8	240	-821	6118	-169.45	-100.38	-7.37
692	SLV 9	-142	917	5753	-225.73	-95.29	10.9
692	SLV 10	-142	953	5758	-224.6	-95.37	12.15
692	SLV 11	-174	-843	6368	-174.71	-106.26	-11.82
692	SLV 12	-174	-807	6374	-173.58	-106.35	-10.57
692	SLV 13	-636	309	6265	-212.97	-106.08	-1.09
692	SLV 14	-637	362	6274	-211.29	-106.21	0.76
692	SLV 15	-646	-219	6450	-197.66	-109.37	-7.91
692	SLV 16	-647	-166	6458	-195.99	-109.5	-6.05
692	SLV FO 1	814	283	5361	-199.34	-85	10.36
692	SLV FO 2	814	341	5370	-197.5	-85.14	12.4
692	SLV FO 3	804	-298	5564	-182.51	-88.62	2.87
692	SLV FO 4	803	-239	5573	-180.67	-88.76	4.91
692	SLV FO 5	295	988	5453	-223.99	-88.46	15.33
692	SLV FO 6	295	1028	5460	-222.75	-88.56	16.71
692	SLV FO 7	259	-947	6130	-167.87	-100.54	-9.66
692	SLV FO 8	259	-908	6137	-166.63	-100.63	-8.28
692	SLV FO 9	-161	1004	5734	-228.54	-95.03	11.81
692	SLV FO 10	-161	1043	5741	-227.3	-95.13	13.19
692	SLV FO 11	-196	-932	6411	-172.42	-107.11	-13.18
692	SLV FO 12	-197	-892	6418	-171.18	-107.2	-11.8
692	SLV FO 13	-705	335	6298	-214.51	-106.9	-1.38
692	SLV FO 14	-705	394	6307	-212.67	-107.04	0.66
692	SLV FO 15	-715	-245	6501	-197.67	-110.52	-8.87
692	SLV FO 16	-716	-187	6510	-195.83	-110.67	-6.83
692	CRTFP Ux+	0	0	0	0	0	0
692	CRTFP Ux-	0	0	0	0	0	0
692	CRTFP Uy+	0	0	0	0	0	0
692	CRTFP Uy-	0	0	0	0	0	0
693	SLU 1	52	53	6051	-160.96	0.17	0.28
693	SLU 2	52	80	6040	-161.19	0.18	0.17
693	SLU 3	53	53	6190	-164.3	0.16	0.3
693	SLU 4	54	69	6183	-164.43	0.16	0.23
693	SLU 5	53	80	6129	-163.2	0.17	0.19
693	SLU 6	54	53	6279	-166.31	0.15	0.32
693	SLU 7	54	69	6272	-166.45	0.15	0.25
693	SLU 8	54	53	6230	-164.98	0.15	0.31
693	SLU 9	54	69	6223	-165.12	0.16	0.25
693	SLU 10	56	83	6843	-180.6	0.16	0.23
693	SLU 11	57	56	6993	-183.71	0.14	0.35
693	SLU 12	57	72	6986	-183.84	0.14	0.29
693	SLU 13	57	82	6932	-182.61	0.15	0.25
693	SLU 14	58	56	7082	-185.72	0.13	0.37
693	SLU 15	58	72	7075	-185.86	0.14	0.31
693	SLU 16	58	55	7033	-184.39	0.14	0.37
693	SLU 17	58	71	7026	-184.53	0.14	0.31
693	SLU 18	58	57	7198	-188.69	0.15	0.36
693	SLU 19	58	73	7192	-188.83	0.15	0.29
693	SLU 20	58	57	7288	-190.7	0.14	0.38
693	SLU 21	59	73	7281	-190.84	0.14	0.31
693	SLU 22	60	58	7003	-182.34	0.07	0.35
693	SLU 23	60	84	6992	-182.57	0.08	0.24
693	SLU 24	61	58	7141	-185.68	0.06	0.37
693	SLU 25	62	74	7134	-185.82	0.06	0.31
693	SLU 26	61	84	7081	-184.58	0.07	0.26
693	SLU 27	62	57	7230	-187.69	0.05	0.39
693	SLU 28	62	73	7224	-187.83	0.06	0.33
693	SLU 29	62	57	7181	-186.37	0.06	0.39
693	SLU 30	62	73	7175	-186.5	0.06	0.32
693	SLU 31	64	87	7795	-201.98	0.06	0.3
693	SLU 32	65	61	7944	-205.09	0.04	0.43
693	SLU 33	65	77	7937	-205.23	0.05	0.36
693	SLU 34	65	87	7884	-203.99	0.05	0.32
693	SLU 35	66	60	8033	-207.1	0.03	0.45
693	SLU 36	66	76	8027	-207.24	0.04	0.38
693	SLU 37	66	60	7984	-205.77	0.04	0.45
693	SLU 38	66	76	7978	-205.91	0.04	0.38
693	SLU 39	66	62	8150	-210.07	0.05	0.43
693	SLU 40	66	78	8143	-210.21	0.05	0.37
693	SLU 41	66	61	8239	-212.08	0.04	0.45
693	SLU 42	67	77	8232	-212.22	0.05	0.39
693	SLU 43	65	68	7540	-201.92	0.25	0.33
693	SLU 44	65	95	7529	-202.15	0.26	0.23
693	SLU 45	66	68	7679	-205.25	0.24	0.35
693	SLU 46	66	84	7672	-205.39	0.24	0.29
693	SLU 47	66	94	7619	-204.16	0.25	0.25
693	SLU 48	67	68	7768	-207.27	0.23	0.37
693	SLU 49	67	84	7762	-207.4	0.24	0.31
693	SLU 50	67	67	7719	-205.94	0.24	0.37
693	SLU 51	67	83	7712	-206.08	0.24	0.31
693	SLU 52	69	98	8332	-221.56	0.24	0.29
693	SLU 53	70	71	8482	-224.66	0.22	0.41
693	SLU 54	70	87	8475	-224.8	0.23	0.35

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
693	SLU 55	70	97	8422	-223.57	0.24	0.3
693	SLU 56	71	70	8571	-226.68	0.22	0.43
693	SLU 57	71	86	8564	-226.81	0.22	0.37
693	SLU 58	70	70	8522	-225.35	0.22	0.43
693	SLU 59	71	86	8515	-225.49	0.22	0.37
693	SLU 60	70	72	8687	-229.65	0.23	0.41
693	SLU 61	71	88	8681	-229.78	0.23	0.35
693	SLU 62	71	72	8777	-231.66	0.22	0.43
693	SLU 63	71	88	8770	-231.79	0.23	0.37
693	SLU 64	73	72	8492	-223.3	0.16	0.41
693	SLU 65	73	99	8481	-223.53	0.16	0.3
693	SLU 66	74	72	8630	-226.64	0.14	0.43
693	SLU 67	74	88	8624	-226.77	0.15	0.36
693	SLU 68	74	98	8570	-225.54	0.16	0.32
693	SLU 69	75	72	8720	-228.65	0.14	0.45
693	SLU 70	75	88	8713	-228.79	0.14	0.38
693	SLU 71	75	71	8670	-227.32	0.14	0.45
693	SLU 72	75	87	8664	-227.46	0.14	0.38
693	SLU 73	77	102	9284	-242.94	0.15	0.36
693	SLU 74	78	75	9433	-246.05	0.13	0.48
693	SLU 75	78	91	9427	-246.18	0.13	0.42
693	SLU 76	78	101	9373	-244.95	0.14	0.38
693	SLU 77	79	75	9523	-248.06	0.12	0.5
693	SLU 78	79	91	9516	-248.19	0.12	0.44
693	SLU 79	78	74	9473	-246.73	0.12	0.5
693	SLU 80	79	90	9467	-246.87	0.13	0.44
693	SLU 81	78	76	9639	-251.03	0.13	0.49
693	SLU 82	79	92	9632	-251.16	0.14	0.43
693	SLU 83	79	76	9728	-253.04	0.13	0.51
693	SLU 84	79	92	9722	-253.18	0.13	0.44
693	SLE RA 1	54	55	6323	-167.07	0.14	0.3
693	SLE RA 2	54	72	6316	-167.22	0.15	0.23
693	SLE RA 3	55	55	6415	-169.29	0.13	0.31
693	SLE RA 4	55	65	6411	-169.39	0.14	0.27
693	SLE RA 5	55	72	6375	-168.56	0.14	0.24
693	SLE RA 6	56	54	6475	-170.64	0.13	0.32
693	SLE RA 7	56	65	6471	-170.73	0.13	0.28
693	SLE RA 8	55	54	6442	-169.75	0.13	0.32
693	SLE RA 9	56	65	6438	-169.84	0.13	0.28
693	SLE RA 10	57	74	6851	-180.16	0.14	0.26
693	SLE RA 11	58	57	6951	-182.23	0.12	0.35
693	SLE RA 12	58	67	6946	-182.32	0.13	0.31
693	SLE RA 13	58	74	6911	-181.5	0.13	0.28
693	SLE RA 14	58	56	7010	-183.57	0.12	0.36
693	SLE RA 15	58	67	7006	-183.67	0.12	0.32
693	SLE RA 16	58	56	6977	-182.69	0.12	0.36
693	SLE RA 17	58	67	6973	-182.78	0.12	0.32
693	SLE RA 18	58	57	7088	-185.55	0.13	0.35
693	SLE RA 19	58	68	7083	-185.65	0.13	0.31
693	SLE RA 20	59	57	7147	-186.9	0.12	0.36
693	SLE RA 21	59	68	7143	-186.99	0.12	0.32
693	SLE FR 1	54	55	6323	-167.07	0.14	0.3
693	SLE FR 2	54	58	6322	-167.1	0.14	0.28
693	SLE FR 3	55	54	6347	-167.61	0.14	0.3
693	SLE FR 4	55	59	6551	-172.65	0.14	0.3
693	SLE FR 5	56	55	6576	-173.15	0.13	0.32
693	SLE FR 6	56	56	6705	-176.31	0.13	0.32
693	SLE QP 1	54	55	6323	-167.07	0.14	0.3
693	SLE QP 2	55	55	6552	-172.62	0.14	0.31
693	SLD 1	546	189	6107	-183.37	2.52	0.02
693	SLD 2	546	230	6112	-182.14	2.55	0.69
693	SLD 3	540	-150	6231	-172.79	2.42	1.25
693	SLD 4	539	-109	6237	-171.57	2.45	1.92
693	SLD 5	212	603	6229	-192.09	1	-1.75
693	SLD 6	212	629	6233	-191.3	1.02	-1.32
693	SLD 7	191	-527	6644	-156.84	0.67	2.34
693	SLD 8	191	-501	6647	-156.05	0.68	2.77
693	SLD 9	-80	612	6458	-189.18	-0.41	-2.15
693	SLD 10	-81	638	6461	-188.39	-0.39	-1.71
693	SLD 11	-101	-518	6872	-153.93	-0.74	1.94
693	SLD 12	-101	-492	6876	-153.14	-0.73	2.38
693	SLD 13	-429	220	6868	-173.66	-2.18	-1.3
693	SLD 14	-429	261	6874	-172.44	-2.15	-0.63
693	SLD 15	-435	-119	6993	-163.09	-2.28	-0.07
693	SLD 16	-435	-78	6998	-161.86	-2.25	0.6
693	SLV 1	824	285	5849	-190.6	3.87	-0.22
693	SLV 2	823	349	5857	-188.67	3.91	0.84
693	SLV 3	813	-287	6059	-172.7	3.7	1.85
693	SLV 4	812	-223	6067	-170.77	3.74	2.91
693	SLV 5	302	981	6021	-205.53	1.51	-3.18
693	SLV 6	302	1024	6027	-204.23	1.54	-2.47
693	SLV 7	267	-928	6721	-145.84	0.94	3.72
693	SLV 8	266	-885	6727	-144.55	0.97	4.43
693	SLV 9	-155	996	6378	-200.68	-0.69	-3.8
693	SLV 10	-156	1039	6383	-199.39	-0.66	-3.09
693	SLV 11	-191	-913	7078	-141	-1.26	3.1
693	SLV 12	-192	-870	7084	-139.7	-1.23	3.81
693	SLV 13	-702	334	7037	-174.46	-3.46	-2.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
693	SLV 14	-702	398	7046	-172.53	-3.42	-1.23
693	SLV 15	-712	-238	7248	-156.56	-3.64	-0.21
693	SLV 16	-713	-175	7256	-154.63	-3.59	0.84
693	SLV FO 1	901	308	5779	-192.4	4.24	-0.27
693	SLV FO 2	900	379	5788	-190.28	4.29	0.89
693	SLV FO 3	889	-322	6010	-172.7	4.05	2.01
693	SLV FO 4	888	-251	6019	-170.58	4.1	3.17
693	SLV FO 5	327	1074	5968	-208.82	1.65	-3.53
693	SLV FO 6	326	1121	5974	-207.39	1.68	-2.75
693	SLV FO 7	288	-1026	6738	-143.17	1.02	4.06
693	SLV FO 8	287	-979	6745	-141.74	1.05	4.84
693	SLV FO 9	-176	1090	6360	-203.49	-0.77	-4.22
693	SLV FO 10	-177	1137	6367	-202.06	-0.74	-3.43
693	SLV FO 11	-216	-1010	7131	-137.84	-1.4	3.38
693	SLV FO 12	-216	-963	7137	-136.41	-1.37	4.16
693	SLV FO 13	-777	362	7086	-174.65	-3.82	-2.54
693	SLV FO 14	-778	432	7095	-172.53	-3.78	-1.38
693	SLV FO 15	-789	-268	7317	-154.95	-4.01	-0.27
693	SLV FO 16	-790	-198	7326	-152.83	-3.97	0.89
693	CRTFP Ux+	0	0	0	0	0	0
693	CRTFP Ux-	0	0	0	0	0	0
693	CRTFP Uy+	0	0	0	0	0	0
693	CRTFP Uy-	0	0	0	0	0	0
694	SLU 1	53	54	6036	-160.45	0.73	-0.13
694	SLU 2	54	80	6025	-160.67	0.74	-0.21
694	SLU 3	55	54	6175	-163.78	0.74	-0.11
694	SLU 4	55	70	6168	-163.91	0.74	-0.16
694	SLU 5	55	80	6114	-162.67	0.75	-0.19
694	SLU 6	56	54	6264	-165.78	0.74	-0.09
694	SLU 7	56	69	6257	-165.91	0.75	-0.14
694	SLU 8	55	53	6215	-164.46	0.74	-0.09
694	SLU 9	55	69	6208	-164.59	0.75	-0.14
694	SLU 10	58	83	6826	-180.03	0.83	-0.18
694	SLU 11	59	57	6976	-183.14	0.82	-0.08
694	SLU 12	59	73	6970	-183.27	0.83	-0.13
694	SLU 13	58	83	6916	-182.04	0.83	-0.16
694	SLU 14	60	57	7066	-185.15	0.83	-0.06
694	SLU 15	60	72	7059	-185.28	0.83	-0.11
694	SLU 16	59	56	7017	-183.83	0.83	-0.05
694	SLU 17	59	72	7010	-183.96	0.83	-0.11
694	SLU 18	59	58	7181	-188.11	0.85	-0.08
694	SLU 19	59	74	7175	-188.25	0.86	-0.13
694	SLU 20	60	58	7271	-190.12	0.86	-0.06
694	SLU 21	60	74	7264	-190.25	0.86	-0.11
694	SLU 22	61	58	6989	-181.79	0.76	-0.09
694	SLU 23	62	84	6977	-182.01	0.76	-0.18
694	SLU 24	63	58	7127	-185.12	0.76	-0.07
694	SLU 25	63	74	7121	-185.25	0.77	-0.13
694	SLU 26	63	84	7067	-184.01	0.77	-0.16
694	SLU 27	64	58	7217	-187.12	0.76	-0.05
694	SLU 28	64	74	7210	-187.25	0.77	-0.11
694	SLU 29	63	58	7168	-185.8	0.76	-0.05
694	SLU 30	63	73	7161	-185.93	0.77	-0.1
694	SLU 31	66	87	7779	-201.37	0.85	-0.14
694	SLU 32	67	61	7929	-204.48	0.85	-0.04
694	SLU 33	67	77	7922	-204.61	0.85	-0.09
694	SLU 34	67	87	7869	-203.38	0.85	-0.12
694	SLU 35	68	61	8019	-206.49	0.85	-0.02
694	SLU 36	68	77	8012	-206.62	0.85	-0.07
694	SLU 37	67	61	7969	-205.17	0.85	-0.02
694	SLU 38	67	76	7963	-205.3	0.85	-0.07
694	SLU 39	67	63	8134	-209.45	0.88	-0.04
694	SLU 40	67	78	8127	-209.59	0.88	-0.09
694	SLU 41	68	62	8224	-211.46	0.88	-0.02
694	SLU 42	68	78	8217	-211.59	0.89	-0.07
694	SLU 43	67	68	7520	-201.27	0.95	-0.18
694	SLU 44	67	95	7509	-201.49	0.95	-0.26
694	SLU 45	68	69	7659	-204.59	0.95	-0.16
694	SLU 46	68	84	7652	-204.73	0.96	-0.21
694	SLU 47	68	94	7598	-203.49	0.96	-0.24
694	SLU 48	69	68	7748	-206.6	0.95	-0.14
694	SLU 49	69	84	7741	-206.73	0.96	-0.19
694	SLU 50	68	68	7699	-205.28	0.95	-0.14
694	SLU 51	68	83	7692	-205.41	0.96	-0.19
694	SLU 52	71	98	8311	-220.85	1.04	-0.23
694	SLU 53	72	72	8461	-223.96	1.04	-0.13
694	SLU 54	72	87	8454	-224.09	1.04	-0.18
694	SLU 55	72	97	8400	-222.86	1.04	-0.21
694	SLU 56	73	71	8550	-225.97	1.04	-0.11
694	SLU 57	73	87	8543	-226.1	1.04	-0.16
694	SLU 58	72	71	8501	-224.64	1.04	-0.1
694	SLU 59	72	86	8494	-224.78	1.04	-0.16
694	SLU 60	72	73	8666	-228.93	1.07	-0.13
694	SLU 61	72	88	8659	-229.06	1.07	-0.18
694	SLU 62	73	72	8755	-230.94	1.07	-0.11
694	SLU 63	73	88	8748	-231.07	1.08	-0.16
694	SLU 64	75	73	8473	-222.61	0.97	-0.14
694	SLU 65	75	99	8462	-222.83	0.98	-0.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
694	SLU 66	76	73	8612	-225.93	0.97	-0.12
694	SLU 67	76	89	8605	-226.07	0.98	-0.18
694	SLU 68	76	99	8551	-224.83	0.98	-0.21
694	SLU 69	77	73	8701	-227.94	0.98	-0.11
694	SLU 70	77	88	8694	-228.07	0.98	-0.16
694	SLU 71	76	72	8652	-226.62	0.98	-0.1
694	SLU 72	77	88	8645	-226.75	0.98	-0.15
694	SLU 73	79	102	9263	-242.19	1.06	-0.19
694	SLU 74	80	76	9413	-245.3	1.06	-0.09
694	SLU 75	80	92	9407	-245.43	1.06	-0.14
694	SLU 76	80	102	9353	-244.2	1.06	-0.17
694	SLU 77	81	76	9503	-247.31	1.06	-0.07
694	SLU 78	81	91	9496	-247.44	1.07	-0.12
694	SLU 79	80	75	9454	-245.98	1.06	-0.07
694	SLU 80	80	91	9447	-246.12	1.07	-0.12
694	SLU 81	80	77	9618	-250.27	1.09	-0.09
694	SLU 82	81	93	9612	-250.4	1.09	-0.14
694	SLU 83	81	77	9708	-252.28	1.09	-0.07
694	SLU 84	81	93	9701	-252.41	1.1	-0.12
694	SLE RA 1	56	55	6308	-166.55	0.74	-0.12
694	SLE RA 2	56	72	6301	-166.69	0.75	-0.17
694	SLE RA 3	57	55	6401	-168.76	0.74	-0.11
694	SLE RA 4	57	66	6396	-168.85	0.75	-0.14
694	SLE RA 5	56	72	6360	-168.03	0.75	-0.16
694	SLE RA 6	57	55	6460	-170.1	0.75	-0.09
694	SLE RA 7	57	65	6456	-170.19	0.75	-0.13
694	SLE RA 8	57	55	6427	-169.22	0.74	-0.09
694	SLE RA 9	57	65	6423	-169.31	0.75	-0.13
694	SLE RA 10	59	75	6835	-179.6	0.8	-0.15
694	SLE RA 11	59	57	6935	-181.67	0.8	-0.08
694	SLE RA 12	59	68	6931	-181.76	0.8	-0.12
694	SLE RA 13	59	74	6895	-180.94	0.8	-0.14
694	SLE RA 14	60	57	6995	-183.01	0.8	-0.07
694	SLE RA 15	60	67	6990	-183.1	0.81	-0.1
694	SLE RA 16	59	57	6962	-182.13	0.8	-0.07
694	SLE RA 17	60	67	6957	-182.22	0.8	-0.1
694	SLE RA 18	59	58	7072	-184.99	0.82	-0.08
694	SLE RA 19	60	68	7067	-185.08	0.82	-0.12
694	SLE RA 20	60	58	7131	-186.33	0.82	-0.07
694	SLE RA 21	60	68	7127	-186.41	0.83	-0.11
694	SLE FR 1	56	55	6308	-166.55	0.74	-0.12
694	SLE FR 2	56	59	6307	-166.58	0.74	-0.13
694	SLE FR 3	56	55	6332	-167.08	0.74	-0.11
694	SLE FR 4	57	59	6536	-172.11	0.76	-0.12
694	SLE FR 5	57	56	6561	-172.61	0.76	-0.1
694	SLE FR 6	58	57	6690	-175.77	0.78	-0.1
694	SLE QP 1	56	55	6308	-166.55	0.74	-0.12
694	SLE QP 2	57	56	6537	-172.08	0.76	-0.11
694	SLD 1	547	186	6013	-182.64	2.92	-0.26
694	SLD 2	547	230	6018	-181.41	2.95	0.4
694	SLD 3	541	-147	6141	-172.2	2.79	0.73
694	SLD 4	541	-104	6146	-170.97	2.82	1.39
694	SLD 5	213	593	6185	-191.29	1.6	-1.78
694	SLD 6	213	621	6188	-190.49	1.62	-1.35
694	SLD 7	193	-518	6612	-156.5	1.17	1.54
694	SLD 8	193	-490	6615	-155.7	1.2	1.97
694	SLD 9	-79	602	6460	-188.46	0.33	-2.18
694	SLD 10	-79	630	6463	-187.66	0.35	-1.76
694	SLD 11	-99	-510	6887	-153.66	-0.09	1.14
694	SLD 12	-100	-481	6890	-152.86	-0.07	1.57
694	SLD 13	-427	215	6929	-173.19	-1.3	-1.61
694	SLD 14	-428	259	6933	-171.96	-1.26	-0.95
694	SLD 15	-433	-118	7057	-162.75	-1.42	-0.61
694	SLD 16	-434	-74	7061	-161.52	-1.39	0.05
694	SLV 1	825	280	5711	-189.77	4.13	-0.42
694	SLV 2	824	349	5718	-187.82	4.18	0.62
694	SLV 3	814	-284	5928	-172.09	3.92	1.26
694	SLV 4	813	-215	5934	-170.15	3.97	2.3
694	SLV 5	303	965	5960	-204.55	2.09	-2.94
694	SLV 6	303	1011	5964	-203.24	2.12	-2.24
694	SLV 7	268	-913	6682	-145.64	1.38	2.66
694	SLV 8	268	-867	6686	-144.33	1.41	3.36
694	SLV 9	-154	979	6389	-199.83	0.12	-3.57
694	SLV 10	-155	1025	6393	-198.52	0.15	-2.87
694	SLV 11	-189	-899	7110	-140.91	-0.6	2.03
694	SLV 12	-190	-853	7115	-139.6	-0.56	2.73
694	SLV 13	-700	327	7140	-174.01	-2.44	-2.52
694	SLV 14	-701	395	7147	-172.07	-2.39	-1.48
694	SLV 15	-710	-237	7357	-156.34	-2.66	-0.83
694	SLV 16	-711	-168	7363	-154.39	-2.61	0.2
694	SLV FO 1	902	302	5629	-191.53	4.47	-0.45
694	SLV FO 2	901	378	5636	-189.39	4.53	0.69
694	SLV FO 3	890	-317	5867	-172.09	4.23	1.4
694	SLV FO 4	889	-242	5874	-169.95	4.29	2.54
694	SLV FO 5	328	1055	5902	-207.8	2.22	-3.23
694	SLV FO 6	327	1106	5907	-206.36	2.26	-2.46
694	SLV FO 7	289	-1010	6696	-143	1.44	2.94
694	SLV FO 8	289	-959	6701	-141.56	1.47	3.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
694	SLV FO 9	-175	1071	6374	-202.6	0.05	-3.92
694	SLV FO 10	-176	1122	6379	-201.16	0.09	-3.15
694	SLV FO 11	-214	-995	7168	-137.8	-0.73	2.24
694	SLV FO 12	-214	-944	7173	-136.36	-0.7	3.01
694	SLV FO 13	-776	354	7201	-174.21	-2.76	-2.76
694	SLV FO 14	-776	429	7208	-172.07	-2.71	-1.62
694	SLV FO 15	-787	-266	7439	-154.76	-3	-0.91
694	SLV FO 16	-788	-190	7446	-152.62	-2.94	0.23
694	CRTFP Ux+	0	0	0	0	0	0
694	CRTFP Ux-	0	0	0	0	0	0
694	CRTFP Uy+	0	0	0	0	0	0
694	CRTFP Uy-	0	0	0	0	0	0
695	SLU 1	55	52	5999	-160.1	1.41	-0.53
695	SLU 2	55	78	5988	-160.3	1.42	-0.59
695	SLU 3	56	52	6137	-163.42	1.44	-0.51
695	SLU 4	57	68	6130	-163.54	1.44	-0.55
695	SLU 5	56	78	6077	-162.31	1.44	-0.57
695	SLU 6	57	52	6226	-165.42	1.45	-0.5
695	SLU 7	58	68	6219	-165.54	1.46	-0.53
695	SLU 8	57	52	6177	-164.1	1.45	-0.49
695	SLU 9	57	67	6170	-164.23	1.45	-0.53
695	SLU 10	59	81	6784	-179.65	1.62	-0.58
695	SLU 11	60	56	6934	-182.76	1.64	-0.5
695	SLU 12	61	71	6927	-182.88	1.64	-0.54
695	SLU 13	60	81	6873	-181.65	1.64	-0.56
695	SLU 14	61	55	7023	-184.76	1.65	-0.49
695	SLU 15	62	71	7016	-184.89	1.66	-0.52
695	SLU 16	61	55	6974	-183.44	1.65	-0.48
695	SLU 17	61	70	6967	-183.57	1.65	-0.52
695	SLU 18	61	57	7138	-187.73	1.7	-0.51
695	SLU 19	61	72	7131	-187.85	1.7	-0.55
695	SLU 20	62	56	7227	-189.73	1.71	-0.49
695	SLU 21	62	72	7220	-189.85	1.72	-0.53
695	SLU 22	63	57	6949	-181.42	1.57	-0.53
695	SLU 23	64	83	6937	-181.62	1.58	-0.59
695	SLU 24	65	57	7087	-184.74	1.59	-0.52
695	SLU 25	65	72	7080	-184.86	1.6	-0.56
695	SLU 26	64	82	7026	-183.63	1.6	-0.58
695	SLU 27	66	57	7176	-186.74	1.61	-0.5
695	SLU 28	66	72	7169	-186.86	1.62	-0.54
695	SLU 29	65	56	7127	-185.42	1.6	-0.49
695	SLU 30	65	72	7120	-185.55	1.61	-0.53
695	SLU 31	68	86	7734	-200.97	1.78	-0.58
695	SLU 32	69	60	7884	-204.08	1.79	-0.51
695	SLU 33	69	76	7877	-204.2	1.8	-0.55
695	SLU 34	68	85	7823	-202.97	1.8	-0.57
695	SLU 35	70	60	7973	-206.08	1.81	-0.49
695	SLU 36	70	75	7966	-206.21	1.82	-0.53
695	SLU 37	69	59	7924	-204.76	1.8	-0.48
695	SLU 38	69	75	7917	-204.89	1.81	-0.52
695	SLU 39	69	61	8087	-209.05	1.85	-0.52
695	SLU 40	69	77	8080	-209.17	1.86	-0.55
695	SLU 41	70	61	8176	-211.05	1.87	-0.5
695	SLU 42	70	76	8169	-211.17	1.88	-0.53
695	SLU 43	69	66	7473	-200.82	1.78	-0.68
695	SLU 44	69	92	7462	-201.02	1.79	-0.75
695	SLU 45	70	67	7611	-204.14	1.81	-0.67
695	SLU 46	70	82	7604	-204.26	1.81	-0.71
695	SLU 47	70	92	7551	-203.03	1.81	-0.73
695	SLU 48	71	66	7700	-206.14	1.82	-0.65
695	SLU 49	71	82	7693	-206.26	1.83	-0.69
695	SLU 50	70	66	7651	-204.82	1.82	-0.65
695	SLU 51	71	81	7644	-204.94	1.82	-0.69
695	SLU 52	73	95	8259	-220.37	1.99	-0.74
695	SLU 53	74	70	8408	-223.48	2.01	-0.66
695	SLU 54	74	85	8401	-223.6	2.01	-0.7
695	SLU 55	74	95	8348	-222.37	2.01	-0.72
695	SLU 56	75	69	8497	-225.48	2.02	-0.64
695	SLU 57	75	85	8490	-225.6	2.03	-0.68
695	SLU 58	74	69	8448	-224.16	2.02	-0.64
695	SLU 59	75	84	8441	-224.29	2.02	-0.67
695	SLU 60	74	71	8612	-228.45	2.07	-0.67
695	SLU 61	75	86	8605	-228.57	2.07	-0.71
695	SLU 62	75	71	8701	-230.45	2.08	-0.65
695	SLU 63	75	86	8694	-230.57	2.09	-0.69
695	SLU 64	77	71	8423	-222.14	1.94	-0.69
695	SLU 65	77	97	8411	-222.34	1.95	-0.75
695	SLU 66	78	71	8561	-225.46	1.96	-0.68
695	SLU 67	79	87	8554	-225.58	1.97	-0.71
695	SLU 68	78	96	8500	-224.35	1.97	-0.73
695	SLU 69	79	71	8650	-227.46	1.98	-0.66
695	SLU 70	79	86	8643	-227.58	1.99	-0.7
695	SLU 71	79	70	8601	-226.14	1.97	-0.65
695	SLU 72	79	86	8594	-226.26	1.98	-0.69
695	SLU 73	81	100	9208	-241.69	2.15	-0.74
695	SLU 74	82	74	9358	-244.8	2.16	-0.66
695	SLU 75	83	90	9351	-244.92	2.17	-0.7
695	SLU 76	82	100	9297	-243.69	2.17	-0.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
695	SLU 77	83	74	9447	-246.8	2.18	-0.65
695	SLU 78	83	89	9440	-246.92	2.19	-0.68
695	SLU 79	83	73	9398	-245.48	2.17	-0.64
695	SLU 80	83	89	9391	-245.61	2.18	-0.68
695	SLU 81	83	75	9561	-249.77	2.22	-0.67
695	SLU 82	83	91	9554	-249.89	2.23	-0.71
695	SLU 83	84	75	9650	-251.77	2.24	-0.65
695	SLU 84	84	91	9643	-251.89	2.25	-0.69
695	SLE RA 1	57	53	6271	-166.19	1.45	-0.53
695	SLE RA 2	58	71	6263	-166.33	1.46	-0.57
695	SLE RA 3	58	54	6363	-168.4	1.47	-0.52
695	SLE RA 4	58	64	6358	-168.48	1.48	-0.55
695	SLE RA 5	58	70	6322	-167.66	1.47	-0.56
695	SLE RA 6	59	53	6422	-169.74	1.48	-0.51
695	SLE RA 7	59	64	6417	-169.82	1.49	-0.53
695	SLE RA 8	59	53	6389	-168.86	1.48	-0.5
695	SLE RA 9	59	63	6385	-168.94	1.48	-0.53
695	SLE RA 10	60	73	6794	-179.22	1.6	-0.56
695	SLE RA 11	61	56	6894	-181.3	1.61	-0.51
695	SLE RA 12	61	66	6889	-181.38	1.61	-0.54
695	SLE RA 13	61	73	6853	-180.56	1.61	-0.55
695	SLE RA 14	62	56	6953	-182.63	1.62	-0.5
695	SLE RA 15	62	66	6949	-182.71	1.62	-0.53
695	SLE RA 16	61	55	6920	-181.75	1.61	-0.5
695	SLE RA 17	61	66	6916	-181.83	1.62	-0.52
695	SLE RA 18	61	57	7029	-184.61	1.65	-0.52
695	SLE RA 19	61	67	7025	-184.69	1.65	-0.54
695	SLE RA 20	62	56	7089	-185.94	1.66	-0.51
695	SLE RA 21	62	67	7084	-186.03	1.66	-0.53
695	SLE FR 1	57	53	6271	-166.19	1.45	-0.53
695	SLE FR 2	57	57	6269	-166.22	1.46	-0.54
695	SLE FR 3	58	53	6294	-166.72	1.46	-0.52
695	SLE FR 4	59	58	6497	-171.74	1.51	-0.53
695	SLE FR 5	59	54	6522	-172.25	1.52	-0.52
695	SLE FR 6	59	55	6650	-175.4	1.55	-0.52
695	SLE QP 1	57	53	6271	-166.19	1.45	-0.53
695	SLE QP 2	59	54	6498	-171.71	1.51	-0.52
695	SLD 1	548	181	5907	-182.1	3.26	-0.5
695	SLD 2	548	228	5909	-180.85	3.3	0.16
695	SLD 3	542	-148	6040	-171.8	3.08	0.2
695	SLD 4	542	-101	6043	-170.55	3.12	0.86
695	SLD 5	215	584	6118	-190.68	2.3	-1.7
695	SLD 6	214	614	6120	-189.87	2.33	-1.27
695	SLD 7	195	-514	6562	-156.32	1.7	0.64
695	SLD 8	194	-484	6564	-155.51	1.73	1.07
695	SLD 9	-77	592	6432	-187.91	1.29	-2.12
695	SLD 10	-78	623	6434	-187.11	1.32	-1.69
695	SLD 11	-97	-505	6876	-153.56	0.7	0.22
695	SLD 12	-98	-475	6878	-152.75	0.73	0.65
695	SLD 13	-425	210	6954	-172.88	-0.1	-1.91
695	SLD 14	-425	257	6957	-171.63	-0.05	-1.25
695	SLD 15	-431	-119	7087	-162.57	-0.27	-1.21
695	SLD 16	-431	-72	7090	-161.32	-0.23	-0.55
695	SLV 1	826	272	5566	-189.13	4.24	-0.54
695	SLV 2	825	346	5571	-187.16	4.31	0.51
695	SLV 3	815	-284	5791	-171.68	3.94	0.64
695	SLV 4	814	-210	5796	-169.71	4.01	1.69
695	SLV 5	304	950	5876	-203.78	2.78	-2.52
695	SLV 6	304	999	5879	-202.45	2.82	-1.81
695	SLV 7	270	-905	6627	-145.6	1.77	1.42
695	SLV 8	270	-855	6630	-144.27	1.82	2.13
695	SLV 9	-152	964	6366	-199.15	1.21	-3.18
695	SLV 10	-153	1013	6370	-197.83	1.25	-2.47
695	SLV 11	-187	-891	7117	-140.97	0.2	0.76
695	SLV 12	-187	-841	7120	-139.65	0.25	1.47
695	SLV 13	-697	319	7200	-173.72	-0.98	-2.74
695	SLV 14	-698	393	7205	-171.75	-0.92	-1.69
695	SLV 15	-708	-237	7425	-156.26	-1.29	-1.56
695	SLV 16	-709	-164	7430	-154.3	-1.22	-0.51
695	SLV FO 1	902	294	5473	-190.87	4.52	-0.54
695	SLV FO 2	901	375	5478	-188.71	4.59	0.61
695	SLV FO 3	891	-318	5721	-171.67	4.19	0.76
695	SLV FO 4	890	-237	5726	-169.51	4.26	1.91
695	SLV FO 5	329	1039	5814	-206.98	2.9	-2.72
695	SLV FO 6	328	1094	5817	-205.53	2.95	-1.94
695	SLV FO 7	291	-1000	6640	-142.99	1.8	1.62
695	SLV FO 8	291	-946	6643	-141.53	1.85	2.39
695	SLV FO 9	-174	1054	6353	-201.9	1.18	-3.44
695	SLV FO 10	-174	1109	6357	-200.44	1.23	-2.67
695	SLV FO 11	-211	-985	7179	-137.9	0.07	0.89
695	SLV FO 12	-212	-930	7182	-136.44	0.12	1.67
695	SLV FO 13	-773	345	7270	-173.92	-1.23	-2.96
695	SLV FO 14	-774	427	7276	-171.76	-1.16	-1.81
695	SLV FO 15	-784	-267	7518	-154.72	-1.57	-1.66
695	SLV FO 16	-785	-185	7523	-152.56	-1.49	-0.51
695	CRTFP Ux+	0	0	0	0	0	0
695	CRTFP Ux-	0	0	0	0	0	0
695	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
695	CRTFP Uy-	0	0	0	0	0	0
696	SLU 1	57	49	5939	-159.9	2.05	-0.93
696	SLU 2	57	74	5927	-160.1	2.07	-0.97
696	SLU 3	59	49	6076	-163.22	2.1	-0.92
696	SLU 4	59	64	6069	-163.34	2.11	-0.95
696	SLU 5	58	74	6015	-162.1	2.1	-0.95
696	SLU 6	60	49	6164	-165.22	2.13	-0.91
696	SLU 7	60	64	6157	-165.34	2.14	-0.93
696	SLU 8	59	48	6115	-163.9	2.11	-0.9
696	SLU 9	59	64	6108	-164.02	2.13	-0.92
696	SLU 10	62	77	6715	-179.43	2.38	-0.98
696	SLU 11	63	52	6864	-182.56	2.41	-0.94
696	SLU 12	63	67	6857	-182.67	2.42	-0.96
696	SLU 13	62	77	6803	-181.44	2.41	-0.97
696	SLU 14	64	52	6952	-184.56	2.44	-0.92
696	SLU 15	64	67	6945	-184.67	2.45	-0.95
696	SLU 16	63	51	6904	-183.24	2.42	-0.91
696	SLU 17	63	67	6896	-183.36	2.43	-0.94
696	SLU 18	63	53	7065	-187.52	2.5	-0.95
696	SLU 19	63	69	7058	-187.64	2.51	-0.97
696	SLU 20	64	53	7153	-189.53	2.53	-0.94
696	SLU 21	64	68	7146	-189.64	2.54	-0.96
696	SLU 22	66	53	6881	-181.22	2.33	-0.97
696	SLU 23	66	79	6869	-181.42	2.35	-1.01
696	SLU 24	67	53	7018	-184.54	2.37	-0.97
696	SLU 25	67	69	7011	-184.66	2.38	-0.99
696	SLU 26	67	78	6957	-183.42	2.38	-1
696	SLU 27	68	53	7106	-186.54	2.4	-0.95
696	SLU 28	68	68	7099	-186.66	2.41	-0.97
696	SLU 29	67	53	7058	-185.22	2.39	-0.94
696	SLU 30	68	68	7050	-185.34	2.4	-0.96
696	SLU 31	70	82	7657	-200.76	2.65	-1.03
696	SLU 32	71	57	7806	-203.88	2.68	-0.98
696	SLU 33	71	72	7799	-203.99	2.69	-1.01
696	SLU 34	71	82	7745	-202.76	2.68	-1.01
696	SLU 35	72	56	7894	-205.88	2.71	-0.97
696	SLU 36	72	72	7887	-206	2.72	-0.99
696	SLU 37	71	56	7846	-204.56	2.7	-0.96
696	SLU 38	72	71	7838	-204.68	2.71	-0.98
696	SLU 39	71	58	8007	-208.85	2.77	-1
696	SLU 40	72	73	8000	-208.96	2.78	-1.02
696	SLU 41	72	57	8095	-210.85	2.8	-0.98
696	SLU 42	73	73	8088	-210.96	2.81	-1
696	SLU 43	71	62	7398	-200.56	2.58	-1.19
696	SLU 44	72	87	7386	-200.76	2.59	-1.23
696	SLU 45	73	62	7535	-203.88	2.62	-1.19
696	SLU 46	73	77	7527	-204	2.63	-1.21
696	SLU 47	73	87	7474	-202.76	2.62	-1.22
696	SLU 48	74	62	7623	-205.88	2.65	-1.17
696	SLU 49	74	77	7615	-206	2.66	-1.19
696	SLU 50	73	61	7574	-204.56	2.64	-1.16
696	SLU 51	73	77	7567	-204.68	2.65	-1.18
696	SLU 52	76	90	8174	-220.1	2.9	-1.25
696	SLU 53	77	65	8323	-223.22	2.93	-1.2
696	SLU 54	77	81	8315	-223.33	2.94	-1.23
696	SLU 55	77	90	8262	-222.1	2.93	-1.23
696	SLU 56	78	65	8411	-225.22	2.96	-1.19
696	SLU 57	78	80	8404	-225.33	2.97	-1.21
696	SLU 58	77	65	8362	-223.9	2.95	-1.18
696	SLU 59	77	80	8355	-224.02	2.96	-1.2
696	SLU 60	77	66	8524	-228.18	3.02	-1.22
696	SLU 61	77	82	8516	-228.3	3.03	-1.24
696	SLU 62	78	66	8612	-230.19	3.05	-1.2
696	SLU 63	78	81	8604	-230.3	3.06	-1.22
696	SLU 64	80	66	8340	-221.88	2.85	-1.24
696	SLU 65	80	92	8328	-222.08	2.87	-1.28
696	SLU 66	81	66	8477	-225.2	2.89	-1.23
696	SLU 67	81	82	8470	-225.32	2.91	-1.25
696	SLU 68	81	91	8416	-224.08	2.9	-1.26
696	SLU 69	82	66	8565	-227.2	2.92	-1.22
696	SLU 70	82	82	8558	-227.32	2.94	-1.24
696	SLU 71	82	66	8516	-225.88	2.91	-1.21
696	SLU 72	82	81	8509	-226	2.92	-1.23
696	SLU 73	84	95	9116	-241.42	3.18	-1.29
696	SLU 74	85	70	9265	-244.54	3.2	-1.25
696	SLU 75	86	85	9258	-244.66	3.21	-1.27
696	SLU 76	85	95	9204	-243.42	3.21	-1.27
696	SLU 77	86	69	9353	-246.54	3.23	-1.23
696	SLU 78	86	85	9346	-246.66	3.24	-1.25
696	SLU 79	86	69	9304	-245.22	3.22	-1.22
696	SLU 80	86	84	9297	-245.34	3.23	-1.24
696	SLU 81	86	71	9466	-249.51	3.29	-1.26
696	SLU 82	86	86	9458	-249.62	3.3	-1.28
696	SLU 83	87	70	9554	-251.51	3.32	-1.24
696	SLU 84	87	86	9547	-251.62	3.33	-1.27
696	SLE RA 1	60	50	6208	-165.99	2.13	-0.94
696	SLE RA 2	60	67	6200	-166.12	2.14	-0.97
696	SLE RA 3	61	50	6300	-168.2	2.16	-0.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
696	SLE RA 4	61	60	6295	-168.28	2.17	-0.95
696	SLE RA 5	60	67	6259	-167.46	2.16	-0.96
696	SLE RA 6	61	50	6358	-169.54	2.18	-0.93
696	SLE RA 7	61	60	6353	-169.62	2.19	-0.94
696	SLE RA 8	61	50	6326	-168.66	2.17	-0.92
696	SLE RA 9	61	60	6321	-168.74	2.18	-0.94
696	SLE RA 10	62	69	6726	-179.02	2.35	-0.98
696	SLE RA 11	63	52	6825	-181.1	2.37	-0.95
696	SLE RA 12	63	62	6820	-181.17	2.37	-0.96
696	SLE RA 13	63	69	6784	-180.35	2.37	-0.97
696	SLE RA 14	64	52	6884	-182.43	2.39	-0.94
696	SLE RA 15	64	62	6879	-182.51	2.39	-0.95
696	SLE RA 16	63	52	6851	-181.55	2.38	-0.93
696	SLE RA 17	64	62	6846	-181.63	2.39	-0.95
696	SLE RA 18	63	53	6959	-184.41	2.43	-0.96
696	SLE RA 19	64	63	6954	-184.49	2.43	-0.97
696	SLE RA 20	64	53	7018	-185.74	2.45	-0.95
696	SLE RA 21	64	63	7013	-185.82	2.45	-0.96
696	SLE FR 1	60	50	6208	-165.99	2.13	-0.94
696	SLE FR 2	60	53	6207	-166.02	2.13	-0.95
696	SLE FR 3	60	50	6232	-166.53	2.14	-0.94
696	SLE FR 4	61	54	6432	-171.54	2.22	-0.95
696	SLE FR 5	61	51	6457	-172.05	2.23	-0.94
696	SLE FR 6	62	51	6584	-175.2	2.28	-0.95
696	SLE QP 1	60	50	6208	-165.99	2.13	-0.94
696	SLE QP 2	61	51	6433	-171.52	2.22	-0.95
696	SLD 1	550	174	5792	-181.75	3.35	-0.72
696	SLD 2	549	224	5793	-180.49	3.41	-0.03
696	SLD 3	544	-153	5932	-171.57	3.1	-0.34
696	SLD 4	543	-103	5934	-170.3	3.16	0.34
696	SLD 5	216	574	6027	-190.25	2.93	-1.57
696	SLD 6	216	607	6028	-189.43	2.96	-1.13
696	SLD 7	197	-514	6496	-156.31	2.1	-0.31
696	SLD 8	196	-482	6497	-155.49	2.13	0.13
696	SLD 9	-75	584	6370	-187.55	2.31	-2.03
696	SLD 10	-75	616	6371	-186.73	2.34	-1.58
696	SLD 11	-95	-505	6839	-153.6	1.48	-0.77
696	SLD 12	-95	-473	6839	-152.78	1.51	-0.32
696	SLD 13	-422	204	6933	-172.73	1.28	-2.24
696	SLD 14	-422	254	6935	-171.47	1.34	-1.55
696	SLD 15	-428	-122	7074	-162.55	1.04	-1.86
696	SLD 16	-428	-72	7075	-161.28	1.09	-1.17
696	SLV 1	826	263	5423	-188.69	4	-0.62
696	SLV 2	826	342	5425	-186.7	4.09	0.46
696	SLV 3	816	-289	5661	-171.44	3.58	0.02
696	SLV 4	816	-210	5663	-169.46	3.67	1.1
696	SLV 5	306	937	5770	-203.2	3.38	-2.01
696	SLV 6	305	990	5771	-201.86	3.43	-1.29
696	SLV 7	272	-903	6562	-145.71	1.97	0.1
696	SLV 8	272	-850	6563	-144.37	2.03	0.83
696	SLV 9	-150	951	6304	-198.66	2.41	-2.73
696	SLV 10	-151	1005	6305	-197.32	2.47	-2
696	SLV 11	-184	-888	7096	-141.18	1.01	-0.61
696	SLV 12	-184	-835	7097	-139.84	1.06	0.12
696	SLV 13	-694	312	7204	-173.58	0.78	-2.99
696	SLV 14	-695	391	7206	-171.59	0.86	-1.91
696	SLV 15	-704	-240	7442	-156.33	0.36	-2.36
696	SLV 16	-705	-161	7444	-154.34	0.44	-1.27
696	SLV FO 1	903	284	5322	-190.41	4.18	-0.59
696	SLV FO 2	902	371	5324	-188.22	4.27	0.6
696	SLV FO 3	892	-323	5583	-171.44	3.72	0.11
696	SLV FO 4	891	-236	5586	-169.25	3.81	1.3
696	SLV FO 5	330	1025	5703	-206.36	3.49	-2.12
696	SLV FO 6	330	1084	5705	-204.89	3.56	-1.32
696	SLV FO 7	293	-998	6574	-143.13	1.95	0.21
696	SLV FO 8	293	-940	6576	-141.66	2.01	1.01
696	SLV FO 9	-171	1041	6291	-201.38	2.43	-2.9
696	SLV FO 10	-172	1100	6292	-199.9	2.49	-2.1
696	SLV FO 11	-208	-982	7162	-138.14	0.89	-0.57
696	SLV FO 12	-209	-924	7164	-136.67	0.95	0.23
696	SLV FO 13	-770	338	7281	-173.78	0.63	-3.2
696	SLV FO 14	-770	425	7283	-171.6	0.72	-2.01
696	SLV FO 15	-781	-269	7542	-154.81	0.17	-2.5
696	SLV FO 16	-782	-182	7545	-152.63	0.26	-1.31
696	CRTFP Ux+	0	0	0	0	0	0
696	CRTFP Ux-	0	0	0	0	0	0
696	CRTFP Uy+	0	0	0	0	0	0
696	CRTFP Uy-	0	0	0	0	0	0
697	SLU 1	108	71	10335	-274.58	-1396.5	6.38
697	SLU 2	109	116	10312	-274.83	-1393.21	12.53
697	SLU 3	111	72	10573	-280.31	-1428.7	6.45
697	SLU 4	111	99	10559	-280.46	-1426.72	10.14
697	SLU 5	110	116	10465	-278.29	-1413.92	12.54
697	SLU 6	113	72	10727	-283.78	-1449.41	6.46
697	SLU 7	113	99	10713	-283.92	-1447.44	10.15
697	SLU 8	112	71	10642	-281.51	-1437.93	6.4
697	SLU 9	112	98	10628	-281.66	-1435.95	10.09
697	SLU 10	116	122	11679	-308.24	-1577.65	13.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
697	SLU 11	119	77	11941	-313.73	-1613.14	7.05
697	SLU 12	119	104	11927	-313.87	-1611.16	10.73
697	SLU 13	118	122	11833	-311.71	-1598.36	13.14
697	SLU 14	120	77	12094	-317.19	-1633.85	7.06
697	SLU 15	121	104	12080	-317.34	-1631.88	10.75
697	SLU 16	119	76	12009	-314.92	-1622.37	7
697	SLU 17	120	103	11995	-315.07	-1620.39	10.69
697	SLU 18	119	79	12288	-322.32	-1659.98	7.24
697	SLU 19	120	106	12274	-322.47	-1658.01	10.92
697	SLU 20	121	79	12442	-325.78	-1680.7	7.25
697	SLU 21	121	106	12428	-325.93	-1678.72	10.93
697	SLU 22	124	78	11979	-311.6	-1618.84	7.1
697	SLU 23	124	123	11956	-311.85	-1615.55	13.25
697	SLU 24	127	79	12217	-317.33	-1651.04	7.17
697	SLU 25	127	106	12203	-317.48	-1649.07	10.86
697	SLU 26	126	123	12109	-315.31	-1636.27	13.26
697	SLU 27	128	79	12370	-320.79	-1671.76	7.18
697	SLU 28	129	106	12356	-320.94	-1669.78	10.87
697	SLU 29	127	78	12286	-318.53	-1660.27	7.13
697	SLU 30	127	105	12272	-318.68	-1658.3	10.81
697	SLU 31	132	129	13323	-345.26	-1799.99	13.85
697	SLU 32	134	84	13584	-350.75	-1835.49	7.77
697	SLU 33	135	111	13570	-350.89	-1833.51	11.46
697	SLU 34	134	129	13476	-348.72	-1820.71	13.86
697	SLU 35	136	84	13738	-354.21	-1856.2	7.78
697	SLU 36	136	111	13724	-354.36	-1854.23	11.47
697	SLU 37	135	83	13653	-351.94	-1844.71	7.72
697	SLU 38	135	110	13639	-352.09	-1842.74	11.41
697	SLU 39	135	86	13932	-359.34	-1882.33	7.96
697	SLU 40	135	113	13918	-359.48	-1880.36	11.64
697	SLU 41	137	86	14085	-362.8	-1903.05	7.97
697	SLU 42	137	113	14072	-362.95	-1901.07	11.66
697	SLU 43	135	90	12872	-344.27	-1739.21	8.05
697	SLU 44	136	136	12849	-344.51	-1735.92	14.2
697	SLU 45	138	91	13110	-350	-1771.41	8.12
697	SLU 46	138	118	13096	-350.14	-1769.44	11.81
697	SLU 47	137	135	13002	-347.97	-1756.64	14.21
697	SLU 48	140	91	13264	-353.46	-1792.13	8.13
697	SLU 49	140	118	13250	-353.6	-1790.15	11.82
697	SLU 50	139	90	13179	-351.19	-1780.64	8.07
697	SLU 51	139	117	13165	-351.34	-1778.67	11.76
697	SLU 52	144	141	14216	-377.93	-1920.36	14.79
697	SLU 53	146	96	14478	-383.41	-1955.85	8.71
697	SLU 54	146	123	14464	-383.56	-1953.88	12.4
697	SLU 55	145	141	14369	-381.39	-1941.08	14.81
697	SLU 56	148	96	14631	-386.87	-1976.57	8.72
697	SLU 57	148	123	14617	-387.02	-1974.59	12.41
697	SLU 58	146	95	14546	-384.61	-1965.08	8.67
697	SLU 59	147	122	14532	-384.75	-1963.11	12.36
697	SLU 60	146	98	14825	-392	-2002.7	8.9
697	SLU 61	147	125	14811	-392.15	-2000.73	12.59
697	SLU 62	148	98	14979	-395.46	-2023.41	8.91
697	SLU 63	148	125	14965	-395.61	-2021.44	12.6
697	SLU 64	151	97	14516	-381.29	-1961.56	8.77
697	SLU 65	151	142	14492	-381.53	-1958.27	14.92
697	SLU 66	154	98	14754	-387.01	-1993.76	8.84
697	SLU 67	154	125	14740	-387.16	-1991.78	12.53
697	SLU 68	153	142	14646	-384.99	-1978.98	14.93
697	SLU 69	155	98	14907	-390.48	-2014.47	8.85
697	SLU 70	156	125	14893	-390.62	-2012.5	12.54
697	SLU 71	154	97	14823	-388.21	-2002.99	8.79
697	SLU 72	155	124	14809	-388.36	-2001.01	12.48
697	SLU 73	159	148	15860	-414.94	-2142.71	15.52
697	SLU 74	162	103	16121	-420.43	-2178.2	9.43
697	SLU 75	162	130	16107	-420.58	-2176.23	13.12
697	SLU 76	161	148	16013	-418.41	-2163.42	15.53
697	SLU 77	163	103	16275	-423.89	-2198.92	9.45
697	SLU 78	163	130	16261	-424.04	-2196.94	13.13
697	SLU 79	162	102	16190	-421.63	-2187.43	9.39
697	SLU 80	162	129	16176	-421.77	-2185.45	13.08
697	SLU 81	162	105	16469	-429.02	-2225.05	9.62
697	SLU 82	162	132	16455	-429.17	-2223.07	13.31
697	SLU 83	164	105	16622	-432.48	-2245.76	9.63
697	SLU 84	164	132	16608	-432.63	-2243.79	13.32
697	SLE RA 1	113	73	10805	-285.16	-1460.02	6.59
697	SLE RA 2	113	103	10789	-285.32	-1457.83	10.69
697	SLE RA 3	115	74	10964	-288.98	-1481.49	6.63
697	SLE RA 4	115	92	10954	-289.08	-1480.17	9.09
697	SLE RA 5	114	103	10891	-287.63	-1471.64	10.69
697	SLE RA 6	116	74	11066	-291.29	-1495.3	6.64
697	SLE RA 7	116	92	11057	-291.39	-1493.98	9.1
697	SLE RA 8	115	73	11009	-289.78	-1487.64	6.6
697	SLE RA 9	115	91	11000	-289.88	-1486.33	9.06
697	SLE RA 10	118	107	11701	-307.6	-1580.79	11.08
697	SLE RA 11	120	77	11875	-311.26	-1604.45	7.03
697	SLE RA 12	120	95	11866	-311.35	-1603.14	9.49
697	SLE RA 13	119	107	11803	-309.91	-1594.6	11.09
697	SLE RA 14	121	77	11977	-313.56	-1618.26	7.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
697	SLE RA 15	121	95	11968	-313.66	-1616.95	9.5
697	SLE RA 16	120	77	11921	-312.05	-1610.6	7
697	SLE RA 17	120	95	11911	-312.15	-1609.29	9.46
697	SLE RA 18	120	78	12107	-316.98	-1635.68	7.16
697	SLE RA 19	120	96	12098	-317.08	-1634.37	9.62
697	SLE RA 20	121	78	12209	-319.29	-1649.49	7.16
697	SLE RA 21	121	96	12200	-319.39	-1648.18	9.62
697	SLE FR 1	113	73	10805	-285.16	-1460.02	6.59
697	SLE FR 2	113	79	10802	-285.19	-1459.59	7.41
697	SLE FR 3	113	73	10846	-286.08	-1465.55	6.59
697	SLE FR 4	115	81	11192	-294.74	-1512.28	7.58
697	SLE FR 5	115	75	11236	-295.63	-1518.25	6.76
697	SLE FR 6	116	76	11456	-301.07	-1547.85	6.87
697	SLE QP 1	113	73	10805	-285.16	-1460.02	6.59
697	SLE QP 2	115	75	11195	-294.71	-1512.72	6.76
697	SLD 1	978	346	10007	-296.81	-1349.75	44.98
697	SLD 2	978	444	10005	-294.63	-1349.01	59.94
697	SLD 3	968	-232	10281	-280.84	-1388.72	-34.08
697	SLD 4	967	-134	10278	-278.66	-1387.98	-19.12
697	SLD 5	390	1016	10425	-319.93	-1404.86	135.53
697	SLD 6	389	1079	10423	-318.52	-1404.39	145.22
697	SLD 7	356	-910	11336	-266.71	-1534.74	-128
697	SLD 8	355	-847	11334	-265.3	-1534.26	-118.31
697	SLD 9	-125	997	11056	-324.12	-1491.18	131.83
697	SLD 10	-126	1060	11055	-322.71	-1490.7	141.51
697	SLD 11	-159	-929	11968	-270.89	-1621.06	-131.7
697	SLD 12	-160	-866	11966	-269.48	-1620.58	-122.02
697	SLD 13	-738	284	12113	-310.76	-1637.47	32.64
697	SLD 14	-738	381	12110	-308.57	-1636.73	47.6
697	SLD 15	-748	-294	12386	-294.79	-1676.43	-46.42
697	SLD 16	-749	-197	12383	-292.61	-1675.69	-31.46
697	SLV 1	1467	536	9324	-298.15	-1255.93	71.51
697	SLV 2	1466	689	9320	-294.71	-1254.77	95.07
697	SLV 3	1450	-440	9786	-271.1	-1321.79	-62.08
697	SLV 4	1448	-287	9782	-267.66	-1320.63	-38.52
697	SLV 5	547	1666	9934	-337.41	-1336.01	224.4
697	SLV 6	546	1769	9931	-335.1	-1335.23	240.27
697	SLV 7	489	-1589	11474	-247.24	-1555.55	-220.91
697	SLV 8	488	-1486	11472	-244.92	-1554.77	-205.04
697	SLV 9	-258	1636	10919	-344.49	-1470.68	218.56
697	SLV 10	-259	1739	10916	-342.18	-1469.89	234.42
697	SLV 11	-317	-1619	12460	-254.32	-1690.22	-226.75
697	SLV 12	-317	-1516	12457	-252.01	-1689.43	-210.88
697	SLV 13	-1218	437	12609	-321.75	-1704.81	52.04
697	SLV 14	-1220	590	12604	-318.32	-1703.65	75.6
697	SLV 15	-1236	-540	13071	-294.7	-1770.68	-81.55
697	SLV 16	-1237	-386	13067	-291.27	-1769.51	-57.99
697	SLV FO 1	1602	582	9137	-298.5	-1230.25	77.98
697	SLV FO 2	1601	751	9132	-294.71	-1228.97	103.9
697	SLV FO 3	1583	-492	9646	-268.74	-1302.7	-68.97
697	SLV FO 4	1582	-323	9641	-264.96	-1301.42	-43.05
697	SLV FO 5	591	1825	9808	-341.68	-1318.34	246.17
697	SLV FO 6	589	1938	9804	-339.14	-1317.48	263.62
697	SLV FO 7	527	-1756	11502	-242.49	-1559.83	-243.67
697	SLV FO 8	526	-1642	11499	-239.95	-1558.97	-226.22
697	SLV FO 9	-296	1792	10892	-349.47	-1466.47	239.74
697	SLV FO 10	-297	1906	10888	-346.92	-1465.61	257.19
697	SLV FO 11	-360	-1789	12586	-250.28	-1707.96	-250.1
697	SLV FO 12	-361	-1675	12583	-247.73	-1707.1	-232.65
697	SLV FO 13	-1352	473	12750	-324.46	-1724.02	56.57
697	SLV FO 14	-1353	642	12745	-320.68	-1722.74	82.49
697	SLV FO 15	-1371	-601	13258	-294.7	-1796.47	-90.38
697	SLV FO 16	-1372	-432	13254	-290.92	-1795.19	-64.47
697	CRTFP Ux+	0	0	0	0	0	0
697	CRTFP Ux-	0	0	0	0	0	0
697	CRTFP Uy+	0	0	0	0	0	0
697	CRTFP Uy-	0	0	0	0	0	0
698	SLU 1	148	45	11608	830.81	405.78	-23.74
698	SLU 2	149	98	11579	827.87	404.9	-25.12
698	SLU 3	152	46	11876	850.64	415.06	-24.18
698	SLU 4	152	78	11858	848.88	414.53	-25.01
698	SLU 5	151	98	11751	840.86	410.85	-25.32
698	SLU 6	154	46	12048	863.62	421.02	-24.38
698	SLU 7	154	78	12030	861.86	420.49	-25.21
698	SLU 8	152	45	11952	856.77	417.7	-24.13
698	SLU 9	153	77	11935	855.01	417.17	-24.96
698	SLU 10	159	103	13108	939.46	458.6	-26.69
698	SLU 11	163	50	13405	962.23	468.77	-25.74
698	SLU 12	163	82	13388	960.47	468.23	-26.57
698	SLU 13	161	103	13280	952.44	464.56	-26.88
698	SLU 14	165	50	13577	975.21	474.73	-25.94
698	SLU 15	165	82	13560	973.45	474.19	-26.77
698	SLU 16	163	50	13482	968.36	471.41	-25.69
698	SLU 17	163	82	13464	966.6	470.87	-26.52
698	SLU 18	164	52	13793	990.22	482.51	-25.97
698	SLU 19	164	84	13775	988.46	481.97	-26.8
698	SLU 20	166	52	13965	1003.2	488.47	-26.17
698	SLU 21	166	84	13947	1001.44	487.93	-27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
698	SLU 22	169	50	13465	970.57	468.65	-26.54
698	SLU 23	169	104	13436	967.64	467.76	-27.92
698	SLU 24	172	51	13733	990.41	477.93	-26.98
698	SLU 25	173	83	13715	988.65	477.39	-27.8
698	SLU 26	171	104	13608	980.62	473.72	-28.11
698	SLU 27	175	51	13905	1003.39	483.89	-27.17
698	SLU 28	175	83	13888	1001.63	483.35	-28
698	SLU 29	173	51	13809	996.53	480.57	-26.93
698	SLU 30	173	82	13792	994.77	480.03	-27.75
698	SLU 31	180	108	14965	1079.23	521.47	-29.48
698	SLU 32	183	55	15262	1101.99	531.63	-28.54
698	SLU 33	183	87	15245	1100.23	531.1	-29.36
698	SLU 34	182	108	15138	1092.21	527.43	-29.67
698	SLU 35	185	55	15434	1114.98	537.59	-28.73
698	SLU 36	185	87	15417	1113.22	537.06	-29.56
698	SLU 37	184	55	15339	1108.12	534.27	-28.49
698	SLU 38	184	87	15321	1106.36	533.74	-29.32
698	SLU 39	184	57	15650	1129.98	545.37	-28.77
698	SLU 40	184	89	15632	1128.22	544.84	-29.6
698	SLU 41	186	57	15822	1142.96	551.33	-28.96
698	SLU 42	186	89	15805	1141.2	550.8	-29.79
698	SLU 43	186	57	14453	1032.13	505.96	-29.91
698	SLU 44	186	110	14424	1029.2	505.08	-31.29
698	SLU 45	189	57	14721	1051.97	515.24	-30.35
698	SLU 46	190	89	14704	1050.21	514.71	-31.18
698	SLU 47	188	110	14596	1042.18	511.03	-31.48
698	SLU 48	191	57	14893	1064.95	521.2	-30.54
698	SLU 49	192	89	14876	1063.19	520.67	-31.37
698	SLU 50	190	57	14798	1058.09	517.88	-30.3
698	SLU 51	190	89	14780	1056.33	517.35	-31.13
698	SLU 52	197	115	15954	1140.79	558.78	-32.85
698	SLU 53	200	62	16250	1163.56	568.95	-31.91
698	SLU 54	200	94	16233	1161.8	568.42	-32.74
698	SLU 55	199	115	16126	1153.77	564.74	-33.05
698	SLU 56	202	62	16423	1176.54	574.91	-32.1
698	SLU 57	202	94	16405	1174.78	574.37	-32.93
698	SLU 58	201	62	16327	1169.68	571.59	-31.86
698	SLU 59	201	94	16310	1167.92	571.05	-32.69
698	SLU 60	201	63	16638	1191.54	582.69	-32.14
698	SLU 61	201	95	16621	1189.78	582.16	-32.97
698	SLU 62	203	64	16810	1204.53	588.65	-32.34
698	SLU 63	203	95	16793	1202.77	588.11	-33.16
698	SLU 64	206	62	16310	1171.89	568.83	-32.7
698	SLU 65	206	115	16281	1168.96	567.94	-34.08
698	SLU 66	210	63	16578	1191.73	578.11	-33.14
698	SLU 67	210	95	16561	1189.97	577.57	-33.97
698	SLU 68	209	115	16454	1181.94	573.9	-34.28
698	SLU 69	212	63	16751	1204.71	584.07	-33.34
698	SLU 70	212	95	16733	1202.95	583.53	-34.16
698	SLU 71	210	62	16655	1197.86	580.75	-33.09
698	SLU 72	211	94	16637	1196.1	580.21	-33.92
698	SLU 73	217	120	17811	1280.55	621.65	-35.64
698	SLU 74	221	67	18108	1303.32	631.81	-34.7
698	SLU 75	221	99	18090	1301.56	631.28	-35.53
698	SLU 76	219	120	17983	1293.53	627.61	-35.84
698	SLU 77	223	67	18280	1316.3	637.77	-34.9
698	SLU 78	223	99	18263	1314.54	637.24	-35.73
698	SLU 79	221	67	18184	1309.45	634.45	-34.65
698	SLU 80	221	99	18167	1307.69	633.92	-35.48
698	SLU 81	221	69	18495	1331.31	645.55	-34.93
698	SLU 82	222	101	18478	1329.55	645.02	-35.76
698	SLU 83	224	69	18668	1344.29	651.51	-35.13
698	SLU 84	224	101	18650	1342.53	650.98	-35.96
698	SLE RA 1	154	47	12138	870.74	423.75	-24.54
698	SLE RA 2	154	82	12119	868.78	423.15	-25.46
698	SLE RA 3	157	47	12317	883.96	429.93	-24.83
698	SLE RA 4	157	68	12305	882.79	429.57	-25.39
698	SLE RA 5	156	82	12234	877.44	427.13	-25.59
698	SLE RA 6	158	47	12432	892.62	433.9	-24.96
698	SLE RA 7	158	68	12420	891.44	433.55	-25.52
698	SLE RA 8	157	47	12368	888.05	431.69	-24.8
698	SLE RA 9	157	68	12356	886.87	431.33	-25.35
698	SLE RA 10	161	85	13139	943.18	458.96	-26.5
698	SLE RA 11	164	50	13336	958.36	465.73	-25.88
698	SLE RA 12	164	71	13325	957.18	465.38	-26.43
698	SLE RA 13	163	85	13253	951.83	462.93	-26.63
698	SLE RA 14	165	50	13451	967.01	469.71	-26.01
698	SLE RA 15	165	71	13440	965.84	469.35	-26.56
698	SLE RA 16	164	50	13388	962.44	467.49	-25.84
698	SLE RA 17	164	71	13376	961.27	467.14	-26.39
698	SLE RA 18	164	51	13595	977.02	474.89	-26.03
698	SLE RA 19	164	72	13583	975.84	474.54	-26.58
698	SLE RA 20	166	51	13710	985.67	478.87	-26.16
698	SLE RA 21	166	72	13698	984.5	478.51	-26.71
698	SLE FR 1	154	47	12138	870.74	423.75	-24.54
698	SLE FR 2	154	54	12134	870.35	423.63	-24.73
698	SLE FR 3	155	47	12184	874.2	425.33	-24.59
698	SLE FR 4	157	55	12571	902.23	438.97	-25.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
698	SLE FR 5	158	48	12621	906.08	440.68	-25.04
698	SLE FR 6	159	49	12867	923.88	449.32	-25.29
698	SLE QP 1	154	47	12138	870.74	423.75	-24.54
698	SLE QP 2	157	48	12575	902.62	439.09	-24.99
698	SLD 1	1152	374	11215	769.03	394.68	-124.41
698	SLD 2	1149	504	11206	770.43	394.29	-124.79
698	SLD 3	1142	-310	11574	818.98	402.24	-106.84
698	SLD 4	1139	-180	11565	820.38	401.85	-107.22
698	SLD 5	471	1161	11624	786.55	414.37	-81.4
698	SLD 6	469	1245	11618	787.46	414.12	-81.65
698	SLD 7	438	-1119	12821	953.04	439.57	-22.83
698	SLD 8	436	-1035	12815	953.95	439.31	-23.07
698	SLD 9	-122	1131	12335	851.3	438.87	-26.9
698	SLD 10	-124	1215	12329	852.21	438.61	-27.15
698	SLD 11	-155	-1149	13532	1017.79	464.06	31.67
698	SLD 12	-157	-1065	13526	1018.7	463.81	31.42
698	SLD 13	-825	276	13586	984.86	476.33	57.24
698	SLD 14	-828	406	13577	986.27	475.94	56.86
698	SLD 15	-835	-408	13945	1034.81	483.89	74.81
698	SLD 16	-838	-278	13936	1036.21	483.5	74.44
698	SLV 1	1715	602	10430	690.97	369.24	-181.73
698	SLV 2	1710	806	10415	693.18	368.62	-182.33
698	SLV 3	1698	-554	11036	775.42	382.02	-152.03
698	SLV 4	1693	-350	11022	777.63	381.4	-152.62
698	SLV 5	651	1929	11014	710.63	398.85	-116.95
698	SLV 6	648	2067	11004	712.12	398.44	-117.35
698	SLV 7	594	-1924	13037	992.13	441.48	-17.94
698	SLV 8	591	-1786	13027	993.62	441.06	-18.34
698	SLV 9	-277	1882	12123	811.63	437.12	-31.64
698	SLV 10	-280	2020	12114	813.11	436.7	-32.04
698	SLV 11	-334	-1971	14146	1093.13	479.74	67.38
698	SLV 12	-337	-1833	14137	1094.61	479.33	66.98
698	SLV 13	-1379	446	14128	1027.62	496.78	102.65
698	SLV 14	-1384	650	14114	1029.83	496.16	102.05
698	SLV 15	-1396	-710	14735	1112.07	509.56	132.35
698	SLV 16	-1401	-506	14721	1114.28	508.94	131.76
698	SLV FO 1	1871	657	10215	669.8	362.25	-197.41
698	SLV FO 2	1866	882	10199	672.23	361.57	-198.06
698	SLV FO 3	1852	-614	10883	762.7	376.32	-164.73
698	SLV FO 4	1847	-390	10867	765.13	375.64	-165.39
698	SLV FO 5	701	2117	10857	691.43	394.83	-126.15
698	SLV FO 6	697	2268	10847	693.07	394.37	-126.59
698	SLV FO 7	638	-2121	13083	1001.08	441.72	-17.23
698	SLV FO 8	634	-1970	13072	1002.72	441.26	-17.67
698	SLV FO 9	-320	2066	12078	802.53	436.92	-32.3
698	SLV FO 10	-324	2217	12067	804.16	436.46	-32.74
698	SLV FO 11	-383	-2172	14304	1112.18	483.81	76.61
698	SLV FO 12	-387	-2021	14293	1113.81	483.35	76.17
698	SLV FO 13	-1533	486	14284	1040.12	502.54	115.41
698	SLV FO 14	-1538	710	14268	1042.55	501.86	114.76
698	SLV FO 15	-1551	-786	14951	1133.01	516.61	148.08
698	SLV FO 16	-1557	-561	14935	1135.44	515.93	147.43
698	CRTFP Ux+	0	0	0	0	0	0
698	CRTFP Ux-	0	0	0	0	0	0
698	CRTFP Uy+	0	0	0	0	0	0
698	CRTFP Uy-	0	0	0	0	0	0
701	SLU 1	138	-53	8146	-1515.68	45.15	33.23
701	SLU 2	139	-12	8126	-1514.51	42.05	33.05
701	SLU 3	141	-54	8330	-1549.2	46.73	33.95
701	SLU 4	142	-29	8318	-1548.5	44.86	33.84
701	SLU 5	140	-13	8244	-1535.74	43.22	33.45
701	SLU 6	143	-55	8447	-1570.43	47.9	34.34
701	SLU 7	143	-30	8436	-1569.73	46.04	34.24
701	SLU 8	142	-54	8380	-1558.13	47.5	34.02
701	SLU 9	142	-30	8369	-1557.43	45.63	33.91
701	SLU 10	149	-16	9196	-1713.21	47.5	35.68
701	SLU 11	151	-58	9400	-1747.9	52.18	36.58
701	SLU 12	152	-33	9388	-1747.2	50.32	36.47
701	SLU 13	151	-17	9314	-1734.43	48.67	36.08
701	SLU 14	153	-59	9517	-1769.12	53.35	36.97
701	SLU 15	154	-34	9506	-1768.42	51.49	36.87
701	SLU 16	152	-58	9450	-1756.82	52.95	36.65
701	SLU 17	152	-33	9439	-1756.12	51.09	36.54
701	SLU 18	152	-59	9674	-1799.53	52.94	36.99
701	SLU 19	153	-34	9663	-1798.83	51.08	36.88
701	SLU 20	154	-59	9791	-1820.75	54.11	37.38
701	SLU 21	155	-35	9780	-1820.06	52.25	37.28
701	SLU 22	155	-59	9447	-1755.78	52.12	37.36
701	SLU 23	156	-18	9428	-1754.61	49.01	37.18
701	SLU 24	159	-60	9631	-1789.3	53.7	38.08
701	SLU 25	159	-35	9619	-1788.6	51.83	37.97
701	SLU 26	158	-18	9545	-1775.83	50.18	37.58
701	SLU 27	160	-60	9748	-1810.52	54.87	38.47
701	SLU 28	161	-36	9737	-1809.82	53	38.37
701	SLU 29	159	-60	9681	-1798.22	54.47	38.15
701	SLU 30	159	-35	9670	-1797.52	52.6	38.04
701	SLU 31	166	-22	10497	-1953.3	54.46	39.81
701	SLU 32	169	-64	10701	-1987.99	59.15	40.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
701	SLU 33	169	-39	10689	-1987.29	57.28	40.6
701	SLU 34	168	-22	10615	-1974.53	55.64	40.21
701	SLU 35	171	-64	10818	-2009.22	60.32	41.1
701	SLU 36	171	-40	10807	-2008.52	58.45	41
701	SLU 37	169	-64	10751	-1996.92	59.92	40.78
701	SLU 38	170	-39	10740	-1996.22	58.05	40.67
701	SLU 39	170	-64	10975	-2039.63	59.91	41.12
701	SLU 40	170	-40	10964	-2038.93	58.04	41.01
701	SLU 41	172	-65	11092	-2060.85	61.08	41.51
701	SLU 42	172	-40	11081	-2060.15	59.22	41.41
701	SLU 43	173	-67	10143	-1888.07	56.31	41.78
701	SLU 44	174	-26	10124	-1886.9	53.2	41.6
701	SLU 45	177	-68	10327	-1921.59	57.89	42.5
701	SLU 46	177	-43	10316	-1920.89	56.02	42.39
701	SLU 47	176	-27	10241	-1908.13	54.38	42
701	SLU 48	178	-69	10445	-1942.81	59.06	42.89
701	SLU 49	179	-44	10433	-1942.11	57.19	42.79
701	SLU 50	177	-68	10378	-1930.52	58.66	42.57
701	SLU 51	177	-44	10366	-1929.82	56.79	42.46
701	SLU 52	184	-30	11194	-2085.6	58.65	44.24
701	SLU 53	187	-72	11397	-2120.28	63.34	45.13
701	SLU 54	187	-47	11386	-2119.59	61.47	45.03
701	SLU 55	186	-31	11311	-2106.82	59.83	44.63
701	SLU 56	188	-73	11515	-2141.51	64.51	45.53
701	SLU 57	189	-48	11503	-2140.81	62.65	45.42
701	SLU 58	187	-72	11448	-2129.21	64.11	45.2
701	SLU 59	187	-47	11436	-2128.51	62.24	45.1
701	SLU 60	188	-73	11672	-2171.92	64.1	45.54
701	SLU 61	188	-48	11660	-2171.22	62.23	45.43
701	SLU 62	190	-73	11789	-2193.14	65.27	45.93
701	SLU 63	190	-49	11778	-2192.44	63.41	45.83
701	SLU 64	191	-73	11444	-2128.16	63.28	45.91
701	SLU 65	192	-32	11425	-2127	60.17	45.73
701	SLU 66	194	-74	11629	-2161.69	64.85	46.63
701	SLU 67	194	-49	11617	-2160.99	62.99	46.52
701	SLU 68	193	-32	11543	-2148.22	61.34	46.13
701	SLU 69	196	-74	11746	-2182.91	66.03	47.02
701	SLU 70	196	-50	11734	-2182.21	64.16	46.92
701	SLU 71	194	-74	11679	-2170.61	65.62	46.7
701	SLU 72	195	-49	11668	-2169.91	63.76	46.59
701	SLU 73	202	-36	12495	-2325.69	65.62	48.37
701	SLU 74	204	-78	12698	-2360.38	70.31	49.26
701	SLU 75	205	-53	12687	-2359.68	68.44	49.16
701	SLU 76	203	-36	12612	-2346.91	66.79	48.76
701	SLU 77	206	-78	12816	-2381.6	71.48	49.66
701	SLU 78	206	-54	12804	-2380.9	69.61	49.55
701	SLU 79	205	-78	12749	-2369.31	71.07	49.33
701	SLU 80	205	-53	12737	-2368.61	69.21	49.23
701	SLU 81	205	-78	12973	-2412.01	71.07	49.67
701	SLU 82	206	-54	12961	-2411.31	69.2	49.57
701	SLU 83	207	-79	13090	-2433.24	72.24	50.06
701	SLU 84	208	-54	13079	-2432.54	70.37	49.96
701	SLE RA 1	143	-55	8517	-1584.28	47.14	34.41
701	SLE RA 2	143	-27	8505	-1583.5	45.07	34.29
701	SLE RA 3	145	-55	8640	-1606.63	48.19	34.89
701	SLE RA 4	145	-39	8633	-1606.16	46.95	34.82
701	SLE RA 5	145	-28	8583	-1597.65	45.85	34.55
701	SLE RA 6	146	-56	8718	-1620.78	48.98	35.15
701	SLE RA 7	147	-39	8711	-1620.31	47.73	35.08
701	SLE RA 8	145	-55	8674	-1612.58	48.71	34.93
701	SLE RA 9	146	-39	8666	-1612.11	47.46	34.86
701	SLE RA 10	150	-30	9218	-1715.97	48.71	36.05
701	SLE RA 11	152	-58	9353	-1739.09	51.83	36.64
701	SLE RA 12	152	-42	9346	-1738.62	50.59	36.57
701	SLE RA 13	151	-30	9296	-1730.11	49.49	36.31
701	SLE RA 14	153	-58	9432	-1753.24	52.61	36.9
701	SLE RA 15	153	-42	9424	-1752.77	51.37	36.83
701	SLE RA 16	152	-58	9387	-1745.04	52.34	36.69
701	SLE RA 17	152	-42	9379	-1744.58	51.1	36.62
701	SLE RA 18	153	-58	9536	-1773.51	52.34	36.91
701	SLE RA 19	153	-42	9529	-1773.05	51.09	36.84
701	SLE RA 20	154	-59	9615	-1787.66	53.12	37.18
701	SLE RA 21	154	-42	9607	-1787.2	51.87	37.11
701	SLE FR 1	143	-55	8517	-1584.28	47.14	34.41
701	SLE FR 2	143	-49	8515	-1584.12	46.73	34.38
701	SLE FR 3	143	-55	8549	-1589.94	47.46	34.51
701	SLE FR 4	146	-50	8820	-1640.89	48.29	35.14
701	SLE FR 5	146	-56	8854	-1646.71	49.02	35.27
701	SLE FR 6	148	-57	9027	-1678.9	49.74	35.66
701	SLE QP 1	143	-55	8517	-1584.28	47.14	34.41
701	SLE QP 2	146	-56	8823	-1641.05	48.7	35.16
701	SLD 1	821	222	7922	-1489.09	38.34	157.23
701	SLD 2	828	328	7908	-1488.65	34.17	160.74
701	SLD 3	809	-316	8126	-1495.09	76.2	160.4
701	SLD 4	815	-210	8111	-1494.64	72.03	163.91
701	SLD 5	366	826	8247	-1586.44	-11.11	66.36
701	SLD 6	370	895	8237	-1586.15	-13.8	68.63
701	SLD 7	325	-969	8925	-1606.44	115.1	76.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
701	SLD 8	329	-901	8916	-1606.15	112.4	79.2
701	SLD 9	-37	789	8730	-1675.95	-15	-8.88
701	SLD 10	-33	858	8721	-1675.66	-17.69	-6.61
701	SLD 11	-79	-1006	9409	-1695.95	111.21	1.69
701	SLD 12	-74	-938	9400	-1695.66	108.51	3.96
701	SLD 13	-523	99	9535	-1787.45	25.37	-93.59
701	SLD 14	-517	205	9520	-1787.01	21.2	-90.08
701	SLD 15	-536	-440	9738	-1793.45	63.23	-90.42
701	SLD 16	-529	-334	9724	-1793.01	59.06	-86.91
701	SLV 1	1203	413	7404	-1403.52	30.69	226.05
701	SLV 2	1214	579	7382	-1402.82	24.13	231.57
701	SLV 3	1182	-498	7748	-1413.8	94.65	231.38
701	SLV 4	1193	-331	7726	-1413.09	88.08	236.9
701	SLV 5	493	1434	7880	-1554.34	-52.48	83.32
701	SLV 6	500	1546	7865	-1553.86	-56.9	87.04
701	SLV 7	423	-1600	9027	-1588.59	160.71	101.07
701	SLV 8	430	-1488	9012	-1588.12	156.29	104.79
701	SLV 9	-138	1376	8634	-1693.98	-58.89	-34.47
701	SLV 10	-131	1488	8620	-1693.51	-63.31	-30.75
701	SLV 11	-208	-1658	9781	-1728.24	154.3	-16.72
701	SLV 12	-201	-1545	9766	-1727.76	149.88	-13
701	SLV 13	-901	219	9920	-1869	9.32	-166.58
701	SLV 14	-891	386	9898	-1868.3	2.76	-161.06
701	SLV 15	-922	-691	10264	-1879.28	73.28	-161.25
701	SLV 16	-912	-524	10242	-1878.58	66.71	-155.73
701	SLV FO 1	1309	459	7262	-1379.77	28.89	245.14
701	SLV FO 2	1321	643	7238	-1378.99	21.67	251.22
701	SLV FO 3	1286	-542	7641	-1391.08	99.24	251
701	SLV FO 4	1297	-358	7616	-1390.3	92.02	257.08
701	SLV FO 5	528	1583	7785	-1545.67	-62.6	88.13
701	SLV FO 6	536	1706	7769	-1545.14	-67.46	92.22
701	SLV FO 7	451	-1754	9047	-1583.35	171.91	107.67
701	SLV FO 8	458	-1631	9030	-1582.82	167.05	111.76
701	SLV FO 9	-166	1519	8616	-1699.27	-69.65	-41.44
701	SLV FO 10	-159	1643	8599	-1698.75	-74.51	-37.35
701	SLV FO 11	-244	-1818	9877	-1736.96	164.86	-21.9
701	SLV FO 12	-236	-1694	9861	-1736.43	160	-17.81
701	SLV FO 13	-1006	247	10030	-1891.8	5.38	-186.76
701	SLV FO 14	-994	430	10005	-1891.02	-1.84	-180.68
701	SLV FO 15	-1029	-754	10408	-1903.1	75.74	-180.9
701	SLV FO 16	-1017	-571	10384	-1902.33	68.52	-174.82
701	CRTFP Ux+	0	0	0	0	0	0
701	CRTFP Ux-	0	0	0	0	0	0
701	CRTFP Uy+	0	0	0	0	0	0
701	CRTFP Uy-	0	0	0	0	0	0
702	SLU 1	297	51	17611	2555.79	3215.25	-43.64
702	SLU 2	297	137	17586	2546.86	3207.18	-59.4
702	SLU 3	304	52	18013	2617	3289.58	-44.7
702	SLU 4	304	103	17998	2611.64	3284.73	-54.16
702	SLU 5	301	137	17842	2586.67	3254.95	-60.02
702	SLU 6	308	53	18269	2656.81	3337.35	-45.32
702	SLU 7	308	104	18254	2651.45	3332.5	-54.78
702	SLU 8	305	53	18124	2635.41	3310.79	-44.88
702	SLU 9	305	104	18109	2630.05	3305.95	-54.34
702	SLU 10	319	145	19903	2882.51	3629.78	-63.2
702	SLU 11	326	61	20330	2952.65	3712.19	-48.5
702	SLU 12	326	112	20315	2947.29	3707.34	-57.96
702	SLU 13	323	146	20160	2922.32	3677.55	-63.82
702	SLU 14	330	62	20587	2992.46	3759.95	-49.12
702	SLU 15	330	113	20572	2987.1	3755.11	-58.58
702	SLU 16	327	61	20442	2971.07	3733.4	-48.68
702	SLU 17	327	113	20426	2965.7	3728.55	-58.14
702	SLU 18	328	64	20922	3035.29	3818.98	-49.07
702	SLU 19	329	115	20907	3029.93	3814.13	-58.53
702	SLU 20	332	64	21179	3075.11	3866.74	-49.69
702	SLU 21	333	115	21163	3069.74	3861.9	-59.15
702	SLU 22	336	59	20445	2972.77	3733.01	-49.73
702	SLU 23	336	144	20419	2963.84	3724.94	-65.49
702	SLU 24	343	60	20846	3033.98	3807.34	-50.79
702	SLU 25	343	111	20831	3028.62	3802.49	-60.24
702	SLU 26	340	144	20676	3003.65	3772.7	-66.11
702	SLU 27	347	60	21103	3073.79	3855.11	-51.41
702	SLU 28	347	111	21087	3068.43	3850.26	-60.86
702	SLU 29	343	60	20957	3052.4	3828.55	-50.97
702	SLU 30	344	111	20942	3047.03	3823.7	-60.43
702	SLU 31	358	152	22737	3299.49	4147.54	-69.29
702	SLU 32	364	68	23164	3369.63	4229.94	-54.59
702	SLU 33	365	119	23149	3364.27	4225.1	-64.04
702	SLU 34	362	153	22993	3339.3	4195.31	-69.91
702	SLU 35	368	69	23420	3409.44	4277.71	-55.21
702	SLU 36	369	120	23405	3404.08	4272.87	-64.66
702	SLU 37	365	69	23275	3388.05	4251.15	-54.77
702	SLU 38	366	120	23260	3382.69	4246.31	-64.23
702	SLU 39	367	71	23756	3452.28	4336.73	-55.16
702	SLU 40	367	122	23740	3446.92	4331.89	-64.62
702	SLU 41	371	72	24012	3492.09	4384.5	-55.78
702	SLU 42	371	123	23997	3486.73	4379.66	-65.24
702	SLU 43	373	64	21923	3179.56	4002.31	-54.65

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
702	SLU 44	373	149	21898	3170.63	3994.24	-70.41
702	SLU 45	380	65	22325	3240.77	4076.64	-55.71
702	SLU 46	380	116	22309	3235.41	4071.79	-65.16
702	SLU 47	377	150	22154	3210.44	4042.01	-71.03
702	SLU 48	384	66	22581	3280.58	4124.41	-56.33
702	SLU 49	384	117	22566	3275.22	4119.56	-65.78
702	SLU 50	381	66	22436	3259.19	4097.85	-55.89
702	SLU 51	381	117	22421	3253.82	4093.01	-65.34
702	SLU 52	395	158	24215	3506.28	4416.84	-74.21
702	SLU 53	402	74	24642	3576.42	4499.24	-59.51
702	SLU 54	402	125	24627	3571.06	4494.4	-68.96
702	SLU 55	399	159	24472	3546.09	4464.61	-74.83
702	SLU 56	406	75	24899	3616.23	4547.01	-60.13
702	SLU 57	406	126	24884	3610.87	4542.17	-69.58
702	SLU 58	403	74	24754	3594.84	4520.46	-59.69
702	SLU 59	403	125	24738	3589.48	4515.61	-69.15
702	SLU 60	404	77	25234	3659.07	4606.04	-60.08
702	SLU 61	405	128	25219	3653.71	4601.19	-69.54
702	SLU 62	408	77	25491	3698.88	4653.8	-60.7
702	SLU 63	409	128	25475	3693.52	4648.96	-70.16
702	SLU 64	412	72	24756	3596.55	4520.07	-60.74
702	SLU 65	412	157	24731	3587.61	4512	-76.5
702	SLU 66	419	73	25158	3657.75	4594.4	-61.79
702	SLU 67	419	124	25143	3652.39	4589.55	-71.25
702	SLU 68	416	157	24987	3627.42	4559.76	-77.12
702	SLU 69	423	73	25414	3697.57	4642.16	-62.41
702	SLU 70	423	124	25399	3692.2	4637.32	-71.87
702	SLU 71	419	73	25269	3676.17	4615.61	-61.98
702	SLU 72	420	124	25254	3670.81	4610.76	-71.43
702	SLU 73	434	165	27049	3923.26	4934.6	-80.3
702	SLU 74	440	81	27476	3993.41	5017	-65.6
702	SLU 75	441	132	27460	3988.04	5012.16	-75.05
702	SLU 76	438	166	27305	3963.07	4982.37	-80.92
702	SLU 77	444	82	27732	4033.22	5064.77	-66.21
702	SLU 78	445	133	27717	4027.86	5059.92	-75.67
702	SLU 79	441	82	27587	4011.82	5038.21	-65.78
702	SLU 80	442	133	27572	4006.46	5033.37	-75.23
702	SLU 81	443	84	28067	4076.05	5123.79	-66.17
702	SLU 82	443	135	28052	4070.69	5118.95	-75.62
702	SLU 83	447	85	28324	4115.86	5171.56	-66.79
702	SLU 84	447	136	28309	4110.5	5166.72	-76.24
702	SLE RA 1	308	54	18421	2674.93	3363.18	-45.38
702	SLE RA 2	308	110	18404	2668.97	3357.8	-55.89
702	SLE RA 3	313	54	18688	2715.74	3412.74	-46.09
702	SLE RA 4	313	88	18678	2712.16	3409.5	-52.39
702	SLE RA 5	311	111	18575	2695.51	3389.65	-56.3
702	SLE RA 6	315	55	18859	2742.28	3444.58	-46.5
702	SLE RA 7	316	89	18849	2738.7	3441.35	-52.8
702	SLE RA 8	313	54	18763	2728.01	3426.88	-46.21
702	SLE RA 9	314	89	18752	2724.44	3423.65	-52.51
702	SLE RA 10	323	116	19949	2892.74	3639.54	-58.42
702	SLE RA 11	327	60	20234	2939.5	3694.47	-48.62
702	SLE RA 12	328	94	20223	2935.93	3691.24	-54.93
702	SLE RA 13	326	116	20120	2919.28	3671.38	-58.84
702	SLE RA 14	330	60	20405	2966.04	3726.32	-49.03
702	SLE RA 15	330	94	20394	2962.47	3723.09	-55.34
702	SLE RA 16	328	60	20308	2951.78	3708.61	-48.74
702	SLE RA 17	328	94	20298	2948.2	3705.38	-55.05
702	SLE RA 18	329	62	20628	2994.6	3765.67	-49
702	SLE RA 19	329	96	20618	2991.02	3762.44	-55.31
702	SLE RA 20	332	62	20799	3021.14	3797.51	-49.42
702	SLE RA 21	332	96	20789	3017.56	3794.28	-55.72
702	SLE FR 1	308	54	18421	2674.93	3363.18	-45.38
702	SLE FR 2	308	65	18417	2673.74	3362.11	-47.49
702	SLE FR 3	309	54	18489	2685.55	3375.92	-45.55
702	SLE FR 4	314	67	19080	2769.64	3482.85	-48.57
702	SLE FR 5	315	56	19151	2781.45	3496.67	-46.63
702	SLE FR 6	319	58	19524	2834.76	3564.43	-47.19
702	SLE QP 1	308	54	18421	2674.93	3363.18	-45.38
702	SLE QP 2	314	56	19083	2770.83	3483.93	-46.47
702	SLD 1	1780	573	17060	2422.5	3113.34	-357.77
702	SLD 2	1776	828	17058	2418.82	3111.28	-396.19
702	SLD 3	1768	-524	17373	2559.6	3219.62	-153.98
702	SLD 4	1763	-270	17371	2555.92	3217.56	-192.4
702	SLD 5	774	1832	18002	2459.04	3211.92	-442.27
702	SLD 6	771	1996	18000	2456.66	3210.59	-467.13
702	SLD 7	732	-1827	19045	2916.03	3566.18	237.02
702	SLD 8	729	-1663	19044	2913.65	3564.85	212.16
702	SLD 9	-100	1775	19122	2628.01	3403.01	-305.1
702	SLD 10	-103	1939	19120	2625.63	3401.68	-329.96
702	SLD 11	-142	-1885	20166	3085	3757.27	374.19
702	SLD 12	-145	-1720	20164	3082.62	3755.94	349.33
702	SLD 13	-1134	382	20795	2985.74	3750.3	99.47
702	SLD 14	-1139	636	20793	2982.07	3748.24	61.04
702	SLD 15	-1147	-716	21108	3122.84	3856.58	303.25
702	SLD 16	-1152	-462	21106	3119.16	3854.52	264.83
702	SLV 1	2610	934	15906	2218.25	2898.79	-546.28
702	SLV 2	2603	1334	15901	2212.46	2895.55	-606.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
702	SLV 3	2588	-921	16435	2450.11	3078.47	-201.84
702	SLV 4	2581	-521	16431	2444.32	3075.24	-262.35
702	SLV 5	1037	3058	17327	2254.49	3036.47	-707.52
702	SLV 6	1033	3328	17325	2250.59	3034.29	-748.26
702	SLV 7	965	-3125	19093	3027.35	3635.42	440.61
702	SLV 8	960	-2856	19090	3023.45	3633.24	399.88
702	SLV 9	-331	2968	19076	2518.21	3334.62	-492.82
702	SLV 10	-336	3237	19073	2514.31	3332.44	-533.55
702	SLV 11	-404	-3216	20841	3291.07	3933.56	655.32
702	SLV 12	-409	-2946	20839	3287.17	3931.39	614.58
702	SLV 13	-1952	633	21735	3097.34	3892.62	169.41
702	SLV 14	-1960	1033	21731	3091.55	3889.39	108.9
702	SLV 15	-1974	-1222	22264	3329.2	4072.31	513.85
702	SLV 16	-1981	-822	22260	3323.41	4069.07	453.34
702	SLV FO 1	2840	1022	15588	2163	2840.28	-596.27
702	SLV FO 2	2832	1462	15583	2156.62	2836.72	-662.82
702	SLV FO 3	2816	-1019	16170	2418.04	3037.93	-217.38
702	SLV FO 4	2808	-578	16166	2411.67	3034.37	-283.94
702	SLV FO 5	1110	3359	17152	2202.85	2991.73	-773.63
702	SLV FO 6	1104	3655	17149	2198.56	2989.33	-818.44
702	SLV FO 7	1030	-3444	19094	3053	3650.56	489.32
702	SLV FO 8	1025	-3147	19090	3048.71	3648.17	444.51
702	SLV FO 9	-396	3259	19075	2492.95	3319.69	-537.45
702	SLV FO 10	-401	3555	19072	2488.66	3317.3	-582.26
702	SLV FO 11	-476	-3543	21017	3343.1	3978.53	725.5
702	SLV FO 12	-481	-3247	21014	3338.81	3976.13	680.69
702	SLV FO 13	-2179	690	22000	3129.99	3933.49	191
702	SLV FO 14	-2187	1131	21995	3123.62	3929.93	124.44
702	SLV FO 15	-2203	-1350	22583	3385.04	4131.14	569.88
702	SLV FO 16	-2211	-910	22578	3378.66	4127.58	503.33
702	CRTFP Ux+	0	0	0	0	0	0
702	CRTFP Ux-	0	0	0	0	0	0
702	CRTFP Uy+	0	0	0	0	0	0
702	CRTFP Uy-	0	0	0	0	0	0
704	SLU 1	98	27	5595	-190.71	-111.71	4.95
704	SLU 2	98	53	5592	-192.55	-111.64	5.51
704	SLU 3	100	27	5720	-193.87	-114.24	5.06
704	SLU 4	101	43	5719	-194.97	-114.2	5.39
704	SLU 5	100	53	5672	-194.27	-113.24	5.57
704	SLU 6	102	27	5800	-195.58	-115.85	5.12
704	SLU 7	102	43	5798	-196.69	-115.81	5.46
704	SLU 8	101	27	5754	-194.14	-114.93	5.08
704	SLU 9	101	43	5752	-195.24	-114.88	5.42
704	SLU 10	106	57	6330	-218.05	-126.36	5.94
704	SLU 11	108	31	6458	-219.37	-128.96	5.49
704	SLU 12	108	47	6456	-220.47	-128.92	5.82
704	SLU 13	107	57	6409	-219.77	-127.96	6.01
704	SLU 14	109	31	6537	-221.08	-130.57	5.56
704	SLU 15	109	47	6536	-222.19	-130.53	5.89
704	SLU 16	108	31	6491	-219.64	-129.65	5.52
704	SLU 17	108	47	6490	-220.74	-129.6	5.85
704	SLU 18	109	32	6648	-227.14	-132.74	5.57
704	SLU 19	109	48	6647	-228.25	-132.69	5.9
704	SLU 20	110	32	6728	-228.85	-134.34	5.64
704	SLU 21	110	48	6726	-229.96	-134.3	5.97
704	SLU 22	111	30	6493	-219.18	-129.72	5.53
704	SLU 23	111	56	6491	-221.02	-129.65	6.09
704	SLU 24	113	30	6618	-222.33	-132.25	5.64
704	SLU 25	113	46	6617	-223.44	-132.21	5.97
704	SLU 26	112	57	6570	-222.73	-131.26	6.15
704	SLU 27	114	31	6698	-224.05	-133.86	5.7
704	SLU 28	114	47	6696	-225.15	-133.82	6.04
704	SLU 29	113	31	6652	-222.6	-132.94	5.66
704	SLU 30	113	46	6650	-223.71	-132.89	6
704	SLU 31	118	60	7228	-246.52	-144.37	6.52
704	SLU 32	120	34	7356	-247.83	-146.97	6.07
704	SLU 33	120	50	7354	-248.94	-146.93	6.4
704	SLU 34	119	60	7307	-248.23	-145.98	6.58
704	SLU 35	122	35	7435	-249.55	-148.58	6.14
704	SLU 36	122	50	7434	-250.65	-148.54	6.47
704	SLU 37	121	34	7389	-248.1	-147.66	6.1
704	SLU 38	121	50	7388	-249.21	-147.61	6.43
704	SLU 39	121	35	7546	-255.61	-150.75	6.15
704	SLU 40	121	51	7545	-256.71	-150.7	6.48
704	SLU 41	122	36	7626	-257.32	-152.36	6.22
704	SLU 42	123	52	7624	-258.42	-152.31	6.55
704	SLU 43	123	34	6965	-238.17	-139.05	6.24
704	SLU 44	124	60	6963	-240.01	-138.97	6.79
704	SLU 45	126	34	7091	-241.32	-141.58	6.35
704	SLU 46	126	50	7089	-242.43	-141.54	6.68
704	SLU 47	125	60	7042	-241.72	-140.58	6.86
704	SLU 48	127	34	7170	-243.03	-143.19	6.41
704	SLU 49	127	50	7169	-244.14	-143.14	6.74
704	SLU 50	126	34	7124	-241.59	-142.26	6.37
704	SLU 51	126	50	7123	-242.7	-142.22	6.7
704	SLU 52	131	64	7700	-265.51	-153.69	7.23
704	SLU 53	133	38	7828	-266.82	-156.3	6.78
704	SLU 54	133	54	7827	-267.93	-156.26	7.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
704	SLU 55	132	64	7780	-267.22	-155.3	7.29
704	SLU 56	134	38	7908	-268.53	-157.91	6.85
704	SLU 57	134	54	7906	-269.64	-157.86	7.18
704	SLU 58	133	38	7862	-267.09	-156.98	6.8
704	SLU 59	133	54	7860	-268.2	-156.94	7.14
704	SLU 60	134	39	8019	-274.59	-160.07	6.86
704	SLU 61	134	55	8017	-275.7	-160.03	7.19
704	SLU 62	135	39	8098	-276.31	-161.68	6.92
704	SLU 63	135	55	8097	-277.41	-161.64	7.26
704	SLU 64	136	37	7863	-266.63	-157.06	6.82
704	SLU 65	136	63	7861	-268.47	-156.98	7.37
704	SLU 66	138	37	7989	-269.79	-159.59	6.93
704	SLU 67	138	53	7987	-270.89	-159.55	7.26
704	SLU 68	137	64	7940	-270.19	-158.59	7.44
704	SLU 69	139	38	8068	-271.5	-161.2	6.99
704	SLU 70	140	53	8067	-272.6	-161.16	7.32
704	SLU 71	138	37	8022	-270.06	-160.28	6.95
704	SLU 72	139	53	8021	-271.16	-160.23	7.28
704	SLU 73	143	67	8599	-293.97	-171.7	7.81
704	SLU 74	145	41	8726	-295.29	-174.31	7.36
704	SLU 75	146	57	8725	-296.39	-174.27	7.69
704	SLU 76	145	67	8678	-295.69	-173.31	7.87
704	SLU 77	147	41	8806	-297	-175.92	7.42
704	SLU 78	147	57	8804	-298.1	-175.88	7.76
704	SLU 79	146	41	8760	-295.56	-174.99	7.38
704	SLU 80	146	57	8758	-296.66	-174.95	7.72
704	SLU 81	146	42	8917	-303.06	-178.08	7.44
704	SLU 82	146	58	8916	-304.17	-178.04	7.77
704	SLU 83	148	43	8996	-304.77	-179.69	7.5
704	SLU 84	148	58	8995	-305.88	-179.65	7.84
704	SLE RA 1	102	28	5851	-198.84	-116.85	5.12
704	SLE RA 2	102	45	5850	-200.07	-116.81	5.49
704	SLE RA 3	103	28	5935	-200.95	-118.54	5.19
704	SLE RA 4	103	38	5934	-201.69	-118.51	5.41
704	SLE RA 5	103	45	5903	-201.21	-117.88	5.53
704	SLE RA 6	104	28	5988	-202.09	-119.62	5.23
704	SLE RA 7	104	39	5987	-202.83	-119.59	5.45
704	SLE RA 8	103	28	5957	-201.13	-119	5.21
704	SLE RA 9	104	39	5956	-201.87	-118.97	5.43
704	SLE RA 10	107	48	6341	-217.07	-126.62	5.78
704	SLE RA 11	108	30	6427	-217.95	-128.36	5.48
704	SLE RA 12	108	41	6426	-218.69	-128.33	5.7
704	SLE RA 13	108	48	6394	-218.21	-127.69	5.82
704	SLE RA 14	109	31	6480	-219.09	-129.43	5.52
704	SLE RA 15	109	41	6479	-219.83	-129.4	5.74
704	SLE RA 16	108	31	6449	-218.13	-128.81	5.49
704	SLE RA 17	108	41	6448	-218.87	-128.78	5.72
704	SLE RA 18	109	31	6554	-223.13	-130.87	5.53
704	SLE RA 19	109	42	6553	-223.87	-130.84	5.75
704	SLE RA 20	110	31	6607	-224.27	-131.95	5.57
704	SLE RA 21	110	42	6606	-225.01	-131.92	5.8
704	SLE FR 1	102	28	5851	-198.84	-116.85	5.12
704	SLE FR 2	102	31	5851	-199.09	-116.85	5.19
704	SLE FR 3	102	28	5873	-199.3	-117.28	5.14
704	SLE FR 4	104	32	6062	-206.38	-121.05	5.32
704	SLE FR 5	104	29	6083	-206.59	-121.49	5.26
704	SLE FR 6	105	29	6203	-210.99	-123.86	5.32
704	SLE QP 1	102	28	5851	-198.84	-116.85	5.12
704	SLE QP 2	104	29	6062	-206.13	-121.06	5.24
704	SLD 1	552	185	5422	-204.99	-106.64	22.32
704	SLD 2	553	272	5424	-206.43	-106.66	25.11
704	SLD 3	547	-156	5435	-171.13	-107.5	15.15
704	SLD 4	548	-69	5438	-172.58	-107.52	17.94
704	SLD 5	245	578	5849	-256.89	-115.42	20.75
704	SLD 6	246	634	5850	-257.82	-115.44	22.56
704	SLD 7	230	-559	5894	-144.03	-118.29	-3.14
704	SLD 8	230	-503	5896	-144.96	-118.31	-1.34
704	SLD 9	-23	560	6228	-267.3	-123.81	11.82
704	SLD 10	-22	616	6230	-268.23	-123.83	13.63
704	SLD 11	-38	-577	6274	-154.44	-126.68	-12.08
704	SLD 12	-37	-520	6275	-155.37	-126.7	-10.27
704	SLD 13	-341	126	6686	-239.68	-134.6	-7.46
704	SLD 14	-339	213	6689	-241.13	-134.62	-4.67
704	SLD 15	-345	-215	6700	-205.83	-135.46	-14.63
704	SLD 16	-344	-128	6703	-207.27	-135.48	-11.84
704	SLV 1	805	295	5062	-206.53	-98.49	32.42
704	SLV 2	807	432	5065	-208.8	-98.52	36.81
704	SLV 3	797	-281	5085	-149.27	-99.95	20.3
704	SLV 4	799	-144	5089	-151.54	-99.98	24.69
704	SLV 5	326	957	5726	-292.67	-112.07	30.96
704	SLV 6	327	1049	5729	-294.19	-112.09	33.92
704	SLV 7	299	-964	5803	-101.81	-116.93	-9.44
704	SLV 8	301	-872	5806	-103.34	-116.96	-6.48
704	SLV 9	-93	929	6318	-308.92	-125.16	16.97
704	SLV 10	-92	1021	6321	-310.45	-125.19	19.93
704	SLV 11	-120	-992	6395	-118.07	-130.03	-23.43
704	SLV 12	-118	-900	6398	-119.59	-130.05	-20.47
704	SLV 13	-592	202	7036	-260.72	-142.14	-14.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
704	SLV 14	-590	339	7040	-262.99	-142.17	-9.82
704	SLV 15	-600	-374	7059	-203.46	-143.6	-26.33
704	SLV 16	-598	-238	7063	-205.73	-143.63	-21.94
704	SLV FO 1	876	322	4961	-206.57	-96.23	35.14
704	SLV FO 2	878	472	4966	-209.06	-96.27	39.97
704	SLV FO 3	867	-312	4987	-143.58	-97.83	21.8
704	SLV FO 4	869	-162	4991	-146.08	-97.87	26.64
704	SLV FO 5	348	1050	5693	-301.32	-111.17	33.53
704	SLV FO 6	350	1151	5696	-303	-111.19	36.78
704	SLV FO 7	319	-1063	5777	-91.38	-116.52	-10.91
704	SLV FO 8	320	-962	5780	-93.06	-116.55	-7.66
704	SLV FO 9	-113	1019	6344	-319.2	-125.57	18.14
704	SLV FO 10	-111	1120	6347	-320.88	-125.6	21.4
704	SLV FO 11	-142	-1094	6429	-109.26	-130.93	-26.3
704	SLV FO 12	-141	-992	6432	-110.94	-130.95	-23.04
704	SLV FO 13	-661	219	7133	-266.18	-144.25	-16.16
704	SLV FO 14	-659	369	7137	-268.68	-144.29	-11.32
704	SLV FO 15	-670	-415	7158	-203.2	-145.85	-29.49
704	SLV FO 16	-668	-264	7163	-205.69	-145.89	-24.65
704	CRTFP Ux+	0	0	0	0	0	0
704	CRTFP Ux-	0	0	0	0	0	0
704	CRTFP Uy+	0	0	0	0	0	0
704	CRTFP Uy-	0	0	0	0	0	0
705	SLU 1	114	36	6490	-6.51	-4.84	1.1
705	SLU 2	114	66	6488	-8.78	-4.86	1.14
705	SLU 3	116	37	6635	-5.39	-4.94	1.12
705	SLU 4	116	55	6634	-6.76	-4.95	1.15
705	SLU 5	115	67	6579	-7.75	-4.92	1.16
705	SLU 6	118	37	6727	-4.36	-4.99	1.15
705	SLU 7	118	55	6726	-5.73	-5.01	1.17
705	SLU 8	117	37	6673	-4.45	-4.95	1.14
705	SLU 9	117	55	6672	-5.81	-4.96	1.17
705	SLU 10	122	71	7343	-10.05	-5.48	1.25
705	SLU 11	125	42	7490	-6.66	-5.56	1.23
705	SLU 12	125	60	7489	-8.02	-5.57	1.25
705	SLU 13	124	72	7435	-9.02	-5.54	1.27
705	SLU 14	126	42	7582	-5.63	-5.61	1.25
705	SLU 15	126	60	7581	-6.99	-5.63	1.28
705	SLU 16	125	42	7529	-5.72	-5.57	1.25
705	SLU 17	125	60	7527	-7.08	-5.58	1.28
705	SLU 18	126	43	7711	-8.32	-5.72	1.25
705	SLU 19	126	61	7710	-9.69	-5.74	1.28
705	SLU 20	127	44	7803	-7.29	-5.78	1.27
705	SLU 21	127	62	7802	-8.65	-5.79	1.3
705	SLU 22	128	40	7532	-5.14	-5.6	1.18
705	SLU 23	128	71	7530	-7.42	-5.63	1.22
705	SLU 24	131	41	7677	-4.02	-5.7	1.2
705	SLU 25	131	59	7676	-5.39	-5.72	1.23
705	SLU 26	130	71	7622	-6.38	-5.68	1.24
705	SLU 27	132	42	7769	-2.99	-5.76	1.23
705	SLU 28	132	60	7768	-4.36	-5.77	1.25
705	SLU 29	131	41	7716	-3.08	-5.71	1.23
705	SLU 30	131	59	7714	-4.44	-5.73	1.25
705	SLU 31	137	75	8385	-8.68	-6.25	1.33
705	SLU 32	139	46	8532	-5.29	-6.32	1.31
705	SLU 33	139	64	8531	-6.66	-6.33	1.33
705	SLU 34	138	76	8477	-7.65	-6.3	1.35
705	SLU 35	141	46	8624	-4.26	-6.37	1.33
705	SLU 36	141	65	8623	-5.62	-6.39	1.36
705	SLU 37	140	46	8571	-4.35	-6.33	1.33
705	SLU 38	140	64	8570	-5.71	-6.34	1.36
705	SLU 39	140	47	8753	-6.95	-6.49	1.33
705	SLU 40	140	65	8752	-8.32	-6.5	1.36
705	SLU 41	142	48	8845	-5.92	-6.54	1.35
705	SLU 42	142	66	8844	-7.29	-6.56	1.38
705	SLU 43	143	46	8079	-8.93	-6.03	1.4
705	SLU 44	143	76	8077	-11.21	-6.05	1.44
705	SLU 45	146	46	8225	-7.81	-6.13	1.43
705	SLU 46	146	64	8223	-9.18	-6.14	1.45
705	SLU 47	145	76	8169	-10.18	-6.11	1.46
705	SLU 48	147	47	8316	-6.78	-6.18	1.45
705	SLU 49	147	65	8315	-8.15	-6.2	1.47
705	SLU 50	146	47	8263	-6.87	-6.14	1.45
705	SLU 51	146	65	8262	-8.24	-6.15	1.47
705	SLU 52	152	81	8932	-12.47	-6.67	1.55
705	SLU 53	154	51	9080	-9.08	-6.75	1.53
705	SLU 54	154	69	9079	-10.45	-6.76	1.56
705	SLU 55	153	81	9024	-11.44	-6.73	1.57
705	SLU 56	156	52	9172	-8.05	-6.8	1.56
705	SLU 57	156	70	9170	-9.42	-6.82	1.58
705	SLU 58	154	52	9118	-8.14	-6.76	1.55
705	SLU 59	154	70	9117	-9.5	-6.77	1.58
705	SLU 60	155	53	9301	-10.74	-6.91	1.55
705	SLU 61	155	71	9300	-12.11	-6.93	1.58
705	SLU 62	156	53	9393	-9.71	-6.97	1.58
705	SLU 63	157	71	9392	-11.08	-6.98	1.6
705	SLU 64	157	50	9121	-7.56	-6.79	1.48
705	SLU 65	157	80	9119	-9.84	-6.82	1.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
705	SLU 66	160	51	9267	-6.44	-6.89	1.51
705	SLU 67	160	69	9265	-7.81	-6.91	1.53
705	SLU 68	159	80	9211	-8.81	-6.87	1.55
705	SLU 69	161	51	9359	-5.41	-6.95	1.53
705	SLU 70	162	69	9357	-6.78	-6.96	1.55
705	SLU 71	160	51	9305	-5.5	-6.9	1.53
705	SLU 72	160	69	9304	-6.87	-6.92	1.55
705	SLU 73	166	85	9974	-11.11	-7.44	1.63
705	SLU 74	168	55	10122	-7.71	-7.51	1.61
705	SLU 75	168	73	10121	-9.08	-7.53	1.64
705	SLU 76	167	85	10066	-10.07	-7.49	1.65
705	SLU 77	170	56	10214	-6.68	-7.56	1.64
705	SLU 78	170	74	10213	-8.05	-7.58	1.66
705	SLU 79	169	56	10160	-6.77	-7.52	1.63
705	SLU 80	169	74	10159	-8.13	-7.54	1.66
705	SLU 81	169	57	10343	-9.37	-7.68	1.63
705	SLU 82	169	75	10342	-10.74	-7.69	1.66
705	SLU 83	171	57	10435	-8.34	-7.73	1.66
705	SLU 84	171	75	10434	-9.71	-7.75	1.68
705	SLE RA 1	118	37	6787	-6.12	-5.06	1.12
705	SLE RA 2	118	58	6786	-7.64	-5.07	1.15
705	SLE RA 3	120	38	6884	-5.37	-5.12	1.14
705	SLE RA 4	120	50	6883	-6.28	-5.13	1.15
705	SLE RA 5	119	58	6847	-6.95	-5.11	1.16
705	SLE RA 6	121	38	6946	-4.69	-5.16	1.15
705	SLE RA 7	121	50	6945	-5.6	-5.17	1.17
705	SLE RA 8	120	38	6910	-4.74	-5.13	1.15
705	SLE RA 9	120	50	6909	-5.65	-5.14	1.17
705	SLE RA 10	124	61	7356	-8.48	-5.49	1.22
705	SLE RA 11	125	41	7454	-6.22	-5.54	1.21
705	SLE RA 12	125	53	7454	-7.13	-5.55	1.23
705	SLE RA 13	125	61	7417	-7.79	-5.52	1.24
705	SLE RA 14	126	41	7516	-5.53	-5.57	1.22
705	SLE RA 15	126	54	7515	-6.44	-5.58	1.24
705	SLE RA 16	125	41	7480	-5.59	-5.54	1.22
705	SLE RA 17	126	53	7479	-6.5	-5.55	1.24
705	SLE RA 18	126	42	7602	-7.33	-5.65	1.22
705	SLE RA 19	126	54	7601	-8.24	-5.66	1.24
705	SLE RA 20	127	42	7663	-6.64	-5.68	1.24
705	SLE RA 21	127	54	7662	-7.55	-5.69	1.26
705	SLE FR 1	118	37	6787	-6.12	-5.06	1.12
705	SLE FR 2	118	41	6787	-6.42	-5.06	1.13
705	SLE FR 3	118	38	6812	-5.84	-5.07	1.13
705	SLE FR 4	120	43	7031	-6.78	-5.24	1.16
705	SLE FR 5	121	39	7056	-6.21	-5.25	1.16
705	SLE FR 6	122	40	7195	-6.72	-5.35	1.17
705	SLE QP 1	118	37	6787	-6.12	-5.06	1.12
705	SLE QP 2	120	39	7032	-6.48	-5.23	1.15
705	SLD 1	628	215	6228	-29.16	-2.4	0.19
705	SLD 2	629	319	6231	-30.87	-2.41	1.42
705	SLD 3	623	-174	6237	10.73	-2	-0.33
705	SLD 4	624	-70	6240	9.01	-2.01	0.89
705	SLD 5	280	663	6775	-73.49	-4.99	1.45
705	SLD 6	281	731	6777	-74.6	-4.99	2.25
705	SLD 7	263	-633	6807	59.48	-3.66	-0.31
705	SLD 8	264	-565	6809	58.37	-3.67	0.48
705	SLD 9	-24	643	7254	-71.33	-6.8	1.82
705	SLD 10	-23	710	7256	-72.44	-6.81	2.61
705	SLD 11	-40	-653	7286	61.63	-5.48	0.06
705	SLD 12	-40	-585	7288	60.52	-5.48	0.85
705	SLD 13	-384	147	7823	-21.98	-8.46	1.42
705	SLD 14	-383	252	7826	-23.69	-8.46	2.64
705	SLD 15	-389	-241	7833	17.91	-8.06	0.89
705	SLD 16	-388	-137	7836	16.2	-8.07	2.11
705	SLV 1	916	338	5776	-44.61	-0.84	-0.32
705	SLV 2	917	503	5781	-47.31	-0.85	1.6
705	SLV 3	908	-319	5792	22.85	-0.17	-1.21
705	SLV 4	909	-154	5797	20.15	-0.18	0.71
705	SLV 5	372	1094	6630	-119.72	-4.93	1.71
705	SLV 6	373	1205	6633	-121.54	-4.94	3.01
705	SLV 7	343	-1096	6683	105.13	-2.69	-1.28
705	SLV 8	344	-985	6686	103.31	-2.7	0.02
705	SLV 9	-104	1062	7377	-116.27	-7.77	2.28
705	SLV 10	-103	1173	7381	-118.09	-7.77	3.58
705	SLV 11	-132	-1127	7430	108.58	-5.53	-0.7
705	SLV 12	-131	-1017	7433	106.76	-5.54	0.59
705	SLV 13	-668	232	8267	-33.11	-10.29	1.59
705	SLV 14	-667	396	8271	-35.81	-10.3	3.52
705	SLV 15	-677	-425	8282	34.34	-9.62	0.7
705	SLV 16	-676	-261	8287	31.65	-9.63	2.62
705	SLV FO 1	996	368	5651	-48.42	-0.4	-0.47
705	SLV FO 2	997	549	5656	-51.39	-0.41	1.65
705	SLV FO 3	986	-354	5668	25.78	0.34	-1.45
705	SLV FO 4	988	-174	5673	22.81	0.33	0.66
705	SLV FO 5	397	1200	6590	-131.05	-4.9	1.77
705	SLV FO 6	398	1322	6594	-133.05	-4.91	3.19
705	SLV FO 7	366	-1209	6648	116.29	-2.44	-1.52
705	SLV FO 8	367	-1087	6651	114.29	-2.45	-0.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
705	SLV FO 9	-126	1165	7412	-127.25	-8.02	2.4
705	SLV FO 10	-125	1287	7415	-129.25	-8.03	3.82
705	SLV FO 11	-157	-1244	7470	120.08	-5.56	-0.89
705	SLV FO 12	-156	-1122	7473	118.09	-5.57	0.54
705	SLV FO 13	-747	251	8390	-35.77	-10.79	1.64
705	SLV FO 14	-746	432	8395	-38.74	-10.81	3.75
705	SLV FO 15	-757	-471	8407	38.43	-10.06	0.65
705	SLV FO 16	-755	-291	8413	35.46	-10.07	2.77
705	CRTFP Ux+	0	0	0	0	0	0
705	CRTFP Ux-	0	0	0	0	0	0
705	CRTFP Uy+	0	0	0	0	0	0
705	CRTFP Uy-	0	0	0	0	0	0
706	SLU 1	116	41	6638	-6.11	-4.35	0.81
706	SLU 2	117	71	6636	-8.46	-4.36	0.86
706	SLU 3	119	42	6786	-5	-4.44	0.83
706	SLU 4	119	60	6785	-6.41	-4.45	0.86
706	SLU 5	118	72	6730	-7.44	-4.41	0.89
706	SLU 6	121	42	6880	-3.98	-4.49	0.86
706	SLU 7	121	61	6879	-5.39	-4.49	0.89
706	SLU 8	119	42	6825	-4.07	-4.45	0.86
706	SLU 9	120	61	6824	-5.48	-4.45	0.89
706	SLU 10	125	77	7510	-9.66	-4.88	0.94
706	SLU 11	128	47	7660	-6.21	-4.96	0.91
706	SLU 12	128	65	7659	-7.61	-4.97	0.94
706	SLU 13	127	77	7604	-8.64	-4.93	0.96
706	SLU 14	129	48	7754	-5.19	-5.01	0.93
706	SLU 15	129	66	7753	-6.6	-5.02	0.97
706	SLU 16	128	48	7699	-5.28	-4.97	0.94
706	SLU 17	128	66	7698	-6.69	-4.97	0.97
706	SLU 18	129	49	7886	-7.84	-5.1	0.92
706	SLU 19	129	67	7885	-9.24	-5.1	0.95
706	SLU 20	130	49	7979	-6.82	-5.14	0.94
706	SLU 21	130	67	7979	-8.22	-5.15	0.98
706	SLU 22	131	46	7703	-4.7	-5.01	0.85
706	SLU 23	131	76	7701	-7.05	-5.01	0.9
706	SLU 24	134	46	7851	-3.59	-5.1	0.87
706	SLU 25	134	65	7850	-5	-5.1	0.9
706	SLU 26	133	77	7795	-6.03	-5.06	0.93
706	SLU 27	135	47	7945	-2.57	-5.15	0.9
706	SLU 28	135	65	7944	-3.98	-5.15	0.93
706	SLU 29	134	47	7890	-2.66	-5.1	0.9
706	SLU 30	134	65	7889	-4.07	-5.11	0.93
706	SLU 31	140	81	8575	-8.26	-5.54	0.98
706	SLU 32	142	52	8725	-4.8	-5.62	0.95
706	SLU 33	142	70	8724	-6.21	-5.62	0.98
706	SLU 34	141	82	8669	-7.24	-5.58	1.01
706	SLU 35	144	52	8819	-3.78	-5.67	0.98
706	SLU 36	144	70	8818	-5.19	-5.67	1.01
706	SLU 37	143	52	8764	-3.87	-5.63	0.98
706	SLU 38	143	70	8763	-5.28	-5.63	1.01
706	SLU 39	143	53	8951	-6.43	-5.75	0.96
706	SLU 40	143	71	8950	-7.84	-5.76	0.99
706	SLU 41	145	54	9045	-5.41	-5.8	0.99
706	SLU 42	145	72	9044	-6.82	-5.81	1.02
706	SLU 43	146	52	8264	-8.42	-5.43	1.04
706	SLU 44	147	82	8263	-10.77	-5.44	1.09
706	SLU 45	149	53	8413	-7.31	-5.52	1.06
706	SLU 46	149	71	8412	-8.72	-5.53	1.09
706	SLU 47	148	83	8356	-9.75	-5.49	1.12
706	SLU 48	151	53	8506	-6.29	-5.57	1.09
706	SLU 49	151	71	8505	-7.7	-5.57	1.12
706	SLU 50	149	53	8451	-6.38	-5.53	1.09
706	SLU 51	150	71	8450	-7.79	-5.53	1.12
706	SLU 52	155	88	9136	-11.98	-5.96	1.17
706	SLU 53	158	58	9286	-8.52	-6.04	1.14
706	SLU 54	158	76	9285	-9.93	-6.05	1.17
706	SLU 55	157	88	9230	-10.96	-6.01	1.19
706	SLU 56	159	59	9380	-7.5	-6.09	1.16
706	SLU 57	159	77	9379	-8.91	-6.1	1.19
706	SLU 58	158	58	9325	-7.59	-6.05	1.17
706	SLU 59	158	77	9324	-9	-6.05	1.2
706	SLU 60	159	59	9512	-10.15	-6.18	1.15
706	SLU 61	159	78	9511	-11.56	-6.18	1.18
706	SLU 62	160	60	9606	-9.13	-6.22	1.17
706	SLU 63	160	78	9605	-10.54	-6.23	1.2
706	SLU 64	161	56	9329	-7.02	-6.09	1.08
706	SLU 65	161	87	9328	-9.36	-6.1	1.13
706	SLU 66	164	57	9478	-5.91	-6.18	1.1
706	SLU 67	164	75	9477	-7.31	-6.18	1.13
706	SLU 68	163	87	9421	-8.34	-6.14	1.16
706	SLU 69	165	58	9571	-4.89	-6.23	1.13
706	SLU 70	165	76	9570	-6.29	-6.23	1.16
706	SLU 71	164	58	9516	-4.98	-6.18	1.13
706	SLU 72	164	76	9515	-6.39	-6.19	1.16
706	SLU 73	170	92	10201	-10.57	-6.62	1.21
706	SLU 74	172	62	10351	-7.11	-6.7	1.18
706	SLU 75	172	81	10350	-8.52	-6.7	1.21
706	SLU 76	171	93	10295	-9.55	-6.67	1.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
706	SLU 77	174	63	10445	-6.09	-6.75	1.2
706	SLU 78	174	81	10444	-7.5	-6.75	1.24
706	SLU 79	173	63	10390	-6.19	-6.71	1.21
706	SLU 80	173	81	10389	-7.59	-6.71	1.24
706	SLU 81	173	64	10577	-8.74	-6.83	1.19
706	SLU 82	173	82	10576	-10.15	-6.84	1.22
706	SLU 83	175	65	10671	-7.72	-6.88	1.21
706	SLU 84	175	83	10670	-9.13	-6.89	1.25
706	SLE RA 1	121	42	6942	-5.71	-4.54	0.82
706	SLE RA 2	121	63	6941	-7.27	-4.54	0.86
706	SLE RA 3	122	43	7041	-4.97	-4.6	0.84
706	SLE RA 4	122	55	7041	-5.9	-4.6	0.86
706	SLE RA 5	122	63	7004	-6.59	-4.58	0.87
706	SLE RA 6	123	43	7104	-4.29	-4.63	0.85
706	SLE RA 7	123	55	7103	-5.23	-4.63	0.87
706	SLE RA 8	123	43	7067	-4.35	-4.6	0.86
706	SLE RA 9	123	55	7066	-5.29	-4.61	0.88
706	SLE RA 10	126	66	7524	-8.08	-4.89	0.91
706	SLE RA 11	128	46	7624	-5.77	-4.95	0.89
706	SLE RA 12	128	59	7623	-6.71	-4.95	0.91
706	SLE RA 13	127	67	7586	-7.4	-4.92	0.92
706	SLE RA 14	129	47	7686	-5.09	-4.98	0.9
706	SLE RA 15	129	59	7685	-6.03	-4.98	0.93
706	SLE RA 16	128	47	7649	-5.15	-4.95	0.91
706	SLE RA 17	128	59	7649	-6.09	-4.95	0.93
706	SLE RA 18	129	47	7774	-6.86	-5.04	0.89
706	SLE RA 19	129	60	7774	-7.8	-5.04	0.91
706	SLE RA 20	130	48	7837	-6.18	-5.07	0.91
706	SLE RA 21	130	60	7836	-7.12	-5.07	0.93
706	SLE FR 1	121	42	6942	-5.71	-4.54	0.82
706	SLE FR 2	121	46	6942	-6.02	-4.54	0.83
706	SLE FR 3	121	42	6967	-5.43	-4.55	0.83
706	SLE FR 4	123	48	7192	-6.36	-4.69	0.85
706	SLE FR 5	123	44	7217	-5.78	-4.7	0.85
706	SLE FR 6	125	45	7358	-6.28	-4.79	0.86
706	SLE QP 1	121	42	6942	-5.71	-4.54	0.82
706	SLE QP 2	123	44	7192	-6.05	-4.69	0.84
706	SLD 1	631	218	6291	-28.8	-1.21	-0.12
706	SLD 2	632	329	6294	-30.69	-1.2	1.13
706	SLD 3	626	-173	6281	11.77	-1.05	-0.8
706	SLD 4	627	-63	6284	9.89	-1.04	0.44
706	SLD 5	283	671	6936	-74.09	-3.89	1.38
706	SLD 6	283	742	6938	-75.31	-3.88	2.18
706	SLD 7	266	-634	6903	61.16	-3.35	-0.91
706	SLD 8	267	-563	6905	59.94	-3.35	-0.1
706	SLD 9	-21	650	7479	-72.05	-6.02	1.78
706	SLD 10	-20	722	7481	-73.27	-6.02	2.59
706	SLD 11	-37	-655	7445	63.21	-5.49	-0.5
706	SLD 12	-37	-583	7447	61.99	-5.49	0.31
706	SLD 13	-381	150	8099	-21.99	-8.33	1.24
706	SLD 14	-380	261	8102	-23.88	-8.33	2.49
706	SLD 15	-386	-241	8089	18.58	-8.17	0.56
706	SLD 16	-385	-131	8092	16.7	-8.17	1.8
706	SLV 1	919	341	5786	-44.32	0.73	-0.62
706	SLV 2	920	515	5791	-47.29	0.74	1.34
706	SLV 3	910	-321	5770	24.29	1	-1.79
706	SLV 4	912	-146	5775	21.32	1.01	0.18
706	SLV 5	374	1104	6794	-121.04	-3.47	1.8
706	SLV 6	375	1221	6797	-123.04	-3.47	3.12
706	SLV 7	346	-1102	6740	107.66	-2.57	-2.07
706	SLV 8	347	-984	6743	105.67	-2.57	-0.75
706	SLV 9	-101	1072	7641	-117.77	-6.81	2.44
706	SLV 10	-100	1189	7644	-119.77	-6.8	3.76
706	SLV 11	-129	-1134	7586	110.93	-5.91	-1.43
706	SLV 12	-128	-1016	7590	108.94	-5.9	-0.11
706	SLV 13	-665	234	8609	-33.42	-10.38	1.51
706	SLV 14	-664	408	8614	-36.39	-10.38	3.47
706	SLV 15	-674	-428	8593	35.19	-10.11	0.34
706	SLV 16	-673	-253	8597	32.22	-10.11	2.31
706	SLV FO 1	998	371	5646	-48.15	1.27	-0.77
706	SLV FO 2	999	563	5651	-51.42	1.28	1.39
706	SLV FO 3	989	-357	5628	27.32	1.57	-2.05
706	SLV FO 4	990	-165	5633	24.06	1.58	0.11
706	SLV FO 5	399	1210	6754	-132.54	-3.35	1.89
706	SLV FO 6	400	1339	6758	-134.74	-3.34	3.35
706	SLV FO 7	369	-1216	6694	119.04	-2.36	-2.37
706	SLV FO 8	370	-1087	6698	116.84	-2.36	-0.91
706	SLV FO 9	-124	1175	7686	-128.94	-7.02	2.59
706	SLV FO 10	-123	1304	7689	-131.14	-7.01	4.05
706	SLV FO 11	-154	-1251	7626	122.63	-6.03	-1.66
706	SLV FO 12	-153	-1122	7629	120.44	-6.03	-0.21
706	SLV FO 13	-744	253	8751	-36.16	-10.95	1.57
706	SLV FO 14	-743	445	8756	-39.42	-10.95	3.73
706	SLV FO 15	-753	-475	8733	39.31	-10.66	0.29
706	SLV FO 16	-752	-283	8738	36.05	-10.65	2.45
706	CRTFP Ux+	0	0	0	0	0	0
706	CRTFP Ux-	0	0	0	0	0	0
706	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
706	CRTFP Uy-	0	0	0	0	0	0
707	SLU 1	119	44	6767	-5.72	-3.7	0.56
707	SLU 2	119	75	6766	-8.14	-3.7	0.64
707	SLU 3	121	45	6919	-4.61	-3.78	0.58
707	SLU 4	121	64	6918	-6.06	-3.78	0.63
707	SLU 5	120	76	6861	-7.13	-3.74	0.67
707	SLU 6	123	46	7014	-3.6	-3.82	0.61
707	SLU 7	123	65	7013	-5.06	-3.82	0.66
707	SLU 8	122	46	6957	-3.7	-3.78	0.62
707	SLU 9	122	64	6957	-5.15	-3.78	0.66
707	SLU 10	127	81	7655	-9.29	-4.11	0.69
707	SLU 11	130	51	7807	-5.76	-4.18	0.63
707	SLU 12	130	69	7806	-7.22	-4.18	0.68
707	SLU 13	129	82	7750	-8.28	-4.15	0.72
707	SLU 14	131	52	7902	-4.75	-4.22	0.66
707	SLU 15	132	70	7901	-6.21	-4.22	0.71
707	SLU 16	130	52	7846	-4.85	-4.19	0.67
707	SLU 17	130	70	7845	-6.3	-4.19	0.72
707	SLU 18	131	53	8037	-7.36	-4.28	0.64
707	SLU 19	131	71	8036	-8.81	-4.28	0.68
707	SLU 20	132	53	8132	-6.35	-4.32	0.66
707	SLU 21	132	72	8131	-7.8	-4.32	0.71
707	SLU 22	133	49	7851	-4.27	-4.23	0.57
707	SLU 23	133	80	7850	-6.69	-4.23	0.65
707	SLU 24	136	50	8003	-3.16	-4.3	0.59
707	SLU 25	136	68	8002	-4.62	-4.3	0.64
707	SLU 26	135	81	7945	-5.68	-4.27	0.67
707	SLU 27	137	51	8098	-2.15	-4.34	0.62
707	SLU 28	138	69	8097	-3.61	-4.34	0.67
707	SLU 29	136	51	8041	-2.25	-4.31	0.63
707	SLU 30	136	69	8041	-3.7	-4.31	0.67
707	SLU 31	142	85	8739	-7.84	-4.63	0.7
707	SLU 32	145	56	8891	-4.31	-4.71	0.64
707	SLU 33	145	74	8890	-5.77	-4.71	0.69
707	SLU 34	143	86	8834	-6.83	-4.67	0.73
707	SLU 35	146	56	8986	-3.31	-4.75	0.67
707	SLU 36	146	75	8985	-4.76	-4.75	0.72
707	SLU 37	145	56	8930	-3.4	-4.71	0.68
707	SLU 38	145	75	8929	-4.85	-4.71	0.72
707	SLU 39	145	57	9121	-5.91	-4.8	0.64
707	SLU 40	146	76	9120	-7.37	-4.8	0.69
707	SLU 41	147	58	9216	-4.9	-4.84	0.67
707	SLU 42	147	76	9215	-6.36	-4.84	0.72
707	SLU 43	149	56	8426	-7.93	-4.63	0.73
707	SLU 44	149	87	8425	-10.35	-4.63	0.8
707	SLU 45	152	57	8577	-6.82	-4.71	0.75
707	SLU 46	152	76	8576	-8.28	-4.71	0.79
707	SLU 47	151	88	8520	-9.34	-4.67	0.83
707	SLU 48	153	58	8672	-5.81	-4.75	0.78
707	SLU 49	153	76	8671	-7.27	-4.75	0.82
707	SLU 50	152	58	8616	-5.91	-4.72	0.78
707	SLU 51	152	76	8615	-7.36	-4.71	0.83
707	SLU 52	158	93	9313	-11.5	-5.04	0.85
707	SLU 53	160	63	9466	-7.97	-5.12	0.8
707	SLU 54	161	81	9465	-9.43	-5.12	0.85
707	SLU 55	159	93	9408	-10.49	-5.08	0.88
707	SLU 56	162	64	9561	-6.96	-5.16	0.83
707	SLU 57	162	82	9560	-8.42	-5.16	0.87
707	SLU 58	161	63	9505	-7.06	-5.12	0.84
707	SLU 59	161	82	9504	-8.51	-5.12	0.88
707	SLU 60	161	64	9695	-9.57	-5.21	0.8
707	SLU 61	161	83	9694	-11.02	-5.21	0.85
707	SLU 62	163	65	9790	-8.56	-5.25	0.83
707	SLU 63	163	83	9789	-10.01	-5.25	0.87
707	SLU 64	164	61	9510	-6.48	-5.16	0.74
707	SLU 65	164	92	9509	-8.9	-5.16	0.81
707	SLU 66	166	62	9661	-5.37	-5.23	0.76
707	SLU 67	167	80	9660	-6.83	-5.23	0.8
707	SLU 68	165	92	9604	-7.89	-5.2	0.84
707	SLU 69	168	63	9756	-4.36	-5.27	0.79
707	SLU 70	168	81	9755	-5.82	-5.27	0.83
707	SLU 71	167	62	9700	-4.46	-5.24	0.79
707	SLU 72	167	81	9699	-5.91	-5.24	0.84
707	SLU 73	172	97	10397	-10.05	-5.56	0.86
707	SLU 74	175	67	10550	-6.53	-5.64	0.81
707	SLU 75	175	86	10549	-7.98	-5.64	0.85
707	SLU 76	174	98	10492	-9.04	-5.6	0.89
707	SLU 77	177	68	10645	-5.52	-5.68	0.84
707	SLU 78	177	87	10644	-6.97	-5.68	0.88
707	SLU 79	175	68	10589	-5.61	-5.64	0.84
707	SLU 80	176	86	10588	-7.06	-5.64	0.89
707	SLU 81	176	69	10779	-8.12	-5.74	0.81
707	SLU 82	176	87	10778	-9.58	-5.74	0.85
707	SLU 83	178	70	10874	-7.11	-5.78	0.84
707	SLU 84	178	88	10873	-8.57	-5.78	0.88
707	SLE RA 1	123	46	7077	-5.3	-3.85	0.56
707	SLE RA 2	123	66	7076	-6.92	-3.85	0.61
707	SLE RA 3	125	46	7178	-4.57	-3.9	0.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
707	SLE RA 4	125	59	7177	-5.53	-3.9	0.61
707	SLE RA 5	124	67	7140	-6.24	-3.88	0.63
707	SLE RA 6	126	47	7241	-3.89	-3.93	0.6
707	SLE RA 7	126	59	7241	-4.86	-3.93	0.63
707	SLE RA 8	125	47	7204	-3.96	-3.91	0.6
707	SLE RA 9	125	59	7203	-4.92	-3.91	0.63
707	SLE RA 10	129	70	7669	-7.68	-4.12	0.65
707	SLE RA 11	130	50	7770	-5.33	-4.17	0.61
707	SLE RA 12	130	62	7770	-6.3	-4.17	0.64
707	SLE RA 13	130	71	7732	-7.01	-4.15	0.67
707	SLE RA 14	131	51	7834	-4.66	-4.2	0.63
707	SLE RA 15	131	63	7833	-5.63	-4.2	0.66
707	SLE RA 16	131	51	7796	-4.72	-4.18	0.64
707	SLE RA 17	131	63	7796	-5.69	-4.18	0.67
707	SLE RA 18	131	51	7923	-6.4	-4.24	0.61
707	SLE RA 19	131	63	7923	-7.37	-4.24	0.64
707	SLE RA 20	132	52	7987	-5.72	-4.26	0.63
707	SLE RA 21	132	64	7986	-6.69	-4.26	0.66
707	SLE FR 1	123	46	7077	-5.3	-3.85	0.56
707	SLE FR 2	123	50	7077	-5.62	-3.85	0.57
707	SLE FR 3	123	46	7102	-5.03	-3.86	0.57
707	SLE FR 4	125	51	7331	-5.95	-3.97	0.59
707	SLE FR 5	126	48	7356	-5.36	-3.98	0.59
707	SLE FR 6	127	48	7500	-5.85	-4.05	0.59
707	SLE QP 1	123	46	7077	-5.3	-3.85	0.56
707	SLE QP 2	125	47	7331	-5.63	-3.97	0.58
707	SLD 1	633	152	6312	-28.49	-0.18	-0.33
707	SLD 2	634	269	6315	-30.55	-0.16	1
707	SLD 3	628	-244	6301	12.82	-0.14	-1.3
707	SLD 4	629	-126	6303	10.77	-0.13	0.03
707	SLD 5	284	658	7043	-74.79	-2.89	1.55
707	SLD 6	285	734	7045	-76.12	-2.88	2.41
707	SLD 7	269	-660	7003	62.92	-2.76	-1.69
707	SLD 8	269	-584	7005	61.59	-2.76	-0.83
707	SLD 9	-19	679	7657	-72.85	-5.18	1.99
707	SLD 10	-18	755	7659	-74.19	-5.17	2.84
707	SLD 11	-35	-639	7617	64.86	-5.05	-1.25
707	SLD 12	-34	-564	7619	63.53	-5.05	-0.39
707	SLD 13	-378	221	8359	-22.03	-7.81	1.13
707	SLD 14	-378	338	8361	-24.08	-7.8	2.46
707	SLD 15	-383	-174	8347	19.29	-7.77	0.16
707	SLD 16	-382	-57	8350	17.23	-7.76	1.49
707	SLV 1	920	235	5742	-44.11	1.95	-0.79
707	SLV 2	921	419	5746	-47.35	1.97	1.3
707	SLV 3	912	-434	5722	25.75	2.01	-2.43
707	SLV 4	913	-249	5727	22.51	2.03	-0.35
707	SLV 5	376	1083	6883	-122.52	-2.29	2.27
707	SLV 6	377	1207	6886	-124.7	-2.28	3.68
707	SLV 7	349	-1145	6818	110.34	-2.08	-3.21
707	SLV 8	350	-1021	6821	108.15	-2.07	-1.8
707	SLV 9	-99	1116	7841	-119.42	-5.87	2.96
707	SLV 10	-98	1240	7844	-121.6	-5.85	4.37
707	SLV 11	-126	-1112	7776	113.44	-5.66	-2.52
707	SLV 12	-125	-988	7779	111.26	-5.64	-1.12
707	SLV 13	-663	344	8935	-33.77	-9.96	1.5
707	SLV 14	-662	528	8940	-37.01	-9.95	3.59
707	SLV 15	-671	-324	8916	36.09	-9.9	-0.14
707	SLV 16	-670	-140	8920	32.85	-9.88	1.94
707	SLV FO 1	1000	254	5583	-47.96	2.54	-0.92
707	SLV FO 2	1001	456	5588	-51.52	2.56	1.37
707	SLV FO 3	991	-482	5562	28.88	2.61	-2.73
707	SLV FO 4	992	-279	5566	25.32	2.63	-0.44
707	SLV FO 5	401	1187	6838	-134.21	-2.12	2.44
707	SLV FO 6	402	1323	6841	-136.61	-2.11	3.99
707	SLV FO 7	371	-1264	6767	121.93	-1.89	-3.59
707	SLV FO 8	372	-1128	6770	119.53	-1.88	-2.04
707	SLV FO 9	-122	1223	7892	-130.79	-6.06	3.2
707	SLV FO 10	-121	1359	7895	-133.19	-6.04	4.74
707	SLV FO 11	-151	-1228	7821	125.35	-5.83	-2.83
707	SLV FO 12	-150	-1092	7824	122.95	-5.81	-1.29
707	SLV FO 13	-742	374	9096	-36.58	-10.56	1.59
707	SLV FO 14	-740	577	9101	-40.14	-10.55	3.89
707	SLV FO 15	-751	-362	9074	40.26	-10.5	-0.21
707	SLV FO 16	-749	-159	9079	36.7	-10.48	2.08
707	CRTFP Ux+	0	0	0	0	0	0
707	CRTFP Ux-	0	0	0	0	0	0
707	CRTFP Uy+	0	0	0	0	0	0
707	CRTFP Uy-	0	0	0	0	0	0
708	SLU 1	120	47	6876	-5.33	-3.07	0.35
708	SLU 2	120	78	6875	-7.83	-3.06	0.46
708	SLU 3	123	48	7030	-4.23	-3.13	0.37
708	SLU 4	123	66	7029	-5.73	-3.13	0.44
708	SLU 5	122	79	6971	-6.83	-3.1	0.49
708	SLU 6	125	49	7126	-3.23	-3.16	0.4
708	SLU 7	125	67	7125	-4.73	-3.16	0.47
708	SLU 8	123	49	7069	-3.33	-3.13	0.41
708	SLU 9	123	67	7068	-4.83	-3.13	0.48
708	SLU 10	129	84	7774	-8.93	-3.36	0.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
708	SLU 11	132	54	7929	-5.33	-3.42	0.4
708	SLU 12	132	72	7928	-6.83	-3.42	0.47
708	SLU 13	131	85	7870	-7.92	-3.39	0.52
708	SLU 14	133	55	8025	-4.33	-3.46	0.43
708	SLU 15	133	73	8024	-5.83	-3.45	0.5
708	SLU 16	132	54	7968	-4.42	-3.42	0.44
708	SLU 17	132	73	7967	-5.92	-3.42	0.51
708	SLU 18	133	55	8161	-6.89	-3.49	0.4
708	SLU 19	133	74	8161	-8.39	-3.48	0.46
708	SLU 20	134	56	8258	-5.89	-3.52	0.43
708	SLU 21	134	75	8257	-7.39	-3.52	0.49
708	SLU 22	135	51	7975	-3.84	-3.46	0.33
708	SLU 23	135	82	7973	-6.34	-3.46	0.44
708	SLU 24	138	52	8128	-2.74	-3.53	0.35
708	SLU 25	138	71	8127	-4.24	-3.52	0.42
708	SLU 26	137	83	8070	-5.34	-3.49	0.47
708	SLU 27	139	53	8224	-1.74	-3.56	0.39
708	SLU 28	139	72	8224	-3.24	-3.56	0.45
708	SLU 29	138	53	8167	-1.84	-3.53	0.4
708	SLU 30	138	72	8166	-3.34	-3.52	0.46
708	SLU 31	144	88	8873	-7.44	-3.75	0.47
708	SLU 32	146	58	9028	-3.84	-3.82	0.39
708	SLU 33	146	77	9027	-5.34	-3.82	0.45
708	SLU 34	145	89	8969	-6.44	-3.78	0.5
708	SLU 35	148	59	9124	-2.84	-3.85	0.42
708	SLU 36	148	78	9123	-4.34	-3.85	0.48
708	SLU 37	147	59	9067	-2.93	-3.82	0.43
708	SLU 38	147	78	9066	-4.43	-3.82	0.49
708	SLU 39	147	60	9260	-5.4	-3.88	0.38
708	SLU 40	147	78	9259	-6.9	-3.88	0.44
708	SLU 41	149	61	9356	-4.4	-3.91	0.41
708	SLU 42	149	79	9355	-5.9	-3.91	0.47
708	SLU 43	151	59	8562	-7.44	-3.86	0.46
708	SLU 44	151	90	8561	-9.94	-3.85	0.57
708	SLU 45	154	60	8716	-6.34	-3.92	0.49
708	SLU 46	154	79	8715	-7.84	-3.92	0.55
708	SLU 47	153	91	8657	-8.94	-3.88	0.6
708	SLU 48	156	61	8812	-5.34	-3.95	0.52
708	SLU 49	156	80	8811	-6.84	-3.95	0.58
708	SLU 50	154	61	8755	-5.44	-3.92	0.53
708	SLU 51	155	80	8754	-6.94	-3.92	0.59
708	SLU 52	160	96	9460	-11.04	-4.14	0.6
708	SLU 53	163	66	9615	-7.44	-4.21	0.52
708	SLU 54	163	85	9614	-8.94	-4.21	0.58
708	SLU 55	162	97	9557	-10.03	-4.17	0.63
708	SLU 56	164	67	9712	-6.44	-4.24	0.55
708	SLU 57	164	86	9711	-7.94	-4.24	0.61
708	SLU 58	163	67	9654	-6.53	-4.21	0.56
708	SLU 59	163	86	9653	-8.03	-4.21	0.62
708	SLU 60	164	68	9848	-9	-4.27	0.51
708	SLU 61	164	86	9847	-10.5	-4.27	0.57
708	SLU 62	165	69	9944	-8	-4.3	0.54
708	SLU 63	165	87	9943	-9.5	-4.3	0.6
708	SLU 64	166	64	9661	-5.95	-4.25	0.45
708	SLU 65	166	95	9660	-8.45	-4.24	0.55
708	SLU 66	169	65	9814	-4.85	-4.31	0.47
708	SLU 67	169	83	9814	-6.35	-4.31	0.53
708	SLU 68	168	96	9756	-7.45	-4.28	0.58
708	SLU 69	170	66	9911	-3.85	-4.34	0.5
708	SLU 70	170	84	9910	-5.35	-4.34	0.56
708	SLU 71	169	66	9853	-3.95	-4.31	0.51
708	SLU 72	169	84	9852	-5.45	-4.31	0.57
708	SLU 73	175	101	10559	-9.55	-4.54	0.58
708	SLU 74	177	71	10714	-5.95	-4.6	0.5
708	SLU 75	177	89	10713	-7.45	-4.6	0.56
708	SLU 76	176	102	10655	-8.54	-4.57	0.61
708	SLU 77	179	72	10810	-4.95	-4.64	0.53
708	SLU 78	179	90	10809	-6.45	-4.63	0.59
708	SLU 79	178	71	10753	-5.04	-4.6	0.54
708	SLU 80	178	90	10752	-6.54	-4.6	0.6
708	SLU 81	178	72	10946	-7.51	-4.67	0.49
708	SLU 82	178	91	10945	-9.01	-4.66	0.55
708	SLU 83	180	73	11042	-6.51	-4.7	0.52
708	SLU 84	180	92	11042	-8.01	-4.7	0.58
708	SLE RA 1	124	48	7190	-4.9	-3.18	0.35
708	SLE RA 2	125	69	7189	-6.57	-3.18	0.42
708	SLE RA 3	126	49	7292	-4.17	-3.22	0.36
708	SLE RA 4	126	61	7292	-5.17	-3.22	0.4
708	SLE RA 5	126	69	7253	-5.9	-3.2	0.44
708	SLE RA 6	127	49	7356	-3.5	-3.25	0.38
708	SLE RA 7	127	62	7356	-4.5	-3.24	0.42
708	SLE RA 8	127	49	7318	-3.57	-3.22	0.39
708	SLE RA 9	127	62	7318	-4.57	-3.22	0.43
708	SLE RA 10	130	73	7789	-7.3	-3.37	0.44
708	SLE RA 11	132	53	7892	-4.9	-3.42	0.38
708	SLE RA 12	132	65	7892	-5.9	-3.42	0.42
708	SLE RA 13	131	73	7853	-6.63	-3.39	0.46
708	SLE RA 14	133	53	7956	-4.23	-3.44	0.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
708	SLE RA 15	133	66	7956	-5.23	-3.44	0.44
708	SLE RA 16	132	53	7918	-4.3	-3.42	0.41
708	SLE RA 17	132	66	7917	-5.3	-3.42	0.45
708	SLE RA 18	133	54	8047	-5.95	-3.46	0.38
708	SLE RA 19	133	66	8046	-6.95	-3.46	0.42
708	SLE RA 20	134	54	8111	-5.28	-3.48	0.4
708	SLE RA 21	134	67	8110	-6.28	-3.48	0.44
708	SLE FR 1	124	48	7190	-4.9	-3.18	0.35
708	SLE FR 2	124	52	7190	-5.24	-3.18	0.36
708	SLE FR 3	125	48	7216	-4.64	-3.19	0.36
708	SLE FR 4	127	54	7447	-5.55	-3.26	0.37
708	SLE FR 5	127	50	7473	-4.95	-3.27	0.36
708	SLE FR 6	129	51	7619	-5.43	-3.32	0.36
708	SLE QP 1	124	48	7190	-4.9	-3.18	0.35
708	SLE QP 2	127	50	7447	-5.22	-3.27	0.36
708	SLD 1	634	153	6305	-28.23	0.66	-0.45
708	SLD 2	635	277	6307	-30.46	0.67	0.99
708	SLD 3	629	-249	6293	13.88	0.62	-1.79
708	SLD 4	630	-125	6295	11.65	0.63	-0.35
708	SLD 5	286	668	7122	-75.6	-2.03	1.9
708	SLD 6	286	748	7124	-77.04	-2.02	2.83
708	SLD 7	271	-670	7082	64.77	-2.17	-2.57
708	SLD 8	271	-590	7083	63.32	-2.16	-1.64
708	SLD 9	-17	689	7811	-73.76	-4.37	2.35
708	SLD 10	-17	769	7812	-75.2	-4.36	3.29
708	SLD 11	-33	-649	7770	66.61	-4.51	-2.12
708	SLD 12	-32	-568	7772	65.17	-4.5	-1.18
708	SLD 13	-376	224	8599	-22.08	-7.16	1.07
708	SLD 14	-376	348	8602	-24.31	-7.15	2.51
708	SLD 15	-381	-177	8587	20.03	-7.2	-0.27
708	SLD 16	-380	-53	8590	17.79	-7.19	1.17
708	SLV 1	921	235	5665	-43.97	2.86	-0.84
708	SLV 2	922	430	5668	-47.48	2.88	1.43
708	SLV 3	913	-444	5645	27.22	2.79	-3.11
708	SLV 4	914	-248	5649	23.71	2.81	-0.84
708	SLV 5	377	1097	6942	-124.16	-1.32	3.02
708	SLV 6	378	1229	6944	-126.53	-1.31	4.55
708	SLV 7	351	-1163	6876	113.15	-1.56	-4.55
708	SLV 8	351	-1032	6878	110.78	-1.55	-3.02
708	SLV 9	-98	1131	8016	-121.22	-4.98	3.74
708	SLV 10	-97	1263	8019	-123.58	-4.97	5.26
708	SLV 11	-124	-1130	7950	116.1	-5.22	-3.83
708	SLV 12	-123	-998	7953	113.73	-5.21	-2.31
708	SLV 13	-661	347	9246	-34.14	-9.34	1.55
708	SLV 14	-660	543	9249	-37.66	-9.32	3.82
708	SLV 15	-668	-331	9226	37.05	-9.41	-0.72
708	SLV 16	-667	-135	9230	33.54	-9.39	1.55
708	SLV FO 1	1001	253	5486	-47.85	3.47	-0.95
708	SLV FO 2	1002	468	5490	-51.71	3.49	1.54
708	SLV FO 3	992	-493	5465	30.47	3.39	-3.45
708	SLV FO 4	993	-278	5469	26.6	3.42	-0.96
708	SLV FO 5	402	1202	6891	-136.06	-1.13	3.29
708	SLV FO 6	403	1347	6894	-138.66	-1.11	4.97
708	SLV FO 7	373	-1285	6819	124.99	-1.39	-5.04
708	SLV FO 8	374	-1140	6821	122.38	-1.38	-3.36
708	SLV FO 9	-120	1239	8073	-132.82	-5.16	4.07
708	SLV FO 10	-119	1384	8076	-135.42	-5.14	5.75
708	SLV FO 11	-149	-1248	8000	128.23	-5.42	-4.25
708	SLV FO 12	-148	-1103	8003	125.63	-5.4	-2.57
708	SLV FO 13	-739	377	9426	-37.04	-9.95	1.67
708	SLV FO 14	-738	592	9430	-40.9	-9.92	4.17
708	SLV FO 15	-748	-369	9404	41.28	-10.03	-0.83
708	SLV FO 16	-747	-154	9408	37.41	-10	1.67
708	CRTFP Ux+	0	0	0	0	0	0
708	CRTFP Ux-	0	0	0	0	0	0
708	CRTFP Uy+	0	0	0	0	0	0
708	CRTFP Uy-	0	0	0	0	0	0
709	SLU 1	122	48	6966	-4.95	-2.51	0.18
709	SLU 2	122	80	6964	-7.53	-2.5	0.32
709	SLU 3	124	49	7121	-3.86	-2.56	0.2
709	SLU 4	125	68	7120	-5.41	-2.56	0.28
709	SLU 5	123	81	7061	-6.54	-2.53	0.35
709	SLU 6	126	50	7218	-2.86	-2.58	0.23
709	SLU 7	126	69	7217	-4.41	-2.58	0.31
709	SLU 8	125	50	7160	-2.96	-2.56	0.24
709	SLU 9	125	69	7159	-4.51	-2.55	0.32
709	SLU 10	130	86	7871	-8.57	-2.7	0.33
709	SLU 11	133	55	8028	-4.9	-2.75	0.21
709	SLU 12	133	74	8027	-6.45	-2.75	0.29
709	SLU 13	132	87	7968	-7.58	-2.72	0.36
709	SLU 14	135	56	8125	-3.9	-2.78	0.24
709	SLU 15	135	75	8124	-5.45	-2.77	0.32
709	SLU 16	133	56	8067	-4.01	-2.75	0.25
709	SLU 17	133	75	8066	-5.55	-2.75	0.34
709	SLU 18	134	57	8262	-6.44	-2.78	0.2
709	SLU 19	134	76	8261	-7.99	-2.78	0.28
709	SLU 20	135	58	8359	-5.44	-2.81	0.23
709	SLU 21	136	77	8358	-6.99	-2.81	0.31

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
709	SLU 22	136	52	8075	-3.42	-2.79	0.14
709	SLU 23	136	84	8074	-6	-2.78	0.28
709	SLU 24	139	54	8230	-2.32	-2.84	0.16
709	SLU 25	139	73	8229	-3.87	-2.84	0.24
709	SLU 26	138	85	8171	-5.01	-2.81	0.31
709	SLU 27	141	55	8327	-1.33	-2.86	0.19
709	SLU 28	141	74	8326	-2.88	-2.86	0.27
709	SLU 29	139	55	8269	-1.43	-2.84	0.2
709	SLU 30	140	74	8268	-2.98	-2.83	0.28
709	SLU 31	145	90	8981	-7.04	-2.98	0.29
709	SLU 32	148	60	9138	-3.36	-3.03	0.17
709	SLU 33	148	79	9137	-4.91	-3.03	0.25
709	SLU 34	147	91	9078	-6.05	-3	0.32
709	SLU 35	149	61	9235	-2.37	-3.06	0.2
709	SLU 36	149	80	9234	-3.92	-3.05	0.28
709	SLU 37	148	61	9177	-2.47	-3.03	0.21
709	SLU 38	148	80	9176	-4.02	-3.03	0.3
709	SLU 39	149	61	9371	-4.9	-3.06	0.16
709	SLU 40	149	80	9370	-6.45	-3.06	0.24
709	SLU 41	150	62	9469	-3.91	-3.09	0.19
709	SLU 42	150	81	9468	-5.46	-3.08	0.27
709	SLU 43	153	61	8675	-6.96	-3.17	0.24
709	SLU 44	153	93	8673	-9.54	-3.16	0.38
709	SLU 45	156	62	8830	-5.87	-3.22	0.26
709	SLU 46	156	81	8829	-7.42	-3.21	0.35
709	SLU 47	155	94	8770	-8.55	-3.19	0.41
709	SLU 48	157	63	8927	-4.87	-3.24	0.29
709	SLU 49	158	82	8926	-6.42	-3.24	0.38
709	SLU 50	156	63	8869	-4.98	-3.22	0.31
709	SLU 51	156	82	8868	-6.53	-3.21	0.39
709	SLU 52	162	99	9581	-10.58	-3.35	0.4
709	SLU 53	164	68	9738	-6.91	-3.41	0.28
709	SLU 54	165	87	9737	-8.46	-3.41	0.36
709	SLU 55	163	100	9678	-9.59	-3.38	0.43
709	SLU 56	166	69	9835	-5.92	-3.43	0.31
709	SLU 57	166	88	9834	-7.46	-3.43	0.39
709	SLU 58	165	69	9777	-6.02	-3.41	0.32
709	SLU 59	165	88	9775	-7.57	-3.4	0.4
709	SLU 60	165	69	9971	-8.45	-3.44	0.26
709	SLU 61	165	89	9970	-10	-3.44	0.35
709	SLU 62	167	71	10068	-7.46	-3.47	0.29
709	SLU 63	167	90	10067	-9	-3.46	0.38
709	SLU 64	168	65	9784	-5.43	-3.45	0.2
709	SLU 65	168	97	9783	-8.01	-3.44	0.34
709	SLU 66	171	67	9940	-4.33	-3.5	0.22
709	SLU 67	171	86	9939	-5.88	-3.49	0.31
709	SLU 68	169	98	9880	-7.02	-3.46	0.37
709	SLU 69	172	68	10037	-3.34	-3.52	0.25
709	SLU 70	172	87	10036	-4.89	-3.52	0.34
709	SLU 71	171	68	9979	-3.44	-3.49	0.27
709	SLU 72	171	87	9978	-4.99	-3.49	0.35
709	SLU 73	176	103	10690	-9.05	-3.63	0.36
709	SLU 74	179	72	10847	-5.37	-3.69	0.24
709	SLU 75	179	92	10846	-6.92	-3.69	0.32
709	SLU 76	178	104	10787	-8.06	-3.66	0.39
709	SLU 77	181	74	10944	-4.38	-3.71	0.27
709	SLU 78	181	93	10943	-5.93	-3.71	0.35
709	SLU 79	179	74	10886	-4.48	-3.69	0.28
709	SLU 80	180	93	10885	-6.03	-3.68	0.36
709	SLU 81	180	74	11081	-6.91	-3.72	0.22
709	SLU 82	180	93	11080	-8.46	-3.72	0.31
709	SLU 83	182	75	11178	-5.92	-3.74	0.25
709	SLU 84	182	94	11177	-7.47	-3.74	0.34
709	SLE RA 1	126	49	7283	-4.51	-2.59	0.17
709	SLE RA 2	126	70	7282	-6.23	-2.59	0.26
709	SLE RA 3	128	50	7386	-3.78	-2.62	0.18
709	SLE RA 4	128	63	7385	-4.82	-2.62	0.23
709	SLE RA 5	127	71	7346	-5.57	-2.6	0.28
709	SLE RA 6	129	51	7451	-3.12	-2.64	0.2
709	SLE RA 7	129	63	7450	-4.15	-2.64	0.25
709	SLE RA 8	128	51	7412	-3.19	-2.62	0.21
709	SLE RA 9	128	63	7411	-4.22	-2.62	0.26
709	SLE RA 10	132	74	7886	-6.93	-2.71	0.27
709	SLE RA 11	133	54	7991	-4.48	-2.75	0.19
709	SLE RA 12	133	67	7990	-5.51	-2.75	0.24
709	SLE RA 13	133	75	7951	-6.27	-2.73	0.29
709	SLE RA 14	134	55	8056	-3.82	-2.77	0.21
709	SLE RA 15	135	67	8055	-4.85	-2.77	0.26
709	SLE RA 16	134	55	8017	-3.88	-2.75	0.22
709	SLE RA 17	134	67	8016	-4.92	-2.75	0.27
709	SLE RA 18	134	55	8147	-5.5	-2.77	0.18
709	SLE RA 19	134	68	8146	-6.54	-2.77	0.23
709	SLE RA 20	135	56	8212	-4.84	-2.79	0.2
709	SLE RA 21	135	68	8211	-5.87	-2.79	0.25
709	SLE FR 1	126	49	7283	-4.51	-2.59	0.17
709	SLE FR 2	126	54	7282	-4.86	-2.59	0.18
709	SLE FR 3	126	50	7309	-4.25	-2.6	0.17
709	SLE FR 4	128	55	7542	-5.15	-2.64	0.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
709	SLE FR 5	129	51	7568	-4.55	-2.65	0.18
709	SLE FR 6	130	52	7715	-5.01	-2.68	0.17
709	SLE QP 1	126	49	7283	-4.51	-2.59	0.17
709	SLE QP 2	128	51	7542	-4.81	-2.64	0.17
709	SLD 1	635	152	6274	-28.01	1.3	-0.52
709	SLD 2	635	284	6276	-30.42	1.31	1.06
709	SLD 3	630	-257	6262	14.95	1.24	-2.27
709	SLD 4	631	-125	6264	12.54	1.25	-0.69
709	SLD 5	287	679	7179	-76.51	-1.37	2.34
709	SLD 6	287	764	7180	-78.07	-1.36	3.37
709	SLD 7	272	-685	7140	66.69	-1.57	-3.49
709	SLD 8	272	-599	7141	65.13	-1.56	-2.47
709	SLD 9	-16	702	7943	-74.75	-3.73	2.81
709	SLD 10	-15	787	7944	-76.31	-3.72	3.83
709	SLD 11	-31	-662	7903	68.45	-3.93	-3.03
709	SLD 12	-30	-577	7905	66.89	-3.91	-2
709	SLD 13	-374	227	8820	-22.16	-6.54	1.03
709	SLD 14	-374	359	8822	-24.57	-6.53	2.61
709	SLD 15	-379	-182	8808	20.8	-6.6	-0.72
709	SLD 16	-378	-50	8810	18.39	-6.59	0.86
709	SLV 1	922	234	5563	-43.91	3.51	-0.81
709	SLV 2	923	442	5566	-47.7	3.53	1.68
709	SLV 3	914	-458	5544	28.72	3.41	-3.77
709	SLV 4	915	-250	5547	24.93	3.43	-1.28
709	SLV 5	378	1116	6977	-125.98	-0.65	3.9
709	SLV 6	378	1256	6979	-128.54	-0.63	5.58
709	SLV 7	352	-1189	6913	116.11	-0.99	-5.97
709	SLV 8	353	-1049	6915	113.56	-0.97	-4.29
709	SLV 9	-96	1151	8169	-123.18	-4.32	4.63
709	SLV 10	-96	1291	8171	-125.73	-4.3	6.31
709	SLV 11	-122	-1154	8105	118.92	-4.66	-5.24
709	SLV 12	-121	-1014	8107	116.36	-4.64	-3.56
709	SLV 13	-658	352	9537	-34.55	-8.72	1.62
709	SLV 14	-657	560	9540	-38.34	-8.7	4.11
709	SLV 15	-666	-339	9518	38.08	-8.82	-1.34
709	SLV 16	-665	-132	9521	34.29	-8.8	1.15
709	SLV FO 1	1001	252	5365	-47.82	4.13	-0.9
709	SLV FO 2	1002	481	5369	-51.99	4.15	1.84
709	SLV FO 3	992	-509	5344	32.08	4.01	-4.16
709	SLV FO 4	994	-280	5348	27.9	4.04	-1.42
709	SLV FO 5	403	1222	6921	-138.1	-0.45	4.28
709	SLV FO 6	403	1376	6923	-140.91	-0.43	6.12
709	SLV FO 7	374	-1313	6850	128.2	-0.82	-6.58
709	SLV FO 8	375	-1159	6852	125.39	-0.8	-4.74
709	SLV FO 9	-119	1261	8232	-135.01	-4.48	5.08
709	SLV FO 10	-118	1415	8234	-137.82	-4.47	6.92
709	SLV FO 11	-147	-1274	8161	131.29	-4.86	-5.78
709	SLV FO 12	-146	-1120	8163	128.48	-4.84	-3.94
709	SLV FO 13	-737	382	9736	-37.52	-9.33	1.76
709	SLV FO 14	-736	611	9740	-41.7	-9.3	4.5
709	SLV FO 15	-746	-379	9715	42.37	-9.44	-1.5
709	SLV FO 16	-744	-150	9718	38.2	-9.41	1.24
709	CRTFP Ux+	0	0	0	0	0	0
709	CRTFP Ux-	0	0	0	0	0	0
709	CRTFP Uy+	0	0	0	0	0	0
709	CRTFP Uy-	0	0	0	0	0	0
710	SLU 1	123	49	7039	-4.58	-2.04	0.03
710	SLU 2	123	81	7037	-7.25	-2.04	0.2
710	SLU 3	126	50	7195	-3.49	-2.08	0.05
710	SLU 4	126	69	7194	-5.09	-2.08	0.15
710	SLU 5	125	82	7135	-6.26	-2.06	0.23
710	SLU 6	127	51	7293	-2.5	-2.1	0.08
710	SLU 7	127	71	7292	-4.1	-2.1	0.18
710	SLU 8	126	51	7234	-2.61	-2.08	0.09
710	SLU 9	126	71	7233	-4.21	-2.08	0.19
710	SLU 10	131	87	7949	-8.23	-2.15	0.2
710	SLU 11	134	56	8108	-4.48	-2.19	0.05
710	SLU 12	134	75	8106	-6.07	-2.19	0.15
710	SLU 13	133	88	8047	-7.25	-2.17	0.23
710	SLU 14	136	57	8205	-3.49	-2.21	0.08
710	SLU 15	136	77	8204	-5.09	-2.21	0.18
710	SLU 16	135	57	8146	-3.59	-2.19	0.09
710	SLU 17	135	77	8145	-5.19	-2.19	0.19
710	SLU 18	135	57	8342	-5.99	-2.2	0.03
710	SLU 19	135	77	8341	-7.59	-2.2	0.13
710	SLU 20	137	58	8440	-5	-2.22	0.06
710	SLU 21	137	78	8438	-6.6	-2.21	0.16
710	SLU 22	137	53	8156	-3	-2.22	-0.03
710	SLU 23	138	85	8154	-5.67	-2.22	0.14
710	SLU 24	140	54	8312	-1.91	-2.27	-0.01
710	SLU 25	140	73	8311	-3.51	-2.26	0.09
710	SLU 26	139	86	8251	-4.68	-2.24	0.17
710	SLU 27	142	55	8410	-0.92	-2.28	0.02
710	SLU 28	142	75	8409	-2.52	-2.28	0.12
710	SLU 29	141	55	8351	-1.03	-2.26	0.03
710	SLU 30	141	75	8350	-2.63	-2.26	0.13
710	SLU 31	146	91	9066	-6.65	-2.33	0.14
710	SLU 32	149	60	9224	-2.9	-2.37	-0.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
710	SLU 33	149	79	9223	-4.5	-2.37	0.09
710	SLU 34	148	92	9164	-5.67	-2.35	0.17
710	SLU 35	150	61	9322	-1.91	-2.39	0.02
710	SLU 36	150	81	9321	-3.51	-2.39	0.12
710	SLU 37	149	61	9263	-2.01	-2.37	0.03
710	SLU 38	149	81	9262	-3.61	-2.37	0.13
710	SLU 39	150	61	9459	-4.41	-2.38	-0.03
710	SLU 40	150	81	9458	-6.01	-2.38	0.07
710	SLU 41	151	62	9556	-3.42	-2.4	0
710	SLU 42	151	82	9555	-5.02	-2.39	0.1
710	SLU 43	155	62	8767	-6.49	-2.6	0.06
710	SLU 44	155	94	8765	-9.16	-2.59	0.23
710	SLU 45	157	63	8924	-5.4	-2.64	0.08
710	SLU 46	157	82	8923	-7	-2.63	0.18
710	SLU 47	156	95	8863	-8.17	-2.61	0.26
710	SLU 48	159	64	9022	-4.42	-2.65	0.11
710	SLU 49	159	84	9021	-6.02	-2.65	0.21
710	SLU 50	158	64	8963	-4.52	-2.63	0.12
710	SLU 51	158	84	8962	-6.12	-2.63	0.22
710	SLU 52	163	100	9678	-10.15	-2.7	0.23
710	SLU 53	166	69	9836	-6.39	-2.74	0.07
710	SLU 54	166	88	9835	-7.99	-2.74	0.18
710	SLU 55	165	101	9775	-9.16	-2.72	0.26
710	SLU 56	168	70	9934	-5.4	-2.76	0.1
710	SLU 57	168	90	9933	-7	-2.76	0.21
710	SLU 58	166	70	9875	-5.51	-2.74	0.12
710	SLU 59	166	90	9874	-7.11	-2.74	0.22
710	SLU 60	167	70	10070	-7.9	-2.75	0.06
710	SLU 61	167	90	10069	-9.5	-2.75	0.16
710	SLU 62	168	71	10168	-6.92	-2.77	0.09
710	SLU 63	168	91	10167	-8.52	-2.76	0.19
710	SLU 64	169	66	9884	-4.92	-2.78	0
710	SLU 65	169	98	9882	-7.58	-2.77	0.17
710	SLU 66	172	67	10041	-3.82	-2.82	0.02
710	SLU 67	172	87	10040	-5.42	-2.81	0.12
710	SLU 68	171	100	9980	-6.59	-2.79	0.2
710	SLU 69	174	68	10139	-2.84	-2.83	0.05
710	SLU 70	174	88	10137	-4.44	-2.83	0.15
710	SLU 71	172	68	10080	-2.94	-2.81	0.06
710	SLU 72	173	88	10079	-4.54	-2.81	0.16
710	SLU 73	178	104	10795	-8.57	-2.88	0.17
710	SLU 74	181	73	10953	-4.81	-2.92	0.02
710	SLU 75	181	93	10952	-6.41	-2.92	0.12
710	SLU 76	180	106	10892	-7.58	-2.9	0.2
710	SLU 77	182	74	11051	-3.82	-2.94	0.05
710	SLU 78	182	94	11050	-5.42	-2.94	0.15
710	SLU 79	181	74	10992	-3.93	-2.92	0.06
710	SLU 80	181	94	10991	-5.53	-2.92	0.16
710	SLU 81	181	74	11187	-6.33	-2.93	0
710	SLU 82	181	94	11186	-7.93	-2.93	0.1
710	SLU 83	183	76	11285	-5.34	-2.95	0.03
710	SLU 84	183	95	11284	-6.94	-2.95	0.13
710	SLE RA 1	127	50	7358	-4.13	-2.1	0.01
710	SLE RA 2	127	71	7357	-5.91	-2.09	0.13
710	SLE RA 3	129	51	7462	-3.4	-2.12	0.02
710	SLE RA 4	129	64	7461	-4.47	-2.12	0.09
710	SLE RA 5	128	72	7422	-5.25	-2.1	0.15
710	SLE RA 6	130	51	7527	-2.74	-2.13	0.04
710	SLE RA 7	130	64	7527	-3.81	-2.13	0.11
710	SLE RA 8	129	51	7488	-2.81	-2.12	0.05
710	SLE RA 9	129	64	7487	-3.88	-2.12	0.12
710	SLE RA 10	133	75	7965	-6.56	-2.16	0.13
710	SLE RA 11	135	55	8070	-4.06	-2.19	0.02
710	SLE RA 12	135	68	8070	-5.13	-2.19	0.09
710	SLE RA 13	134	76	8030	-5.91	-2.18	0.15
710	SLE RA 14	136	55	8136	-3.4	-2.21	0.04
710	SLE RA 15	136	68	8135	-4.47	-2.2	0.11
710	SLE RA 16	135	55	8096	-3.47	-2.19	0.05
710	SLE RA 17	135	68	8095	-4.54	-2.19	0.12
710	SLE RA 18	135	55	8227	-5.07	-2.2	0.01
710	SLE RA 19	135	68	8226	-6.13	-2.2	0.08
710	SLE RA 20	136	56	8292	-4.41	-2.21	0.03
710	SLE RA 21	136	69	8291	-5.48	-2.21	0.1
710	SLE FR 1	127	50	7358	-4.13	-2.1	0.01
710	SLE FR 2	127	54	7357	-4.48	-2.09	0.04
710	SLE FR 3	127	50	7384	-3.86	-2.1	0.02
710	SLE FR 4	129	56	7618	-4.77	-2.13	0.04
710	SLE FR 5	130	52	7644	-4.15	-2.13	0.02
710	SLE FR 6	131	53	7792	-4.6	-2.15	0.01
710	SLE QP 1	127	50	7358	-4.13	-2.1	0.01
710	SLE QP 2	129	51	7618	-4.41	-2.13	0.01
710	SLD 1	635	151	6225	-27.85	1.8	-0.54
710	SLD 2	636	292	6226	-30.44	1.82	1.19
710	SLD 3	631	-268	6213	16.02	1.74	-2.69
710	SLD 4	631	-128	6214	13.43	1.76	-0.96
710	SLD 5	288	693	7218	-77.53	-0.86	2.81
710	SLD 6	288	784	7219	-79.2	-0.85	3.93
710	SLD 7	273	-705	7179	68.7	-1.06	-4.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
710	SLD 8	273	-614	7180	67.03	-1.05	-3.24
710	SLD 9	-15	717	8057	-75.85	-3.2	3.27
710	SLD 10	-14	807	8058	-77.52	-3.19	4.39
710	SLD 11	-29	-681	8018	70.38	-3.41	-3.9
710	SLD 12	-29	-590	8019	68.71	-3.39	-2.78
710	SLD 13	-373	231	9022	-22.25	-6.01	0.99
710	SLD 14	-372	371	9024	-24.84	-5.99	2.72
710	SLD 15	-377	-189	9011	21.62	-6.07	-1.16
710	SLD 16	-376	-48	9012	19.03	-6.05	0.57
710	SLV 1	922	232	5444	-43.92	4	-0.74
710	SLV 2	923	454	5446	-48	4.03	1.99
710	SLV 3	914	-476	5425	30.24	3.9	-4.37
710	SLV 4	915	-255	5427	26.17	3.93	-1.65
710	SLV 5	378	1139	6994	-127.98	-0.13	4.8
710	SLV 6	379	1288	6996	-130.72	-0.12	6.63
710	SLV 7	353	-1223	6931	119.22	-0.48	-7.33
710	SLV 8	354	-1074	6933	116.48	-0.46	-5.49
710	SLV 9	-95	1177	8304	-125.3	-3.79	5.52
710	SLV 10	-94	1326	8305	-128.04	-3.77	7.36
710	SLV 11	-120	-1185	8241	121.9	-4.14	-6.61
710	SLV 12	-120	-1036	8242	119.16	-4.12	-4.77
710	SLV 13	-656	358	9809	-34.99	-8.18	1.67
710	SLV 14	-655	579	9812	-39.06	-8.15	4.4
710	SLV 15	-664	-351	9791	39.18	-8.28	-1.96
710	SLV 16	-663	-129	9793	35.1	-8.26	0.76
710	SLV FO 1	1001	250	5227	-47.87	4.62	-0.81
710	SLV FO 2	1002	494	5229	-52.35	4.65	2.19
710	SLV FO 3	993	-529	5206	33.71	4.5	-4.81
710	SLV FO 4	994	-286	5208	29.22	4.53	-1.81
710	SLV FO 5	403	1248	6932	-140.34	0.07	5.28
710	SLV FO 6	404	1412	6933	-143.35	0.08	7.3
710	SLV FO 7	376	-1350	6863	131.59	-0.32	-8.06
710	SLV FO 8	376	-1186	6864	128.57	-0.3	-6.04
710	SLV FO 9	-117	1289	8373	-137.39	-3.96	6.07
710	SLV FO 10	-117	1453	8374	-140.41	-3.94	8.09
710	SLV FO 11	-145	-1309	8303	134.53	-4.34	-7.27
710	SLV FO 12	-144	-1145	8305	131.52	-4.32	-5.25
710	SLV FO 13	-735	389	10029	-38.04	-8.78	1.84
710	SLV FO 14	-734	632	10031	-42.53	-8.76	4.84
710	SLV FO 15	-743	-391	10008	43.53	-8.9	-2.16
710	SLV FO 16	-742	-148	10010	39.05	-8.87	0.84
710	CRTFP Ux+	0	0	0	0	0	0
710	CRTFP Ux-	0	0	0	0	0	0
710	CRTFP Uy+	0	0	0	0	0	0
710	CRTFP Uy-	0	0	0	0	0	0
711	SLU 1	124	48	7099	-4.21	-1.71	-0.1
711	SLU 2	124	82	7097	-6.97	-1.7	0.1
711	SLU 3	127	50	7256	-3.12	-1.74	-0.08
711	SLU 4	127	70	7255	-4.78	-1.74	0.04
711	SLU 5	126	83	7195	-5.99	-1.72	0.13
711	SLU 6	128	51	7355	-2.14	-1.75	-0.05
711	SLU 7	128	71	7354	-3.79	-1.75	0.07
711	SLU 8	127	51	7295	-2.25	-1.73	-0.04
711	SLU 9	127	71	7294	-3.9	-1.73	0.08
711	SLU 10	132	88	8011	-7.9	-1.75	0.09
711	SLU 11	135	56	8171	-4.06	-1.78	-0.1
711	SLU 12	135	76	8170	-5.71	-1.78	0.02
711	SLU 13	134	89	8109	-6.92	-1.76	0.12
711	SLU 14	137	57	8269	-3.08	-1.8	-0.07
711	SLU 15	137	77	8268	-4.73	-1.79	0.05
711	SLU 16	136	57	8210	-3.19	-1.78	-0.05
711	SLU 17	136	77	8208	-4.84	-1.77	0.07
711	SLU 18	136	57	8405	-5.55	-1.77	-0.12
711	SLU 19	136	77	8404	-7.2	-1.77	0
711	SLU 20	138	58	8503	-4.57	-1.78	-0.09
711	SLU 21	138	78	8502	-6.22	-1.78	0.03
711	SLU 22	138	52	8220	-2.59	-1.81	-0.17
711	SLU 23	139	86	8218	-5.34	-1.81	0.03
711	SLU 24	141	53	8378	-1.5	-1.84	-0.15
711	SLU 25	141	74	8377	-3.15	-1.84	-0.03
711	SLU 26	140	87	8316	-4.36	-1.82	0.06
711	SLU 27	143	55	8476	-0.52	-1.86	-0.13
711	SLU 28	143	75	8475	-2.17	-1.86	-0.01
711	SLU 29	142	55	8416	-0.62	-1.84	-0.11
711	SLU 30	142	75	8415	-2.28	-1.84	0.01
711	SLU 31	147	92	9133	-6.28	-1.85	0.02
711	SLU 32	150	59	9292	-2.43	-1.89	-0.17
711	SLU 33	150	79	9291	-4.08	-1.89	-0.05
711	SLU 34	149	93	9231	-5.29	-1.86	0.05
711	SLU 35	151	61	9391	-1.45	-1.9	-0.14
711	SLU 36	151	81	9390	-3.1	-1.9	-0.02
711	SLU 37	150	61	9331	-1.56	-1.88	-0.12
711	SLU 38	150	81	9330	-3.21	-1.88	0
711	SLU 39	151	61	9527	-3.92	-1.87	-0.19
711	SLU 40	151	81	9525	-5.58	-1.87	-0.07
711	SLU 41	152	62	9625	-2.94	-1.89	-0.16
711	SLU 42	152	82	9624	-4.59	-1.88	-0.04
711	SLU 43	156	62	8844	-6.03	-2.18	-0.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
711	SLU 44	156	95	8842	-8.79	-2.18	0.1
711	SLU 45	159	63	9002	-4.94	-2.22	-0.09
711	SLU 46	159	83	9000	-6.6	-2.21	0.03
711	SLU 47	158	96	8940	-7.81	-2.19	0.13
711	SLU 48	160	64	9100	-3.96	-2.23	-0.06
711	SLU 49	160	84	9099	-5.62	-2.23	0.06
711	SLU 50	159	64	9040	-4.07	-2.21	-0.04
711	SLU 51	159	84	9039	-5.72	-2.21	0.08
711	SLU 52	165	101	9756	-9.72	-2.22	0.09
711	SLU 53	167	69	9916	-5.88	-2.26	-0.1
711	SLU 54	167	89	9915	-7.53	-2.26	0.02
711	SLU 55	166	102	9855	-8.74	-2.23	0.11
711	SLU 56	169	70	10014	-4.9	-2.27	-0.07
711	SLU 57	169	90	10013	-6.55	-2.27	0.05
711	SLU 58	168	70	9955	-5.01	-2.25	-0.06
711	SLU 59	168	90	9954	-6.66	-2.25	0.06
711	SLU 60	168	70	10150	-7.37	-2.24	-0.12
711	SLU 61	168	90	10149	-9.02	-2.24	0
711	SLU 62	170	71	10248	-6.39	-2.26	-0.09
711	SLU 63	170	92	10247	-8.04	-2.25	0.03
711	SLU 64	171	65	9965	-4.41	-2.29	-0.17
711	SLU 65	171	99	9963	-7.16	-2.28	0.03
711	SLU 66	173	67	10123	-3.32	-2.32	-0.16
711	SLU 67	173	87	10122	-4.97	-2.32	-0.04
711	SLU 68	172	100	10061	-6.18	-2.3	0.06
711	SLU 69	175	68	10221	-2.34	-2.33	-0.13
711	SLU 70	175	88	10220	-3.99	-2.33	-0.01
711	SLU 71	174	68	10162	-2.45	-2.31	-0.11
711	SLU 72	174	88	10160	-4.1	-2.31	0.01
711	SLU 73	179	105	10878	-8.1	-2.33	0.01
711	SLU 74	182	73	11038	-4.25	-2.36	-0.17
711	SLU 75	182	93	11036	-5.91	-2.36	-0.05
711	SLU 76	181	106	10976	-7.12	-2.34	0.04
711	SLU 77	184	74	11136	-3.27	-2.38	-0.14
711	SLU 78	184	94	11135	-4.93	-2.37	-0.02
711	SLU 79	182	74	11076	-3.38	-2.36	-0.13
711	SLU 80	182	94	11075	-5.03	-2.36	-0.01
711	SLU 81	183	74	11272	-5.75	-2.35	-0.19
711	SLU 82	183	94	11270	-7.4	-2.35	-0.07
711	SLU 83	184	75	11370	-4.76	-2.36	-0.16
711	SLU 84	184	95	11369	-6.42	-2.36	-0.04
711	SLE RA 1	128	49	7419	-3.75	-1.74	-0.12
711	SLE RA 2	128	72	7418	-5.58	-1.73	0.02
711	SLE RA 3	130	50	7524	-3.02	-1.76	-0.11
711	SLE RA 4	130	64	7523	-4.12	-1.76	-0.03
711	SLE RA 5	129	73	7483	-4.93	-1.74	0.04
711	SLE RA 6	131	51	7590	-2.37	-1.77	-0.09
711	SLE RA 7	131	65	7589	-3.47	-1.77	-0.01
711	SLE RA 8	130	51	7550	-2.44	-1.75	-0.08
711	SLE RA 9	130	65	7549	-3.54	-1.75	0
711	SLE RA 10	134	76	8027	-6.21	-1.76	0.01
711	SLE RA 11	136	54	8134	-3.65	-1.79	-0.12
711	SLE RA 12	136	68	8133	-4.75	-1.79	-0.04
711	SLE RA 13	135	77	8093	-5.55	-1.77	0.03
711	SLE RA 14	137	55	8199	-2.99	-1.8	-0.1
711	SLE RA 15	137	69	8199	-4.09	-1.79	-0.02
711	SLE RA 16	136	55	8160	-3.06	-1.78	-0.09
711	SLE RA 17	136	69	8159	-4.17	-1.78	-0.01
711	SLE RA 18	136	55	8290	-4.64	-1.78	-0.13
711	SLE RA 19	136	69	8289	-5.74	-1.78	-0.05
711	SLE RA 20	137	56	8356	-3.99	-1.79	-0.11
711	SLE RA 21	137	69	8355	-5.09	-1.78	-0.03
711	SLE FR 1	128	49	7419	-3.75	-1.74	-0.12
711	SLE FR 2	128	54	7419	-4.12	-1.74	-0.09
711	SLE FR 3	128	50	7445	-3.49	-1.74	-0.11
711	SLE FR 4	130	56	7680	-4.38	-1.75	-0.09
711	SLE FR 5	131	52	7706	-3.75	-1.75	-0.11
711	SLE FR 6	132	52	7854	-4.19	-1.76	-0.12
711	SLE QP 1	128	49	7419	-3.75	-1.74	-0.12
711	SLE QP 2	130	51	7680	-4.02	-1.75	-0.12
711	SLD 1	635	149	6162	-27.73	2.17	-0.56
711	SLD 2	636	299	6162	-30.5	2.19	1.32
711	SLD 3	631	-282	6150	17.1	2.12	-3.05
711	SLD 4	632	-132	6151	14.33	2.14	-1.18
711	SLD 5	288	709	7242	-78.65	-0.49	3.21
711	SLD 6	289	806	7243	-80.45	-0.48	4.42
711	SLD 7	274	-729	7203	70.8	-0.68	-5.11
711	SLD 8	274	-632	7204	69.01	-0.66	-3.89
711	SLD 9	-14	734	8157	-77.04	-2.83	3.65
711	SLD 10	-13	831	8158	-78.84	-2.82	4.87
711	SLD 11	-28	-703	8118	72.42	-3.02	-4.66
711	SLD 12	-28	-606	8118	70.62	-3.01	-3.45
711	SLD 13	-371	234	9210	-22.36	-5.63	0.94
711	SLD 14	-370	384	9211	-25.14	-5.62	2.81
711	SLD 15	-375	-197	9198	22.47	-5.69	-1.56
711	SLD 16	-375	-47	9199	19.7	-5.67	0.32
711	SLV 1	921	231	5311	-44.02	4.38	-0.66
711	SLV 2	922	466	5312	-48.38	4.4	2.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
711	SLV 3	914	-498	5292	31.78	4.28	-4.88
711	SLV 4	915	-263	5293	27.41	4.31	-1.93
711	SLV 5	379	1166	6998	-130.15	0.23	5.56
711	SLV 6	379	1325	6999	-133.09	0.24	7.55
711	SLV 7	354	-1263	6935	122.49	-0.09	-8.5
711	SLV 8	355	-1105	6935	119.55	-0.07	-6.51
711	SLV 9	-94	1207	8425	-127.58	-3.43	6.27
711	SLV 10	-93	1366	8426	-130.52	-3.41	8.26
711	SLV 11	-119	-1223	8361	125.06	-3.74	-7.79
711	SLV 12	-118	-1064	8362	122.12	-3.72	-5.8
711	SLV 13	-654	365	10067	-35.45	-7.8	1.69
711	SLV 14	-653	601	10069	-39.81	-7.78	4.64
711	SLV 15	-661	-364	10048	40.35	-7.9	-2.53
711	SLV 16	-660	-128	10050	35.99	-7.87	0.42
711	SLV FO 1	1000	248	5074	-48.02	4.99	-0.72
711	SLV FO 2	1001	508	5075	-52.82	5.02	2.53
711	SLV FO 3	992	-553	5053	35.35	4.88	-5.36
711	SLV FO 4	993	-294	5054	30.56	4.91	-2.11
711	SLV FO 5	404	1278	6930	-142.77	0.43	6.13
711	SLV FO 6	404	1453	6931	-146	0.44	8.32
711	SLV FO 7	376	-1395	6860	135.14	0.08	-9.34
711	SLV FO 8	377	-1220	6861	131.91	0.1	-7.15
711	SLV FO 9	-116	1322	8500	-139.94	-3.59	6.91
711	SLV FO 10	-116	1497	8501	-143.17	-3.57	9.1
711	SLV FO 11	-143	-1350	8430	137.97	-3.94	-8.56
711	SLV FO 12	-143	-1176	8431	134.74	-3.92	-6.37
711	SLV FO 13	-732	396	10306	-38.59	-8.41	1.87
711	SLV FO 14	-731	656	10308	-43.39	-8.38	5.12
711	SLV FO 15	-741	-406	10285	44.78	-8.51	-2.77
711	SLV FO 16	-740	-146	10287	39.99	-8.48	0.48
711	CRTFP Ux+	0	0	0	0	0	0
711	CRTFP Ux-	0	0	0	0	0	0
711	CRTFP Uy+	0	0	0	0	0	0
711	CRTFP Uy-	0	0	0	0	0	0
712	SLU 1	125	48	7151	-3.85	-1.59	-0.2
712	SLU 2	125	82	7149	-6.7	-1.59	0.02
712	SLU 3	128	49	7310	-2.76	-1.63	-0.19
712	SLU 4	128	70	7309	-4.47	-1.62	-0.06
712	SLU 5	126	84	7248	-5.72	-1.6	0.04
712	SLU 6	129	50	7409	-1.79	-1.64	-0.17
712	SLU 7	129	71	7407	-3.49	-1.64	-0.04
712	SLU 8	128	51	7348	-1.9	-1.62	-0.15
712	SLU 9	128	71	7347	-3.61	-1.62	-0.02
712	SLU 10	133	88	8064	-7.58	-1.6	-0.01
712	SLU 11	136	55	8225	-3.65	-1.64	-0.22
712	SLU 12	136	76	8224	-5.35	-1.63	-0.09
712	SLU 13	135	90	8163	-6.6	-1.61	0.02
712	SLU 14	138	56	8324	-2.67	-1.65	-0.19
712	SLU 15	138	77	8323	-4.38	-1.65	-0.06
712	SLU 16	136	56	8264	-2.78	-1.63	-0.18
712	SLU 17	136	77	8262	-4.49	-1.63	-0.05
712	SLU 18	137	56	8459	-5.12	-1.61	-0.24
712	SLU 19	137	77	8457	-6.82	-1.61	-0.11
712	SLU 20	138	57	8557	-4.14	-1.62	-0.22
712	SLU 21	138	78	8556	-5.85	-1.62	-0.08
712	SLU 22	139	51	8275	-2.18	-1.66	-0.29
712	SLU 23	139	86	8273	-5.02	-1.66	-0.07
712	SLU 24	142	52	8434	-1.09	-1.69	-0.28
712	SLU 25	142	73	8433	-2.79	-1.69	-0.14
712	SLU 26	141	87	8372	-4.04	-1.67	-0.04
712	SLU 27	144	54	8533	-0.11	-1.71	-0.25
712	SLU 28	144	75	8531	-1.82	-1.71	-0.12
712	SLU 29	143	54	8472	-0.22	-1.69	-0.24
712	SLU 30	143	75	8471	-1.93	-1.69	-0.1
712	SLU 31	148	91	9188	-5.91	-1.67	-0.09
712	SLU 32	151	58	9349	-1.97	-1.71	-0.3
712	SLU 33	151	79	9348	-3.68	-1.7	-0.17
712	SLU 34	150	93	9287	-4.93	-1.68	-0.07
712	SLU 35	152	60	9448	-1	-1.72	-0.28
712	SLU 36	152	80	9447	-2.7	-1.72	-0.15
712	SLU 37	151	60	9388	-1.11	-1.7	-0.26
712	SLU 38	151	81	9386	-2.81	-1.7	-0.13
712	SLU 39	151	59	9583	-3.44	-1.68	-0.32
712	SLU 40	151	80	9582	-5.15	-1.68	-0.19
712	SLU 41	153	61	9681	-2.46	-1.69	-0.3
712	SLU 42	153	82	9680	-4.17	-1.69	-0.17
712	SLU 43	157	61	8911	-5.58	-2.05	-0.24
712	SLU 44	157	95	8909	-8.43	-2.05	-0.02
712	SLU 45	160	62	9070	-4.49	-2.08	-0.23
712	SLU 46	160	83	9069	-6.2	-2.08	-0.1
712	SLU 47	159	97	9007	-7.45	-2.06	0.01
712	SLU 48	162	64	9168	-3.52	-2.09	-0.2
712	SLU 49	162	84	9167	-5.22	-2.09	-0.07
712	SLU 50	160	64	9108	-3.63	-2.07	-0.19
712	SLU 51	160	84	9107	-5.34	-2.07	-0.06
712	SLU 52	166	101	9824	-9.31	-2.06	-0.04
712	SLU 53	168	68	9985	-5.38	-2.09	-0.25
712	SLU 54	169	89	9984	-7.09	-2.09	-0.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
712	SLU 55	167	103	9923	-8.34	-2.07	-0.02
712	SLU 56	170	69	10084	-4.4	-2.1	-0.23
712	SLU 57	170	90	10083	-6.11	-2.1	-0.1
712	SLU 58	169	70	10024	-4.51	-2.08	-0.21
712	SLU 59	169	90	10022	-6.22	-2.08	-0.08
712	SLU 60	169	69	10219	-6.85	-2.06	-0.27
712	SLU 61	169	90	10217	-8.55	-2.06	-0.14
712	SLU 62	171	71	10317	-5.87	-2.08	-0.25
712	SLU 63	171	91	10316	-7.58	-2.07	-0.12
712	SLU 64	172	64	10035	-3.91	-2.12	-0.32
712	SLU 65	172	99	10033	-6.75	-2.11	-0.1
712	SLU 66	175	65	10194	-2.82	-2.15	-0.31
712	SLU 67	175	86	10193	-4.53	-2.15	-0.18
712	SLU 68	173	100	10132	-5.78	-2.13	-0.07
712	SLU 69	176	67	10293	-1.84	-2.16	-0.28
712	SLU 70	176	88	10291	-3.55	-2.16	-0.15
712	SLU 71	175	67	10232	-1.95	-2.14	-0.27
712	SLU 72	175	88	10231	-3.66	-2.14	-0.14
712	SLU 73	180	104	10948	-7.64	-2.13	-0.13
712	SLU 74	183	71	11109	-3.7	-2.16	-0.34
712	SLU 75	183	92	11108	-5.41	-2.16	-0.2
712	SLU 76	182	106	11047	-6.66	-2.14	-0.1
712	SLU 77	185	73	11208	-2.73	-2.17	-0.31
712	SLU 78	185	94	11207	-4.43	-2.17	-0.18
712	SLU 79	183	73	11148	-2.84	-2.15	-0.29
712	SLU 80	184	94	11146	-4.55	-2.15	-0.16
712	SLU 81	184	72	11343	-5.17	-2.13	-0.36
712	SLU 82	184	93	11341	-6.88	-2.13	-0.22
712	SLU 83	185	74	11441	-4.2	-2.14	-0.33
712	SLU 84	186	95	11440	-5.9	-2.14	-0.2
712	SLE RA 1	129	49	7472	-3.37	-1.61	-0.23
712	SLE RA 2	129	72	7471	-5.27	-1.61	-0.08
712	SLE RA 3	131	49	7578	-2.65	-1.63	-0.22
712	SLE RA 4	131	63	7577	-3.79	-1.63	-0.13
712	SLE RA 5	130	73	7537	-4.62	-1.62	-0.06
712	SLE RA 6	132	50	7644	-2	-1.64	-0.2
712	SLE RA 7	132	64	7643	-3.13	-1.64	-0.12
712	SLE RA 8	131	51	7604	-2.07	-1.63	-0.19
712	SLE RA 9	131	64	7603	-3.21	-1.63	-0.11
712	SLE RA 10	135	75	8081	-5.86	-1.62	-0.1
712	SLE RA 11	136	53	8188	-3.24	-1.64	-0.24
712	SLE RA 12	136	67	8187	-4.38	-1.64	-0.15
712	SLE RA 13	136	77	8147	-5.21	-1.63	-0.08
712	SLE RA 14	138	54	8254	-2.59	-1.65	-0.22
712	SLE RA 15	138	68	8253	-3.72	-1.65	-0.13
712	SLE RA 16	137	54	8214	-2.66	-1.64	-0.21
712	SLE RA 17	137	68	8213	-3.8	-1.64	-0.12
712	SLE RA 18	137	54	8344	-4.22	-1.62	-0.25
712	SLE RA 19	137	68	8343	-5.36	-1.62	-0.16
712	SLE RA 20	138	55	8410	-3.57	-1.63	-0.24
712	SLE RA 21	138	69	8409	-4.7	-1.63	-0.15
712	SLE FR 1	129	49	7472	-3.37	-1.61	-0.23
712	SLE FR 2	129	53	7472	-3.75	-1.61	-0.2
712	SLE FR 3	129	49	7498	-3.11	-1.62	-0.22
712	SLE FR 4	131	55	7733	-4.01	-1.62	-0.21
712	SLE FR 5	132	51	7760	-3.37	-1.62	-0.23
712	SLE FR 6	133	51	7908	-3.8	-1.62	-0.24
712	SLE QP 1	129	49	7472	-3.37	-1.61	-0.23
712	SLE QP 2	131	50	7734	-3.63	-1.62	-0.24
712	SLD 1	635	147	6089	-27.68	2.36	-0.59
712	SLD 2	636	307	6090	-30.63	2.37	1.41
712	SLD 3	631	-298	6077	18.19	2.31	-3.32
712	SLD 4	632	-138	6077	15.23	2.32	-1.32
712	SLD 5	289	726	7259	-79.89	-0.35	3.45
712	SLD 6	289	830	7259	-81.8	-0.34	4.75
712	SLD 7	275	-757	7218	72.99	-0.52	-5.65
712	SLD 8	275	-653	7218	71.08	-0.51	-4.36
712	SLD 9	-12	754	8249	-78.33	-2.73	3.89
712	SLD 10	-12	857	8249	-80.25	-2.72	5.18
712	SLD 11	-27	-729	8208	74.55	-2.89	-5.22
712	SLD 12	-26	-626	8208	72.64	-2.88	-3.92
712	SLD 13	-369	238	9390	-22.49	-5.56	0.85
712	SLD 14	-368	398	9390	-25.44	-5.54	2.85
712	SLD 15	-373	-206	9378	23.38	-5.61	-1.88
712	SLD 16	-373	-47	9378	20.42	-5.59	0.12
712	SLV 1	921	228	5168	-44.2	4.59	-0.63
712	SLV 2	921	480	5169	-48.85	4.61	2.52
712	SLV 3	913	-524	5149	33.33	4.5	-5.25
712	SLV 4	914	-272	5149	28.67	4.53	-2.1
712	SLV 5	379	1197	6994	-132.51	0.37	6.06
712	SLV 6	380	1367	6994	-135.64	0.38	8.18
712	SLV 7	355	-1309	6928	125.91	0.09	-9.33
712	SLV 8	355	-1140	6928	122.77	0.1	-7.21
712	SLV 9	-93	1240	8539	-130.03	-3.34	6.74
712	SLV 10	-92	1410	8539	-133.16	-3.32	8.86
712	SLV 11	-117	-1266	8473	128.39	-3.62	-8.65
712	SLV 12	-116	-1097	8473	125.26	-3.6	-6.53
712	SLV 13	-652	373	10318	-35.93	-7.76	1.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
712	SLV 14	-651	624	10319	-40.58	-7.74	4.78
712	SLV 15	-659	-379	10298	41.6	-7.84	-2.99
712	SLV 16	-658	-128	10299	36.94	-7.82	0.16
712	SLV FO 1	1000	246	4912	-48.26	5.21	-0.67
712	SLV FO 2	1000	523	4912	-53.38	5.23	2.79
712	SLV FO 3	992	-581	4890	37.02	5.12	-5.75
712	SLV FO 4	992	-304	4891	31.9	5.14	-2.29
712	SLV FO 5	404	1312	6920	-145.4	0.56	6.69
712	SLV FO 6	404	1498	6921	-148.85	0.58	9.02
712	SLV FO 7	377	-1445	6847	138.86	0.26	-10.24
712	SLV FO 8	378	-1259	6848	135.41	0.28	-7.91
712	SLV FO 9	-115	1360	8620	-142.67	-3.51	7.44
712	SLV FO 10	-114	1546	8620	-146.12	-3.49	9.77
712	SLV FO 11	-142	-1398	8547	141.59	-3.82	-9.49
712	SLV FO 12	-141	-1212	8547	138.14	-3.8	-7.16
712	SLV FO 13	-730	405	10577	-39.16	-8.38	1.82
712	SLV FO 14	-729	682	10577	-44.28	-8.35	5.28
712	SLV FO 15	-738	-422	10555	46.12	-8.47	-3.26
712	SLV FO 16	-737	-146	10555	41	-8.44	0.2
712	CRTFP Ux+	0	0	0	0	0	0
712	CRTFP Ux-	0	0	0	0	0	0
712	CRTFP Uy+	0	0	0	0	0	0
712	CRTFP Uy-	0	0	0	0	0	0
713	SLU 1	126	46	7206	-3.5	-1.92	-0.3
713	SLU 2	126	82	7204	-6.44	-1.92	-0.07
713	SLU 3	128	48	7366	-2.41	-1.96	-0.3
713	SLU 4	129	69	7365	-4.17	-1.96	-0.16
713	SLU 5	127	84	7303	-5.46	-1.94	-0.05
713	SLU 6	130	49	7465	-1.43	-1.98	-0.28
713	SLU 7	130	71	7464	-3.2	-1.98	-0.14
713	SLU 8	129	50	7404	-1.55	-1.96	-0.26
713	SLU 9	129	71	7403	-3.31	-1.96	-0.12
713	SLU 10	134	88	8120	-7.27	-1.96	-0.11
713	SLU 11	137	53	8282	-3.24	-2	-0.33
713	SLU 12	137	75	8281	-5.01	-2	-0.2
713	SLU 13	136	89	8219	-6.3	-1.98	-0.09
713	SLU 14	139	55	8381	-2.27	-2.02	-0.31
713	SLU 15	139	76	8380	-4.03	-2.02	-0.18
713	SLU 16	137	55	8320	-2.39	-2	-0.3
713	SLU 17	137	77	8319	-4.15	-2	-0.16
713	SLU 18	138	54	8515	-4.69	-1.98	-0.35
713	SLU 19	138	76	8514	-6.45	-1.98	-0.22
713	SLU 20	139	56	8614	-3.72	-2	-0.33
713	SLU 21	139	77	8613	-5.48	-2	-0.2
713	SLU 22	140	49	8333	-1.77	-2.03	-0.39
713	SLU 23	140	85	8331	-4.71	-2.03	-0.16
713	SLU 24	143	51	8493	-0.68	-2.07	-0.39
713	SLU 25	143	72	8492	-2.44	-2.07	-0.25
713	SLU 26	142	87	8430	-3.74	-2.05	-0.14
713	SLU 27	145	52	8592	0.29	-2.09	-0.37
713	SLU 28	145	74	8591	-1.47	-2.09	-0.23
713	SLU 29	143	53	8531	0.18	-2.07	-0.35
713	SLU 30	144	74	8530	-1.59	-2.07	-0.21
713	SLU 31	149	91	9247	-5.55	-2.07	-0.2
713	SLU 32	152	56	9409	-1.52	-2.11	-0.42
713	SLU 33	152	78	9408	-3.28	-2.11	-0.29
713	SLU 34	150	92	9346	-4.57	-2.09	-0.18
713	SLU 35	153	58	9508	-0.54	-2.13	-0.4
713	SLU 36	153	79	9507	-2.3	-2.13	-0.27
713	SLU 37	152	58	9447	-0.66	-2.11	-0.39
713	SLU 38	152	80	9446	-2.42	-2.11	-0.25
713	SLU 39	152	57	9642	-2.97	-2.09	-0.44
713	SLU 40	152	79	9640	-4.73	-2.09	-0.31
713	SLU 41	154	59	9741	-1.99	-2.11	-0.42
713	SLU 42	154	80	9739	-3.75	-2.11	-0.29
713	SLU 43	158	59	8982	-5.14	-2.46	-0.36
713	SLU 44	158	95	8980	-8.08	-2.46	-0.13
713	SLU 45	161	60	9142	-4.05	-2.5	-0.36
713	SLU 46	161	82	9141	-5.81	-2.5	-0.22
713	SLU 47	160	97	9079	-7.1	-2.48	-0.11
713	SLU 48	163	62	9241	-3.07	-2.52	-0.34
713	SLU 49	163	84	9240	-4.84	-2.52	-0.2
713	SLU 50	161	62	9180	-3.19	-2.5	-0.32
713	SLU 51	162	84	9179	-4.95	-2.5	-0.18
713	SLU 52	167	101	9896	-8.91	-2.5	-0.17
713	SLU 53	170	66	10058	-4.88	-2.54	-0.39
713	SLU 54	170	88	10057	-6.65	-2.54	-0.26
713	SLU 55	168	102	9995	-7.94	-2.52	-0.15
713	SLU 56	171	68	10157	-3.91	-2.56	-0.37
713	SLU 57	171	89	10156	-5.67	-2.56	-0.24
713	SLU 58	170	68	10096	-4.03	-2.54	-0.36
713	SLU 59	170	90	10095	-5.79	-2.54	-0.22
713	SLU 60	170	67	10290	-6.33	-2.52	-0.41
713	SLU 61	170	89	10289	-8.1	-2.52	-0.28
713	SLU 62	172	69	10389	-5.36	-2.54	-0.39
713	SLU 63	172	90	10388	-7.12	-2.54	-0.26
713	SLU 64	173	62	10109	-3.41	-2.57	-0.45
713	SLU 65	173	98	10106	-6.35	-2.57	-0.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
713	SLU 66	176	63	10269	-2.32	-2.61	-0.45
713	SLU 67	176	85	10267	-4.09	-2.61	-0.31
713	SLU 68	175	99	10206	-5.38	-2.59	-0.2
713	SLU 69	177	65	10368	-1.35	-2.63	-0.43
713	SLU 70	177	87	10366	-3.11	-2.63	-0.29
713	SLU 71	176	65	10307	-1.47	-2.61	-0.41
713	SLU 72	176	87	10306	-3.23	-2.61	-0.27
713	SLU 73	181	104	11022	-7.19	-2.61	-0.26
713	SLU 74	184	69	11185	-3.16	-2.65	-0.48
713	SLU 75	184	91	11183	-4.92	-2.65	-0.35
713	SLU 76	183	105	11122	-6.21	-2.63	-0.24
713	SLU 77	186	71	11284	-2.18	-2.67	-0.46
713	SLU 78	186	92	11282	-3.95	-2.67	-0.33
713	SLU 79	185	71	11223	-2.3	-2.65	-0.45
713	SLU 80	185	93	11222	-4.06	-2.65	-0.31
713	SLU 81	185	70	11417	-4.61	-2.63	-0.5
713	SLU 82	185	92	11416	-6.37	-2.63	-0.37
713	SLU 83	187	72	11516	-3.63	-2.65	-0.48
713	SLU 84	187	93	11515	-5.4	-2.65	-0.35
713	SLE RA 1	130	47	7528	-3.01	-1.95	-0.33
713	SLE RA 2	130	71	7527	-4.96	-1.95	-0.18
713	SLE RA 3	132	48	7635	-2.28	-1.98	-0.32
713	SLE RA 4	132	62	7634	-3.45	-1.98	-0.23
713	SLE RA 5	131	72	7593	-4.31	-1.97	-0.16
713	SLE RA 6	133	49	7701	-1.63	-1.99	-0.31
713	SLE RA 7	133	63	7700	-2.8	-1.99	-0.22
713	SLE RA 8	132	49	7660	-1.71	-1.98	-0.3
713	SLE RA 9	132	64	7659	-2.88	-1.98	-0.21
713	SLE RA 10	135	75	8137	-5.52	-1.98	-0.2
713	SLE RA 11	137	52	8246	-2.83	-2.01	-0.35
713	SLE RA 12	137	66	8245	-4.01	-2.01	-0.26
713	SLE RA 13	137	76	8203	-4.87	-1.99	-0.19
713	SLE RA 14	138	53	8312	-2.19	-2.02	-0.34
713	SLE RA 15	138	67	8311	-3.36	-2.02	-0.24
713	SLE RA 16	138	53	8271	-2.26	-2.01	-0.33
713	SLE RA 17	138	67	8270	-3.44	-2	-0.23
713	SLE RA 18	138	52	8401	-3.8	-1.99	-0.36
713	SLE RA 19	138	67	8400	-4.98	-1.99	-0.27
713	SLE RA 20	139	54	8467	-3.15	-2.01	-0.35
713	SLE RA 21	139	68	8466	-4.33	-2	-0.26
713	SLE FR 1	130	47	7528	-3.01	-1.95	-0.33
713	SLE FR 2	130	52	7528	-3.4	-1.95	-0.3
713	SLE FR 3	130	48	7555	-2.75	-1.96	-0.32
713	SLE FR 4	132	53	7790	-3.64	-1.97	-0.31
713	SLE FR 5	133	49	7816	-2.98	-1.97	-0.33
713	SLE FR 6	134	50	7964	-3.4	-1.97	-0.35
713	SLE QP 1	130	47	7528	-3.01	-1.95	-0.33
713	SLE QP 2	132	49	7790	-3.24	-1.97	-0.34
713	SLD 1	635	144	6017	-27.68	2.18	-0.66
713	SLD 2	636	315	6016	-30.82	2.2	1.42
713	SLD 3	631	-315	6004	19.28	2.14	-3.47
713	SLD 4	631	-145	6003	16.13	2.15	-1.39
713	SLD 5	289	745	7277	-81.24	-0.66	3.47
713	SLD 6	290	855	7277	-83.27	-0.65	4.81
713	SLD 7	275	-787	7235	75.27	-0.81	-5.9
713	SLD 8	276	-677	7234	73.23	-0.8	-4.55
713	SLD 9	-11	774	8345	-79.72	-3.14	3.88
713	SLD 10	-11	884	8345	-81.75	-3.13	5.22
713	SLD 11	-25	-757	8302	76.78	-3.29	-5.49
713	SLD 12	-25	-647	8302	74.75	-3.28	-4.14
713	SLD 13	-367	242	9576	-22.62	-6.09	0.71
713	SLD 14	-367	413	9576	-25.76	-6.07	2.79
713	SLD 15	-371	-217	9563	24.33	-6.13	-2.1
713	SLD 16	-371	-47	9563	21.19	-6.12	-0.02
713	SLV 1	920	225	5023	-44.47	4.51	-0.68
713	SLV 2	921	494	5023	-49.42	4.53	2.59
713	SLV 3	913	-551	5003	34.88	4.43	-5.43
713	SLV 4	913	-283	5002	29.93	4.46	-2.16
713	SLV 5	379	1230	6992	-135.05	0.09	6.15
713	SLV 6	380	1410	6992	-138.38	0.1	8.36
713	SLV 7	355	-1359	6922	129.48	-0.17	-9.68
713	SLV 8	356	-1179	6922	126.14	-0.15	-7.48
713	SLV 9	-91	1276	8658	-132.63	-3.78	6.8
713	SLV 10	-91	1457	8658	-135.97	-3.77	9.01
713	SLV 11	-115	-1313	8588	131.89	-4.04	-9.04
713	SLV 12	-115	-1132	8588	128.56	-4.02	-6.83
713	SLV 13	-649	380	10578	-36.42	-8.39	1.48
713	SLV 14	-648	649	10577	-41.37	-8.37	4.75
713	SLV 15	-656	-396	10557	42.94	-8.47	-3.27
713	SLV 16	-656	-128	10556	37.98	-8.44	0
713	SLV FO 1	999	243	4747	-48.6	5.16	-0.71
713	SLV FO 2	999	538	4746	-54.04	5.18	2.89
713	SLV FO 3	991	-611	4724	38.7	5.07	-5.94
713	SLV FO 4	992	-316	4723	33.25	5.1	-2.34
713	SLV FO 5	404	1348	6912	-148.23	0.29	6.8
713	SLV FO 6	405	1546	6912	-151.9	0.31	9.23
713	SLV FO 7	378	-1500	6835	142.75	0.01	-10.62
713	SLV FO 8	378	-1301	6835	139.08	0.03	-8.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
713	SLV FO 9	-114	1399	8745	-145.57	-3.96	7.52
713	SLV FO 10	-113	1597	8745	-149.24	-3.95	9.94
713	SLV FO 11	-140	-1449	8668	145.41	-4.24	-9.91
713	SLV FO 12	-140	-1250	8668	141.74	-4.23	-7.48
713	SLV FO 13	-727	414	10856	-39.74	-9.03	1.66
713	SLV FO 14	-726	709	10856	-45.19	-9.01	5.26
713	SLV FO 15	-735	-441	10833	47.55	-9.12	-3.57
713	SLV FO 16	-734	-146	10833	42.11	-9.09	0.04
713	CRTFP Ux+	0	0	0	0	0	0
713	CRTFP Ux-	0	0	0	0	0	0
713	CRTFP Uy+	0	0	0	0	0	0
713	CRTFP Uy-	0	0	0	0	0	0
714	SLU 1	126	44	7285	-3.15	-3.1	-0.4
714	SLU 2	126	81	7282	-6.18	-3.09	-0.17
714	SLU 3	129	46	7446	-2.06	-3.16	-0.4
714	SLU 4	129	68	7445	-3.88	-3.16	-0.26
714	SLU 5	128	83	7382	-5.21	-3.13	-0.16
714	SLU 6	131	48	7546	-1.08	-3.2	-0.38
714	SLU 7	131	70	7545	-2.9	-3.2	-0.25
714	SLU 8	130	48	7484	-1.2	-3.17	-0.37
714	SLU 9	130	70	7483	-3.02	-3.16	-0.23
714	SLU 10	135	87	8202	-6.97	-3.28	-0.22
714	SLU 11	138	51	8366	-2.84	-3.35	-0.44
714	SLU 12	138	73	8364	-4.66	-3.35	-0.31
714	SLU 13	137	89	8302	-6	-3.32	-0.21
714	SLU 14	139	53	8466	-1.87	-3.39	-0.43
714	SLU 15	139	75	8464	-3.69	-3.39	-0.3
714	SLU 16	138	53	8404	-1.99	-3.35	-0.41
714	SLU 17	138	76	8402	-3.81	-3.35	-0.28
714	SLU 18	138	52	8598	-4.27	-3.36	-0.46
714	SLU 19	139	74	8597	-6.09	-3.36	-0.33
714	SLU 20	140	54	8698	-3.3	-3.4	-0.45
714	SLU 21	140	76	8697	-5.12	-3.4	-0.32
714	SLU 22	141	47	8417	-1.37	-3.39	-0.49
714	SLU 23	141	84	8415	-4.4	-3.39	-0.27
714	SLU 24	144	48	8579	-0.28	-3.46	-0.49
714	SLU 25	144	71	8578	-2.1	-3.46	-0.36
714	SLU 26	143	86	8515	-3.43	-3.42	-0.25
714	SLU 27	146	50	8679	0.7	-3.49	-0.48
714	SLU 28	146	72	8678	-1.12	-3.49	-0.34
714	SLU 29	144	50	8617	0.58	-3.46	-0.46
714	SLU 30	144	73	8616	-1.24	-3.46	-0.33
714	SLU 31	150	89	9335	-5.19	-3.58	-0.32
714	SLU 32	152	54	9498	-1.06	-3.65	-0.54
714	SLU 33	153	76	9497	-2.88	-3.65	-0.4
714	SLU 34	151	91	9435	-4.22	-3.61	-0.3
714	SLU 35	154	56	9598	-0.09	-3.68	-0.52
714	SLU 36	154	78	9597	-1.91	-3.68	-0.39
714	SLU 37	153	56	9537	-0.21	-3.65	-0.51
714	SLU 38	153	78	9535	-2.03	-3.65	-0.38
714	SLU 39	153	55	9731	-2.49	-3.66	-0.56
714	SLU 40	153	77	9729	-4.31	-3.66	-0.42
714	SLU 41	155	56	9831	-1.52	-3.69	-0.54
714	SLU 42	155	79	9829	-3.34	-3.69	-0.41
714	SLU 43	159	57	9082	-4.7	-3.92	-0.48
714	SLU 44	159	94	9079	-7.74	-3.92	-0.26
714	SLU 45	162	58	9243	-3.61	-3.99	-0.48
714	SLU 46	162	81	9242	-5.43	-3.99	-0.35
714	SLU 47	161	96	9179	-6.77	-3.96	-0.25
714	SLU 48	164	60	9343	-2.64	-4.03	-0.47
714	SLU 49	164	82	9342	-4.46	-4.02	-0.34
714	SLU 50	162	60	9281	-2.76	-3.99	-0.45
714	SLU 51	163	83	9280	-4.58	-3.99	-0.32
714	SLU 52	168	99	9999	-8.52	-4.11	-0.31
714	SLU 53	171	64	10163	-4.4	-4.18	-0.53
714	SLU 54	171	86	10161	-6.22	-4.18	-0.4
714	SLU 55	169	101	10099	-7.55	-4.14	-0.29
714	SLU 56	172	66	10262	-3.42	-4.21	-0.52
714	SLU 57	172	88	10261	-5.24	-4.21	-0.38
714	SLU 58	171	66	10201	-3.54	-4.18	-0.5
714	SLU 59	171	88	10199	-5.37	-4.18	-0.37
714	SLU 60	171	65	10395	-5.83	-4.19	-0.55
714	SLU 61	171	87	10394	-7.65	-4.19	-0.42
714	SLU 62	173	66	10495	-4.85	-4.23	-0.54
714	SLU 63	173	89	10493	-6.68	-4.23	-0.4
714	SLU 64	174	59	10214	-2.92	-4.22	-0.58
714	SLU 65	174	96	10212	-5.96	-4.22	-0.36
714	SLU 66	177	61	10376	-1.83	-4.29	-0.58
714	SLU 67	177	83	10375	-3.65	-4.28	-0.44
714	SLU 68	176	98	10312	-4.99	-4.25	-0.34
714	SLU 69	178	63	10476	-0.86	-4.32	-0.56
714	SLU 70	179	85	10475	-2.68	-4.32	-0.43
714	SLU 71	177	63	10414	-0.98	-4.29	-0.55
714	SLU 72	177	85	10413	-2.8	-4.29	-0.42
714	SLU 73	182	102	11132	-6.75	-4.4	-0.4
714	SLU 74	185	66	11295	-2.62	-4.47	-0.62
714	SLU 75	185	88	11294	-4.44	-4.47	-0.49
714	SLU 76	184	104	11231	-5.77	-4.44	-0.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
714	SLU 77	187	68	11395	-1.64	-4.51	-0.61
714	SLU 78	187	90	11394	-3.47	-4.51	-0.48
714	SLU 79	186	68	11334	-1.77	-4.48	-0.6
714	SLU 80	186	91	11332	-3.59	-4.48	-0.46
714	SLU 81	186	67	11528	-4.05	-4.49	-0.64
714	SLU 82	186	89	11526	-5.87	-4.49	-0.51
714	SLU 83	188	69	11628	-3.08	-4.52	-0.63
714	SLU 84	188	91	11626	-4.9	-4.52	-0.5
714	SLE RA 1	131	45	7608	-2.64	-3.18	-0.42
714	SLE RA 2	131	70	7607	-4.66	-3.18	-0.28
714	SLE RA 3	132	46	7716	-1.91	-3.22	-0.42
714	SLE RA 4	133	61	7715	-3.13	-3.22	-0.33
714	SLE RA 5	132	71	7673	-4.02	-3.2	-0.27
714	SLE RA 6	134	47	7783	-1.26	-3.25	-0.41
714	SLE RA 7	134	62	7782	-2.48	-3.25	-0.32
714	SLE RA 8	133	47	7741	-1.34	-3.23	-0.4
714	SLE RA 9	133	62	7741	-2.56	-3.23	-0.32
714	SLE RA 10	136	73	8220	-5.19	-3.3	-0.31
714	SLE RA 11	138	50	8329	-2.44	-3.35	-0.45
714	SLE RA 12	138	65	8328	-3.65	-3.35	-0.37
714	SLE RA 13	137	75	8286	-4.54	-3.33	-0.3
714	SLE RA 14	139	51	8396	-1.79	-3.37	-0.44
714	SLE RA 15	139	66	8395	-3	-3.37	-0.36
714	SLE RA 16	138	51	8354	-1.87	-3.35	-0.44
714	SLE RA 17	138	66	8353	-3.08	-3.35	-0.35
714	SLE RA 18	139	50	8484	-3.39	-3.36	-0.47
714	SLE RA 19	139	65	8483	-4.6	-3.36	-0.38
714	SLE RA 20	140	52	8550	-2.74	-3.38	-0.46
714	SLE RA 21	140	66	8550	-3.96	-3.38	-0.37
714	SLE FR 1	131	45	7608	-2.64	-3.18	-0.42
714	SLE FR 2	131	50	7608	-3.04	-3.18	-0.39
714	SLE FR 3	131	46	7635	-2.38	-3.19	-0.42
714	SLE FR 4	133	52	7871	-3.27	-3.23	-0.41
714	SLE FR 5	133	47	7898	-2.61	-3.24	-0.43
714	SLE FR 6	135	48	8046	-3.01	-3.27	-0.45
714	SLE QP 1	131	45	7608	-2.64	-3.18	-0.42
714	SLE QP 2	133	47	7871	-2.87	-3.23	-0.44
714	SLD 1	635	141	5959	-27.73	1.33	-0.81
714	SLD 2	635	322	5959	-31.07	1.34	1.29
714	SLD 3	631	-333	5946	20.36	1.28	-3.48
714	SLD 4	631	-152	5945	17.03	1.3	-1.38
714	SLD 5	290	762	7318	-82.69	-1.8	3.15
714	SLD 6	290	880	7318	-84.85	-1.79	4.51
714	SLD 7	276	-818	7273	77.63	-1.95	-5.78
714	SLD 8	276	-700	7272	75.47	-1.94	-4.42
714	SLD 9	-10	794	8470	-81.2	-4.53	3.55
714	SLD 10	-10	911	8469	-83.36	-4.52	4.9
714	SLD 11	-24	-786	8424	79.12	-4.68	-5.38
714	SLD 12	-24	-669	8423	76.96	-4.67	-4.02
714	SLD 13	-365	246	9797	-22.76	-7.76	0.51
714	SLD 14	-365	427	9796	-26.09	-7.75	2.61
714	SLD 15	-369	-228	9783	25.34	-7.81	-2.17
714	SLD 16	-369	-47	9782	22	-7.79	-0.07
714	SLV 1	919	222	4889	-44.84	3.88	-0.86
714	SLV 2	920	507	4888	-50.09	3.9	2.44
714	SLV 3	912	-579	4867	36.45	3.81	-5.39
714	SLV 4	912	-294	4866	31.2	3.83	-2.08
714	SLV 5	379	1261	7010	-137.77	-0.99	5.69
714	SLV 6	380	1453	7010	-141.3	-0.97	7.91
714	SLV 7	356	-1409	6936	133.2	-1.24	-9.41
714	SLV 8	356	-1217	6935	129.66	-1.22	-7.18
714	SLV 9	-90	1311	8806	-135.39	-5.24	6.31
714	SLV 10	-90	1503	8806	-138.93	-5.23	8.53
714	SLV 11	-114	-1360	8732	135.57	-5.49	-8.79
714	SLV 12	-113	-1168	8731	132.04	-5.48	-6.56
714	SLV 13	-647	387	10876	-36.93	-10.3	1.21
714	SLV 14	-646	673	10875	-42.18	-10.27	4.52
714	SLV 15	-654	-414	10854	44.36	-10.37	-3.32
714	SLV 16	-653	-128	10853	39.11	-10.35	-0.01
714	SLV FO 1	997	239	4591	-49.04	4.59	-0.91
714	SLV FO 2	998	553	4590	-54.82	4.62	2.73
714	SLV FO 3	990	-642	4566	40.38	4.51	-5.89
714	SLV FO 4	990	-328	4565	34.6	4.54	-2.25
714	SLV FO 5	404	1383	6924	-151.26	-0.76	6.3
714	SLV FO 6	405	1594	6924	-155.15	-0.75	8.75
714	SLV FO 7	378	-1555	6843	146.8	-1.04	-10.3
714	SLV FO 8	378	-1344	6842	142.91	-1.02	-7.86
714	SLV FO 9	-113	1437	8900	-148.64	-5.44	6.98
714	SLV FO 10	-112	1648	8899	-152.53	-5.43	9.43
714	SLV FO 11	-139	-1500	8818	149.42	-5.72	-9.62
714	SLV FO 12	-138	-1289	8817	145.53	-5.7	-7.17
714	SLV FO 13	-725	422	11177	-40.33	-11	1.38
714	SLV FO 14	-724	735	11175	-46.11	-10.98	5.01
714	SLV FO 15	-732	-460	11152	49.09	-11.08	-3.61
714	SLV FO 16	-732	-146	11151	43.31	-11.06	0.03
714	CRTFP Ux+	0	0	0	0	0	0
714	CRTFP Ux-	0	0	0	0	0	0
714	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
714	CRTFP Uy-	0	0	0	0	0	0
715	SLU 1	108	36	6317	-2.43	172.94	-1.4
715	SLU 2	108	69	6315	-5.11	172.89	-2.14
715	SLU 3	111	37	6457	-1.49	176.78	-1.44
715	SLU 4	111	57	6456	-3.1	176.74	-1.89
715	SLU 5	110	70	6402	-4.28	175.26	-2.18
715	SLU 6	112	39	6544	-0.66	179.15	-1.48
715	SLU 7	112	58	6543	-2.27	179.11	-1.92
715	SLU 8	111	39	6490	-0.76	177.68	-1.48
715	SLU 9	111	59	6489	-2.37	177.65	-1.92
715	SLU 10	116	73	7107	-5.75	194.69	-2.32
715	SLU 11	118	42	7250	-2.13	198.58	-1.61
715	SLU 12	118	61	7248	-3.74	198.55	-2.06
715	SLU 13	117	75	7194	-4.91	197.06	-2.35
715	SLU 14	119	43	7336	-1.29	200.95	-1.65
715	SLU 15	119	63	7335	-2.9	200.92	-2.09
715	SLU 16	118	44	7282	-1.4	199.48	-1.65
715	SLU 17	118	63	7281	-3.01	199.45	-2.09
715	SLU 18	119	42	7449	-3.34	204.08	-1.65
715	SLU 19	119	62	7448	-4.95	204.05	-2.09
715	SLU 20	120	44	7535	-2.51	206.45	-1.68
715	SLU 21	120	63	7534	-4.12	206.42	-2.13
715	SLU 22	121	38	7295	-0.86	199.81	-1.53
715	SLU 23	121	70	7293	-3.54	199.76	-2.27
715	SLU 24	123	39	7435	0.08	203.65	-1.57
715	SLU 25	123	58	7434	-1.53	203.61	-2.01
715	SLU 26	122	72	7380	-2.71	202.13	-2.31
715	SLU 27	125	41	7522	0.91	206.02	-1.6
715	SLU 28	125	60	7521	-0.7	205.99	-2.05
715	SLU 29	124	41	7468	0.8	204.55	-1.6
715	SLU 30	124	60	7467	-0.8	204.52	-2.05
715	SLU 31	128	75	8085	-4.18	221.56	-2.44
715	SLU 32	130	43	8227	-0.56	225.45	-1.74
715	SLU 33	131	63	8226	-2.17	225.42	-2.18
715	SLU 34	129	76	8172	-3.35	223.93	-2.48
715	SLU 35	132	45	8314	0.27	227.82	-1.78
715	SLU 36	132	64	8313	-1.33	227.79	-2.22
715	SLU 37	131	45	8260	0.17	226.35	-1.77
715	SLU 38	131	65	8259	-1.44	226.32	-2.22
715	SLU 39	131	44	8427	-1.77	230.95	-1.77
715	SLU 40	131	64	8426	-3.38	230.92	-2.22
715	SLU 41	132	46	8513	-0.94	233.33	-1.81
715	SLU 42	133	65	8512	-2.55	233.29	-2.26
715	SLU 43	136	46	7877	-3.7	215.61	-1.78
715	SLU 44	136	79	7875	-6.38	215.55	-2.52
715	SLU 45	139	48	8017	-2.76	219.44	-1.82
715	SLU 46	139	67	8016	-4.36	219.41	-2.26
715	SLU 47	138	80	7961	-5.54	217.93	-2.56
715	SLU 48	140	49	8104	-1.92	221.81	-1.85
715	SLU 49	140	69	8102	-3.53	221.78	-2.3
715	SLU 50	139	49	8050	-2.03	220.35	-1.85
715	SLU 51	139	69	8049	-3.64	220.32	-2.3
715	SLU 52	144	83	8667	-7.01	237.36	-2.69
715	SLU 53	146	52	8809	-3.39	241.25	-1.99
715	SLU 54	146	71	8808	-5	241.21	-2.43
715	SLU 55	145	85	8754	-6.18	239.73	-2.73
715	SLU 56	147	54	8896	-2.56	243.62	-2.03
715	SLU 57	148	73	8895	-4.17	243.59	-2.47
715	SLU 58	146	54	8842	-2.67	242.15	-2.03
715	SLU 59	146	73	8841	-4.28	242.12	-2.47
715	SLU 60	147	53	9009	-4.61	246.75	-2.02
715	SLU 61	147	72	9008	-6.22	246.72	-2.47
715	SLU 62	148	54	9095	-3.77	249.12	-2.06
715	SLU 63	148	74	9094	-5.38	249.09	-2.51
715	SLU 64	149	48	8855	-2.13	242.48	-1.91
715	SLU 65	149	80	8853	-4.81	242.42	-2.65
715	SLU 66	151	49	8995	-1.19	246.31	-1.94
715	SLU 67	151	69	8994	-2.8	246.28	-2.39
715	SLU 68	150	82	8939	-3.98	244.8	-2.69
715	SLU 69	153	51	9082	-0.36	248.69	-1.98
715	SLU 70	153	70	9080	-1.96	248.65	-2.43
715	SLU 71	152	51	9028	-0.46	247.22	-1.98
715	SLU 72	152	71	9027	-2.07	247.19	-2.43
715	SLU 73	156	85	9645	-5.45	264.23	-2.82
715	SLU 74	159	54	9787	-1.83	268.12	-2.11
715	SLU 75	159	73	9786	-3.43	268.09	-2.56
715	SLU 76	158	86	9732	-4.61	266.6	-2.86
715	SLU 77	160	55	9874	-0.99	270.49	-2.15
715	SLU 78	160	75	9873	-2.6	270.46	-2.6
715	SLU 79	159	56	9820	-1.1	269.02	-2.15
715	SLU 80	159	75	9819	-2.71	268.99	-2.6
715	SLU 81	159	54	9987	-3.04	273.62	-2.15
715	SLU 82	159	74	9985	-4.65	273.59	-2.6
715	SLU 83	161	56	10073	-2.21	275.99	-2.19
715	SLU 84	161	75	10072	-3.81	275.96	-2.63
715	SLE RA 1	112	37	6596	-1.98	180.62	-1.44
715	SLE RA 2	112	58	6595	-3.77	180.58	-1.93
715	SLE RA 3	113	37	6690	-1.36	183.17	-1.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
715	SLE RA 4	113	50	6689	-2.43	183.15	-1.76
715	SLE RA 5	113	59	6653	-3.21	182.16	-1.96
715	SLE RA 6	114	38	6748	-0.8	184.75	-1.49
715	SLE RA 7	114	51	6747	-1.87	184.73	-1.79
715	SLE RA 8	114	39	6712	-0.87	183.78	-1.49
715	SLE RA 9	114	52	6711	-1.94	183.76	-1.79
715	SLE RA 10	117	61	7123	-4.19	195.12	-2.05
715	SLE RA 11	118	40	7218	-1.78	197.71	-1.58
715	SLE RA 12	118	53	7217	-2.85	197.69	-1.87
715	SLE RA 13	118	62	7181	-3.64	196.7	-2.07
715	SLE RA 14	119	41	7276	-1.23	199.29	-1.6
715	SLE RA 15	119	54	7275	-2.3	199.27	-1.9
715	SLE RA 16	118	42	7240	-1.3	198.31	-1.6
715	SLE RA 17	118	55	7239	-2.37	198.29	-1.9
715	SLE RA 18	119	41	7351	-2.59	201.38	-1.6
715	SLE RA 19	119	54	7350	-3.66	201.36	-1.9
715	SLE RA 20	120	42	7409	-2.03	202.96	-1.63
715	SLE RA 21	120	55	7408	-3.11	202.94	-1.92
715	SLE FR 1	112	37	6596	-1.98	180.62	-1.44
715	SLE FR 2	112	41	6596	-2.34	180.61	-1.54
715	SLE FR 3	112	37	6620	-1.76	181.25	-1.45
715	SLE FR 4	114	42	6823	-2.52	186.84	-1.59
715	SLE FR 5	114	38	6846	-1.94	187.48	-1.5
715	SLE FR 6	115	39	6974	-2.29	191	-1.52
715	SLE QP 1	112	37	6596	-1.98	180.62	-1.44
715	SLE QP 2	114	38	6823	-2.16	186.84	-1.49
715	SLD 1	541	116	5070	-23.86	141.16	-4.05
715	SLD 2	541	279	5069	-26.87	141.15	-6.93
715	SLD 3	537	-298	5057	18.3	140.84	5.63
715	SLD 4	538	-135	5056	15.28	140.82	2.75
715	SLD 5	247	662	6316	-72.09	173.64	-16.44
715	SLD 6	247	768	6315	-74.03	173.63	-18.3
715	SLD 7	235	-720	6274	68.43	172.55	15.83
715	SLD 8	236	-615	6274	66.48	172.54	13.97
715	SLD 9	-8	691	7372	-70.81	201.15	-16.94
715	SLD 10	-8	796	7371	-72.76	201.14	-18.81
715	SLD 11	-20	-692	7330	69.71	200.06	15.33
715	SLD 12	-20	-586	7330	67.76	200.05	13.47
715	SLD 13	-310	211	8589	-19.61	232.87	-5.73
715	SLD 14	-310	374	8588	-22.63	232.85	-8.6
715	SLD 15	-314	-204	8577	22.54	232.54	3.96
715	SLD 16	-313	-41	8576	19.53	232.52	1.08
715	SLV 1	783	185	4088	-38.79	115.58	-6.08
715	SLV 2	783	442	4087	-43.53	115.56	-10.61
715	SLV 3	777	-516	4068	32.46	115.05	10.29
715	SLV 4	777	-259	4066	27.72	115.03	5.75
715	SLV 5	323	1097	6034	-120.32	166.28	-26.84
715	SLV 6	324	1270	6033	-123.52	166.26	-29.89
715	SLV 7	303	-1239	5966	117.16	164.5	27.71
715	SLV 8	304	-1067	5965	113.97	164.49	24.66
715	SLV 9	-76	1142	7681	-118.3	209.2	-27.63
715	SLV 10	-76	1315	7680	-121.49	209.18	-30.69
715	SLV 11	-96	-1195	7613	119.19	207.43	26.92
715	SLV 12	-96	-1022	7612	115.99	207.41	23.87
715	SLV 13	-550	335	9579	-32.05	258.66	-8.73
715	SLV 14	-549	591	9578	-36.79	258.64	-13.26
715	SLV 15	-556	-366	9559	39.2	258.13	7.64
715	SLV 16	-555	-110	9558	34.46	258.1	3.1
715	SLV FO 1	849	200	3815	-42.45	108.46	-6.54
715	SLV FO 2	850	482	3813	-47.67	108.43	-11.52
715	SLV FO 3	843	-571	3792	35.92	107.87	11.47
715	SLV FO 4	844	-289	3791	30.7	107.84	6.48
715	SLV FO 5	344	1203	5955	-132.14	164.22	-29.37
715	SLV FO 6	345	1394	5954	-135.65	164.2	-32.73
715	SLV FO 7	322	-1367	5880	129.1	162.27	30.63
715	SLV FO 8	323	-1177	5879	125.59	162.25	27.28
715	SLV FO 9	-95	1253	7767	-129.92	211.44	-30.25
715	SLV FO 10	-95	1443	7766	-133.43	211.42	-33.61
715	SLV FO 11	-117	-1318	7692	131.32	209.49	29.76
715	SLV FO 12	-117	-1128	7691	127.81	209.47	26.4
715	SLV FO 13	-616	364	9855	-35.03	265.84	-9.45
715	SLV FO 14	-615	647	9853	-40.25	265.82	-14.44
715	SLV FO 15	-623	-407	9833	43.34	265.26	8.55
715	SLV FO 16	-622	-124	9831	38.12	265.23	3.56
715	CRTFP Ux+	0	0	0	0	0	0
715	CRTFP Ux-	0	0	0	0	0	0
715	CRTFP Uy+	0	0	0	0	0	0
715	CRTFP Uy-	0	0	0	0	0	0
717	SLU 1	184	60	10859	14.29	2580.32	-15.82
717	SLU 2	184	116	10855	11.84	2579.55	-29.55
717	SLU 3	188	62	11100	15.5	2637.48	-16.34
717	SLU 4	188	96	11098	14.03	2637.02	-24.58
717	SLU 5	187	118	11004	12.81	2614.85	-30.21
717	SLU 6	191	65	11249	16.48	2672.78	-17
717	SLU 7	191	98	11247	15	2672.32	-25.24
717	SLU 8	189	65	11156	16.24	2650.92	-17.14
717	SLU 9	189	99	11154	14.77	2650.45	-25.38
717	SLU 10	197	123	12214	13.33	2903.79	-31.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
717	SLU 11	201	69	12458	16.99	2961.72	-18.28
717	SLU 12	201	103	12456	15.52	2961.26	-26.51
717	SLU 13	199	126	12362	14.3	2939.09	-32.14
717	SLU 14	203	72	12607	17.97	2997.02	-18.94
717	SLU 15	203	106	12605	16.5	2996.56	-27.17
717	SLU 16	201	73	12514	17.73	2975.16	-19.08
717	SLU 17	201	106	12512	16.26	2974.69	-27.31
717	SLU 18	202	71	12799	16.42	3043.52	-18.58
717	SLU 19	202	104	12797	14.95	3043.06	-26.82
717	SLU 20	204	73	12948	17.4	3078.82	-19.25
717	SLU 21	204	107	12946	15.92	3078.36	-27.48
717	SLU 22	205	63	12537	18.25	2980.11	-16.61
717	SLU 23	206	118	12533	15.8	2979.34	-30.34
717	SLU 24	210	65	12778	19.46	3037.27	-17.13
717	SLU 25	210	98	12776	17.99	3036.81	-25.37
717	SLU 26	208	121	12682	16.77	3014.64	-31
717	SLU 27	212	67	12926	20.44	3072.57	-17.8
717	SLU 28	212	101	12924	18.97	3072.11	-26.03
717	SLU 29	210	68	12834	20.2	3050.71	-17.94
717	SLU 30	210	101	12832	18.73	3050.24	-26.17
717	SLU 31	218	126	13891	17.29	3303.58	-32.27
717	SLU 32	222	72	14136	20.96	3361.51	-19.07
717	SLU 33	222	106	14134	19.48	3361.05	-27.31
717	SLU 34	220	129	14040	18.26	3338.88	-32.94
717	SLU 35	224	75	14285	21.93	3396.81	-19.73
717	SLU 36	225	108	14283	20.46	3396.35	-27.97
717	SLU 37	223	75	14192	21.69	3374.95	-19.87
717	SLU 38	223	109	14190	20.22	3374.48	-28.11
717	SLU 39	223	73	14477	20.38	3443.31	-19.38
717	SLU 40	223	107	14475	18.91	3442.85	-27.61
717	SLU 41	225	76	14626	21.36	3478.61	-20.04
717	SLU 42	226	109	14624	19.88	3478.15	-28.28
717	SLU 43	232	77	13541	17.22	3217.35	-20.29
717	SLU 44	232	133	13538	14.76	3216.58	-34.02
717	SLU 45	236	79	13782	18.43	3274.51	-20.81
717	SLU 46	236	113	13780	16.96	3274.05	-29.05
717	SLU 47	235	136	13686	15.74	3251.87	-34.68
717	SLU 48	239	82	13931	19.41	3309.81	-21.48
717	SLU 49	239	115	13929	17.93	3309.34	-29.71
717	SLU 50	237	82	13838	19.17	3287.94	-21.62
717	SLU 51	237	116	13836	17.7	3287.48	-29.85
717	SLU 52	244	140	14896	16.26	3540.82	-35.96
717	SLU 53	249	87	15141	19.92	3598.75	-22.75
717	SLU 54	249	120	15139	18.45	3598.29	-30.99
717	SLU 55	247	143	15045	17.23	3576.11	-36.62
717	SLU 56	251	89	15289	20.9	3634.05	-23.41
717	SLU 57	251	123	15287	19.42	3633.58	-31.65
717	SLU 58	249	90	15197	20.66	3612.18	-23.55
717	SLU 59	249	123	15195	19.19	3611.72	-31.79
717	SLU 60	250	88	15482	19.35	3680.55	-23.06
717	SLU 61	250	121	15480	17.88	3680.09	-31.29
717	SLU 62	252	90	15630	20.32	3715.84	-23.72
717	SLU 63	252	124	15628	18.85	3715.38	-31.96
717	SLU 64	253	80	15219	21.18	3617.14	-21.09
717	SLU 65	253	136	15216	18.73	3616.37	-34.81
717	SLU 66	258	82	15460	22.39	3674.3	-21.61
717	SLU 67	258	115	15458	20.92	3673.84	-29.84
717	SLU 68	256	138	15364	19.7	3651.67	-35.47
717	SLU 69	260	84	15609	23.37	3709.6	-22.27
717	SLU 70	260	118	15607	21.9	3709.13	-30.51
717	SLU 71	258	85	15516	23.13	3687.73	-22.41
717	SLU 72	258	119	15514	21.66	3687.27	-30.65
717	SLU 73	266	143	16574	20.22	3940.61	-36.75
717	SLU 74	270	89	16818	23.88	3998.54	-23.54
717	SLU 75	270	123	16816	22.41	3998.08	-31.78
717	SLU 76	268	146	16723	21.19	3975.9	-37.41
717	SLU 77	272	92	16967	24.86	4033.84	-24.2
717	SLU 78	272	125	16965	23.39	4033.37	-32.44
717	SLU 79	270	92	16874	24.62	4011.97	-24.35
717	SLU 80	271	126	16872	23.15	4011.51	-32.58
717	SLU 81	271	90	17159	23.31	4080.34	-23.85
717	SLU 82	271	124	17157	21.84	4079.88	-32.09
717	SLU 83	273	93	17308	24.29	4115.64	-24.51
717	SLU 84	273	126	17306	22.81	4115.17	-32.75
717	SLE RA 1	190	61	11338	15.42	2694.55	-16.05
717	SLE RA 2	190	98	11336	13.79	2694.04	-25.2
717	SLE RA 3	193	62	11499	16.23	2732.66	-16.39
717	SLE RA 4	193	84	11498	15.25	2732.35	-21.88
717	SLE RA 5	192	100	11435	14.44	2717.57	-25.64
717	SLE RA 6	195	64	11598	16.88	2756.19	-16.83
717	SLE RA 7	195	86	11597	15.9	2755.88	-22.33
717	SLE RA 8	193	64	11536	16.72	2741.61	-16.93
717	SLE RA 9	193	87	11535	15.74	2741.3	-22.42
717	SLE RA 10	199	103	12241	14.78	2910.2	-26.49
717	SLE RA 11	201	67	12404	17.22	2948.82	-17.68
717	SLE RA 12	201	89	12403	16.24	2948.51	-23.17
717	SLE RA 13	200	105	12341	15.43	2933.73	-26.93
717	SLE RA 14	203	69	12504	17.87	2972.35	-18.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
717	SLE RA 15	203	91	12502	16.89	2972.04	-23.62
717	SLE RA 16	202	69	12442	17.72	2957.77	-18.22
717	SLE RA 17	202	92	12440	16.73	2957.46	-23.71
717	SLE RA 18	202	68	12632	16.84	3003.35	-17.89
717	SLE RA 19	202	90	12630	15.86	3003.04	-23.38
717	SLE RA 20	204	70	12731	17.49	3026.88	-18.33
717	SLE RA 21	204	92	12730	16.51	3026.57	-23.82
717	SLE FR 1	190	61	11338	15.42	2694.55	-16.05
717	SLE FR 2	190	68	11338	15.1	2694.45	-17.88
717	SLE FR 3	191	61	11378	15.68	2703.96	-16.22
717	SLE FR 4	194	70	11726	15.52	2787.09	-18.43
717	SLE FR 5	194	64	11766	16.11	2796.6	-16.78
717	SLE FR 6	196	64	11985	16.13	2848.95	-16.97
717	SLE QP 1	190	61	11338	15.42	2694.55	-16.05
717	SLE QP 2	194	63	11726	15.85	2787.19	-16.6
717	SLD 1	920	195	8639	-7.8	2095.33	-50.33
717	SLD 2	920	479	8638	-10.59	2095.05	-119
717	SLD 3	914	-519	8617	30.62	2090.41	125.48
717	SLD 4	914	-235	8615	27.84	2090.13	56.8
717	SLD 5	420	1136	10834	-49.04	2587.14	-281.45
717	SLD 6	421	1320	10833	-50.84	2586.96	-325.88
717	SLD 7	401	-1244	10760	79.04	2570.74	304.58
717	SLD 8	401	-1060	10759	77.24	2570.56	260.15
717	SLD 9	-14	1186	12693	-45.54	3003.82	-293.35
717	SLD 10	-13	1370	12692	-47.34	3003.64	-337.78
717	SLD 11	-33	-1195	12620	82.54	2987.42	292.68
717	SLD 12	-33	-1011	12618	80.73	2987.24	248.25
717	SLD 13	-527	360	14837	3.86	3484.25	-90
717	SLD 14	-526	645	14835	1.08	3483.97	-158.68
717	SLD 15	-533	-354	14815	42.28	3479.33	85.81
717	SLD 16	-532	-69	14813	39.5	3479.05	17.13
717	SLV 1	1331	312	6911	-23.56	1707.91	-79.81
717	SLV 2	1332	760	6908	-27.94	1707.47	-187.94
717	SLV 3	1321	-895	6875	41.38	1699.9	217.35
717	SLV 4	1322	-447	6872	37	1699.45	109.22
717	SLV 5	550	1885	10337	-93.64	2475.65	-466.08
717	SLV 6	551	2186	10335	-96.59	2475.35	-538.88
717	SLV 7	516	-2139	10216	122.81	2448.93	524.46
717	SLV 8	517	-1837	10214	119.86	2448.63	451.66
717	SLV 9	-130	1963	13238	-88.17	3125.75	-484.86
717	SLV 10	-129	2265	13236	-91.12	3125.45	-557.66
717	SLV 11	-163	-2061	13117	128.29	3099.03	505.68
717	SLV 12	-163	-1759	13115	125.34	3098.73	432.88
717	SLV 13	-934	573	16581	-5.3	3874.92	-142.42
717	SLV 14	-933	1021	16578	-9.69	3874.48	-250.55
717	SLV 15	-945	-634	16544	59.63	3866.91	154.74
717	SLV 16	-944	-187	16541	55.25	3866.47	46.61
717	SLV FO 1	1445	337	6430	-27.5	1599.98	-86.13
717	SLV FO 2	1446	830	6426	-32.32	1599.5	-205.07
717	SLV FO 3	1434	-991	6390	43.94	1591.17	240.75
717	SLV FO 4	1435	-498	6386	39.11	1590.68	121.81
717	SLV FO 5	586	2067	10198	-104.59	2444.49	-511.02
717	SLV FO 6	586	2399	10196	-107.84	2444.17	-591.1
717	SLV FO 7	548	-2359	10065	133.51	2415.1	578.57
717	SLV FO 8	549	-2027	10063	130.27	2414.77	498.49
717	SLV FO 9	-162	2153	13389	-98.57	3159.61	-531.69
717	SLV FO 10	-161	2485	13387	-101.81	3159.28	-611.77
717	SLV FO 11	-199	-2273	13256	139.53	3130.21	557.9
717	SLV FO 12	-198	-1941	13254	136.29	3129.89	477.83
717	SLV FO 13	-1047	624	17066	-7.42	3983.7	-155.01
717	SLV FO 14	-1046	1116	17063	-12.24	3983.21	-273.95
717	SLV FO 15	-1058	-704	17026	64.01	3974.88	171.87
717	SLV FO 16	-1057	-211	17023	59.19	3974.39	52.93
717	CRTFP Ux+	0	0	0	0	0.01	0
717	CRTFP Ux-	0	0	0	0	-0.01	0
717	CRTFP Uy+	0	0	0	0	0	0
717	CRTFP Uy-	0	0	0	0	0	0
777	SLU 1	70	24	4037	110.01	1242.03	-10.18
777	SLU 2	70	45	4031	109.71	1242.05	-17.57
777	SLU 3	72	24	4129	112.54	1269.37	-10.5
777	SLU 4	71	37	4125	112.36	1269.39	-14.93
777	SLU 5	71	46	4088	111.29	1258.97	-17.95
777	SLU 6	73	25	4185	114.12	1286.29	-10.88
777	SLU 7	72	38	4182	113.94	1286.3	-15.31
777	SLU 8	72	26	4151	113.17	1275.86	-10.94
777	SLU 9	72	38	4147	112.99	1275.88	-15.37
777	SLU 10	74	48	4535	123.41	1397.68	-18.72
777	SLU 11	76	27	4633	126.23	1425	-11.64
777	SLU 12	76	40	4629	126.06	1425.02	-16.08
777	SLU 13	75	49	4592	124.99	1414.6	-19.09
777	SLU 14	77	28	4690	127.81	1441.92	-12.02
777	SLU 15	77	41	4686	127.64	1441.93	-16.45
777	SLU 16	77	29	4655	126.87	1431.5	-12.08
777	SLU 17	76	41	4651	126.69	1431.51	-16.52
777	SLU 18	77	28	4758	129.58	1464.36	-11.82
777	SLU 19	77	41	4754	129.4	1464.37	-16.25
777	SLU 20	78	29	4815	131.16	1481.28	-12.2
777	SLU 21	77	42	4811	130.98	1481.29	-16.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
777	SLU 22	78	25	4664	127.14	1433.81	-10.79
777	SLU 23	78	46	4658	126.84	1433.83	-18.18
777	SLU 24	80	26	4756	129.67	1461.15	-11.11
777	SLU 25	80	38	4752	129.49	1461.16	-15.54
777	SLU 26	79	47	4715	128.42	1450.75	-18.56
777	SLU 27	81	27	4812	131.25	1478.07	-11.49
777	SLU 28	81	39	4809	131.07	1478.08	-15.92
777	SLU 29	80	27	4778	130.3	1467.64	-11.55
777	SLU 30	80	39	4774	130.12	1467.66	-15.98
777	SLU 31	83	49	5162	140.54	1589.46	-19.32
777	SLU 32	85	28	5260	143.36	1616.78	-12.25
777	SLU 33	84	41	5256	143.19	1616.79	-16.69
777	SLU 34	83	50	5219	142.12	1606.38	-19.7
777	SLU 35	85	29	5317	144.94	1633.7	-12.63
777	SLU 36	85	42	5313	144.77	1633.71	-17.06
777	SLU 37	85	30	5282	144	1623.27	-12.69
777	SLU 38	85	42	5278	143.82	1623.29	-17.12
777	SLU 39	85	29	5385	146.71	1656.14	-12.43
777	SLU 40	85	42	5381	146.53	1656.15	-16.86
777	SLU 41	86	30	5442	148.29	1673.06	-12.8
777	SLU 42	86	43	5438	148.11	1673.07	-17.24
777	SLU 43	88	30	5033	137.14	1548.89	-13.03
777	SLU 44	88	52	5027	136.84	1548.91	-20.42
777	SLU 45	90	31	5125	139.67	1576.23	-13.35
777	SLU 46	90	44	5121	139.49	1576.24	-17.78
777	SLU 47	89	53	5084	138.43	1565.83	-20.8
777	SLU 48	91	32	5181	141.25	1593.15	-13.72
777	SLU 49	91	45	5178	141.07	1593.16	-18.16
777	SLU 50	90	32	5147	140.3	1582.72	-13.79
777	SLU 51	90	45	5143	140.12	1582.73	-18.22
777	SLU 52	93	54	5532	150.54	1704.54	-21.56
777	SLU 53	95	34	5629	153.36	1731.86	-14.49
777	SLU 54	94	47	5625	153.19	1731.87	-18.92
777	SLU 55	93	55	5588	152.12	1721.46	-21.94
777	SLU 56	96	35	5686	154.95	1748.78	-14.87
777	SLU 57	95	48	5682	154.77	1748.79	-19.3
777	SLU 58	95	35	5651	154	1738.35	-14.93
777	SLU 59	95	48	5648	153.82	1738.37	-19.36
777	SLU 60	95	35	5754	156.71	1771.22	-14.67
777	SLU 61	95	47	5750	156.53	1771.23	-19.1
777	SLU 62	96	36	5811	158.29	1788.13	-15.04
777	SLU 63	96	48	5807	158.11	1788.15	-19.48
777	SLU 64	96	32	5660	154.27	1740.67	-13.64
777	SLU 65	96	53	5654	153.97	1740.69	-21.03
777	SLU 66	98	32	5752	156.8	1768.01	-13.96
777	SLU 67	98	45	5748	156.62	1768.02	-18.39
777	SLU 68	97	54	5711	155.55	1757.6	-21.4
777	SLU 69	99	33	5808	158.38	1784.92	-14.33
777	SLU 70	99	46	5805	158.2	1784.94	-18.77
777	SLU 71	98	34	5774	157.43	1774.5	-14.39
777	SLU 72	98	46	5770	157.25	1774.51	-18.83
777	SLU 73	101	56	6159	167.67	1896.32	-22.17
777	SLU 74	103	35	6256	170.49	1923.64	-15.1
777	SLU 75	103	48	6252	170.32	1923.65	-19.53
777	SLU 76	102	57	6215	169.25	1913.23	-22.55
777	SLU 77	104	36	6313	172.07	1940.56	-15.48
777	SLU 78	103	49	6309	171.9	1940.57	-19.91
777	SLU 79	103	36	6278	171.13	1930.13	-15.54
777	SLU 80	103	49	6275	170.95	1930.14	-19.97
777	SLU 81	103	36	6381	173.84	1963	-15.27
777	SLU 82	103	48	6377	173.66	1963.01	-19.71
777	SLU 83	104	37	6438	175.42	1979.91	-15.65
777	SLU 84	104	49	6434	175.24	1979.93	-20.08
777	SLE RA 1	72	24	4216	114.91	1296.82	-10.36
777	SLE RA 2	72	38	4212	114.71	1296.84	-15.28
777	SLE RA 3	73	25	4277	116.59	1315.05	-10.57
777	SLE RA 4	73	33	4275	116.47	1315.06	-13.52
777	SLE RA 5	73	39	4250	115.76	1308.12	-15.53
777	SLE RA 6	74	25	4315	117.64	1326.33	-10.82
777	SLE RA 7	74	34	4313	117.52	1326.34	-13.78
777	SLE RA 8	74	25	4292	117.01	1319.38	-10.86
777	SLE RA 9	73	34	4290	116.89	1319.39	-13.82
777	SLE RA 10	75	40	4548	123.84	1400.59	-16.05
777	SLE RA 11	77	26	4614	125.72	1418.81	-11.33
777	SLE RA 12	76	35	4611	125.6	1418.81	-14.29
777	SLE RA 13	76	41	4586	124.89	1411.87	-16.3
777	SLE RA 14	77	27	4651	126.77	1430.08	-11.58
777	SLE RA 15	77	36	4649	126.66	1430.09	-14.54
777	SLE RA 16	77	27	4628	126.14	1423.13	-11.62
777	SLE RA 17	77	36	4626	126.03	1423.14	-14.58
777	SLE RA 18	77	27	4697	127.95	1445.04	-11.45
777	SLE RA 19	77	35	4694	127.83	1445.05	-14.4
777	SLE RA 20	77	27	4735	129	1456.32	-11.7
777	SLE RA 21	77	36	4732	128.88	1456.33	-14.65
777	SLE FR 1	72	24	4216	114.91	1296.82	-10.36
777	SLE FR 2	72	27	4216	114.87	1296.83	-11.34
777	SLE FR 3	73	24	4231	115.33	1301.34	-10.46
777	SLE FR 4	74	28	4360	118.78	1341.29	-11.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
777	SLE FR 5	74	25	4376	119.24	1345.8	-10.79
777	SLE FR 6	75	25	4457	121.43	1370.93	-10.9
777	SLE QP 1	72	24	4216	114.91	1296.82	-10.36
777	SLE QP 2	74	25	4360	118.82	1341.29	-10.69
777	SLD 1	349	76	3187	85.9	1015.77	-51.71
777	SLD 2	343	182	3180	85.57	1016.57	-88.78
777	SLD 3	353	-195	3267	90.07	1010.6	42.76
777	SLD 4	347	-88	3261	89.74	1011.4	5.68
777	SLD 5	150	432	3887	102.68	1251.35	-159.83
777	SLD 6	146	501	3883	102.47	1251.86	-183.82
777	SLD 7	166	-470	4156	116.57	1234.1	155.05
777	SLD 8	162	-401	4152	116.35	1234.61	131.06
777	SLD 9	-15	450	4569	121.28	1447.97	-152.43
777	SLD 10	-18	520	4565	121.07	1448.48	-176.42
777	SLD 11	1	-451	4838	135.17	1430.72	162.45
777	SLD 12	-2	-382	4834	134.96	1431.24	138.46
777	SLD 13	-200	138	5460	147.9	1671.18	-27.05
777	SLD 14	-206	245	5454	147.57	1671.98	-64.13
777	SLD 15	-195	-133	5541	152.07	1666.01	67.41
777	SLD 16	-201	-26	5534	151.74	1666.81	30.34
777	SLV 1	504	120	2524	67.19	833.66	-80.76
777	SLV 2	494	288	2513	66.67	834.91	-139.13
777	SLV 3	512	-337	2660	74.23	825.07	78.91
777	SLV 4	502	-169	2650	73.71	826.32	20.54
777	SLV 5	192	716	3604	92.74	1201.8	-262.98
777	SLV 6	186	829	3597	92.39	1202.64	-302.28
777	SLV 7	219	-809	4059	116.23	1173.16	269.26
777	SLV 8	213	-695	4052	115.88	1174	229.95
777	SLV 9	-65	745	4669	121.76	1508.58	-251.32
777	SLV 10	-72	858	4662	121.41	1509.42	-290.63
777	SLV 11	-39	-779	5123	145.25	1479.94	280.91
777	SLV 12	-45	-666	5117	144.9	1480.78	241.61
777	SLV 13	-355	218	6071	163.92	1856.26	-41.91
777	SLV 14	-364	387	6061	163.4	1857.51	-100.28
777	SLV 15	-347	-239	6208	170.97	1847.67	117.76
777	SLV 16	-356	-71	6197	170.45	1848.92	59.39
777	SLV FO 1	547	130	2340	62.02	782.9	-87.76
777	SLV FO 2	536	315	2329	61.45	784.28	-151.98
777	SLV FO 3	556	-373	2490	69.78	773.45	87.87
777	SLV FO 4	545	-188	2479	69.2	774.83	23.66
777	SLV FO 5	204	785	3529	90.13	1187.85	-288.21
777	SLV FO 6	197	909	3521	89.74	1188.78	-331.44
777	SLV FO 7	234	-892	4029	115.97	1156.35	297.25
777	SLV FO 8	227	-767	4022	115.59	1157.27	254.02
777	SLV FO 9	-79	817	4699	122.05	1525.31	-275.39
777	SLV FO 10	-86	942	4692	121.67	1526.23	-318.62
777	SLV FO 11	-50	-860	5200	147.9	1493.8	310.07
777	SLV FO 12	-57	-735	5192	147.51	1494.73	266.84
777	SLV FO 13	-398	238	6242	168.43	1907.75	-45.03
777	SLV FO 14	-408	423	6231	167.86	1909.13	-109.24
777	SLV FO 15	-389	-265	6392	176.19	1898.3	130.61
777	SLV FO 16	-399	-80	6381	175.62	1899.68	66.39
777	CRTFP Ux+	0	0	0	0	0	0
777	CRTFP Ux-	0	0	0	0	0	0
777	CRTFP Uy+	0	0	0	0	0	0
777	CRTFP Uy-	0	0	0	0	0	0
778	SLU 1	-71	-2	5380	631.54	-1193.06	8.03
778	SLU 2	-70	27	5371	630.17	-1193.62	15.01
778	SLU 3	-73	-3	5511	647.03	-1221.38	8.06
778	SLU 4	-72	15	5506	646.21	-1221.72	12.25
778	SLU 5	-70	27	5457	640.31	-1212.08	15.06
778	SLU 6	-73	-3	5596	657.17	-1239.84	8.11
778	SLU 7	-72	14	5591	656.35	-1240.18	12.3
778	SLU 8	-73	-2	5551	651.82	-1229.97	8.13
778	SLU 9	-72	15	5546	651	-1230.31	12.32
778	SLU 10	-72	28	6054	710.07	-1345.32	15.69
778	SLU 11	-75	-1	6193	726.93	-1373.08	8.74
778	SLU 12	-74	16	6188	726.11	-1373.41	12.93
778	SLU 13	-73	28	6139	720.21	-1363.77	15.74
778	SLU 14	-76	-1	6279	737.08	-1391.53	8.79
778	SLU 15	-75	16	6274	736.25	-1391.87	12.98
778	SLU 16	-75	-1	6233	731.73	-1381.67	8.81
778	SLU 17	-74	16	6228	730.9	-1382	13
778	SLU 18	-75	0	6354	745.68	-1409.77	9
778	SLU 19	-74	17	6350	744.86	-1410.1	13.19
778	SLU 20	-75	0	6440	755.83	-1428.22	9.05
778	SLU 21	-75	17	6435	755	-1428.56	13.24
778	SLU 22	-78	-4	6237	732.32	-1381.83	8.22
778	SLU 23	-76	24	6229	730.95	-1382.39	15.21
778	SLU 24	-79	-5	6368	747.82	-1410.15	8.25
778	SLU 25	-78	12	6363	747	-1410.49	12.44
778	SLU 26	-77	24	6315	741.1	-1400.85	15.26
778	SLU 27	-80	-5	6454	757.96	-1428.6	8.3
778	SLU 28	-79	12	6449	757.14	-1428.94	12.49
778	SLU 29	-79	-5	6409	752.61	-1418.74	8.32
778	SLU 30	-78	13	6404	751.79	-1419.08	12.51
778	SLU 31	-79	26	6911	810.86	-1534.08	15.89
778	SLU 32	-81	-4	7051	827.72	-1561.84	8.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
778	SLU 33	-81	14	7046	826.9	-1562.18	13.12
778	SLU 34	-79	26	6997	821	-1552.54	15.93
778	SLU 35	-82	-4	7136	837.86	-1580.3	8.98
778	SLU 36	-81	14	7131	837.04	-1580.63	13.17
778	SLU 37	-82	-3	7091	832.51	-1570.43	9
778	SLU 38	-81	14	7086	831.69	-1570.77	13.19
778	SLU 39	-81	-2	7212	846.47	-1598.53	9.19
778	SLU 40	-80	15	7207	845.65	-1598.87	13.38
778	SLU 41	-82	-2	7298	856.61	-1616.99	9.24
778	SLU 42	-81	15	7293	855.79	-1617.32	13.43
778	SLU 43	-90	-2	6699	786.44	-1486.26	10.37
778	SLU 44	-89	27	6691	785.07	-1486.82	17.36
778	SLU 45	-92	-2	6830	801.94	-1514.58	10.4
778	SLU 46	-91	15	6826	801.11	-1514.92	14.59
778	SLU 47	-90	27	6777	795.21	-1505.28	17.41
778	SLU 48	-93	-3	6916	812.08	-1533.04	10.45
778	SLU 49	-92	15	6911	811.26	-1533.38	14.64
778	SLU 50	-92	-2	6871	806.73	-1523.17	10.47
778	SLU 51	-91	15	6866	805.91	-1523.51	14.66
778	SLU 52	-91	28	7374	864.97	-1638.52	18.04
778	SLU 53	-94	-1	7513	881.84	-1666.28	11.08
778	SLU 54	-93	16	7508	881.02	-1666.61	15.27
778	SLU 55	-92	28	7459	875.12	-1656.97	18.09
778	SLU 56	-95	-1	7599	891.98	-1684.73	11.13
778	SLU 57	-94	16	7594	891.16	-1685.07	15.32
778	SLU 58	-94	-1	7553	886.63	-1674.87	11.15
778	SLU 59	-93	17	7548	885.81	-1675.2	15.34
778	SLU 60	-94	0	7674	900.59	-1702.97	11.34
778	SLU 61	-93	18	7669	899.76	-1703.3	15.53
778	SLU 62	-95	0	7760	910.73	-1721.42	11.39
778	SLU 63	-94	17	7755	909.91	-1721.76	15.58
778	SLU 64	-97	-4	7557	887.23	-1675.03	10.56
778	SLU 65	-95	25	7549	885.86	-1675.59	17.55
778	SLU 66	-98	-5	7688	902.72	-1703.35	10.59
778	SLU 67	-97	12	7683	901.9	-1703.68	14.78
778	SLU 68	-96	24	7634	896	-1694.04	17.6
778	SLU 69	-99	-5	7774	912.87	-1721.8	10.64
778	SLU 70	-98	12	7769	912.04	-1722.14	14.83
778	SLU 71	-98	-5	7728	907.52	-1711.94	10.66
778	SLU 72	-97	13	7723	906.69	-1712.28	14.85
778	SLU 73	-98	26	8231	965.76	-1827.28	18.23
778	SLU 74	-101	-3	8370	982.63	-1855.04	11.27
778	SLU 75	-100	14	8366	981.8	-1855.38	15.46
778	SLU 76	-98	26	8317	975.9	-1845.74	18.28
778	SLU 77	-101	-3	8456	992.77	-1873.5	11.32
778	SLU 78	-101	14	8451	991.95	-1873.83	15.51
778	SLU 79	-101	-3	8411	987.42	-1863.63	11.34
778	SLU 80	-100	14	8406	986.6	-1863.97	15.53
778	SLU 81	-100	-2	8532	1001.38	-1891.73	11.54
778	SLU 82	-99	15	8527	1000.55	-1892.07	15.73
778	SLU 83	-101	-2	8618	1011.52	-1910.19	11.58
778	SLU 84	-100	15	8613	1010.7	-1910.52	15.78
778	SLE RA 1	-73	-3	5625	660.33	-1247	8.08
778	SLE RA 2	-72	16	5619	659.42	-1247.37	12.74
778	SLE RA 3	-74	-3	5712	670.66	-1265.88	8.1
778	SLE RA 4	-73	8	5709	670.11	-1266.1	10.9
778	SLE RA 5	-73	16	5676	666.18	-1259.67	12.77
778	SLE RA 6	-74	-3	5769	677.42	-1278.18	8.14
778	SLE RA 7	-74	8	5766	676.88	-1278.4	10.93
778	SLE RA 8	-74	-3	5739	673.86	-1271.6	8.15
778	SLE RA 9	-73	9	5736	673.31	-1271.83	10.94
778	SLE RA 10	-74	17	6074	712.69	-1348.5	13.19
778	SLE RA 11	-76	-2	6167	723.93	-1367	8.56
778	SLE RA 12	-75	9	6164	723.38	-1367.23	11.35
778	SLE RA 13	-74	17	6131	719.45	-1360.8	13.23
778	SLE RA 14	-76	-2	6224	730.69	-1379.31	8.59
778	SLE RA 15	-76	9	6221	730.14	-1379.53	11.38
778	SLE RA 16	-76	-2	6194	727.13	-1372.73	8.6
778	SLE RA 17	-75	10	6190	726.58	-1372.96	11.4
778	SLE RA 18	-75	-1	6275	736.43	-1391.46	8.73
778	SLE RA 19	-75	10	6271	735.88	-1391.69	11.53
778	SLE RA 20	-76	-1	6332	743.19	-1403.77	8.76
778	SLE RA 21	-75	10	6328	742.64	-1403.99	11.56
778	SLE FR 1	-73	-3	5625	660.33	-1247	8.08
778	SLE FR 2	-73	1	5624	660.15	-1247.07	9.02
778	SLE FR 3	-73	-3	5647	663.04	-1251.92	8.1
778	SLE FR 4	-74	2	5818	682.98	-1290.41	9.21
778	SLE FR 5	-74	-2	5842	685.87	-1295.26	8.29
778	SLE FR 6	-74	-2	5950	698.38	-1319.23	8.41
778	SLE QP 1	-73	-3	5625	660.33	-1247	8.08
778	SLE QP 2	-74	-2	5820	683.16	-1290.34	8.28
778	SLD 1	305	208	7401	864.98	-1640.21	20.39
778	SLD 2	292	64	7411	866.44	-1638.59	-13.68
778	SLD 3	286	-158	7481	880.87	-1623.38	-68.59
778	SLD 4	274	-302	7491	882.34	-1621.77	-102.66
778	SLD 5	70	641	6171	713.35	-1421.1	152.77
778	SLD 6	62	548	6178	714.3	-1420.06	130.73
778	SLD 7	9	-579	6437	766.33	-1365.01	-143.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
778	SLD 8	0	-672	6444	767.28	-1363.96	-165.86
778	SLD 9	-148	668	5195	599.05	-1216.71	182.42
778	SLD 10	-156	574	5202	600	-1215.66	160.38
778	SLD 11	-209	-552	5462	652.03	-1160.62	-114.17
778	SLD 12	-217	-645	5468	652.98	-1159.57	-136.22
778	SLD 13	-421	297	4148	483.99	-958.91	119.22
778	SLD 14	-434	154	4158	485.45	-957.29	85.14
778	SLD 15	-440	-69	4228	499.88	-942.08	30.24
778	SLD 16	-452	-212	4238	501.35	-940.47	-3.83
778	SLV 1	520	350	8282	965.8	-1837.32	33.04
778	SLV 2	500	123	8298	968.11	-1834.78	-20.61
778	SLV 3	489	-268	8417	992.58	-1808.81	-117.31
778	SLV 4	469	-495	8432	994.9	-1806.27	-170.95
778	SLV 5	156	1084	6352	726.9	-1498.15	253.74
778	SLV 6	142	931	6362	728.46	-1496.44	217.62
778	SLV 7	51	-978	6799	816.18	-1403.11	-247.41
778	SLV 8	38	-1130	6810	817.73	-1401.4	-283.53
778	SLV 9	-185	1126	4829	548.59	-1179.28	300.08
778	SLV 10	-199	973	4840	550.15	-1177.57	263.97
778	SLV 11	-290	-936	5277	637.86	-1084.23	-201.07
778	SLV 12	-303	-1088	5287	639.42	-1082.52	-237.18
778	SLV 13	-617	490	3207	371.43	-774.4	187.51
778	SLV 14	-636	264	3223	373.74	-771.86	133.87
778	SLV 15	-648	-128	3341	398.21	-745.89	37.17
778	SLV 16	-668	-354	3357	400.52	-743.35	-16.48
778	SLV FO 1	580	385	8529	994.07	-1892.02	35.51
778	SLV FO 2	558	136	8546	996.61	-1889.23	-23.5
778	SLV FO 3	545	-295	8676	1023.53	-1860.66	-129.87
778	SLV FO 4	523	-544	8693	1026.07	-1857.86	-188.88
778	SLV FO 5	178	1192	6405	731.28	-1518.93	278.29
778	SLV FO 6	164	1024	6417	732.99	-1517.05	238.56
778	SLV FO 7	64	-1075	6897	829.48	-1414.38	-272.98
778	SLV FO 8	49	-1243	6909	831.19	-1412.5	-312.71
778	SLV FO 9	-197	1239	4730	535.13	-1168.17	329.26
778	SLV FO 10	-211	1071	4742	536.85	-1166.29	289.54
778	SLV FO 11	-311	-1029	5223	633.33	-1063.62	-222
778	SLV FO 12	-326	-1197	5234	635.05	-1061.74	-261.73
778	SLV FO 13	-671	540	2946	340.25	-722.81	205.43
778	SLV FO 14	-693	291	2963	342.8	-720.02	146.42
778	SLV FO 15	-705	-140	3094	369.71	-691.45	40.05
778	SLV FO 16	-727	-390	3111	372.26	-688.65	-18.96
778	CRTFP Ux+	0	0	0	0	0	0
778	CRTFP Ux-	0	0	0	0	0	0
778	CRTFP Uy+	0	0	0	0	0	0
778	CRTFP Uy-	0	0	0	0	0	0
781	SLU 1	78	27	4518	-6.64	1281.94	-9.36
781	SLU 2	77	52	4506	-6.85	1282.22	-17.94
781	SLU 3	79	28	4622	-6.73	1309.89	-9.66
781	SLU 4	79	43	4615	-6.86	1310.07	-14.81
781	SLU 5	78	53	4571	-6.89	1299.54	-18.35
781	SLU 6	80	29	4687	-6.78	1327.21	-10.07
781	SLU 7	80	44	4680	-6.9	1327.38	-15.22
781	SLU 8	80	29	4648	-6.72	1316.57	-10.17
781	SLU 9	79	44	4641	-6.85	1316.74	-15.32
781	SLU 10	82	55	5068	-7.79	1441.57	-19.09
781	SLU 11	85	31	5184	-7.68	1469.24	-10.81
781	SLU 12	84	46	5176	-7.8	1469.41	-15.96
781	SLU 13	83	56	5133	-7.83	1458.88	-19.5
781	SLU 14	86	33	5249	-7.72	1486.55	-11.22
781	SLU 15	85	47	5241	-7.84	1486.73	-16.37
781	SLU 16	85	33	5210	-7.67	1475.91	-11.32
781	SLU 17	84	48	5203	-7.79	1476.08	-16.47
781	SLU 18	85	32	5321	-7.99	1509.58	-11
781	SLU 19	85	47	5314	-8.11	1509.75	-16.15
781	SLU 20	86	33	5386	-8.03	1526.89	-11.41
781	SLU 21	86	48	5378	-8.15	1527.06	-16.56
781	SLU 22	87	28	5222	-7.64	1478.27	-9.76
781	SLU 23	86	53	5209	-7.85	1478.56	-18.34
781	SLU 24	88	29	5325	-7.73	1506.23	-10.06
781	SLU 25	88	44	5318	-7.86	1506.4	-15.21
781	SLU 26	87	54	5274	-7.89	1495.87	-18.75
781	SLU 27	89	30	5390	-7.78	1523.54	-10.47
781	SLU 28	89	45	5383	-7.9	1523.71	-15.62
781	SLU 29	89	31	5351	-7.72	1512.9	-10.57
781	SLU 30	88	45	5344	-7.85	1513.07	-15.72
781	SLU 31	91	56	5771	-8.79	1637.9	-19.49
781	SLU 32	94	33	5887	-8.68	1665.57	-11.21
781	SLU 33	93	47	5880	-8.8	1665.74	-16.36
781	SLU 34	92	57	5836	-8.83	1655.22	-19.9
781	SLU 35	95	34	5952	-8.72	1682.89	-11.62
781	SLU 36	94	48	5945	-8.84	1683.06	-16.77
781	SLU 37	94	34	5913	-8.67	1672.24	-11.72
781	SLU 38	93	49	5906	-8.79	1672.42	-16.87
781	SLU 39	94	33	6024	-8.99	1705.91	-11.4
781	SLU 40	94	48	6017	-9.11	1706.08	-16.55
781	SLU 41	95	34	6089	-9.03	1723.22	-11.81
781	SLU 42	95	49	6082	-9.15	1723.39	-16.96
781	SLU 43	98	35	5633	-8.29	1599.21	-12.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
781	SLU 44	97	59	5620	-8.5	1599.49	-20.61
781	SLU 45	100	36	5737	-8.38	1627.16	-12.33
781	SLU 46	99	51	5729	-8.51	1627.33	-17.48
781	SLU 47	98	61	5685	-8.54	1616.81	-21.02
781	SLU 48	101	37	5802	-8.43	1644.48	-12.74
781	SLU 49	100	52	5794	-8.55	1644.65	-17.89
781	SLU 50	100	37	5763	-8.37	1633.83	-12.84
781	SLU 51	99	52	5755	-8.5	1634	-17.99
781	SLU 52	102	63	6182	-9.44	1758.84	-21.76
781	SLU 53	105	39	6299	-9.33	1786.51	-13.48
781	SLU 54	104	54	6291	-9.45	1786.68	-18.63
781	SLU 55	103	64	6247	-9.48	1776.15	-22.17
781	SLU 56	106	40	6364	-9.37	1803.82	-13.89
781	SLU 57	105	55	6356	-9.49	1803.99	-19.04
781	SLU 58	105	41	6325	-9.32	1793.18	-13.99
781	SLU 59	105	55	6317	-9.44	1793.35	-19.14
781	SLU 60	105	40	6436	-9.64	1826.84	-13.67
781	SLU 61	105	54	6428	-9.76	1827.02	-18.82
781	SLU 62	106	41	6501	-9.68	1844.16	-14.08
781	SLU 63	106	56	6493	-9.8	1844.33	-19.23
781	SLU 64	107	36	6336	-9.29	1795.54	-12.43
781	SLU 65	106	61	6323	-9.5	1795.82	-21.01
781	SLU 66	109	37	6440	-9.38	1823.49	-12.74
781	SLU 67	108	52	6432	-9.51	1823.67	-17.89
781	SLU 68	107	62	6388	-9.54	1813.14	-21.42
781	SLU 69	110	38	6505	-9.43	1840.81	-13.14
781	SLU 70	109	53	6497	-9.55	1840.98	-18.29
781	SLU 71	109	38	6466	-9.37	1830.17	-13.24
781	SLU 72	108	53	6458	-9.5	1830.34	-18.39
781	SLU 73	111	64	6885	-10.44	1955.17	-22.16
781	SLU 74	114	40	7002	-10.33	1982.84	-13.88
781	SLU 75	113	55	6994	-10.45	1983.01	-19.03
781	SLU 76	112	65	6950	-10.48	1972.48	-22.57
781	SLU 77	115	41	7067	-10.37	2000.15	-14.29
781	SLU 78	114	56	7059	-10.49	2000.33	-19.44
781	SLU 79	114	42	7028	-10.32	1989.51	-14.39
781	SLU 80	114	56	7020	-10.44	1989.68	-19.54
781	SLU 81	114	41	7139	-10.64	2023.18	-14.07
781	SLU 82	114	56	7131	-10.76	2023.35	-19.22
781	SLU 83	115	42	7204	-10.68	2040.49	-14.48
781	SLU 84	115	57	7196	-10.8	2040.66	-19.63
781	SLE RA 1	80	28	4719	-6.93	1338.03	-9.47
781	SLE RA 2	80	44	4711	-7.07	1338.22	-15.2
781	SLE RA 3	81	28	4789	-6.99	1356.67	-9.68
781	SLE RA 4	81	38	4783	-7.07	1356.79	-13.11
781	SLE RA 5	80	45	4754	-7.09	1349.77	-15.47
781	SLE RA 6	82	29	4832	-7.02	1368.21	-9.95
781	SLE RA 7	82	39	4827	-7.1	1368.33	-13.38
781	SLE RA 8	82	29	4806	-6.98	1361.12	-10.01
781	SLE RA 9	81	39	4801	-7.07	1361.23	-13.45
781	SLE RA 10	83	46	5085	-7.69	1444.46	-15.96
781	SLE RA 11	85	30	5163	-7.62	1462.9	-10.44
781	SLE RA 12	85	40	5158	-7.7	1463.02	-13.88
781	SLE RA 13	84	47	5129	-7.72	1456	-16.23
781	SLE RA 14	86	31	5206	-7.65	1474.44	-10.71
781	SLE RA 15	85	41	5201	-7.73	1474.56	-14.15
781	SLE RA 16	85	31	5181	-7.61	1467.35	-10.78
781	SLE RA 17	85	41	5175	-7.69	1467.46	-14.21
781	SLE RA 18	85	31	5254	-7.82	1489.79	-10.57
781	SLE RA 19	85	41	5249	-7.91	1489.91	-14
781	SLE RA 20	86	31	5298	-7.85	1501.33	-10.84
781	SLE RA 21	85	41	5293	-7.94	1501.45	-14.27
781	SLE FR 1	80	28	4719	-6.93	1338.03	-9.47
781	SLE FR 2	80	31	4718	-6.96	1338.07	-10.62
781	SLE FR 3	80	28	4737	-6.94	1342.65	-9.58
781	SLE FR 4	82	32	4878	-7.22	1383.6	-10.95
781	SLE FR 5	82	29	4897	-7.21	1388.18	-9.91
781	SLE FR 6	83	29	4987	-7.38	1413.91	-10.02
781	SLE QP 1	80	28	4719	-6.93	1338.03	-9.47
781	SLE QP 2	82	28	4880	-7.2	1383.56	-9.8
781	SLD 1	400	87	3525	-6.78	1048.95	-30.48
781	SLD 2	387	211	3511	-7.04	1050.4	-73.6
781	SLD 3	409	-226	3704	-3.55	1040.54	79.12
781	SLD 4	396	-102	3690	-3.81	1041.99	36
781	SLD 5	166	500	4204	-11.93	1295.67	-174.75
781	SLD 6	158	580	4195	-12.1	1296.61	-202.65
781	SLD 7	195	-545	4801	-1.15	1267.66	190.58
781	SLD 8	187	-465	4792	-1.32	1268.59	162.69
781	SLD 9	-24	522	4968	-13.07	1498.53	-182.29
781	SLD 10	-32	602	4959	-13.24	1499.46	-210.19
781	SLD 11	6	-523	5565	-2.29	1470.51	183.05
781	SLD 12	-3	-443	5555	-2.46	1471.45	155.15
781	SLD 13	-233	159	6070	-10.58	1725.13	-55.6
781	SLD 14	-245	283	6056	-10.85	1726.58	-98.72
781	SLD 15	-224	-154	6249	-7.35	1716.72	54
781	SLD 16	-237	-30	6235	-7.61	1718.17	10.88
781	SLV 1	580	139	2754	-6.75	861.96	-48.66
781	SLV 2	559	334	2732	-7.17	864.24	-116.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
781	SLV 3	594	-391	3057	-1.29	847.88	136.59
781	SLV 4	574	-196	3035	-1.71	850.16	68.7
781	SLV 5	212	829	3787	-15.27	1248	-289.76
781	SLV 6	199	960	3772	-15.55	1249.54	-335.47
781	SLV 7	262	-937	4797	2.94	1201.08	327.75
781	SLV 8	248	-806	4782	2.66	1202.62	282.04
781	SLV 9	-85	863	4978	-17.05	1564.51	-301.65
781	SLV 10	-99	994	4963	-17.33	1566.04	-347.36
781	SLV 11	-35	-903	5988	1.16	1517.58	315.86
781	SLV 12	-49	-772	5973	0.88	1519.12	270.15
781	SLV 13	-411	253	6725	-12.69	1916.96	-88.3
781	SLV 14	-431	448	6702	-13.1	1919.24	-156.19
781	SLV 15	-396	-277	7028	-7.23	1902.88	96.95
781	SLV 16	-416	-82	7005	-7.64	1905.16	29.06
781	SLV FO 1	629	150	2542	-6.71	809.8	-52.55
781	SLV FO 2	607	364	2517	-7.17	812.31	-127.23
781	SLV FO 3	646	-433	2875	-0.7	794.31	151.23
781	SLV FO 4	623	-218	2850	-1.16	796.82	76.55
781	SLV FO 5	225	909	3678	-16.08	1234.45	-317.75
781	SLV FO 6	210	1053	3661	-16.39	1236.14	-368.03
781	SLV FO 7	280	-1034	4789	3.95	1182.83	361.51
781	SLV FO 8	265	-889	4772	3.64	1184.52	311.23
781	SLV FO 9	-102	946	4988	-18.04	1582.6	-330.83
781	SLV FO 10	-117	1091	4971	-18.34	1584.29	-381.11
781	SLV FO 11	-47	-996	6099	1.99	1530.98	348.43
781	SLV FO 12	-62	-852	6082	1.69	1532.67	298.15
781	SLV FO 13	-460	275	6909	-13.24	1970.3	-96.15
781	SLV FO 14	-482	490	6885	-13.69	1972.81	-170.83
781	SLV FO 15	-444	-308	7243	-7.23	1954.82	107.63
781	SLV FO 16	-466	-93	7218	-7.68	1957.32	32.95
781	CRTFP Ux+	0	0	0	0	0	0
781	CRTFP Ux-	0	0	0	0	0	0
781	CRTFP Uy+	0	0	0	0	0	0
781	CRTFP Uy-	0	0	0	0	0	0
783	SLU 1	-95	7	9388	-831.71	161.48	-8.18
783	SLU 2	-94	53	9365	-830.59	164.17	-8.85
783	SLU 3	-97	7	9618	-851.77	164.75	-8.31
783	SLU 4	-96	35	9604	-851.1	166.36	-8.71
783	SLU 5	-95	53	9516	-843.72	166.22	-8.9
783	SLU 6	-98	7	9768	-864.9	166.8	-8.36
783	SLU 7	-97	35	9755	-864.23	168.41	-8.76
783	SLU 8	-97	7	9689	-857.96	165.58	-8.29
783	SLU 9	-96	35	9676	-857.29	167.19	-8.69
783	SLU 10	-96	55	10620	-941.85	184.2	-8.95
783	SLU 11	-99	9	10872	-963.03	184.77	-8.41
783	SLU 12	-99	36	10858	-962.36	186.39	-8.81
783	SLU 13	-97	55	10770	-954.98	186.24	-9
783	SLU 14	-100	9	11022	-976.16	186.82	-8.46
783	SLU 15	-99	36	11009	-975.49	188.44	-8.86
783	SLU 16	-99	9	10943	-969.22	185.6	-8.38
783	SLU 17	-98	36	10930	-968.55	187.21	-8.79
783	SLU 18	-98	10	11180	-990.65	190.09	-8.32
783	SLU 19	-98	37	11166	-989.98	191.7	-8.72
783	SLU 20	-99	10	11330	-1003.77	192.14	-8.37
783	SLU 21	-99	37	11317	-1003.1	193.75	-8.78
783	SLU 22	-104	7	10938	-968.33	185.76	-8.78
783	SLU 23	-103	53	10916	-967.21	188.45	-9.45
783	SLU 24	-106	7	11168	-988.39	189.03	-8.91
783	SLU 25	-106	34	11154	-987.72	190.64	-9.31
783	SLU 26	-104	53	11066	-980.34	190.5	-9.51
783	SLU 27	-107	7	11319	-1001.52	191.07	-8.96
783	SLU 28	-106	34	11305	-1000.84	192.69	-9.37
783	SLU 29	-106	7	11240	-994.58	189.85	-8.89
783	SLU 30	-105	34	11226	-993.91	191.47	-9.29
783	SLU 31	-105	54	12170	-1078.47	208.47	-9.55
783	SLU 32	-109	8	12422	-1099.65	209.05	-9.01
783	SLU 33	-108	36	12409	-1098.98	210.66	-9.41
783	SLU 34	-106	54	12321	-1091.59	210.52	-9.6
783	SLU 35	-110	8	12573	-1112.77	211.1	-9.06
783	SLU 36	-109	36	12559	-1112.1	212.71	-9.46
783	SLU 37	-108	8	12494	-1105.83	209.88	-8.99
783	SLU 38	-108	36	12480	-1105.16	211.49	-9.39
783	SLU 39	-108	9	12730	-1127.27	214.37	-8.92
783	SLU 40	-107	37	12716	-1126.6	215.98	-9.33
783	SLU 41	-109	9	12881	-1140.39	216.41	-8.98
783	SLU 42	-108	37	12867	-1139.72	218.03	-9.38
783	SLU 43	-121	10	11673	-1034.38	201.61	-10.43
783	SLU 44	-119	56	11650	-1033.27	204.3	-11.1
783	SLU 45	-123	10	11902	-1054.45	204.87	-10.56
783	SLU 46	-122	37	11889	-1053.78	206.49	-10.96
783	SLU 47	-120	56	11801	-1046.39	206.34	-11.15
783	SLU 48	-124	9	12053	-1067.57	206.92	-10.61
783	SLU 49	-123	37	12040	-1066.9	208.53	-11.01
783	SLU 50	-123	10	11974	-1060.63	205.7	-10.53
783	SLU 51	-122	37	11960	-1059.96	207.31	-10.94
783	SLU 52	-122	57	12904	-1144.52	224.32	-11.2
783	SLU 53	-125	11	13157	-1165.7	224.9	-10.65
783	SLU 54	-124	39	13143	-1165.03	226.51	-11.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
783	SLU 55	-122	57	13055	-1157.65	226.37	-11.25
783	SLU 56	-126	11	13307	-1178.83	226.94	-10.71
783	SLU 57	-125	39	13294	-1178.16	228.56	-11.11
783	SLU 58	-125	11	13228	-1171.89	225.72	-10.63
783	SLU 59	-124	39	13215	-1171.22	227.34	-11.03
783	SLU 60	-124	12	13464	-1193.32	230.21	-10.57
783	SLU 61	-123	40	13451	-1192.65	231.83	-10.97
783	SLU 62	-125	12	13615	-1206.45	232.26	-10.62
783	SLU 63	-124	39	13601	-1205.78	233.87	-11.02
783	SLU 64	-130	9	13223	-1171	225.88	-11.03
783	SLU 65	-129	55	13201	-1169.88	228.57	-11.7
783	SLU 66	-132	9	13453	-1191.06	229.15	-11.16
783	SLU 67	-131	37	13439	-1190.39	230.76	-11.56
783	SLU 68	-129	55	13351	-1183.01	230.62	-11.75
783	SLU 69	-133	9	13603	-1204.19	231.19	-11.21
783	SLU 70	-132	37	13590	-1203.52	232.81	-11.61
783	SLU 71	-132	9	13524	-1197.25	229.97	-11.14
783	SLU 72	-131	37	13511	-1196.58	231.59	-11.54
783	SLU 73	-131	57	14455	-1281.14	248.6	-11.8
783	SLU 74	-134	11	14707	-1302.32	249.17	-11.26
783	SLU 75	-133	38	14693	-1301.65	250.79	-11.66
783	SLU 76	-132	57	14605	-1294.27	250.64	-11.85
783	SLU 77	-135	11	14858	-1315.45	251.22	-11.31
783	SLU 78	-134	38	14844	-1314.78	252.83	-11.71
783	SLU 79	-134	11	14779	-1308.51	250	-11.23
783	SLU 80	-133	38	14765	-1307.84	251.61	-11.64
783	SLU 81	-133	12	15015	-1329.94	254.49	-11.17
783	SLU 82	-132	39	15001	-1329.27	256.1	-11.57
783	SLU 83	-134	11	15165	-1343.07	256.53	-11.22
783	SLU 84	-133	39	15152	-1342.39	258.15	-11.63
783	SLE RA 1	-98	7	9831	-870.74	168.42	-8.35
783	SLE RA 2	-97	38	9816	-870	170.21	-8.8
783	SLE RA 3	-99	7	9984	-884.12	170.6	-8.44
783	SLE RA 4	-99	25	9975	-883.67	171.67	-8.71
783	SLE RA 5	-98	38	9916	-878.75	171.58	-8.84
783	SLE RA 6	-100	7	10084	-892.87	171.96	-8.47
783	SLE RA 7	-99	25	10075	-892.42	173.04	-8.74
783	SLE RA 8	-99	7	10032	-888.24	171.15	-8.42
783	SLE RA 9	-99	25	10023	-887.8	172.22	-8.69
783	SLE RA 10	-98	39	10652	-944.17	183.56	-8.87
783	SLE RA 11	-101	8	10820	-958.29	183.95	-8.5
783	SLE RA 12	-100	27	10811	-957.84	185.02	-8.77
783	SLE RA 13	-99	39	10752	-952.92	184.93	-8.9
783	SLE RA 14	-101	8	10921	-967.04	185.31	-8.54
783	SLE RA 15	-101	26	10912	-966.59	186.39	-8.81
783	SLE RA 16	-101	8	10868	-962.42	184.5	-8.49
783	SLE RA 17	-100	27	10859	-961.97	185.57	-8.76
783	SLE RA 18	-100	9	11025	-976.7	187.49	-8.45
783	SLE RA 19	-99	27	11016	-976.26	188.57	-8.72
783	SLE RA 20	-101	9	11126	-985.45	188.85	-8.48
783	SLE RA 21	-100	27	11117	-985.01	189.93	-8.75
783	SLE FR 1	-98	7	9831	-870.74	168.42	-8.35
783	SLE FR 2	-98	13	9828	-870.6	168.78	-8.44
783	SLE FR 3	-98	7	9871	-874.24	168.97	-8.37
783	SLE FR 4	-98	14	10186	-902.38	174.5	-8.47
783	SLE FR 5	-99	8	10229	-906.03	174.69	-8.4
783	SLE FR 6	-99	8	10428	-923.72	177.96	-8.4
783	SLE QP 1	-98	7	9831	-870.74	168.42	-8.35
783	SLE QP 2	-99	8	10189	-902.53	174.14	-8.38
783	SLD 1	685	322	11173	-997.78	215.4	54.1
783	SLD 2	661	180	11167	-996.67	213.05	56.72
783	SLD 3	668	-261	11504	-1013.03	177.46	62.69
783	SLD 4	643	-403	11498	-1011.93	175.11	65.31
783	SLD 5	167	1011	9983	-908.17	244.46	-3.13
783	SLD 6	151	919	9979	-907.45	242.94	-1.43
783	SLD 7	110	-933	11087	-959.01	118.01	25.52
783	SLD 8	94	-1024	11083	-958.29	116.49	27.22
783	SLD 9	-291	1040	9295	-846.77	231.79	-43.98
783	SLD 10	-307	948	9291	-846.06	230.27	-42.29
783	SLD 11	-348	-904	10399	-897.61	105.34	-15.33
783	SLD 12	-364	-995	10396	-896.9	103.82	-13.63
783	SLD 13	-841	418	8880	-793.14	173.17	-82.08
783	SLD 14	-865	277	8874	-792.03	170.82	-79.46
783	SLD 15	-858	-165	9211	-808.39	135.23	-73.48
783	SLD 16	-883	-306	9206	-807.28	132.89	-70.86
783	SLV 1	1130	536	11702	-1050.2	241.24	88.89
783	SLV 2	1091	313	11693	-1048.45	237.54	93.01
783	SLV 3	1101	-449	12262	-1075.94	177.11	103.38
783	SLV 4	1062	-672	12253	-1074.2	173.42	107.51
783	SLV 5	322	1702	9796	-908.11	292.21	-1.96
783	SLV 6	295	1552	9790	-906.93	289.73	0.82
783	SLV 7	224	-1582	11662	-993.93	78.47	46.36
783	SLV 8	198	-1732	11655	-992.75	75.98	49.14
783	SLV 9	-395	1747	8723	-812.31	272.3	-65.9
783	SLV 10	-421	1597	8717	-811.14	269.81	-63.13
783	SLV 11	-493	-1537	10588	-898.13	58.56	-17.59
783	SLV 12	-519	-1687	10582	-896.95	56.07	-14.81
783	SLV 13	-1259	687	8125	-730.87	174.86	-124.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
783	SLV 14	-1298	465	8116	-729.12	171.17	-120.15
783	SLV 15	-1288	-298	8685	-756.61	110.74	-109.78
783	SLV 16	-1327	-520	8676	-754.87	107.04	-105.65
783	SLV FO 1	1253	589	11854	-1064.96	247.95	98.62
783	SLV FO 2	1210	344	11844	-1063.04	243.88	103.15
783	SLV FO 3	1221	-495	12469	-1093.28	177.41	114.56
783	SLV FO 4	1178	-740	12459	-1091.36	173.35	119.1
783	SLV FO 5	364	1871	9757	-908.67	304.02	-1.31
783	SLV FO 6	335	1706	9750	-907.38	301.28	1.74
783	SLV FO 7	256	-1741	11809	-1003.07	68.9	51.84
783	SLV FO 8	227	-1906	11802	-1001.78	66.16	54.89
783	SLV FO 9	-425	1921	8576	-803.29	282.12	-71.66
783	SLV FO 10	-454	1756	8570	-802	279.38	-68.6
783	SLV FO 11	-532	-1691	10628	-897.69	47	-18.51
783	SLV FO 12	-561	-1856	10622	-896.4	44.26	-15.45
783	SLV FO 13	-1375	755	7919	-713.7	174.94	-135.86
783	SLV FO 14	-1418	510	7909	-711.78	170.87	-131.32
783	SLV FO 15	-1407	-328	8535	-742.02	104.4	-119.92
783	SLV FO 16	-1450	-573	8525	-740.1	100.33	-115.38
783	CRTFP Ux+	0	0	0	0	0	0
783	CRTFP Ux-	0	0	0	0	0	0
783	CRTFP Uy+	0	0	0	0	0	0
783	CRTFP Uy-	0	0	0	0	0	0
786	SLU 1	-7	104	11526	70.98	-679.43	0.58
786	SLU 2	-7	167	11496	70.11	-676.87	5.07
786	SLU 3	-6	106	11803	72.64	-695.22	0.54
786	SLU 4	-6	144	11785	72.12	-693.68	3.23
786	SLU 5	-6	168	11679	71.23	-687.28	4.99
786	SLU 6	-6	107	11986	73.76	-705.62	0.46
786	SLU 7	-5	145	11968	73.24	-704.09	3.15
786	SLU 8	-5	106	11891	73.22	-700.25	0.41
786	SLU 9	-5	144	11873	72.7	-698.71	3.11
786	SLU 10	-2	176	13079	78.42	-770.62	5.25
786	SLU 11	-2	115	13386	80.96	-788.96	0.72
786	SLU 12	-1	153	13368	80.43	-787.43	3.42
786	SLU 13	-1	177	13262	79.54	-781.03	5.17
786	SLU 14	-1	116	13569	82.08	-799.37	0.64
786	SLU 15	-1	154	13551	81.55	-797.84	3.33
786	SLU 16	0	114	13474	81.54	-794	0.6
786	SLU 17	0	152	13456	81.01	-792.46	3.29
786	SLU 18	0	117	13787	82.86	-813.36	0.84
786	SLU 19	0	155	13769	82.34	-811.82	3.54
786	SLU 20	1	117	13969	83.98	-823.77	0.76
786	SLU 21	1	155	13952	83.46	-822.23	3.45
786	SLU 22	-4	120	13414	83.42	-789.05	0.9
786	SLU 23	-4	183	13384	82.55	-786.49	5.39
786	SLU 24	-4	122	13691	85.08	-804.83	0.86
786	SLU 25	-4	160	13673	84.56	-803.3	3.55
786	SLU 26	-4	184	13567	83.67	-796.9	5.31
786	SLU 27	-3	123	13874	86.2	-815.24	0.77
786	SLU 28	-3	161	13856	85.68	-813.71	3.47
786	SLU 29	-3	121	13779	85.66	-809.86	0.73
786	SLU 30	-3	159	13761	85.14	-808.33	3.43
786	SLU 31	0	192	14967	90.86	-880.24	5.57
786	SLU 32	1	131	15274	93.4	-898.58	1.04
786	SLU 33	1	169	15256	92.87	-897.05	3.74
786	SLU 34	1	193	15150	91.98	-890.64	5.49
786	SLU 35	2	132	15457	94.52	-908.99	0.96
786	SLU 36	2	170	15439	93.99	-907.45	3.65
786	SLU 37	2	130	15362	93.98	-903.61	0.91
786	SLU 38	2	168	15344	93.45	-902.08	3.61
786	SLU 39	3	132	15675	95.3	-922.98	1.16
786	SLU 40	3	170	15657	94.78	-921.44	3.86
786	SLU 41	3	133	15857	96.42	-933.38	1.08
786	SLU 42	3	171	15840	95.9	-931.85	3.77
786	SLU 43	-10	130	14336	88.01	-845.68	0.65
786	SLU 44	-10	193	14306	87.14	-843.11	5.14
786	SLU 45	-10	132	14613	89.67	-861.46	0.61
786	SLU 46	-9	170	14596	89.15	-859.92	3.3
786	SLU 47	-9	194	14489	88.25	-853.52	5.05
786	SLU 48	-9	133	14796	90.79	-871.87	0.52
786	SLU 49	-9	171	14778	90.27	-870.33	3.22
786	SLU 50	-8	131	14701	90.25	-866.49	0.48
786	SLU 51	-8	169	14684	89.72	-864.96	3.17
786	SLU 52	-5	202	15889	95.45	-936.86	5.32
786	SLU 53	-5	141	16196	97.99	-955.21	0.79
786	SLU 54	-5	179	16179	97.46	-953.67	3.48
786	SLU 55	-4	203	16072	96.57	-947.27	5.24
786	SLU 56	-4	142	16379	99.11	-965.62	0.7
786	SLU 57	-4	180	16361	98.58	-964.08	3.4
786	SLU 58	-4	140	16284	98.57	-960.24	0.66
786	SLU 59	-4	178	16267	98.04	-958.7	3.35
786	SLU 60	-3	142	16597	99.89	-979.6	0.91
786	SLU 61	-3	180	16579	99.37	-978.07	3.6
786	SLU 62	-2	143	16780	101.01	-990.01	0.82
786	SLU 63	-2	181	16762	100.49	-988.47	3.52
786	SLU 64	-8	146	16224	100.45	-955.29	0.97
786	SLU 65	-7	209	16194	99.58	-952.73	5.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
786	SLU 66	-7	148	16501	102.11	-971.08	0.92
786	SLU 67	-7	186	16484	101.59	-969.54	3.62
786	SLU 68	-7	210	16377	100.7	-963.14	5.37
786	SLU 69	-6	149	16684	103.23	-981.49	0.84
786	SLU 70	-6	187	16666	102.71	-979.95	3.53
786	SLU 71	-6	147	16589	102.69	-976.11	0.8
786	SLU 72	-6	185	16572	102.16	-974.57	3.49
786	SLU 73	-3	218	17777	107.89	-1046.48	5.64
786	SLU 74	-2	157	18084	110.43	-1064.83	1.11
786	SLU 75	-2	195	18067	109.9	-1063.29	3.8
786	SLU 76	-2	219	17960	109.01	-1056.89	5.55
786	SLU 77	-1	157	18267	111.55	-1075.24	1.02
786	SLU 78	-1	195	18249	111.02	-1073.7	3.72
786	SLU 79	-1	156	18172	111.01	-1069.86	0.98
786	SLU 80	-1	194	18155	110.48	-1068.32	3.67
786	SLU 81	-1	158	18485	112.33	-1089.22	1.23
786	SLU 82	-1	196	18467	111.81	-1087.68	3.92
786	SLU 83	0	159	18668	113.45	-1099.63	1.14
786	SLU 84	0	197	18650	112.93	-1098.09	3.84
786	SLE RA 1	-6	109	12065	74.54	-710.75	0.67
786	SLE RA 2	-6	151	12045	73.95	-709.04	3.67
786	SLE RA 3	-6	110	12250	75.64	-721.27	0.65
786	SLE RA 4	-6	135	12238	75.29	-720.25	2.44
786	SLE RA 5	-6	151	12167	74.7	-715.98	3.61
786	SLE RA 6	-5	110	12372	76.39	-728.21	0.59
786	SLE RA 7	-5	136	12360	76.04	-727.19	2.39
786	SLE RA 8	-5	110	12309	76.03	-724.63	0.56
786	SLE RA 9	-5	135	12297	75.68	-723.6	2.36
786	SLE RA 10	-3	157	13101	79.5	-771.54	3.79
786	SLE RA 11	-3	116	13305	81.19	-783.77	0.77
786	SLE RA 12	-3	141	13293	80.84	-782.75	2.56
786	SLE RA 13	-2	157	13222	80.24	-778.48	3.73
786	SLE RA 14	-2	116	13427	81.93	-790.71	0.71
786	SLE RA 15	-2	142	13415	81.58	-789.69	2.51
786	SLE RA 16	-2	115	13364	81.57	-787.13	0.68
786	SLE RA 17	-2	141	13352	81.22	-786.1	2.48
786	SLE RA 18	-2	117	13572	82.46	-800.03	0.85
786	SLE RA 19	-2	142	13561	82.11	-799.01	2.64
786	SLE RA 20	-1	117	13694	83.2	-806.97	0.79
786	SLE RA 21	-1	143	13682	82.85	-805.95	2.59
786	SLE FR 1	-6	109	12065	74.54	-710.75	0.67
786	SLE FR 2	-6	117	12061	74.42	-710.41	1.27
786	SLE FR 3	-6	109	12114	74.83	-713.53	0.65
786	SLE FR 4	-5	120	12513	76.8	-737.19	1.32
786	SLE FR 5	-5	111	12566	77.21	-740.31	0.7
786	SLE FR 6	-4	113	12819	78.5	-755.39	0.76
786	SLE QP 1	-6	109	12065	74.54	-710.75	0.67
786	SLE QP 2	-5	111	12517	76.91	-737.54	0.72
786	SLD 1	1064	563	12558	89.64	-723.91	13.06
786	SLD 2	1031	498	12540	88.55	-721.84	13.43
786	SLD 3	1073	-227	13002	107.9	-762.52	-42.93
786	SLD 4	1039	-292	12985	106.81	-760.45	-42.56
786	SLD 5	309	1457	11858	53.23	-675.26	89.29
786	SLD 6	287	1415	11847	52.53	-673.92	89.53
786	SLD 7	337	-1178	13340	114.09	-803.94	-97.36
786	SLD 8	316	-1220	13329	113.39	-802.6	-97.12
786	SLD 9	-326	1442	11706	40.44	-672.47	98.57
786	SLD 10	-347	1400	11694	39.74	-671.13	98.81
786	SLD 11	-297	-1193	13188	101.3	-801.15	-88.08
786	SLD 12	-319	-1235	13176	100.6	-799.81	-87.84
786	SLD 13	-1049	514	12050	47.01	-714.62	44.01
786	SLD 14	-1083	449	12032	45.93	-712.55	44.38
786	SLD 15	-1041	-276	12495	65.27	-753.23	-11.98
786	SLD 16	-1074	-341	12477	64.18	-751.16	-11.61
786	SLV 1	1668	869	12551	95.61	-714.14	23.56
786	SLV 2	1615	767	12524	93.9	-710.88	24.14
786	SLV 3	1682	-466	13303	126.51	-779.39	-71.04
786	SLV 4	1630	-568	13275	124.8	-776.13	-70.46
786	SLV 5	484	2383	11393	35.97	-632.16	150.94
786	SLV 6	449	2314	11374	34.82	-629.97	151.33
786	SLV 7	533	-2068	13898	138.98	-849.66	-164.38
786	SLV 8	498	-2137	13880	137.83	-847.47	-164
786	SLV 9	-508	2359	11155	16	-627.6	165.44
786	SLV 10	-543	2290	11136	14.85	-625.41	165.83
786	SLV 11	-459	-2092	13661	119.01	-845.1	-149.88
786	SLV 12	-494	-2161	13642	117.85	-842.91	-149.49
786	SLV 13	-1640	790	11759	29.03	-698.94	71.91
786	SLV 14	-1692	688	11731	27.31	-695.68	72.49
786	SLV 15	-1625	-545	12511	59.93	-764.19	-22.69
786	SLV 16	-1678	-647	12483	58.22	-760.93	-22.11
786	SLV FO 1	1835	945	12555	97.48	-711.8	25.84
786	SLV FO 2	1777	833	12524	95.59	-708.21	26.48
786	SLV FO 3	1851	-524	13382	131.47	-783.57	-78.21
786	SLV FO 4	1793	-636	13351	129.59	-779.99	-77.58
786	SLV FO 5	533	2610	11280	31.88	-621.62	165.96
786	SLV FO 6	494	2534	11260	30.61	-619.21	166.39
786	SLV FO 7	587	-2286	14036	145.19	-860.87	-180.9
786	SLV FO 8	548	-2362	14016	143.92	-858.46	-180.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
786	SLV FO 9	-558	2584	11019	9.91	-616.61	181.92
786	SLV FO 10	-597	2508	10998	8.64	-614.2	182.34
786	SLV FO 11	-504	-2312	13775	123.21	-855.86	-164.94
786	SLV FO 12	-543	-2388	13754	121.95	-853.45	-164.51
786	SLV FO 13	-1803	858	11683	24.24	-695.08	79.03
786	SLV FO 14	-1861	746	11653	22.36	-691.5	79.66
786	SLV FO 15	-1787	-611	12510	58.23	-766.86	-25.03
786	SLV FO 16	-1845	-723	12480	56.35	-763.27	-24.39
786	CRTFP Ux+	0	0	0	0	0	0
786	CRTFP Ux-	0	0	0	0	0	0
786	CRTFP Uy+	0	0	0	0	0	0
786	CRTFP Uy-	0	0	0	0	0	0
789	SLU 1	50	81	8869	-939.57	-48.54	5.94
789	SLU 2	52	129	8849	-937.69	-48.68	6.13
789	SLU 3	52	81	9071	-960.94	-49.89	6.08
789	SLU 4	53	110	9059	-959.82	-49.98	6.19
789	SLU 5	54	128	8980	-951.55	-49.5	6.2
789	SLU 6	53	80	9202	-974.81	-50.71	6.16
789	SLU 7	55	109	9190	-973.68	-50.8	6.27
789	SLU 8	53	79	9131	-967.29	-50.18	6.09
789	SLU 9	54	108	9119	-966.17	-50.27	6.2
789	SLU 10	57	133	10037	-1063.08	-53.75	6.58
789	SLU 11	57	85	10259	-1086.34	-54.96	6.54
789	SLU 12	58	114	10247	-1085.21	-55.05	6.65
789	SLU 13	58	133	10168	-1076.94	-54.57	6.66
789	SLU 14	58	84	10390	-1100.2	-55.78	6.62
789	SLU 15	59	113	10378	-1099.07	-55.87	6.73
789	SLU 16	57	83	10319	-1092.69	-55.25	6.55
789	SLU 17	59	112	10307	-1091.56	-55.34	6.66
789	SLU 18	57	87	10566	-1118.7	-55.78	6.6
789	SLU 19	58	116	10555	-1117.57	-55.87	6.71
789	SLU 20	58	86	10697	-1132.57	-56.6	6.67
789	SLU 21	60	115	10686	-1131.44	-56.69	6.78
789	SLU 22	59	87	10281	-1087.95	-55.6	6.95
789	SLU 23	62	135	10261	-1086.07	-55.75	7.13
789	SLU 24	61	87	10482	-1109.33	-56.96	7.09
789	SLU 25	63	116	10471	-1108.2	-57.05	7.2
789	SLU 26	63	134	10392	-1099.93	-56.57	7.21
789	SLU 27	63	86	10613	-1123.19	-57.78	7.17
789	SLU 28	64	115	10602	-1122.06	-57.87	7.28
789	SLU 29	62	85	10543	-1115.68	-57.25	7.1
789	SLU 30	63	114	10531	-1114.55	-57.33	7.21
789	SLU 31	67	139	11449	-1211.46	-60.82	7.59
789	SLU 32	66	91	11671	-1234.72	-62.03	7.55
789	SLU 33	67	120	11659	-1233.59	-62.12	7.66
789	SLU 34	68	139	11580	-1225.33	-61.64	7.67
789	SLU 35	67	90	11802	-1248.58	-62.85	7.62
789	SLU 36	69	119	11790	-1247.45	-62.94	7.74
789	SLU 37	67	89	11731	-1241.07	-62.32	7.56
789	SLU 38	68	118	11719	-1239.94	-62.4	7.67
789	SLU 39	66	93	11978	-1267.08	-62.85	7.6
789	SLU 40	68	122	11966	-1265.96	-62.93	7.71
789	SLU 41	68	92	12109	-1280.95	-63.67	7.68
789	SLU 42	69	121	12097	-1279.82	-63.76	7.79
789	SLU 43	62	103	11045	-1170.57	-60.67	7.38
789	SLU 44	64	151	11026	-1168.69	-60.82	7.56
789	SLU 45	64	103	11247	-1191.94	-62.03	7.52
789	SLU 46	65	132	11235	-1190.81	-62.11	7.63
789	SLU 47	65	151	11157	-1182.55	-61.64	7.64
789	SLU 48	65	102	11378	-1205.8	-62.85	7.6
789	SLU 49	66	131	11366	-1204.68	-62.94	7.71
789	SLU 50	64	101	11307	-1198.29	-62.32	7.53
789	SLU 51	66	130	11296	-1197.16	-62.4	7.64
789	SLU 52	69	156	12214	-1294.08	-65.89	8.02
789	SLU 53	69	107	12435	-1317.34	-67.1	7.98
789	SLU 54	70	136	12424	-1316.21	-67.18	8.09
789	SLU 55	70	155	12345	-1307.94	-66.71	8.1
789	SLU 56	70	106	12566	-1331.2	-67.92	8.05
789	SLU 57	71	135	12555	-1330.07	-68.01	8.16
789	SLU 58	69	105	12496	-1323.68	-67.39	7.99
789	SLU 59	71	135	12484	-1322.56	-67.47	8.1
789	SLU 60	69	109	12743	-1349.7	-67.92	8.03
789	SLU 61	70	138	12731	-1348.57	-68	8.14
789	SLU 62	70	108	12874	-1363.56	-68.74	8.11
789	SLU 63	71	137	12862	-1362.43	-68.82	8.22
789	SLU 64	71	109	12457	-1318.95	-67.74	8.39
789	SLU 65	74	157	12437	-1317.07	-67.89	8.57
789	SLU 66	73	109	12659	-1340.32	-69.1	8.53
789	SLU 67	74	138	12647	-1339.19	-69.18	8.64
789	SLU 68	75	157	12569	-1330.93	-68.71	8.65
789	SLU 69	74	108	12790	-1354.19	-69.92	8.6
789	SLU 70	76	137	12778	-1353.06	-70	8.71
789	SLU 71	74	107	12719	-1346.67	-69.39	8.54
789	SLU 72	75	136	12707	-1345.54	-69.47	8.65
789	SLU 73	78	162	13626	-1442.46	-72.96	9.03
789	SLU 74	78	113	13847	-1465.72	-74.17	8.99
789	SLU 75	79	142	13835	-1464.59	-74.25	9.1
789	SLU 76	80	161	13757	-1456.32	-73.78	9.1

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
789	SLU 77	79	112	13978	-1479.58	-74.99	9.06
789	SLU 78	81	141	13966	-1478.45	-75.07	9.17
789	SLU 79	79	111	13908	-1472.07	-74.46	9
789	SLU 80	80	141	13896	-1470.94	-74.54	9.11
789	SLU 81	78	115	14155	-1498.08	-74.99	9.04
789	SLU 82	79	144	14143	-1496.95	-75.07	9.15
789	SLU 83	79	114	14286	-1511.94	-75.81	9.12
789	SLU 84	81	143	14274	-1510.82	-75.89	9.23
789	SLE RA 1	53	82	9272	-981.96	-50.56	6.23
789	SLE RA 2	54	115	9259	-980.71	-50.65	6.35
789	SLE RA 3	54	82	9407	-996.21	-51.46	6.32
789	SLE RA 4	55	102	9399	-995.46	-51.52	6.4
789	SLE RA 5	55	114	9346	-989.95	-51.2	6.4
789	SLE RA 6	55	82	9494	-1005.46	-52.01	6.37
789	SLE RA 7	56	101	9486	-1004.7	-52.06	6.45
789	SLE RA 8	54	81	9447	-1000.45	-51.65	6.33
789	SLE RA 9	55	101	9439	-999.69	-51.71	6.4
789	SLE RA 10	57	118	10051	-1064.31	-54.03	6.66
789	SLE RA 11	57	85	10199	-1079.81	-54.84	6.63
789	SLE RA 12	58	105	10191	-1079.06	-54.9	6.7
789	SLE RA 13	58	117	10139	-1073.55	-54.58	6.71
789	SLE RA 14	58	85	10286	-1089.05	-55.39	6.68
789	SLE RA 15	59	104	10278	-1088.3	-55.44	6.75
789	SLE RA 16	58	84	10239	-1084.04	-55.03	6.64
789	SLE RA 17	59	104	10231	-1083.29	-55.09	6.71
789	SLE RA 18	57	86	10404	-1101.39	-55.38	6.67
789	SLE RA 19	58	106	10396	-1100.63	-55.44	6.74
789	SLE RA 20	58	86	10491	-1110.63	-55.93	6.72
789	SLE RA 21	59	105	10483	-1109.88	-55.99	6.79
789	SLE FR 1	53	82	9272	-981.96	-50.56	6.23
789	SLE FR 2	53	89	9270	-981.71	-50.58	6.25
789	SLE FR 3	53	82	9307	-985.66	-50.78	6.25
789	SLE FR 4	54	90	9609	-1017.54	-52.02	6.39
789	SLE FR 5	54	83	9647	-1021.49	-52.22	6.38
789	SLE FR 6	55	84	9838	-1041.68	-52.97	6.45
789	SLE QP 1	53	82	9272	-981.96	-50.56	6.23
789	SLE QP 2	54	84	9612	-1017.79	-52	6.36
789	SLD 1	911	335	9084	-971.78	-6.95	90.25
789	SLD 2	891	388	9105	-973.59	-7.42	90.87
789	SLD 3	882	-280	9370	-996.55	-5.83	87.67
789	SLD 4	862	-227	9391	-998.36	-6.29	88.29
789	SLD 5	359	1083	9015	-966.09	-40.12	35.33
789	SLD 6	346	1117	9029	-967.27	-40.42	35.73
789	SLD 7	262	-967	9970	-1048.68	-36.36	26.74
789	SLD 8	249	-933	9984	-1049.85	-36.66	27.14
789	SLD 9	-141	1100	9240	-985.73	-67.35	-14.42
789	SLD 10	-154	1135	9253	-986.9	-67.65	-14.02
789	SLD 11	-237	-950	10195	-1068.31	-63.59	-23.01
789	SLD 12	-250	-915	10208	-1069.49	-63.89	-22.6
789	SLD 13	-753	394	9832	-1037.22	-97.72	-75.57
789	SLD 14	-774	447	9853	-1039.03	-98.18	-74.95
789	SLD 15	-782	-221	10119	-1061.99	-96.59	-78.15
789	SLD 16	-803	-168	10140	-1063.81	-97.06	-77.53
789	SLV 1	1397	515	8769	-944.39	18.2	137.8
789	SLV 2	1365	598	8802	-947.24	17.46	138.78
789	SLV 3	1348	-524	9253	-986.23	20.14	133.42
789	SLV 4	1316	-441	9286	-989.08	19.4	134.4
789	SLV 5	538	1773	8619	-931.79	-33.75	52.25
789	SLV 6	516	1829	8641	-933.71	-34.25	52.91
789	SLV 7	373	-1690	10232	-1071.24	-27.28	37.66
789	SLV 8	352	-1634	10254	-1073.16	-27.77	38.32
789	SLV 9	-244	1801	8969	-962.42	-76.24	-25.6
789	SLV 10	-265	1857	8991	-964.34	-76.73	-24.94
789	SLV 11	-408	-1662	10583	-1101.87	-69.76	-40.18
789	SLV 12	-429	-1606	10605	-1103.8	-70.26	-39.53
789	SLV 13	-1207	608	9937	-1046.5	-123.41	-121.68
789	SLV 14	-1239	691	9970	-1049.35	-124.15	-120.7
789	SLV 15	-1257	-431	10421	-1088.34	-121.47	-126.06
789	SLV 16	-1289	-348	10454	-1091.19	-122.21	-125.08
789	SLV FO 1	1531	558	8685	-937.05	25.22	150.94
789	SLV FO 2	1496	649	8721	-940.19	24.41	152.02
789	SLV FO 3	1477	-585	9217	-983.07	27.36	146.13
789	SLV FO 4	1442	-494	9253	-986.21	26.54	147.21
789	SLV FO 5	586	1942	8519	-923.19	-31.93	56.84
789	SLV FO 6	562	2004	8544	-925.3	-32.47	57.56
789	SLV FO 7	405	-1867	10294	-1076.59	-24.8	40.79
789	SLV FO 8	382	-1806	10319	-1078.7	-25.35	41.51
789	SLV FO 9	-273	1973	8905	-956.88	-78.66	-28.79
789	SLV FO 10	-297	2035	8929	-959	-79.21	-28.07
789	SLV FO 11	-454	-1836	10680	-1110.28	-71.54	-44.84
789	SLV FO 12	-478	-1775	10704	-1112.4	-72.08	-44.11
789	SLV FO 13	-1334	661	9970	-1049.37	-130.55	-134.48
789	SLV FO 14	-1369	752	10006	-1052.51	-133.37	-133.41
789	SLV FO 15	-1388	-482	10502	-1095.39	-128.42	-139.3
789	SLV FO 16	-1423	-391	10539	-1098.53	-129.23	-138.22
789	CRTFP Ux+	0	0	0	0	0	0
789	CRTFP Ux-	0	0	0	0	0	0
789	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
789	CRTFP Uy-	0	0	0	0	0	0
792	SLU 1	133	36	8656	-695.12	-280.38	12.78
792	SLU 2	133	78	8629	-693.76	-281.41	14.08
792	SLU 3	137	36	8861	-711.27	-286.43	13.05
792	SLU 4	136	62	8845	-710.45	-287.05	13.83
792	SLU 5	135	78	8762	-704.15	-285.23	14.22
792	SLU 6	139	37	8995	-721.66	-290.25	13.2
792	SLU 7	138	62	8979	-720.85	-290.87	13.98
792	SLU 8	137	37	8922	-715.9	-288.02	13.08
792	SLU 9	137	62	8906	-715.09	-288.64	13.85
792	SLU 10	142	83	9765	-785.11	-318.01	15.11
792	SLU 11	146	42	9997	-802.62	-323.03	14.08
792	SLU 12	146	67	9981	-801.8	-323.65	14.86
792	SLU 13	144	84	9898	-795.5	-321.83	15.25
792	SLU 14	148	42	10130	-813.01	-326.85	14.23
792	SLU 15	148	68	10114	-812.19	-327.47	15.01
792	SLU 16	147	42	10058	-807.25	-324.62	14.11
792	SLU 17	146	67	10042	-806.43	-325.24	14.88
792	SLU 18	147	43	10278	-825.61	-332.67	14.25
792	SLU 19	146	69	10262	-824.8	-333.29	15.03
792	SLU 20	149	44	10411	-836	-336.49	14.4
792	SLU 21	148	69	10396	-835.19	-337.11	15.18
792	SLU 22	151	41	10064	-807.55	-324.89	14.42
792	SLU 23	151	83	10037	-806.19	-325.92	15.72
792	SLU 24	155	41	10269	-823.7	-330.94	14.7
792	SLU 25	154	66	10253	-822.88	-331.56	15.48
792	SLU 26	152	83	10171	-816.58	-329.74	15.87
792	SLU 27	157	42	10403	-834.09	-334.76	14.85
792	SLU 28	156	67	10387	-833.28	-335.38	15.62
792	SLU 29	155	42	10330	-828.33	-332.53	14.72
792	SLU 30	155	67	10315	-827.52	-333.15	15.5
792	SLU 31	160	88	11173	-897.53	-362.52	16.75
792	SLU 32	164	47	11405	-915.05	-367.54	15.73
792	SLU 33	164	72	11389	-914.23	-368.16	16.51
792	SLU 34	162	88	11306	-907.93	-366.34	16.9
792	SLU 35	166	47	11538	-925.44	-371.36	15.88
792	SLU 36	166	72	11523	-924.62	-371.98	16.65
792	SLU 37	165	47	11466	-919.68	-369.13	15.75
792	SLU 38	164	72	11450	-918.86	-369.75	16.53
792	SLU 39	165	48	11686	-938.04	-377.18	15.89
792	SLU 40	164	73	11670	-937.23	-377.79	16.67
792	SLU 41	167	49	11820	-948.43	-381	16.04
792	SLU 42	166	74	11804	-947.62	-381.61	16.82
792	SLU 43	167	45	10770	-865.11	-349.24	16.05
792	SLU 44	167	87	10743	-863.75	-350.27	17.35
792	SLU 45	171	46	10975	-881.26	-355.29	16.32
792	SLU 46	170	71	10959	-880.44	-355.91	17.1
792	SLU 47	169	87	10876	-874.14	-354.09	17.49
792	SLU 48	173	46	11109	-891.65	-359.11	16.47
792	SLU 49	172	71	11093	-890.83	-359.73	17.25
792	SLU 50	171	46	11036	-885.89	-356.88	16.35
792	SLU 51	171	71	11020	-885.08	-357.5	17.12
792	SLU 52	176	92	11879	-955.09	-386.87	18.38
792	SLU 53	180	51	12111	-972.61	-391.89	17.35
792	SLU 54	180	76	12095	-971.79	-392.51	18.13
792	SLU 55	178	93	12012	-965.49	-390.69	18.52
792	SLU 56	182	51	12244	-983	-395.71	17.5
792	SLU 57	182	77	12228	-982.18	-396.33	18.28
792	SLU 58	181	51	12172	-977.24	-393.48	17.38
792	SLU 59	180	76	12156	-976.42	-394.1	18.15
792	SLU 60	181	53	12392	-995.6	-401.53	17.52
792	SLU 61	180	78	12376	-994.79	-402.14	18.3
792	SLU 62	183	53	12525	-1005.99	-405.35	17.67
792	SLU 63	182	78	12509	-1005.18	-405.96	18.45
792	SLU 64	185	50	12178	-977.54	-393.75	17.69
792	SLU 65	184	92	12151	-976.18	-394.78	18.99
792	SLU 66	189	50	12383	-993.69	-399.79	17.97
792	SLU 67	188	76	12367	-992.87	-400.41	18.75
792	SLU 68	186	92	12284	-986.57	-398.59	19.14
792	SLU 69	191	51	12517	-1004.08	-403.61	18.12
792	SLU 70	190	76	12501	-1003.26	-404.23	18.89
792	SLU 71	189	51	12444	-998.32	-401.38	17.99
792	SLU 72	189	76	12428	-997.5	-402	18.77
792	SLU 73	194	97	13287	-1067.52	-431.38	20.02
792	SLU 74	198	56	13519	-1085.03	-436.4	19
792	SLU 75	198	81	13503	-1084.22	-437.01	19.78
792	SLU 76	196	98	13420	-1077.91	-435.19	20.17
792	SLU 77	200	56	13652	-1095.43	-440.21	19.15
792	SLU 78	199	81	13636	-1094.61	-440.83	19.92
792	SLU 79	199	56	13580	-1089.67	-437.99	19.02
792	SLU 80	198	81	13564	-1088.85	-438.6	19.8
792	SLU 81	199	57	13800	-1108.03	-446.03	19.16
792	SLU 82	198	83	13784	-1107.22	-446.65	19.94
792	SLU 83	201	58	13934	-1118.42	-449.85	19.31
792	SLU 84	200	83	13918	-1117.61	-450.47	20.09
792	SLE RA 1	139	37	9058	-727.24	-293.1	13.25
792	SLE RA 2	138	65	9040	-726.34	-293.79	14.11
792	SLE RA 3	141	38	9195	-738.01	-297.13	13.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
792	SLE RA 4	141	54	9184	-737.47	-297.54	13.95
792	SLE RA 5	139	65	9129	-733.26	-296.33	14.21
792	SLE RA 6	142	38	9284	-744.94	-299.68	13.53
792	SLE RA 7	142	55	9273	-744.39	-300.09	14.05
792	SLE RA 8	141	38	9236	-741.1	-298.19	13.45
792	SLE RA 9	141	55	9225	-740.55	-298.6	13.96
792	SLE RA 10	144	69	9797	-787.23	-318.19	14.8
792	SLE RA 11	147	41	9952	-798.91	-321.53	14.12
792	SLE RA 12	147	58	9942	-798.36	-321.94	14.64
792	SLE RA 13	146	69	9886	-794.16	-320.73	14.9
792	SLE RA 14	148	42	10041	-805.83	-324.08	14.22
792	SLE RA 15	148	58	10030	-805.29	-324.49	14.74
792	SLE RA 16	147	41	9993	-801.99	-322.59	14.13
792	SLE RA 17	147	58	9982	-801.45	-323	14.65
792	SLE RA 18	147	42	10140	-814.24	-327.96	14.23
792	SLE RA 19	147	59	10129	-813.69	-328.37	14.75
792	SLE RA 20	149	43	10229	-821.17	-330.5	14.33
792	SLE RA 21	148	59	10218	-820.62	-330.92	14.85
792	SLE FR 1	139	37	9058	-727.24	-293.1	13.25
792	SLE FR 2	138	43	9054	-727.06	-293.24	13.42
792	SLE FR 3	139	37	9094	-730.01	-294.12	13.29
792	SLE FR 4	141	44	9379	-753.16	-303.69	13.71
792	SLE FR 5	142	39	9418	-756.11	-304.58	13.58
792	SLE FR 6	143	40	9599	-770.74	-310.53	13.74
792	SLE QP 1	139	37	9058	-727.24	-293.1	13.25
792	SLE QP 2	141	39	9382	-753.34	-303.56	13.54
792	SLD 1	860	290	8224	-667.08	-270.38	77.68
792	SLD 2	838	419	8211	-666.64	-269.72	82.35
792	SLD 3	871	-251	8632	-686.88	-256.26	60.74
792	SLD 4	849	-122	8619	-686.44	-255.59	65.41
792	SLD 5	344	912	8419	-697.51	-315.14	57.67
792	SLD 6	330	995	8411	-697.23	-314.71	60.69
792	SLD 7	380	-891	9777	-763.51	-268.06	1.19
792	SLD 8	366	-808	9769	-763.22	-267.64	4.21
792	SLD 9	-84	885	8996	-743.46	-339.48	22.87
792	SLD 10	-98	968	8988	-743.18	-339.05	25.89
792	SLD 11	-47	-918	10354	-809.46	-292.41	-33.61
792	SLD 12	-61	-835	10346	-809.17	-291.98	-30.59
792	SLD 13	-566	200	10146	-820.25	-351.52	-38.32
792	SLD 14	-588	328	10133	-819.81	-350.86	-33.65
792	SLD 15	-555	-341	10553	-840.04	-337.4	-55.27
792	SLD 16	-577	-213	10541	-839.6	-336.74	-50.6
792	SLV 1	1265	466	7548	-617.4	-252.58	114.98
792	SLV 2	1231	668	7528	-616.71	-251.54	122.33
792	SLV 3	1284	-448	8237	-650.9	-228.7	86.33
792	SLV 4	1249	-246	8217	-650.2	-227.66	93.68
792	SLV 5	457	1516	7791	-661.89	-324.67	86.05
792	SLV 6	434	1652	7777	-661.42	-323.97	91
792	SLV 7	518	-1532	10088	-773.53	-245.09	-9.45
792	SLV 8	495	-1396	10074	-773.07	-244.38	-4.49
792	SLV 9	-213	1473	8691	-733.61	-362.73	31.58
792	SLV 10	-236	1609	8677	-733.15	-362.03	36.53
792	SLV 11	-151	-1574	10988	-845.26	-283.15	-63.92
792	SLV 12	-175	-1439	10974	-844.79	-282.45	-58.97
792	SLV 13	-967	323	10548	-856.48	-379.45	-66.6
792	SLV 14	-1001	525	10528	-855.79	-378.41	-59.25
792	SLV 15	-948	-591	11237	-889.97	-355.58	-95.25
792	SLV 16	-983	-389	11217	-889.28	-354.53	-87.9
792	SLV FO 1	1378	509	7365	-603.81	-247.48	125.12
792	SLV FO 2	1340	731	7343	-603.05	-246.34	133.21
792	SLV FO 3	1398	-497	8123	-640.65	-221.22	93.61
792	SLV FO 4	1360	-275	8101	-639.89	-220.07	101.7
792	SLV FO 5	489	1664	7632	-652.75	-326.78	93.3
792	SLV FO 6	463	1813	7617	-652.23	-326.01	98.75
792	SLV FO 7	556	-1689	10158	-775.55	-239.24	-11.74
792	SLV FO 8	530	-1539	10143	-775.04	-238.47	-6.3
792	SLV FO 9	-248	1617	8622	-731.64	-368.65	33.38
792	SLV FO 10	-273	1766	8607	-731.13	-367.87	38.83
792	SLV FO 11	-181	-1736	11148	-854.45	-281.11	-71.67
792	SLV FO 12	-206	-1586	11133	-853.94	-280.34	-66.22
792	SLV FO 13	-1078	352	10664	-866.79	-387.04	-74.62
792	SLV FO 14	-1115	574	10642	-866.03	-385.89	-66.53
792	SLV FO 15	-1057	-654	11422	-903.64	-360.78	-106.13
792	SLV FO 16	-1095	-432	11400	-902.87	-359.63	-98.04
792	CRTFP Ux+	0	0	0	0	0	0
792	CRTFP Ux-	0	0	0	0	0	0
792	CRTFP Uy+	0	0	0	0	0	0
792	CRTFP Uy-	0	0	0	0	0	0
794	SLU 1	-75	-3	5424	-568.76	-887.82	-8.47
794	SLU 2	-73	28	5405	-567.38	-886.83	-0.64
794	SLU 3	-77	-4	5559	-582.75	-907.97	-8.8
794	SLU 4	-76	15	5548	-581.93	-907.38	-4.1
794	SLU 5	-74	27	5494	-576.55	-899.9	-0.78
794	SLU 6	-77	-4	5647	-591.92	-921.04	-8.93
794	SLU 7	-76	15	5636	-591.09	-920.44	-4.24
794	SLU 8	-77	-3	5601	-587.09	-913.95	-8.74
794	SLU 9	-76	15	5590	-586.27	-913.36	-4.05
794	SLU 10	-77	29	6087	-639.23	-1000.19	-0.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
794	SLU 11	-80	-2	6241	-654.6	-1021.33	-8.73
794	SLU 12	-79	16	6229	-653.78	-1020.74	-4.03
794	SLU 13	-77	29	6176	-648.4	-1013.26	-0.71
794	SLU 14	-81	-2	6329	-663.77	-1034.4	-8.86
794	SLU 15	-80	16	6318	-662.94	-1033.81	-4.16
794	SLU 16	-80	-2	6283	-658.94	-1027.32	-8.67
794	SLU 17	-79	16	6272	-658.12	-1026.72	-3.97
794	SLU 18	-80	-1	6398	-671.41	-1049.77	-8.37
794	SLU 19	-79	18	6387	-670.58	-1049.17	-3.67
794	SLU 20	-81	-1	6486	-680.57	-1062.83	-8.5
794	SLU 21	-80	17	6475	-679.74	-1062.24	-3.81
794	SLU 22	-82	-6	6290	-659.54	-1027.12	-9.88
794	SLU 23	-81	25	6272	-658.16	-1026.13	-2.05
794	SLU 24	-84	-6	6425	-673.53	-1047.27	-10.2
794	SLU 25	-83	12	6414	-672.7	-1046.68	-5.51
794	SLU 26	-82	25	6360	-667.33	-1039.2	-2.18
794	SLU 27	-85	-7	6514	-682.69	-1060.34	-10.34
794	SLU 28	-84	12	6503	-681.87	-1059.74	-5.64
794	SLU 29	-84	-6	6468	-677.87	-1053.25	-10.15
794	SLU 30	-83	12	6456	-677.04	-1052.66	-5.45
794	SLU 31	-84	26	6953	-730.01	-1139.49	-1.97
794	SLU 32	-87	-5	7107	-745.38	-1160.63	-10.13
794	SLU 33	-86	14	7096	-744.55	-1160.04	-5.43
794	SLU 34	-85	26	7042	-739.18	-1152.56	-2.11
794	SLU 35	-88	-5	7196	-754.55	-1173.7	-10.27
794	SLU 36	-87	13	7184	-753.72	-1173.11	-5.57
794	SLU 37	-87	-5	7149	-749.72	-1166.62	-10.08
794	SLU 38	-86	14	7138	-748.89	-1166.02	-5.38
794	SLU 39	-87	-4	7264	-762.18	-1189.07	-9.77
794	SLU 40	-86	15	7253	-761.36	-1188.47	-5.08
794	SLU 41	-88	-4	7353	-771.35	-1202.13	-9.91
794	SLU 42	-87	15	7342	-770.52	-1201.54	-5.21
794	SLU 43	-95	-3	6754	-708.27	-1106.41	-10.53
794	SLU 44	-94	28	6736	-706.89	-1105.42	-2.7
794	SLU 45	-97	-3	6889	-722.26	-1126.56	-10.86
794	SLU 46	-96	15	6878	-721.43	-1125.96	-6.16
794	SLU 47	-94	28	6824	-716.05	-1118.48	-2.84
794	SLU 48	-98	-4	6978	-731.42	-1139.63	-10.99
794	SLU 49	-97	15	6966	-730.6	-1139.03	-6.3
794	SLU 50	-97	-3	6931	-726.6	-1132.54	-10.8
794	SLU 51	-96	15	6920	-725.77	-1131.95	-6.11
794	SLU 52	-97	29	7417	-778.74	-1218.78	-2.63
794	SLU 53	-100	-2	7571	-794.11	-1239.92	-10.79
794	SLU 54	-99	16	7560	-793.28	-1239.33	-6.09
794	SLU 55	-98	29	7506	-787.91	-1231.84	-2.77
794	SLU 56	-101	-2	7659	-803.27	-1252.99	-10.92
794	SLU 57	-100	16	7648	-802.45	-1252.39	-6.22
794	SLU 58	-100	-2	7613	-798.45	-1245.9	-10.73
794	SLU 59	-99	17	7602	-797.62	-1245.31	-6.03
794	SLU 60	-100	-1	7728	-810.91	-1268.35	-10.43
794	SLU 61	-99	18	7717	-810.08	-1267.76	-5.73
794	SLU 62	-101	-1	7817	-820.08	-1281.42	-10.56
794	SLU 63	-100	17	7805	-819.25	-1280.82	-5.87
794	SLU 64	-103	-6	7621	-799.04	-1245.71	-11.94
794	SLU 65	-101	25	7602	-797.66	-1244.72	-4.11
794	SLU 66	-104	-6	7756	-813.03	-1265.86	-12.26
794	SLU 67	-103	12	7744	-812.21	-1265.26	-7.57
794	SLU 68	-102	25	7690	-806.83	-1257.78	-4.24
794	SLU 69	-105	-6	7844	-822.2	-1278.93	-12.4
794	SLU 70	-104	12	7833	-821.37	-1278.33	-7.7
794	SLU 71	-104	-6	7798	-817.37	-1271.84	-12.21
794	SLU 72	-103	12	7786	-816.55	-1271.25	-7.51
794	SLU 73	-104	27	8284	-869.52	-1358.08	-4.03
794	SLU 74	-107	-5	8437	-884.88	-1379.22	-12.19
794	SLU 75	-106	14	8426	-884.06	-1378.63	-7.49
794	SLU 76	-105	26	8372	-878.68	-1371.14	-4.17
794	SLU 77	-108	-5	8526	-894.05	-1392.29	-12.33
794	SLU 78	-107	13	8514	-893.22	-1391.69	-7.63
794	SLU 79	-107	-5	8479	-889.22	-1385.2	-12.14
794	SLU 80	-106	14	8468	-888.4	-1384.61	-7.44
794	SLU 81	-107	-3	8595	-901.69	-1407.65	-11.83
794	SLU 82	-106	15	8583	-900.86	-1407.06	-7.14
794	SLU 83	-108	-4	8683	-910.85	-1420.72	-11.97
794	SLU 84	-107	15	8672	-910.03	-1420.12	-7.27
794	SLE RA 1	-77	-4	5672	-594.7	-927.62	-8.87
794	SLE RA 2	-76	17	5659	-593.78	-926.96	-3.65
794	SLE RA 3	-78	-4	5762	-604.02	-941.06	-9.09
794	SLE RA 4	-78	8	5754	-603.47	-940.66	-5.96
794	SLE RA 5	-77	17	5718	-599.89	-935.67	-3.74
794	SLE RA 6	-79	-4	5821	-610.14	-949.77	-9.18
794	SLE RA 7	-78	8	5813	-609.58	-949.37	-6.05
794	SLE RA 8	-78	-4	5790	-606.92	-945.04	-9.05
794	SLE RA 9	-78	8	5782	-606.37	-944.65	-5.92
794	SLE RA 10	-78	18	6114	-641.68	-1002.53	-3.61
794	SLE RA 11	-80	-3	6216	-651.93	-1016.63	-9.04
794	SLE RA 12	-80	9	6208	-651.37	-1016.23	-5.91
794	SLE RA 13	-79	18	6173	-647.79	-1011.24	-3.7
794	SLE RA 14	-81	-3	6275	-658.04	-1025.34	-9.13

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
794	SLE RA 15	-80	9	6267	-657.49	-1024.94	-6
794	SLE RA 16	-80	-3	6244	-654.82	-1020.62	-9.01
794	SLE RA 17	-80	9	6237	-654.27	-1020.22	-5.87
794	SLE RA 18	-80	-2	6321	-663.13	-1035.58	-8.8
794	SLE RA 19	-80	10	6313	-662.58	-1035.19	-5.67
794	SLE RA 20	-81	-2	6380	-669.24	-1044.3	-8.89
794	SLE RA 21	-80	10	6372	-668.69	-1043.9	-5.76
794	SLE FR 1	-77	-4	5672	-594.7	-927.62	-8.87
794	SLE FR 2	-77	0	5669	-594.51	-927.49	-7.83
794	SLE FR 3	-77	-4	5695	-597.14	-931.11	-8.91
794	SLE FR 4	-78	1	5864	-615.04	-959.88	-7.81
794	SLE FR 5	-78	-3	5890	-617.67	-963.5	-8.89
794	SLE FR 6	-79	-3	5996	-628.91	-981.6	-8.84
794	SLE QP 1	-77	-4	5672	-594.7	-927.62	-8.87
794	SLE QP 2	-78	-3	5866	-615.23	-960.01	-8.85
794	SLD 1	320	221	7359	-777.5	-1229.1	95.4
794	SLD 2	298	68	7377	-778.91	-1236.93	55.29
794	SLD 3	297	-168	7609	-794.17	-1218.46	-4.11
794	SLD 4	275	-321	7627	-795.58	-1226.28	-44.23
794	SLD 5	80	680	5932	-638.38	-1055.52	180.32
794	SLD 6	66	581	5944	-639.29	-1060.58	154.36
794	SLD 7	3	-616	6765	-693.95	-1020.05	-151.41
794	SLD 8	-11	-715	6777	-694.86	-1025.11	-177.36
794	SLD 9	-145	708	4956	-535.59	-894.91	159.65
794	SLD 10	-160	609	4968	-536.5	-899.98	133.7
794	SLD 11	-222	-587	5789	-591.16	-859.44	-172.07
794	SLD 12	-236	-686	5801	-592.07	-864.5	-198.02
794	SLD 13	-431	315	4106	-434.87	-693.74	26.53
794	SLD 14	-453	162	4124	-436.28	-701.57	-13.59
794	SLD 15	-454	-74	4355	-451.54	-683.1	-72.99
794	SLD 16	-476	-227	4374	-452.95	-690.92	-113.11
794	SLV 1	547	372	8179	-867.33	-1380.52	160.99
794	SLV 2	512	131	8208	-869.55	-1392.85	97.83
794	SLV 3	508	-285	8601	-895.44	-1362.32	-7.19
794	SLV 4	473	-526	8630	-897.65	-1374.65	-70.36
794	SLV 5	175	1151	5916	-647.82	-1111.47	308.97
794	SLV 6	152	988	5935	-649.31	-1119.77	266.44
794	SLV 7	45	-1039	7321	-741.5	-1050.8	-251.65
794	SLV 8	21	-1201	7340	-742.99	-1059.1	-294.17
794	SLV 9	-178	1195	4393	-487.46	-860.92	276.47
794	SLV 10	-201	1033	4412	-488.95	-869.22	233.94
794	SLV 11	-308	-995	5798	-581.14	-800.25	-284.15
794	SLV 12	-331	-1157	5817	-582.63	-808.55	-326.68
794	SLV 13	-629	519	3103	-332.8	-545.38	52.65
794	SLV 14	-664	279	3132	-335.01	-557.7	-10.52
794	SLV 15	-668	-137	3525	-360.9	-527.17	-115.54
794	SLV 16	-703	-378	3553	-363.12	-539.5	-178.7
794	SLV FO 1	610	409	8411	-892.55	-1422.57	177.98
794	SLV FO 2	571	144	8442	-894.98	-1436.13	108.5
794	SLV FO 3	567	-313	8874	-923.46	-1402.55	-7.02
794	SLV FO 4	528	-578	8906	-925.9	-1416.11	-76.51
794	SLV FO 5	200	1266	5920	-651.08	-1126.61	340.75
794	SLV FO 6	174	1087	5942	-652.72	-1135.74	293.97
794	SLV FO 7	57	-1143	7466	-754.13	-1059.88	-275.93
794	SLV FO 8	31	-1321	7488	-755.77	-1069.01	-322.71
794	SLV FO 9	-188	1315	4245	-474.68	-851.02	305
794	SLV FO 10	-214	1136	4266	-476.32	-860.15	258.22
794	SLV FO 11	-331	-1094	5791	-577.73	-784.28	-311.68
794	SLV FO 12	-357	-1272	5812	-579.37	-793.41	-358.46
794	SLV FO 13	-685	572	2827	-304.55	-503.91	58.8
794	SLV FO 14	-723	307	2858	-306.99	-517.47	-10.68
794	SLV FO 15	-727	-151	3291	-335.47	-483.89	-126.2
794	SLV FO 16	-766	-416	3322	-337.91	-497.45	-195.69
794	CRTFP Ux+	0	0	0	0	0	0
794	CRTFP Ux-	0	0	0	0	0	0
794	CRTFP Uy+	0	0	0	0	0	0
794	CRTFP Uy-	0	0	0	0	0	0
797	SLU 1	73	27	4309	-7.23	1102.58	-9.12
797	SLU 2	72	51	4289	-7.46	1102.67	-17.72
797	SLU 3	75	27	4409	-7.34	1126.35	-9.42
797	SLU 4	74	42	4398	-7.47	1126.4	-14.58
797	SLU 5	73	52	4353	-7.51	1117.42	-18.12
797	SLU 6	76	29	4473	-7.38	1141.11	-9.82
797	SLU 7	75	43	4461	-7.52	1141.16	-14.98
797	SLU 8	75	29	4436	-7.33	1132.09	-9.92
797	SLU 9	74	44	4424	-7.46	1132.14	-15.08
797	SLU 10	77	54	4822	-8.49	1237.79	-18.84
797	SLU 11	79	31	4942	-8.36	1261.47	-10.54
797	SLU 12	79	45	4930	-8.5	1261.53	-15.7
797	SLU 13	78	55	4885	-8.54	1252.54	-19.24
797	SLU 14	80	32	5005	-8.41	1276.23	-10.94
797	SLU 15	80	47	4994	-8.55	1276.28	-16.1
797	SLU 16	80	32	4968	-8.35	1267.21	-11.04
797	SLU 17	79	47	4956	-8.49	1267.27	-16.2
797	SLU 18	80	31	5069	-8.7	1295.61	-10.72
797	SLU 19	79	46	5057	-8.84	1295.66	-15.88
797	SLU 20	81	32	5132	-8.75	1310.37	-11.12
797	SLU 21	80	47	5121	-8.88	1310.42	-16.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
797	SLU 22	81	28	4980	-8.33	1269.26	-9.47
797	SLU 23	80	52	4961	-8.56	1269.35	-18.08
797	SLU 24	83	28	5081	-8.43	1293.03	-9.77
797	SLU 25	82	43	5069	-8.57	1293.09	-14.93
797	SLU 26	81	53	5024	-8.6	1284.1	-18.48
797	SLU 27	84	30	5144	-8.48	1307.79	-10.17
797	SLU 28	83	44	5133	-8.62	1307.84	-15.33
797	SLU 29	83	30	5107	-8.42	1298.77	-10.27
797	SLU 30	83	45	5096	-8.56	1298.83	-15.43
797	SLU 31	85	55	5493	-9.58	1404.47	-19.2
797	SLU 32	88	32	5613	-9.46	1428.16	-10.89
797	SLU 33	87	46	5601	-9.6	1428.21	-16.05
797	SLU 34	86	57	5556	-9.63	1419.23	-19.59
797	SLU 35	89	33	5676	-9.51	1442.91	-11.29
797	SLU 36	88	48	5665	-9.64	1442.96	-16.45
797	SLU 37	88	33	5639	-9.45	1433.9	-11.39
797	SLU 38	88	48	5628	-9.59	1433.95	-16.55
797	SLU 39	88	32	5740	-9.79	1462.3	-11.07
797	SLU 40	88	47	5729	-9.93	1462.35	-16.23
797	SLU 41	89	33	5804	-9.84	1477.05	-11.47
797	SLU 42	89	48	5792	-9.98	1477.1	-16.63
797	SLU 43	92	34	5371	-9.02	1376.2	-11.74
797	SLU 44	91	59	5352	-9.25	1376.29	-20.34
797	SLU 45	93	35	5472	-9.13	1399.97	-12.03
797	SLU 46	93	50	5460	-9.27	1400.03	-17.2
797	SLU 47	92	60	5415	-9.3	1391.05	-20.74
797	SLU 48	94	36	5535	-9.18	1414.73	-12.43
797	SLU 49	94	51	5524	-9.31	1414.78	-17.6
797	SLU 50	94	36	5498	-9.12	1405.71	-12.54
797	SLU 51	93	51	5487	-9.26	1405.77	-17.7
797	SLU 52	96	62	5884	-10.28	1511.41	-21.46
797	SLU 53	98	38	6004	-10.16	1535.1	-13.15
797	SLU 54	98	53	5992	-10.29	1535.15	-18.31
797	SLU 55	97	63	5948	-10.33	1526.17	-21.86
797	SLU 56	99	39	6068	-10.2	1549.85	-13.55
797	SLU 57	99	54	6056	-10.34	1549.91	-18.71
797	SLU 58	99	40	6030	-10.15	1540.84	-13.66
797	SLU 59	98	54	6019	-10.29	1540.89	-18.82
797	SLU 60	99	39	6131	-10.49	1569.24	-13.34
797	SLU 61	98	53	6120	-10.63	1569.29	-18.5
797	SLU 62	100	40	6195	-10.54	1583.99	-13.74
797	SLU 63	99	55	6183	-10.68	1584.04	-18.9
797	SLU 64	100	35	6042	-10.12	1542.89	-12.09
797	SLU 65	99	60	6023	-10.35	1542.97	-20.69
797	SLU 66	102	36	6143	-10.22	1566.66	-12.39
797	SLU 67	101	51	6132	-10.36	1566.71	-17.55
797	SLU 68	100	61	6087	-10.4	1557.73	-21.09
797	SLU 69	103	37	6207	-10.27	1581.41	-12.78
797	SLU 70	102	52	6195	-10.41	1581.47	-17.95
797	SLU 71	102	37	6170	-10.22	1572.4	-12.89
797	SLU 72	102	52	6158	-10.35	1572.45	-18.05
797	SLU 73	104	63	6555	-11.38	1678.1	-21.81
797	SLU 74	107	39	6675	-11.25	1701.78	-13.5
797	SLU 75	106	54	6664	-11.39	1701.83	-18.67
797	SLU 76	105	64	6619	-11.43	1692.85	-22.21
797	SLU 77	108	40	6739	-11.3	1716.54	-13.9
797	SLU 78	107	55	6727	-11.44	1716.59	-19.07
797	SLU 79	107	41	6702	-11.24	1707.52	-14.01
797	SLU 80	106	55	6690	-11.38	1707.57	-19.17
797	SLU 81	107	40	6803	-11.59	1735.92	-13.69
797	SLU 82	107	55	6791	-11.73	1735.97	-18.85
797	SLU 83	108	41	6866	-11.64	1750.68	-14.09
797	SLU 84	108	56	6855	-11.77	1750.73	-19.25
797	SLE RA 1	75	27	4501	-7.54	1150.2	-9.22
797	SLE RA 2	75	43	4488	-7.7	1150.26	-14.96
797	SLE RA 3	76	27	4568	-7.61	1166.05	-9.42
797	SLE RA 4	76	37	4560	-7.71	1166.08	-12.86
797	SLE RA 5	75	44	4530	-7.73	1160.1	-15.22
797	SLE RA 6	77	28	4610	-7.65	1175.89	-9.69
797	SLE RA 7	77	38	4602	-7.74	1175.92	-13.13
797	SLE RA 8	77	28	4585	-7.61	1169.88	-9.76
797	SLE RA 9	76	38	4578	-7.7	1169.91	-13.2
797	SLE RA 10	78	45	4842	-8.38	1240.34	-15.7
797	SLE RA 11	80	30	4922	-8.3	1256.13	-10.17
797	SLE RA 12	79	39	4915	-8.39	1256.17	-13.61
797	SLE RA 13	78	46	4885	-8.41	1250.18	-15.97
797	SLE RA 14	80	30	4965	-8.33	1265.97	-10.43
797	SLE RA 15	80	40	4957	-8.42	1266	-13.87
797	SLE RA 16	80	31	4940	-8.29	1259.96	-10.5
797	SLE RA 17	79	40	4932	-8.38	1259.99	-13.94
797	SLE RA 18	80	30	5007	-8.52	1278.89	-10.29
797	SLE RA 19	79	40	5000	-8.61	1278.93	-13.73
797	SLE RA 20	81	31	5050	-8.55	1288.73	-10.55
797	SLE RA 21	80	41	5042	-8.65	1288.76	-14
797	SLE FR 1	75	27	4501	-7.54	1150.2	-9.22
797	SLE FR 2	75	30	4498	-7.57	1150.21	-10.37
797	SLE FR 3	76	27	4517	-7.56	1154.14	-9.33
797	SLE FR 4	76	31	4650	-7.87	1188.82	-10.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
797	SLE FR 5	77	28	4669	-7.85	1192.74	-9.65
797	SLE FR 6	78	28	4754	-8.03	1214.55	-9.76
797	SLE QP 1	75	27	4501	-7.54	1150.2	-9.22
797	SLE QP 2	77	28	4653	-7.84	1188.81	-9.54
797	SLD 1	396	87	3312	-7.37	901.59	-30.25
797	SLD 2	377	210	3289	-7.66	902.84	-73.41
797	SLD 3	408	-227	3592	-3.82	896.91	79.48
797	SLD 4	389	-103	3569	-4.12	898.15	36.31
797	SLD 5	159	500	3831	-13.02	1109.54	-174.68
797	SLD 6	146	580	3816	-13.21	1110.34	-202.61
797	SLD 7	196	-546	4762	-1.2	1093.92	191.07
797	SLD 8	184	-466	4747	-1.4	1094.72	163.14
797	SLD 9	-31	521	4558	-14.28	1282.9	-182.23
797	SLD 10	-43	601	4543	-14.47	1283.7	-210.16
797	SLD 11	7	-524	5489	-2.46	1267.28	183.53
797	SLD 12	-6	-444	5475	-2.65	1268.08	155.6
797	SLD 13	-235	159	5736	-11.56	1479.47	-55.4
797	SLD 14	-254	283	5714	-11.85	1480.71	-98.56
797	SLD 15	-224	-155	6016	-8.01	1474.78	54.33
797	SLD 16	-243	-31	5993	-8.31	1476.02	11.16
797	SLV 1	577	138	2543	-7.33	740.94	-48.44
797	SLV 2	547	333	2507	-7.8	742.89	-116.42
797	SLV 3	596	-392	3016	-1.34	733.1	137.02
797	SLV 4	565	-197	2980	-1.81	735.06	69.05
797	SLV 5	204	829	3310	-16.68	1065.97	-289.82
797	SLV 6	183	960	3286	-17	1067.28	-335.58
797	SLV 7	267	-939	4885	3.29	1039.85	328.4
797	SLV 8	246	-807	4861	2.97	1041.16	282.64
797	SLV 9	-93	863	4444	-18.65	1336.46	-301.72
797	SLV 10	-113	994	4420	-18.96	1337.77	-347.49
797	SLV 11	-30	-905	6020	1.32	1310.33	316.49
797	SLV 12	-50	-773	5996	1.01	1311.65	270.73
797	SLV 13	-412	252	6325	-13.87	1642.56	-88.13
797	SLV 14	-442	447	6290	-14.34	1644.52	-156.1
797	SLV 15	-393	-278	6798	-7.88	1634.73	97.33
797	SLV 16	-423	-83	6762	-8.34	1636.68	29.36
797	SLV FO 1	627	149	2332	-7.28	696.15	-52.34
797	SLV FO 2	594	364	2293	-7.8	698.3	-127.1
797	SLV FO 3	647	-434	2852	-0.69	687.53	151.68
797	SLV FO 4	614	-219	2813	-1.2	689.68	76.91
797	SLV FO 5	216	909	3175	-17.57	1053.69	-317.84
797	SLV FO 6	194	1053	3149	-17.92	1055.13	-368.18
797	SLV FO 7	286	-1035	4908	4.4	1024.95	362.2
797	SLV FO 8	263	-891	4882	4.05	1026.4	311.86
797	SLV FO 9	-110	946	4423	-19.73	1351.22	-330.94
797	SLV FO 10	-132	1091	4397	-20.07	1352.67	-381.28
797	SLV FO 11	-41	-998	6156	2.24	1322.49	349.1
797	SLV FO 12	-63	-853	6130	1.89	1323.93	298.76
797	SLV FO 13	-461	275	6493	-14.47	1687.94	-95.99
797	SLV FO 14	-494	489	6453	-14.98	1690.09	-170.76
797	SLV FO 15	-440	-309	7012	-7.88	1679.32	108.02
797	SLV FO 16	-473	-94	6973	-8.39	1681.47	33.25
797	CRTFP Ux+	0	0	0	0	0	0
797	CRTFP Ux-	0	0	0	0	0	0
797	CRTFP Uy+	0	0	0	0	0	0
797	CRTFP Uy-	0	0	0	0	0	0
799	SLU 1	2	25	2283	-1.36	545.51	-6.26
799	SLU 2	2	37	2277	-1.38	542.33	-9.42
799	SLU 3	2	25	2338	-1.39	559.12	-6.4
799	SLU 4	2	33	2335	-1.4	557.21	-8.29
799	SLU 5	2	38	2313	-1.4	551.33	-9.47
799	SLU 6	2	26	2375	-1.4	568.12	-6.46
799	SLU 7	2	33	2371	-1.42	566.21	-8.35
799	SLU 8	2	25	2356	-1.39	563.51	-6.37
799	SLU 9	2	33	2352	-1.41	561.6	-8.27
799	SLU 10	3	39	2588	-1.61	616.43	-9.92
799	SLU 11	3	27	2650	-1.61	633.21	-6.91
799	SLU 12	3	35	2646	-1.63	631.31	-8.8
799	SLU 13	3	40	2625	-1.63	625.43	-9.98
799	SLU 14	3	28	2686	-1.63	642.21	-6.96
799	SLU 15	3	35	2683	-1.64	640.31	-8.86
799	SLU 16	3	27	2667	-1.62	637.6	-6.88
799	SLU 17	3	35	2664	-1.64	635.7	-8.78
799	SLU 18	3	28	2728	-1.69	651.36	-6.99
799	SLU 19	3	35	2724	-1.7	649.46	-8.88
799	SLU 20	3	28	2764	-1.7	660.36	-7.05
799	SLU 21	3	35	2761	-1.72	658.45	-8.94
799	SLU 22	2	28	2658	-1.56	635.38	-7.17
799	SLU 23	2	41	2653	-1.59	632.21	-10.32
799	SLU 24	3	29	2714	-1.59	648.99	-7.31
799	SLU 25	3	36	2710	-1.6	647.09	-9.2
799	SLU 26	3	41	2689	-1.6	641.21	-10.38
799	SLU 27	3	29	2750	-1.6	657.99	-7.36
799	SLU 28	3	37	2747	-1.62	656.09	-9.26
799	SLU 29	3	29	2731	-1.6	653.38	-7.28
799	SLU 30	3	36	2728	-1.61	651.48	-9.18
799	SLU 31	3	43	2964	-1.81	706.31	-10.83
799	SLU 32	4	31	3025	-1.82	723.09	-7.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
799	SLU 33	4	38	3022	-1.83	721.19	-9.71
799	SLU 34	4	43	3001	-1.83	715.3	-10.89
799	SLU 35	4	31	3062	-1.83	732.09	-7.87
799	SLU 36	4	39	3058	-1.85	730.18	-9.76
799	SLU 37	4	31	3043	-1.82	727.48	-7.79
799	SLU 38	4	38	3039	-1.84	725.57	-9.68
799	SLU 39	4	31	3104	-1.89	741.24	-7.9
799	SLU 40	4	39	3100	-1.9	739.33	-9.79
799	SLU 41	4	31	3140	-1.91	750.24	-7.95
799	SLU 42	4	39	3136	-1.92	748.33	-9.85
799	SLU 43	2	31	2839	-1.7	678.35	-7.83
799	SLU 44	2	44	2833	-1.72	675.17	-10.98
799	SLU 45	2	31	2894	-1.72	691.96	-7.97
799	SLU 46	2	39	2891	-1.74	690.05	-9.86
799	SLU 47	2	44	2869	-1.74	684.17	-11.04
799	SLU 48	2	32	2931	-1.74	700.95	-8.02
799	SLU 49	2	39	2927	-1.75	699.05	-9.91
799	SLU 50	2	31	2912	-1.73	696.34	-7.94
799	SLU 51	2	39	2908	-1.75	694.44	-9.83
799	SLU 52	3	46	3144	-1.95	749.27	-11.49
799	SLU 53	3	34	3206	-1.95	766.05	-8.48
799	SLU 54	3	41	3202	-1.97	764.15	-10.37
799	SLU 55	3	46	3181	-1.97	758.27	-11.55
799	SLU 56	3	34	3242	-1.97	775.05	-8.53
799	SLU 57	3	41	3239	-1.98	773.15	-10.42
799	SLU 58	3	33	3223	-1.96	770.44	-8.45
799	SLU 59	3	41	3220	-1.97	768.53	-10.34
799	SLU 60	3	34	3284	-2.03	784.2	-8.56
799	SLU 61	3	41	3280	-2.04	782.29	-10.45
799	SLU 62	4	34	3320	-2.04	793.2	-8.61
799	SLU 63	4	42	3317	-2.06	791.29	-10.5
799	SLU 64	3	35	3214	-1.9	768.22	-8.74
799	SLU 65	3	47	3209	-1.92	765.05	-11.89
799	SLU 66	3	35	3270	-1.93	781.83	-8.88
799	SLU 67	3	43	3266	-1.94	779.93	-10.77
799	SLU 68	3	47	3245	-1.94	774.04	-11.95
799	SLU 69	3	35	3306	-1.94	790.83	-8.93
799	SLU 70	3	43	3303	-1.96	788.92	-10.82
799	SLU 71	3	35	3287	-1.93	786.22	-8.85
799	SLU 72	3	43	3284	-1.95	784.31	-10.74
799	SLU 73	4	49	3520	-2.15	839.14	-12.4
799	SLU 74	4	37	3581	-2.16	855.93	-9.38
799	SLU 75	4	45	3578	-2.17	854.02	-11.28
799	SLU 76	4	49	3557	-2.17	848.14	-12.46
799	SLU 77	4	37	3618	-2.17	864.93	-9.44
799	SLU 78	4	45	3614	-2.19	863.02	-11.33
799	SLU 79	4	37	3599	-2.16	860.32	-9.36
799	SLU 80	4	45	3595	-2.18	858.41	-11.25
799	SLU 81	4	37	3660	-2.23	874.08	-9.47
799	SLU 82	4	45	3656	-2.24	872.17	-11.36
799	SLU 83	4	38	3696	-2.24	883.07	-9.52
799	SLU 84	4	45	3692	-2.26	881.17	-11.41
799	SLE RA 1	2	26	2390	-1.42	571.19	-6.52
799	SLE RA 2	2	34	2386	-1.43	569.07	-8.62
799	SLE RA 3	2	26	2427	-1.44	580.26	-6.61
799	SLE RA 4	2	31	2425	-1.44	578.99	-7.87
799	SLE RA 5	2	34	2410	-1.44	575.07	-8.66
799	SLE RA 6	2	26	2451	-1.45	586.26	-6.65
799	SLE RA 7	2	31	2449	-1.46	584.99	-7.91
799	SLE RA 8	2	26	2439	-1.44	583.19	-6.6
799	SLE RA 9	2	31	2436	-1.45	581.91	-7.86
799	SLE RA 10	3	36	2594	-1.59	618.47	-8.96
799	SLE RA 11	3	27	2635	-1.59	629.66	-6.95
799	SLE RA 12	3	33	2632	-1.6	628.39	-8.21
799	SLE RA 13	3	36	2618	-1.6	624.47	-9
799	SLE RA 14	3	28	2659	-1.6	635.66	-6.99
799	SLE RA 15	3	33	2657	-1.61	634.39	-8.25
799	SLE RA 16	3	27	2646	-1.59	632.58	-6.94
799	SLE RA 17	3	32	2644	-1.6	631.31	-8.2
799	SLE RA 18	3	28	2687	-1.64	641.76	-7.01
799	SLE RA 19	3	33	2684	-1.64	640.49	-8.27
799	SLE RA 20	3	28	2711	-1.65	647.76	-7.04
799	SLE RA 21	3	33	2709	-1.66	646.48	-8.31
799	SLE FR 1	2	26	2390	-1.42	571.19	-6.52
799	SLE FR 2	2	27	2389	-1.42	570.76	-6.94
799	SLE FR 3	2	26	2400	-1.42	573.59	-6.54
799	SLE FR 4	2	28	2478	-1.49	591.93	-7.09
799	SLE FR 5	2	26	2489	-1.49	594.76	-6.68
799	SLE FR 6	2	27	2538	-1.53	606.47	-6.76
799	SLE QP 1	2	26	2390	-1.42	571.19	-6.52
799	SLE QP 2	2	26	2479	-1.48	592.36	-6.67
799	SLD 1	215	118	2508	-1.39	582.8	-29.61
799	SLD 2	206	103	2504	-1.4	583.34	-25.8
799	SLD 3	217	-39	2603	-0.95	628.62	9.68
799	SLD 4	208	-54	2599	-0.96	629.16	13.5
799	SLD 5	65	295	2345	-2.12	519.9	-73.81
799	SLD 6	59	285	2342	-2.12	520.25	-71.34
799	SLD 7	70	-229	2661	-0.66	672.64	57.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
799	SLD 8	65	-239	2658	-0.67	672.99	59.64
799	SLD 9	-61	292	2300	-2.3	511.73	-72.98
799	SLD 10	-66	282	2297	-2.31	512.08	-70.51
799	SLD 11	-55	-232	2616	-0.84	664.46	58.01
799	SLD 12	-61	-242	2614	-0.85	664.81	60.47
799	SLD 13	-204	107	2359	-2	555.55	-26.83
799	SLD 14	-212	92	2355	-2.01	556.09	-23.02
799	SLD 15	-202	-50	2454	-1.57	601.37	12.46
799	SLD 16	-211	-65	2450	-1.58	601.91	16.28
799	SLV 1	335	180	2518	-1.37	574.52	-45.1
799	SLV 2	322	156	2512	-1.38	575.37	-39.09
799	SLV 3	338	-86	2679	-0.63	651.94	21.28
799	SLV 4	324	-109	2672	-0.64	652.8	27.29
799	SLV 5	100	480	2248	-2.57	469.43	-120
799	SLV 6	91	464	2244	-2.58	470	-115.96
799	SLV 7	110	-406	2784	-0.1	727.5	101.28
799	SLV 8	101	-422	2779	-0.11	728.07	105.33
799	SLV 9	-96	474	2179	-2.85	456.64	-118.66
799	SLV 10	-105	458	2175	-2.87	457.22	-114.62
799	SLV 11	-87	-411	2714	-0.39	714.72	102.63
799	SLV 12	-96	-427	2710	-0.4	715.29	106.67
799	SLV 13	-320	162	2286	-2.32	531.92	-40.63
799	SLV 14	-334	138	2280	-2.34	532.77	-34.62
799	SLV 15	-317	-103	2447	-1.58	609.34	25.76
799	SLV 16	-331	-127	2440	-1.6	610.19	31.77
799	SLV FO 1	369	195	2522	-1.35	572.74	-48.94
799	SLV FO 2	354	169	2515	-1.37	573.68	-42.34
799	SLV FO 3	372	-97	2698	-0.54	657.9	24.08
799	SLV FO 4	357	-123	2692	-0.56	658.84	30.69
799	SLV FO 5	110	525	2225	-2.68	457.13	-131.34
799	SLV FO 6	100	507	2221	-2.69	457.76	-126.89
799	SLV FO 7	120	-449	2814	0.04	741.01	112.08
799	SLV FO 8	110	-466	2809	0.02	741.64	116.53
799	SLV FO 9	-106	519	2149	-2.99	443.07	-129.86
799	SLV FO 10	-116	502	2144	-3	443.7	-125.41
799	SLV FO 11	-96	-455	2737	-0.28	726.95	113.55
799	SLV FO 12	-106	-472	2733	-0.29	727.58	118
799	SLV FO 13	-352	176	2267	-2.41	525.88	-44.02
799	SLV FO 14	-367	150	2260	-2.43	526.81	-37.42
799	SLV FO 15	-349	-116	2443	-1.59	611.04	29
799	SLV FO 16	-364	-142	2436	-1.61	611.98	35.61
799	CRTFP Ux+	0	0	0	0	0	0
799	CRTFP Ux-	0	0	0	0	0	0
799	CRTFP Uy+	0	0	0	0	0	0
799	CRTFP Uy-	0	0	0	0	0	0
801	SLU 1	93	28	6203	1.37	-11.59	0.03
801	SLU 2	92	58	6173	1.04	-12.83	0.14
801	SLU 3	96	29	6355	1.53	-11.45	0
801	SLU 4	95	47	6337	1.33	-12.2	0.07
801	SLU 5	94	59	6273	1.17	-12.7	0.11
801	SLU 6	97	29	6455	1.66	-11.32	-0.03
801	SLU 7	97	47	6437	1.46	-12.07	0.04
801	SLU 8	96	29	6402	1.63	-11.32	-0.03
801	SLU 9	96	47	6384	1.43	-12.07	0.04
801	SLU 10	98	62	6985	1.17	-14.05	0.16
801	SLU 11	102	33	7167	1.67	-12.68	0.02
801	SLU 12	101	51	7149	1.47	-13.42	0.09
801	SLU 13	100	63	7085	1.3	-13.92	0.13
801	SLU 14	104	33	7267	1.79	-12.54	-0.01
801	SLU 15	103	51	7249	1.59	-13.29	0.05
801	SLU 16	103	33	7214	1.76	-12.54	-0.01
801	SLU 17	102	51	7196	1.56	-13.29	0.05
801	SLU 18	102	34	7363	1.57	-13.33	0.06
801	SLU 19	102	52	7345	1.36	-14.08	0.12
801	SLU 20	104	35	7463	1.69	-13.2	0.03
801	SLU 21	103	53	7445	1.49	-13.95	0.09
801	SLU 22	106	32	7221	1.85	-12.56	0.01
801	SLU 23	105	62	7191	1.51	-13.81	0.12
801	SLU 24	108	33	7373	2.01	-12.43	-0.02
801	SLU 25	108	51	7355	1.8	-13.18	0.05
801	SLU 26	106	62	7291	1.64	-13.68	0.09
801	SLU 27	110	33	7473	2.13	-12.3	-0.05
801	SLU 28	109	51	7455	1.93	-13.05	0.02
801	SLU 29	109	33	7420	2.1	-12.3	-0.05
801	SLU 30	108	51	7402	1.9	-13.04	0.02
801	SLU 31	111	66	8003	1.65	-15.03	0.14
801	SLU 32	115	37	8185	2.14	-13.65	0
801	SLU 33	114	55	8167	1.94	-14.4	0.07
801	SLU 34	113	67	8103	1.77	-14.9	0.11
801	SLU 35	116	37	8285	2.27	-13.52	-0.03
801	SLU 36	116	55	8267	2.07	-14.27	0.03
801	SLU 37	115	37	8233	2.24	-13.52	-0.03
801	SLU 38	115	55	8214	2.03	-14.27	0.03
801	SLU 39	115	38	8381	2.04	-14.31	0.04
801	SLU 40	114	56	8363	1.84	-15.06	0.1
801	SLU 41	117	38	8481	2.17	-14.18	0.01
801	SLU 42	116	56	8463	1.97	-14.93	0.07
801	SLU 43	117	36	7715	1.62	-14.73	0.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
801	SLU 44	116	65	7685	1.29	-15.97	0.16
801	SLU 45	119	36	7867	1.78	-14.59	0.02
801	SLU 46	119	54	7849	1.58	-15.34	0.08
801	SLU 47	117	66	7784	1.42	-15.84	0.13
801	SLU 48	121	36	7967	1.91	-14.46	-0.01
801	SLU 49	120	54	7949	1.71	-15.21	0.05
801	SLU 50	120	36	7914	1.88	-14.46	-0.01
801	SLU 51	119	54	7896	1.68	-15.21	0.05
801	SLU 52	122	70	8497	1.42	-17.19	0.17
801	SLU 53	126	40	8679	1.92	-15.82	0.04
801	SLU 54	125	58	8661	1.72	-16.56	0.1
801	SLU 55	124	70	8597	1.55	-17.06	0.14
801	SLU 56	127	41	8779	2.04	-15.68	0.01
801	SLU 57	127	59	8761	1.84	-16.43	0.07
801	SLU 58	126	40	8726	2.01	-15.68	0.01
801	SLU 59	126	58	8708	1.81	-16.43	0.07
801	SLU 60	126	41	8875	1.82	-16.47	0.08
801	SLU 61	125	59	8857	1.61	-17.22	0.14
801	SLU 62	128	42	8975	1.94	-16.34	0.05
801	SLU 63	127	60	8957	1.74	-17.09	0.11
801	SLU 64	129	39	8733	2.1	-15.7	0.03
801	SLU 65	128	69	8703	1.76	-16.95	0.14
801	SLU 66	132	40	8885	2.26	-15.57	0
801	SLU 67	131	58	8867	2.05	-16.32	0.06
801	SLU 68	130	70	8803	1.89	-16.82	0.11
801	SLU 69	134	40	8985	2.38	-15.44	-0.03
801	SLU 70	133	58	8967	2.18	-16.19	0.03
801	SLU 71	133	40	8932	2.35	-15.44	-0.03
801	SLU 72	132	58	8914	2.15	-16.18	0.03
801	SLU 73	135	73	9515	1.9	-18.17	0.16
801	SLU 74	138	44	9697	2.39	-16.79	0.02
801	SLU 75	138	62	9679	2.19	-17.54	0.08
801	SLU 76	136	74	9615	2.02	-18.04	0.12
801	SLU 77	140	44	9797	2.52	-16.66	-0.01
801	SLU 78	139	62	9779	2.32	-17.41	0.05
801	SLU 79	139	44	9744	2.49	-16.66	-0.01
801	SLU 80	138	62	9726	2.28	-17.41	0.05
801	SLU 81	139	45	9893	2.29	-17.45	0.06
801	SLU 82	138	63	9875	2.09	-18.2	0.12
801	SLU 83	140	46	9993	2.42	-17.32	0.03
801	SLU 84	139	64	9975	2.22	-18.07	0.09
801	SLE RA 1	97	29	6494	1.51	-11.87	0.03
801	SLE RA 2	96	49	6474	1.29	-12.7	0.1
801	SLE RA 3	99	30	6595	1.61	-11.78	0.01
801	SLE RA 4	98	42	6583	1.48	-12.28	0.05
801	SLE RA 5	97	50	6540	1.37	-12.61	0.08
801	SLE RA 6	100	30	6662	1.7	-11.69	-0.01
801	SLE RA 7	99	42	6650	1.57	-12.19	0.03
801	SLE RA 8	99	30	6627	1.68	-11.69	-0.01
801	SLE RA 9	98	42	6615	1.54	-12.19	0.03
801	SLE RA 10	100	52	7015	1.38	-13.51	0.11
801	SLE RA 11	103	33	7137	1.7	-12.59	0.02
801	SLE RA 12	102	44	7125	1.57	-13.09	0.06
801	SLE RA 13	101	52	7082	1.46	-13.42	0.09
801	SLE RA 14	104	33	7203	1.79	-12.5	0
801	SLE RA 15	103	45	7191	1.65	-13	0.04
801	SLE RA 16	103	33	7168	1.77	-12.5	0
801	SLE RA 17	103	45	7156	1.63	-13	0.04
801	SLE RA 18	103	33	7267	1.64	-13.03	0.05
801	SLE RA 19	102	45	7255	1.5	-13.53	0.09
801	SLE RA 20	104	34	7334	1.72	-12.94	0.03
801	SLE RA 21	103	46	7322	1.59	-13.44	0.07
801	SLE FR 1	97	29	6494	1.51	-11.87	0.03
801	SLE FR 2	97	33	6490	1.46	-12.03	0.04
801	SLE FR 3	97	29	6521	1.54	-11.83	0.02
801	SLE FR 4	98	35	6722	1.5	-12.38	0.05
801	SLE FR 5	99	31	6753	1.58	-12.18	0.03
801	SLE FR 6	100	31	6881	1.57	-12.45	0.04
801	SLE QP 1	97	29	6494	1.51	-11.87	0.03
801	SLE QP 2	99	31	6726	1.55	-12.21	0.03
801	SLD 1	612	210	5799	-1.41	-13.69	-0.63
801	SLD 2	585	300	5780	-1.73	-13.1	1.24
801	SLD 3	628	-176	6271	3.91	3.85	-2.14
801	SLD 4	602	-86	6252	3.59	4.44	-0.28
801	SLD 5	233	654	5736	-7.35	-39.37	1.8
801	SLD 6	216	712	5724	-7.56	-38.99	3.01
801	SLD 7	286	-633	7308	10.38	19.11	-3.23
801	SLD 8	269	-574	7296	10.17	19.49	-2.03
801	SLD 9	-72	635	6156	-7.08	-43.92	2.1
801	SLD 10	-89	694	6144	-7.29	-43.54	3.3
801	SLD 11	-18	-651	7728	10.66	14.56	-2.94
801	SLD 12	-36	-593	7716	10.45	14.94	-1.74
801	SLD 13	-404	147	7200	-0.49	-28.87	0.34
801	SLD 14	-431	237	7181	-0.82	-28.28	2.21
801	SLD 15	-388	-239	7672	4.83	-11.33	-1.17
801	SLD 16	-415	-148	7653	4.5	-10.73	0.7
801	SLV 1	901	335	5249	-3.41	-15.51	-0.92
801	SLV 2	860	478	5219	-3.92	-14.57	2.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
801	SLV 3	928	-317	6046	5.58	14.15	-3.47
801	SLV 4	887	-174	6016	5.07	15.09	-0.54
801	SLV 5	306	1084	5079	-13.49	-58.36	3.08
801	SLV 6	278	1180	5059	-13.83	-57.73	5.05
801	SLV 7	396	-1090	7737	16.49	40.51	-5.44
801	SLV 8	368	-993	7717	16.15	41.13	-3.46
801	SLV 9	-171	1054	5735	-13.05	-65.56	3.53
801	SLV 10	-199	1151	5715	-13.4	-64.93	5.51
801	SLV 11	-81	-1119	8393	16.92	33.3	-4.98
801	SLV 12	-109	-1023	8373	16.58	33.93	-3.01
801	SLV 13	-689	236	7436	-1.98	-39.51	0.61
801	SLV 14	-731	379	7406	-2.49	-38.58	3.54
801	SLV 15	-662	-416	8233	7.02	-9.85	-1.95
801	SLV 16	-704	-274	8203	6.51	-8.92	0.99
801	SLV FO 1	982	365	5101	-3.91	-15.84	-1.01
801	SLV FO 2	936	522	5068	-4.47	-14.81	2.21
801	SLV FO 3	1011	-352	5978	5.98	16.79	-3.82
801	SLV FO 4	965	-195	5945	5.42	17.82	-0.6
801	SLV FO 5	327	1189	4914	-14.99	-62.98	3.38
801	SLV FO 6	296	1295	4892	-15.37	-62.28	5.55
801	SLV FO 7	426	-1202	7839	17.99	45.78	-5.99
801	SLV FO 8	395	-1096	7816	17.61	46.47	-3.81
801	SLV FO 9	-198	1157	5636	-14.51	-70.9	3.88
801	SLV FO 10	-229	1263	5613	-14.89	-70.21	6.06
801	SLV FO 11	-99	-1234	8560	18.46	37.86	-5.49
801	SLV FO 12	-130	-1128	8538	18.08	38.55	-3.31
801	SLV FO 13	-768	256	7507	-2.33	-42.24	0.66
801	SLV FO 14	-814	413	7474	-2.89	-41.22	3.89
801	SLV FO 15	-738	-461	8384	7.57	-9.62	-2.15
801	SLV FO 16	-784	-304	8351	7	-8.59	1.08
801	CRTFP Ux+	0	0	0	0	0	0
801	CRTFP Ux-	0	0	0	0	0	0
801	CRTFP Uy+	0	0	0	0	0	0
801	CRTFP Uy-	0	0	0	0	0	0
804	SLU 1	-69	7	6481	-0.57	6.37	0.83
804	SLU 2	-68	39	6454	-0.93	8.49	0.74
804	SLU 3	-71	7	6644	-0.48	6.03	0.87
804	SLU 4	-70	26	6627	-0.7	7.3	0.82
804	SLU 5	-69	39	6561	-0.86	8.2	0.77
804	SLU 6	-72	7	6750	-0.42	5.75	0.9
804	SLU 7	-71	26	6734	-0.63	7.02	0.84
804	SLU 8	-71	7	6695	-0.44	5.8	0.88
804	SLU 9	-70	26	6678	-0.65	7.07	0.83
804	SLU 10	-70	40	7317	-1.08	8.09	0.89
804	SLU 11	-73	8	7507	-0.63	5.64	1.01
804	SLU 12	-72	27	7491	-0.85	6.91	0.96
804	SLU 13	-71	40	7424	-1.01	7.81	0.91
804	SLU 14	-74	8	7614	-0.57	5.35	1.04
804	SLU 15	-73	27	7597	-0.78	6.62	0.99
804	SLU 16	-73	8	7558	-0.59	5.41	1.03
804	SLU 17	-72	27	7542	-0.8	6.68	0.97
804	SLU 18	-73	9	7715	-0.78	5.81	1.04
804	SLU 19	-72	28	7698	-1	7.08	0.98
804	SLU 20	-73	9	7821	-0.72	5.52	1.06
804	SLU 21	-72	28	7805	-0.93	6.79	1.01
804	SLU 22	-77	7	7561	-0.42	5.53	1.03
804	SLU 23	-75	39	7533	-0.78	7.64	0.95
804	SLU 24	-78	7	7723	-0.34	5.19	1.07
804	SLU 25	-77	26	7706	-0.55	6.46	1.02
804	SLU 26	-76	39	7640	-0.72	7.36	0.97
804	SLU 27	-79	7	7829	-0.27	4.9	1.1
804	SLU 28	-78	26	7813	-0.49	6.17	1.04
804	SLU 29	-78	7	7774	-0.29	4.96	1.08
804	SLU 30	-77	26	7758	-0.51	6.23	1.03
804	SLU 31	-78	40	8397	-0.93	7.25	1.09
804	SLU 32	-81	8	8586	-0.49	4.8	1.22
804	SLU 33	-80	27	8570	-0.7	6.07	1.16
804	SLU 34	-78	40	8503	-0.86	6.97	1.11
804	SLU 35	-81	8	8693	-0.42	4.51	1.24
804	SLU 36	-80	27	8677	-0.63	5.78	1.19
804	SLU 37	-80	8	8637	-0.44	4.56	1.23
804	SLU 38	-80	27	8621	-0.65	5.83	1.17
804	SLU 39	-80	9	8794	-0.64	4.97	1.24
804	SLU 40	-79	28	8778	-0.85	6.24	1.19
804	SLU 41	-81	9	8901	-0.57	4.68	1.26
804	SLU 42	-80	28	8884	-0.79	5.95	1.21
804	SLU 43	-88	9	8056	-0.79	8.57	1.01
804	SLU 44	-86	41	8028	-1.15	10.69	0.92
804	SLU 45	-89	9	8218	-0.71	8.23	1.05
804	SLU 46	-88	28	8202	-0.92	9.5	1
804	SLU 47	-87	41	8135	-1.08	10.4	0.95
804	SLU 48	-90	9	8325	-0.64	7.95	1.08
804	SLU 49	-89	28	8308	-0.85	9.22	1.02
804	SLU 50	-89	9	8269	-0.66	8	1.06
804	SLU 51	-88	28	8253	-0.87	9.27	1.01
804	SLU 52	-88	42	8892	-1.3	10.29	1.07
804	SLU 53	-91	10	9081	-0.86	7.84	1.2
804	SLU 54	-90	29	9065	-1.07	9.11	1.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
804	SLU 55	-89	42	8999	-1.23	10.01	1.09
804	SLU 56	-92	10	9188	-0.79	7.56	1.22
804	SLU 57	-91	29	9172	-1	8.82	1.17
804	SLU 58	-91	10	9133	-0.81	7.61	1.21
804	SLU 59	-90	29	9116	-1.02	8.88	1.15
804	SLU 60	-91	11	9289	-1.01	8.01	1.22
804	SLU 61	-90	30	9273	-1.22	9.28	1.16
804	SLU 62	-92	11	9396	-0.94	7.73	1.24
804	SLU 63	-91	30	9379	-1.15	8.99	1.19
804	SLU 64	-95	9	9135	-0.65	7.73	1.21
804	SLU 65	-94	41	9108	-1	9.84	1.13
804	SLU 66	-97	9	9297	-0.56	7.39	1.25
804	SLU 67	-96	28	9281	-0.77	8.66	1.2
804	SLU 68	-94	41	9214	-0.94	9.56	1.15
804	SLU 69	-97	9	9404	-0.49	7.1	1.28
804	SLU 70	-96	28	9388	-0.71	8.37	1.23
804	SLU 71	-97	9	9348	-0.51	7.16	1.27
804	SLU 72	-96	28	9332	-0.73	8.43	1.21
804	SLU 73	-96	42	9971	-1.15	9.45	1.27
804	SLU 74	-99	10	10161	-0.71	7	1.4
804	SLU 75	-98	29	10144	-0.92	8.27	1.34
804	SLU 76	-97	42	10078	-1.09	9.17	1.29
804	SLU 77	-100	10	10267	-0.64	6.71	1.42
804	SLU 78	-99	29	10251	-0.86	7.98	1.37
804	SLU 79	-99	10	10212	-0.66	6.77	1.41
804	SLU 80	-98	29	10195	-0.88	8.03	1.36
804	SLU 81	-98	11	10368	-0.86	7.17	1.42
804	SLU 82	-97	30	10352	-1.07	8.44	1.37
804	SLU 83	-99	11	10475	-0.79	6.88	1.44
804	SLU 84	-98	30	10459	-1.01	8.15	1.39
804	SLE RA 1	-71	7	6790	-0.53	6.13	0.89
804	SLE RA 2	-70	28	6772	-0.77	7.54	0.83
804	SLE RA 3	-72	7	6898	-0.47	5.9	0.92
804	SLE RA 4	-72	20	6887	-0.61	6.75	0.88
804	SLE RA 5	-71	28	6843	-0.72	7.35	0.85
804	SLE RA 6	-73	7	6969	-0.43	5.71	0.93
804	SLE RA 7	-72	20	6958	-0.57	6.56	0.9
804	SLE RA 8	-72	7	6932	-0.44	5.75	0.92
804	SLE RA 9	-72	20	6921	-0.58	6.6	0.89
804	SLE RA 10	-72	29	7347	-0.87	7.28	0.93
804	SLE RA 11	-74	8	7473	-0.57	5.64	1.01
804	SLE RA 12	-73	20	7463	-0.71	6.49	0.98
804	SLE RA 13	-72	29	7418	-0.82	7.09	0.94
804	SLE RA 14	-74	8	7545	-0.53	5.45	1.03
804	SLE RA 15	-74	20	7534	-0.67	6.3	0.99
804	SLE RA 16	-74	8	7508	-0.54	5.49	1.02
804	SLE RA 17	-73	20	7497	-0.68	6.33	0.98
804	SLE RA 18	-74	8	7612	-0.67	5.76	1.03
804	SLE RA 19	-73	21	7601	-0.81	6.6	0.99
804	SLE RA 20	-74	8	7683	-0.63	5.57	1.04
804	SLE RA 21	-73	21	7672	-0.77	6.41	1.01
804	SLE FR 1	-71	7	6790	-0.53	6.13	0.89
804	SLE FR 2	-71	11	6786	-0.58	6.41	0.88
804	SLE FR 3	-72	7	6818	-0.51	6.05	0.9
804	SLE FR 4	-72	12	7033	-0.62	6.3	0.92
804	SLE FR 5	-72	7	7065	-0.55	5.94	0.94
804	SLE FR 6	-73	8	7201	-0.6	5.94	0.96
804	SLE QP 1	-71	7	6790	-0.53	6.13	0.89
804	SLE QP 2	-72	7	7036	-0.57	6.02	0.93
804	SLD 1	478	291	7609	-3.81	24.32	-1
804	SLD 2	450	193	7614	-3.49	22.82	0.84
804	SLD 3	460	-113	8023	1.71	-5.32	0.15
804	SLD 4	432	-211	8028	2.03	-6.83	1.99
804	SLD 5	125	722	6579	-9.97	56.74	-1.72
804	SLD 6	107	659	6583	-9.77	55.76	-0.53
804	SLD 7	65	-625	7959	8.43	-42.09	2.13
804	SLD 8	47	-688	7963	8.64	-43.06	3.32
804	SLD 9	-191	703	6110	-9.78	55.1	-1.46
804	SLD 10	-209	640	6114	-9.58	54.12	-0.26
804	SLD 11	-251	-645	7490	8.62	-43.73	2.39
804	SLD 12	-269	-708	7493	8.83	-44.7	3.58
804	SLD 13	-576	225	6045	-3.18	18.87	-0.13
804	SLD 14	-605	128	6050	-2.86	17.36	1.71
804	SLD 15	-594	-179	6459	2.35	-10.78	1.02
804	SLD 16	-623	-276	6464	2.66	-12.29	2.87
804	SLV 1	791	477	7903	-5.99	37.08	-2.18
804	SLV 2	747	323	7911	-5.48	34.71	0.72
804	SLV 3	761	-206	8602	3.34	-13.03	-0.24
804	SLV 4	716	-360	8610	3.85	-15.4	2.67
804	SLV 5	242	1213	6234	-16.44	91.78	-3.49
804	SLV 6	212	1109	6239	-16.1	90.18	-1.54
804	SLV 7	140	-1064	8565	14.66	-75.25	2.99
804	SLV 8	110	-1167	8571	15	-76.85	4.94
804	SLV 9	-254	1182	5502	-16.14	88.88	-3.08
804	SLV 10	-284	1079	5507	-15.8	87.29	-1.13
804	SLV 11	-356	-1095	7833	14.96	-78.14	3.4
804	SLV 12	-386	-1198	7839	15.3	-79.74	5.36
804	SLV 13	-860	374	5462	-4.99	27.43	-0.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
804	SLV 14	-905	220	5471	-4.49	25.06	2.1
804	SLV 15	-891	-309	6162	4.34	-22.67	1.14
804	SLV 16	-935	-463	6170	4.84	-25.04	4.04
804	SLV FO 1	877	524	7989	-6.53	40.19	-2.49
804	SLV FO 2	828	355	7998	-5.98	37.58	0.7
804	SLV FO 3	844	-227	8759	3.74	-14.93	-0.35
804	SLV FO 4	795	-396	8768	4.29	-17.54	2.84
804	SLV FO 5	273	1333	6154	-18.03	100.35	-3.94
804	SLV FO 6	240	1220	6160	-17.66	98.6	-1.79
804	SLV FO 7	161	-1171	8718	16.18	-83.38	3.19
804	SLV FO 8	128	-1285	8724	16.56	-85.13	5.35
804	SLV FO 9	-272	1299	5348	-17.7	97.17	-3.48
804	SLV FO 10	-305	1186	5355	-17.33	95.41	-1.33
804	SLV FO 11	-384	-1205	7913	16.51	-86.56	3.65
804	SLV FO 12	-417	-1319	7919	16.89	-88.32	5.8
804	SLV FO 13	-939	411	5305	-5.43	29.58	-0.98
804	SLV FO 14	-988	242	5314	-4.88	26.97	2.22
804	SLV FO 15	-973	-340	6074	4.83	-25.54	1.16
804	SLV FO 16	-1022	-510	6084	5.39	-28.15	4.35
804	CRTFP Ux+	0	0	0	0	0	0
804	CRTFP Ux-	0	0	0	0	0	0
804	CRTFP Uy+	0	0	0	0	0	0
804	CRTFP Uy-	0	0	0	0	0	0
807	SLU 1	33	58	5437	-12.16	-40.5	-0.02
807	SLU 2	34	91	5420	-12.32	-40.44	0.02
807	SLU 3	34	58	5561	-12.42	-41.68	-0.04
807	SLU 4	35	78	5551	-12.52	-41.64	-0.02
807	SLU 5	35	90	5501	-12.48	-41.18	-0.01
807	SLU 6	35	58	5641	-12.58	-42.42	-0.07
807	SLU 7	36	77	5632	-12.68	-42.38	-0.05
807	SLU 8	35	57	5598	-12.49	-41.98	-0.08
807	SLU 9	36	77	5588	-12.58	-41.94	-0.05
807	SLU 10	38	94	6153	-13.88	-44.81	-0.03
807	SLU 11	38	61	6294	-13.98	-46.05	-0.09
807	SLU 12	39	81	6284	-14.07	-46.02	-0.07
807	SLU 13	39	94	6234	-14.04	-45.55	-0.06
807	SLU 14	39	61	6374	-14.14	-46.79	-0.12
807	SLU 15	40	81	6364	-14.24	-46.75	-0.1
807	SLU 16	38	60	6331	-14.05	-46.35	-0.12
807	SLU 17	39	80	6321	-14.14	-46.31	-0.1
807	SLU 18	38	63	6484	-14.39	-46.75	-0.09
807	SLU 19	39	82	6474	-14.48	-46.71	-0.06
807	SLU 20	39	62	6564	-14.55	-47.48	-0.12
807	SLU 21	40	82	6554	-14.65	-47.45	-0.09
807	SLU 22	39	63	6315	-13.78	-46.42	-0.02
807	SLU 23	40	95	6299	-13.94	-46.36	0.02
807	SLU 24	40	63	6439	-14.04	-47.6	-0.04
807	SLU 25	41	82	6429	-14.14	-47.56	-0.02
807	SLU 26	42	95	6379	-14.1	-47.09	-0.01
807	SLU 27	42	62	6520	-14.2	-48.33	-0.07
807	SLU 28	42	82	6510	-14.3	-48.3	-0.05
807	SLU 29	41	62	6476	-14.11	-47.89	-0.08
807	SLU 30	42	81	6467	-14.2	-47.85	-0.05
807	SLU 31	44	99	7031	-15.5	-50.73	-0.03
807	SLU 32	44	66	7172	-15.6	-51.97	-0.09
807	SLU 33	45	86	7162	-15.69	-51.93	-0.07
807	SLU 34	45	98	7112	-15.66	-51.46	-0.06
807	SLU 35	45	66	7252	-15.76	-52.7	-0.12
807	SLU 36	46	85	7242	-15.86	-52.67	-0.1
807	SLU 37	45	65	7209	-15.67	-52.26	-0.12
807	SLU 38	46	85	7199	-15.76	-52.22	-0.1
807	SLU 39	44	67	7362	-16.01	-52.66	-0.09
807	SLU 40	45	87	7352	-16.1	-52.62	-0.06
807	SLU 41	45	67	7443	-16.17	-53.4	-0.12
807	SLU 42	46	86	7433	-16.27	-53.36	-0.09
807	SLU 43	40	74	6767	-15.26	-50.63	-0.02
807	SLU 44	42	107	6750	-15.41	-50.56	0.02
807	SLU 45	42	74	6891	-15.52	-51.81	-0.05
807	SLU 46	43	94	6881	-15.61	-51.77	-0.03
807	SLU 47	43	106	6831	-15.58	-51.3	-0.01
807	SLU 48	43	73	6971	-15.68	-52.54	-0.08
807	SLU 49	44	93	6962	-15.77	-52.5	-0.06
807	SLU 50	43	73	6928	-15.58	-52.1	-0.08
807	SLU 51	43	92	6918	-15.68	-52.06	-0.06
807	SLU 52	45	110	7483	-16.97	-54.93	-0.03
807	SLU 53	45	77	7624	-17.07	-56.18	-0.1
807	SLU 54	46	97	7614	-17.17	-56.14	-0.08
807	SLU 55	46	109	7564	-17.13	-55.67	-0.06
807	SLU 56	46	77	7704	-17.24	-56.91	-0.13
807	SLU 57	47	96	7694	-17.33	-56.87	-0.1
807	SLU 58	46	76	7661	-17.14	-56.47	-0.13
807	SLU 59	47	96	7651	-17.23	-56.43	-0.11
807	SLU 60	45	79	7814	-17.48	-56.87	-0.09
807	SLU 61	46	98	7804	-17.58	-56.83	-0.07
807	SLU 62	47	78	7894	-17.65	-57.61	-0.12
807	SLU 63	47	98	7884	-17.74	-57.57	-0.1
807	SLU 64	47	78	7645	-16.88	-56.54	-0.02
807	SLU 65	48	111	7629	-17.03	-56.48	0.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
807	SLU 66	48	79	7769	-17.13	-57.72	-0.05
807	SLU 67	49	98	7759	-17.23	-57.68	-0.03
807	SLU 68	49	111	7709	-17.2	-57.21	-0.01
807	SLU 69	49	78	7850	-17.3	-58.46	-0.08
807	SLU 70	50	98	7840	-17.39	-58.42	-0.06
807	SLU 71	49	77	7806	-17.2	-58.01	-0.08
807	SLU 72	50	97	7797	-17.29	-57.98	-0.06
807	SLU 73	52	114	8361	-18.59	-60.85	-0.03
807	SLU 74	52	82	8502	-18.69	-62.09	-0.1
807	SLU 75	53	101	8492	-18.79	-62.05	-0.08
807	SLU 76	53	114	8442	-18.75	-61.59	-0.06
807	SLU 77	53	81	8582	-18.86	-62.83	-0.13
807	SLU 78	54	101	8572	-18.95	-62.79	-0.11
807	SLU 79	52	81	8539	-18.76	-62.38	-0.13
807	SLU 80	53	100	8529	-18.85	-62.35	-0.11
807	SLU 81	52	83	8692	-19.1	-62.79	-0.09
807	SLU 82	53	103	8682	-19.2	-62.75	-0.07
807	SLU 83	53	83	8773	-19.26	-63.52	-0.12
807	SLU 84	54	102	8763	-19.36	-63.48	-0.1
807	SLE RA 1	35	59	5688	-12.63	-42.19	-0.02
807	SLE RA 2	36	81	5677	-12.73	-42.15	0.01
807	SLE RA 3	36	59	5770	-12.8	-42.98	-0.04
807	SLE RA 4	36	72	5764	-12.86	-42.95	-0.02
807	SLE RA 5	36	81	5731	-12.84	-42.64	-0.01
807	SLE RA 6	36	59	5824	-12.91	-43.47	-0.05
807	SLE RA 7	37	72	5818	-12.97	-43.44	-0.04
807	SLE RA 8	36	59	5795	-12.84	-43.17	-0.06
807	SLE RA 9	37	72	5789	-12.9	-43.15	-0.04
807	SLE RA 10	38	83	6165	-13.77	-45.07	-0.02
807	SLE RA 11	38	62	6259	-13.84	-45.89	-0.07
807	SLE RA 12	38	75	6252	-13.9	-45.87	-0.05
807	SLE RA 13	39	83	6219	-13.88	-45.56	-0.04
807	SLE RA 14	39	61	6313	-13.95	-46.38	-0.09
807	SLE RA 15	39	74	6306	-14.01	-46.36	-0.07
807	SLE RA 16	38	61	6284	-13.88	-46.09	-0.09
807	SLE RA 17	39	74	6277	-13.94	-46.06	-0.07
807	SLE RA 18	38	62	6386	-14.11	-46.36	-0.06
807	SLE RA 19	38	76	6379	-14.17	-46.33	-0.05
807	SLE RA 20	39	62	6439	-14.22	-46.85	-0.08
807	SLE RA 21	39	75	6433	-14.28	-46.82	-0.07
807	SLE FR 1	35	59	5688	-12.63	-42.19	-0.02
807	SLE FR 2	35	64	5686	-12.65	-42.18	-0.01
807	SLE FR 3	35	59	5709	-12.67	-42.39	-0.02
807	SLE FR 4	36	65	5895	-13.09	-43.43	-0.03
807	SLE FR 5	36	60	5919	-13.11	-43.64	-0.04
807	SLE FR 6	36	61	6037	-13.37	-44.27	-0.04
807	SLE QP 1	35	59	5688	-12.63	-42.19	-0.02
807	SLE QP 2	36	60	5897	-13.07	-43.44	-0.03
807	SLD 1	618	229	5452	-15.91	-12.51	-1.25
807	SLD 2	594	265	5468	-15.9	-12.86	0.36
807	SLD 3	600	-185	5715	-13.08	-14.63	-1.82
807	SLD 4	576	-149	5731	-13.07	-14.98	-0.21
807	SLD 5	242	732	5362	-18.23	-30.88	0.2
807	SLD 6	226	755	5373	-18.22	-31.11	1.24
807	SLD 7	182	-647	6238	-8.77	-37.96	-1.72
807	SLD 8	166	-624	6249	-8.77	-38.18	-0.68
807	SLD 9	-95	744	5546	-17.37	-48.7	0.61
807	SLD 10	-110	767	5556	-17.37	-48.93	1.66
807	SLD 11	-155	-635	6422	-7.92	-55.78	-1.3
807	SLD 12	-171	-612	6432	-7.92	-56	-0.26
807	SLD 13	-505	270	6063	-13.08	-71.91	0.15
807	SLD 14	-529	305	6079	-13.06	-72.25	1.76
807	SLD 15	-523	-144	6326	-10.24	-74.03	-0.43
807	SLD 16	-547	-108	6342	-10.23	-74.37	1.19
807	SLV 1	948	350	5186	-17.7	4.96	-1.91
807	SLV 2	911	406	5211	-17.68	4.42	0.62
807	SLV 3	918	-349	5630	-12.91	1.36	-2.88
807	SLV 4	880	-293	5655	-12.89	0.82	-0.35
807	SLV 5	363	1197	5006	-21.73	-23.37	0.4
807	SLV 6	338	1234	5023	-21.72	-23.73	2.11
807	SLV 7	260	-1133	6485	-5.76	-35.35	-2.83
807	SLV 8	235	-1095	6502	-5.75	-35.72	-1.12
807	SLV 9	-164	1216	5292	-20.39	-51.17	1.06
807	SLV 10	-189	1254	5309	-20.38	-51.53	2.77
807	SLV 11	-267	-1114	6772	-4.43	-63.15	-2.17
807	SLV 12	-292	-1076	6789	-4.41	-63.52	-0.46
807	SLV 13	-809	414	6140	-13.25	-87.7	0.28
807	SLV 14	-846	470	6165	-13.24	-88.25	2.82
807	SLV 15	-840	-285	6584	-8.46	-91.3	-0.69
807	SLV 16	-877	-229	6609	-8.44	-91.84	1.85
807	SLV FO 1	1040	378	5115	-18.16	9.8	-2.1
807	SLV FO 2	998	440	5142	-18.14	9.2	0.69
807	SLV FO 3	1006	-390	5603	-12.89	5.84	-3.17
807	SLV FO 4	964	-329	5631	-12.87	5.25	-0.38
807	SLV FO 5	396	1310	4917	-22.59	-21.36	0.44
807	SLV FO 6	368	1352	4935	-22.58	-21.76	2.32
807	SLV FO 7	283	-1252	6544	-5.03	-34.54	-3.11
807	SLV FO 8	255	-1211	6563	-5.01	-34.95	-1.23

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
807	SLV FO 9	-184	1331	5231	-21.13	-51.94	1.17
807	SLV FO 10	-212	1373	5250	-21.11	-52.34	3.05
807	SLV FO 11	-297	-1231	6859	-3.56	-65.12	-2.38
807	SLV FO 12	-325	-1190	6878	-3.55	-65.52	-0.51
807	SLV FO 13	-893	449	6164	-13.27	-92.13	0.31
807	SLV FO 14	-935	511	6192	-13.25	-92.73	3.11
807	SLV FO 15	-927	-320	6652	-8	-96.09	-0.75
807	SLV FO 16	-968	-258	6680	-7.98	-96.68	2.04
807	CRTFP Ux+	0	0	0	0	0	0
807	CRTFP Ux-	0	0	0	0	0	0
807	CRTFP Uy+	0	0	0	0	0	0
807	CRTFP Uy-	0	0	0	0	0	0
810	SLU 1	4	25	2232	-1.25	520.25	-6.44
810	SLU 2	4	38	2225	-1.28	517.22	-9.6
810	SLU 3	5	26	2286	-1.26	533.26	-6.58
810	SLU 4	5	34	2282	-1.29	531.44	-8.48
810	SLU 5	5	38	2261	-1.3	525.83	-9.66
810	SLU 6	5	26	2322	-1.28	541.87	-6.64
810	SLU 7	5	34	2318	-1.3	540.05	-8.54
810	SLU 8	5	26	2304	-1.27	537.46	-6.56
810	SLU 9	5	34	2299	-1.29	535.65	-8.46
810	SLU 10	6	40	2528	-1.5	587.19	-10.13
810	SLU 11	6	28	2589	-1.48	603.24	-7.11
810	SLU 12	6	36	2585	-1.5	601.42	-9.01
810	SLU 13	6	40	2564	-1.51	595.8	-10.19
810	SLU 14	6	28	2625	-1.49	611.84	-7.17
810	SLU 15	6	36	2621	-1.51	610.03	-9.07
810	SLU 16	6	28	2607	-1.48	607.44	-7.09
810	SLU 17	6	36	2602	-1.51	605.62	-8.99
810	SLU 18	6	28	2665	-1.55	620.21	-7.2
810	SLU 19	6	36	2660	-1.57	618.39	-9.09
810	SLU 20	6	29	2700	-1.56	628.82	-7.26
810	SLU 21	6	36	2696	-1.59	627	-9.15
810	SLU 22	6	29	2600	-1.43	605.7	-7.37
810	SLU 23	6	42	2593	-1.47	602.67	-10.54
810	SLU 24	6	30	2654	-1.45	618.72	-7.52
810	SLU 25	6	37	2650	-1.47	616.9	-9.41
810	SLU 26	6	42	2629	-1.48	611.28	-10.59
810	SLU 27	6	30	2690	-1.46	627.32	-7.57
810	SLU 28	6	38	2686	-1.48	625.51	-9.47
810	SLU 29	6	30	2672	-1.45	622.92	-7.49
810	SLU 30	6	37	2668	-1.48	621.1	-9.39
810	SLU 31	7	44	2896	-1.68	672.65	-11.06
810	SLU 32	7	32	2957	-1.66	688.69	-8.04
810	SLU 33	7	39	2953	-1.69	686.87	-9.94
810	SLU 34	7	44	2932	-1.69	681.26	-11.12
810	SLU 35	7	32	2993	-1.67	697.3	-8.1
810	SLU 36	7	40	2989	-1.7	695.48	-10
810	SLU 37	7	32	2975	-1.67	692.89	-8.02
810	SLU 38	7	39	2970	-1.69	691.08	-9.92
810	SLU 39	7	32	3033	-1.73	705.67	-8.13
810	SLU 40	7	40	3028	-1.76	703.85	-10.03
810	SLU 41	8	32	3069	-1.75	714.27	-8.19
810	SLU 42	8	40	3064	-1.77	712.46	-10.09
810	SLU 43	5	32	2775	-1.56	647.02	-8.06
810	SLU 44	5	44	2768	-1.59	643.99	-11.22
810	SLU 45	6	32	2830	-1.57	660.04	-8.2
810	SLU 46	6	40	2825	-1.6	658.22	-10.09
810	SLU 47	6	45	2804	-1.61	652.6	-11.28
810	SLU 48	6	33	2866	-1.59	668.64	-8.26
810	SLU 49	6	40	2861	-1.61	666.83	-10.15
810	SLU 50	6	32	2847	-1.58	664.24	-8.17
810	SLU 51	6	40	2843	-1.6	662.42	-10.07
810	SLU 52	7	47	3071	-1.81	713.97	-11.75
810	SLU 53	7	35	3133	-1.79	730.01	-8.72
810	SLU 54	7	42	3128	-1.81	728.19	-10.62
810	SLU 55	7	47	3107	-1.82	722.58	-11.8
810	SLU 56	7	35	3169	-1.8	738.62	-8.78
810	SLU 57	7	42	3164	-1.82	736.8	-10.68
810	SLU 58	7	34	3150	-1.79	734.21	-8.7
810	SLU 59	7	42	3146	-1.82	732.4	-10.6
810	SLU 60	7	35	3208	-1.86	746.99	-8.81
810	SLU 61	7	42	3204	-1.89	745.17	-10.71
810	SLU 62	7	35	3244	-1.87	755.59	-8.87
810	SLU 63	7	43	3240	-1.9	753.78	-10.77
810	SLU 64	7	36	3143	-1.74	732.48	-8.99
810	SLU 65	7	48	3136	-1.78	729.45	-12.15
810	SLU 66	7	36	3198	-1.76	745.49	-9.13
810	SLU 67	7	44	3194	-1.78	743.67	-11.03
810	SLU 68	7	48	3172	-1.79	738.06	-12.21
810	SLU 69	7	36	3234	-1.77	754.1	-9.19
810	SLU 70	7	44	3229	-1.79	752.28	-11.08
810	SLU 71	7	36	3215	-1.76	749.69	-9.11
810	SLU 72	7	44	3211	-1.79	747.88	-11
810	SLU 73	8	50	3439	-1.99	799.42	-12.68
810	SLU 74	8	38	3501	-1.97	815.47	-9.66
810	SLU 75	8	46	3496	-2	813.65	-11.55
810	SLU 76	8	51	3475	-2	808.03	-12.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
810	SLU 77	8	38	3537	-1.98	824.07	-9.72
810	SLU 78	8	46	3532	-2.01	822.26	-11.61
810	SLU 79	8	38	3518	-1.98	819.67	-9.63
810	SLU 80	8	46	3514	-2	817.85	-11.53
810	SLU 81	8	39	3576	-2.05	832.44	-9.74
810	SLU 82	8	46	3572	-2.07	830.62	-11.64
810	SLU 83	8	39	3612	-2.06	841.05	-9.8
810	SLU 84	8	46	3608	-2.08	839.23	-11.7
810	SLE RA 1	5	27	2337	-1.3	544.66	-6.71
810	SLE RA 2	5	35	2332	-1.32	542.64	-8.82
810	SLE RA 3	5	27	2373	-1.31	553.34	-6.8
810	SLE RA 4	5	32	2370	-1.33	552.13	-8.07
810	SLE RA 5	5	35	2356	-1.33	548.38	-8.86
810	SLE RA 6	5	27	2397	-1.32	559.08	-6.84
810	SLE RA 7	5	32	2394	-1.33	557.87	-8.11
810	SLE RA 8	5	27	2385	-1.31	556.14	-6.79
810	SLE RA 9	5	32	2382	-1.33	554.93	-8.05
810	SLE RA 10	6	36	2534	-1.47	589.29	-9.17
810	SLE RA 11	6	28	2575	-1.45	599.99	-7.16
810	SLE RA 12	6	33	2572	-1.47	598.78	-8.42
810	SLE RA 13	6	37	2558	-1.47	595.03	-9.21
810	SLE RA 14	6	28	2599	-1.46	605.73	-7.19
810	SLE RA 15	6	34	2596	-1.48	604.52	-8.46
810	SLE RA 16	6	28	2587	-1.46	602.79	-7.14
810	SLE RA 17	6	33	2584	-1.47	601.58	-8.4
810	SLE RA 18	6	29	2625	-1.5	611.3	-7.21
810	SLE RA 19	6	34	2623	-1.52	610.09	-8.48
810	SLE RA 20	6	29	2649	-1.51	617.04	-7.25
810	SLE RA 21	6	34	2647	-1.53	615.83	-8.52
810	SLE FR 1	5	27	2337	-1.3	544.66	-6.71
810	SLE FR 2	5	28	2336	-1.3	544.26	-7.13
810	SLE FR 3	5	27	2347	-1.3	546.96	-6.72
810	SLE FR 4	5	29	2423	-1.36	564.25	-7.28
810	SLE FR 5	5	27	2433	-1.36	566.95	-6.88
810	SLE FR 6	5	28	2481	-1.4	577.98	-6.96
810	SLE QP 1	5	27	2337	-1.3	544.66	-6.71
810	SLE QP 2	5	27	2424	-1.36	564.65	-6.86
810	SLD 1	220	119	2452	-1.49	556.91	-29.88
810	SLD 2	209	104	2447	-1.49	557.15	-26.05
810	SLD 3	221	-38	2568	-0.83	601.84	9.5
810	SLD 4	210	-54	2564	-0.83	602.09	13.33
810	SLD 5	69	296	2256	-2.39	494.13	-74.15
810	SLD 6	62	286	2253	-2.39	494.29	-71.68
810	SLD 7	74	-229	2645	-0.21	643.92	57.11
810	SLD 8	67	-239	2642	-0.21	644.08	59.58
810	SLD 9	-57	293	2205	-2.51	485.23	-73.3
810	SLD 10	-64	283	2203	-2.51	485.39	-70.83
810	SLD 11	-52	-232	2594	-0.33	635.02	57.96
810	SLD 12	-59	-242	2591	-0.33	635.18	60.43
810	SLD 13	-200	108	2283	-1.88	527.22	-27.04
810	SLD 14	-211	93	2279	-1.89	527.47	-23.22
810	SLD 15	-199	-50	2400	-1.23	572.16	12.33
810	SLD 16	-209	-65	2396	-1.23	572.4	16.16
810	SLV 1	341	181	2460	-1.6	549.68	-45.42
810	SLV 2	324	157	2453	-1.6	550.06	-39.39
810	SLV 3	344	-85	2657	-0.49	625.62	21.11
810	SLV 4	326	-109	2650	-0.5	626	27.14
810	SLV 5	105	481	2137	-3.11	444.91	-120.45
810	SLV 6	93	465	2132	-3.11	445.17	-116.39
810	SLV 7	114	-406	2794	0.58	698.05	101.31
810	SLV 8	103	-422	2789	0.58	698.31	105.36
810	SLV 9	-92	476	2058	-3.3	431	-119.08
810	SLV 10	-104	460	2053	-3.3	431.26	-115.03
810	SLV 11	-83	-411	2715	0.4	684.14	102.67
810	SLV 12	-94	-427	2711	0.39	684.4	106.73
810	SLV 13	-316	163	2197	-2.22	503.31	-40.86
810	SLV 14	-333	139	2190	-2.22	503.69	-34.83
810	SLV 15	-313	-103	2394	-1.11	579.25	25.67
810	SLV 16	-330	-127	2388	-1.12	579.63	31.7
810	SLV FO 1	374	196	2463	-1.62	548.18	-49.27
810	SLV FO 2	355	170	2456	-1.63	548.6	-42.64
810	SLV FO 3	377	-96	2680	-0.41	631.71	23.91
810	SLV FO 4	358	-122	2673	-0.41	632.13	30.54
810	SLV FO 5	115	527	2108	-3.29	432.94	-131.81
810	SLV FO 6	102	509	2103	-3.29	433.22	-127.35
810	SLV FO 7	125	-449	2831	0.78	711.39	112.12
810	SLV FO 8	112	-466	2826	0.77	711.67	116.59
810	SLV FO 9	-102	521	2021	-3.49	417.64	-130.31
810	SLV FO 10	-115	503	2016	-3.49	417.92	-125.84
810	SLV FO 11	-92	-455	2744	0.57	696.09	113.63
810	SLV FO 12	-104	-472	2739	0.57	696.37	118.09
810	SLV FO 13	-348	177	2174	-2.31	497.18	-44.26
810	SLV FO 14	-367	151	2167	-2.31	497.6	-37.63
810	SLV FO 15	-345	-116	2391	-1.09	580.71	28.92
810	SLV FO 16	-364	-142	2384	-1.09	581.13	35.55
810	CRTFP Ux+	0	0	0	0	0	0
810	CRTFP Ux-	0	0	0	0	0	0
810	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
810	CRTFP Uy-	0	0	0	0	0	0
811	SLU 1	-48	-2	3380	-3.93	-429.66	-0.63
811	SLU 2	-47	18	3361	-4.11	-428.95	4.39
811	SLU 3	-49	-3	3465	-3.98	-439	-0.75
811	SLU 4	-48	9	3454	-4.09	-438.58	2.26
811	SLU 5	-47	18	3417	-4.14	-435	4.35
811	SLU 6	-49	-3	3522	-4.01	-445.05	-0.8
811	SLU 7	-49	9	3511	-4.12	-444.62	2.22
811	SLU 8	-49	-3	3493	-3.99	-441.75	-0.72
811	SLU 9	-48	9	3481	-4.09	-441.33	2.3
811	SLU 10	-49	19	3781	-4.7	-482.75	4.62
811	SLU 11	-51	-2	3886	-4.57	-492.8	-0.52
811	SLU 12	-51	10	3875	-4.68	-492.38	2.49
811	SLU 13	-50	18	3838	-4.72	-488.8	4.58
811	SLU 14	-52	-2	3943	-4.6	-498.85	-0.56
811	SLU 15	-51	10	3931	-4.71	-498.43	2.45
811	SLU 16	-52	-2	3913	-4.57	-495.56	-0.48
811	SLU 17	-51	10	3902	-4.68	-495.13	2.53
811	SLU 18	-52	-1	3981	-4.77	-506.52	-0.3
811	SLU 19	-51	11	3969	-4.88	-506.09	2.72
811	SLU 20	-52	-1	4037	-4.8	-512.57	-0.34
811	SLU 21	-51	11	4026	-4.9	-512.14	2.67
811	SLU 22	-53	-4	3920	-4.52	-495.42	-1.1
811	SLU 23	-52	16	3902	-4.7	-494.71	3.92
811	SLU 24	-54	-5	4006	-4.57	-504.76	-1.23
811	SLU 25	-53	7	3995	-4.68	-504.34	1.79
811	SLU 26	-52	16	3958	-4.73	-500.76	3.88
811	SLU 27	-54	-5	4063	-4.6	-510.81	-1.27
811	SLU 28	-54	7	4051	-4.71	-510.39	1.75
811	SLU 29	-54	-5	4033	-4.58	-507.51	-1.19
811	SLU 30	-53	7	4022	-4.68	-507.09	1.83
811	SLU 31	-54	17	4322	-5.28	-548.51	4.15
811	SLU 32	-56	-4	4427	-5.16	-558.56	-0.99
811	SLU 33	-56	8	4416	-5.27	-558.14	2.02
811	SLU 34	-55	17	4379	-5.31	-554.56	4.11
811	SLU 35	-57	-4	4483	-5.19	-564.61	-1.03
811	SLU 36	-56	8	4472	-5.29	-564.19	1.98
811	SLU 37	-56	-4	4454	-5.16	-561.32	-0.95
811	SLU 38	-56	8	4443	-5.27	-560.89	2.06
811	SLU 39	-57	-3	4521	-5.36	-572.28	-0.77
811	SLU 40	-56	9	4510	-5.47	-571.85	2.25
811	SLU 41	-57	-3	4578	-5.39	-578.33	-0.81
811	SLU 42	-56	9	4567	-5.49	-577.9	2.2
811	SLU 43	-61	-2	4208	-4.91	-536.01	-0.66
811	SLU 44	-60	18	4189	-5.08	-535.3	4.36
811	SLU 45	-62	-3	4294	-4.96	-545.35	-0.78
811	SLU 46	-61	9	4282	-5.07	-544.93	2.23
811	SLU 47	-60	17	4246	-5.11	-541.35	4.32
811	SLU 48	-62	-3	4350	-4.99	-551.4	-0.83
811	SLU 49	-62	9	4339	-5.09	-550.98	2.19
811	SLU 50	-62	-3	4321	-4.96	-548.1	-0.75
811	SLU 51	-61	9	4310	-5.07	-547.68	2.27
811	SLU 52	-62	19	4610	-5.67	-589.1	4.6
811	SLU 53	-64	-2	4714	-5.55	-599.15	-0.55
811	SLU 54	-64	10	4703	-5.65	-598.73	2.47
811	SLU 55	-63	18	4666	-5.7	-595.15	4.55
811	SLU 56	-65	-2	4771	-5.57	-605.2	-0.59
811	SLU 57	-64	10	4760	-5.68	-604.78	2.42
811	SLU 58	-64	-2	4742	-5.55	-601.91	-0.51
811	SLU 59	-64	10	4730	-5.66	-601.48	2.5
811	SLU 60	-64	-1	4809	-5.74	-612.87	-0.33
811	SLU 61	-64	11	4798	-5.85	-612.44	2.69
811	SLU 62	-65	-1	4866	-5.77	-618.92	-0.37
811	SLU 63	-64	11	4854	-5.88	-618.49	2.65
811	SLU 64	-66	-4	4749	-5.49	-601.77	-1.13
811	SLU 65	-65	16	4730	-5.67	-601.06	3.89
811	SLU 66	-67	-5	4835	-5.55	-611.11	-1.25
811	SLU 67	-66	7	4823	-5.65	-610.69	1.76
811	SLU 68	-65	16	4787	-5.7	-607.11	3.85
811	SLU 69	-67	-5	4891	-5.58	-617.16	-1.3
811	SLU 70	-67	7	4880	-5.68	-616.74	1.72
811	SLU 71	-67	-5	4862	-5.55	-613.86	-1.22
811	SLU 72	-66	7	4851	-5.66	-613.44	1.8
811	SLU 73	-67	17	5151	-6.26	-654.86	4.13
811	SLU 74	-69	-4	5255	-6.14	-664.91	-1.02
811	SLU 75	-69	8	5244	-6.24	-664.49	1.99
811	SLU 76	-68	16	5207	-6.29	-660.91	4.08
811	SLU 77	-70	-4	5312	-6.16	-670.96	-1.06
811	SLU 78	-69	8	5301	-6.27	-670.54	1.95
811	SLU 79	-69	-4	5283	-6.14	-667.67	-0.98
811	SLU 80	-69	8	5271	-6.25	-667.24	2.03
811	SLU 81	-69	-3	5350	-6.33	-678.63	-0.8
811	SLU 82	-69	9	5339	-6.44	-678.2	2.22
811	SLU 83	-70	-3	5406	-6.36	-684.68	-0.84
811	SLU 84	-69	9	5395	-6.47	-684.25	2.17
811	SLE RA 1	-49	-3	3534	-4.1	-448.44	-0.77
811	SLE RA 2	-49	10	3522	-4.22	-447.97	2.58
811	SLE RA 3	-50	-3	3591	-4.13	-454.67	-0.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
811	SLE RA 4	-50	5	3584	-4.2	-454.39	1.16
811	SLE RA 5	-49	10	3559	-4.24	-452	2.55
811	SLE RA 6	-50	-3	3629	-4.15	-458.71	-0.88
811	SLE RA 7	-50	5	3621	-4.22	-458.42	1.13
811	SLE RA 8	-50	-3	3609	-4.14	-456.51	-0.82
811	SLE RA 9	-50	5	3602	-4.21	-456.23	1.19
811	SLE RA 10	-50	11	3802	-4.61	-483.84	2.74
811	SLE RA 11	-52	-3	3872	-4.52	-490.54	-0.69
811	SLE RA 12	-51	5	3864	-4.6	-490.26	1.32
811	SLE RA 13	-51	11	3840	-4.63	-487.87	2.71
811	SLE RA 14	-52	-3	3909	-4.54	-494.58	-0.72
811	SLE RA 15	-52	5	3902	-4.61	-494.29	1.29
811	SLE RA 16	-52	-3	3890	-4.53	-492.38	-0.67
811	SLE RA 17	-51	5	3882	-4.6	-492.09	1.34
811	SLE RA 18	-52	-2	3935	-4.66	-499.69	-0.54
811	SLE RA 19	-51	6	3927	-4.73	-499.4	1.47
811	SLE RA 20	-52	-2	3972	-4.68	-503.72	-0.57
811	SLE RA 21	-52	6	3965	-4.75	-503.43	1.44
811	SLE FR 1	-49	-3	3534	-4.1	-448.44	-0.77
811	SLE FR 2	-49	0	3532	-4.12	-448.35	-0.1
811	SLE FR 3	-50	-3	3549	-4.1	-450.06	-0.78
811	SLE FR 4	-50	0	3652	-4.29	-463.72	-0.03
811	SLE FR 5	-50	-3	3669	-4.27	-465.43	-0.71
811	SLE FR 6	-51	-3	3734	-4.38	-474.06	-0.66
811	SLE QP 1	-49	-3	3534	-4.1	-448.44	-0.77
811	SLE QP 2	-50	-3	3654	-4.26	-463.82	-0.7
811	SLD 1	210	144	4518	-7.1	-594.33	36.03
811	SLD 2	191	44	4535	-6.92	-599.43	11.07
811	SLD 3	196	-110	4786	-4.27	-589.16	-27.65
811	SLD 4	176	-211	4804	-4.09	-594.26	-52.61
811	SLD 5	52	445	3503	-9.44	-509.93	111.23
811	SLD 6	40	380	3514	-9.33	-513.23	95.09
811	SLD 7	6	-404	4398	0	-492.69	-101.04
811	SLD 8	-7	-469	4410	0.12	-495.99	-117.19
811	SLD 9	-93	463	2899	-8.65	-431.64	115.79
811	SLD 10	-106	398	2911	-8.53	-434.94	99.64
811	SLD 11	-140	-385	3794	0.8	-414.4	-96.49
811	SLD 12	-153	-450	3806	0.91	-417.7	-112.63
811	SLD 13	-277	205	2505	-4.44	-333.37	51.21
811	SLD 14	-296	105	2523	-4.26	-338.47	26.25
811	SLD 15	-291	-49	2773	-1.61	-328.2	-12.47
811	SLD 16	-310	-150	2791	-1.43	-333.3	-37.43
811	SLV 1	358	243	4984	-8.88	-667.79	60.83
811	SLV 2	328	85	5012	-8.59	-675.82	21.54
811	SLV 3	334	-187	5437	-4.09	-658.88	-46.78
811	SLV 4	304	-345	5465	-3.81	-666.91	-86.08
811	SLV 5	114	753	3360	-12.96	-537.03	188.31
811	SLV 6	94	647	3379	-12.77	-542.43	161.85
811	SLV 7	34	-681	4872	3	-507.32	-170.41
811	SLV 8	14	-787	4890	3.19	-512.73	-196.86
811	SLV 9	-115	782	2418	-11.72	-414.91	195.46
811	SLV 10	-135	675	2437	-11.53	-420.31	169.01
811	SLV 11	-194	-652	3930	4.24	-385.2	-163.25
811	SLV 12	-214	-758	3948	4.43	-390.61	-189.71
811	SLV 13	-404	339	1844	-4.72	-260.72	84.68
811	SLV 14	-434	181	1872	-4.44	-268.75	45.38
811	SLV 15	-428	-91	2297	0.06	-251.81	-22.94
811	SLV 16	-458	-249	2325	0.35	-259.84	-62.23
811	SLV FO 1	399	268	5117	-9.34	-688.19	66.98
811	SLV FO 2	365	94	5147	-9.03	-697.02	23.76
811	SLV FO 3	372	-205	5615	-4.07	-678.39	-51.39
811	SLV FO 4	339	-379	5646	-3.76	-687.22	-94.61
811	SLV FO 5	130	829	3331	-13.83	-544.35	207.21
811	SLV FO 6	108	712	3351	-13.62	-550.29	178.11
811	SLV FO 7	43	-749	4993	3.72	-511.67	-187.38
811	SLV FO 8	21	-866	5014	3.93	-517.62	-216.48
811	SLV FO 9	-121	860	2295	-12.46	-410.01	215.08
811	SLV FO 10	-143	743	2315	-12.25	-415.96	185.98
811	SLV FO 11	-209	-717	3957	5.09	-377.34	-179.51
811	SLV FO 12	-231	-834	3978	5.3	-383.28	-208.61
811	SLV FO 13	-440	374	1663	-4.77	-240.41	93.21
811	SLV FO 14	-473	200	1693	-4.46	-249.24	49.99
811	SLV FO 15	-466	-100	2161	0.5	-230.61	-25.16
811	SLV FO 16	-499	-273	2192	0.81	-239.44	-68.38
811	CRTFP Ux+	0	0	0	0	0	0
811	CRTFP Ux-	0	0	0	0	0	0
811	CRTFP Uy+	0	0	0	0	0	0
811	CRTFP Uy-	0	0	0	0	0	0
814	SLU 1	68	26	4105	-6.32	936.4	-8.86
814	SLU 2	67	50	4078	-6.58	935.77	-17.47
814	SLU 3	70	27	4203	-6.4	956.4	-9.14
814	SLU 4	69	41	4187	-6.55	956.02	-14.31
814	SLU 5	68	51	4141	-6.61	948.25	-17.87
814	SLU 6	71	28	4265	-6.43	968.88	-9.53
814	SLU 7	70	42	4249	-6.58	968.5	-14.7
814	SLU 8	70	28	4230	-6.38	961.35	-9.64
814	SLU 9	70	43	4214	-6.54	960.97	-14.81
814	SLU 10	72	53	4581	-7.49	1048.26	-18.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
814	SLU 11	75	30	4706	-7.31	1068.89	-10.23
814	SLU 12	74	44	4690	-7.46	1068.51	-15.4
814	SLU 13	73	55	4644	-7.52	1060.74	-18.95
814	SLU 14	76	31	4768	-7.34	1081.37	-10.62
814	SLU 15	75	46	4752	-7.49	1080.99	-15.79
814	SLU 16	75	31	4733	-7.29	1073.84	-10.73
814	SLU 17	74	46	4717	-7.44	1073.46	-15.9
814	SLU 18	75	30	4823	-7.62	1097.1	-10.41
814	SLU 19	74	45	4808	-7.77	1096.73	-15.58
814	SLU 20	76	31	4886	-7.65	1109.58	-10.8
814	SLU 21	75	46	4870	-7.8	1109.2	-15.97
814	SLU 22	76	27	4746	-7.26	1075.69	-9.16
814	SLU 23	75	51	4719	-7.51	1075.06	-17.77
814	SLU 24	78	27	4844	-7.33	1095.68	-9.44
814	SLU 25	77	42	4828	-7.49	1095.31	-14.61
814	SLU 26	76	52	4781	-7.54	1087.53	-18.17
814	SLU 27	79	29	4906	-7.36	1108.16	-9.83
814	SLU 28	78	43	4890	-7.52	1107.78	-15
814	SLU 29	78	29	4870	-7.32	1100.64	-9.94
814	SLU 30	78	44	4854	-7.47	1100.26	-15.11
814	SLU 31	80	54	5222	-8.42	1187.55	-18.86
814	SLU 32	83	31	5347	-8.24	1208.17	-10.53
814	SLU 33	82	45	5331	-8.39	1207.8	-15.7
814	SLU 34	81	55	5285	-8.45	1200.02	-19.25
814	SLU 35	84	32	5409	-8.27	1220.65	-10.92
814	SLU 36	83	46	5393	-8.42	1220.27	-16.09
814	SLU 37	83	32	5373	-8.22	1213.13	-11.03
814	SLU 38	82	47	5357	-8.38	1212.75	-16.2
814	SLU 39	83	31	5464	-8.55	1236.39	-10.71
814	SLU 40	82	46	5448	-8.71	1236.01	-15.88
814	SLU 41	84	32	5527	-8.58	1248.86	-11.1
814	SLU 42	83	47	5511	-8.74	1248.48	-16.27
814	SLU 43	86	33	5117	-7.9	1169.57	-11.41
814	SLU 44	85	58	5090	-8.15	1168.94	-20.03
814	SLU 45	88	34	5215	-7.98	1189.57	-11.69
814	SLU 46	87	49	5199	-8.13	1189.19	-16.86
814	SLU 47	86	59	5153	-8.18	1181.42	-20.42
814	SLU 48	89	35	5277	-8.01	1202.04	-12.09
814	SLU 49	88	50	5261	-8.16	1201.67	-17.26
814	SLU 50	88	35	5241	-7.96	1194.52	-12.2
814	SLU 51	88	50	5225	-8.11	1194.14	-17.37
814	SLU 52	90	61	5593	-9.06	1281.43	-21.11
814	SLU 53	92	37	5718	-8.88	1302.06	-12.78
814	SLU 54	92	52	5702	-9.04	1301.68	-17.95
814	SLU 55	91	62	5656	-9.09	1293.9	-21.51
814	SLU 56	93	38	5780	-8.91	1314.53	-13.17
814	SLU 57	93	53	5764	-9.07	1314.15	-18.34
814	SLU 58	93	38	5744	-8.87	1307.01	-13.28
814	SLU 59	92	53	5729	-9.02	1306.63	-18.45
814	SLU 60	93	38	5835	-9.19	1330.27	-12.96
814	SLU 61	92	52	5819	-9.35	1329.89	-18.13
814	SLU 62	94	39	5898	-9.22	1342.75	-13.36
814	SLU 63	93	53	5882	-9.38	1342.37	-18.53
814	SLU 64	94	34	5757	-8.83	1308.85	-11.71
814	SLU 65	93	59	5731	-9.09	1308.22	-20.33
814	SLU 66	96	35	5855	-8.91	1328.85	-11.99
814	SLU 67	95	50	5839	-9.06	1328.47	-17.16
814	SLU 68	94	60	5793	-9.12	1320.7	-20.72
814	SLU 69	97	36	5918	-8.94	1341.33	-12.39
814	SLU 70	96	51	5902	-9.09	1340.95	-17.56
814	SLU 71	96	36	5882	-8.89	1333.8	-12.5
814	SLU 72	95	51	5866	-9.05	1333.42	-17.67
814	SLU 73	98	62	6234	-10	1420.71	-21.41
814	SLU 74	100	38	6358	-9.82	1441.34	-13.08
814	SLU 75	100	53	6342	-9.97	1440.96	-18.25
814	SLU 76	99	63	6296	-10.03	1433.19	-21.81
814	SLU 77	101	39	6421	-9.85	1453.82	-13.47
814	SLU 78	101	54	6405	-10	1453.44	-18.64
814	SLU 79	101	39	6385	-9.8	1446.29	-13.58
814	SLU 80	100	54	6369	-9.95	1445.91	-18.75
814	SLU 81	101	38	6476	-10.13	1469.55	-13.26
814	SLU 82	100	53	6460	-10.28	1469.18	-18.43
814	SLU 83	102	40	6538	-10.16	1482.03	-13.66
814	SLU 84	101	54	6522	-10.31	1481.65	-18.83
814	SLE RA 1	71	26	4288	-6.59	976.2	-8.94
814	SLE RA 2	70	42	4270	-6.76	975.78	-14.69
814	SLE RA 3	72	26	4353	-6.64	989.53	-9.13
814	SLE RA 4	71	36	4343	-6.74	989.28	-12.58
814	SLE RA 5	71	43	4312	-6.78	984.1	-14.95
814	SLE RA 6	72	27	4395	-6.66	997.85	-9.39
814	SLE RA 7	72	37	4384	-6.76	997.6	-12.84
814	SLE RA 8	72	27	4371	-6.63	992.83	-9.47
814	SLE RA 9	72	37	4360	-6.73	992.58	-12.91
814	SLE RA 10	73	44	4606	-7.36	1050.77	-15.41
814	SLE RA 11	75	29	4689	-7.25	1064.52	-9.86
814	SLE RA 12	74	38	4678	-7.35	1064.27	-13.3
814	SLE RA 13	74	45	4647	-7.38	1059.09	-15.67
814	SLE RA 14	75	29	4730	-7.27	1072.84	-10.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
814	SLE RA 15	75	39	4720	-7.37	1072.59	-13.56
814	SLE RA 16	75	30	4706	-7.23	1067.83	-10.19
814	SLE RA 17	75	39	4696	-7.34	1067.57	-13.64
814	SLE RA 18	75	29	4767	-7.45	1083.33	-9.98
814	SLE RA 19	75	39	4756	-7.56	1083.08	-13.42
814	SLE RA 20	76	30	4809	-7.47	1091.65	-10.24
814	SLE RA 21	75	40	4798	-7.58	1091.4	-13.69
814	SLE FR 1	71	26	4288	-6.59	976.2	-8.94
814	SLE FR 2	71	29	4284	-6.62	976.12	-10.09
814	SLE FR 3	71	26	4305	-6.6	979.53	-9.05
814	SLE FR 4	72	30	4428	-6.88	1008.26	-10.4
814	SLE FR 5	72	27	4448	-6.86	1011.67	-9.36
814	SLE FR 6	73	27	4527	-7.02	1029.77	-9.46
814	SLE QP 1	71	26	4288	-6.59	976.2	-8.94
814	SLE QP 2	72	27	4432	-6.85	1008.34	-9.25
814	SLD 1	395	86	3099	-6.81	761.58	-29.97
814	SLD 2	370	210	3067	-7.14	761.86	-73.17
814	SLD 3	408	-228	3490	-2.88	769.48	79.83
814	SLD 4	383	-104	3458	-3.21	769.76	36.63
814	SLD 5	154	499	3446	-12.74	922.28	-174.51
814	SLD 6	137	579	3425	-12.96	922.46	-202.46
814	SLD 7	197	-547	4746	0.36	948.62	191.51
814	SLD 8	180	-467	4726	0.15	948.79	163.56
814	SLD 9	-36	521	4138	-13.84	1067.89	-182.06
814	SLD 10	-53	601	4117	-14.06	1068.06	-210.01
814	SLD 11	7	-526	5438	-0.74	1094.22	183.96
814	SLD 12	-10	-445	5418	-0.96	1094.39	156.01
814	SLD 13	-239	158	5406	-10.48	1246.92	-55.14
814	SLD 14	-264	282	5374	-10.82	1247.2	-98.34
814	SLD 15	-226	-156	5796	-6.55	1254.82	54.67
814	SLD 16	-251	-32	5764	-6.89	1255.1	11.47
814	SLV 1	577	137	2328	-7.04	622.79	-48.19
814	SLV 2	537	333	2277	-7.57	623.23	-116.21
814	SLV 3	599	-393	2988	-0.4	636.21	137.41
814	SLV 4	559	-198	2937	-0.92	636.65	69.39
814	SLV 5	198	828	2809	-16.88	872.24	-289.73
814	SLV 6	171	960	2775	-17.23	872.53	-335.53
814	SLV 7	270	-940	5008	5.26	916.98	328.94
814	SLV 8	244	-809	4975	4.9	917.27	283.14
814	SLV 9	-100	862	3889	-18.6	1099.41	-301.64
814	SLV 10	-127	994	3855	-18.95	1099.7	-347.44
814	SLV 11	-27	-906	6088	3.54	1144.15	317.02
814	SLV 12	-54	-775	6054	3.19	1144.44	271.23
814	SLV 13	-415	251	5926	-12.77	1380.03	-87.9
814	SLV 14	-455	447	5876	-13.3	1380.47	-155.92
814	SLV 15	-394	-279	6586	-6.13	1393.45	97.7
814	SLV 16	-433	-84	6535	-6.66	1393.89	29.68
814	SLV FO 1	628	148	2117	-7.06	584.24	-52.08
814	SLV FO 2	584	363	2062	-7.64	584.71	-126.9
814	SLV FO 3	652	-435	2843	0.25	599	152.08
814	SLV FO 4	608	-220	2788	-0.33	599.48	77.26
814	SLV FO 5	211	908	2647	-17.88	858.63	-317.78
814	SLV FO 6	181	1053	2610	-18.27	858.95	-368.15
814	SLV FO 7	290	-1037	5066	6.47	907.84	362.75
814	SLV FO 8	261	-892	5029	6.08	908.16	312.38
814	SLV FO 9	-117	946	3834	-19.77	1108.52	-330.88
814	SLV FO 10	-146	1091	3797	-20.16	1108.84	-381.26
814	SLV FO 11	-37	-999	6254	4.58	1157.73	349.65
814	SLV FO 12	-67	-855	6216	4.19	1158.05	299.28
814	SLV FO 13	-464	274	6076	-13.36	1417.2	-95.76
814	SLV FO 14	-508	489	6020	-13.94	1417.68	-170.58
814	SLV FO 15	-440	-310	6801	-6.06	1431.97	108.4
814	SLV FO 16	-484	-95	6746	-6.64	1432.44	33.58
814	CRTFP Ux+	0	0	0	0	0	0
814	CRTFP Ux-	0	0	0	0	0	0
814	CRTFP Uy+	0	0	0	0	0	0
814	CRTFP Uy-	0	0	0	0	0	0
816	SLU 1	94	31	6253	1.68	-5.7	-0.36
816	SLU 2	93	61	6211	1.27	-6.98	-0.25
816	SLU 3	97	31	6410	1.85	-5.4	-0.4
816	SLU 4	96	49	6385	1.61	-6.17	-0.34
816	SLU 5	94	61	6314	1.41	-6.75	-0.29
816	SLU 6	99	32	6514	1.99	-5.17	-0.44
816	SLU 7	98	50	6489	1.74	-5.94	-0.38
816	SLU 8	98	31	6460	1.95	-5.23	-0.44
816	SLU 9	97	49	6435	1.7	-6	-0.38
816	SLU 10	99	65	7028	1.45	-7.36	-0.27
816	SLU 11	103	36	7227	2.03	-5.79	-0.42
816	SLU 12	102	54	7202	1.78	-6.56	-0.36
816	SLU 13	101	65	7131	1.58	-7.13	-0.31
816	SLU 14	105	36	7331	2.16	-5.56	-0.46
816	SLU 15	104	54	7306	1.91	-6.33	-0.4
816	SLU 16	104	36	7277	2.12	-5.62	-0.46
816	SLU 17	103	54	7252	1.88	-6.39	-0.4
816	SLU 18	103	37	7420	1.93	-6.24	-0.39
816	SLU 19	102	55	7395	1.68	-7.01	-0.32
816	SLU 20	105	37	7524	2.06	-6.01	-0.43
816	SLU 21	104	55	7499	1.82	-6.78	-0.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
816	SLU 22	107	35	7287	2.23	-5.59	-0.42
816	SLU 23	105	65	7245	1.82	-6.87	-0.31
816	SLU 24	110	35	7444	2.4	-5.3	-0.46
816	SLU 25	109	53	7419	2.15	-6.07	-0.4
816	SLU 26	107	65	7349	1.95	-6.64	-0.35
816	SLU 27	112	36	7548	2.53	-5.06	-0.5
816	SLU 28	111	54	7523	2.28	-5.83	-0.44
816	SLU 29	111	35	7495	2.49	-5.13	-0.5
816	SLU 30	110	53	7469	2.25	-5.89	-0.44
816	SLU 31	112	69	8062	1.99	-7.25	-0.33
816	SLU 32	116	40	8262	2.57	-5.68	-0.48
816	SLU 33	115	58	8236	2.32	-6.45	-0.42
816	SLU 34	114	69	8166	2.12	-7.02	-0.37
816	SLU 35	118	40	8365	2.7	-5.45	-0.52
816	SLU 36	117	58	8340	2.46	-6.22	-0.46
816	SLU 37	117	40	8312	2.67	-5.51	-0.52
816	SLU 38	116	58	8287	2.42	-6.28	-0.46
816	SLU 39	116	41	8454	2.47	-6.14	-0.45
816	SLU 40	115	59	8429	2.23	-6.91	-0.38
816	SLU 41	118	41	8558	2.61	-5.9	-0.49
816	SLU 42	117	59	8533	2.36	-6.67	-0.42
816	SLU 43	118	38	7774	2	-7.44	-0.45
816	SLU 44	116	68	7732	1.59	-8.73	-0.34
816	SLU 45	121	39	7931	2.17	-7.15	-0.49
816	SLU 46	120	57	7906	1.93	-7.92	-0.42
816	SLU 47	118	69	7835	1.73	-8.49	-0.38
816	SLU 48	123	39	8035	2.31	-6.92	-0.53
816	SLU 49	122	57	8010	2.06	-7.69	-0.46
816	SLU 50	122	39	7981	2.27	-6.98	-0.53
816	SLU 51	121	57	7956	2.02	-7.75	-0.46
816	SLU 52	123	73	8549	1.76	-9.11	-0.36
816	SLU 53	127	43	8748	2.34	-7.53	-0.51
816	SLU 54	126	61	8723	2.1	-8.3	-0.44
816	SLU 55	125	73	8653	1.9	-8.88	-0.4
816	SLU 56	129	44	8852	2.48	-7.3	-0.55
816	SLU 57	128	62	8827	2.23	-8.07	-0.48
816	SLU 58	128	44	8798	2.44	-7.36	-0.55
816	SLU 59	127	62	8773	2.2	-8.13	-0.48
816	SLU 60	127	45	8941	2.25	-7.99	-0.48
816	SLU 61	126	63	8916	2	-8.76	-0.41
816	SLU 62	129	45	9045	2.38	-7.76	-0.52
816	SLU 63	128	63	9020	2.14	-8.53	-0.45
816	SLU 64	131	42	8808	2.54	-7.33	-0.51
816	SLU 65	129	72	8766	2.13	-8.62	-0.4
816	SLU 66	134	43	8966	2.71	-7.04	-0.55
816	SLU 67	133	61	8940	2.47	-7.81	-0.48
816	SLU 68	131	73	8870	2.27	-8.39	-0.44
816	SLU 69	136	43	9069	2.85	-6.81	-0.59
816	SLU 70	134	61	9044	2.6	-7.58	-0.53
816	SLU 71	135	43	9016	2.81	-6.87	-0.59
816	SLU 72	133	61	8991	2.57	-7.64	-0.52
816	SLU 73	136	77	9583	2.31	-9	-0.42
816	SLU 74	140	47	9783	2.89	-7.43	-0.57
816	SLU 75	139	65	9757	2.64	-8.2	-0.5
816	SLU 76	137	77	9687	2.44	-8.77	-0.46
816	SLU 77	142	48	9886	3.02	-7.19	-0.61
816	SLU 78	141	66	9861	2.77	-7.96	-0.54
816	SLU 79	141	48	9833	2.98	-7.25	-0.61
816	SLU 80	140	66	9808	2.74	-8.02	-0.54
816	SLU 81	140	49	9976	2.79	-7.88	-0.54
816	SLU 82	139	67	9950	2.54	-8.65	-0.47
816	SLU 83	142	49	10079	2.92	-7.65	-0.58
816	SLU 84	141	67	10054	2.68	-8.42	-0.51
816	SLE RA 1	98	32	6548	1.84	-5.67	-0.38
816	SLE RA 2	97	52	6520	1.56	-6.52	-0.3
816	SLE RA 3	100	32	6653	1.95	-5.47	-0.41
816	SLE RA 4	99	44	6636	1.79	-5.98	-0.36
816	SLE RA 5	98	52	6589	1.65	-6.37	-0.33
816	SLE RA 6	101	32	6722	2.04	-5.32	-0.43
816	SLE RA 7	100	44	6705	1.88	-5.83	-0.39
816	SLE RA 8	100	32	6687	2.02	-5.36	-0.43
816	SLE RA 9	100	44	6670	1.85	-5.87	-0.39
816	SLE RA 10	101	55	7065	1.68	-6.78	-0.32
816	SLE RA 11	104	35	7198	2.07	-5.73	-0.42
816	SLE RA 12	103	47	7181	1.9	-6.24	-0.37
816	SLE RA 13	102	55	7134	1.77	-6.62	-0.34
816	SLE RA 14	105	35	7267	2.16	-5.57	-0.45
816	SLE RA 15	105	47	7250	1.99	-6.09	-0.4
816	SLE RA 16	105	35	7231	2.13	-5.61	-0.45
816	SLE RA 17	104	47	7215	1.97	-6.13	-0.4
816	SLE RA 18	104	36	7326	2	-6.03	-0.4
816	SLE RA 19	103	48	7310	1.84	-6.54	-0.35
816	SLE RA 20	105	36	7396	2.09	-5.88	-0.42
816	SLE RA 21	105	48	7379	1.93	-6.39	-0.38
816	SLE FR 1	98	32	6548	1.84	-5.67	-0.38
816	SLE FR 2	98	36	6543	1.78	-5.84	-0.36
816	SLE FR 3	98	32	6576	1.87	-5.6	-0.39
816	SLE FR 4	100	37	6776	1.83	-5.95	-0.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
816	SLE FR 5	100	33	6809	1.92	-5.71	-0.39
816	SLE FR 6	101	34	6937	1.92	-5.85	-0.39
816	SLE QP 1	98	32	6548	1.84	-5.67	-0.38
816	SLE QP 2	100	33	6782	1.89	-5.78	-0.38
816	SLD 1	615	211	5755	-1.43	-8.91	-1.25
816	SLD 2	579	302	5724	-1.85	-8.17	0.76
816	SLD 3	639	-175	6413	4.85	9.24	-2.87
816	SLD 4	603	-84	6382	4.43	9.98	-0.86
816	SLD 5	224	656	5482	-8.56	-34.38	1.47
816	SLD 6	200	715	5461	-8.83	-33.9	2.77
816	SLD 7	305	-631	7674	12.37	26.13	-3.94
816	SLD 8	281	-572	7654	12.1	26.61	-2.64
816	SLD 9	-81	638	5910	-8.33	-38.16	1.87
816	SLD 10	-105	696	5889	-8.6	-37.68	3.17
816	SLD 11	-1	-649	8102	12.6	22.35	-3.53
816	SLD 12	-24	-590	8082	12.33	22.83	-2.23
816	SLD 13	-403	150	7182	-0.65	-21.53	0.09
816	SLD 14	-440	241	7151	-1.08	-20.79	2.1
816	SLD 15	-379	-236	7839	5.62	-3.38	-1.53
816	SLD 16	-416	-146	7808	5.2	-2.64	0.48
816	SLV 1	905	336	5137	-3.7	-11.68	-1.65
816	SLV 2	848	479	5088	-4.36	-10.51	1.51
816	SLV 3	946	-316	6248	6.92	19.01	-4.39
816	SLV 4	888	-173	6200	6.25	20.18	-1.23
816	SLV 5	290	1087	4611	-15.76	-54.31	2.8
816	SLV 6	252	1183	4578	-16.2	-53.53	4.93
816	SLV 7	426	-1088	8317	19.61	47.99	-6.33
816	SLV 8	388	-992	8284	19.17	48.78	-4.2
816	SLV 9	-188	1058	5279	-15.39	-60.33	3.44
816	SLV 10	-227	1154	5246	-15.84	-59.54	5.57
816	SLV 11	-52	-1117	8985	19.98	41.98	-5.7
816	SLV 12	-91	-1021	8952	19.53	42.76	-3.57
816	SLV 13	-689	239	7364	-2.48	-31.73	0.46
816	SLV 14	-746	382	7315	-3.14	-30.56	3.63
816	SLV 15	-648	-413	8476	8.13	-1.04	-2.28
816	SLV 16	-706	-270	8427	7.47	0.13	0.89
816	SLV FO 1	986	367	4972	-4.25	-12.27	-1.78
816	SLV FO 2	922	524	4918	-4.98	-10.98	1.7
816	SLV FO 3	1031	-351	6195	7.42	21.49	-4.79
816	SLV FO 4	967	-194	6141	6.69	22.78	-1.31
816	SLV FO 5	309	1192	4394	-17.52	-59.17	3.12
816	SLV FO 6	267	1298	4358	-18.01	-58.3	5.46
816	SLV FO 7	459	-1200	8471	21.38	53.37	-6.93
816	SLV FO 8	416	-1094	8435	20.89	54.24	-4.58
816	SLV FO 9	-217	1160	5129	-17.12	-65.79	3.82
816	SLV FO 10	-259	1266	5093	-17.61	-64.92	6.16
816	SLV FO 11	-67	-1232	9206	21.79	46.75	-6.23
816	SLV FO 12	-110	-1126	9170	21.3	47.62	-3.89
816	SLV FO 13	-768	260	7422	-2.91	-34.33	0.55
816	SLV FO 14	-831	417	7368	-3.64	-33.04	4.03
816	SLV FO 15	-723	-458	8645	8.76	-0.57	-2.47
816	SLV FO 16	-786	-301	8591	8.03	0.72	1.01
816	CRTFP Ux+	0	0	0	0	0	0
816	CRTFP Ux-	0	0	0	0	0	0
816	CRTFP Uy+	0	0	0	0	0	0
816	CRTFP Uy-	0	0	0	0	0	0
819	SLU 1	-75	8	6462	-0.67	3.74	1.17
819	SLU 2	-73	40	6423	-1.1	5.84	1.07
819	SLU 3	-77	8	6627	-0.58	3.34	1.21
819	SLU 4	-75	27	6604	-0.84	4.6	1.15
819	SLU 5	-74	40	6532	-1.03	5.51	1.1
819	SLU 6	-78	8	6736	-0.51	3.01	1.24
819	SLU 7	-76	27	6712	-0.77	4.27	1.18
819	SLU 8	-77	8	6680	-0.53	3.09	1.23
819	SLU 9	-75	27	6656	-0.79	4.35	1.17
819	SLU 10	-76	41	7281	-1.27	5.09	1.25
819	SLU 11	-80	9	7486	-0.75	2.58	1.4
819	SLU 12	-79	28	7462	-1.01	3.84	1.34
819	SLU 13	-77	41	7390	-1.2	4.76	1.28
819	SLU 14	-81	9	7595	-0.68	2.26	1.43
819	SLU 15	-79	28	7571	-0.94	3.52	1.37
819	SLU 16	-80	9	7539	-0.7	2.33	1.41
819	SLU 17	-79	28	7515	-0.96	3.59	1.35
819	SLU 18	-79	10	7689	-0.91	2.66	1.43
819	SLU 19	-78	29	7665	-1.17	3.92	1.37
819	SLU 20	-80	10	7798	-0.84	2.34	1.46
819	SLU 21	-79	29	7774	-1.1	3.6	1.4
819	SLU 22	-83	8	7546	-0.53	2.43	1.41
819	SLU 23	-81	40	7507	-0.97	4.53	1.31
819	SLU 24	-85	8	7711	-0.44	2.03	1.46
819	SLU 25	-84	27	7687	-0.7	3.29	1.4
819	SLU 26	-82	40	7615	-0.9	4.21	1.34
819	SLU 27	-86	8	7820	-0.37	1.7	1.49
819	SLU 28	-85	27	7796	-0.63	2.96	1.43
819	SLU 29	-85	8	7764	-0.39	1.78	1.47
819	SLU 30	-84	27	7740	-0.65	3.04	1.41
819	SLU 31	-85	41	8365	-1.14	3.78	1.49
819	SLU 32	-88	9	8570	-0.61	1.28	1.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
819	SLU 33	-87	28	8546	-0.87	2.54	1.58
819	SLU 34	-86	41	8474	-1.06	3.45	1.52
819	SLU 35	-89	9	8678	-0.54	0.95	1.67
819	SLU 36	-88	28	8655	-0.8	2.21	1.61
819	SLU 37	-88	9	8622	-0.56	1.03	1.66
819	SLU 38	-87	28	8599	-0.82	2.29	1.6
819	SLU 39	-88	10	8773	-0.77	1.36	1.67
819	SLU 40	-87	29	8749	-1.03	2.62	1.61
819	SLU 41	-89	10	8881	-0.7	1.03	1.7
819	SLU 42	-88	29	8858	-0.96	2.29	1.64
819	SLU 43	-94	11	8030	-0.92	5.31	1.43
819	SLU 44	-92	42	7990	-1.35	7.41	1.33
819	SLU 45	-96	11	8195	-0.83	4.91	1.48
819	SLU 46	-95	30	8171	-1.09	6.17	1.42
819	SLU 47	-93	42	8099	-1.28	7.08	1.36
819	SLU 48	-97	10	8303	-0.76	4.58	1.51
819	SLU 49	-96	30	8280	-1.02	5.84	1.45
819	SLU 50	-96	11	8247	-0.78	4.66	1.5
819	SLU 51	-95	30	8224	-1.04	5.92	1.43
819	SLU 52	-96	44	8849	-1.52	6.66	1.52
819	SLU 53	-99	12	9053	-1	4.15	1.66
819	SLU 54	-98	31	9029	-1.26	5.41	1.6
819	SLU 55	-96	44	8957	-1.45	6.33	1.55
819	SLU 56	-100	12	9162	-0.93	3.83	1.69
819	SLU 57	-99	31	9138	-1.19	5.09	1.63
819	SLU 58	-99	12	9106	-0.95	3.9	1.68
819	SLU 59	-98	31	9082	-1.21	5.16	1.62
819	SLU 60	-99	12	9256	-1.16	4.23	1.7
819	SLU 61	-98	32	9232	-1.42	5.49	1.64
819	SLU 62	-100	12	9365	-1.09	3.91	1.73
819	SLU 63	-99	31	9341	-1.35	5.17	1.67
819	SLU 64	-103	10	9113	-0.78	4	1.68
819	SLU 65	-101	42	9074	-1.22	6.1	1.58
819	SLU 66	-105	10	9278	-0.69	3.6	1.72
819	SLU 67	-104	30	9254	-0.95	4.86	1.66
819	SLU 68	-102	42	9183	-1.14	5.78	1.61
819	SLU 69	-106	10	9387	-0.62	3.27	1.76
819	SLU 70	-104	30	9363	-0.88	4.53	1.69
819	SLU 71	-105	10	9331	-0.64	3.35	1.74
819	SLU 72	-104	30	9307	-0.9	4.61	1.68
819	SLU 73	-104	44	9932	-1.38	5.35	1.76
819	SLU 74	-108	12	10137	-0.86	2.85	1.91
819	SLU 75	-107	31	10113	-1.12	4.11	1.85
819	SLU 76	-105	44	10041	-1.31	5.02	1.79
819	SLU 77	-109	12	10246	-0.79	2.52	1.94
819	SLU 78	-108	31	10222	-1.05	3.78	1.88
819	SLU 79	-108	12	10190	-0.81	2.6	1.92
819	SLU 80	-107	31	10166	-1.07	3.86	1.86
819	SLU 81	-107	12	10340	-1.02	2.93	1.94
819	SLU 82	-106	31	10316	-1.28	4.19	1.88
819	SLU 83	-108	12	10449	-0.95	2.6	1.97
819	SLU 84	-107	31	10425	-1.21	3.86	1.91
819	SLE RA 1	-77	8	6772	-0.63	3.37	1.24
819	SLE RA 2	-76	29	6746	-0.92	4.77	1.17
819	SLE RA 3	-78	8	6882	-0.57	3.1	1.27
819	SLE RA 4	-78	21	6866	-0.74	3.94	1.23
819	SLE RA 5	-77	29	6818	-0.87	4.55	1.19
819	SLE RA 6	-79	8	6955	-0.52	2.88	1.29
819	SLE RA 7	-78	21	6939	-0.7	3.72	1.25
819	SLE RA 8	-79	8	6917	-0.54	2.93	1.28
819	SLE RA 9	-78	21	6901	-0.71	3.77	1.24
819	SLE RA 10	-78	30	7318	-1.03	4.26	1.29
819	SLE RA 11	-81	9	7454	-0.68	2.59	1.39
819	SLE RA 12	-80	22	7439	-0.86	3.44	1.35
819	SLE RA 13	-79	30	7391	-0.99	4.05	1.31
819	SLE RA 14	-81	9	7527	-0.64	2.38	1.41
819	SLE RA 15	-80	22	7511	-0.81	3.22	1.37
819	SLE RA 16	-81	9	7490	-0.65	2.43	1.4
819	SLE RA 17	-80	22	7474	-0.82	3.27	1.36
819	SLE RA 18	-80	9	7590	-0.79	2.65	1.41
819	SLE RA 19	-80	22	7574	-0.97	3.49	1.37
819	SLE RA 20	-81	9	7662	-0.75	2.43	1.43
819	SLE RA 21	-80	22	7646	-0.92	3.27	1.39
819	SLE FR 1	-77	8	6772	-0.63	3.37	1.24
819	SLE FR 2	-77	12	6767	-0.69	3.65	1.22
819	SLE FR 3	-78	8	6801	-0.61	3.28	1.25
819	SLE FR 4	-78	13	7012	-0.74	3.43	1.28
819	SLE FR 5	-78	8	7046	-0.66	3.06	1.3
819	SLE FR 6	-79	9	7181	-0.71	3.01	1.33
819	SLE QP 1	-77	8	6772	-0.63	3.37	1.24
819	SLE QP 2	-78	8	7017	-0.68	3.15	1.29
819	SLD 1	482	292	7484	-4.38	21.4	-1.11
819	SLD 2	443	194	7501	-3.95	19.92	0.93
819	SLD 3	457	-113	8084	2.1	-8.02	0.24
819	SLD 4	419	-210	8101	2.53	-9.5	2.28
819	SLD 5	134	723	6244	-11.69	53.51	-1.83
819	SLD 6	109	660	6255	-11.42	52.55	-0.51
819	SLD 7	52	-624	8244	9.91	-44.57	2.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
819	SLD 8	27	-687	8255	10.19	-45.53	3.99
819	SLD 9	-183	704	5779	-11.55	51.83	-1.41
819	SLD 10	-208	641	5790	-11.27	50.87	-0.09
819	SLD 11	-265	-643	7779	10.05	-46.25	3.09
819	SLD 12	-290	-706	7790	10.33	-47.2	4.41
819	SLD 13	-575	227	5934	-3.9	15.8	0.3
819	SLD 14	-614	130	5951	-3.47	14.32	2.34
819	SLD 15	-600	-177	6534	2.59	-13.62	1.65
819	SLD 16	-638	-275	6551	3.01	-15.1	3.69
819	SLV 1	800	477	7706	-6.88	34.06	-2.56
819	SLV 2	740	324	7733	-6.2	31.73	0.64
819	SLV 3	759	-206	8720	4.07	-15.67	-0.28
819	SLV 4	698	-359	8747	4.75	-18	2.92
819	SLV 5	260	1214	5681	-19.28	88.28	-3.92
819	SLV 6	219	1110	5699	-18.82	86.71	-1.76
819	SLV 7	121	-1063	9061	17.23	-77.48	3.68
819	SLV 8	80	-1166	9079	17.68	-79.05	5.83
819	SLV 9	-236	1183	4956	-19.05	85.35	-3.25
819	SLV 10	-277	1080	4974	-18.59	83.78	-1.1
819	SLV 11	-376	-1093	8335	17.46	-80.41	4.34
819	SLV 12	-417	-1197	8353	17.91	-81.98	6.5
819	SLV 13	-854	376	5288	-6.11	24.3	-0.34
819	SLV 14	-915	222	5315	-5.44	21.97	2.86
819	SLV 15	-896	-307	6302	4.84	-25.43	1.94
819	SLV 16	-957	-461	6329	5.52	-27.76	5.14
819	SLV FO 1	888	524	7775	-7.5	37.15	-2.94
819	SLV FO 2	822	355	7804	-6.76	34.59	0.58
819	SLV FO 3	842	-227	8890	4.55	-17.55	-0.44
819	SLV FO 4	776	-396	8920	5.29	-20.12	3.08
819	SLV FO 5	294	1334	5548	-21.14	96.79	-4.44
819	SLV FO 6	249	1220	5567	-20.64	95.07	-2.07
819	SLV FO 7	141	-1170	9265	19.02	-85.54	3.91
819	SLV FO 8	96	-1284	9285	19.52	-87.27	6.28
819	SLV FO 9	-252	1301	4750	-20.88	93.57	-3.7
819	SLV FO 10	-297	1187	4770	-20.38	91.85	-1.33
819	SLV FO 11	-405	-1203	8467	19.27	-88.76	4.65
819	SLV FO 12	-450	-1317	8487	19.77	-90.49	7.02
819	SLV FO 13	-932	413	5115	-6.65	26.42	-0.5
819	SLV FO 14	-999	244	5144	-5.91	23.85	3.02
819	SLV FO 15	-978	-339	6230	5.39	-28.28	2
819	SLV FO 16	-1045	-507	6260	6.14	-30.85	5.52
819	CRTFP Ux+	0	0	0	0	0	0
819	CRTFP Ux-	0	0	0	0	0	0
819	CRTFP Uy+	0	0	0	0	0	0
819	CRTFP Uy-	0	0	0	0	0	0
822	SLU 1	32	58	4835	-66.73	-39.19	0.37
822	SLU 2	33	88	4814	-66.69	-39.09	0.45
822	SLU 3	33	58	4946	-68.23	-40.34	0.37
822	SLU 4	34	76	4933	-68.2	-40.28	0.41
822	SLU 5	34	88	4886	-67.66	-39.81	0.44
822	SLU 6	34	57	5018	-69.19	-41.07	0.36
822	SLU 7	35	76	5006	-69.17	-41.01	0.41
822	SLU 8	34	57	4980	-68.67	-40.64	0.35
822	SLU 9	34	75	4967	-68.65	-40.58	0.4
822	SLU 10	36	92	5467	-75.7	-43.35	0.46
822	SLU 11	37	61	5599	-77.23	-44.61	0.38
822	SLU 12	37	80	5586	-77.21	-44.55	0.43
822	SLU 13	37	91	5539	-76.67	-44.08	0.45
822	SLU 14	38	61	5671	-78.2	-45.33	0.37
822	SLU 15	38	79	5658	-78.18	-45.27	0.42
822	SLU 16	37	60	5633	-77.68	-44.9	0.37
822	SLU 17	38	79	5620	-77.65	-44.84	0.41
822	SLU 18	37	63	5768	-79.6	-45.28	0.39
822	SLU 19	37	81	5755	-79.58	-45.22	0.44
822	SLU 20	38	62	5840	-80.57	-46.01	0.38
822	SLU 21	38	81	5827	-80.54	-45.95	0.43
822	SLU 22	38	62	5625	-77.37	-44.95	0.45
822	SLU 23	39	93	5603	-77.33	-44.84	0.53
822	SLU 24	39	63	5736	-78.87	-46.1	0.45
822	SLU 25	40	81	5723	-78.84	-46.04	0.5
822	SLU 26	40	93	5676	-78.3	-45.57	0.53
822	SLU 27	40	62	5808	-79.84	-46.83	0.45
822	SLU 28	41	81	5795	-79.81	-46.77	0.49
822	SLU 29	40	62	5770	-79.31	-46.4	0.44
822	SLU 30	40	80	5757	-79.29	-46.34	0.49
822	SLU 31	42	97	6256	-86.34	-49.11	0.55
822	SLU 32	43	66	6388	-87.87	-50.37	0.47
822	SLU 33	43	84	6376	-87.85	-50.31	0.52
822	SLU 34	43	96	6329	-87.31	-49.84	0.54
822	SLU 35	44	66	6461	-88.84	-51.09	0.46
822	SLU 36	44	84	6448	-88.82	-51.03	0.51
822	SLU 37	43	65	6422	-88.32	-50.66	0.46
822	SLU 38	44	83	6410	-88.29	-50.6	0.5
822	SLU 39	43	67	6557	-90.24	-51.04	0.48
822	SLU 40	43	86	6544	-90.22	-50.98	0.53
822	SLU 41	44	67	6630	-91.21	-51.76	0.47
822	SLU 42	44	85	6617	-91.19	-51.7	0.52
822	SLU 43	39	73	6015	-83.11	-48.97	0.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
822	SLU 44	40	104	5994	-83.06	-48.87	0.52
822	SLU 45	41	73	6126	-84.6	-50.13	0.45
822	SLU 46	41	92	6113	-84.57	-50.07	0.49
822	SLU 47	41	104	6066	-84.03	-49.59	0.52
822	SLU 48	42	73	6198	-85.57	-50.85	0.44
822	SLU 49	42	91	6186	-85.54	-50.79	0.49
822	SLU 50	41	72	6160	-85.04	-50.42	0.43
822	SLU 51	42	91	6147	-85.02	-50.36	0.48
822	SLU 52	44	107	6646	-92.07	-53.13	0.54
822	SLU 53	44	77	6779	-93.6	-54.39	0.46
822	SLU 54	45	95	6766	-93.58	-54.33	0.51
822	SLU 55	45	107	6719	-93.04	-53.86	0.53
822	SLU 56	45	77	6851	-94.57	-55.12	0.45
822	SLU 57	46	95	6838	-94.55	-55.06	0.5
822	SLU 58	45	76	6813	-94.05	-54.69	0.45
822	SLU 59	46	94	6800	-94.03	-54.63	0.49
822	SLU 60	44	78	6947	-95.97	-55.06	0.47
822	SLU 61	45	97	6935	-95.95	-55	0.52
822	SLU 62	45	78	7020	-96.94	-55.79	0.46
822	SLU 63	46	96	7007	-96.92	-55.73	0.51
822	SLU 64	45	78	6804	-93.75	-54.73	0.53
822	SLU 65	46	109	6783	-93.71	-54.63	0.61
822	SLU 66	46	78	6915	-95.24	-55.88	0.53
822	SLU 67	47	97	6903	-95.21	-55.82	0.58
822	SLU 68	47	108	6856	-94.67	-55.35	0.61
822	SLU 69	48	78	6988	-96.21	-56.61	0.53
822	SLU 70	48	96	6975	-96.18	-56.55	0.57
822	SLU 71	47	77	6949	-95.68	-56.18	0.52
822	SLU 72	48	96	6937	-95.66	-56.12	0.57
822	SLU 73	50	112	7436	-102.71	-58.89	0.63
822	SLU 74	50	82	7568	-104.25	-60.15	0.55
822	SLU 75	51	100	7555	-104.22	-60.09	0.6
822	SLU 76	51	112	7508	-103.68	-59.62	0.62
822	SLU 77	51	81	7641	-105.21	-60.88	0.54
822	SLU 78	52	100	7628	-105.19	-60.81	0.59
822	SLU 79	51	81	7602	-104.69	-60.44	0.54
822	SLU 80	51	99	7589	-104.67	-60.38	0.58
822	SLU 81	50	83	7737	-106.61	-60.82	0.56
822	SLU 82	51	101	7724	-106.59	-60.76	0.61
822	SLU 83	51	83	7809	-107.58	-61.55	0.55
822	SLU 84	52	101	7797	-107.56	-61.49	0.6
822	SLE RA 1	33	59	5061	-69.77	-40.83	0.39
822	SLE RA 2	34	79	5047	-69.75	-40.77	0.44
822	SLE RA 3	34	59	5135	-70.77	-41.6	0.39
822	SLE RA 4	35	71	5126	-70.75	-41.56	0.42
822	SLE RA 5	35	79	5095	-70.39	-41.25	0.44
822	SLE RA 6	35	59	5183	-71.41	-42.09	0.39
822	SLE RA 7	35	71	5174	-71.4	-42.05	0.42
822	SLE RA 8	35	58	5157	-71.07	-41.8	0.38
822	SLE RA 9	35	71	5149	-71.05	-41.76	0.41
822	SLE RA 10	36	82	5482	-75.75	-43.61	0.46
822	SLE RA 11	37	61	5570	-76.77	-44.45	0.4
822	SLE RA 12	37	74	5561	-76.76	-44.41	0.43
822	SLE RA 13	37	81	5530	-76.4	-44.09	0.45
822	SLE RA 14	37	61	5618	-77.42	-44.93	0.4
822	SLE RA 15	38	73	5610	-77.4	-44.89	0.43
822	SLE RA 16	37	61	5592	-77.07	-44.64	0.39
822	SLE RA 17	38	73	5584	-77.05	-44.6	0.42
822	SLE RA 18	37	62	5682	-78.35	-44.89	0.41
822	SLE RA 19	37	75	5674	-78.34	-44.85	0.44
822	SLE RA 20	37	62	5731	-79	-45.38	0.4
822	SLE RA 21	38	74	5722	-78.98	-45.34	0.43
822	SLE FR 1	33	59	5061	-69.77	-40.83	0.39
822	SLE FR 2	33	63	5058	-69.77	-40.82	0.4
822	SLE FR 3	34	59	5080	-70.03	-41.03	0.39
822	SLE FR 4	34	64	5244	-72.34	-42.04	0.41
822	SLE FR 5	35	60	5267	-72.61	-42.24	0.39
822	SLE FR 6	35	61	5372	-74.06	-42.86	0.4
822	SLE QP 1	33	59	5061	-69.77	-40.83	0.39
822	SLE QP 2	34	60	5247	-72.35	-42.05	0.4
822	SLD 1	587	218	4748	-68.77	-13.14	6.02
822	SLD 2	557	251	4762	-68.99	-13.46	7.22
822	SLD 3	574	-170	5091	-69.49	-15.67	4.96
822	SLD 4	544	-137	5105	-69.71	-16	6.16
822	SLD 5	226	690	4574	-70.14	-29.48	3.48
822	SLD 6	206	712	4584	-70.28	-29.69	4.25
822	SLD 7	182	-604	5718	-72.55	-37.92	-0.04
822	SLD 8	162	-582	5727	-72.69	-38.13	0.73
822	SLD 9	-93	702	4767	-72	-45.97	0.06
822	SLD 10	-113	724	4776	-72.14	-46.18	0.84
822	SLD 11	-137	-592	5910	-74.42	-54.41	-3.46
822	SLD 12	-157	-570	5920	-74.56	-54.62	-2.68
822	SLD 13	-475	257	5389	-74.99	-68.11	-5.37
822	SLD 14	-506	290	5404	-75.2	-68.43	-4.17
822	SLD 15	-488	-131	5732	-75.71	-70.64	-6.43
822	SLD 16	-519	-98	5747	-75.93	-70.96	-5.23
822	SLV 1	901	331	4445	-66.71	3.22	9.26
822	SLV 2	852	384	4468	-67.05	2.71	11.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
822	SLV 3	878	-325	5025	-67.94	-1.06	7.47
822	SLV 4	830	-272	5048	-68.28	-1.57	9.36
822	SLV 5	337	1126	4123	-68.73	-21.88	5.41
822	SLV 6	305	1161	4139	-68.96	-22.22	6.69
822	SLV 7	263	-1060	6055	-72.82	-36.15	-0.54
822	SLV 8	230	-1024	6071	-73.05	-36.5	0.73
822	SLV 9	-161	1144	4424	-71.64	-47.6	0.06
822	SLV 10	-194	1180	4439	-71.87	-47.95	1.34
822	SLV 11	-236	-1042	6356	-75.73	-61.88	-5.89
822	SLV 12	-269	-1006	6371	-75.96	-62.22	-4.62
822	SLV 13	-761	392	5446	-76.41	-82.53	-8.57
822	SLV 14	-810	445	5469	-76.76	-83.04	-6.68
822	SLV 15	-784	-264	6026	-77.64	-86.81	-10.36
822	SLV 16	-832	-211	6049	-77.98	-87.32	-8.46
822	SLV FO 1	987	358	4365	-66.15	7.75	10.14
822	SLV FO 2	934	416	4390	-66.53	7.19	12.22
822	SLV FO 3	963	-363	5003	-67.5	3.04	8.18
822	SLV FO 4	910	-305	5028	-67.87	2.48	10.26
822	SLV FO 5	368	1233	4011	-68.37	-19.86	5.91
822	SLV FO 6	332	1272	4028	-68.63	-20.24	7.31
822	SLV FO 7	285	-1172	6136	-72.87	-35.56	-0.64
822	SLV FO 8	250	-1133	6153	-73.12	-35.94	0.76
822	SLV FO 9	-181	1253	4341	-71.57	-48.16	0.03
822	SLV FO 10	-217	1292	4358	-71.83	-48.54	1.43
822	SLV FO 11	-263	-1152	6466	-76.07	-63.86	-6.52
822	SLV FO 12	-299	-1113	6483	-76.32	-64.24	-5.12
822	SLV FO 13	-841	425	5466	-76.82	-86.58	-9.47
822	SLV FO 14	-894	483	5492	-77.2	-87.14	-7.39
822	SLV FO 15	-866	-296	6104	-78.17	-91.29	-11.43
822	SLV FO 16	-919	-238	6129	-78.55	-91.85	-9.35
822	CRTFP Ux+	0	0	0	0	0	0
822	CRTFP Ux-	0	0	0	0	0	0
822	CRTFP Uy+	0	0	0	0	0	0
822	CRTFP Uy-	0	0	0	0	0	0
825	SLU 1	7	24	2008	-25.96	474.53	-6.01
825	SLU 2	7	36	2000	-25.89	472.05	-8.92
825	SLU 3	7	25	2058	-26.58	486.41	-6.14
825	SLU 4	7	32	2053	-26.55	484.92	-7.89
825	SLU 5	7	36	2033	-26.31	479.9	-8.98
825	SLU 6	7	25	2090	-27	494.26	-6.2
825	SLU 7	7	32	2085	-26.96	492.78	-7.94
825	SLU 8	7	25	2073	-26.78	490.24	-6.12
825	SLU 9	7	32	2069	-26.75	488.75	-7.87
825	SLU 10	8	38	2271	-29.43	535.39	-9.42
825	SLU 11	8	27	2329	-30.12	549.75	-6.64
825	SLU 12	8	34	2324	-30.08	548.26	-8.38
825	SLU 13	8	38	2304	-29.85	543.25	-9.47
825	SLU 14	9	27	2361	-30.54	557.61	-6.69
825	SLU 15	9	34	2356	-30.5	556.12	-8.44
825	SLU 16	9	27	2344	-30.32	553.58	-6.61
825	SLU 17	9	34	2340	-30.28	552.09	-8.36
825	SLU 18	8	27	2395	-31.01	565.02	-6.72
825	SLU 19	8	34	2390	-30.97	563.53	-8.47
825	SLU 20	9	27	2428	-31.42	572.88	-6.77
825	SLU 21	9	34	2423	-31.39	571.39	-8.52
825	SLU 22	8	28	2340	-30.23	552.41	-6.88
825	SLU 23	8	39	2332	-30.17	549.93	-9.79
825	SLU 24	8	28	2390	-30.86	564.29	-7.01
825	SLU 25	9	35	2385	-30.82	562.8	-8.75
825	SLU 26	9	40	2365	-30.58	557.78	-9.84
825	SLU 27	9	28	2422	-31.27	572.14	-7.06
825	SLU 28	9	35	2417	-31.24	570.65	-8.81
825	SLU 29	9	28	2405	-31.06	568.12	-6.98
825	SLU 30	9	35	2401	-31.02	566.63	-8.73
825	SLU 31	9	41	2603	-33.7	613.27	-10.28
825	SLU 32	10	30	2661	-34.4	627.63	-7.5
825	SLU 33	10	37	2656	-34.36	626.14	-9.25
825	SLU 34	10	42	2636	-34.12	621.13	-10.34
825	SLU 35	10	30	2693	-34.81	635.49	-7.55
825	SLU 36	10	37	2688	-34.77	634	-9.3
825	SLU 37	10	30	2676	-34.6	631.46	-7.48
825	SLU 38	10	37	2671	-34.56	629.97	-9.23
825	SLU 39	10	31	2727	-35.28	642.9	-7.58
825	SLU 40	10	38	2722	-35.25	641.41	-9.33
825	SLU 41	10	31	2760	-35.7	650.75	-7.64
825	SLU 42	10	38	2755	-35.66	649.27	-9.38
825	SLU 43	8	30	2497	-32.28	590.19	-7.52
825	SLU 44	8	42	2489	-32.22	587.71	-10.43
825	SLU 45	9	31	2546	-32.91	602.07	-7.65
825	SLU 46	9	38	2541	-32.87	600.58	-9.4
825	SLU 47	9	42	2521	-32.63	595.56	-10.49
825	SLU 48	9	31	2579	-33.32	609.92	-7.7
825	SLU 49	9	38	2574	-33.28	608.43	-9.45
825	SLU 50	9	31	2562	-33.11	605.9	-7.63
825	SLU 51	9	38	2557	-33.07	604.41	-9.37
825	SLU 52	9	44	2760	-35.75	651.05	-10.93
825	SLU 53	10	33	2817	-36.44	665.41	-8.14
825	SLU 54	10	40	2812	-36.41	663.92	-9.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
825	SLU 55	10	44	2792	-36.17	658.91	-10.98
825	SLU 56	10	33	2850	-36.86	673.27	-8.2
825	SLU 57	10	40	2845	-36.82	671.78	-9.94
825	SLU 58	10	33	2833	-36.64	669.24	-8.12
825	SLU 59	10	40	2828	-36.61	667.75	-9.87
825	SLU 60	10	33	2884	-37.33	680.68	-8.23
825	SLU 61	10	40	2879	-37.29	679.19	-9.97
825	SLU 62	10	33	2916	-37.75	688.53	-8.28
825	SLU 63	10	40	2912	-37.71	687.05	-10.03
825	SLU 64	10	34	2829	-36.55	668.07	-8.39
825	SLU 65	10	45	2821	-36.49	665.59	-11.3
825	SLU 66	10	34	2878	-37.18	679.95	-8.52
825	SLU 67	10	41	2873	-37.14	678.46	-10.26
825	SLU 68	10	46	2853	-36.9	673.44	-11.35
825	SLU 69	10	34	2911	-37.59	687.8	-8.57
825	SLU 70	10	41	2906	-37.56	686.31	-10.32
825	SLU 71	10	34	2894	-37.38	683.78	-8.49
825	SLU 72	10	41	2889	-37.34	682.29	-10.24
825	SLU 73	11	47	3092	-40.03	728.93	-11.79
825	SLU 74	11	36	3149	-40.72	743.29	-9.01
825	SLU 75	11	43	3144	-40.68	741.8	-10.76
825	SLU 76	11	48	3124	-40.44	736.78	-11.84
825	SLU 77	12	36	3182	-41.13	751.14	-9.06
825	SLU 78	12	43	3177	-41.09	749.66	-10.81
825	SLU 79	11	36	3165	-40.92	747.12	-8.99
825	SLU 80	11	43	3160	-40.88	745.63	-10.73
825	SLU 81	11	37	3216	-41.6	758.56	-9.09
825	SLU 82	11	44	3211	-41.57	757.07	-10.84
825	SLU 83	12	37	3248	-42.02	766.41	-9.14
825	SLU 84	12	44	3244	-41.98	764.92	-10.89
825	SLE RA 1	7	25	2103	-27.18	496.78	-6.26
825	SLE RA 2	7	33	2098	-27.14	495.13	-8.2
825	SLE RA 3	7	26	2136	-27.6	504.7	-6.35
825	SLE RA 4	7	30	2133	-27.57	503.71	-7.51
825	SLE RA 5	7	33	2119	-27.41	500.37	-8.24
825	SLE RA 6	8	26	2158	-27.87	509.94	-6.38
825	SLE RA 7	8	30	2154	-27.85	508.95	-7.55
825	SLE RA 8	8	25	2147	-27.73	507.26	-6.33
825	SLE RA 9	8	30	2143	-27.7	506.26	-7.5
825	SLE RA 10	8	34	2278	-29.49	537.36	-8.53
825	SLE RA 11	8	27	2317	-29.95	546.93	-6.68
825	SLE RA 12	8	32	2313	-29.93	545.94	-7.84
825	SLE RA 13	8	34	2300	-29.77	542.59	-8.57
825	SLE RA 14	8	27	2338	-30.23	552.17	-6.71
825	SLE RA 15	8	32	2335	-30.21	551.17	-7.88
825	SLE RA 16	8	27	2327	-30.09	549.48	-6.66
825	SLE RA 17	8	31	2324	-30.06	548.49	-7.83
825	SLE RA 18	8	27	2361	-30.55	557.11	-6.73
825	SLE RA 19	8	32	2358	-30.52	556.12	-7.9
825	SLE RA 20	8	27	2383	-30.82	562.35	-6.77
825	SLE RA 21	8	32	2380	-30.8	561.35	-7.93
825	SLE FR 1	7	25	2103	-27.18	496.78	-6.26
825	SLE FR 2	7	27	2102	-27.17	496.45	-6.65
825	SLE FR 3	7	25	2112	-27.29	498.88	-6.27
825	SLE FR 4	7	27	2179	-28.18	514.55	-6.79
825	SLE FR 5	8	26	2189	-28.3	516.98	-6.42
825	SLE FR 6	8	26	2232	-28.86	526.95	-6.5
825	SLE QP 1	7	25	2103	-27.18	496.78	-6.26
825	SLE QP 2	7	26	2180	-28.19	514.88	-6.4
825	SLD 1	208	110	2199	-28.63	511.41	-23.98
825	SLD 2	196	96	2195	-28.57	511.11	-20.61
825	SLD 3	206	-35	2332	-29.66	549.86	12.28
825	SLD 4	194	-48	2328	-29.6	549.57	15.65
825	SLD 5	72	273	1986	-26.76	455.56	-67.25
825	SLD 6	65	264	1983	-26.73	455.37	-65.07
825	SLD 7	67	-210	2427	-30.2	583.76	53.61
825	SLD 8	59	-219	2425	-30.17	583.56	55.79
825	SLD 9	-44	270	1936	-26.21	446.2	-68.59
825	SLD 10	-52	261	1933	-26.17	446.01	-66.41
825	SLD 11	-50	-213	2378	-29.64	574.39	52.27
825	SLD 12	-57	-222	2375	-29.61	574.2	54.45
825	SLD 13	-179	100	2033	-26.77	480.2	-28.45
825	SLD 14	-192	86	2029	-26.72	479.9	-25.08
825	SLD 15	-181	-45	2166	-27.8	518.65	7.81
825	SLD 16	-193	-59	2162	-27.75	518.36	11.18
825	SLV 1	322	168	2201	-28.8	506.97	-36.16
825	SLV 2	303	146	2195	-28.72	506.51	-30.86
825	SLV 3	319	-77	2425	-30.55	571.98	25.09
825	SLV 4	300	-99	2419	-30.47	571.51	30.4
825	SLV 5	110	444	1848	-25.74	414	-109.22
825	SLV 6	97	429	1844	-25.69	413.69	-105.65
825	SLV 7	100	-373	2595	-31.56	630.69	94.96
825	SLV 8	87	-387	2591	-31.5	630.38	98.53
825	SLV 9	-72	439	1770	-24.87	399.38	-111.33
825	SLV 10	-85	424	1766	-24.82	399.07	-107.76
825	SLV 11	-82	-378	2517	-30.69	616.08	92.85
825	SLV 12	-95	-392	2513	-30.63	615.77	96.42
825	SLV 13	-285	151	1942	-25.91	458.25	-43.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
825	SLV 14	-304	129	1936	-25.83	457.79	-37.89
825	SLV 15	-288	-94	2166	-27.65	523.26	18.05
825	SLV 16	-307	-116	2160	-27.57	522.79	23.36
825	SLV FO 1	353	182	2203	-28.87	506.18	-39.14
825	SLV FO 2	332	158	2196	-28.78	505.67	-33.3
825	SLV FO 3	350	-88	2449	-30.78	577.69	28.24
825	SLV FO 4	329	-112	2443	-30.69	577.18	34.08
825	SLV FO 5	120	486	1815	-25.5	403.91	-119.51
825	SLV FO 6	106	469	1810	-25.44	403.57	-115.58
825	SLV FO 7	109	-412	2636	-31.89	642.28	105.09
825	SLV FO 8	95	-429	2632	-31.83	641.93	109.02
825	SLV FO 9	-80	480	1729	-24.54	387.83	-121.83
825	SLV FO 10	-94	464	1725	-24.48	387.49	-117.9
825	SLV FO 11	-91	-418	2551	-30.94	626.2	102.77
825	SLV FO 12	-105	-434	2546	-30.88	625.85	106.7
825	SLV FO 13	-314	163	1918	-25.68	452.59	-46.88
825	SLV FO 14	-335	139	1911	-25.59	452.08	-41.04
825	SLV FO 15	-317	-106	2165	-27.6	524.1	20.5
825	SLV FO 16	-338	-130	2158	-27.51	523.59	26.34
825	CRTFP Ux+	0	0	0	0	0	0
825	CRTFP Ux-	0	0	0	0	0	0
825	CRTFP Uy+	0	0	0	0	0	0
825	CRTFP Uy-	0	0	0	0	0	0
839	SLU 1	-47	-3	3271	-2.9	-368.08	-0.75
839	SLU 2	-46	17	3246	-3.1	-367.2	4.28
839	SLU 3	-48	-3	3355	-2.92	-376.03	-0.88
839	SLU 4	-47	9	3341	-3.04	-375.51	2.14
839	SLU 5	-47	17	3302	-3.11	-372.37	4.24
839	SLU 6	-48	-4	3411	-2.93	-381.21	-0.92
839	SLU 7	-48	8	3396	-3.05	-380.68	2.1
839	SLU 8	-48	-3	3383	-2.92	-378.42	-0.84
839	SLU 9	-47	9	3368	-3.04	-377.9	2.18
839	SLU 10	-49	18	3651	-3.54	-411.76	4.51
839	SLU 11	-51	-3	3760	-3.36	-420.6	-0.65
839	SLU 12	-50	10	3745	-3.48	-420.07	2.36
839	SLU 13	-49	18	3706	-3.55	-416.93	4.46
839	SLU 14	-51	-3	3816	-3.37	-425.77	-0.7
839	SLU 15	-51	9	3801	-3.49	-425.24	2.32
839	SLU 16	-51	-2	3787	-3.36	-422.99	-0.62
839	SLU 17	-50	10	3772	-3.48	-422.46	2.4
839	SLU 18	-51	-2	3849	-3.53	-431.74	-0.43
839	SLU 19	-51	10	3834	-3.65	-431.21	2.59
839	SLU 20	-52	-2	3905	-3.54	-436.91	-0.48
839	SLU 21	-51	10	3890	-3.66	-436.38	2.54
839	SLU 22	-52	-5	3796	-3.3	-423.05	-1.24
839	SLU 23	-51	15	3771	-3.5	-422.17	3.79
839	SLU 24	-53	-5	3881	-3.32	-431	-1.37
839	SLU 25	-53	7	3866	-3.44	-430.48	1.65
839	SLU 26	-52	15	3827	-3.51	-427.34	3.74
839	SLU 27	-54	-6	3936	-3.33	-436.18	-1.42
839	SLU 28	-53	6	3922	-3.45	-435.65	1.6
839	SLU 29	-53	-5	3908	-3.32	-433.39	-1.34
839	SLU 30	-53	7	3893	-3.44	-432.87	1.68
839	SLU 31	-54	16	4176	-3.94	-466.73	4.01
839	SLU 32	-56	-5	4285	-3.76	-475.57	-1.15
839	SLU 33	-55	8	4270	-3.88	-475.04	1.87
839	SLU 34	-55	16	4232	-3.95	-471.9	3.96
839	SLU 35	-56	-5	4341	-3.77	-480.74	-1.2
839	SLU 36	-56	7	4326	-3.89	-480.21	1.82
839	SLU 37	-56	-4	4312	-3.76	-477.96	-1.11
839	SLU 38	-55	8	4297	-3.88	-477.43	1.91
839	SLU 39	-56	-4	4374	-3.93	-486.71	-0.92
839	SLU 40	-56	8	4359	-4.05	-486.18	2.09
839	SLU 41	-57	-4	4430	-3.94	-491.88	-0.97
839	SLU 42	-56	8	4415	-4.06	-491.35	2.05
839	SLU 43	-59	-3	4072	-3.63	-459.65	-0.8
839	SLU 44	-59	17	4047	-3.83	-458.77	4.23
839	SLU 45	-60	-4	4157	-3.66	-467.61	-0.93
839	SLU 46	-60	8	4142	-3.78	-467.08	2.09
839	SLU 47	-59	17	4103	-3.84	-463.95	4.18
839	SLU 48	-61	-4	4213	-3.67	-472.78	-0.98
839	SLU 49	-60	8	4198	-3.79	-472.26	2.04
839	SLU 50	-60	-3	4184	-3.65	-470	-0.89
839	SLU 51	-60	9	4169	-3.77	-469.47	2.12
839	SLU 52	-61	18	4452	-4.27	-503.34	4.45
839	SLU 53	-63	-3	4561	-4.1	-512.17	-0.71
839	SLU 54	-63	9	4546	-4.22	-511.64	2.31
839	SLU 55	-62	18	4508	-4.28	-508.51	4.4
839	SLU 56	-64	-3	4617	-4.11	-517.35	-0.75
839	SLU 57	-63	9	4602	-4.23	-516.82	2.26
839	SLU 58	-63	-3	4588	-4.09	-514.56	-0.67
839	SLU 59	-63	9	4574	-4.21	-514.04	2.35
839	SLU 60	-64	-2	4650	-4.26	-523.31	-0.48
839	SLU 61	-63	10	4635	-4.38	-522.79	2.54
839	SLU 62	-64	-2	4706	-4.27	-528.49	-0.53
839	SLU 63	-63	10	4691	-4.39	-527.96	2.49
839	SLU 64	-65	-5	4597	-4.03	-514.62	-1.29
839	SLU 65	-64	15	4573	-4.23	-513.74	3.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
839	SLU 66	-66	-6	4682	-4.06	-522.58	-1.42
839	SLU 67	-65	6	4667	-4.18	-522.05	1.59
839	SLU 68	-64	15	4628	-4.24	-518.92	3.69
839	SLU 69	-66	-6	4738	-4.06	-527.75	-1.47
839	SLU 70	-65	6	4723	-4.19	-527.23	1.55
839	SLU 71	-66	-5	4709	-4.05	-524.97	-1.39
839	SLU 72	-65	7	4694	-4.17	-524.44	1.63
839	SLU 73	-67	16	4977	-4.67	-558.31	3.96
839	SLU 74	-68	-5	5086	-4.5	-567.14	-1.2
839	SLU 75	-68	7	5071	-4.62	-566.62	1.82
839	SLU 76	-67	16	5033	-4.68	-563.48	3.91
839	SLU 77	-69	-5	5142	-4.5	-572.32	-1.25
839	SLU 78	-68	7	5127	-4.63	-571.79	1.77
839	SLU 79	-68	-5	5114	-4.49	-569.53	-1.17
839	SLU 80	-68	7	5099	-4.61	-569.01	1.85
839	SLU 81	-69	-4	5175	-4.66	-578.28	-0.98
839	SLU 82	-68	8	5160	-4.78	-577.76	2.04
839	SLU 83	-69	-4	5231	-4.67	-583.46	-1.02
839	SLU 84	-69	8	5216	-4.79	-582.93	1.99
839	SLE RA 1	-49	-3	3421	-3.01	-383.78	-0.89
839	SLE RA 2	-48	10	3404	-3.15	-383.2	2.47
839	SLE RA 3	-49	-4	3477	-3.03	-389.09	-0.97
839	SLE RA 4	-49	4	3467	-3.11	-388.74	1.04
839	SLE RA 5	-48	10	3442	-3.15	-386.65	2.43
839	SLE RA 6	-50	-4	3515	-3.04	-392.54	-1.01
839	SLE RA 7	-49	4	3505	-3.12	-392.19	1.01
839	SLE RA 8	-49	-4	3496	-3.03	-390.68	-0.95
839	SLE RA 9	-49	4	3486	-3.11	-390.33	1.06
839	SLE RA 10	-50	11	3674	-3.44	-412.91	2.61
839	SLE RA 11	-51	-3	3747	-3.32	-418.79	-0.83
839	SLE RA 12	-51	5	3737	-3.4	-418.44	1.19
839	SLE RA 13	-50	10	3711	-3.45	-416.35	2.58
839	SLE RA 14	-51	-3	3784	-3.33	-422.24	-0.86
839	SLE RA 15	-51	5	3774	-3.41	-421.89	1.15
839	SLE RA 16	-51	-3	3765	-3.32	-420.39	-0.8
839	SLE RA 17	-51	5	3755	-3.4	-420.04	1.21
839	SLE RA 18	-51	-3	3806	-3.43	-426.22	-0.68
839	SLE RA 19	-51	5	3796	-3.51	-425.87	1.34
839	SLE RA 20	-52	-3	3843	-3.44	-429.67	-0.71
839	SLE RA 21	-51	5	3833	-3.52	-429.32	1.3
839	SLE FR 1	-49	-3	3421	-3.01	-383.78	-0.89
839	SLE FR 2	-48	-1	3418	-3.04	-383.67	-0.22
839	SLE FR 3	-49	-4	3436	-3.02	-385.16	-0.9
839	SLE FR 4	-49	-1	3533	-3.17	-396.4	-0.15
839	SLE FR 5	-50	-3	3551	-3.14	-397.89	-0.84
839	SLE FR 6	-50	-3	3614	-3.22	-405	-0.78
839	SLE QP 1	-49	-3	3421	-3.01	-383.78	-0.89
839	SLE QP 2	-49	-3	3537	-3.14	-396.51	-0.82
839	SLD 1	213	144	4313	-5.77	-500.81	35.9
839	SLD 2	190	44	4337	-5.54	-504.44	10.93
839	SLD 3	201	-111	4676	-2.64	-506.01	-27.81
839	SLD 4	178	-211	4700	-2.42	-509.64	-52.77
839	SLD 5	53	445	3216	-8.71	-419.28	111.15
839	SLD 6	38	380	3231	-8.56	-421.63	94.99
839	SLD 7	10	-404	4424	1.71	-436.63	-101.21
839	SLD 8	-5	-469	4439	1.86	-438.98	-117.36
839	SLD 9	-94	463	2634	-8.13	-354.05	115.71
839	SLD 10	-109	398	2649	-7.99	-356.4	99.56
839	SLD 11	-137	-386	3842	2.28	-371.4	-96.64
839	SLD 12	-152	-451	3857	2.43	-373.75	-112.79
839	SLD 13	-276	205	2373	-3.86	-283.39	51.13
839	SLD 14	-299	104	2397	-3.63	-287.02	26.16
839	SLD 15	-289	-50	2736	-0.73	-288.59	-12.58
839	SLD 16	-312	-150	2760	-0.51	-292.22	-37.54
839	SLV 1	363	243	4725	-7.45	-558.81	60.7
839	SLV 2	327	85	4763	-7.09	-564.53	21.39
839	SLV 3	342	-187	5337	-2.17	-567.67	-46.96
839	SLV 4	305	-345	5375	-1.81	-573.39	-86.26
839	SLV 5	114	753	2958	-12.51	-430.69	188.24
839	SLV 6	89	647	2983	-12.27	-434.54	161.78
839	SLV 7	42	-682	4998	5.1	-460.24	-170.6
839	SLV 8	17	-788	5024	5.33	-464.09	-197.07
839	SLV 9	-116	782	2050	-11.61	-328.94	195.42
839	SLV 10	-141	675	2075	-11.37	-332.79	168.96
839	SLV 11	-188	-653	4090	5.99	-358.49	-163.43
839	SLV 12	-213	-759	4115	6.23	-362.34	-189.89
839	SLV 13	-404	339	1698	-4.47	-219.64	84.62
839	SLV 14	-440	181	1736	-4.11	-225.36	45.31
839	SLV 15	-425	-92	2310	0.82	-228.5	-23.04
839	SLV 16	-462	-250	2348	1.17	-234.22	-62.34
839	SLV FO 1	404	268	4844	-7.88	-575.04	66.85
839	SLV FO 2	364	94	4886	-7.49	-581.33	23.61
839	SLV FO 3	381	-205	5517	-2.07	-584.79	-51.57
839	SLV FO 4	341	-379	5559	-1.68	-591.08	-94.81
839	SLV FO 5	130	829	2900	-13.44	-434.11	207.15
839	SLV FO 6	103	711	2928	-13.18	-438.34	178.04
839	SLV FO 7	51	-749	5144	5.92	-466.61	-187.58
839	SLV FO 8	24	-866	5172	6.18	-470.84	-216.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
839	SLV FO 9	-123	860	1901	-12.46	-322.18	215.04
839	SLV FO 10	-150	743	1929	-12.2	-326.42	185.94
839	SLV FO 11	-202	-718	4145	6.9	-354.68	-179.69
839	SLV FO 12	-229	-835	4173	7.17	-358.92	-208.8
839	SLV FO 13	-439	373	1514	-4.6	-201.95	93.16
839	SLV FO 14	-479	199	1556	-4.21	-208.24	49.92
839	SLV FO 15	-463	-100	2188	1.21	-211.7	-25.26
839	SLV FO 16	-503	-274	2229	1.6	-217.99	-68.5
839	CRTFP Ux+	0	0	0	0	0	0
839	CRTFP Ux-	0	0	0	0	0	0
839	CRTFP Uy+	0	0	0	0	0	0
839	CRTFP Uy-	0	0	0	0	0	0
842	SLU 1	65	25	3944	-4.41	806.57	-8.58
842	SLU 2	64	49	3909	-4.7	804.58	-17.21
842	SLU 3	67	26	4040	-4.44	823.81	-8.86
842	SLU 4	66	40	4019	-4.61	822.61	-14.03
842	SLU 5	65	51	3971	-4.7	815.43	-17.6
842	SLU 6	68	27	4102	-4.43	834.67	-9.24
842	SLU 7	67	41	4081	-4.61	833.47	-14.42
842	SLU 8	67	27	4068	-4.4	828.28	-9.36
842	SLU 9	66	42	4047	-4.58	827.09	-14.53
842	SLU 10	68	52	4389	-5.35	899.19	-18.27
842	SLU 11	71	29	4520	-5.09	918.42	-9.91
842	SLU 12	70	43	4499	-5.26	917.23	-15.09
842	SLU 13	69	54	4451	-5.35	910.05	-18.65
842	SLU 14	72	30	4582	-5.08	929.28	-10.3
842	SLU 15	71	44	4561	-5.26	928.09	-15.48
842	SLU 16	71	30	4547	-5.05	922.9	-10.41
842	SLU 17	71	45	4527	-5.23	921.7	-15.59
842	SLU 18	71	29	4629	-5.34	941.73	-10.09
842	SLU 19	70	44	4608	-5.51	940.54	-15.27
842	SLU 20	72	30	4691	-5.33	952.59	-10.48
842	SLU 21	72	45	4670	-5.51	951.39	-15.66
842	SLU 22	73	26	4561	-5.01	924.72	-8.84
842	SLU 23	71	50	4527	-5.3	922.72	-17.46
842	SLU 24	74	26	4658	-5.04	941.96	-9.11
842	SLU 25	74	41	4637	-5.21	940.76	-14.29
842	SLU 26	72	51	4589	-5.3	933.58	-17.85
842	SLU 27	75	27	4720	-5.03	952.81	-9.5
842	SLU 28	75	42	4699	-5.2	951.62	-14.67
842	SLU 29	75	28	4685	-5	946.43	-9.61
842	SLU 30	74	43	4665	-5.18	945.24	-14.79
842	SLU 31	76	53	5006	-5.95	1017.34	-18.52
842	SLU 32	79	29	5137	-5.68	1036.57	-10.17
842	SLU 33	78	44	5117	-5.86	1035.37	-15.34
842	SLU 34	77	54	5068	-5.94	1028.19	-18.91
842	SLU 35	80	30	5199	-5.68	1047.43	-10.55
842	SLU 36	79	45	5179	-5.85	1046.23	-15.73
842	SLU 37	79	31	5165	-5.65	1041.05	-10.67
842	SLU 38	78	46	5144	-5.82	1039.85	-15.84
842	SLU 39	79	30	5247	-5.94	1059.88	-10.35
842	SLU 40	78	45	5226	-6.11	1058.68	-15.52
842	SLU 41	80	31	5309	-5.93	1070.74	-10.73
842	SLU 42	79	46	5288	-6.11	1069.54	-15.91
842	SLU 43	82	32	4915	-5.53	1008.03	-11.07
842	SLU 44	81	57	4880	-5.82	1006.04	-19.7
842	SLU 45	84	33	5011	-5.56	1025.27	-11.35
842	SLU 46	83	48	4991	-5.73	1024.08	-16.52
842	SLU 47	82	58	4942	-5.82	1016.9	-20.09
842	SLU 48	85	34	5073	-5.55	1036.13	-11.73
842	SLU 49	84	49	5053	-5.73	1034.94	-16.91
842	SLU 50	84	34	5039	-5.52	1029.75	-11.85
842	SLU 51	83	49	5018	-5.7	1028.55	-17.02
842	SLU 52	85	60	5360	-6.47	1100.65	-20.76
842	SLU 53	88	36	5491	-6.21	1119.89	-12.4
842	SLU 54	87	51	5470	-6.38	1118.69	-17.58
842	SLU 55	86	61	5422	-6.47	1111.51	-21.14
842	SLU 56	89	37	5553	-6.2	1130.75	-12.79
842	SLU 57	88	52	5532	-6.37	1129.55	-17.96
842	SLU 58	88	37	5519	-6.17	1124.36	-12.9
842	SLU 59	88	52	5498	-6.35	1123.17	-18.08
842	SLU 60	88	36	5600	-6.46	1143.2	-12.58
842	SLU 61	87	51	5580	-6.63	1142	-17.76
842	SLU 62	89	37	5662	-6.45	1154.05	-12.97
842	SLU 63	88	52	5642	-6.63	1152.86	-18.14
842	SLU 64	89	33	5533	-6.13	1126.18	-11.33
842	SLU 65	88	57	5498	-6.42	1124.19	-19.95
842	SLU 66	91	33	5629	-6.15	1143.42	-11.6
842	SLU 67	90	48	5608	-6.33	1142.22	-16.77
842	SLU 68	89	58	5560	-6.41	1135.04	-20.34
842	SLU 69	92	35	5691	-6.15	1154.28	-11.99
842	SLU 70	92	49	5670	-6.32	1153.08	-17.16
842	SLU 71	92	35	5657	-6.12	1147.9	-12.1
842	SLU 72	91	50	5636	-6.29	1146.7	-17.27
842	SLU 73	93	60	5978	-7.07	1218.8	-21.01
842	SLU 74	95	37	6109	-6.8	1238.04	-12.65
842	SLU 75	95	51	6088	-6.98	1236.84	-17.83
842	SLU 76	94	61	6040	-7.06	1229.66	-21.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
842	SLU 77	97	38	6171	-6.8	1248.89	-13.04
842	SLU 78	96	52	6150	-6.97	1247.7	-18.22
842	SLU 79	96	38	6136	-6.77	1242.51	-13.16
842	SLU 80	95	53	6116	-6.94	1241.31	-18.33
842	SLU 81	96	37	6218	-7.06	1261.34	-12.83
842	SLU 82	95	52	6197	-7.23	1260.15	-18.01
842	SLU 83	97	38	6280	-7.05	1272.2	-13.22
842	SLU 84	96	53	6259	-7.23	1271	-18.4
842	SLE RA 1	67	25	4120	-4.58	840.33	-8.66
842	SLE RA 2	66	41	4097	-4.78	839	-14.41
842	SLE RA 3	68	26	4184	-4.6	851.82	-8.84
842	SLE RA 4	68	35	4171	-4.72	851.02	-12.29
842	SLE RA 5	67	42	4138	-4.77	846.24	-14.66
842	SLE RA 6	69	26	4226	-4.6	859.06	-9.1
842	SLE RA 7	69	36	4212	-4.71	858.26	-12.55
842	SLE RA 8	69	26	4203	-4.58	854.8	-9.17
842	SLE RA 9	68	36	4189	-4.69	854.01	-12.62
842	SLE RA 10	69	43	4417	-5.21	902.07	-15.11
842	SLE RA 11	71	28	4504	-5.03	914.9	-9.54
842	SLE RA 12	71	37	4490	-5.15	914.1	-12.99
842	SLE RA 13	70	44	4458	-5.21	909.31	-15.37
842	SLE RA 14	72	28	4546	-5.03	922.13	-9.8
842	SLE RA 15	71	38	4532	-5.15	921.34	-13.25
842	SLE RA 16	71	28	4523	-5.01	917.88	-9.88
842	SLE RA 17	71	38	4509	-5.13	917.08	-13.33
842	SLE RA 18	71	28	4577	-5.2	930.43	-9.66
842	SLE RA 19	71	38	4563	-5.32	929.64	-13.11
842	SLE RA 20	72	29	4618	-5.2	937.67	-9.92
842	SLE RA 21	72	38	4605	-5.31	936.88	-13.37
842	SLE FR 1	67	25	4120	-4.58	840.33	-8.66
842	SLE FR 2	67	28	4116	-4.62	840.06	-9.81
842	SLE FR 3	67	25	4137	-4.58	843.22	-8.76
842	SLE FR 4	68	29	4253	-4.81	867.09	-10.11
842	SLE FR 5	69	26	4274	-4.77	870.25	-9.06
842	SLE FR 6	69	26	4349	-4.89	885.38	-9.16
842	SLE QP 1	67	25	4120	-4.58	840.33	-8.66
842	SLE QP 2	68	26	4257	-4.77	867.36	-8.96
842	SLD 1	397	85	2915	-5.51	647.67	-29.69
842	SLD 2	366	209	2873	-5.89	646.11	-72.9
842	SLD 3	412	-229	3429	-1.1	676.23	80.15
842	SLD 4	380	-105	3386	-1.47	674.67	36.93
842	SLD 5	151	498	3083	-11.62	758.4	-174.27
842	SLD 6	130	578	3055	-11.87	757.4	-202.23
842	SLD 7	199	-548	4795	3.09	853.61	191.86
842	SLD 8	178	-468	4768	2.85	852.6	163.9
842	SLD 9	-41	520	3747	-12.39	882.12	-181.82
842	SLD 10	-62	600	3719	-12.63	881.11	-209.78
842	SLD 11	7	-527	5459	2.33	977.32	184.31
842	SLD 12	-14	-446	5432	2.08	976.31	156.35
842	SLD 13	-243	157	5128	-8.06	1060.04	-54.85
842	SLD 14	-275	281	5086	-8.44	1058.49	-98.06
842	SLD 15	-229	-157	5642	-3.65	1088.6	54.99
842	SLD 16	-260	-33	5599	-4.03	1087.05	11.77
842	SLV 1	583	136	2130	-6.21	522.73	-47.91
842	SLV 2	533	332	2063	-6.8	520.28	-115.95
842	SLV 3	607	-394	2999	1.25	571.04	137.74
842	SLV 4	557	-199	2932	0.65	568.59	69.7
842	SLV 5	195	827	2314	-16.4	691.15	-289.52
842	SLV 6	162	959	2269	-16.8	689.5	-335.33
842	SLV 7	276	-942	5210	8.46	852.2	329.33
842	SLV 8	243	-810	5165	8.06	850.55	283.52
842	SLV 9	-106	862	3350	-17.6	884.17	-301.43
842	SLV 10	-139	993	3305	-18	882.52	-347.24
842	SLV 11	-25	-907	6246	7.27	1045.22	317.42
842	SLV 12	-58	-776	6200	6.87	1043.57	271.61
842	SLV 13	-420	251	5583	-10.19	1166.13	-87.62
842	SLV 14	-470	446	5516	-10.79	1163.68	-155.66
842	SLV 15	-396	-280	6452	-2.73	1214.44	98.04
842	SLV 16	-446	-85	6385	-3.33	1211.99	29.99
842	SLV FO 1	634	148	1917	-6.35	488.26	-51.81
842	SLV FO 2	579	362	1843	-7.01	485.57	-126.65
842	SLV FO 3	661	-436	2873	1.85	541.41	152.41
842	SLV FO 4	606	-221	2799	1.2	538.72	77.57
842	SLV FO 5	208	908	2120	-17.57	673.52	-317.58
842	SLV FO 6	171	1052	2070	-18.01	671.71	-367.97
842	SLV FO 7	297	-1038	5305	9.78	850.69	363.16
842	SLV FO 8	260	-894	5255	9.34	848.87	312.77
842	SLV FO 9	-123	945	3259	-18.88	885.85	-330.68
842	SLV FO 10	-160	1090	3210	-19.32	884.03	-381.07
842	SLV FO 11	-34	-1001	6444	8.47	1063.01	350.05
842	SLV FO 12	-71	-856	6395	8.03	1061.19	299.66
842	SLV FO 13	-469	273	5716	-10.73	1196	-95.49
842	SLV FO 14	-524	488	5642	-11.39	1193.31	-170.33
842	SLV FO 15	-442	-311	6671	-2.53	1249.15	108.74
842	SLV FO 16	-497	-96	6597	-3.18	1246.46	33.89
842	CRTFP Ux+	0	0	0	0	0	0
842	CRTFP Ux-	0	0	0	0	0	0
842	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
842	CRTFP Uy-	0	0	0	0	0	0
844	SLU 1	97	32	6308	1.76	0.18	-0.62
844	SLU 2	95	62	6252	1.3	-1.14	-0.51
844	SLU 3	100	33	6471	1.94	0.64	-0.66
844	SLU 4	99	51	6437	1.66	-0.16	-0.6
844	SLU 5	97	63	6360	1.44	-0.81	-0.55
844	SLU 6	102	34	6579	2.07	0.97	-0.71
844	SLU 7	101	52	6545	1.8	0.17	-0.65
844	SLU 8	101	33	6524	2.03	0.84	-0.71
844	SLU 9	100	51	6491	1.76	0.05	-0.64
844	SLU 10	101	67	7075	1.48	-0.68	-0.55
844	SLU 11	107	38	7294	2.12	1.09	-0.71
844	SLU 12	105	56	7260	1.84	0.3	-0.64
844	SLU 13	103	67	7183	1.62	-0.35	-0.6
844	SLU 14	109	38	7402	2.25	1.42	-0.76
844	SLU 15	107	56	7368	1.97	0.63	-0.69
844	SLU 16	108	38	7347	2.21	1.3	-0.75
844	SLU 17	106	56	7313	1.94	0.51	-0.69
844	SLU 18	107	39	7484	2.02	0.84	-0.68
844	SLU 19	105	57	7450	1.74	0.04	-0.61
844	SLU 20	109	39	7592	2.15	1.17	-0.73
844	SLU 21	107	57	7558	1.88	0.37	-0.66
844	SLU 22	110	37	7360	2.33	1.38	-0.7
844	SLU 23	108	67	7304	1.87	0.06	-0.59
844	SLU 24	113	37	7523	2.5	1.83	-0.75
844	SLU 25	112	55	7489	2.22	1.04	-0.68
844	SLU 26	110	67	7412	2	0.39	-0.64
844	SLU 27	115	38	7631	2.63	2.16	-0.8
844	SLU 28	114	56	7598	2.36	1.37	-0.73
844	SLU 29	114	38	7576	2.6	2.04	-0.79
844	SLU 30	113	56	7543	2.32	1.25	-0.73
844	SLU 31	115	71	8127	2.04	0.51	-0.63
844	SLU 32	120	42	8346	2.68	2.29	-0.79
844	SLU 33	119	60	8312	2.4	1.5	-0.73
844	SLU 34	117	72	8235	2.18	0.85	-0.68
844	SLU 35	122	42	8454	2.81	2.62	-0.84
844	SLU 36	121	60	8420	2.54	1.83	-0.77
844	SLU 37	121	42	8399	2.77	2.5	-0.84
844	SLU 38	120	60	8366	2.5	1.7	-0.77
844	SLU 39	120	43	8536	2.58	2.03	-0.76
844	SLU 40	118	61	8502	2.3	1.24	-0.7
844	SLU 41	122	44	8644	2.71	2.36	-0.81
844	SLU 42	120	62	8610	2.44	1.57	-0.74
844	SLU 43	122	41	7840	2.1	-0.17	-0.77
844	SLU 44	119	71	7784	1.64	-1.49	-0.66
844	SLU 45	125	41	8003	2.28	0.28	-0.82
844	SLU 46	123	59	7969	2	-0.51	-0.76
844	SLU 47	121	71	7892	1.78	-1.16	-0.71
844	SLU 48	127	42	8111	2.41	0.61	-0.87
844	SLU 49	125	60	8077	2.13	-0.18	-0.8
844	SLU 50	126	42	8056	2.37	0.49	-0.87
844	SLU 51	124	60	8022	2.09	-0.3	-0.8
844	SLU 52	126	75	8606	1.82	-1.04	-0.71
844	SLU 53	131	46	8825	2.45	0.74	-0.87
844	SLU 54	130	64	8792	2.18	-0.05	-0.8
844	SLU 55	128	76	8715	1.95	-0.71	-0.75
844	SLU 56	133	46	8934	2.59	1.07	-0.91
844	SLU 57	132	64	8900	2.31	0.28	-0.85
844	SLU 58	132	46	8879	2.55	0.95	-0.91
844	SLU 59	131	64	8845	2.27	0.15	-0.84
844	SLU 60	131	47	9015	2.36	0.48	-0.84
844	SLU 61	130	65	8982	2.08	-0.31	-0.77
844	SLU 62	133	48	9123	2.49	0.81	-0.88
844	SLU 63	132	66	9090	2.21	0.02	-0.82
844	SLU 64	135	45	8892	2.66	1.03	-0.86
844	SLU 65	133	75	8836	2.2	-0.3	-0.75
844	SLU 66	138	46	9055	2.84	1.48	-0.9
844	SLU 67	137	64	9021	2.56	0.69	-0.84
844	SLU 68	135	75	8944	2.34	0.03	-0.79
844	SLU 69	140	46	9163	2.97	1.81	-0.95
844	SLU 70	138	64	9129	2.7	1.02	-0.89
844	SLU 71	139	46	9108	2.93	1.69	-0.95
844	SLU 72	137	64	9075	2.66	0.89	-0.88
844	SLU 73	139	80	9659	2.38	0.16	-0.79
844	SLU 74	145	50	9878	3.02	1.93	-0.95
844	SLU 75	143	68	9844	2.74	1.14	-0.88
844	SLU 76	141	80	9767	2.51	0.49	-0.84
844	SLU 77	147	51	9986	3.15	2.26	-1
844	SLU 78	145	69	9952	2.87	1.47	-0.93
844	SLU 79	146	50	9931	3.11	2.14	-0.99
844	SLU 80	144	68	9897	2.83	1.35	-0.93
844	SLU 81	144	51	10067	2.92	1.68	-0.92
844	SLU 82	143	69	10034	2.64	0.88	-0.85
844	SLU 83	146	52	10175	3.05	2.01	-0.97
844	SLU 84	145	70	10142	2.78	1.21	-0.9
844	SLE RA 1	101	34	6609	1.93	0.53	-0.64
844	SLE RA 2	99	54	6571	1.62	-0.35	-0.57
844	SLE RA 3	103	34	6717	2.04	0.83	-0.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
844	SLE RA 4	102	46	6695	1.86	0.3	-0.63
844	SLE RA 5	101	54	6643	1.71	-0.13	-0.6
844	SLE RA 6	104	34	6789	2.13	1.05	-0.7
844	SLE RA 7	103	46	6767	1.95	0.52	-0.66
844	SLE RA 8	104	34	6753	2.1	0.97	-0.7
844	SLE RA 9	103	46	6730	1.92	0.44	-0.66
844	SLE RA 10	104	57	7120	1.74	-0.05	-0.6
844	SLE RA 11	107	37	7266	2.16	1.13	-0.7
844	SLE RA 12	106	49	7243	1.98	0.6	-0.66
844	SLE RA 13	105	57	7192	1.83	0.17	-0.63
844	SLE RA 14	109	37	7338	2.25	1.35	-0.73
844	SLE RA 15	108	49	7315	2.07	0.82	-0.69
844	SLE RA 16	108	37	7301	2.22	1.27	-0.73
844	SLE RA 17	107	49	7279	2.04	0.74	-0.69
844	SLE RA 18	107	38	7392	2.09	0.96	-0.68
844	SLE RA 19	106	50	7370	1.91	0.43	-0.64
844	SLE RA 20	108	38	7464	2.18	1.18	-0.71
844	SLE RA 21	108	50	7442	2	0.65	-0.67
844	SLE FR 1	101	34	6609	1.93	0.53	-0.64
844	SLE FR 2	101	38	6601	1.86	0.35	-0.63
844	SLE FR 3	101	34	6638	1.96	0.61	-0.65
844	SLE FR 4	102	39	6836	1.91	0.48	-0.64
844	SLE FR 5	103	35	6873	2.01	0.74	-0.67
844	SLE FR 6	104	36	7001	2.01	0.74	-0.66
844	SLE QP 1	101	34	6609	1.93	0.53	-0.64
844	SLE QP 2	103	35	6844	1.98	0.66	-0.65
844	SLD 1	623	213	5708	-1.58	-4.12	-1.97
844	SLD 2	575	304	5662	-2.06	-3.23	0.15
844	SLD 3	655	-173	6577	5.36	14.66	-3.6
844	SLD 4	608	-82	6532	4.87	15.56	-1.47
844	SLD 5	217	658	5192	-9.52	-29.42	1.05
844	SLD 6	187	717	5163	-9.83	-28.85	2.42
844	SLD 7	326	-629	8090	13.59	33.2	-4.37
844	SLD 8	296	-570	8061	13.27	33.77	-2.99
844	SLD 9	-90	640	5627	-9.32	-32.46	1.69
844	SLD 10	-121	699	5597	-9.63	-31.88	3.06
844	SLD 11	19	-647	8525	13.78	30.16	-3.73
844	SLD 12	-12	-588	8495	13.47	30.74	-2.35
844	SLD 13	-402	152	7156	-0.91	-14.24	0.17
844	SLD 14	-450	243	7110	-1.4	-13.35	2.29
844	SLD 15	-370	-234	8025	6.02	4.54	-1.46
844	SLD 16	-417	-143	7980	5.53	5.43	0.67
844	SLV 1	915	338	5015	-4.02	-7.81	-2.63
844	SLV 2	840	480	4943	-4.78	-6.41	0.71
844	SLV 3	970	-315	6485	7.7	23.95	-5.38
844	SLV 4	895	-172	6413	6.93	25.36	-2.04
844	SLV 5	277	1089	4080	-17.44	-50.32	2.29
844	SLV 6	226	1185	4031	-17.96	-49.38	4.54
844	SLV 7	460	-1086	8978	21.6	55.56	-6.86
844	SLV 8	410	-990	8930	21.08	56.5	-4.61
844	SLV 9	-205	1060	4758	-17.13	-55.19	3.3
844	SLV 10	-255	1156	4709	-17.64	-54.25	5.55
844	SLV 11	-21	-1115	9656	21.91	50.69	-5.85
844	SLV 12	-71	-1019	9608	21.39	51.64	-3.6
844	SLV 13	-690	242	7275	-2.97	-24.04	0.73
844	SLV 14	-764	385	7203	-3.74	-22.64	4.07
844	SLV 15	-635	-410	8745	8.74	7.72	-2.02
844	SLV 16	-709	-268	8673	7.97	9.13	1.33
844	SLV FO 1	996	368	4832	-4.61	-8.66	-2.83
844	SLV FO 2	914	525	4753	-5.46	-7.11	0.85
844	SLV FO 3	1057	-350	6449	8.27	26.28	-5.85
844	SLV FO 4	975	-193	6370	7.42	27.83	-2.17
844	SLV FO 5	294	1194	3803	-19.38	-55.42	2.59
844	SLV FO 6	239	1300	3750	-19.95	-54.38	5.06
844	SLV FO 7	496	-1198	9192	23.56	61.05	-7.48
844	SLV FO 8	441	-1092	9139	22.99	62.09	-5
844	SLV FO 9	-236	1162	4549	-19.04	-60.78	3.7
844	SLV FO 10	-291	1268	4496	-19.61	-59.74	6.17
844	SLV FO 11	-33	-1230	9938	23.9	55.69	-6.37
844	SLV FO 12	-88	-1124	9885	23.33	56.73	-3.89
844	SLV FO 13	-769	263	7318	-3.47	-26.51	0.87
844	SLV FO 14	-851	420	7239	-4.31	-24.97	4.55
844	SLV FO 15	-708	-455	8935	9.41	8.43	-2.15
844	SLV FO 16	-790	-298	8856	8.57	9.97	1.53
844	CRTFP Ux+	0	0	0	0	0	0
844	CRTFP Ux-	0	0	0	0	0	0
844	CRTFP Uy+	0	0	0	0	0	0
844	CRTFP Uy-	0	0	0	0	0	0
847	SLU 1	-82	9	6439	-0.83	1.11	1.37
847	SLU 2	-79	41	6385	-1.31	3.2	1.26
847	SLU 3	-84	9	6607	-0.74	0.64	1.42
847	SLU 4	-82	28	6575	-1.03	1.9	1.36
847	SLU 5	-80	41	6497	-1.24	2.83	1.3
847	SLU 6	-85	9	6718	-0.67	0.28	1.45
847	SLU 7	-83	28	6686	-0.96	1.53	1.39
847	SLU 8	-84	9	6661	-0.69	0.38	1.44
847	SLU 9	-82	28	6629	-0.98	1.63	1.37
847	SLU 10	-83	42	7238	-1.51	2.09	1.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
847	SLU 11	-88	10	7460	-0.94	-0.47	1.63
847	SLU 12	-86	29	7428	-1.22	0.78	1.57
847	SLU 13	-85	42	7349	-1.44	1.72	1.51
847	SLU 14	-89	10	7571	-0.87	-0.84	1.66
847	SLU 15	-88	29	7539	-1.15	0.41	1.6
847	SLU 16	-88	10	7514	-0.89	-0.74	1.65
847	SLU 17	-87	29	7482	-1.17	0.52	1.58
847	SLU 18	-88	11	7657	-1.11	-0.48	1.67
847	SLU 19	-86	30	7625	-1.4	0.77	1.61
847	SLU 20	-89	11	7769	-1.04	-0.85	1.7
847	SLU 21	-87	30	7736	-1.33	0.41	1.64
847	SLU 22	-92	9	7527	-0.72	-0.66	1.64
847	SLU 23	-89	41	7473	-1.2	1.43	1.53
847	SLU 24	-94	9	7694	-0.63	-1.13	1.69
847	SLU 25	-92	28	7662	-0.92	0.13	1.62
847	SLU 26	-90	41	7584	-1.13	1.06	1.57
847	SLU 27	-95	9	7806	-0.56	-1.49	1.72
847	SLU 28	-93	28	7773	-0.85	-0.24	1.66
847	SLU 29	-94	9	7749	-0.58	-1.39	1.7
847	SLU 30	-92	28	7717	-0.87	-0.14	1.64
847	SLU 31	-93	42	8326	-1.4	0.32	1.74
847	SLU 32	-98	10	8547	-0.83	-2.24	1.9
847	SLU 33	-96	29	8515	-1.12	-0.99	1.84
847	SLU 34	-95	42	8437	-1.33	-0.05	1.78
847	SLU 35	-99	10	8658	-0.76	-2.61	1.93
847	SLU 36	-98	29	8626	-1.05	-1.36	1.87
847	SLU 37	-98	10	8602	-0.78	-2.51	1.92
847	SLU 38	-97	29	8569	-1.07	-1.25	1.85
847	SLU 39	-98	11	8745	-1.01	-2.25	1.94
847	SLU 40	-96	30	8713	-1.29	-1	1.88
847	SLU 41	-99	11	8856	-0.94	-2.62	1.97
847	SLU 42	-97	30	8824	-1.22	-1.36	1.91
847	SLU 43	-103	12	7998	-1.12	2.05	1.69
847	SLU 44	-100	44	7944	-1.59	4.14	1.58
847	SLU 45	-105	12	8166	-1.03	1.58	1.74
847	SLU 46	-103	31	8134	-1.31	2.84	1.67
847	SLU 47	-101	44	8055	-1.52	3.77	1.61
847	SLU 48	-106	12	8277	-0.95	1.22	1.77
847	SLU 49	-104	31	8245	-1.24	2.47	1.71
847	SLU 50	-105	12	8220	-0.97	1.32	1.75
847	SLU 51	-104	31	8188	-1.26	2.57	1.69
847	SLU 52	-105	45	8797	-1.79	3.03	1.79
847	SLU 53	-109	13	9019	-1.22	0.47	1.95
847	SLU 54	-108	32	8986	-1.51	1.72	1.88
847	SLU 55	-106	45	8908	-1.72	2.66	1.83
847	SLU 56	-110	13	9130	-1.15	0.1	1.98
847	SLU 57	-109	32	9098	-1.44	1.36	1.92
847	SLU 58	-109	13	9073	-1.17	0.21	1.96
847	SLU 59	-108	32	9041	-1.46	1.46	1.9
847	SLU 60	-109	14	9216	-1.4	0.46	1.99
847	SLU 61	-107	33	9184	-1.69	1.72	1.93
847	SLU 62	-110	14	9327	-1.33	0.1	2.02
847	SLU 63	-108	33	9295	-1.62	1.35	1.96
847	SLU 64	-113	12	9086	-1.01	0.28	1.96
847	SLU 65	-110	44	9032	-1.49	2.37	1.85
847	SLU 66	-115	12	9253	-0.92	-0.19	2.01
847	SLU 67	-113	31	9221	-1.21	1.07	1.94
847	SLU 68	-111	43	9143	-1.42	2	1.88
847	SLU 69	-116	12	9364	-0.85	-0.55	2.04
847	SLU 70	-114	31	9332	-1.13	0.7	1.98
847	SLU 71	-115	12	9308	-0.87	-0.45	2.02
847	SLU 72	-114	31	9275	-1.15	0.8	1.96
847	SLU 73	-115	45	9885	-1.69	1.26	2.06
847	SLU 74	-119	13	10106	-1.12	-1.3	2.22
847	SLU 75	-118	32	10074	-1.4	-0.05	2.15
847	SLU 76	-116	45	9996	-1.62	0.89	2.09
847	SLU 77	-120	13	10217	-1.05	-1.67	2.25
847	SLU 78	-119	32	10185	-1.33	-0.42	2.19
847	SLU 79	-119	13	10161	-1.07	-1.57	2.23
847	SLU 80	-118	32	10128	-1.35	-0.31	2.17
847	SLU 81	-119	13	10304	-1.29	-1.31	2.26
847	SLU 82	-117	33	10272	-1.58	-0.05	2.2
847	SLU 83	-120	13	10415	-1.22	-1.67	2.29
847	SLU 84	-118	33	10383	-1.51	-0.42	2.23
847	SLE RA 1	-85	9	6750	-0.8	0.61	1.45
847	SLE RA 2	-83	30	6714	-1.12	2	1.38
847	SLE RA 3	-86	9	6862	-0.74	0.29	1.48
847	SLE RA 4	-85	22	6840	-0.93	1.13	1.44
847	SLE RA 5	-84	30	6788	-1.07	1.75	1.4
847	SLE RA 6	-87	9	6936	-0.69	0.05	1.5
847	SLE RA 7	-86	22	6914	-0.88	0.88	1.46
847	SLE RA 8	-86	9	6898	-0.71	0.12	1.49
847	SLE RA 9	-85	22	6876	-0.9	0.95	1.45
847	SLE RA 10	-86	31	7283	-1.25	1.26	1.52
847	SLE RA 11	-89	10	7430	-0.87	-0.45	1.62
847	SLE RA 12	-88	23	7409	-1.06	0.39	1.58
847	SLE RA 13	-86	31	7357	-1.2	1.01	1.54
847	SLE RA 14	-90	10	7504	-0.82	-0.69	1.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
847	SLE RA 15	-89	23	7483	-1.02	0.14	1.6
847	SLE RA 16	-89	10	7467	-0.84	-0.63	1.63
847	SLE RA 17	-88	23	7445	-1.03	0.21	1.59
847	SLE RA 18	-89	10	7562	-0.99	-0.45	1.65
847	SLE RA 19	-88	23	7541	-1.18	0.38	1.61
847	SLE RA 20	-89	10	7636	-0.94	-0.7	1.67
847	SLE RA 21	-88	23	7615	-1.13	0.14	1.63
847	SLE FR 1	-85	9	6750	-0.8	0.61	1.45
847	SLE FR 2	-84	13	6743	-0.86	0.89	1.43
847	SLE FR 3	-85	9	6779	-0.78	0.51	1.46
847	SLE FR 4	-86	14	6986	-0.92	0.57	1.49
847	SLE FR 5	-86	9	7023	-0.84	0.19	1.52
847	SLE FR 6	-87	10	7156	-0.89	0.08	1.55
847	SLE QP 1	-85	9	6750	-0.8	0.61	1.45
847	SLE QP 2	-86	9	6994	-0.86	0.29	1.51
847	SLD 1	488	292	7345	-4.83	18.56	-1.57
847	SLD 2	438	194	7376	-4.34	17.1	0.62
847	SLD 3	456	-112	8155	2.24	-10.69	-0.14
847	SLD 4	406	-209	8186	2.73	-12.14	2.05
847	SLD 5	144	724	5865	-12.85	50.37	-1.96
847	SLD 6	111	661	5885	-12.54	49.43	-0.55
847	SLD 7	36	-623	8565	10.71	-47.1	2.8
847	SLD 8	4	-686	8585	11.03	-48.04	4.21
847	SLD 9	-176	704	5402	-12.74	48.62	-1.2
847	SLD 10	-208	641	5422	-12.42	47.68	0.21
847	SLD 11	-283	-642	8102	10.82	-48.85	3.56
847	SLD 12	-315	-705	8122	11.14	-49.79	4.98
847	SLD 13	-578	228	5801	-4.45	12.72	0.97
847	SLD 14	-627	131	5832	-3.95	11.26	3.15
847	SLD 15	-610	-176	6611	2.62	-16.52	2.4
847	SLD 16	-659	-273	6643	3.11	-17.98	4.58
847	SLV 1	814	477	7489	-7.53	31.15	-3.41
847	SLV 2	736	324	7538	-6.75	28.86	0.03
847	SLV 3	760	-205	8857	4.42	-18.27	-1
847	SLV 4	682	-358	8907	5.19	-20.57	2.44
847	SLV 5	281	1213	5057	-21.12	84.93	-4.26
847	SLV 6	229	1110	5090	-20.59	83.39	-1.95
847	SLV 7	100	-1061	9619	18.7	-79.81	3.77
847	SLV 8	47	-1165	9653	19.22	-81.35	6.08
847	SLV 9	-219	1183	4334	-20.93	81.93	-3.07
847	SLV 10	-272	1080	4368	-20.41	80.38	-0.75
847	SLV 11	-400	-1091	8897	18.88	-82.81	4.96
847	SLV 12	-453	-1195	8930	19.4	-84.36	7.28
847	SLV 13	-853	377	5080	-6.91	21.14	0.57
847	SLV 14	-932	224	5130	-6.13	18.85	4.01
847	SLV 15	-908	-305	6449	5.04	-28.28	2.98
847	SLV 16	-986	-459	6498	5.81	-30.57	6.42
847	SLV FO 1	904	524	7538	-8.19	34.24	-3.9
847	SLV FO 2	818	355	7592	-7.34	31.71	-0.11
847	SLV FO 3	845	-227	9044	4.95	-20.12	-1.25
847	SLV FO 4	758	-395	9098	5.8	-22.65	2.54
847	SLV FO 5	318	1334	4863	-23.14	93.4	-4.84
847	SLV FO 6	260	1220	4900	-22.57	91.7	-2.29
847	SLV FO 7	119	-1169	9882	20.65	-87.82	3.99
847	SLV FO 8	61	-1282	9919	21.23	-89.52	6.54
847	SLV FO 9	-232	1301	4068	-22.94	90.09	-3.53
847	SLV FO 10	-290	1187	4105	-22.36	88.39	-0.98
847	SLV FO 11	-432	-1202	9087	20.85	-91.12	5.31
847	SLV FO 12	-490	-1315	9124	21.43	-92.82	7.85
847	SLV FO 13	-930	414	4889	-7.51	23.23	0.48
847	SLV FO 14	-1016	245	4943	-6.66	20.7	4.26
847	SLV FO 15	-990	-337	6395	5.63	-31.14	3.13
847	SLV FO 16	-1076	-505	6449	6.48	-33.66	6.91
847	CRTFP Ux+	0	0	0	0	0	0
847	CRTFP Ux-	0	0	0	0	0	0
847	CRTFP Uy+	0	0	0	0	0	0
847	CRTFP Uy-	0	0	0	0	0	0
850	SLU 1	28	73	5753	-9.53	325.39	-5.13
850	SLU 2	28	108	5722	-11.6	323.93	-6.98
850	SLU 3	29	75	5894	-9.35	333.82	-5.26
850	SLU 4	29	96	5876	-10.6	332.95	-6.37
850	SLU 5	29	109	5816	-11.45	329.5	-7.05
850	SLU 6	30	75	5988	-9.2	339.39	-5.33
850	SLU 7	30	96	5970	-10.44	338.52	-6.44
850	SLU 8	30	74	5940	-9.22	336.53	-5.26
850	SLU 9	30	95	5922	-10.46	335.66	-6.37
850	SLU 10	32	114	6495	-14.33	366.81	-7.39
850	SLU 11	33	81	6667	-12.08	376.7	-5.67
850	SLU 12	33	102	6649	-13.32	375.82	-6.78
850	SLU 13	33	115	6589	-14.18	372.38	-7.46
850	SLU 14	34	82	6761	-11.93	382.27	-5.74
850	SLU 15	34	103	6743	-13.17	381.4	-6.85
850	SLU 16	34	81	6713	-11.95	379.41	-5.68
850	SLU 17	34	102	6695	-13.19	378.54	-6.79
850	SLU 18	33	82	6856	-13.43	386.64	-5.72
850	SLU 19	33	103	6838	-14.67	385.76	-6.83
850	SLU 20	34	83	6950	-13.27	392.21	-5.79
850	SLU 21	35	104	6932	-14.52	391.34	-6.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
850	SLU 22	33	84	6706	-10.32	378.93	-5.87
850	SLU 23	33	119	6676	-12.39	377.47	-7.72
850	SLU 24	34	85	6848	-10.14	387.36	-6
850	SLU 25	35	106	6830	-11.38	386.49	-7.1
850	SLU 26	35	119	6769	-12.24	383.05	-7.78
850	SLU 27	35	86	6942	-9.99	392.94	-6.06
850	SLU 28	36	107	6923	-11.23	392.06	-7.17
850	SLU 29	35	85	6894	-10.01	390.08	-6
850	SLU 30	35	106	6875	-11.25	389.2	-7.11
850	SLU 31	37	125	7448	-15.12	420.35	-8.13
850	SLU 32	38	92	7621	-12.87	430.24	-6.41
850	SLU 33	38	113	7602	-14.11	429.37	-7.52
850	SLU 34	38	126	7542	-14.96	425.92	-8.2
850	SLU 35	39	92	7714	-12.71	435.81	-6.48
850	SLU 36	40	113	7696	-13.96	434.94	-7.58
850	SLU 37	39	91	7666	-12.74	432.95	-6.41
850	SLU 38	39	112	7648	-13.98	432.08	-7.52
850	SLU 39	38	93	7810	-14.22	440.18	-6.46
850	SLU 40	39	114	7792	-15.46	439.31	-7.57
850	SLU 41	39	93	7904	-14.06	445.76	-6.52
850	SLU 42	40	115	7885	-15.3	444.88	-7.63
850	SLU 43	34	91	7151	-12.12	404.64	-6.42
850	SLU 44	35	126	7121	-14.19	403.19	-8.27
850	SLU 45	35	93	7293	-11.94	413.08	-6.55
850	SLU 46	36	114	7275	-13.18	412.2	-7.66
850	SLU 47	36	127	7215	-14.04	408.76	-8.33
850	SLU 48	36	94	7387	-11.79	418.65	-6.61
850	SLU 49	37	115	7369	-13.03	417.78	-7.72
850	SLU 50	36	93	7339	-11.81	415.79	-6.55
850	SLU 51	37	114	7321	-13.05	414.92	-7.66
850	SLU 52	38	133	7894	-16.92	446.06	-8.68
850	SLU 53	39	99	8066	-14.67	455.95	-6.96
850	SLU 54	40	120	8048	-15.91	455.08	-8.07
850	SLU 55	40	133	7987	-16.76	451.64	-8.75
850	SLU 56	40	100	8160	-14.51	461.53	-7.03
850	SLU 57	41	121	8141	-15.76	460.65	-8.14
850	SLU 58	40	99	8112	-14.54	458.67	-6.96
850	SLU 59	40	120	8093	-15.78	457.79	-8.07
850	SLU 60	39	100	8255	-16.01	465.9	-7.01
850	SLU 61	40	121	8237	-17.26	465.02	-8.12
850	SLU 62	41	101	8349	-15.86	471.47	-7.07
850	SLU 63	41	122	8331	-17.1	470.59	-8.18
850	SLU 64	39	102	8105	-12.91	458.19	-7.15
850	SLU 65	40	137	8074	-14.98	456.73	-9
850	SLU 66	41	104	8247	-12.73	466.62	-7.28
850	SLU 67	41	125	8229	-13.97	465.75	-8.39
850	SLU 68	41	138	8168	-14.83	462.3	-9.07
850	SLU 69	42	104	8341	-12.58	472.2	-7.35
850	SLU 70	42	125	8322	-13.82	471.32	-8.46
850	SLU 71	41	103	8292	-12.6	469.33	-7.29
850	SLU 72	42	124	8274	-13.84	468.46	-8.4
850	SLU 73	44	143	8847	-17.71	499.61	-9.41
850	SLU 74	44	110	9019	-15.46	509.5	-7.69
850	SLU 75	45	131	9001	-16.7	508.63	-8.8
850	SLU 76	45	144	8941	-17.55	505.18	-9.48
850	SLU 77	46	111	9113	-15.3	515.07	-7.76
850	SLU 78	46	132	9095	-16.55	514.2	-8.87
850	SLU 79	45	110	9065	-15.33	512.21	-7.7
850	SLU 80	46	131	9047	-16.57	511.34	-8.81
850	SLU 81	45	111	9209	-16.8	519.44	-7.74
850	SLU 82	45	132	9190	-18.05	518.57	-8.85
850	SLU 83	46	112	9302	-16.65	525.01	-7.81
850	SLU 84	46	133	9284	-17.89	524.14	-8.92
850	SLE RA 1	29	76	6025	-9.76	340.68	-5.34
850	SLE RA 2	29	99	6005	-11.14	339.71	-6.57
850	SLE RA 3	30	77	6120	-9.64	346.31	-5.43
850	SLE RA 4	30	91	6107	-10.47	345.72	-6.17
850	SLE RA 5	30	100	6067	-11.03	343.43	-6.62
850	SLE RA 6	31	78	6182	-9.53	350.02	-5.47
850	SLE RA 7	31	92	6170	-10.36	349.44	-6.21
850	SLE RA 8	31	77	6150	-9.55	348.12	-5.43
850	SLE RA 9	31	91	6138	-10.38	347.53	-6.17
850	SLE RA 10	32	104	6520	-12.95	368.3	-6.85
850	SLE RA 11	33	81	6635	-11.46	374.89	-5.7
850	SLE RA 12	33	95	6622	-12.28	374.31	-6.44
850	SLE RA 13	33	104	6582	-12.85	372.01	-6.89
850	SLE RA 14	33	82	6697	-11.35	378.61	-5.75
850	SLE RA 15	34	96	6685	-12.18	378.02	-6.49
850	SLE RA 16	33	81	6665	-11.37	376.7	-5.71
850	SLE RA 17	33	95	6653	-12.2	376.12	-6.45
850	SLE RA 18	33	82	6761	-12.35	381.52	-5.73
850	SLE RA 19	33	96	6749	-13.18	380.94	-6.47
850	SLE RA 20	33	83	6823	-12.25	385.23	-5.78
850	SLE RA 21	34	97	6811	-13.08	384.65	-6.52
850	SLE FR 1	29	76	6025	-9.76	340.68	-5.34
850	SLE FR 2	29	81	6021	-10.03	340.49	-5.59
850	SLE FR 3	29	76	6050	-9.71	342.17	-5.36
850	SLE FR 4	30	83	6242	-10.81	352.74	-5.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
850	SLE FR 5	30	78	6271	-10.49	354.42	-5.48
850	SLE FR 6	31	79	6393	-11.05	361.1	-5.54
850	SLE QP 1	29	76	6025	-9.76	340.68	-5.34
850	SLE QP 2	30	78	6246	-10.53	352.93	-5.46
850	SLD 1	648	330	6278	-21.3	350.52	-24.29
850	SLD 2	605	292	6268	-20.96	350.08	-20.6
850	SLD 3	640	-107	6768	10.78	374.57	-1.36
850	SLD 4	596	-145	6757	11.12	374.13	2.33
850	SLD 5	236	823	5514	-62.49	315.81	-46.53
850	SLD 6	208	798	5507	-62.27	315.52	-44.14
850	SLD 7	208	-634	7147	44.47	395.98	29.91
850	SLD 8	180	-658	7140	44.69	395.69	32.3
850	SLD 9	-119	814	5351	-65.75	310.18	-43.22
850	SLD 10	-147	789	5344	-65.54	309.89	-40.83
850	SLD 11	-148	-642	6984	41.2	390.35	33.23
850	SLD 12	-176	-667	6977	41.42	390.06	35.61
850	SLD 13	-536	301	5734	-32.19	331.74	-13.25
850	SLD 14	-579	263	5723	-31.85	331.3	-9.56
850	SLD 15	-545	-136	6224	-0.11	355.79	9.68
850	SLD 16	-588	-174	6213	0.23	355.35	13.37
850	SLV 1	998	501	6265	-29.42	347.64	-36.38
850	SLV 2	930	440	6248	-28.88	346.94	-30.57
850	SLV 3	983	-237	7093	24.81	388.32	2.37
850	SLV 4	915	-298	7076	25.34	387.62	8.17
850	SLV 5	355	1336	4999	-98.54	289.78	-74.58
850	SLV 6	309	1295	4987	-98.18	289.31	-70.67
850	SLV 7	307	-1125	7759	82.21	425.38	54.57
850	SLV 8	261	-1166	7748	82.57	424.91	58.48
850	SLV 9	-201	1322	4744	-103.64	280.96	-69.39
850	SLV 10	-247	1281	4732	-103.28	280.49	-65.48
850	SLV 11	-249	-1139	7504	77.11	416.56	59.75
850	SLV 12	-295	-1180	7493	77.47	416.09	63.66
850	SLV 13	-855	454	5416	-46.41	318.25	-19.09
850	SLV 14	-923	393	5399	-45.88	317.55	-13.28
850	SLV 15	-869	-284	6244	7.81	358.93	19.65
850	SLV 16	-938	-345	6227	8.35	358.23	25.46
850	SLV FO 1	1095	543	6267	-31.31	347.11	-39.47
850	SLV FO 2	1020	476	6248	-30.72	346.34	-33.08
850	SLV FO 3	1079	-269	7177	28.34	391.86	3.15
850	SLV FO 4	1004	-336	7159	28.93	391.09	9.53
850	SLV FO 5	388	1461	4874	-107.34	283.46	-81.49
850	SLV FO 6	337	1417	4861	-106.94	282.94	-77.19
850	SLV FO 7	334	-1245	7910	91.48	432.62	60.57
850	SLV FO 8	284	-1290	7898	91.88	432.1	64.87
850	SLV FO 9	-224	1446	4594	-112.95	273.76	-75.79
850	SLV FO 10	-274	1401	4581	-112.55	273.25	-71.49
850	SLV FO 11	-277	-1261	7630	85.88	422.92	66.27
850	SLV FO 12	-328	-1306	7618	86.27	422.41	70.57
850	SLV FO 13	-943	491	5333	-50	314.78	-20.45
850	SLV FO 14	-1018	425	5314	-49.41	314.01	-14.07
850	SLV FO 15	-959	-321	6244	9.65	359.53	22.17
850	SLV FO 16	-1034	-387	6225	10.24	358.76	28.55
850	CRTFP Ux+	0	0	0	0	0	0
850	CRTFP Ux-	0	0	0	0	0	0
850	CRTFP Uy+	0	0	0	0	0	0
850	CRTFP Uy-	0	0	0	0	0	0
852	SLU 1	78	195	16070	573.92	713.41	-14.78
852	SLU 2	80	298	15978	559.07	709.28	-19.17
852	SLU 3	82	199	16459	589.96	732.15	-15.27
852	SLU 4	83	261	16404	581.05	729.67	-17.9
852	SLU 5	83	300	16236	569.87	721.67	-19.48
852	SLU 6	85	201	16717	600.76	744.54	-15.58
852	SLU 7	87	263	16662	591.85	742.06	-18.22
852	SLU 8	85	198	16585	595.52	738.2	-15.41
852	SLU 9	86	260	16530	586.61	735.72	-18.05
852	SLU 10	91	316	18143	628.43	803.35	-20.3
852	SLU 11	93	217	18624	659.32	826.21	-16.4
852	SLU 12	94	279	18569	650.41	823.73	-19.03
852	SLU 13	94	317	18400	639.23	815.74	-20.62
852	SLU 14	96	218	18881	670.12	838.6	-16.72
852	SLU 15	97	280	18826	661.21	836.12	-19.35
852	SLU 16	96	216	18749	664.88	832.26	-16.54
852	SLU 17	97	278	18694	655.98	829.78	-19.18
852	SLU 18	94	220	19162	673.01	847.79	-16.39
852	SLU 19	95	282	19107	664.1	845.31	-19.03
852	SLU 20	97	222	19420	683.81	860.18	-16.71
852	SLU 21	98	284	19365	674.9	857.7	-19.35
852	SLU 22	93	224	18733	673.1	831.49	-17.01
852	SLU 23	95	327	18641	658.25	827.36	-21.4
852	SLU 24	97	228	19122	689.14	850.22	-17.5
852	SLU 25	98	290	19067	680.23	847.74	-20.14
852	SLU 26	98	329	18899	669.05	839.75	-21.72
852	SLU 27	100	229	19380	699.94	862.62	-17.82
852	SLU 28	101	291	19325	691.03	860.14	-20.45
852	SLU 29	100	227	19248	694.7	856.27	-17.65
852	SLU 30	101	289	19193	685.79	853.8	-20.28
852	SLU 31	106	345	20806	727.61	921.42	-22.53
852	SLU 32	108	246	21287	758.5	944.29	-18.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
852	SLU 33	109	307	21232	749.59	941.81	-21.27
852	SLU 34	109	346	21063	738.42	933.82	-22.85
852	SLU 35	111	247	21544	769.3	956.68	-18.95
852	SLU 36	112	309	21489	760.39	954.2	-21.59
852	SLU 37	111	245	21412	764.07	950.34	-18.78
852	SLU 38	112	306	21357	755.16	947.86	-21.42
852	SLU 39	109	249	21825	772.19	965.87	-18.63
852	SLU 40	110	311	21770	763.28	963.39	-21.26
852	SLU 41	112	251	22083	782.99	978.26	-18.95
852	SLU 42	113	312	22028	774.08	975.78	-21.58
852	SLU 43	96	244	19977	712.09	886.95	-18.44
852	SLU 44	98	347	19886	697.24	882.82	-22.83
852	SLU 45	100	248	20367	728.13	905.69	-18.93
852	SLU 46	101	310	20312	719.22	903.21	-21.57
852	SLU 47	102	349	20143	708.05	895.21	-23.15
852	SLU 48	104	249	20624	738.93	918.08	-19.25
852	SLU 49	105	311	20569	730.02	915.6	-21.88
852	SLU 50	103	247	20492	733.69	911.74	-19.08
852	SLU 51	104	309	20438	724.79	909.26	-21.71
852	SLU 52	109	365	22051	766.61	976.89	-23.96
852	SLU 53	111	265	22532	797.49	999.75	-20.06
852	SLU 54	112	327	22477	788.58	997.27	-22.7
852	SLU 55	113	366	22308	777.41	989.28	-24.28
852	SLU 56	114	267	22789	808.29	1012.14	-20.38
852	SLU 57	116	329	22734	799.38	1009.66	-23.02
852	SLU 58	114	264	22657	803.06	1005.8	-20.21
852	SLU 59	115	326	22602	794.15	1003.32	-22.85
852	SLU 60	112	269	23070	811.18	1021.33	-20.06
852	SLU 61	113	331	23015	802.27	1018.85	-22.69
852	SLU 62	115	270	23327	821.98	1033.72	-20.38
852	SLU 63	116	332	23272	813.07	1031.24	-23.01
852	SLU 64	111	273	22640	811.27	1005.03	-20.68
852	SLU 65	113	376	22549	796.43	1000.9	-25.07
852	SLU 66	115	277	23030	827.31	1023.76	-21.17
852	SLU 67	116	339	22975	818.4	1021.29	-23.8
852	SLU 68	117	377	22806	807.23	1013.29	-25.39
852	SLU 69	118	278	23287	838.11	1036.16	-21.49
852	SLU 70	120	340	23232	829.2	1033.68	-24.12
852	SLU 71	118	276	23155	832.88	1029.81	-21.32
852	SLU 72	119	338	23101	823.97	1027.34	-23.95
852	SLU 73	124	393	24714	865.79	1094.96	-26.2
852	SLU 74	126	294	25195	896.67	1117.83	-22.3
852	SLU 75	127	356	25140	887.76	1115.35	-24.93
852	SLU 76	128	395	24971	876.59	1107.36	-26.52
852	SLU 77	129	296	25452	907.47	1130.22	-22.62
852	SLU 78	131	358	25397	898.56	1127.74	-25.25
852	SLU 79	129	293	25320	902.24	1123.88	-22.45
852	SLU 80	130	355	25265	893.33	1121.4	-25.08
852	SLU 81	127	298	25733	910.36	1139.41	-22.3
852	SLU 82	128	360	25678	901.45	1136.93	-24.93
852	SLU 83	130	299	25990	921.16	1151.8	-22.61
852	SLU 84	131	361	25935	912.25	1149.32	-25.25
852	SLE RA 1	82	203	16830	602.26	747.15	-15.41
852	SLE RA 2	84	272	16769	592.36	744.39	-18.34
852	SLE RA 3	85	206	17090	612.95	759.64	-15.74
852	SLE RA 4	86	247	17053	607.01	757.99	-17.5
852	SLE RA 5	86	273	16941	599.56	752.66	-18.55
852	SLE RA 6	87	207	17262	620.15	767.9	-15.95
852	SLE RA 7	88	248	17225	614.21	766.25	-17.71
852	SLE RA 8	87	205	17174	616.66	763.67	-15.84
852	SLE RA 9	87	247	17137	610.72	762.02	-17.6
852	SLE RA 10	91	284	18213	638.6	807.11	-19.1
852	SLE RA 11	92	218	18533	659.19	822.35	-16.5
852	SLE RA 12	93	259	18497	653.25	820.7	-18.25
852	SLE RA 13	93	285	18384	645.8	815.37	-19.31
852	SLE RA 14	94	219	18705	666.39	830.61	-16.71
852	SLE RA 15	95	260	18668	660.45	828.96	-18.46
852	SLE RA 16	94	217	18617	662.9	826.38	-16.59
852	SLE RA 17	95	258	18580	656.96	824.73	-18.35
852	SLE RA 18	93	220	18892	668.32	836.74	-16.49
852	SLE RA 19	93	261	18855	662.38	835.08	-18.25
852	SLE RA 20	95	221	19064	675.52	845	-16.71
852	SLE RA 21	96	262	19027	669.58	843.34	-18.46
852	SLE FR 1	82	203	16830	602.26	747.15	-15.41
852	SLE FR 2	82	217	16818	600.28	746.6	-16
852	SLE FR 3	83	204	16899	605.14	750.45	-15.5
852	SLE FR 4	86	222	17437	620.1	773.47	-16.32
852	SLE FR 5	86	209	17518	624.96	777.33	-15.82
852	SLE FR 6	87	212	17861	635.29	791.94	-15.95
852	SLE QP 1	82	203	16830	602.26	747.15	-15.41
852	SLE QP 2	85	208	17449	622.08	774.03	-15.74
852	SLD 1	1950	934	17584	568.83	760.8	-155.78
852	SLD 2	1815	842	17553	569.61	760.05	-135.3
852	SLD 3	1922	-353	19043	799.99	827.4	-101.72
852	SLD 4	1788	-445	19012	800.76	826.65	-81.25
852	SLD 5	710	2394	15282	255.39	669.18	-143.28
852	SLD 6	623	2334	15262	255.89	668.69	-130.04
852	SLD 7	618	-1896	20146	1025.9	891.18	36.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
852	SLD 8	531	-1956	20125	1026.4	890.69	50.14
852	SLD 9	-360	2372	14773	217.75	657.36	-81.62
852	SLD 10	-447	2313	14752	218.25	656.87	-68.37
852	SLD 11	-452	-1918	19636	988.27	879.36	98.56
852	SLD 12	-539	-1977	19616	988.77	878.87	111.81
852	SLD 13	-1617	862	15886	443.39	721.4	49.77
852	SLD 14	-1751	770	15855	444.16	720.65	70.24
852	SLD 15	-1644	-425	17345	674.55	788	103.82
852	SLD 16	-1779	-517	17314	675.32	787.25	124.3
852	SLV 1	3005	1426	17565	523.99	749.15	-238.32
852	SLV 2	2793	1281	17516	525.2	747.96	-206.09
852	SLV 3	2958	-748	20031	914.64	861.77	-146.98
852	SLV 4	2746	-893	19982	915.85	860.58	-114.75
852	SLV 5	1072	3898	13752	-0.07	595.98	-227.06
852	SLV 6	929	3801	13719	0.75	595.18	-205.36
852	SLV 7	915	-3349	21973	1302.11	971.37	77.41
852	SLV 8	773	-3447	21940	1302.93	970.57	99.11
852	SLV 9	-602	3863	12958	-58.77	577.48	-130.59
852	SLV 10	-745	3766	12925	-57.96	576.68	-108.88
852	SLV 11	-759	-3384	21179	1243.4	952.87	173.88
852	SLV 12	-901	-3482	21145	1244.22	952.07	195.59
852	SLV 13	-2575	1309	14916	328.3	687.47	83.27
852	SLV 14	-2787	1165	14867	329.51	686.28	115.51
852	SLV 15	-2622	-865	17382	718.95	800.09	174.61
852	SLV 16	-2834	-1010	17333	720.17	798.9	206.85
852	SLV FO 1	3297	1548	17577	514.18	746.66	-260.58
852	SLV FO 2	3064	1389	17522	515.51	745.35	-225.12
852	SLV FO 3	3245	-843	20289	943.89	870.54	-160.11
852	SLV FO 4	3012	-1003	20235	945.23	869.23	-124.65
852	SLV FO 5	1170	4267	13383	-62.28	578.18	-248.2
852	SLV FO 6	1014	4160	13346	-61.38	577.3	-224.32
852	SLV FO 7	998	-3705	22426	1370.11	991.11	86.72
852	SLV FO 8	842	-3812	22389	1371.01	990.23	110.59
852	SLV FO 9	-671	4229	12509	-126.86	557.82	-142.07
852	SLV FO 10	-828	4122	12472	-125.96	556.94	-118.2
852	SLV FO 11	-843	-3743	21552	1305.53	970.75	192.85
852	SLV FO 12	-1000	-3851	21515	1306.44	969.88	216.72
852	SLV FO 13	-2841	1420	14663	298.92	678.82	93.17
852	SLV FO 14	-3074	1260	14608	300.26	677.51	128.63
852	SLV FO 15	-2893	-972	17375	728.64	802.7	193.65
852	SLV FO 16	-3126	-1131	17321	729.98	801.39	229.11
852	CRTFP Ux+	0	0	0	0	0	0
852	CRTFP Ux-	0	0	0	0	0	0
852	CRTFP Uy+	0	0	0	0	0	0
852	CRTFP Uy-	0	0	0	0	0	0
853	SLU 1	40	79	6656	-101.04	674.63	-8.8
853	SLU 2	41	125	6618	-105.5	670.86	-13.46
853	SLU 3	42	81	6810	-102.53	690.5	-8.99
853	SLU 4	43	108	6787	-105.2	688.25	-11.79
853	SLU 5	43	125	6720	-106.39	681.36	-13.54
853	SLU 6	44	81	6912	-103.42	701	-9.06
853	SLU 7	45	109	6889	-106.1	698.74	-11.86
853	SLU 8	44	80	6859	-102.83	695.62	-8.94
853	SLU 9	44	108	6837	-105.51	693.36	-11.75
853	SLU 10	47	132	7526	-121.44	762.43	-14.28
853	SLU 11	48	88	7718	-118.47	782.07	-9.8
853	SLU 12	48	116	7695	-121.14	779.81	-12.61
853	SLU 13	48	133	7628	-122.33	772.93	-14.36
853	SLU 14	50	89	7819	-119.36	792.57	-9.88
853	SLU 15	50	116	7797	-122.04	790.31	-12.68
853	SLU 16	49	88	7767	-118.77	787.19	-9.76
853	SLU 17	50	115	7744	-121.45	784.93	-12.56
853	SLU 18	48	90	7953	-123.81	805.44	-9.96
853	SLU 19	49	117	7930	-126.49	803.18	-12.77
853	SLU 20	50	90	8055	-124.71	815.94	-10.04
853	SLU 21	50	118	8032	-127.38	813.68	-12.84
853	SLU 22	48	91	7762	-115.2	786.52	-10.14
853	SLU 23	49	136	7724	-119.66	782.75	-14.81
853	SLU 24	50	92	7915	-116.69	802.4	-10.33
853	SLU 25	51	119	7893	-119.36	800.14	-13.13
853	SLU 26	51	137	7825	-120.56	793.25	-14.88
853	SLU 27	52	93	8017	-117.59	812.89	-10.4
853	SLU 28	52	120	7994	-120.26	810.64	-13.2
853	SLU 29	51	92	7965	-117	807.51	-10.29
853	SLU 30	52	119	7942	-119.67	805.25	-13.09
853	SLU 31	54	144	8631	-135.6	874.32	-15.62
853	SLU 32	56	100	8823	-132.63	893.97	-11.15
853	SLU 33	56	127	8800	-135.31	891.71	-13.95
853	SLU 34	56	144	8733	-136.5	884.82	-15.7
853	SLU 35	57	100	8925	-133.53	904.46	-11.22
853	SLU 36	58	127	8902	-136.2	902.2	-14.02
853	SLU 37	57	99	8873	-132.94	899.08	-11.1
853	SLU 38	57	126	8850	-135.61	896.82	-13.91
853	SLU 39	56	101	9058	-137.97	917.33	-11.31
853	SLU 40	56	129	9036	-140.65	915.07	-14.11
853	SLU 41	58	102	9160	-138.87	927.83	-11.38
853	SLU 42	58	129	9137	-141.55	925.57	-14.18
853	SLU 43	50	99	8274	-126.49	838.65	-10.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
853	SLU 44	51	145	8236	-130.95	834.88	-15.64
853	SLU 45	52	101	8428	-127.98	854.53	-11.16
853	SLU 46	52	128	8405	-130.66	852.27	-13.97
853	SLU 47	52	145	8337	-131.85	845.38	-15.72
853	SLU 48	54	101	8529	-128.88	865.03	-11.24
853	SLU 49	54	128	8506	-131.55	862.77	-14.04
853	SLU 50	53	100	8477	-128.29	859.65	-11.12
853	SLU 51	54	127	8454	-130.96	857.39	-13.92
853	SLU 52	56	152	9144	-146.89	926.45	-16.46
853	SLU 53	57	108	9335	-143.92	946.1	-11.98
853	SLU 54	58	135	9313	-146.6	943.84	-14.78
853	SLU 55	58	153	9245	-147.79	936.95	-16.54
853	SLU 56	59	109	9437	-144.82	956.6	-12.06
853	SLU 57	60	136	9414	-147.49	954.34	-14.86
853	SLU 58	59	108	9385	-144.23	951.21	-11.94
853	SLU 59	59	135	9362	-146.9	948.96	-14.74
853	SLU 60	58	110	9571	-149.27	969.46	-12.14
853	SLU 61	58	137	9548	-151.94	967.2	-14.94
853	SLU 62	59	110	9672	-150.16	979.96	-12.22
853	SLU 63	60	138	9650	-152.84	977.7	-15.02
853	SLU 64	58	111	9379	-140.66	950.54	-12.32
853	SLU 65	58	156	9341	-145.12	946.78	-16.98
853	SLU 66	60	112	9533	-142.15	966.42	-12.51
853	SLU 67	60	139	9510	-144.82	964.16	-15.31
853	SLU 68	60	157	9443	-146.01	957.28	-17.06
853	SLU 69	61	112	9635	-143.04	976.92	-12.58
853	SLU 70	62	140	9612	-145.72	974.66	-15.38
853	SLU 71	61	111	9583	-142.45	971.54	-12.47
853	SLU 72	61	139	9560	-145.13	969.28	-15.27
853	SLU 73	64	164	10249	-161.06	1038.35	-17.8
853	SLU 74	65	119	10441	-158.09	1057.99	-13.32
853	SLU 75	66	147	10418	-160.76	1055.73	-16.13
853	SLU 76	66	164	10351	-161.95	1048.84	-17.88
853	SLU 77	67	120	10543	-158.98	1068.49	-13.4
853	SLU 78	67	147	10520	-161.66	1066.23	-16.2
853	SLU 79	66	119	10491	-158.39	1063.11	-13.28
853	SLU 80	67	146	10468	-161.07	1060.85	-16.08
853	SLU 81	65	121	10676	-163.43	1081.36	-13.48
853	SLU 82	66	149	10653	-166.1	1079.1	-16.29
853	SLU 83	67	122	10778	-164.33	1091.85	-13.56
853	SLU 84	68	149	10755	-167	1089.59	-16.36
853	SLE RA 1	43	83	6972	-105.09	706.6	-9.18
853	SLE RA 2	43	113	6947	-108.06	704.08	-12.29
853	SLE RA 3	44	84	7074	-106.08	717.18	-9.31
853	SLE RA 4	44	102	7059	-107.86	715.67	-11.17
853	SLE RA 5	44	113	7014	-108.65	711.08	-12.34
853	SLE RA 6	45	84	7142	-106.67	724.18	-9.36
853	SLE RA 7	45	102	7127	-108.46	722.67	-11.22
853	SLE RA 8	45	83	7107	-106.28	720.59	-9.28
853	SLE RA 9	45	101	7092	-108.06	719.09	-11.15
853	SLE RA 10	47	118	7552	-118.68	765.13	-12.84
853	SLE RA 11	48	88	7680	-116.7	778.23	-9.85
853	SLE RA 12	48	107	7664	-118.49	776.72	-11.72
853	SLE RA 13	48	118	7620	-119.28	772.13	-12.89
853	SLE RA 14	49	89	7747	-117.3	785.23	-9.9
853	SLE RA 15	49	107	7732	-119.09	783.72	-11.77
853	SLE RA 16	48	88	7713	-116.91	781.64	-9.82
853	SLE RA 17	49	106	7697	-118.69	780.13	-11.69
853	SLE RA 18	48	90	7836	-120.27	793.8	-9.96
853	SLE RA 19	48	108	7821	-122.05	792.3	-11.83
853	SLE RA 20	49	90	7904	-120.86	800.8	-10.01
853	SLE RA 21	49	108	7889	-122.65	799.3	-11.88
853	SLE FR 1	43	83	6972	-105.09	706.6	-9.18
853	SLE FR 2	43	89	6967	-105.68	706.09	-9.8
853	SLE FR 3	43	83	6999	-105.32	709.39	-9.2
853	SLE FR 4	44	91	7226	-110.23	732.26	-10.03
853	SLE FR 5	45	85	7258	-109.88	735.56	-9.43
853	SLE FR 6	45	86	7404	-112.68	750.2	-9.57
853	SLE QP 1	43	83	6972	-105.09	706.6	-9.18
853	SLE QP 2	44	85	7231	-109.64	732.76	-9.41
853	SLD 1	905	395	7382	-142.28	745.91	-42.34
853	SLD 2	845	368	7367	-142.16	744.38	-37.99
853	SLD 3	893	-174	7983	-73.78	805.8	15.84
853	SLD 4	833	-201	7968	-73.67	804.27	20.19
853	SLD 5	330	1046	6367	-223.33	646.14	-108.28
853	SLD 6	291	1028	6357	-223.26	645.15	-105.47
853	SLD 7	292	-851	8372	4.98	845.77	85.65
853	SLD 8	253	-869	8362	5.05	844.78	88.46
853	SLD 9	-165	1038	6101	-224.33	620.74	-107.29
853	SLD 10	-204	1021	6091	-224.26	619.75	-104.47
853	SLD 11	-203	-859	8105	3.98	820.37	86.64
853	SLD 12	-241	-876	8096	4.05	819.38	89.46
853	SLD 13	-745	370	6494	-145.61	661.24	-39.02
853	SLD 14	-805	343	6479	-145.5	659.71	-34.66
853	SLD 15	-756	-199	7096	-77.12	721.13	19.16
853	SLD 16	-816	-226	7081	-77	719.6	23.52
853	SLV 1	1392	608	7428	-164.97	749.41	-64.69
853	SLV 2	1297	565	7404	-164.79	747.01	-57.84

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
853	SLV 3	1372	-354	8444	-49.23	850.63	33.6
853	SLV 4	1278	-396	8420	-49.05	848.23	40.46
853	SLV 5	495	1708	5753	-301.81	584.69	-176.35
853	SLV 6	431	1679	5737	-301.69	583.07	-171.74
853	SLV 7	431	-1497	9141	83.99	922.09	151.29
853	SLV 8	367	-1526	9125	84.11	920.46	155.9
853	SLV 9	-279	1695	5338	-303.39	545.05	-174.73
853	SLV 10	-343	1666	5322	-303.27	543.43	-170.11
853	SLV 11	-343	-1510	8725	82.41	882.45	152.91
853	SLV 12	-407	-1538	8709	82.53	880.83	157.53
853	SLV 13	-1189	565	6042	-170.23	617.29	-59.28
853	SLV 14	-1284	523	6019	-170.05	614.88	-52.43
853	SLV 15	-1208	-396	7059	-54.49	718.51	39.01
853	SLV 16	-1303	-438	7035	-54.31	716.1	45.86
853	SLV FO 1	1526	660	7447	-170.5	751.08	-70.22
853	SLV FO 2	1422	613	7421	-170.31	748.43	-62.68
853	SLV FO 3	1505	-398	8565	-43.19	862.42	37.9
853	SLV FO 4	1401	-444	8539	-42.99	859.77	45.44
853	SLV FO 5	540	1870	5605	-321.03	569.88	-193.04
853	SLV FO 6	470	1838	5588	-320.9	568.1	-187.97
853	SLV FO 7	470	-1655	9332	103.35	941.02	167.36
853	SLV FO 8	400	-1687	9314	103.48	939.24	172.43
853	SLV FO 9	-311	1856	5148	-322.76	526.28	-191.26
853	SLV FO 10	-382	1825	5131	-322.63	524.5	-186.18
853	SLV FO 11	-382	-1669	8875	101.62	897.42	169.14
853	SLV FO 12	-452	-1700	8857	101.75	895.63	174.22
853	SLV FO 13	-1313	614	5924	-176.29	605.74	-64.27
853	SLV FO 14	-1417	567	5897	-176.09	603.09	-56.73
853	SLV FO 15	-1334	-444	7042	-48.97	717.08	43.85
853	SLV FO 16	-1438	-491	7015	-48.78	714.44	51.39
853	CRTFP Ux+	0	0	0	0	0	0
853	CRTFP Ux-	0	0	0	0	0	0
853	CRTFP Uy+	0	0	0	0	0	0
853	CRTFP Uy-	0	0	0	0	0	0
854	SLU 1	29	50	4244	-66.6	4.84	-0.33
854	SLU 2	29	80	4219	-69.84	4.83	-0.44
854	SLU 3	30	51	4340	-67.5	5.01	-0.35
854	SLU 4	30	69	4325	-69.45	5.01	-0.42
854	SLU 5	30	81	4282	-70.38	4.95	-0.45
854	SLU 6	31	51	4403	-68.04	5.13	-0.37
854	SLU 7	32	69	4387	-69.99	5.12	-0.43
854	SLU 8	31	51	4370	-67.67	5.07	-0.36
854	SLU 9	31	69	4355	-69.62	5.06	-0.42
854	SLU 10	33	85	4803	-80.3	5.39	-0.49
854	SLU 11	34	56	4923	-77.96	5.57	-0.4
854	SLU 12	34	74	4908	-79.91	5.57	-0.47
854	SLU 13	34	85	4866	-80.84	5.51	-0.5
854	SLU 14	35	56	4986	-78.5	5.69	-0.42
854	SLU 15	35	74	4971	-80.44	5.68	-0.48
854	SLU 16	35	56	4954	-78.13	5.63	-0.41
854	SLU 17	35	73	4939	-80.08	5.62	-0.47
854	SLU 18	34	57	5078	-81.54	5.64	-0.4
854	SLU 19	34	75	5063	-83.49	5.64	-0.46
854	SLU 20	35	57	5141	-82.08	5.75	-0.41
854	SLU 21	36	75	5126	-84.02	5.75	-0.48
854	SLU 22	34	57	4951	-75.64	5.6	-0.45
854	SLU 23	35	87	4926	-78.89	5.59	-0.56
854	SLU 24	36	58	5046	-76.55	5.77	-0.47
854	SLU 25	36	76	5031	-78.5	5.76	-0.53
854	SLU 26	36	87	4989	-79.42	5.7	-0.57
854	SLU 27	37	58	5109	-77.08	5.88	-0.48
854	SLU 28	37	76	5094	-79.03	5.88	-0.55
854	SLU 29	36	58	5077	-76.71	5.83	-0.48
854	SLU 30	37	76	5062	-78.66	5.82	-0.54
854	SLU 31	38	92	5510	-89.35	6.15	-0.6
854	SLU 32	39	63	5630	-87.01	6.33	-0.52
854	SLU 33	40	81	5615	-88.95	6.32	-0.58
854	SLU 34	40	92	5573	-89.88	6.26	-0.62
854	SLU 35	40	63	5693	-87.54	6.44	-0.53
854	SLU 36	41	81	5678	-89.49	6.44	-0.6
854	SLU 37	40	62	5661	-87.17	6.39	-0.53
854	SLU 38	41	80	5646	-89.12	6.38	-0.59
854	SLU 39	40	64	5785	-90.59	6.4	-0.52
854	SLU 40	40	82	5770	-92.53	6.39	-0.58
854	SLU 41	41	64	5848	-91.12	6.51	-0.53
854	SLU 42	41	82	5833	-93.07	6.51	-0.6
854	SLU 43	35	63	5275	-83.48	6.03	-0.39
854	SLU 44	36	93	5250	-86.72	6.03	-0.5
854	SLU 45	37	64	5370	-84.38	6.21	-0.41
854	SLU 46	37	82	5355	-86.33	6.2	-0.47
854	SLU 47	37	93	5313	-87.26	6.14	-0.51
854	SLU 48	38	64	5433	-84.92	6.32	-0.42
854	SLU 49	38	82	5418	-86.86	6.31	-0.49
854	SLU 50	38	64	5401	-84.55	6.26	-0.42
854	SLU 51	38	82	5386	-86.5	6.26	-0.48
854	SLU 52	40	98	5834	-97.18	6.59	-0.54
854	SLU 53	41	69	5954	-94.84	6.76	-0.46
854	SLU 54	41	87	5939	-96.79	6.76	-0.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
854	SLU 55	41	98	5897	-97.72	6.7	-0.56
854	SLU 56	42	69	6017	-95.38	6.88	-0.47
854	SLU 57	42	87	6002	-97.32	6.87	-0.54
854	SLU 58	42	68	5985	-95.01	6.82	-0.47
854	SLU 59	42	86	5970	-96.95	6.82	-0.53
854	SLU 60	41	70	6109	-98.42	6.83	-0.46
854	SLU 61	41	88	6094	-100.37	6.83	-0.52
854	SLU 62	42	70	6172	-98.95	6.95	-0.47
854	SLU 63	42	88	6157	-100.9	6.94	-0.54
854	SLU 64	41	70	5982	-92.52	6.79	-0.51
854	SLU 65	41	100	5957	-95.77	6.78	-0.61
854	SLU 66	42	71	6077	-93.43	6.96	-0.53
854	SLU 67	43	89	6062	-95.37	6.96	-0.59
854	SLU 68	43	100	6020	-96.3	6.9	-0.63
854	SLU 69	43	71	6140	-93.96	7.08	-0.54
854	SLU 70	44	89	6125	-95.91	7.07	-0.61
854	SLU 71	43	70	6108	-93.59	7.02	-0.54
854	SLU 72	43	88	6093	-95.54	7.01	-0.6
854	SLU 73	45	105	6540	-106.23	7.34	-0.66
854	SLU 74	46	76	6661	-103.89	7.52	-0.58
854	SLU 75	46	93	6646	-105.83	7.52	-0.64
854	SLU 76	46	105	6603	-106.76	7.46	-0.68
854	SLU 77	47	76	6724	-104.42	7.64	-0.59
854	SLU 78	48	94	6709	-106.37	7.63	-0.66
854	SLU 79	47	75	6691	-104.05	7.58	-0.58
854	SLU 80	47	93	6676	-106	7.57	-0.65
854	SLU 81	46	77	6816	-107.46	7.59	-0.58
854	SLU 82	47	95	6801	-109.41	7.59	-0.64
854	SLU 83	47	77	6879	-108	7.7	-0.59
854	SLU 84	48	95	6864	-109.95	7.7	-0.66
854	SLE RA 1	30	52	4446	-69.18	5.06	-0.36
854	SLE RA 2	31	72	4430	-71.35	5.05	-0.43
854	SLE RA 3	31	53	4510	-69.79	5.17	-0.38
854	SLE RA 4	31	65	4500	-71.08	5.17	-0.42
854	SLE RA 5	31	72	4471	-71.7	5.13	-0.44
854	SLE RA 6	32	53	4552	-70.14	5.25	-0.39
854	SLE RA 7	32	65	4542	-71.44	5.24	-0.43
854	SLE RA 8	32	53	4530	-69.9	5.21	-0.38
854	SLE RA 9	32	65	4520	-71.2	5.21	-0.43
854	SLE RA 10	33	75	4818	-78.32	5.43	-0.47
854	SLE RA 11	34	56	4899	-76.76	5.54	-0.41
854	SLE RA 12	34	68	4889	-78.06	5.54	-0.45
854	SLE RA 13	34	76	4860	-78.68	5.5	-0.48
854	SLE RA 14	34	56	4941	-77.12	5.62	-0.42
854	SLE RA 15	35	68	4931	-78.41	5.62	-0.46
854	SLE RA 16	34	56	4919	-76.87	5.58	-0.42
854	SLE RA 17	35	68	4909	-78.17	5.58	-0.46
854	SLE RA 18	34	57	5002	-79.14	5.59	-0.41
854	SLE RA 19	34	69	4992	-80.44	5.59	-0.45
854	SLE RA 20	35	57	5044	-79.5	5.67	-0.42
854	SLE RA 21	35	69	5034	-80.8	5.66	-0.46
854	SLE FR 1	30	52	4446	-69.18	5.06	-0.36
854	SLE FR 2	30	56	4443	-69.62	5.06	-0.38
854	SLE FR 3	31	52	4463	-69.33	5.09	-0.37
854	SLE FR 4	31	58	4610	-72.6	5.22	-0.39
854	SLE FR 5	32	54	4630	-72.31	5.25	-0.38
854	SLE FR 6	32	55	4724	-74.16	5.32	-0.39
854	SLE QP 1	30	52	4446	-69.18	5.06	-0.36
854	SLE QP 2	31	54	4613	-72.17	5.22	-0.38
854	SLD 1	614	254	4712	-97.72	5.93	-1.67
854	SLD 2	573	242	4703	-97.8	5.89	-0.86
854	SLD 3	606	-120	5107	-47.91	6.11	-0.41
854	SLD 4	566	-132	5098	-48	6.06	0.4
854	SLD 5	224	684	4045	-155.36	5.17	-2.81
854	SLD 6	198	676	4040	-155.42	5.14	-2.28
854	SLD 7	200	-564	5362	10.66	5.76	1.38
854	SLD 8	173	-572	5356	10.61	5.73	1.9
854	SLD 9	-111	679	3870	-154.95	4.71	-2.65
854	SLD 10	-137	671	3864	-155	4.68	-2.13
854	SLD 11	-135	-568	5186	11.07	5.29	1.53
854	SLD 12	-162	-576	5180	11.02	5.26	2.05
854	SLD 13	-503	240	4128	-96.35	4.37	-1.15
854	SLD 14	-544	227	4119	-96.43	4.33	-0.34
854	SLD 15	-510	-135	4523	-46.54	4.55	0.1
854	SLD 16	-551	-147	4513	-46.62	4.5	0.91
854	SLV 1	943	392	4743	-115.3	6.32	-2.49
854	SLV 2	879	373	4729	-115.43	6.25	-1.21
854	SLV 3	931	-240	5410	-31.14	6.62	-0.36
854	SLV 4	867	-260	5396	-31.27	6.55	0.91
854	SLV 5	336	1118	3643	-212.73	5.11	-4.46
854	SLV 6	293	1105	3633	-212.82	5.06	-3.61
854	SLV 7	294	-990	5867	67.81	6.11	2.61
854	SLV 8	251	-1003	5857	67.72	6.06	3.46
854	SLV 9	-188	1110	3369	-212.07	4.38	-4.22
854	SLV 10	-231	1097	3359	-212.15	4.33	-3.36
854	SLV 11	-230	-997	5593	68.48	5.38	2.85
854	SLV 12	-273	-1010	5583	68.39	5.33	3.71
854	SLV 13	-804	367	3830	-113.08	3.89	-1.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
854	SLV 14	-868	348	3816	-113.21	3.81	-0.39
854	SLV 15	-817	-265	4497	-28.91	4.19	0.45
854	SLV 16	-881	-285	4483	-29.04	4.11	1.73
854	SLV FO 1	1035	426	4756	-119.61	6.43	-2.7
854	SLV FO 2	964	404	4740	-119.76	6.35	-1.29
854	SLV FO 3	1021	-270	5490	-27.03	6.76	-0.36
854	SLV FO 4	950	-291	5474	-27.18	6.68	1.04
854	SLV FO 5	367	1224	3546	-226.79	5.1	-4.87
854	SLV FO 6	319	1210	3535	-226.89	5.04	-3.93
854	SLV FO 7	320	-1094	5992	81.81	6.2	2.9
854	SLV FO 8	273	-1109	5981	81.71	6.14	3.85
854	SLV FO 9	-210	1216	3245	-226.06	4.29	-4.6
854	SLV FO 10	-258	1202	3234	-226.15	4.24	-3.66
854	SLV FO 11	-256	-1102	5691	82.54	5.39	3.17
854	SLV FO 12	-304	-1117	5680	82.45	5.34	4.12
854	SLV FO 13	-887	398	3752	-117.17	3.75	-1.8
854	SLV FO 14	-958	377	3736	-117.31	3.67	-0.39
854	SLV FO 15	-901	-297	4486	-24.59	4.08	0.54
854	SLV FO 16	-972	-319	4470	-24.73	4	1.94
854	CRTFP Ux+	0	0	0	0	0	0
854	CRTFP Ux-	0	0	0	0	0	0
854	CRTFP Uy+	0	0	0	0	0	0
854	CRTFP Uy-	0	0	0	0	0	0
855	SLU 1	30	49	4139	-64.22	2.2	-0.12
855	SLU 2	30	79	4114	-67.52	2.2	-0.2
855	SLU 3	31	50	4231	-65.05	2.28	-0.14
855	SLU 4	32	68	4216	-67.03	2.28	-0.18
855	SLU 5	32	79	4175	-68	2.26	-0.21
855	SLU 6	33	50	4291	-65.53	2.34	-0.15
855	SLU 7	33	68	4276	-67.51	2.34	-0.2
855	SLU 8	32	50	4260	-65.19	2.31	-0.15
855	SLU 9	33	67	4245	-67.17	2.31	-0.19
855	SLU 10	34	83	4686	-77.58	2.45	-0.24
855	SLU 11	35	54	4802	-75.1	2.52	-0.18
855	SLU 12	36	72	4787	-77.09	2.53	-0.23
855	SLU 13	36	83	4746	-78.06	2.5	-0.25
855	SLU 14	36	55	4863	-75.59	2.58	-0.2
855	SLU 15	37	72	4848	-77.57	2.58	-0.24
855	SLU 16	36	54	4832	-75.25	2.56	-0.19
855	SLU 17	36	72	4817	-77.23	2.56	-0.24
855	SLU 18	35	56	4956	-78.59	2.54	-0.18
855	SLU 19	36	73	4941	-80.57	2.55	-0.23
855	SLU 20	37	56	5016	-79.07	2.6	-0.2
855	SLU 21	37	73	5001	-81.05	2.6	-0.24
855	SLU 22	36	55	4830	-72.77	2.53	-0.22
855	SLU 23	36	85	4805	-76.08	2.54	-0.3
855	SLU 24	37	56	4921	-73.6	2.62	-0.24
855	SLU 25	37	74	4906	-75.58	2.62	-0.29
855	SLU 26	37	85	4865	-76.56	2.59	-0.31
855	SLU 27	38	56	4982	-74.09	2.67	-0.25
855	SLU 28	38	74	4967	-76.07	2.68	-0.3
855	SLU 29	38	56	4951	-73.74	2.65	-0.25
855	SLU 30	38	73	4936	-75.72	2.65	-0.29
855	SLU 31	40	89	5376	-86.13	2.78	-0.34
855	SLU 32	41	61	5493	-83.66	2.86	-0.29
855	SLU 33	41	78	5478	-85.64	2.86	-0.33
855	SLU 34	41	89	5437	-86.62	2.84	-0.35
855	SLU 35	42	61	5553	-84.15	2.92	-0.3
855	SLU 36	42	78	5538	-86.13	2.92	-0.34
855	SLU 37	42	60	5522	-83.8	2.89	-0.29
855	SLU 38	42	78	5507	-85.78	2.89	-0.34
855	SLU 39	41	62	5646	-87.14	2.88	-0.29
855	SLU 40	41	79	5631	-89.12	2.88	-0.33
855	SLU 41	42	62	5707	-87.63	2.94	-0.3
855	SLU 42	43	80	5692	-89.61	2.94	-0.34
855	SLU 43	37	62	5144	-80.55	2.74	-0.12
855	SLU 44	38	91	5119	-83.85	2.75	-0.2
855	SLU 45	38	63	5236	-81.38	2.83	-0.14
855	SLU 46	39	80	5221	-83.36	2.83	-0.19
855	SLU 47	39	91	5180	-84.33	2.8	-0.21
855	SLU 48	40	63	5296	-81.86	2.88	-0.15
855	SLU 49	40	80	5281	-83.84	2.89	-0.2
855	SLU 50	39	62	5265	-81.52	2.86	-0.15
855	SLU 51	40	80	5250	-83.5	2.86	-0.19
855	SLU 52	41	96	5691	-93.91	2.99	-0.24
855	SLU 53	42	67	5807	-91.44	3.07	-0.18
855	SLU 54	43	85	5792	-93.42	3.07	-0.23
855	SLU 55	43	96	5751	-94.39	3.05	-0.25
855	SLU 56	44	67	5868	-91.92	3.13	-0.2
855	SLU 57	44	85	5853	-93.9	3.13	-0.24
855	SLU 58	43	67	5837	-91.58	3.1	-0.19
855	SLU 59	44	84	5822	-93.56	3.1	-0.24
855	SLU 60	43	68	5961	-94.92	3.09	-0.18
855	SLU 61	43	86	5946	-96.9	3.09	-0.23
855	SLU 62	44	68	6021	-95.4	3.15	-0.2
855	SLU 63	44	86	6006	-97.38	3.15	-0.24
855	SLU 64	43	68	5835	-89.11	3.08	-0.22
855	SLU 65	43	98	5810	-92.41	3.08	-0.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
855	SLU 66	44	69	5926	-89.94	3.16	-0.24
855	SLU 67	44	86	5911	-91.92	3.16	-0.29
855	SLU 68	44	98	5870	-92.89	3.14	-0.31
855	SLU 69	45	69	5987	-90.42	3.22	-0.26
855	SLU 70	46	87	5972	-92.4	3.22	-0.3
855	SLU 71	45	68	5956	-90.08	3.19	-0.25
855	SLU 72	45	86	5941	-92.06	3.19	-0.3
855	SLU 73	47	102	6381	-102.46	3.32	-0.34
855	SLU 74	48	73	6498	-99.99	3.4	-0.29
855	SLU 75	48	91	6483	-101.97	3.41	-0.33
855	SLU 76	48	102	6442	-102.95	3.38	-0.36
855	SLU 77	49	73	6558	-100.48	3.46	-0.3
855	SLU 78	49	91	6543	-102.46	3.46	-0.34
855	SLU 79	49	73	6527	-100.13	3.43	-0.29
855	SLU 80	49	90	6512	-102.11	3.44	-0.34
855	SLU 81	48	74	6651	-103.47	3.42	-0.29
855	SLU 82	48	92	6636	-105.45	3.43	-0.33
855	SLU 83	49	75	6712	-103.96	3.48	-0.3
855	SLU 84	50	92	6697	-105.94	3.48	-0.34
855	SLE RA 1	32	51	4337	-66.66	2.29	-0.15
855	SLE RA 2	32	71	4320	-68.86	2.3	-0.2
855	SLE RA 3	33	52	4398	-67.22	2.35	-0.16
855	SLE RA 4	33	63	4388	-68.54	2.35	-0.19
855	SLE RA 5	33	71	4360	-69.19	2.33	-0.21
855	SLE RA 6	33	52	4438	-67.54	2.39	-0.17
855	SLE RA 7	34	63	4428	-68.86	2.39	-0.2
855	SLE RA 8	33	51	4417	-67.31	2.37	-0.17
855	SLE RA 9	33	63	4407	-68.63	2.37	-0.2
855	SLE RA 10	34	74	4701	-75.57	2.46	-0.23
855	SLE RA 11	35	54	4779	-73.92	2.51	-0.19
855	SLE RA 12	35	66	4769	-75.24	2.51	-0.22
855	SLE RA 13	35	74	4741	-75.89	2.5	-0.24
855	SLE RA 14	36	55	4819	-74.24	2.55	-0.2
855	SLE RA 15	36	66	4809	-75.56	2.55	-0.23
855	SLE RA 16	36	54	4798	-74.01	2.53	-0.2
855	SLE RA 17	36	66	4788	-75.33	2.53	-0.23
855	SLE RA 18	35	55	4881	-76.24	2.52	-0.19
855	SLE RA 19	35	67	4871	-77.56	2.53	-0.22
855	SLE RA 20	36	55	4921	-76.56	2.56	-0.2
855	SLE RA 21	36	67	4911	-77.88	2.56	-0.23
855	SLE FR 1	32	51	4337	-66.66	2.29	-0.15
855	SLE FR 2	32	55	4333	-67.1	2.29	-0.16
855	SLE FR 3	32	51	4353	-66.79	2.31	-0.15
855	SLE FR 4	33	56	4497	-69.98	2.36	-0.17
855	SLE FR 5	33	52	4516	-69.67	2.38	-0.17
855	SLE FR 6	33	53	4609	-71.45	2.41	-0.17
855	SLE QP 1	32	51	4337	-66.66	2.29	-0.15
855	SLE QP 2	33	52	4500	-69.54	2.36	-0.16
855	SLD 1	616	247	4564	-95.93	4	-1.2
855	SLD 2	575	239	4557	-96.1	3.93	-0.47
855	SLD 3	609	-121	4957	-45.29	3.93	-0.36
855	SLD 4	568	-129	4950	-45.46	3.86	0.37
855	SLD 5	226	671	3924	-154.24	2.98	-1.88
855	SLD 6	199	666	3919	-154.34	2.94	-1.4
855	SLD 7	202	-557	5235	14.58	2.73	0.93
855	SLD 8	175	-562	5230	14.47	2.68	1.4
855	SLD 9	-110	667	3770	-153.54	2.04	-1.72
855	SLD 10	-136	662	3765	-153.65	2	-1.25
855	SLD 11	-134	-561	5081	15.27	1.79	1.08
855	SLD 12	-160	-567	5076	15.16	1.74	1.55
855	SLD 13	-503	234	4050	-93.62	0.87	-0.7
855	SLD 14	-544	226	4042	-93.78	0.8	0.04
855	SLD 15	-510	-135	4443	-42.97	0.79	0.14
855	SLD 16	-551	-143	4436	-43.14	0.72	0.88
855	SLV 1	946	382	4575	-114.03	4.93	-1.85
855	SLV 2	882	368	4564	-114.29	4.82	-0.69
855	SLV 3	934	-241	5240	-28.45	4.8	-0.43
855	SLV 4	869	-254	5228	-28.71	4.69	0.73
855	SLV 5	338	1098	3517	-212.63	3.35	-3.04
855	SLV 6	294	1089	3509	-212.8	3.27	-2.26
855	SLV 7	296	-977	5732	72.63	2.92	1.7
855	SLV 8	253	-986	5724	72.45	2.84	2.48
855	SLV 9	-187	1091	3276	-211.53	1.88	-2.8
855	SLV 10	-231	1082	3268	-211.7	1.81	-2.02
855	SLV 11	-229	-984	5491	73.73	1.45	1.94
855	SLV 12	-272	-993	5483	73.55	1.38	2.71
855	SLV 13	-804	359	3772	-110.36	0.04	-1.05
855	SLV 14	-868	346	3760	-110.62	-0.07	0.1
855	SLV 15	-817	-264	4436	-24.78	-0.09	0.37
855	SLV 16	-881	-277	4424	-25.05	-0.2	1.52
855	SLV FO 1	1038	414	4583	-118.48	5.18	-2.02
855	SLV FO 2	967	400	4570	-118.76	5.06	-0.75
855	SLV FO 3	1024	-270	5314	-24.34	5.04	-0.45
855	SLV FO 4	953	-285	5301	-24.63	4.92	0.82
855	SLV FO 5	368	1202	3419	-226.94	3.45	-3.33
855	SLV FO 6	320	1192	3410	-227.13	3.36	-2.47
855	SLV FO 7	322	-1080	5855	86.85	2.97	1.88
855	SLV FO 8	275	-1090	5846	86.65	2.89	2.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
855	SLV FO 9	-210	1195	3153	-225.73	1.83	-3.06
855	SLV FO 10	-257	1185	3145	-225.92	1.75	-2.21
855	SLV FO 11	-255	-1088	5590	88.06	1.36	2.15
855	SLV FO 12	-303	-1098	5581	87.86	1.28	3
855	SLV FO 13	-888	389	3699	-114.44	-0.19	-1.14
855	SLV FO 14	-959	375	3686	-114.73	-0.32	0.13
855	SLV FO 15	-901	-295	4430	-20.31	-0.34	0.42
855	SLV FO 16	-972	-310	4417	-20.6	-0.46	1.69
855	CRTFP Ux+	0	0	0	0	0	0
855	CRTFP Ux-	0	0	0	0	0	0
855	CRTFP Uy+	0	0	0	0	0	0
855	CRTFP Uy-	0	0	0	0	0	0
856	SLU 1	31	49	4107	-61.94	0.01	0.07
856	SLU 2	32	78	4082	-65.3	0.03	0.03
856	SLU 3	33	50	4197	-62.7	0.02	0.05
856	SLU 4	33	67	4182	-64.71	0.03	0.03
856	SLU 5	33	78	4141	-65.74	0.04	0.02
856	SLU 6	34	50	4256	-63.13	0.03	0.04
856	SLU 7	34	67	4241	-65.15	0.04	0.02
856	SLU 8	34	49	4226	-62.81	0.03	0.04
856	SLU 9	34	67	4211	-64.83	0.04	0.02
856	SLU 10	36	82	4650	-74.97	0.02	0
856	SLU 11	37	54	4765	-72.37	0.01	0.02
856	SLU 12	37	71	4750	-74.39	0.02	0
856	SLU 13	37	83	4709	-75.41	0.03	-0.01
856	SLU 14	38	54	4825	-72.8	0.02	0
856	SLU 15	38	72	4809	-74.82	0.03	-0.02
856	SLU 16	38	53	4794	-72.48	0.02	0.01
856	SLU 17	38	71	4779	-74.5	0.03	-0.01
856	SLU 18	37	55	4919	-75.76	0	0.02
856	SLU 19	37	73	4903	-77.78	0.01	0
856	SLU 20	38	55	4978	-76.19	0.01	0
856	SLU 21	38	73	4963	-78.21	0.02	-0.02
856	SLU 22	37	55	4793	-70.02	0.01	-0.01
856	SLU 23	38	84	4767	-73.39	0.02	-0.05
856	SLU 24	39	55	4883	-70.78	0.02	-0.03
856	SLU 25	39	73	4868	-72.8	0.03	-0.05
856	SLU 26	39	84	4827	-73.82	0.03	-0.06
856	SLU 27	40	56	4942	-71.21	0.03	-0.04
856	SLU 28	40	73	4927	-73.23	0.04	-0.06
856	SLU 29	39	55	4912	-70.89	0.03	-0.04
856	SLU 30	40	72	4896	-72.91	0.04	-0.06
856	SLU 31	42	88	5336	-83.06	0.01	-0.09
856	SLU 32	43	60	5451	-80.45	0.01	-0.07
856	SLU 33	43	77	5436	-82.47	0.02	-0.09
856	SLU 34	43	88	5395	-83.49	0.02	-0.1
856	SLU 35	44	60	5510	-80.89	0.02	-0.08
856	SLU 36	44	77	5495	-82.9	0.03	-0.1
856	SLU 37	43	59	5480	-80.57	0.02	-0.07
856	SLU 38	44	77	5464	-82.58	0.03	-0.1
856	SLU 39	43	61	5604	-83.84	-0.01	-0.07
856	SLU 40	43	78	5589	-85.86	0	-0.09
856	SLU 41	44	61	5664	-84.28	0	-0.08
856	SLU 42	44	78	5649	-86.29	0.01	-0.1
856	SLU 43	39	62	5104	-77.75	0.02	0.12
856	SLU 44	39	91	5079	-81.11	0.04	0.08
856	SLU 45	40	63	5194	-78.51	0.03	0.1
856	SLU 46	41	80	5179	-80.52	0.04	0.08
856	SLU 47	40	91	5138	-81.55	0.05	0.07
856	SLU 48	41	63	5253	-78.94	0.04	0.09
856	SLU 49	42	80	5238	-80.96	0.05	0.07
856	SLU 50	41	62	5223	-78.62	0.04	0.09
856	SLU 51	41	80	5207	-80.64	0.05	0.07
856	SLU 52	43	95	5647	-90.78	0.03	0.05
856	SLU 53	44	67	5762	-88.18	0.02	0.07
856	SLU 54	44	84	5747	-90.2	0.03	0.04
856	SLU 55	44	95	5706	-91.22	0.04	0.03
856	SLU 56	45	67	5821	-88.61	0.03	0.05
856	SLU 57	46	84	5806	-90.63	0.04	0.03
856	SLU 58	45	66	5791	-88.29	0.03	0.06
856	SLU 59	45	84	5776	-90.31	0.04	0.04
856	SLU 60	44	68	5915	-91.57	0.01	0.07
856	SLU 61	45	85	5900	-93.59	0.02	0.04
856	SLU 62	46	68	5975	-92	0.02	0.05
856	SLU 63	46	85	5960	-94.02	0.02	0.03
856	SLU 64	44	68	5790	-85.83	0.01	0.03
856	SLU 65	45	97	5764	-89.2	0.03	0
856	SLU 66	46	68	5880	-86.59	0.02	0.02
856	SLU 67	46	86	5865	-88.61	0.03	0
856	SLU 68	46	97	5824	-89.63	0.04	-0.01
856	SLU 69	47	68	5939	-87.03	0.03	0.01
856	SLU 70	47	86	5924	-89.04	0.04	-0.01
856	SLU 71	47	68	5908	-86.7	0.03	0.01
856	SLU 72	47	85	5893	-88.72	0.04	-0.01
856	SLU 73	49	101	6332	-98.87	0.02	-0.04
856	SLU 74	50	72	6448	-96.26	0.01	-0.02
856	SLU 75	50	90	6433	-98.28	0.02	-0.04
856	SLU 76	50	101	6392	-99.3	0.03	-0.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
856	SLU 77	51	73	6507	-96.7	0.02	-0.03
856	SLU 78	51	90	6492	-98.72	0.03	-0.05
856	SLU 79	51	72	6477	-96.38	0.02	-0.03
856	SLU 80	51	89	6461	-98.39	0.03	-0.05
856	SLU 81	50	74	6601	-99.65	0	-0.02
856	SLU 82	50	91	6586	-101.67	0.01	-0.04
856	SLU 83	51	74	6661	-100.09	0.01	-0.03
856	SLU 84	52	91	6645	-102.1	0.02	-0.05
856	SLE RA 1	33	51	4303	-64.25	0.01	0.04
856	SLE RA 2	33	70	4286	-66.49	0.02	0.02
856	SLE RA 3	34	51	4363	-64.75	0.02	0.03
856	SLE RA 4	34	63	4353	-66.1	0.03	0.02
856	SLE RA 5	34	70	4326	-66.78	0.03	0.01
856	SLE RA 6	35	51	4403	-65.04	0.03	0.03
856	SLE RA 7	35	63	4392	-66.39	0.03	0.01
856	SLE RA 8	35	51	4382	-64.83	0.02	0.03
856	SLE RA 9	35	63	4372	-66.17	0.03	0.01
856	SLE RA 10	36	73	4665	-72.94	0.02	0
856	SLE RA 11	37	54	4742	-71.2	0.01	0.01
856	SLE RA 12	37	66	4732	-72.55	0.02	0
856	SLE RA 13	37	73	4704	-73.23	0.02	-0.01
856	SLE RA 14	37	54	4781	-71.49	0.02	0
856	SLE RA 15	38	66	4771	-72.84	0.03	-0.01
856	SLE RA 16	37	54	4761	-71.28	0.02	0
856	SLE RA 17	37	65	4751	-72.62	0.02	-0.01
856	SLE RA 18	37	55	4844	-73.46	0	0.01
856	SLE RA 19	37	66	4834	-74.81	0.01	0
856	SLE RA 20	37	55	4884	-73.75	0.01	0
856	SLE RA 21	38	66	4873	-75.1	0.02	-0.01
856	SLE FR 1	33	51	4303	-64.25	0.01	0.04
856	SLE FR 2	33	55	4299	-64.7	0.01	0.04
856	SLE FR 3	33	51	4319	-64.37	0.01	0.04
856	SLE FR 4	34	56	4462	-67.46	0.01	0.03
856	SLE FR 5	34	52	4481	-67.13	0.01	0.03
856	SLE FR 6	35	53	4573	-68.86	0.01	0.03
856	SLE QP 1	33	51	4303	-64.25	0.01	0.04
856	SLE QP 2	34	52	4465	-67.01	0.01	0.03
856	SLD 1	618	243	4470	-94.44	2.33	-0.73
856	SLD 2	577	239	4465	-94.69	2.24	-0.03
856	SLD 3	611	-122	4868	-42.88	2.08	-0.39
856	SLD 4	570	-127	4863	-43.13	1.99	0.32
856	SLD 5	227	664	3864	-153.4	1.1	-0.84
856	SLD 6	201	661	3861	-153.56	1.04	-0.39
856	SLD 7	203	-553	5190	18.47	0.27	0.31
856	SLD 8	177	-556	5187	18.31	0.21	0.76
856	SLD 9	-109	660	3743	-152.34	-0.19	-0.69
856	SLD 10	-135	657	3740	-152.5	-0.25	-0.24
856	SLD 11	-133	-557	5069	19.54	-1.02	0.45
856	SLD 12	-159	-560	5066	19.37	-1.08	0.91
856	SLD 13	-502	231	4067	-90.9	-1.97	-0.25
856	SLD 14	-543	226	4062	-91.15	-2.06	0.46
856	SLD 15	-509	-135	4465	-39.33	-2.22	0.1
856	SLD 16	-550	-139	4460	-39.58	-2.31	0.8
856	SLV 1	949	375	4448	-113.16	3.65	-1.19
856	SLV 2	884	368	4440	-113.56	3.51	-0.09
856	SLV 3	937	-242	5120	-26.04	3.23	-0.61
856	SLV 4	872	-249	5112	-26.43	3.09	0.5
856	SLV 5	339	1086	3442	-212.93	1.76	-1.43
856	SLV 6	296	1081	3437	-213.19	1.67	-0.68
856	SLV 7	298	-971	5683	77.5	0.36	0.52
856	SLV 8	255	-976	5677	77.23	0.27	1.27
856	SLV 9	-187	1079	3253	-211.26	-0.25	-1.2
856	SLV 10	-230	1075	3248	-211.52	-0.34	-0.45
856	SLV 11	-228	-977	5494	79.17	-1.65	0.75
856	SLV 12	-271	-982	5488	78.9	-1.74	1.5
856	SLV 13	-804	353	3818	-107.59	-3.07	-0.43
856	SLV 14	-869	346	3810	-107.99	-3.21	0.68
856	SLV 15	-816	-264	4490	-20.47	-3.49	0.16
856	SLV 16	-881	-271	4482	-20.86	-3.63	1.26
856	SLV FO 1	1040	407	4446	-117.78	4.01	-1.32
856	SLV FO 2	969	399	4438	-118.21	3.86	-0.1
856	SLV FO 3	1027	-272	5186	-21.94	3.55	-0.67
856	SLV FO 4	956	-279	5177	-22.37	3.4	0.54
856	SLV FO 5	370	1189	3340	-227.52	1.94	-1.57
856	SLV FO 6	322	1184	3334	-227.81	1.84	-0.75
856	SLV FO 7	325	-1073	5804	91.95	0.4	0.57
856	SLV FO 8	277	-1078	5798	91.66	0.3	1.39
856	SLV FO 9	-209	1182	3132	-225.68	-0.28	-1.32
856	SLV FO 10	-257	1177	3126	-225.97	-0.38	-0.5
856	SLV FO 11	-254	-1080	5596	93.79	-1.82	0.82
856	SLV FO 12	-302	-1085	5591	93.49	-1.92	1.64
856	SLV FO 13	-888	383	3753	-111.65	-3.38	-0.47
856	SLV FO 14	-959	375	3745	-112.09	-3.53	0.74
856	SLV FO 15	-901	-295	4493	-15.81	-3.84	0.17
856	SLV FO 16	-972	-303	4484	-16.25	-3.99	1.39
856	CRTFP Ux+	0	0	0	0	0	0
856	CRTFP Ux-	0	0	0	0	0	0
856	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
856	CRTFP Uy-	0	0	0	0	0	0
857	SLU 1	33	50	4134	-59.76	-1.74	0.23
857	SLU 2	33	79	4108	-63.19	-1.71	0.24
857	SLU 3	34	51	4224	-60.45	-1.79	0.22
857	SLU 4	34	68	4209	-62.5	-1.77	0.22
857	SLU 5	34	79	4167	-63.58	-1.74	0.23
857	SLU 6	35	51	4284	-60.83	-1.82	0.21
857	SLU 7	36	68	4269	-62.89	-1.8	0.21
857	SLU 8	35	50	4253	-60.54	-1.8	0.21
857	SLU 9	35	67	4238	-62.59	-1.78	0.21
857	SLU 10	37	83	4679	-72.49	-1.92	0.21
857	SLU 11	38	55	4796	-69.75	-2	0.19
857	SLU 12	39	72	4780	-71.81	-1.98	0.2
857	SLU 13	38	83	4739	-72.88	-1.95	0.2
857	SLU 14	39	55	4856	-70.14	-2.03	0.18
857	SLU 15	40	72	4840	-72.19	-2.01	0.18
857	SLU 16	39	54	4825	-69.84	-2.01	0.18
857	SLU 17	39	71	4809	-71.9	-1.99	0.19
857	SLU 18	38	56	4950	-73.05	-2.04	0.19
857	SLU 19	39	73	4935	-75.11	-2.02	0.2
857	SLU 20	40	56	5010	-73.44	-2.07	0.18
857	SLU 21	40	73	4994	-75.5	-2.05	0.19
857	SLU 22	39	55	4824	-67.39	-2.02	0.17
857	SLU 23	39	84	4798	-70.81	-1.99	0.18
857	SLU 24	40	56	4915	-68.07	-2.07	0.16
857	SLU 25	40	73	4899	-70.13	-2.05	0.16
857	SLU 26	40	84	4858	-71.2	-2.02	0.17
857	SLU 27	41	56	4974	-68.46	-2.1	0.15
857	SLU 28	42	73	4959	-70.51	-2.08	0.15
857	SLU 29	41	55	4943	-68.16	-2.08	0.15
857	SLU 30	41	73	4928	-70.22	-2.06	0.15
857	SLU 31	43	88	5369	-80.12	-2.2	0.15
857	SLU 32	44	60	5486	-77.37	-2.28	0.13
857	SLU 33	44	77	5470	-79.43	-2.26	0.13
857	SLU 34	44	88	5429	-80.5	-2.23	0.14
857	SLU 35	45	60	5546	-77.76	-2.31	0.12
857	SLU 36	46	77	5530	-79.82	-2.29	0.12
857	SLU 37	45	59	5515	-77.46	-2.29	0.12
857	SLU 38	45	77	5499	-79.52	-2.27	0.12
857	SLU 39	44	61	5640	-80.68	-2.32	0.13
857	SLU 40	45	79	5625	-82.73	-2.3	0.14
857	SLU 41	46	61	5700	-81.06	-2.35	0.12
857	SLU 42	46	79	5685	-83.12	-2.33	0.12
857	SLU 43	40	63	5137	-75.08	-2.17	0.32
857	SLU 44	41	92	5111	-78.51	-2.14	0.33
857	SLU 45	42	64	5228	-75.76	-2.22	0.31
857	SLU 46	42	81	5212	-77.82	-2.2	0.31
857	SLU 47	42	92	5171	-78.89	-2.17	0.32
857	SLU 48	43	64	5288	-76.15	-2.25	0.3
857	SLU 49	43	81	5272	-78.21	-2.23	0.3
857	SLU 50	43	63	5257	-75.85	-2.23	0.3
857	SLU 51	43	81	5241	-77.91	-2.21	0.3
857	SLU 52	45	96	5683	-87.81	-2.35	0.3
857	SLU 53	46	68	5799	-85.07	-2.43	0.28
857	SLU 54	46	85	5784	-87.12	-2.41	0.29
857	SLU 55	46	96	5742	-88.2	-2.38	0.29
857	SLU 56	47	68	5859	-85.45	-2.46	0.27
857	SLU 57	47	85	5844	-87.51	-2.44	0.27
857	SLU 58	47	67	5828	-85.15	-2.44	0.27
857	SLU 59	47	85	5813	-87.21	-2.42	0.28
857	SLU 60	46	69	5954	-88.37	-2.47	0.28
857	SLU 61	46	86	5938	-90.43	-2.45	0.29
857	SLU 62	47	69	6013	-88.75	-2.5	0.27
857	SLU 63	48	86	5998	-90.81	-2.48	0.28
857	SLU 64	46	69	5827	-82.7	-2.44	0.26
857	SLU 65	47	98	5801	-86.13	-2.42	0.27
857	SLU 66	48	69	5918	-83.38	-2.49	0.25
857	SLU 67	48	86	5902	-85.44	-2.48	0.25
857	SLU 68	48	98	5861	-86.52	-2.45	0.26
857	SLU 69	49	69	5978	-83.77	-2.52	0.24
857	SLU 70	49	86	5962	-85.83	-2.51	0.24
857	SLU 71	49	69	5947	-83.47	-2.5	0.24
857	SLU 72	49	86	5931	-85.53	-2.49	0.24
857	SLU 73	51	102	6373	-95.43	-2.63	0.24
857	SLU 74	52	73	6490	-92.69	-2.7	0.22
857	SLU 75	52	91	6474	-94.75	-2.69	0.22
857	SLU 76	52	102	6433	-95.82	-2.66	0.23
857	SLU 77	53	73	6549	-93.07	-2.73	0.21
857	SLU 78	53	91	6534	-95.13	-2.72	0.21
857	SLU 79	53	73	6518	-92.78	-2.71	0.21
857	SLU 80	53	90	6503	-94.83	-2.7	0.21
857	SLU 81	52	74	6644	-95.99	-2.74	0.22
857	SLU 82	52	92	6628	-98.05	-2.73	0.23
857	SLU 83	53	74	6704	-96.38	-2.77	0.21
857	SLU 84	54	92	6688	-98.43	-2.76	0.21
857	SLE RA 1	34	52	4331	-61.94	-1.82	0.21
857	SLE RA 2	35	71	4314	-64.23	-1.8	0.22
857	SLE RA 3	35	52	4391	-62.4	-1.85	0.21

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
857	SLE RA 4	36	64	4381	-63.77	-1.84	0.21
857	SLE RA 5	35	71	4353	-64.48	-1.82	0.21
857	SLE RA 6	36	52	4431	-62.65	-1.87	0.2
857	SLE RA 7	36	64	4421	-64.03	-1.86	0.2
857	SLE RA 8	36	52	4411	-62.46	-1.86	0.2
857	SLE RA 9	36	63	4400	-63.83	-1.85	0.2
857	SLE RA 10	37	74	4695	-70.43	-1.94	0.2
857	SLE RA 11	38	55	4772	-68.6	-1.99	0.19
857	SLE RA 12	38	66	4762	-69.97	-1.98	0.19
857	SLE RA 13	38	74	4734	-70.69	-1.96	0.19
857	SLE RA 14	39	55	4812	-68.86	-2.01	0.18
857	SLE RA 15	39	66	4802	-70.23	-2	0.18
857	SLE RA 16	39	54	4792	-68.66	-2	0.18
857	SLE RA 17	39	66	4781	-70.03	-1.99	0.18
857	SLE RA 18	38	55	4875	-70.8	-2.02	0.19
857	SLE RA 19	38	67	4865	-72.17	-2.01	0.19
857	SLE RA 20	39	55	4915	-71.06	-2.04	0.18
857	SLE RA 21	39	67	4905	-72.43	-2.03	0.18
857	SLE FR 1	34	52	4331	-61.94	-1.82	0.21
857	SLE FR 2	34	55	4327	-62.4	-1.82	0.21
857	SLE FR 3	35	52	4347	-62.04	-1.83	0.21
857	SLE FR 4	36	57	4491	-65.06	-1.88	0.21
857	SLE FR 5	36	53	4510	-64.7	-1.89	0.2
857	SLE FR 6	36	53	4603	-66.37	-1.92	0.2
857	SLE QP 1	34	52	4331	-61.94	-1.82	0.21
857	SLE QP 2	35	53	4494	-64.6	-1.88	0.21
857	SLD 1	620	242	4423	-93.14	0.9	-0.27
857	SLD 2	579	241	4421	-93.48	0.8	0.45
857	SLD 3	613	-123	4831	-40.58	0.49	-0.49
857	SLD 4	572	-124	4829	-40.91	0.39	0.23
857	SLD 5	229	663	3855	-152.82	-0.4	0.27
857	SLD 6	202	662	3853	-153.04	-0.47	0.73
857	SLD 7	205	-553	5214	22.39	-1.78	-0.46
857	SLD 8	179	-554	5213	22.17	-1.84	0.01
857	SLD 9	-108	659	3776	-151.37	-1.92	0.4
857	SLD 10	-134	659	3774	-151.58	-1.98	0.87
857	SLD 11	-131	-557	5135	23.84	-3.29	-0.32
857	SLD 12	-158	-557	5134	23.63	-3.36	0.14
857	SLD 13	-501	229	4159	-88.28	-4.15	0.18
857	SLD 14	-542	229	4157	-88.62	-4.25	0.9
857	SLD 15	-508	-135	4567	-35.72	-4.56	-0.04
857	SLD 16	-550	-136	4565	-36.06	-4.66	0.69
857	SLV 1	951	372	4358	-112.55	2.49	-0.54
857	SLV 2	887	371	4355	-113.08	2.33	0.6
857	SLV 3	939	-244	5047	-23.73	1.79	-0.91
857	SLV 4	875	-246	5044	-24.26	1.64	0.23
857	SLV 5	341	1084	3409	-213.59	0.51	0.33
857	SLV 6	297	1083	3407	-213.95	0.41	1.09
857	SLV 7	300	-971	5706	82.47	-1.8	-0.9
857	SLV 8	257	-972	5703	82.11	-1.91	-0.14
857	SLV 9	-186	1077	3285	-211.31	-1.85	0.55
857	SLV 10	-229	1076	3283	-211.67	-1.95	1.31
857	SLV 11	-226	-977	5581	84.75	-4.17	-0.68
857	SLV 12	-270	-978	5579	84.39	-4.27	0.08
857	SLV 13	-804	351	3945	-104.94	-5.4	0.18
857	SLV 14	-868	350	3941	-105.47	-5.55	1.32
857	SLV 15	-816	-265	4633	-16.12	-6.09	-0.18
857	SLV 16	-881	-267	4630	-16.65	-6.25	0.95
857	SLV FO 1	1043	404	4345	-117.34	2.92	-0.61
857	SLV FO 2	972	403	4341	-117.92	2.75	0.64
857	SLV FO 3	1030	-274	5103	-19.64	2.16	-1.02
857	SLV FO 4	958	-275	5099	-20.22	1.99	0.23
857	SLV FO 5	371	1187	3301	-228.49	0.75	0.34
857	SLV FO 6	323	1186	3298	-228.88	0.64	1.18
857	SLV FO 7	327	-1073	5827	97.18	-1.8	-1.01
857	SLV FO 8	279	-1074	5824	96.78	-1.91	-0.17
857	SLV FO 9	-208	1180	3164	-225.98	-1.85	0.58
857	SLV FO 10	-256	1179	3162	-226.37	-1.96	1.42
857	SLV FO 11	-253	-1080	5690	99.69	-4.4	-0.77
857	SLV FO 12	-300	-1081	5688	99.29	-4.51	0.07
857	SLV FO 13	-888	381	3890	-108.98	-5.75	0.18
857	SLV FO 14	-959	379	3886	-109.56	-5.92	1.43
857	SLV FO 15	-901	-297	4647	-11.27	-6.51	-0.22
857	SLV FO 16	-972	-299	4644	-11.86	-6.68	1.02
857	CRTFP Ux+	0	0	0	0	0	0
857	CRTFP Ux-	0	0	0	0	0	0
857	CRTFP Uy+	0	0	0	0	0	0
857	CRTFP Uy-	0	0	0	0	0	0
858	SLU 1	34	52	4208	-57.68	-3.13	0.36
858	SLU 2	34	81	4181	-61.18	-3.09	0.41
858	SLU 3	35	52	4300	-58.29	-3.22	0.35
858	SLU 4	36	70	4284	-60.4	-3.2	0.38
858	SLU 5	36	81	4242	-61.52	-3.15	0.4
858	SLU 6	37	52	4362	-58.63	-3.28	0.34
858	SLU 7	37	70	4345	-60.73	-3.26	0.37
858	SLU 8	36	52	4330	-58.36	-3.25	0.34
858	SLU 9	37	69	4314	-60.46	-3.23	0.37
858	SLU 10	38	85	4761	-70.13	-3.46	0.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
858	SLU 11	39	56	4881	-67.24	-3.59	0.33
858	SLU 12	40	74	4865	-69.34	-3.57	0.36
858	SLU 13	40	85	4822	-70.47	-3.52	0.38
858	SLU 14	41	56	4942	-67.58	-3.65	0.32
858	SLU 15	41	74	4926	-69.68	-3.63	0.35
858	SLU 16	40	55	4910	-67.31	-3.62	0.32
858	SLU 17	41	73	4894	-69.41	-3.6	0.35
858	SLU 18	40	57	5037	-70.47	-3.65	0.33
858	SLU 19	40	75	5020	-72.57	-3.63	0.36
858	SLU 20	41	57	5098	-70.8	-3.71	0.32
858	SLU 21	41	75	5082	-72.91	-3.69	0.35
858	SLU 22	40	57	4909	-64.86	-3.62	0.32
858	SLU 23	40	86	4883	-68.36	-3.58	0.37
858	SLU 24	41	57	5002	-65.47	-3.71	0.31
858	SLU 25	42	75	4986	-67.57	-3.69	0.34
858	SLU 26	42	86	4944	-68.7	-3.65	0.36
858	SLU 27	43	57	5063	-65.81	-3.77	0.3
858	SLU 28	43	75	5047	-67.91	-3.75	0.33
858	SLU 29	42	57	5032	-65.53	-3.74	0.3
858	SLU 30	43	74	5016	-67.63	-3.72	0.33
858	SLU 31	44	90	5463	-77.31	-3.95	0.35
858	SLU 32	46	61	5583	-74.42	-4.08	0.29
858	SLU 33	46	79	5567	-76.52	-4.06	0.32
858	SLU 34	46	90	5524	-77.65	-4.01	0.34
858	SLU 35	47	61	5644	-74.76	-4.14	0.28
858	SLU 36	47	79	5628	-76.86	-4.12	0.31
858	SLU 37	47	61	5612	-74.48	-4.11	0.28
858	SLU 38	47	78	5596	-76.58	-4.09	0.31
858	SLU 39	46	62	5738	-77.64	-4.14	0.3
858	SLU 40	46	80	5722	-79.74	-4.12	0.33
858	SLU 41	47	62	5800	-77.98	-4.2	0.28
858	SLU 42	47	80	5783	-80.08	-4.18	0.31
858	SLU 43	42	65	5229	-72.53	-3.9	0.48
858	SLU 44	42	95	5202	-76.03	-3.86	0.53
858	SLU 45	43	66	5322	-73.14	-3.99	0.47
858	SLU 46	44	83	5306	-75.24	-3.97	0.5
858	SLU 47	44	95	5264	-76.37	-3.92	0.52
858	SLU 48	45	66	5383	-73.48	-4.05	0.46
858	SLU 49	45	83	5367	-75.58	-4.03	0.49
858	SLU 50	44	65	5351	-73.2	-4.02	0.46
858	SLU 51	45	83	5335	-75.3	-4	0.49
858	SLU 52	46	99	5783	-84.98	-4.23	0.51
858	SLU 53	47	70	5902	-82.09	-4.36	0.45
858	SLU 54	48	87	5886	-84.19	-4.34	0.48
858	SLU 55	48	98	5844	-85.31	-4.29	0.5
858	SLU 56	49	70	5964	-82.43	-4.42	0.44
858	SLU 57	49	87	5947	-84.53	-4.4	0.47
858	SLU 58	48	69	5932	-82.15	-4.39	0.44
858	SLU 59	49	87	5916	-84.25	-4.37	0.47
858	SLU 60	48	71	6058	-85.31	-4.42	0.46
858	SLU 61	48	89	6042	-87.41	-4.4	0.49
858	SLU 62	49	71	6119	-85.65	-4.48	0.45
858	SLU 63	49	88	6103	-87.75	-4.46	0.48
858	SLU 64	48	71	5931	-79.7	-4.39	0.44
858	SLU 65	48	100	5904	-83.2	-4.35	0.49
858	SLU 66	49	71	6024	-80.31	-4.48	0.43
858	SLU 67	50	88	6008	-82.41	-4.46	0.46
858	SLU 68	50	100	5965	-83.54	-4.42	0.48
858	SLU 69	51	71	6085	-80.65	-4.54	0.42
858	SLU 70	51	88	6069	-82.75	-4.52	0.45
858	SLU 71	50	70	6053	-80.38	-4.51	0.42
858	SLU 72	51	88	6037	-82.48	-4.49	0.45
858	SLU 73	53	104	6485	-92.15	-4.72	0.47
858	SLU 74	54	75	6604	-89.26	-4.85	0.41
858	SLU 75	54	92	6588	-91.36	-4.83	0.44
858	SLU 76	54	104	6546	-92.49	-4.78	0.46
858	SLU 77	55	75	6665	-89.6	-4.91	0.4
858	SLU 78	55	92	6649	-91.7	-4.89	0.43
858	SLU 79	55	74	6634	-89.33	-4.88	0.4
858	SLU 80	55	92	6618	-91.43	-4.86	0.43
858	SLU 81	54	76	6760	-92.49	-4.91	0.42
858	SLU 82	54	94	6744	-94.59	-4.89	0.45
858	SLU 83	55	76	6821	-92.82	-4.97	0.41
858	SLU 84	55	94	6805	-94.92	-4.95	0.44
858	SLE RA 1	35	53	4408	-59.73	-3.27	0.35
858	SLE RA 2	36	73	4390	-62.07	-3.25	0.38
858	SLE RA 3	37	53	4470	-60.14	-3.33	0.34
858	SLE RA 4	37	65	4459	-61.54	-3.32	0.36
858	SLE RA 5	37	73	4431	-62.29	-3.29	0.38
858	SLE RA 6	37	53	4511	-60.37	-3.37	0.34
858	SLE RA 7	38	65	4500	-61.77	-3.36	0.35
858	SLE RA 8	37	53	4490	-60.18	-3.35	0.33
858	SLE RA 9	37	65	4479	-61.58	-3.33	0.35
858	SLE RA 10	39	75	4777	-68.03	-3.49	0.37
858	SLE RA 11	39	56	4857	-66.11	-3.58	0.33
858	SLE RA 12	40	68	4846	-67.51	-3.56	0.35
858	SLE RA 13	39	75	4818	-68.26	-3.53	0.36
858	SLE RA 14	40	56	4898	-66.33	-3.62	0.32

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
858	SLE RA 15	40	68	4887	-67.73	-3.6	0.34
858	SLE RA 16	40	56	4876	-66.15	-3.59	0.32
858	SLE RA 17	40	67	4866	-67.55	-3.58	0.34
858	SLE RA 18	39	57	4961	-68.26	-3.62	0.33
858	SLE RA 19	40	69	4950	-69.66	-3.6	0.35
858	SLE RA 20	40	57	5002	-68.48	-3.66	0.32
858	SLE RA 21	40	68	4991	-69.88	-3.64	0.34
858	SLE FR 1	35	53	4408	-59.73	-3.27	0.35
858	SLE FR 2	36	57	4405	-60.2	-3.26	0.36
858	SLE FR 3	36	53	4424	-59.82	-3.28	0.35
858	SLE FR 4	37	58	4570	-62.76	-3.37	0.35
858	SLE FR 5	37	54	4590	-62.38	-3.39	0.34
858	SLE FR 6	37	55	4684	-63.99	-3.44	0.34
858	SLE QP 1	35	53	4408	-59.73	-3.27	0.35
858	SLE QP 2	37	54	4574	-62.29	-3.37	0.34
858	SLD 1	622	243	4420	-92	-0.32	0.06
858	SLD 2	581	246	4421	-92.42	-0.42	0.85
858	SLD 3	615	-125	4842	-38.35	-0.86	-0.66
858	SLD 4	574	-122	4843	-38.77	-0.96	0.13
858	SLD 5	230	667	3887	-152.5	-1.62	1.22
858	SLD 6	204	669	3888	-152.77	-1.68	1.72
858	SLD 7	207	-557	5294	26.33	-3.42	-1.19
858	SLD 8	180	-555	5295	26.06	-3.49	-0.68
858	SLD 9	-107	664	3853	-150.64	-3.26	1.37
858	SLD 10	-133	666	3853	-150.91	-3.32	1.88
858	SLD 11	-130	-561	5260	28.19	-5.06	-1.04
858	SLD 12	-157	-559	5261	27.92	-5.13	-0.53
858	SLD 13	-501	230	4305	-85.8	-5.78	0.56
858	SLD 14	-542	233	4306	-86.23	-5.89	1.35
858	SLD 15	-508	-137	4727	-32.16	-6.32	-0.16
858	SLD 16	-549	-134	4728	-32.58	-6.43	0.63
858	SLV 1	954	373	4308	-112.13	1.43	-0.06
858	SLV 2	889	378	4310	-112.8	1.27	1.18
858	SLV 3	941	-248	5022	-21.48	0.52	-1.28
858	SLV 4	877	-243	5023	-22.14	0.35	-0.04
858	SLV 5	342	1090	3412	-214.61	-0.51	1.84
858	SLV 6	299	1094	3413	-215.05	-0.62	2.67
858	SLV 7	302	-979	5790	87.57	-3.56	-2.22
858	SLV 8	258	-975	5791	87.12	-3.67	-1.39
858	SLV 9	-185	1084	3357	-211.7	-3.07	2.07
858	SLV 10	-228	1087	3358	-212.15	-3.18	2.91
858	SLV 11	-225	-985	5735	90.48	-6.12	-1.98
858	SLV 12	-269	-982	5736	90.03	-6.23	-1.15
858	SLV 13	-803	351	4125	-102.43	-7.1	0.73
858	SLV 14	-868	356	4126	-103.1	-7.26	1.97
858	SLV 15	-815	-269	4838	-11.78	-8.01	-0.49
858	SLV 16	-880	-264	4839	-12.45	-8.17	0.75
858	SLV FO 1	1045	405	4282	-117.12	1.91	-0.1
858	SLV FO 2	974	410	4283	-117.85	1.73	1.26
858	SLV FO 3	1032	-278	5066	-17.4	0.9	-1.44
858	SLV FO 4	961	-273	5068	-18.13	0.73	-0.08
858	SLV FO 5	373	1194	3296	-229.84	-0.23	1.99
858	SLV FO 6	325	1197	3297	-230.33	-0.35	2.9
858	SLV FO 7	328	-1082	5911	102.55	-3.58	-2.48
858	SLV FO 8	280	-1078	5912	102.06	-3.7	-1.56
858	SLV FO 9	-207	1187	3236	-226.64	-3.04	2.25
858	SLV FO 10	-255	1190	3236	-227.13	-3.16	3.16
858	SLV FO 11	-252	-1089	5851	105.75	-6.4	-2.22
858	SLV FO 12	-300	-1085	5852	105.26	-6.52	-1.3
858	SLV FO 13	-887	381	4080	-106.45	-7.47	0.77
858	SLV FO 14	-959	386	4081	-107.18	-7.65	2.13
858	SLV FO 15	-901	-302	4865	-6.73	-8.48	-0.57
858	SLV FO 16	-972	-296	4866	-7.46	-8.65	0.79
858	CRTFP Ux+	0	0	0	0	0	0
858	CRTFP Ux-	0	0	0	0	0	0
858	CRTFP Uy+	0	0	0	0	0	0
858	CRTFP Uy-	0	0	0	0	0	0
859	SLU 1	35	54	4318	-55.7	-4.17	0.45
859	SLU 2	35	83	4290	-59.27	-4.13	0.53
859	SLU 3	36	54	4414	-56.24	-4.3	0.44
859	SLU 4	36	72	4398	-58.38	-4.27	0.49
859	SLU 5	36	83	4353	-59.56	-4.21	0.52
859	SLU 6	37	54	4478	-56.53	-4.38	0.43
859	SLU 7	38	72	4461	-58.67	-4.36	0.48
859	SLU 8	37	54	4445	-56.28	-4.33	0.43
859	SLU 9	37	71	4428	-58.42	-4.31	0.48
859	SLU 10	39	87	4883	-67.88	-4.61	0.53
859	SLU 11	40	58	5008	-64.85	-4.78	0.43
859	SLU 12	41	76	4991	-66.99	-4.76	0.48
859	SLU 13	41	87	4947	-68.17	-4.7	0.51
859	SLU 14	42	58	5071	-65.14	-4.87	0.42
859	SLU 15	42	76	5054	-67.28	-4.84	0.47
859	SLU 16	41	58	5038	-64.89	-4.82	0.42
859	SLU 17	42	75	5021	-67.03	-4.8	0.47
859	SLU 18	40	59	5165	-67.99	-4.86	0.44
859	SLU 19	41	77	5149	-70.14	-4.84	0.49
859	SLU 20	42	59	5229	-68.28	-4.94	0.43
859	SLU 21	42	77	5212	-70.43	-4.92	0.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
859	SLU 22	41	59	5037	-62.43	-4.82	0.43
859	SLU 23	41	88	5009	-66.01	-4.78	0.52
859	SLU 24	42	59	5133	-62.98	-4.95	0.42
859	SLU 25	43	77	5117	-65.12	-4.92	0.47
859	SLU 26	43	88	5073	-66.3	-4.86	0.51
859	SLU 27	44	59	5197	-63.27	-5.03	0.41
859	SLU 28	44	77	5180	-65.41	-5.01	0.46
859	SLU 29	43	59	5164	-63.01	-4.98	0.41
859	SLU 30	44	76	5147	-65.16	-4.96	0.46
859	SLU 31	45	92	5602	-74.62	-5.26	0.51
859	SLU 32	47	63	5727	-71.59	-5.43	0.42
859	SLU 33	47	81	5710	-73.73	-5.41	0.47
859	SLU 34	47	92	5666	-74.91	-5.35	0.5
859	SLU 35	48	63	5790	-71.88	-5.52	0.41
859	SLU 36	48	81	5773	-74.02	-5.49	0.46
859	SLU 37	48	62	5757	-71.62	-5.47	0.4
859	SLU 38	48	80	5740	-73.77	-5.45	0.45
859	SLU 39	47	64	5885	-74.73	-5.51	0.42
859	SLU 40	47	82	5868	-76.88	-5.49	0.47
859	SLU 41	48	64	5948	-75.02	-5.59	0.41
859	SLU 42	48	82	5931	-77.17	-5.57	0.46
859	SLU 43	43	68	5367	-70.09	-5.19	0.59
859	SLU 44	43	98	5339	-73.67	-5.16	0.67
859	SLU 45	44	69	5463	-70.64	-5.33	0.58
859	SLU 46	45	87	5446	-72.78	-5.3	0.63
859	SLU 47	45	98	5402	-73.96	-5.24	0.66
859	SLU 48	46	69	5527	-70.93	-5.41	0.57
859	SLU 49	46	86	5510	-73.07	-5.39	0.62
859	SLU 50	45	68	5494	-70.67	-5.36	0.57
859	SLU 51	46	86	5477	-72.82	-5.34	0.62
859	SLU 52	47	102	5932	-82.28	-5.64	0.67
859	SLU 53	49	73	6056	-79.24	-5.81	0.57
859	SLU 54	49	90	6040	-81.39	-5.79	0.62
859	SLU 55	49	102	5996	-82.57	-5.73	0.65
859	SLU 56	50	73	6120	-79.54	-5.89	0.56
859	SLU 57	50	90	6103	-81.68	-5.87	0.61
859	SLU 58	49	72	6087	-79.28	-5.85	0.56
859	SLU 59	50	90	6070	-81.43	-5.82	0.61
859	SLU 60	49	74	6214	-82.39	-5.89	0.58
859	SLU 61	49	92	6198	-84.54	-5.86	0.63
859	SLU 62	50	74	6278	-82.68	-5.97	0.57
859	SLU 63	50	92	6261	-84.83	-5.95	0.62
859	SLU 64	49	73	6086	-76.83	-5.84	0.57
859	SLU 65	50	103	6058	-80.41	-5.81	0.66
859	SLU 66	51	74	6182	-77.37	-5.97	0.56
859	SLU 67	51	92	6166	-79.52	-5.95	0.62
859	SLU 68	51	103	6121	-80.7	-5.89	0.65
859	SLU 69	52	74	6246	-77.66	-6.06	0.55
859	SLU 70	52	91	6229	-79.81	-6.04	0.6
859	SLU 71	52	73	6213	-77.41	-6.01	0.55
859	SLU 72	52	91	6196	-79.56	-5.99	0.6
859	SLU 73	54	107	6651	-89.02	-6.29	0.65
859	SLU 74	55	78	6776	-85.98	-6.46	0.56
859	SLU 75	55	95	6759	-88.13	-6.44	0.61
859	SLU 76	55	107	6715	-89.31	-6.37	0.64
859	SLU 77	56	78	6839	-86.27	-6.54	0.55
859	SLU 78	56	95	6822	-88.42	-6.52	0.6
859	SLU 79	56	77	6806	-86.02	-6.5	0.54
859	SLU 80	56	95	6789	-88.17	-6.47	0.59
859	SLU 81	55	79	6933	-89.13	-6.54	0.56
859	SLU 82	55	97	6917	-91.28	-6.51	0.61
859	SLU 83	56	79	6997	-89.42	-6.62	0.55
859	SLU 84	57	96	6980	-91.57	-6.6	0.6
859	SLE RA 1	36	55	4523	-57.62	-4.35	0.44
859	SLE RA 2	37	75	4505	-60.01	-4.33	0.5
859	SLE RA 3	37	56	4588	-57.98	-4.44	0.44
859	SLE RA 4	38	67	4577	-59.41	-4.42	0.47
859	SLE RA 5	38	75	4547	-60.2	-4.38	0.49
859	SLE RA 6	38	56	4630	-58.18	-4.5	0.43
859	SLE RA 7	38	67	4619	-59.61	-4.48	0.47
859	SLE RA 8	38	55	4608	-58.01	-4.46	0.43
859	SLE RA 9	38	67	4597	-59.44	-4.45	0.46
859	SLE RA 10	39	78	4900	-65.75	-4.65	0.5
859	SLE RA 11	40	58	4983	-63.72	-4.76	0.43
859	SLE RA 12	40	70	4972	-65.15	-4.75	0.47
859	SLE RA 13	40	78	4943	-65.94	-4.71	0.49
859	SLE RA 14	41	58	5025	-63.92	-4.82	0.43
859	SLE RA 15	41	70	5014	-65.35	-4.8	0.46
859	SLE RA 16	41	58	5003	-63.75	-4.79	0.42
859	SLE RA 17	41	70	4992	-65.18	-4.77	0.46
859	SLE RA 18	40	59	5088	-65.82	-4.81	0.44
859	SLE RA 19	40	71	5077	-67.25	-4.8	0.47
859	SLE RA 20	41	59	5131	-66.01	-4.87	0.43
859	SLE RA 21	41	71	5120	-67.44	-4.85	0.46
859	SLE FR 1	36	55	4523	-57.62	-4.35	0.44
859	SLE FR 2	36	59	4520	-58.1	-4.35	0.46
859	SLE FR 3	37	55	4540	-57.7	-4.37	0.44
859	SLE FR 4	38	60	4689	-60.56	-4.49	0.45

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
859	SLE FR 5	38	56	4710	-60.16	-4.51	0.44
859	SLE FR 6	38	57	4806	-61.72	-4.58	0.44
859	SLE QP 1	36	55	4523	-57.62	-4.35	0.44
859	SLE QP 2	37	56	4693	-60.08	-4.49	0.44
859	SLD 1	624	246	4426	-91.02	-1.31	0.21
859	SLD 2	582	253	4430	-91.53	-1.41	1.11
859	SLD 3	616	-127	4865	-36.2	-1.93	-0.95
859	SLD 4	575	-119	4869	-36.71	-2.04	-0.05
859	SLD 5	231	677	3945	-152.42	-2.57	1.98
859	SLD 6	205	682	3948	-152.75	-2.64	2.56
859	SLD 7	207	-565	5411	30.32	-4.65	-1.89
859	SLD 8	181	-560	5414	29.99	-4.72	-1.31
859	SLD 9	-106	673	3972	-150.15	-4.26	2.19
859	SLD 10	-132	678	3975	-150.48	-4.33	2.78
859	SLD 11	-130	-569	5438	32.58	-6.35	-1.68
859	SLD 12	-156	-564	5441	32.26	-6.41	-1.09
859	SLD 13	-500	232	4517	-83.45	-6.94	0.93
859	SLD 14	-541	240	4521	-83.96	-7.05	1.83
859	SLD 15	-507	-140	4956	-28.63	-7.57	-0.23
859	SLD 16	-549	-133	4960	-29.14	-7.67	0.67
859	SLV 1	955	376	4245	-111.91	0.52	0.15
859	SLV 2	890	388	4251	-112.71	0.35	1.56
859	SLV 3	943	-253	4988	-19.28	-0.54	-1.82
859	SLV 4	878	-241	4994	-20.08	-0.7	-0.4
859	SLV 5	344	1105	3430	-215.97	-1.36	3.06
859	SLV 6	300	1113	3435	-216.51	-1.47	4.02
859	SLV 7	303	-993	5907	92.8	-4.88	-3.47
859	SLV 8	259	-985	5911	92.26	-4.99	-2.52
859	SLV 9	-184	1098	3474	-212.42	-3.99	3.4
859	SLV 10	-228	1106	3479	-212.96	-4.1	4.36
859	SLV 11	-225	-1000	5951	96.35	-7.52	-3.13
859	SLV 12	-269	-992	5956	95.81	-7.63	-2.18
859	SLV 13	-803	354	4392	-100.08	-8.28	1.28
859	SLV 14	-868	366	4398	-100.88	-8.44	2.7
859	SLV 15	-815	-275	5135	-7.45	-9.33	-0.68
859	SLV 16	-880	-264	5141	-8.25	-9.5	0.74
859	SLV FO 1	1047	408	4200	-117.09	1.02	0.12
859	SLV FO 2	975	422	4207	-117.97	0.84	1.68
859	SLV FO 3	1034	-284	5017	-15.2	-0.15	-2.04
859	SLV FO 4	962	-271	5024	-16.08	-0.32	-0.48
859	SLV FO 5	374	1210	3304	-231.56	-1.04	3.32
859	SLV FO 6	326	1219	3309	-232.15	-1.16	4.38
859	SLV FO 7	329	-1098	6029	108.09	-4.92	-3.87
859	SLV FO 8	281	-1089	6033	107.5	-5.04	-2.82
859	SLV FO 9	-206	1202	3353	-227.66	-3.94	3.7
859	SLV FO 10	-254	1211	3357	-228.25	-4.06	4.75
859	SLV FO 11	-251	-1106	6077	111.99	-7.82	-3.49
859	SLV FO 12	-299	-1097	6082	111.4	-7.94	-2.44
859	SLV FO 13	-887	384	4362	-104.08	-8.66	1.36
859	SLV FO 14	-959	397	4369	-104.96	-8.84	2.92
859	SLV FO 15	-900	-309	5179	-2.19	-9.82	-0.79
859	SLV FO 16	-972	-296	5186	-3.07	-10	0.77
859	CRTFP Ux+	0	0	0	0	0	0
859	CRTFP Ux-	0	0	0	0	0	0
859	CRTFP Uy+	0	0	0	0	0	0
859	CRTFP Uy-	0	0	0	0	0	0
860	SLU 1	35	57	4454	-53.8	-4.83	0.49
860	SLU 2	35	87	4425	-57.46	-4.79	0.6
860	SLU 3	37	57	4555	-54.27	-4.98	0.48
860	SLU 4	37	75	4537	-56.47	-4.96	0.55
860	SLU 5	37	86	4491	-57.7	-4.89	0.59
860	SLU 6	38	57	4621	-54.51	-5.08	0.47
860	SLU 7	38	75	4603	-56.71	-5.05	0.54
860	SLU 8	38	56	4586	-54.28	-5.02	0.47
860	SLU 9	38	74	4569	-56.48	-5	0.53
860	SLU 10	40	90	5034	-65.74	-5.35	0.6
860	SLU 11	41	61	5164	-62.55	-5.54	0.48
860	SLU 12	41	79	5146	-64.75	-5.52	0.55
860	SLU 13	41	90	5100	-65.99	-5.45	0.59
860	SLU 14	42	61	5230	-62.8	-5.64	0.47
860	SLU 15	42	79	5212	-64.99	-5.61	0.54
860	SLU 16	42	60	5195	-62.57	-5.58	0.47
860	SLU 17	42	78	5178	-64.77	-5.56	0.53
860	SLU 18	41	62	5324	-65.63	-5.63	0.49
860	SLU 19	41	80	5307	-67.83	-5.6	0.56
860	SLU 20	42	62	5390	-65.87	-5.72	0.48
860	SLU 21	42	80	5373	-68.07	-5.7	0.55
860	SLU 22	41	61	5194	-60.11	-5.57	0.5
860	SLU 23	42	92	5165	-63.77	-5.54	0.61
860	SLU 24	43	62	5295	-60.58	-5.73	0.49
860	SLU 25	43	80	5278	-62.78	-5.7	0.55
860	SLU 26	43	91	5231	-64.02	-5.63	0.59
860	SLU 27	44	62	5361	-60.83	-5.83	0.48
860	SLU 28	45	80	5344	-63.02	-5.8	0.54
860	SLU 29	44	61	5327	-60.6	-5.77	0.47
860	SLU 30	44	79	5309	-62.79	-5.75	0.54
860	SLU 31	46	95	5774	-72.06	-6.1	0.61
860	SLU 32	47	66	5904	-68.87	-6.29	0.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
860	SLU 33	47	84	5887	-71.06	-6.26	0.56
860	SLU 34	47	95	5840	-72.3	-6.19	0.6
860	SLU 35	48	65	5970	-69.11	-6.38	0.48
860	SLU 36	49	84	5953	-71.31	-6.36	0.54
860	SLU 37	48	65	5936	-68.88	-6.33	0.47
860	SLU 38	48	83	5918	-71.08	-6.31	0.54
860	SLU 39	47	67	6064	-71.94	-6.37	0.5
860	SLU 40	47	85	6047	-74.14	-6.35	0.56
860	SLU 41	48	67	6131	-72.19	-6.47	0.49
860	SLU 42	49	85	6113	-74.38	-6.45	0.55
860	SLU 43	43	72	5537	-67.77	-6.02	0.63
860	SLU 44	44	102	5508	-71.43	-5.98	0.74
860	SLU 45	45	72	5637	-68.25	-6.17	0.63
860	SLU 46	45	90	5620	-70.44	-6.15	0.69
860	SLU 47	45	102	5574	-71.68	-6.08	0.73
860	SLU 48	46	72	5703	-68.49	-6.27	0.62
860	SLU 49	46	90	5686	-70.69	-6.25	0.68
860	SLU 50	46	71	5669	-68.26	-6.21	0.61
860	SLU 51	46	90	5651	-70.46	-6.19	0.68
860	SLU 52	48	106	6117	-79.72	-6.54	0.74
860	SLU 53	49	76	6246	-76.53	-6.73	0.63
860	SLU 54	49	94	6229	-78.73	-6.71	0.69
860	SLU 55	49	106	6183	-79.96	-6.64	0.73
860	SLU 56	50	76	6312	-76.77	-6.83	0.62
860	SLU 57	51	94	6295	-78.97	-6.81	0.68
860	SLU 58	50	75	6278	-76.54	-6.77	0.61
860	SLU 59	50	93	6260	-78.74	-6.75	0.68
860	SLU 60	49	77	6407	-79.61	-6.82	0.63
860	SLU 61	49	95	6389	-81.8	-6.79	0.7
860	SLU 62	50	77	6473	-79.85	-6.92	0.62
860	SLU 63	51	95	6455	-82.05	-6.89	0.69
860	SLU 64	49	77	6277	-74.09	-6.77	0.64
860	SLU 65	50	107	6248	-77.75	-6.73	0.75
860	SLU 66	51	77	6378	-74.56	-6.92	0.63
860	SLU 67	52	95	6360	-76.76	-6.9	0.7
860	SLU 68	51	107	6314	-77.99	-6.83	0.74
860	SLU 69	52	77	6444	-74.8	-7.02	0.62
860	SLU 70	53	95	6426	-77	-6.99	0.69
860	SLU 71	52	76	6409	-74.57	-6.96	0.62
860	SLU 72	52	94	6392	-76.77	-6.94	0.68
860	SLU 73	54	111	6857	-86.03	-7.29	0.75
860	SLU 74	55	81	6987	-82.84	-7.48	0.63
860	SLU 75	56	99	6969	-85.04	-7.46	0.7
860	SLU 76	56	110	6923	-86.27	-7.39	0.74
860	SLU 77	57	81	7053	-83.09	-7.58	0.62
860	SLU 78	57	99	7035	-85.28	-7.55	0.69
860	SLU 79	56	80	7018	-82.86	-7.52	0.62
860	SLU 80	57	98	7001	-85.05	-7.5	0.69
860	SLU 81	55	82	7147	-85.92	-7.57	0.64
860	SLU 82	56	100	7129	-88.12	-7.54	0.71
860	SLU 83	57	82	7213	-86.16	-7.66	0.63
860	SLU 84	57	100	7196	-88.36	-7.64	0.7
860	SLE RA 1	37	58	4666	-55.6	-5.04	0.49
860	SLE RA 2	37	78	4646	-58.04	-5.01	0.56
860	SLE RA 3	38	58	4733	-55.92	-5.14	0.49
860	SLE RA 4	38	70	4721	-57.38	-5.13	0.53
860	SLE RA 5	38	78	4690	-58.21	-5.08	0.56
860	SLE RA 6	39	58	4777	-56.08	-5.21	0.48
860	SLE RA 7	39	70	4765	-57.54	-5.19	0.52
860	SLE RA 8	38	58	4754	-55.93	-5.17	0.48
860	SLE RA 9	39	70	4742	-57.39	-5.16	0.52
860	SLE RA 10	40	81	5052	-63.57	-5.39	0.56
860	SLE RA 11	41	61	5139	-61.44	-5.52	0.49
860	SLE RA 12	41	73	5127	-62.9	-5.5	0.53
860	SLE RA 13	41	80	5096	-63.73	-5.45	0.56
860	SLE RA 14	41	61	5183	-61.6	-5.58	0.48
860	SLE RA 15	42	73	5171	-63.07	-5.57	0.52
860	SLE RA 16	41	60	5160	-61.45	-5.54	0.48
860	SLE RA 17	41	72	5148	-62.91	-5.53	0.52
860	SLE RA 18	41	62	5246	-63.49	-5.57	0.49
860	SLE RA 19	41	74	5234	-64.96	-5.56	0.54
860	SLE RA 20	42	61	5290	-63.65	-5.64	0.48
860	SLE RA 21	42	74	5278	-65.12	-5.62	0.53
860	SLE FR 1	37	58	4666	-55.6	-5.04	0.49
860	SLE FR 2	37	62	4662	-56.09	-5.04	0.51
860	SLE FR 3	37	58	4683	-55.67	-5.07	0.49
860	SLE FR 4	38	63	4836	-58.46	-5.2	0.51
860	SLE FR 5	38	59	4857	-58.03	-5.23	0.49
860	SLE FR 6	39	60	4956	-59.55	-5.31	0.49
860	SLE QP 1	37	58	4666	-55.6	-5.04	0.49
860	SLE QP 2	38	59	4840	-57.97	-5.2	0.49
860	SLD 1	624	235	4484	-90.18	-2.01	0.14
860	SLD 2	583	248	4491	-90.78	-2.11	1.2
860	SLD 3	617	-145	4943	-34.11	-2.66	-1.34
860	SLD 4	576	-132	4950	-34.7	-2.76	-0.28
860	SLD 5	232	686	4035	-152.58	-3.24	2.44
860	SLD 6	205	694	4040	-152.97	-3.31	3.13
860	SLD 7	208	-581	5566	34.35	-5.41	-2.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
860	SLD 8	181	-572	5570	33.96	-5.47	-1.8
860	SLD 9	-105	690	4109	-149.9	-4.93	2.78
860	SLD 10	-132	699	4114	-150.28	-4.99	3.47
860	SLD 11	-130	-576	5640	37.03	-7.09	-2.15
860	SLD 12	-156	-568	5644	36.65	-7.16	-1.46
860	SLD 13	-500	250	4730	-81.24	-7.64	1.26
860	SLD 14	-541	263	4737	-81.83	-7.74	2.32
860	SLD 15	-507	-130	5189	-25.16	-8.29	-0.22
860	SLD 16	-549	-117	5196	-25.75	-8.39	0.84
860	SLV 1	956	357	4253	-111.87	-0.19	0.02
860	SLV 2	891	377	4264	-112.81	-0.34	1.69
860	SLV 3	944	-285	5029	-17.11	-1.28	-2.47
860	SLV 4	879	-265	5040	-18.05	-1.44	-0.8
860	SLV 5	345	1118	3485	-217.68	-2	3.82
860	SLV 6	301	1132	3493	-218.31	-2.11	4.95
860	SLV 7	303	-1021	6071	98.18	-5.66	-4.5
860	SLV 8	259	-1008	6078	97.55	-5.76	-3.37
860	SLV 9	-183	1126	3601	-213.49	-4.64	4.35
860	SLV 10	-227	1139	3609	-214.12	-4.74	5.48
860	SLV 11	-225	-1014	6187	102.38	-8.29	-3.97
860	SLV 12	-269	-1000	6194	101.75	-8.4	-2.84
860	SLV 13	-803	383	4639	-97.89	-8.96	1.78
860	SLV 14	-868	403	4650	-98.82	-9.12	3.46
860	SLV 15	-815	-259	5415	-3.13	-10.06	-0.71
860	SLV 16	-881	-239	5426	-4.06	-10.21	0.96
860	SLV FO 1	1048	387	4195	-117.26	0.31	-0.03
860	SLV FO 2	976	409	4207	-118.29	0.14	1.81
860	SLV FO 3	1034	-319	5048	-13.03	-0.89	-2.77
860	SLV FO 4	963	-297	5060	-14.06	-1.06	-0.93
860	SLV FO 5	375	1224	3350	-233.65	-1.69	4.16
860	SLV FO 6	327	1239	3358	-234.35	-1.8	5.39
860	SLV FO 7	329	-1129	6194	113.8	-5.7	-4.99
860	SLV FO 8	281	-1115	6202	113.1	-5.82	-3.75
860	SLV FO 9	-205	1233	3477	-229.04	-4.58	4.74
860	SLV FO 10	-254	1247	3485	-229.73	-4.7	5.98
860	SLV FO 11	-251	-1121	6321	118.41	-8.6	-4.41
860	SLV FO 12	-299	-1106	6329	117.72	-8.72	-3.17
860	SLV FO 13	-887	415	4619	-101.88	-9.34	1.91
860	SLV FO 14	-959	437	4631	-102.91	-9.51	3.75
860	SLV FO 15	-901	-291	5472	2.36	-10.55	-0.83
860	SLV FO 16	-972	-269	5485	1.33	-10.72	1.01
860	CRTFP Ux+	0	0	0	0	0	0
860	CRTFP Ux-	0	0	0	0	0	0
860	CRTFP Uy+	0	0	0	0	0	0
860	CRTFP Uy-	0	0	0	0	0	0
861	SLU 1	35	59	4603	-51.99	-5.01	0.47
861	SLU 2	35	90	4573	-55.74	-4.98	0.59
861	SLU 3	36	60	4709	-52.39	-5.17	0.47
861	SLU 4	37	78	4691	-54.64	-5.15	0.54
861	SLU 5	37	90	4642	-55.94	-5.08	0.58
861	SLU 6	38	59	4778	-52.59	-5.27	0.45
861	SLU 7	38	78	4760	-54.84	-5.25	0.53
861	SLU 8	37	59	4742	-52.38	-5.22	0.45
861	SLU 9	38	77	4723	-54.63	-5.2	0.52
861	SLU 10	39	94	5199	-63.71	-5.56	0.6
861	SLU 11	40	63	5335	-60.36	-5.75	0.48
861	SLU 12	41	82	5317	-62.61	-5.73	0.55
861	SLU 13	41	94	5269	-63.91	-5.66	0.59
861	SLU 14	42	63	5404	-60.56	-5.85	0.46
861	SLU 15	42	82	5386	-62.81	-5.83	0.54
861	SLU 16	41	63	5368	-60.35	-5.79	0.46
861	SLU 17	42	81	5350	-62.6	-5.77	0.53
861	SLU 18	41	65	5498	-63.38	-5.84	0.49
861	SLU 19	41	83	5480	-65.63	-5.82	0.56
861	SLU 20	42	65	5567	-63.57	-5.94	0.47
861	SLU 21	42	83	5549	-65.82	-5.92	0.55
861	SLU 22	41	64	5367	-57.89	-5.79	0.5
861	SLU 23	42	95	5336	-61.64	-5.75	0.62
861	SLU 24	43	65	5472	-58.29	-5.94	0.49
861	SLU 25	43	83	5454	-60.54	-5.92	0.57
861	SLU 26	43	95	5406	-61.83	-5.85	0.61
861	SLU 27	44	64	5541	-58.49	-6.04	0.48
861	SLU 28	44	83	5523	-60.74	-6.02	0.56
861	SLU 29	44	64	5505	-58.28	-5.99	0.48
861	SLU 30	44	82	5487	-60.53	-5.97	0.55
861	SLU 31	46	99	5963	-69.61	-6.33	0.63
861	SLU 32	47	68	6098	-66.26	-6.52	0.5
861	SLU 33	47	87	6080	-68.51	-6.5	0.58
861	SLU 34	47	99	6032	-69.8	-6.43	0.62
861	SLU 35	48	68	6167	-66.46	-6.62	0.49
861	SLU 36	48	87	6149	-68.71	-6.6	0.57
861	SLU 37	48	68	6131	-66.25	-6.57	0.49
861	SLU 38	48	86	6113	-68.5	-6.54	0.56
861	SLU 39	47	70	6261	-69.27	-6.61	0.51
861	SLU 40	47	88	6243	-71.52	-6.59	0.59
861	SLU 41	48	69	6330	-69.47	-6.71	0.5
861	SLU 42	49	88	6312	-71.72	-6.69	0.58
861	SLU 43	43	75	5723	-65.56	-6.25	0.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
861	SLU 44	44	106	5692	-69.31	-6.22	0.73
861	SLU 45	45	76	5828	-65.97	-6.41	0.6
861	SLU 46	45	94	5810	-68.22	-6.39	0.67
861	SLU 47	45	106	5762	-69.51	-6.32	0.71
861	SLU 48	46	75	5897	-66.16	-6.51	0.59
861	SLU 49	46	94	5879	-68.41	-6.49	0.66
861	SLU 50	46	75	5861	-65.95	-6.46	0.58
861	SLU 51	46	93	5843	-68.21	-6.44	0.65
861	SLU 52	48	110	6319	-77.28	-6.8	0.74
861	SLU 53	49	80	6454	-73.94	-6.99	0.61
861	SLU 54	49	98	6436	-76.19	-6.97	0.68
861	SLU 55	49	110	6388	-77.48	-6.9	0.72
861	SLU 56	50	79	6523	-74.13	-7.09	0.6
861	SLU 57	50	98	6505	-76.38	-7.07	0.67
861	SLU 58	50	79	6487	-73.93	-7.03	0.59
861	SLU 59	50	97	6469	-76.18	-7.01	0.66
861	SLU 60	49	81	6617	-76.95	-7.08	0.62
861	SLU 61	49	99	6599	-79.2	-7.06	0.69
861	SLU 62	50	81	6686	-77.15	-7.18	0.61
861	SLU 63	50	99	6668	-79.4	-7.16	0.68
861	SLU 64	49	80	6486	-71.46	-7.03	0.63
861	SLU 65	50	111	6456	-75.21	-6.99	0.75
861	SLU 66	51	81	6591	-71.86	-7.18	0.63
861	SLU 67	51	99	6573	-74.11	-7.16	0.7
861	SLU 68	51	111	6525	-75.41	-7.09	0.74
861	SLU 69	52	80	6660	-72.06	-7.28	0.62
861	SLU 70	53	99	6642	-74.31	-7.26	0.69
861	SLU 71	52	80	6624	-71.85	-7.23	0.61
861	SLU 72	52	98	6606	-74.1	-7.21	0.68
861	SLU 73	54	115	7082	-83.18	-7.57	0.76
861	SLU 74	55	85	7218	-79.83	-7.76	0.64
861	SLU 75	55	103	7199	-82.09	-7.74	0.71
861	SLU 76	55	115	7151	-83.38	-7.67	0.75
861	SLU 77	56	84	7287	-80.03	-7.86	0.62
861	SLU 78	57	103	7269	-82.28	-7.84	0.7
861	SLU 79	56	84	7250	-79.82	-7.8	0.62
861	SLU 80	56	102	7232	-82.07	-7.78	0.69
861	SLU 81	55	86	7381	-82.85	-7.85	0.65
861	SLU 82	55	104	7362	-85.1	-7.83	0.72
861	SLU 83	56	86	7450	-83.04	-7.95	0.63
861	SLU 84	57	104	7432	-85.29	-7.93	0.71
861	SLE RA 1	36	61	4821	-53.67	-5.23	0.48
861	SLE RA 2	37	81	4801	-56.17	-5.21	0.56
861	SLE RA 3	38	61	4892	-53.94	-5.34	0.48
861	SLE RA 4	38	73	4880	-55.44	-5.33	0.52
861	SLE RA 5	38	81	4847	-56.3	-5.28	0.55
861	SLE RA 6	38	61	4938	-54.07	-5.41	0.47
861	SLE RA 7	39	73	4926	-55.57	-5.39	0.52
861	SLE RA 8	38	60	4914	-53.93	-5.37	0.47
861	SLE RA 9	38	73	4902	-55.44	-5.36	0.51
861	SLE RA 10	40	84	5219	-61.49	-5.6	0.57
861	SLE RA 11	40	63	5309	-59.26	-5.72	0.48
861	SLE RA 12	41	76	5297	-60.76	-5.71	0.53
861	SLE RA 13	40	84	5265	-61.62	-5.66	0.56
861	SLE RA 14	41	63	5355	-59.39	-5.79	0.48
861	SLE RA 15	41	76	5343	-60.89	-5.78	0.52
861	SLE RA 16	41	63	5331	-59.25	-5.75	0.47
861	SLE RA 17	41	75	5319	-60.75	-5.74	0.52
861	SLE RA 18	40	64	5418	-61.26	-5.78	0.49
861	SLE RA 19	41	77	5406	-62.76	-5.77	0.54
861	SLE RA 20	41	64	5464	-61.4	-5.85	0.48
861	SLE RA 21	42	76	5452	-62.9	-5.84	0.53
861	SLE FR 1	36	61	4821	-53.67	-5.23	0.48
861	SLE FR 2	37	65	4817	-54.17	-5.23	0.5
861	SLE FR 3	37	61	4840	-53.73	-5.26	0.48
861	SLE FR 4	38	66	4996	-56.45	-5.39	0.5
861	SLE FR 5	38	62	5019	-56	-5.43	0.48
861	SLE FR 6	38	63	5120	-57.47	-5.51	0.48
861	SLE QP 1	36	61	4821	-53.67	-5.23	0.48
861	SLE QP 2	38	62	5000	-55.95	-5.4	0.48
861	SLD 1	625	237	4551	-89.5	-2.33	-0.18
861	SLD 2	583	256	4561	-90.18	-2.41	1.09
861	SLD 3	617	-152	5029	-32.07	-2.92	-1.8
861	SLD 4	576	-133	5039	-32.75	-3.01	-0.52
861	SLD 5	232	700	4139	-153	-3.56	2.51
861	SLD 6	206	713	4145	-153.44	-3.61	3.33
861	SLD 7	207	-595	5732	38.43	-5.55	-2.87
861	SLD 8	180	-583	5739	37.99	-5.6	-2.05
861	SLD 9	-105	706	4262	-149.89	-5.2	3.01
861	SLD 10	-132	719	4268	-150.33	-5.25	3.83
861	SLD 11	-130	-589	5855	41.54	-7.19	-2.37
861	SLD 12	-157	-577	5862	41.1	-7.24	-1.55
861	SLD 13	-500	256	4962	-79.15	-7.79	1.49
861	SLD 14	-542	275	4971	-79.83	-7.88	2.76
861	SLD 15	-508	-132	5440	-21.72	-8.39	-0.12
861	SLD 16	-549	-113	5449	-22.4	-8.47	1.15
861	SLV 1	957	359	4268	-112.02	-0.56	-0.46
861	SLV 2	891	389	4284	-113.1	-0.7	1.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
861	SLV 3	944	-297	5076	-14.98	-1.57	-3.19
861	SLV 4	878	-268	5091	-16.06	-1.71	-1.19
861	SLV 5	345	1141	3553	-219.75	-2.39	3.96
861	SLV 6	301	1161	3563	-220.47	-2.48	5.31
861	SLV 7	302	-1047	6245	103.72	-5.76	-5.13
861	SLV 8	258	-1027	6255	102.99	-5.85	-3.78
861	SLV 9	-183	1151	3745	-214.9	-4.95	4.75
861	SLV 10	-227	1171	3756	-215.62	-5.04	6.09
861	SLV 11	-226	-1038	6437	108.57	-8.31	-4.34
861	SLV 12	-270	-1018	6448	107.85	-8.4	-2.99
861	SLV 13	-803	391	4910	-95.84	-9.09	2.16
861	SLV 14	-869	421	4925	-96.92	-9.23	4.16
861	SLV 15	-816	-265	5717	1.2	-10.1	-0.57
861	SLV 16	-881	-236	5732	0.12	-10.23	1.43
861	SLV FO 1	1049	389	4195	-117.63	-0.08	-0.56
861	SLV FO 2	977	422	4212	-118.81	-0.23	1.64
861	SLV FO 3	1034	-333	5083	-10.88	-1.19	-3.56
861	SLV FO 4	962	-301	5100	-12.07	-1.34	-1.36
861	SLV FO 5	376	1249	3408	-236.13	-2.09	4.31
861	SLV FO 6	327	1271	3420	-236.92	-2.19	5.79
861	SLV FO 7	329	-1158	6369	119.69	-5.79	-5.69
861	SLV FO 8	280	-1136	6381	118.89	-5.89	-4.21
861	SLV FO 9	-205	1260	3620	-230.79	-4.91	5.17
861	SLV FO 10	-253	1282	3631	-231.59	-5.01	6.65
861	SLV FO 11	-252	-1148	6581	125.02	-8.61	-4.82
861	SLV FO 12	-301	-1126	6592	124.23	-8.71	-3.34
861	SLV FO 13	-887	424	4900	-99.83	-9.46	2.32
861	SLV FO 14	-959	457	4917	-101.02	-9.61	4.52
861	SLV FO 15	-901	-298	5789	6.91	-10.57	-0.68
861	SLV FO 16	-973	-265	5806	5.73	-10.72	1.52
861	CRTFP Ux+	0	0	0	0	0	0
861	CRTFP Ux-	0	0	0	0	0	0
861	CRTFP Uy+	0	0	0	0	0	0
861	CRTFP Uy-	0	0	0	0	0	0
862	SLU 1	32	58	4454	-47.4	51.45	-0.36
862	SLU 2	32	87	4425	-51.01	51.11	-0.62
862	SLU 3	33	58	4557	-47.72	52.61	-0.36
862	SLU 4	34	76	4540	-49.89	52.41	-0.52
862	SLU 5	34	87	4493	-51.16	51.87	-0.62
862	SLU 6	35	58	4625	-47.86	53.37	-0.37
862	SLU 7	35	76	4607	-50.03	53.17	-0.53
862	SLU 8	34	57	4589	-47.68	52.97	-0.37
862	SLU 9	35	75	4572	-49.85	52.77	-0.53
862	SLU 10	36	91	5028	-58.25	58.16	-0.65
862	SLU 11	37	62	5160	-54.95	59.66	-0.39
862	SLU 12	38	80	5143	-57.12	59.45	-0.55
862	SLU 13	37	91	5096	-58.39	58.92	-0.65
862	SLU 14	38	62	5228	-55.09	60.42	-0.4
862	SLU 15	39	79	5210	-57.27	60.22	-0.56
862	SLU 16	38	61	5192	-54.92	60.02	-0.4
862	SLU 17	38	79	5175	-57.09	59.82	-0.56
862	SLU 18	37	63	5316	-57.73	61.52	-0.4
862	SLU 19	38	81	5298	-59.9	61.32	-0.56
862	SLU 20	38	63	5383	-57.88	62.28	-0.41
862	SLU 21	39	81	5366	-60.05	62.08	-0.56
862	SLU 22	38	63	5191	-52.58	60.01	-0.37
862	SLU 23	38	92	5162	-56.2	59.67	-0.63
862	SLU 24	39	63	5294	-52.9	61.17	-0.38
862	SLU 25	40	81	5277	-55.07	60.97	-0.54
862	SLU 26	39	92	5230	-56.35	60.43	-0.64
862	SLU 27	40	63	5362	-53.05	61.94	-0.39
862	SLU 28	41	80	5344	-55.22	61.73	-0.54
862	SLU 29	40	62	5326	-52.87	61.54	-0.39
862	SLU 30	40	80	5309	-55.04	61.33	-0.54
862	SLU 31	42	96	5765	-63.44	66.72	-0.66
862	SLU 32	43	67	5897	-60.14	68.22	-0.41
862	SLU 33	43	84	5880	-62.31	68.02	-0.57
862	SLU 34	43	96	5833	-63.58	67.48	-0.67
862	SLU 35	44	66	5965	-60.28	68.98	-0.42
862	SLU 36	45	84	5947	-62.45	68.78	-0.57
862	SLU 37	44	66	5929	-60.11	68.59	-0.42
862	SLU 38	44	84	5912	-62.28	68.38	-0.57
862	SLU 39	43	68	6053	-62.92	70.08	-0.41
862	SLU 40	43	86	6035	-65.09	69.88	-0.57
862	SLU 41	44	68	6120	-63.06	70.85	-0.42
862	SLU 42	45	85	6103	-65.23	70.64	-0.58
862	SLU 43	39	74	5538	-59.84	63.95	-0.46
862	SLU 44	40	103	5509	-63.45	63.61	-0.72
862	SLU 45	41	74	5641	-60.16	65.11	-0.47
862	SLU 46	41	92	5624	-62.33	64.9	-0.62
862	SLU 47	41	103	5576	-63.6	64.37	-0.72
862	SLU 48	42	74	5709	-60.3	65.87	-0.47
862	SLU 49	43	91	5691	-62.47	65.67	-0.63
862	SLU 50	42	73	5673	-60.12	65.47	-0.47
862	SLU 51	42	91	5656	-62.29	65.27	-0.63
862	SLU 52	44	107	6112	-70.69	70.66	-0.75
862	SLU 53	45	78	6244	-67.39	72.16	-0.5
862	SLU 54	45	95	6227	-69.56	71.95	-0.65

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
862	SLU 55	45	106	6179	-70.83	71.42	-0.75
862	SLU 56	46	77	6312	-67.53	72.92	-0.5
862	SLU 57	46	95	6294	-69.71	72.72	-0.66
862	SLU 58	46	77	6276	-67.36	72.52	-0.5
862	SLU 59	46	94	6259	-69.53	72.32	-0.66
862	SLU 60	45	79	6399	-70.17	74.02	-0.5
862	SLU 61	45	96	6382	-72.34	73.81	-0.66
862	SLU 62	46	79	6467	-70.32	74.78	-0.51
862	SLU 63	46	96	6450	-72.49	74.58	-0.66
862	SLU 64	45	78	6275	-65.02	72.51	-0.47
862	SLU 65	46	108	6246	-68.64	72.17	-0.73
862	SLU 66	47	79	6378	-65.34	73.67	-0.48
862	SLU 67	47	96	6360	-67.51	73.47	-0.64
862	SLU 68	47	108	6313	-68.79	72.93	-0.74
862	SLU 69	48	78	6445	-65.49	74.43	-0.49
862	SLU 70	48	96	6428	-67.66	74.23	-0.65
862	SLU 71	48	78	6410	-65.31	74.04	-0.49
862	SLU 72	48	96	6392	-67.48	73.83	-0.64
862	SLU 73	50	112	6849	-75.88	79.22	-0.76
862	SLU 74	51	82	6981	-72.58	80.72	-0.51
862	SLU 75	51	100	6963	-74.75	80.52	-0.67
862	SLU 76	51	111	6916	-76.02	79.98	-0.77
862	SLU 77	52	82	7048	-72.72	81.48	-0.52
862	SLU 78	52	100	7031	-74.89	81.28	-0.68
862	SLU 79	51	82	7013	-72.55	81.09	-0.52
862	SLU 80	52	99	6995	-74.72	80.88	-0.67
862	SLU 81	51	84	7136	-75.36	82.58	-0.52
862	SLU 82	51	101	7119	-77.53	82.38	-0.67
862	SLU 83	52	83	7204	-75.5	83.34	-0.52
862	SLU 84	52	101	7186	-77.68	83.14	-0.68
862	SLE RA 1	34	59	4665	-48.88	53.9	-0.36
862	SLE RA 2	34	79	4645	-51.29	53.67	-0.53
862	SLE RA 3	35	59	4734	-49.09	54.67	-0.37
862	SLE RA 4	35	71	4722	-50.54	54.53	-0.47
862	SLE RA 5	35	79	4690	-51.39	54.18	-0.54
862	SLE RA 6	35	59	4779	-49.19	55.18	-0.37
862	SLE RA 7	36	71	4767	-50.63	55.04	-0.48
862	SLE RA 8	35	59	4755	-49.07	54.91	-0.37
862	SLE RA 9	35	71	4743	-50.52	54.78	-0.47
862	SLE RA 10	36	81	5047	-56.11	58.37	-0.55
862	SLE RA 11	37	62	5136	-53.92	59.37	-0.39
862	SLE RA 12	37	74	5124	-55.36	59.23	-0.49
862	SLE RA 13	37	81	5092	-56.21	58.88	-0.56
862	SLE RA 14	38	62	5181	-54.01	59.88	-0.39
862	SLE RA 15	38	74	5169	-55.46	59.74	-0.5
862	SLE RA 16	38	61	5157	-53.89	59.61	-0.39
862	SLE RA 17	38	73	5145	-55.34	59.48	-0.49
862	SLE RA 18	37	63	5239	-55.77	60.61	-0.39
862	SLE RA 19	37	75	5228	-57.22	60.47	-0.49
862	SLE RA 20	38	63	5284	-55.87	61.12	-0.39
862	SLE RA 21	38	74	5273	-57.31	60.98	-0.5
862	SLE FR 1	34	59	4665	-48.88	53.9	-0.36
862	SLE FR 2	34	63	4661	-49.36	53.85	-0.39
862	SLE FR 3	34	59	4683	-48.92	54.1	-0.36
862	SLE FR 4	35	64	4833	-51.43	55.86	-0.4
862	SLE FR 5	35	60	4855	-50.98	56.11	-0.37
862	SLE FR 6	35	61	4952	-52.32	57.25	-0.37
862	SLE QP 1	34	59	4665	-48.88	53.9	-0.36
862	SLE QP 2	35	60	4837	-50.95	55.91	-0.37
862	SLD 1	586	222	4335	-83.78	52	-3.46
862	SLD 2	547	246	4346	-84.5	52.09	-2.38
862	SLD 3	579	-151	4798	-28.41	57.37	-0.23
862	SLD 4	539	-127	4809	-29.14	57.46	0.85
862	SLD 5	218	670	3982	-144.64	46.58	-6.38
862	SLD 6	193	686	3989	-145.11	46.64	-5.68
862	SLD 7	193	-573	5526	39.91	64.47	4.38
862	SLD 8	168	-557	5534	39.44	64.53	5.08
862	SLD 9	-99	678	4141	-141.33	47.29	-5.82
862	SLD 10	-124	694	4148	-141.8	47.35	-5.12
862	SLD 11	-123	-565	5685	43.22	65.18	4.94
862	SLD 12	-149	-549	5693	42.75	65.24	5.65
862	SLD 13	-470	248	4865	-72.75	54.36	-1.59
862	SLD 14	-509	272	4876	-73.48	54.45	-0.5
862	SLD 15	-478	-125	5328	-17.39	59.73	1.64
862	SLD 16	-517	-101	5340	-18.11	59.82	2.73
862	SLV 1	898	335	4023	-105.76	49.46	-5.42
862	SLV 2	836	374	4041	-106.9	49.6	-3.71
862	SLV 3	885	-295	4806	-12.21	58.52	0.04
862	SLV 4	824	-256	4823	-13.35	58.66	1.75
862	SLV 5	324	1091	3402	-209.07	40.2	-10.48
862	SLV 6	283	1117	3414	-209.83	40.29	-9.33
862	SLV 7	282	-1009	6012	102.77	70.42	7.71
862	SLV 8	241	-983	6024	102.01	70.51	8.86
862	SLV 9	-171	1104	3651	-203.9	41.31	-9.6
862	SLV 10	-213	1130	3662	-204.67	41.4	-8.44
862	SLV 11	-213	-996	6260	107.94	71.53	8.59
862	SLV 12	-255	-971	6272	107.17	71.62	9.74
862	SLV 13	-754	377	4851	-88.54	53.16	-2.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
862	SLV 14	-816	415	4869	-89.68	53.3	-0.77
862	SLV 15	-767	-253	5634	5.01	62.23	2.97
862	SLV 16	-829	-215	5651	3.87	62.36	4.68
862	SLV FO 1	984	363	3941	-111.25	48.81	-5.92
862	SLV FO 2	916	405	3961	-112.5	48.96	-4.04
862	SLV FO 3	970	-330	4803	-8.34	58.78	0.08
862	SLV FO 4	903	-288	4822	-9.59	58.94	1.96
862	SLV FO 5	353	1194	3259	-224.88	38.63	-11.49
862	SLV FO 6	308	1223	3272	-225.72	38.73	-10.22
862	SLV FO 7	307	-1116	6129	118.15	71.87	8.52
862	SLV FO 8	261	-1087	6142	117.3	71.97	9.78
862	SLV FO 9	-192	1208	3532	-219.19	39.85	-10.52
862	SLV FO 10	-238	1236	3545	-220.04	39.95	-9.25
862	SLV FO 11	-238	-1102	6402	123.83	73.09	9.48
862	SLV FO 12	-284	-1074	6416	122.99	73.19	10.75
862	SLV FO 13	-833	408	4852	-92.3	52.88	-2.7
862	SLV FO 14	-901	451	4872	-93.55	53.04	-0.81
862	SLV FO 15	-847	-285	5713	10.61	62.86	3.3
862	SLV FO 16	-915	-242	5733	9.35	63.01	5.19
862	CRTFP Ux+	0	0	0	0	0	0
862	CRTFP Ux-	0	0	0	0	0	0
862	CRTFP Uy+	0	0	0	0	0	0
862	CRTFP Uy-	0	0	0	0	0	0
864	SLU 1	55	105	8064	-80.98	262.95	-3.29
864	SLU 2	56	158	8012	-83.33	261.09	-5.17
864	SLU 3	57	106	8252	-82.28	268.77	-3.3
864	SLU 4	58	137	8221	-83.7	267.65	-4.43
864	SLU 5	58	157	8135	-84.14	264.93	-5.16
864	SLU 6	59	105	8375	-83.09	272.62	-3.29
864	SLU 7	60	137	8344	-84.51	271.5	-4.42
864	SLU 8	59	104	8310	-82.59	270.64	-3.26
864	SLU 9	59	136	8279	-84.01	269.52	-4.39
864	SLU 10	62	165	9099	-94.83	297.76	-5.36
864	SLU 11	64	112	9339	-93.78	305.44	-3.49
864	SLU 12	64	144	9308	-95.19	304.33	-4.62
864	SLU 13	64	164	9222	-95.64	301.61	-5.34
864	SLU 14	66	112	9462	-94.59	309.29	-3.47
864	SLU 15	66	143	9431	-96	308.17	-4.6
864	SLU 16	65	111	9397	-94.09	307.32	-3.45
864	SLU 17	66	142	9366	-95.5	306.2	-4.58
864	SLU 18	64	115	9617	-97.4	315.34	-3.55
864	SLU 19	64	146	9586	-98.81	314.23	-4.68
864	SLU 20	66	114	9740	-98.21	319.19	-3.54
864	SLU 21	66	146	9709	-99.62	318.07	-4.67
864	SLU 22	65	114	9395	-92.38	307.2	-3.47
864	SLU 23	66	167	9343	-94.73	305.33	-5.36
864	SLU 24	67	115	9583	-93.68	313.02	-3.49
864	SLU 25	68	146	9551	-95.1	311.9	-4.62
864	SLU 26	68	166	9466	-95.54	309.18	-5.34
864	SLU 27	69	114	9706	-94.49	316.86	-3.47
864	SLU 28	70	146	9675	-95.9	315.74	-4.6
864	SLU 29	69	113	9641	-93.99	314.89	-3.44
864	SLU 30	69	145	9610	-95.4	313.77	-4.57
864	SLU 31	72	174	10430	-106.23	342.01	-5.54
864	SLU 32	74	121	10670	-105.18	349.69	-3.67
864	SLU 33	74	153	10639	-106.59	348.57	-4.8
864	SLU 34	74	173	10553	-107.03	345.85	-5.53
864	SLU 35	76	121	10793	-105.99	353.53	-3.66
864	SLU 36	76	152	10762	-107.4	352.42	-4.79
864	SLU 37	75	120	10728	-105.49	351.56	-3.63
864	SLU 38	76	151	10697	-106.9	350.44	-4.76
864	SLU 39	74	124	10948	-108.8	359.59	-3.73
864	SLU 40	74	155	10917	-110.21	358.47	-4.87
864	SLU 41	76	123	11071	-109.61	363.43	-3.72
864	SLU 42	76	155	11040	-111.02	362.32	-4.85
864	SLU 43	68	133	10027	-101.36	326.67	-4.21
864	SLU 44	69	186	9975	-103.72	324.8	-6.1
864	SLU 45	70	134	10215	-102.67	332.49	-4.23
864	SLU 46	71	166	10184	-104.08	331.37	-5.36
864	SLU 47	71	186	10098	-104.52	328.65	-6.08
864	SLU 48	72	133	10338	-103.48	336.33	-4.21
864	SLU 49	73	165	10307	-104.89	335.21	-5.34
864	SLU 50	72	132	10273	-102.98	334.36	-4.19
864	SLU 51	72	164	10242	-104.39	333.24	-5.32
864	SLU 52	75	193	11062	-115.21	361.48	-6.28
864	SLU 53	77	141	11302	-114.17	369.16	-4.41
864	SLU 54	77	172	11271	-115.58	368.04	-5.54
864	SLU 55	77	192	11185	-116.02	365.32	-6.27
864	SLU 56	79	140	11425	-114.97	373.01	-4.4
864	SLU 57	79	172	11394	-116.39	371.89	-5.53
864	SLU 58	78	139	11360	-114.47	371.03	-4.37
864	SLU 59	79	171	11329	-115.89	369.91	-5.5
864	SLU 60	77	143	11580	-117.79	379.06	-4.48
864	SLU 61	77	175	11549	-119.2	377.94	-5.61
864	SLU 62	79	142	11703	-118.59	382.9	-4.46
864	SLU 63	79	174	11672	-120.01	381.79	-5.59
864	SLU 64	78	142	11358	-112.76	370.91	-4.4
864	SLU 65	79	195	11306	-115.12	369.05	-6.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
864	SLU 66	80	143	11546	-114.07	376.73	-4.41
864	SLU 67	81	175	11514	-115.48	375.61	-5.54
864	SLU 68	81	195	11429	-115.92	372.89	-6.27
864	SLU 69	82	142	11669	-114.88	380.58	-4.4
864	SLU 70	83	174	11637	-116.29	379.46	-5.53
864	SLU 71	82	141	11604	-114.38	378.6	-4.37
864	SLU 72	82	173	11573	-115.79	377.48	-5.5
864	SLU 73	85	202	12393	-126.61	405.72	-6.46
864	SLU 74	87	150	12633	-125.56	413.41	-4.59
864	SLU 75	87	181	12602	-126.98	412.29	-5.72
864	SLU 76	87	202	12516	-127.42	409.57	-6.45
864	SLU 77	89	149	12756	-126.37	417.25	-4.58
864	SLU 78	89	181	12725	-127.78	416.13	-5.71
864	SLU 79	88	148	12691	-125.87	415.28	-4.55
864	SLU 80	89	180	12660	-127.28	414.16	-5.68
864	SLU 81	87	152	12911	-129.18	423.3	-4.66
864	SLU 82	87	184	12880	-130.6	422.19	-5.79
864	SLU 83	89	151	13034	-129.99	427.15	-4.64
864	SLU 84	89	183	13003	-131.4	426.03	-5.78
864	SLE RA 1	57	108	8444	-84.23	275.59	-3.34
864	SLE RA 2	58	143	8409	-85.8	274.35	-4.6
864	SLE RA 3	59	108	8570	-85.11	279.47	-3.35
864	SLE RA 4	60	129	8549	-86.05	278.73	-4.1
864	SLE RA 5	60	143	8491	-86.34	276.91	-4.59
864	SLE RA 6	61	108	8652	-85.64	282.04	-3.34
864	SLE RA 7	61	129	8631	-86.59	281.29	-4.1
864	SLE RA 8	60	107	8608	-85.31	280.72	-3.32
864	SLE RA 9	61	128	8587	-86.25	279.97	-4.08
864	SLE RA 10	62	147	9134	-93.47	298.8	-4.72
864	SLE RA 11	63	112	9294	-92.77	303.92	-3.47
864	SLE RA 12	64	134	9273	-93.71	303.18	-4.23
864	SLE RA 13	64	147	9216	-94.01	301.36	-4.71
864	SLE RA 14	65	112	9376	-93.31	306.49	-3.46
864	SLE RA 15	65	133	9356	-94.25	305.74	-4.22
864	SLE RA 16	64	111	9333	-92.97	305.17	-3.45
864	SLE RA 17	65	132	9312	-93.92	304.42	-4.2
864	SLE RA 18	63	114	9480	-95.18	310.52	-3.52
864	SLE RA 19	64	135	9459	-96.12	309.78	-4.27
864	SLE RA 20	65	114	9562	-95.72	313.08	-3.51
864	SLE RA 21	65	135	9541	-96.66	312.34	-4.26
864	SLE FR 1	57	108	8444	-84.23	275.59	-3.34
864	SLE FR 2	58	115	8437	-84.55	275.34	-3.59
864	SLE FR 3	58	107	8477	-84.45	276.62	-3.34
864	SLE FR 4	59	117	8748	-87.83	285.82	-3.64
864	SLE FR 5	60	109	8788	-87.73	287.1	-3.39
864	SLE FR 6	60	111	8962	-89.71	293.06	-3.43
864	SLE QP 1	57	108	8444	-84.23	275.59	-3.34
864	SLE QP 2	59	110	8755	-87.52	286.07	-3.39
864	SLD 1	1033	384	7743	-106.05	281.89	-11.43
864	SLD 2	964	440	7766	-106.75	282.35	-11.02
864	SLD 3	1019	-287	8576	-70.21	310.66	12.35
864	SLD 4	950	-230	8598	-70.9	311.13	12.75
864	SLD 5	384	1199	7185	-147.32	241.09	-41.93
864	SLD 6	339	1236	7199	-147.77	241.39	-41.67
864	SLD 7	338	-1036	9960	-27.84	337.01	37.32
864	SLD 8	294	-1000	9975	-28.29	337.31	37.58
864	SLD 9	-175	1219	7535	-146.75	234.83	-44.37
864	SLD 10	-220	1255	7549	-147.19	235.13	-44.11
864	SLD 11	-221	-1017	10311	-27.27	330.75	34.88
864	SLD 12	-266	-980	10325	-27.72	331.05	35.15
864	SLD 13	-832	449	8912	-104.13	261.02	-19.54
864	SLD 14	-901	506	8934	-104.83	261.48	-19.14
864	SLD 15	-845	-221	9744	-68.29	289.79	4.23
864	SLD 16	-914	-165	9766	-68.98	290.26	4.64
864	SLV 1	1584	580	7123	-118.78	277.74	-17.45
864	SLV 2	1475	669	7157	-119.87	278.48	-16.81
864	SLV 3	1560	-553	8529	-58.21	326.35	22.71
864	SLV 4	1452	-464	8564	-59.3	327.08	23.35
864	SLV 5	573	1952	6125	-188.55	209.72	-68.64
864	SLV 6	499	2012	6149	-189.29	210.21	-68.21
864	SLV 7	494	-1824	10814	13.34	371.74	65.23
864	SLV 8	421	-1764	10838	12.6	372.23	65.66
864	SLV 9	-302	1983	6672	-187.64	199.91	-72.45
864	SLV 10	-376	2043	6696	-188.38	200.4	-72.02
864	SLV 11	-381	-1793	11361	14.25	361.94	61.43
864	SLV 12	-454	-1733	11384	13.52	362.43	61.85
864	SLV 13	-1333	683	8946	-115.73	245.06	-30.14
864	SLV 14	-1442	772	8980	-116.83	245.79	-29.5
864	SLV 15	-1357	-450	10352	-55.17	293.67	10.03
864	SLV 16	-1465	-361	10387	-56.26	294.4	10.66
864	SLV FO 1	1736	627	6959	-121.9	276.91	-18.85
864	SLV FO 2	1617	725	6998	-123.11	277.72	-18.15
864	SLV FO 3	1711	-620	8507	-55.28	330.38	25.33
864	SLV FO 4	1591	-521	8545	-56.48	331.18	26.02
864	SLV FO 5	624	2136	5862	-198.66	202.08	-75.17
864	SLV FO 6	543	2202	5888	-199.47	202.62	-74.7
864	SLV FO 7	538	-2018	11020	23.42	380.31	72.1
864	SLV FO 8	457	-1951	11046	22.62	380.85	72.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
864	SLV FO 9	-339	2170	6464	-197.65	191.29	-79.35
864	SLV FO 10	-419	2237	6490	-198.46	191.84	-78.88
864	SLV FO 11	-425	-1983	11622	24.43	369.52	67.91
864	SLV FO 12	-505	-1917	11647	23.62	370.06	68.38
864	SLV FO 13	-1472	740	8965	-118.56	240.96	-32.81
864	SLV FO 14	-1592	839	9003	-119.76	241.76	-32.11
864	SLV FO 15	-1498	-506	10512	-51.93	294.43	11.37
864	SLV FO 16	-1618	-408	10550	-53.13	295.23	12.07
864	CRTFP Ux+	0	0	0	0	0	0
864	CRTFP Ux-	0	0	0	0	0	0
864	CRTFP Uy+	0	0	0	0	0	0
864	CRTFP Uy-	0	0	0	0	0	0
866	SLU 1	-47	-3	3200	-1.54	-330.21	-0.86
866	SLU 2	-46	17	3169	-1.77	-328.67	4.17
866	SLU 3	-47	-4	3285	-1.53	-337.46	-1
866	SLU 4	-47	8	3266	-1.66	-336.53	2.02
866	SLU 5	-46	17	3225	-1.75	-333.41	4.12
866	SLU 6	-48	-4	3341	-1.51	-342.2	-1.05
866	SLU 7	-47	8	3322	-1.65	-341.27	1.97
866	SLU 8	-47	-4	3312	-1.51	-339.7	-0.97
866	SLU 9	-47	8	3293	-1.65	-338.78	2.05
866	SLU 10	-49	18	3562	-2.02	-367.29	4.38
866	SLU 11	-51	-3	3678	-1.78	-376.08	-0.79
866	SLU 12	-50	9	3659	-1.91	-375.16	2.23
866	SLU 13	-49	17	3618	-2	-372.04	4.33
866	SLU 14	-51	-3	3734	-1.76	-380.83	-0.84
866	SLU 15	-51	9	3715	-1.9	-379.9	2.18
866	SLU 16	-51	-3	3706	-1.76	-378.33	-0.76
866	SLU 17	-50	9	3687	-1.9	-377.4	2.26
866	SLU 18	-51	-2	3762	-1.9	-385.4	-0.57
866	SLU 19	-50	10	3743	-2.03	-384.47	2.46
866	SLU 20	-51	-2	3818	-1.88	-390.14	-0.62
866	SLU 21	-51	10	3799	-2.02	-389.21	2.4
866	SLU 22	-52	-6	3717	-1.69	-378.69	-1.38
866	SLU 23	-51	15	3685	-1.92	-377.14	3.65
866	SLU 24	-53	-6	3801	-1.68	-385.94	-1.52
866	SLU 25	-52	6	3782	-1.82	-385.01	1.5
866	SLU 26	-51	14	3741	-1.9	-381.89	3.6
866	SLU 27	-53	-6	3857	-1.66	-390.68	-1.57
866	SLU 28	-53	6	3838	-1.8	-389.75	1.45
866	SLU 29	-53	-6	3829	-1.66	-388.18	-1.49
866	SLU 30	-52	6	3810	-1.8	-387.25	1.53
866	SLU 31	-54	15	4078	-2.17	-415.77	3.86
866	SLU 32	-56	-5	4194	-1.93	-424.56	-1.31
866	SLU 33	-55	7	4175	-2.06	-423.63	1.71
866	SLU 34	-55	15	4134	-2.15	-420.52	3.81
866	SLU 35	-56	-5	4250	-1.91	-429.31	-1.36
866	SLU 36	-56	7	4231	-2.05	-428.38	1.66
866	SLU 37	-56	-5	4222	-1.91	-426.81	-1.28
866	SLU 38	-55	7	4203	-2.05	-425.88	1.74
866	SLU 39	-56	-4	4279	-2.05	-433.87	-1.08
866	SLU 40	-56	8	4260	-2.19	-432.95	1.94
866	SLU 41	-57	-5	4335	-2.03	-438.62	-1.14
866	SLU 42	-56	7	4316	-2.17	-437.69	1.88
866	SLU 43	-59	-4	3983	-1.95	-412.66	-0.94
866	SLU 44	-58	16	3952	-2.18	-411.11	4.09
866	SLU 45	-60	-4	4068	-1.94	-419.9	-1.08
866	SLU 46	-59	8	4049	-2.07	-418.97	1.94
866	SLU 47	-58	16	4008	-2.16	-415.85	4.04
866	SLU 48	-60	-4	4124	-1.92	-424.65	-1.13
866	SLU 49	-59	8	4105	-2.06	-423.72	1.89
866	SLU 50	-60	-4	4095	-1.92	-422.15	-1.05
866	SLU 51	-59	8	4076	-2.06	-421.22	1.97
866	SLU 52	-61	17	4345	-2.43	-449.74	4.3
866	SLU 53	-63	-3	4461	-2.19	-458.53	-0.87
866	SLU 54	-62	9	4442	-2.32	-457.6	2.15
866	SLU 55	-61	17	4401	-2.41	-454.48	4.25
866	SLU 56	-63	-4	4517	-2.17	-463.27	-0.92
866	SLU 57	-63	8	4498	-2.31	-462.34	2.1
866	SLU 58	-63	-3	4489	-2.17	-460.78	-0.84
866	SLU 59	-62	9	4470	-2.31	-459.85	2.18
866	SLU 60	-63	-3	4545	-2.31	-467.84	-0.65
866	SLU 61	-63	10	4526	-2.44	-466.91	2.37
866	SLU 62	-64	-3	4601	-2.29	-472.59	-0.7
866	SLU 63	-63	9	4582	-2.43	-471.66	2.32
866	SLU 64	-64	-6	4500	-2.1	-461.14	-1.46
866	SLU 65	-63	14	4468	-2.33	-459.59	3.57
866	SLU 66	-65	-6	4584	-2.09	-468.38	-1.6
866	SLU 67	-64	6	4565	-2.23	-467.45	1.42
866	SLU 68	-64	14	4524	-2.32	-464.33	3.52
866	SLU 69	-65	-7	4640	-2.08	-473.12	-1.65
866	SLU 70	-65	6	4621	-2.21	-472.19	1.37
866	SLU 71	-65	-6	4612	-2.07	-470.63	-1.57
866	SLU 72	-64	6	4593	-2.21	-469.7	1.45
866	SLU 73	-66	15	4861	-2.58	-498.21	3.78
866	SLU 74	-68	-6	4977	-2.34	-507.01	-1.39
866	SLU 75	-68	7	4958	-2.48	-506.08	1.63
866	SLU 76	-67	15	4917	-2.56	-502.96	3.73

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
866	SLU 77	-69	-6	5033	-2.32	-511.75	-1.44
866	SLU 78	-68	6	5014	-2.46	-510.82	1.58
866	SLU 79	-68	-5	5005	-2.32	-509.25	-1.36
866	SLU 80	-68	7	4986	-2.46	-508.32	1.66
866	SLU 81	-68	-5	5062	-2.46	-516.32	-1.17
866	SLU 82	-68	7	5043	-2.6	-515.39	1.86
866	SLU 83	-69	-5	5118	-2.44	-521.06	-1.22
866	SLU 84	-68	7	5099	-2.58	-520.13	1.8
866	SLE RA 1	-48	-4	3348	-1.59	-344.07	-1.01
866	SLE RA 2	-47	9	3327	-1.74	-343.03	2.35
866	SLE RA 3	-49	-4	3404	-1.58	-348.89	-1.1
866	SLE RA 4	-48	4	3391	-1.67	-348.27	0.91
866	SLE RA 5	-48	9	3364	-1.73	-346.2	2.31
866	SLE RA 6	-49	-5	3441	-1.57	-352.06	-1.14
866	SLE RA 7	-49	4	3429	-1.66	-351.44	0.88
866	SLE RA 8	-49	-4	3422	-1.56	-350.39	-1.08
866	SLE RA 9	-48	4	3410	-1.66	-349.77	0.93
866	SLE RA 10	-50	10	3589	-1.9	-368.78	2.48
866	SLE RA 11	-51	-4	3666	-1.74	-374.65	-0.96
866	SLE RA 12	-50	4	3654	-1.83	-374.03	1.05
866	SLE RA 13	-50	10	3626	-1.89	-371.95	2.45
866	SLE RA 14	-51	-4	3704	-1.73	-377.81	-1
866	SLE RA 15	-51	4	3691	-1.82	-377.19	1.02
866	SLE RA 16	-51	-4	3685	-1.73	-376.14	-0.94
866	SLE RA 17	-50	4	3672	-1.82	-375.52	1.07
866	SLE RA 18	-51	-3	3723	-1.82	-380.85	-0.81
866	SLE RA 19	-51	5	3710	-1.91	-380.23	1.2
866	SLE RA 20	-51	-3	3760	-1.81	-384.02	-0.85
866	SLE RA 21	-51	5	3747	-1.9	-383.4	1.17
866	SLE FR 1	-48	-4	3348	-1.59	-344.07	-1.01
866	SLE FR 2	-48	-1	3344	-1.62	-343.86	-0.34
866	SLE FR 3	-48	-4	3363	-1.58	-345.33	-1.03
866	SLE FR 4	-49	-1	3456	-1.69	-354.9	-0.28
866	SLE FR 5	-49	-4	3475	-1.65	-356.37	-0.97
866	SLE FR 6	-50	-4	3535	-1.7	-362.46	-0.91
866	SLE QP 1	-48	-4	3348	-1.59	-344.07	-1.01
866	SLE QP 2	-49	-4	3460	-1.66	-355.1	-0.95
866	SLD 1	221	144	4159	-3.99	-439.25	35.73
866	SLD 2	193	43	4191	-3.73	-442.51	10.78
866	SLD 3	209	-111	4625	-0.55	-456.79	-27.97
866	SLD 4	181	-212	4656	-0.29	-460.05	-52.93
866	SLD 5	55	444	2958	-7.62	-353.18	111
866	SLD 6	37	379	2978	-7.45	-355.29	94.85
866	SLD 7	15	-405	4511	3.85	-411.64	-101.34
866	SLD 8	-3	-470	4531	4.02	-413.75	-117.49
866	SLD 9	-95	462	2389	-7.33	-296.45	115.58
866	SLD 10	-113	397	2410	-7.16	-298.56	99.44
866	SLD 11	-135	-387	3942	4.14	-354.91	-96.75
866	SLD 12	-153	-452	3963	4.31	-357.02	-112.9
866	SLD 13	-279	204	2264	-3.03	-250.16	51.02
866	SLD 14	-307	104	2296	-2.76	-253.42	26.06
866	SLD 15	-291	-51	2730	0.41	-267.69	-12.68
866	SLD 16	-319	-151	2762	0.68	-270.96	-37.64
866	SLV 1	374	243	4520	-5.53	-485.2	60.52
866	SLV 2	331	85	4570	-5.11	-490.33	21.22
866	SLV 3	354	-187	5307	0.29	-514.85	-47.13
866	SLV 4	311	-346	5357	0.71	-519.98	-86.43
866	SLV 5	117	753	2575	-11.71	-348.2	188.08
866	SLV 6	88	646	2609	-11.43	-351.66	161.63
866	SLV 7	49	-682	5198	7.67	-447.04	-170.73
866	SLV 8	20	-789	5232	7.95	-450.5	-197.19
866	SLV 9	-118	781	1689	-11.26	-259.71	195.29
866	SLV 10	-147	675	1722	-10.98	-263.16	168.83
866	SLV 11	-185	-654	4311	8.12	-358.55	-163.53
866	SLV 12	-215	-760	4345	8.4	-362	-189.99
866	SLV 13	-409	338	1564	-4.02	-190.22	84.52
866	SLV 14	-452	180	1614	-3.6	-195.36	45.23
866	SLV 15	-429	-92	2351	1.79	-219.87	-23.12
866	SLV 16	-472	-251	2401	2.21	-225.01	-62.42
866	SLV FO 1	417	268	4626	-5.91	-498.21	66.66
866	SLV FO 2	369	94	4681	-5.45	-503.85	23.43
866	SLV FO 3	395	-206	5491	0.48	-530.82	-51.75
866	SLV FO 4	347	-380	5546	0.94	-536.47	-94.98
866	SLV FO 5	133	828	2487	-12.72	-347.51	206.99
866	SLV FO 6	101	711	2524	-12.41	-351.31	177.88
866	SLV FO 7	59	-750	5372	8.6	-456.23	-187.71
866	SLV FO 8	27	-867	5409	8.91	-460.04	-216.82
866	SLV FO 9	-125	860	1511	-12.22	-250.17	214.91
866	SLV FO 10	-157	743	1549	-11.91	-253.97	185.81
866	SLV FO 11	-199	-719	4396	9.1	-358.89	-179.79
866	SLV FO 12	-231	-836	4434	9.41	-362.69	-208.89
866	SLV FO 13	-445	372	1374	-4.26	-173.73	93.07
866	SLV FO 14	-492	198	1429	-3.8	-179.38	49.84
866	SLV FO 15	-467	-101	2240	2.14	-206.35	-25.34
866	SLV FO 16	-515	-275	2295	2.6	-212	-68.57
866	CRTFP Ux+	0	0	0	0	0	0
866	CRTFP Ux-	0	0	0	0	0	0
866	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
866	CRTFP Uy-	0	0	0	0	0	0
882	SLU 1	101	34	6364	1.74	6.07	-0.72
882	SLU 2	98	64	6293	1.25	4.71	-0.62
882	SLU 3	104	35	6533	1.91	6.68	-0.77
882	SLU 4	102	53	6490	1.62	5.86	-0.71
882	SLU 5	100	65	6405	1.38	5.13	-0.67
882	SLU 6	106	35	6645	2.04	7.11	-0.82
882	SLU 7	105	53	6602	1.75	6.29	-0.76
882	SLU 8	105	35	6589	2	6.92	-0.82
882	SLU 9	104	53	6546	1.71	6.11	-0.76
882	SLU 10	105	69	7121	1.42	6	-0.68
882	SLU 11	111	39	7361	2.08	7.97	-0.83
882	SLU 12	109	57	7318	1.79	7.16	-0.77
882	SLU 13	107	69	7234	1.55	6.43	-0.73
882	SLU 14	113	40	7473	2.21	8.4	-0.88
882	SLU 15	111	58	7431	1.92	7.59	-0.81
882	SLU 16	112	40	7417	2.17	8.22	-0.87
882	SLU 17	110	58	7375	1.88	7.4	-0.81
882	SLU 18	111	41	7548	1.98	7.92	-0.8
882	SLU 19	109	59	7505	1.68	7.1	-0.74
882	SLU 20	113	41	7660	2.11	8.35	-0.85
882	SLU 21	111	59	7617	1.82	7.53	-0.79
882	SLU 22	115	38	7434	2.29	8.35	-0.81
882	SLU 23	112	69	7363	1.8	6.99	-0.71
882	SLU 24	118	39	7603	2.46	8.96	-0.86
882	SLU 25	116	57	7560	2.17	8.15	-0.8
882	SLU 26	114	69	7475	1.93	7.42	-0.76
882	SLU 27	120	40	7715	2.6	9.39	-0.91
882	SLU 28	118	58	7672	2.3	8.58	-0.85
882	SLU 29	119	39	7659	2.55	9.21	-0.91
882	SLU 30	117	57	7616	2.26	8.39	-0.85
882	SLU 31	119	73	8191	1.97	8.29	-0.77
882	SLU 32	125	44	8431	2.63	10.26	-0.92
882	SLU 33	123	62	8388	2.34	9.44	-0.85
882	SLU 34	121	74	8304	2.1	8.71	-0.81
882	SLU 35	127	44	8543	2.76	10.69	-0.96
882	SLU 36	125	62	8501	2.47	9.87	-0.9
882	SLU 37	126	44	8487	2.72	10.5	-0.96
882	SLU 38	124	62	8445	2.43	9.69	-0.9
882	SLU 39	124	45	8618	2.53	10.2	-0.89
882	SLU 40	123	63	8575	2.24	9.38	-0.83
882	SLU 41	127	46	8730	2.66	10.63	-0.94
882	SLU 42	125	64	8687	2.37	9.81	-0.88
882	SLU 43	126	43	7907	2.07	7.1	-0.91
882	SLU 44	123	73	7835	1.58	5.74	-0.81
882	SLU 45	130	43	8075	2.25	7.72	-0.96
882	SLU 46	128	62	8032	1.95	6.9	-0.9
882	SLU 47	126	73	7948	1.72	6.17	-0.86
882	SLU 48	132	44	8187	2.38	8.15	-1.01
882	SLU 49	130	62	8145	2.08	7.33	-0.95
882	SLU 50	131	44	8131	2.34	7.96	-1
882	SLU 51	129	62	8089	2.04	7.14	-0.94
882	SLU 52	130	78	8664	1.75	7.04	-0.86
882	SLU 53	136	48	8903	2.41	9.01	-1.01
882	SLU 54	135	66	8861	2.12	8.2	-0.95
882	SLU 55	133	78	8776	1.88	7.47	-0.91
882	SLU 56	139	49	9016	2.54	9.44	-1.06
882	SLU 57	137	67	8973	2.25	8.62	-1
882	SLU 58	138	48	8960	2.5	9.26	-1.06
882	SLU 59	136	66	8917	2.21	8.44	-1
882	SLU 60	136	50	9090	2.31	8.95	-0.99
882	SLU 61	134	68	9047	2.02	8.14	-0.93
882	SLU 62	138	50	9202	2.44	9.38	-1.04
882	SLU 63	137	68	9160	2.15	8.57	-0.98
882	SLU 64	140	47	8977	2.63	9.39	-1
882	SLU 65	137	77	8905	2.14	8.03	-0.9
882	SLU 66	143	48	9145	2.8	10	-1.05
882	SLU 67	142	66	9102	2.5	9.18	-0.99
882	SLU 68	139	78	9018	2.27	8.46	-0.94
882	SLU 69	146	48	9257	2.93	10.43	-1.09
882	SLU 70	144	66	9215	2.63	9.61	-1.03
882	SLU 71	145	48	9201	2.89	10.24	-1.09
882	SLU 72	143	66	9159	2.59	9.43	-1.03
882	SLU 73	144	82	9734	2.3	9.32	-0.95
882	SLU 74	150	53	9973	2.96	11.3	-1.1
882	SLU 75	149	71	9931	2.67	10.48	-1.04
882	SLU 76	146	82	9846	2.43	9.75	-1
882	SLU 77	153	53	10086	3.09	11.72	-1.15
882	SLU 78	151	71	10043	2.8	10.91	-1.09
882	SLU 79	151	53	10030	3.05	11.54	-1.15
882	SLU 80	150	71	9987	2.76	10.72	-1.09
882	SLU 81	150	54	10160	2.86	11.24	-1.08
882	SLU 82	148	72	10117	2.57	10.42	-1.02
882	SLU 83	152	54	10272	2.99	11.67	-1.12
882	SLU 84	150	72	10230	2.7	10.85	-1.06
882	SLE RA 1	105	35	6670	1.9	6.72	-0.75
882	SLE RA 2	103	55	6622	1.57	5.81	-0.68
882	SLE RA 3	107	36	6782	2.01	7.13	-0.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
882	SLE RA 4	106	48	6754	1.82	6.58	-0.74
882	SLE RA 5	104	56	6697	1.66	6.1	-0.71
882	SLE RA 6	108	36	6857	2.1	7.41	-0.81
882	SLE RA 7	107	48	6829	1.9	6.87	-0.77
882	SLE RA 8	108	36	6820	2.07	7.29	-0.81
882	SLE RA 9	107	48	6791	1.88	6.75	-0.77
882	SLE RA 10	107	58	7175	1.68	6.68	-0.72
882	SLE RA 11	112	39	7334	2.12	7.99	-0.82
882	SLE RA 12	110	51	7306	1.93	7.45	-0.78
882	SLE RA 13	109	59	7250	1.77	6.96	-0.75
882	SLE RA 14	113	39	7409	2.21	8.28	-0.85
882	SLE RA 15	112	51	7381	2.02	7.73	-0.81
882	SLE RA 16	112	39	7372	2.18	8.15	-0.85
882	SLE RA 17	111	51	7344	1.99	7.61	-0.81
882	SLE RA 18	111	40	7459	2.06	7.95	-0.8
882	SLE RA 19	110	52	7430	1.86	7.41	-0.76
882	SLE RA 20	113	40	7534	2.14	8.24	-0.83
882	SLE RA 21	112	52	7505	1.95	7.69	-0.79
882	SLE FR 1	105	35	6670	1.9	6.72	-0.75
882	SLE FR 2	104	39	6660	1.83	6.54	-0.73
882	SLE FR 3	105	35	6700	1.93	6.83	-0.76
882	SLE FR 4	106	41	6897	1.88	6.91	-0.75
882	SLE FR 5	107	37	6937	1.98	7.2	-0.78
882	SLE FR 6	108	38	7064	1.98	7.34	-0.77
882	SLE QP 1	105	35	6670	1.9	6.72	-0.75
882	SLE QP 2	107	37	6907	1.95	7.09	-0.76
882	SLD 1	634	214	5656	-1.76	0.72	-2.71
882	SLD 2	576	305	5594	-2.28	1.76	-0.51
882	SLD 3	675	-172	6753	5.54	20.16	-4.23
882	SLD 4	617	-81	6691	5.02	21.21	-2.03
882	SLD 5	213	659	4878	-10.14	-24.49	0.57
882	SLD 6	175	718	4838	-10.48	-23.82	2
882	SLD 7	350	-627	8536	14.18	40.32	-4.49
882	SLD 8	312	-568	8496	13.84	40.99	-3.07
882	SLD 9	-98	642	5318	-9.95	-26.82	1.54
882	SLD 10	-136	700	5278	-10.29	-26.14	2.96
882	SLD 11	38	-645	8975	14.37	37.99	-3.52
882	SLD 12	0	-586	8935	14.03	38.67	-2.1
882	SLD 13	-403	155	7122	-1.12	-7.03	0.51
882	SLD 14	-462	245	7060	-1.65	-5.98	2.71
882	SLD 15	-362	-231	8219	6.17	12.42	-1.01
882	SLD 16	-421	-141	8157	5.65	13.46	1.19
882	SLV 1	930	339	4884	-4.31	-3.86	-3.74
882	SLV 2	838	481	4786	-5.13	-2.21	-0.27
882	SLV 3	999	-314	6739	8.02	29.02	-6.3
882	SLV 4	907	-171	6641	7.2	30.66	-2.84
882	SLV 5	266	1090	3505	-18.48	-46.37	1.59
882	SLV 6	204	1186	3439	-19.03	-45.26	3.92
882	SLV 7	497	-1084	9687	22.62	63.23	-6.97
882	SLV 8	435	-988	9622	22.07	64.33	-4.63
882	SLV 9	-221	1061	4191	-18.17	-50.15	3.11
882	SLV 10	-283	1157	4126	-18.73	-49.05	5.44
882	SLV 11	9	-1112	10374	22.92	59.44	-5.45
882	SLV 12	-53	-1016	10308	22.37	60.54	-3.12
882	SLV 13	-694	244	7172	-3.31	-16.49	1.31
882	SLV 14	-786	387	7075	-4.13	-14.84	4.78
882	SLV 15	-625	-408	9027	9.02	16.39	-1.25
882	SLV 16	-717	-265	8930	8.2	18.04	2.21
882	SLV FO 1	1013	369	4681	-4.93	-4.95	-4.03
882	SLV FO 2	911	526	4574	-5.84	-3.15	-0.22
882	SLV FO 3	1089	-349	6722	8.63	31.21	-6.86
882	SLV FO 4	987	-192	6615	7.72	33.02	-3.05
882	SLV FO 5	282	1195	3165	-20.52	-51.71	1.83
882	SLV FO 6	214	1301	3093	-21.13	-50.49	4.39
882	SLV FO 7	536	-1196	9966	24.69	68.84	-7.59
882	SLV FO 8	467	-1091	9893	24.08	70.06	-5.02
882	SLV FO 9	-254	1164	3920	-20.19	-55.88	3.49
882	SLV FO 10	-322	1269	3848	-20.8	-54.66	6.06
882	SLV FO 11	0	-1227	10721	25.02	64.67	-5.92
882	SLV FO 12	-69	-1122	10649	24.41	65.89	-3.35
882	SLV FO 13	-774	265	7199	-3.83	-18.84	1.52
882	SLV FO 14	-875	422	7092	-4.74	-17.03	5.33
882	SLV FO 15	-698	-452	9239	9.73	17.32	-1.3
882	SLV FO 16	-799	-295	9132	8.83	19.13	2.51
882	CRTFP Ux+	0	0	0	0	0	0
882	CRTFP Ux-	0	0	0	0	0	0
882	CRTFP Uy+	0	0	0	0	0	0
882	CRTFP Uy-	0	0	0	0	0	0
885	SLU 1	63	24	3850	-1.84	729.17	-8.32
885	SLU 2	62	49	3806	-2.18	725.01	-16.95
885	SLU 3	65	25	3946	-1.8	745.11	-8.58
885	SLU 4	64	39	3920	-2	742.61	-13.76
885	SLU 5	63	50	3869	-2.12	735.2	-17.33
885	SLU 6	66	26	4009	-1.75	755.31	-8.96
885	SLU 7	65	40	3983	-1.95	752.81	-14.14
885	SLU 8	65	26	3975	-1.74	749.56	-9.08
885	SLU 9	65	41	3949	-1.94	747.06	-14.25
885	SLU 10	66	51	4271	-2.48	808.7	-17.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
885	SLU 11	69	28	4412	-2.1	828.8	-9.61
885	SLU 12	68	42	4386	-2.3	826.3	-14.79
885	SLU 13	67	53	4334	-2.43	818.89	-18.35
885	SLU 14	70	29	4475	-2.05	839	-9.99
885	SLU 15	69	43	4448	-2.25	836.5	-15.16
885	SLU 16	70	29	4441	-2.04	833.25	-10.1
885	SLU 17	69	44	4414	-2.24	830.75	-15.28
885	SLU 18	69	28	4515	-2.27	848.73	-9.79
885	SLU 19	68	43	4488	-2.47	846.23	-14.96
885	SLU 20	70	29	4577	-2.22	858.92	-10.17
885	SLU 21	70	44	4551	-2.42	856.42	-15.34
885	SLU 22	70	24	4456	-1.99	835.28	-8.53
885	SLU 23	69	49	4412	-2.32	831.12	-17.16
885	SLU 24	72	25	4553	-1.94	851.23	-8.79
885	SLU 25	71	40	4527	-2.14	848.73	-13.97
885	SLU 26	70	50	4475	-2.27	841.31	-17.54
885	SLU 27	73	26	4616	-1.89	861.42	-9.17
885	SLU 28	73	41	4589	-2.09	858.92	-14.34
885	SLU 29	73	27	4582	-1.89	855.67	-9.28
885	SLU 30	72	41	4555	-2.09	853.17	-14.46
885	SLU 31	73	52	4878	-2.62	914.81	-18.18
885	SLU 32	76	28	5018	-2.24	934.91	-9.82
885	SLU 33	76	43	4992	-2.44	932.41	-14.99
885	SLU 34	75	53	4941	-2.57	925	-18.56
885	SLU 35	78	29	5081	-2.19	945.11	-10.19
885	SLU 36	77	44	5055	-2.39	942.61	-15.37
885	SLU 37	77	30	5047	-2.19	939.36	-10.31
885	SLU 38	76	44	5021	-2.39	936.86	-15.49
885	SLU 39	77	29	5121	-2.42	954.84	-9.99
885	SLU 40	76	43	5095	-2.62	952.34	-15.17
885	SLU 41	78	30	5184	-2.37	965.03	-10.37
885	SLU 42	77	45	5158	-2.57	962.53	-15.55
885	SLU 43	79	31	4797	-2.35	911.54	-10.74
885	SLU 44	78	55	4753	-2.68	907.38	-19.37
885	SLU 45	81	32	4893	-2.3	927.48	-11
885	SLU 46	80	46	4867	-2.5	924.99	-16.18
885	SLU 47	79	57	4816	-2.63	917.57	-19.75
885	SLU 48	82	33	4956	-2.25	937.68	-11.38
885	SLU 49	82	47	4930	-2.45	935.18	-16.56
885	SLU 50	82	33	4922	-2.25	931.93	-11.5
885	SLU 51	81	48	4896	-2.44	929.43	-16.68
885	SLU 52	82	58	5218	-2.98	991.07	-20.4
885	SLU 53	85	35	5359	-2.6	1011.17	-12.03
885	SLU 54	85	49	5333	-2.8	1008.67	-17.21
885	SLU 55	84	60	5281	-2.93	1001.26	-20.78
885	SLU 56	87	36	5422	-2.55	1021.37	-12.41
885	SLU 57	86	50	5395	-2.75	1018.87	-17.59
885	SLU 58	86	36	5388	-2.55	1015.62	-12.53
885	SLU 59	85	51	5361	-2.75	1013.12	-17.71
885	SLU 60	85	35	5462	-2.78	1031.1	-12.21
885	SLU 61	85	50	5435	-2.98	1028.6	-17.39
885	SLU 62	87	36	5524	-2.73	1041.29	-12.59
885	SLU 63	86	51	5498	-2.93	1038.79	-17.77
885	SLU 64	87	31	5403	-2.49	1017.65	-10.95
885	SLU 65	86	56	5359	-2.82	1013.49	-19.58
885	SLU 66	89	32	5500	-2.45	1033.6	-11.21
885	SLU 67	88	47	5474	-2.65	1031.1	-16.39
885	SLU 68	87	57	5422	-2.77	1023.68	-19.96
885	SLU 69	90	33	5563	-2.4	1043.79	-11.59
885	SLU 70	89	48	5536	-2.59	1041.29	-16.77
885	SLU 71	89	34	5529	-2.39	1038.04	-11.71
885	SLU 72	88	48	5502	-2.59	1035.54	-16.89
885	SLU 73	90	59	5825	-3.13	1097.18	-20.61
885	SLU 74	93	35	5965	-2.75	1117.28	-12.24
885	SLU 75	92	50	5939	-2.95	1114.78	-17.42
885	SLU 76	91	60	5888	-3.07	1107.37	-20.99
885	SLU 77	94	36	6028	-2.7	1127.48	-12.62
885	SLU 78	93	51	6002	-2.9	1124.98	-17.8
885	SLU 79	93	37	5994	-2.69	1121.73	-12.74
885	SLU 80	93	51	5968	-2.89	1119.23	-17.91
885	SLU 81	93	36	6068	-2.92	1137.21	-12.42
885	SLU 82	92	50	6042	-3.12	1134.71	-17.6
885	SLU 83	94	37	6131	-2.87	1147.4	-12.8
885	SLU 84	93	52	6105	-3.07	1144.9	-17.98
885	SLE RA 1	65	24	4023	-1.89	759.49	-8.38
885	SLE RA 2	64	40	3994	-2.11	756.71	-14.13
885	SLE RA 3	66	25	4087	-1.85	770.12	-8.55
885	SLE RA 4	66	34	4070	-1.99	768.45	-12
885	SLE RA 5	65	41	4036	-2.07	763.51	-14.38
885	SLE RA 6	67	25	4129	-1.82	776.91	-8.8
885	SLE RA 7	67	35	4112	-1.95	775.25	-12.26
885	SLE RA 8	67	25	4107	-1.82	773.08	-8.88
885	SLE RA 9	66	35	4089	-1.95	771.42	-12.33
885	SLE RA 10	67	42	4304	-2.31	812.5	-14.82
885	SLE RA 11	69	26	4398	-2.06	825.91	-9.24
885	SLE RA 12	69	36	4380	-2.19	824.24	-12.69
885	SLE RA 13	68	43	4346	-2.27	819.3	-15.07
885	SLE RA 14	70	27	4440	-2.02	832.71	-9.49

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
885	SLE RA 15	69	37	4422	-2.15	831.04	-12.94
885	SLE RA 16	70	27	4417	-2.02	828.87	-9.57
885	SLE RA 17	69	37	4399	-2.15	827.21	-13.02
885	SLE RA 18	69	27	4466	-2.17	839.19	-9.36
885	SLE RA 19	69	37	4449	-2.31	837.53	-12.81
885	SLE RA 20	70	28	4508	-2.14	845.99	-9.61
885	SLE RA 21	69	37	4491	-2.27	844.32	-13.06
885	SLE FR 1	65	24	4023	-1.89	759.49	-8.38
885	SLE FR 2	65	27	4017	-1.93	758.93	-9.53
885	SLE FR 3	66	24	4040	-1.87	762.21	-8.48
885	SLE FR 4	66	28	4150	-2.02	782.84	-9.82
885	SLE FR 5	67	25	4173	-1.96	786.12	-8.77
885	SLE FR 6	67	25	4245	-2.03	799.34	-8.87
885	SLE QP 1	65	24	4023	-1.89	759.49	-8.38
885	SLE QP 2	66	25	4156	-1.97	783.4	-8.67
885	SLD 1	403	84	2777	-3.74	570.58	-29.4
885	SLD 2	365	208	2722	-4.18	566.16	-72.61
885	SLD 3	420	-230	3430	1.28	631.96	80.42
885	SLD 4	382	-106	3376	0.85	627.54	37.21
885	SLD 5	149	497	2760	-10.04	627.23	-173.96
885	SLD 6	125	578	2725	-10.32	624.37	-201.92
885	SLD 7	204	-549	4939	6.69	831.83	192.12
885	SLD 8	179	-469	4904	6.41	828.97	164.17
885	SLD 9	-46	519	3408	-10.36	737.83	-181.51
885	SLD 10	-71	599	3373	-10.64	734.97	-209.46
885	SLD 11	8	-528	5587	6.38	942.43	184.58
885	SLD 12	-16	-447	5552	6.1	939.57	156.62
885	SLD 13	-249	156	4936	-4.79	939.26	-54.55
885	SLD 14	-287	280	4882	-5.22	934.84	-97.76
885	SLD 15	-232	-158	5590	0.23	1000.64	55.27
885	SLD 16	-271	-34	5535	-0.2	996.22	12.06
885	SLV 1	593	135	1962	-5.06	447.39	-47.62
885	SLV 2	533	331	1876	-5.74	440.43	-115.66
885	SLV 3	621	-395	3067	3.43	551.15	138.01
885	SLV 4	561	-200	2981	2.75	544.19	69.97
885	SLV 5	194	827	1838	-15.64	526.53	-289.2
885	SLV 6	153	958	1780	-16.1	521.84	-335.01
885	SLV 7	286	-943	5521	12.64	872.39	329.58
885	SLV 8	245	-811	5463	12.19	867.71	283.77
885	SLV 9	-113	861	2849	-16.13	699.09	-301.11
885	SLV 10	-153	992	2791	-16.59	694.41	-346.92
885	SLV 11	-20	-908	6532	12.15	1044.96	317.67
885	SLV 12	-61	-777	6474	11.7	1040.27	271.86
885	SLV 13	-428	250	5331	-6.69	1022.61	-87.31
885	SLV 14	-488	445	5245	-7.37	1015.65	-155.35
885	SLV 15	-400	-281	6436	1.79	1126.37	98.32
885	SLV 16	-460	-86	6350	1.11	1119.41	30.28
885	SLV FO 1	646	147	1742	-5.37	413.79	-51.52
885	SLV FO 2	580	361	1648	-6.11	406.13	-126.36
885	SLV FO 3	676	-437	2958	3.97	527.93	152.68
885	SLV FO 4	610	-222	2863	3.22	520.27	77.84
885	SLV FO 5	206	907	1606	-17.01	500.84	-317.25
885	SLV FO 6	162	1051	1542	-17.51	495.69	-367.64
885	SLV FO 7	308	-1039	5657	14.1	881.29	363.4
885	SLV FO 8	263	-895	5594	13.6	876.14	313.01
885	SLV FO 9	-130	944	2718	-17.55	690.66	-330.35
885	SLV FO 10	-175	1089	2654	-18.05	685.51	-380.74
885	SLV FO 11	-29	-1002	6769	13.57	1071.11	350.3
885	SLV FO 12	-74	-857	6706	13.06	1065.96	299.91
885	SLV FO 13	-477	272	5449	-7.16	1046.53	-95.18
885	SLV FO 14	-543	487	5354	-7.91	1038.87	-170.02
885	SLV FO 15	-447	-312	6664	2.17	1160.67	109.02
885	SLV FO 16	-513	-97	6570	1.42	1153.01	34.18
885	CRTFP Ux+	0	0	0	0	0	0
885	CRTFP Ux-	0	0	0	0	0	0
885	CRTFP Uy+	0	0	0	0	0	0
885	CRTFP Uy-	0	0	0	0	0	0
887	SLU 1	-89	10	6412	-0.87	-1.51	1.43
887	SLU 2	-86	42	6344	-1.37	0.57	1.33
887	SLU 3	-92	10	6583	-0.78	-2.05	1.48
887	SLU 4	-90	29	6542	-1.08	-0.8	1.42
887	SLU 5	-88	42	6457	-1.3	0.16	1.36
887	SLU 6	-93	10	6696	-0.71	-2.46	1.51
887	SLU 7	-91	29	6655	-1.01	-1.21	1.45
887	SLU 8	-92	10	6639	-0.73	-2.33	1.49
887	SLU 9	-90	29	6598	-1.03	-1.08	1.43
887	SLU 10	-92	43	7190	-1.59	-0.91	1.55
887	SLU 11	-97	11	7429	-1	-3.52	1.7
887	SLU 12	-95	30	7388	-1.3	-2.28	1.64
887	SLU 13	-93	43	7303	-1.52	-1.32	1.58
887	SLU 14	-98	11	7543	-0.93	-3.93	1.73
887	SLU 15	-96	30	7501	-1.23	-2.69	1.67
887	SLU 16	-97	11	7485	-0.95	-3.81	1.72
887	SLU 17	-95	30	7444	-1.25	-2.56	1.66
887	SLU 18	-97	12	7621	-1.19	-3.62	1.75
887	SLU 19	-95	31	7580	-1.48	-2.37	1.69
887	SLU 20	-98	12	7735	-1.12	-4.03	1.78
887	SLU 21	-97	31	7693	-1.41	-2.78	1.72

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
887	SLU 22	-101	10	7503	-0.79	-3.75	1.71
887	SLU 23	-98	42	7434	-1.29	-1.67	1.6
887	SLU 24	-103	10	7673	-0.7	-4.29	1.75
887	SLU 25	-101	29	7632	-1	-3.04	1.69
887	SLU 26	-99	42	7547	-1.22	-2.08	1.63
887	SLU 27	-104	10	7787	-0.63	-4.7	1.78
887	SLU 28	-103	29	7745	-0.93	-3.45	1.72
887	SLU 29	-103	10	7729	-0.65	-4.57	1.77
887	SLU 30	-102	29	7688	-0.95	-3.32	1.71
887	SLU 31	-103	43	8280	-1.51	-3.15	1.83
887	SLU 32	-109	11	8520	-0.92	-5.76	1.98
887	SLU 33	-107	30	8478	-1.22	-4.52	1.92
887	SLU 34	-104	43	8394	-1.44	-3.56	1.86
887	SLU 35	-110	11	8633	-0.85	-6.17	2.01
887	SLU 36	-108	30	8592	-1.15	-4.92	1.95
887	SLU 37	-109	11	8576	-0.87	-6.04	1.99
887	SLU 38	-107	30	8534	-1.17	-4.8	1.93
887	SLU 39	-109	12	8712	-1.11	-5.86	2.03
887	SLU 40	-107	31	8670	-1.4	-4.61	1.96
887	SLU 41	-110	12	8825	-1.04	-6.27	2.06
887	SLU 42	-108	31	8784	-1.33	-5.02	2
887	SLU 43	-112	13	7962	-1.16	-1.2	1.76
887	SLU 44	-109	45	7893	-1.66	0.88	1.66
887	SLU 45	-115	13	8133	-1.07	-1.73	1.81
887	SLU 46	-113	32	8092	-1.37	-0.49	1.75
887	SLU 47	-111	45	8007	-1.59	0.47	1.69
887	SLU 48	-116	13	8246	-1	-2.14	1.84
887	SLU 49	-114	32	8205	-1.3	-0.9	1.78
887	SLU 50	-115	13	8189	-1.02	-2.02	1.83
887	SLU 51	-113	32	8147	-1.32	-0.77	1.76
887	SLU 52	-115	46	8740	-1.88	-0.6	1.88
887	SLU 53	-120	14	8979	-1.29	-3.21	2.04
887	SLU 54	-118	33	8938	-1.59	-1.96	1.97
887	SLU 55	-116	46	8853	-1.81	-1.01	1.92
887	SLU 56	-121	14	9092	-1.22	-3.62	2.07
887	SLU 57	-119	33	9051	-1.52	-2.37	2.01
887	SLU 58	-120	14	9035	-1.24	-3.49	2.05
887	SLU 59	-118	33	8994	-1.54	-2.25	1.99
887	SLU 60	-120	15	9171	-1.48	-3.31	2.08
887	SLU 61	-118	34	9130	-1.77	-2.06	2.02
887	SLU 62	-121	15	9285	-1.41	-3.72	2.12
887	SLU 63	-119	34	9243	-1.7	-2.47	2.05
887	SLU 64	-124	13	9053	-1.08	-3.44	2.04
887	SLU 65	-121	44	8984	-1.58	-1.36	1.94
887	SLU 66	-126	13	9223	-0.99	-3.97	2.09
887	SLU 67	-124	32	9182	-1.29	-2.73	2.03
887	SLU 68	-122	44	9097	-1.51	-1.77	1.97
887	SLU 69	-127	13	9336	-0.92	-4.38	2.12
887	SLU 70	-126	32	9295	-1.22	-3.13	2.06
887	SLU 71	-126	13	9279	-0.94	-4.25	2.1
887	SLU 72	-124	32	9238	-1.24	-3.01	2.04
887	SLU 73	-126	46	9830	-1.8	-2.83	2.16
887	SLU 74	-132	14	10070	-1.21	-5.45	2.31
887	SLU 75	-130	33	10028	-1.51	-4.2	2.25
887	SLU 76	-127	46	9943	-1.73	-3.24	2.19
887	SLU 77	-133	14	10183	-1.14	-5.86	2.34
887	SLU 78	-131	33	10141	-1.44	-4.61	2.28
887	SLU 79	-132	14	10125	-1.16	-5.73	2.33
887	SLU 80	-130	33	10084	-1.46	-4.48	2.27
887	SLU 81	-132	15	10262	-1.4	-5.54	2.36
887	SLU 82	-130	34	10220	-1.69	-4.3	2.3
887	SLU 83	-133	14	10375	-1.33	-5.95	2.39
887	SLU 84	-131	34	10334	-1.62	-4.71	2.33
887	SLE RA 1	-93	10	6724	-0.85	-2.15	1.51
887	SLE RA 2	-91	31	6678	-1.18	-0.77	1.44
887	SLE RA 3	-94	10	6838	-0.79	-2.51	1.54
887	SLE RA 4	-93	22	6810	-0.99	-1.68	1.5
887	SLE RA 5	-92	31	6754	-1.13	-1.04	1.46
887	SLE RA 6	-95	10	6913	-0.74	-2.78	1.56
887	SLE RA 7	-94	22	6886	-0.94	-1.95	1.52
887	SLE RA 8	-94	10	6875	-0.76	-2.7	1.55
887	SLE RA 9	-93	22	6847	-0.95	-1.87	1.51
887	SLE RA 10	-94	32	7242	-1.33	-1.75	1.59
887	SLE RA 11	-98	11	7402	-0.94	-3.49	1.69
887	SLE RA 12	-97	23	7374	-1.13	-2.66	1.65
887	SLE RA 13	-95	32	7318	-1.28	-2.02	1.61
887	SLE RA 14	-99	11	7477	-0.89	-3.77	1.71
887	SLE RA 15	-97	23	7450	-1.09	-2.93	1.67
887	SLE RA 16	-98	11	7439	-0.9	-3.68	1.7
887	SLE RA 17	-97	23	7412	-1.1	-2.85	1.66
887	SLE RA 18	-98	11	7530	-1.06	-3.56	1.72
887	SLE RA 19	-97	24	7502	-1.26	-2.73	1.68
887	SLE RA 20	-99	11	7605	-1.01	-3.83	1.74
887	SLE RA 21	-97	24	7578	-1.21	-3	1.7
887	SLE FR 1	-93	10	6724	-0.85	-2.15	1.51
887	SLE FR 2	-92	14	6715	-0.92	-1.87	1.49
887	SLE FR 3	-93	10	6754	-0.83	-2.26	1.52
887	SLE FR 4	-94	14	6957	-0.98	-2.3	1.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
887	SLE FR 5	-95	10	6996	-0.89	-2.68	1.58
887	SLE FR 6	-95	10	7127	-0.96	-2.85	1.62
887	SLE QP 1	-93	10	6724	-0.85	-2.15	1.51
887	SLE QP 2	-94	10	6966	-0.91	-2.57	1.57
887	SLD 1	497	292	7199	-4.58	15.77	-2.24
887	SLD 2	435	195	7246	-4.07	14.33	0.06
887	SLD 3	457	-112	8232	2.71	-13.33	-0.85
887	SLD 4	396	-209	8279	3.22	-14.77	1.44
887	SLD 5	154	723	5462	-13.15	47.32	-2.07
887	SLD 6	114	660	5492	-12.82	46.39	-0.58
887	SLD 7	22	-621	8904	11.14	-49.69	2.54
887	SLD 8	-18	-684	8934	11.47	-50.62	4.03
887	SLD 9	-170	705	4998	-13.29	45.48	-0.88
887	SLD 10	-210	642	5028	-12.97	44.54	0.6
887	SLD 11	-303	-640	8440	11	-51.53	3.73
887	SLD 12	-343	-703	8470	11.33	-52.46	5.21
887	SLD 13	-584	229	5653	-5.05	9.62	1.7
887	SLD 14	-646	132	5700	-4.54	8.19	4
887	SLD 15	-624	-174	6685	2.24	-19.48	3.09
887	SLD 16	-686	-272	6732	2.75	-20.92	5.38
887	SLV 1	834	477	7263	-7.09	28.35	-4.49
887	SLV 2	737	324	7337	-6.29	26.09	-0.88
887	SLV 3	767	-205	9008	5.22	-20.84	-2.16
887	SLV 4	670	-358	9081	6.02	-23.1	1.46
887	SLV 5	304	1212	4395	-21.59	81.73	-4.46
887	SLV 6	239	1109	4445	-21.06	80.2	-2.03
887	SLV 7	80	-1060	10211	19.45	-82.23	3.32
887	SLV 8	15	-1163	10260	19.99	-83.76	5.75
887	SLV 9	-204	1183	3671	-21.82	78.61	-2.6
887	SLV 10	-269	1080	3721	-21.28	77.09	-0.17
887	SLV 11	-428	-1089	9487	19.23	-85.35	5.17
887	SLV 12	-493	-1192	9536	19.77	-86.87	7.6
887	SLV 13	-859	378	4850	-7.85	17.96	1.69
887	SLV 14	-956	225	4924	-7.05	15.69	5.3
887	SLV 15	-926	-304	6595	4.47	-31.23	4.02
887	SLV 16	-1023	-457	6668	5.27	-33.49	7.63
887	SLV FO 1	927	524	7293	-7.71	31.44	-5.1
887	SLV FO 2	820	355	7374	-6.83	28.95	-1.12
887	SLV FO 3	853	-226	9212	5.83	-22.66	-2.53
887	SLV FO 4	746	-395	9293	6.71	-25.16	1.44
887	SLV FO 5	344	1333	4138	-23.66	90.16	-5.06
887	SLV FO 6	272	1219	4193	-23.07	88.48	-2.38
887	SLV FO 7	98	-1167	10535	21.49	-90.2	3.49
887	SLV FO 8	26	-1280	10590	22.08	-91.87	6.17
887	SLV FO 9	-214	1300	3342	-23.91	86.73	-3.02
887	SLV FO 10	-286	1187	3396	-23.32	85.05	-0.35
887	SLV FO 11	-461	-1199	9739	21.24	-93.63	5.53
887	SLV FO 12	-533	-1313	9793	21.83	-95.3	8.21
887	SLV FO 13	-935	415	4638	-8.54	20.01	1.7
887	SLV FO 14	-1042	246	4720	-7.66	17.52	5.68
887	SLV FO 15	-1009	-335	6558	5.01	-34.1	4.27
887	SLV FO 16	-1116	-503	6639	5.89	-36.59	8.24
887	CRTFP Ux+	0	0	0	0	0	0
887	CRTFP Ux-	0	0	0	0	0	0
887	CRTFP Uy+	0	0	0	0	0	0
887	CRTFP Uy-	0	0	0	0	0	0
890	SLU 1	10	33	2325	26.57	452.14	-8.38
890	SLU 2	11	48	2309	26.27	450.73	-12
890	SLU 3	11	34	2383	27.26	463.01	-8.57
890	SLU 4	11	43	2374	27.08	462.17	-10.74
890	SLU 5	11	48	2348	26.73	457.91	-12.09
890	SLU 6	11	35	2422	27.72	470.19	-8.66
890	SLU 7	12	43	2413	27.54	469.35	-10.83
890	SLU 8	11	34	2402	27.49	466.49	-8.56
890	SLU 9	12	43	2393	27.31	465.65	-10.73
890	SLU 10	12	51	2618	29.73	509.03	-12.73
890	SLU 11	12	37	2693	30.73	521.31	-9.31
890	SLU 12	13	46	2683	30.55	520.47	-11.48
890	SLU 13	13	51	2657	30.19	516.21	-12.82
890	SLU 14	13	38	2731	31.19	528.49	-9.4
890	SLU 15	13	46	2722	31.01	527.65	-11.57
890	SLU 16	13	37	2712	30.96	524.79	-9.29
890	SLU 17	13	46	2702	30.78	523.95	-11.46
890	SLU 18	12	38	2767	31.52	535.42	-9.43
890	SLU 19	13	46	2757	31.34	534.58	-11.6
890	SLU 20	13	38	2805	31.98	542.6	-9.52
890	SLU 21	13	47	2796	31.8	541.76	-11.69
890	SLU 22	12	38	2711	31.02	524.32	-9.6
890	SLU 23	13	53	2695	30.72	522.92	-13.21
890	SLU 24	13	39	2770	31.72	535.2	-9.79
890	SLU 25	13	48	2760	31.54	534.36	-11.96
890	SLU 26	13	53	2734	31.18	530.1	-13.3
890	SLU 27	13	39	2809	32.18	542.38	-9.88
890	SLU 28	14	48	2799	32	541.54	-12.05
890	SLU 29	13	39	2789	31.95	538.68	-9.77
890	SLU 30	14	48	2779	31.77	537.84	-11.94
890	SLU 31	14	56	3005	34.19	581.22	-13.95
890	SLU 32	14	42	3079	35.18	593.5	-10.52

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
890	SLU 33	14	51	3070	35	592.65	-12.69
890	SLU 34	15	56	3043	34.65	588.39	-14.04
890	SLU 35	15	42	3118	35.65	600.68	-10.61
890	SLU 36	15	51	3108	35.46	599.83	-12.78
890	SLU 37	15	42	3098	35.41	596.98	-10.51
890	SLU 38	15	51	3089	35.23	596.14	-12.68
890	SLU 39	14	43	3153	35.98	607.61	-10.65
890	SLU 40	14	51	3144	35.79	606.76	-12.82
890	SLU 41	15	43	3192	36.44	614.79	-10.74
890	SLU 42	15	52	3182	36.26	613.94	-12.91
890	SLU 43	13	42	2890	33.01	563.03	-10.48
890	SLU 44	13	56	2874	32.71	561.62	-14.1
890	SLU 45	14	43	2948	33.71	573.9	-10.67
890	SLU 46	14	51	2939	33.52	573.06	-12.84
890	SLU 47	14	57	2912	33.17	568.8	-14.18
890	SLU 48	14	43	2987	34.17	581.08	-10.76
890	SLU 49	14	52	2977	33.99	580.24	-12.93
890	SLU 50	14	43	2967	33.93	577.39	-10.65
890	SLU 51	14	51	2958	33.75	576.54	-12.82
890	SLU 52	15	59	3183	36.18	619.92	-14.83
890	SLU 53	15	46	3257	37.17	632.2	-11.41
890	SLU 54	15	54	3248	36.99	631.36	-13.58
890	SLU 55	15	60	3222	36.64	627.1	-14.92
890	SLU 56	15	46	3296	37.63	639.38	-11.49
890	SLU 57	16	55	3287	37.45	638.54	-13.66
890	SLU 58	15	45	3276	37.4	635.68	-11.39
890	SLU 59	15	54	3267	37.22	634.84	-13.56
890	SLU 60	15	46	3331	37.96	646.31	-11.53
890	SLU 61	15	55	3322	37.78	645.47	-13.7
890	SLU 62	15	46	3370	38.43	653.49	-11.62
890	SLU 63	16	55	3361	38.24	652.65	-13.79
890	SLU 64	15	47	3276	37.47	635.21	-11.69
890	SLU 65	15	61	3260	37.17	633.81	-15.31
890	SLU 66	15	47	3335	38.16	646.09	-11.89
890	SLU 67	16	56	3325	37.98	645.25	-14.06
890	SLU 68	16	61	3299	37.63	640.99	-15.4
890	SLU 69	16	48	3374	38.62	653.27	-11.97
890	SLU 70	16	56	3364	38.44	652.43	-14.14
890	SLU 71	16	47	3354	38.39	649.57	-11.87
890	SLU 72	16	56	3344	38.21	648.73	-14.04
890	SLU 73	17	64	3569	40.63	692.11	-16.05
890	SLU 74	17	50	3644	41.63	704.39	-12.62
890	SLU 75	17	59	3634	41.45	703.55	-14.79
890	SLU 76	17	64	3608	41.09	699.29	-16.14
890	SLU 77	17	51	3683	42.09	711.57	-12.71
890	SLU 78	17	59	3673	41.91	710.72	-14.88
890	SLU 79	17	50	3663	41.86	707.87	-12.61
890	SLU 80	17	59	3653	41.67	707.03	-14.78
890	SLU 81	17	51	3718	42.42	718.5	-12.75
890	SLU 82	17	60	3708	42.24	717.65	-14.92
890	SLU 83	17	51	3757	42.88	725.68	-12.83
890	SLU 84	17	60	3747	42.7	724.83	-15
890	SLE RA 1	11	35	2435	27.84	472.76	-8.73
890	SLE RA 2	11	44	2425	27.64	471.82	-11.14
890	SLE RA 3	11	35	2474	28.3	480.01	-8.86
890	SLE RA 4	12	41	2468	28.18	479.45	-10.3
890	SLE RA 5	12	45	2450	27.95	476.61	-11.2
890	SLE RA 6	12	36	2500	28.61	484.8	-8.91
890	SLE RA 7	12	41	2494	28.49	484.24	-10.36
890	SLE RA 8	12	35	2487	28.46	482.33	-8.85
890	SLE RA 9	12	41	2481	28.34	481.77	-10.29
890	SLE RA 10	12	46	2631	29.95	510.69	-11.63
890	SLE RA 11	12	37	2680	30.62	518.88	-9.35
890	SLE RA 12	12	43	2674	30.49	518.32	-10.79
890	SLE RA 13	12	47	2657	30.26	515.48	-11.69
890	SLE RA 14	13	38	2706	30.92	523.66	-9.41
890	SLE RA 15	13	43	2700	30.8	523.1	-10.85
890	SLE RA 16	12	37	2693	30.77	521.2	-9.34
890	SLE RA 17	13	43	2687	30.65	520.64	-10.78
890	SLE RA 18	12	38	2730	31.14	528.28	-9.43
890	SLE RA 19	12	43	2723	31.02	527.72	-10.88
890	SLE RA 20	13	38	2756	31.45	533.07	-9.49
890	SLE RA 21	13	44	2749	31.33	532.51	-10.94
890	SLE FR 1	11	35	2435	27.84	472.76	-8.73
890	SLE FR 2	11	37	2433	27.8	472.57	-9.21
890	SLE FR 3	11	35	2446	27.97	474.68	-8.75
890	SLE FR 4	11	38	2521	28.79	489.23	-9.42
890	SLE FR 5	11	36	2534	28.96	491.33	-8.96
890	SLE FR 6	12	36	2582	29.49	500.52	-9.08
890	SLE QP 1	11	35	2435	27.84	472.76	-8.73
890	SLE QP 2	11	36	2524	28.83	489.42	-8.94
890	SLD 1	268	141	2510	27.96	496.83	-37.94
890	SLD 2	247	123	2507	27.96	495.53	-33.24
890	SLD 3	262	-39	2766	32.68	522.03	7.08
890	SLD 4	241	-56	2762	32.68	520.73	11.77
890	SLD 5	101	343	2132	21.41	453.65	-86.73
890	SLD 6	87	331	2130	21.41	452.81	-83.69
890	SLD 7	81	-256	2985	37.14	537.64	63.33

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
890	SLD 8	68	-267	2983	37.14	536.8	66.37
890	SLD 9	-45	339	2065	20.52	442.04	-84.24
890	SLD 10	-59	327	2063	20.52	441.19	-81.2
890	SLD 11	-65	-260	2917	36.25	526.02	65.81
890	SLD 12	-78	-271	2915	36.25	525.18	68.85
890	SLD 13	-218	127	2285	24.98	458.11	-29.65
890	SLD 14	-240	110	2281	24.98	456.81	-24.95
890	SLD 15	-224	-52	2540	29.7	483.3	15.37
890	SLD 16	-246	-69	2537	29.7	482	20.06
890	SLV 1	414	212	2486	27.17	499.33	-57.19
890	SLV 2	380	184	2481	27.17	497.29	-49.79
890	SLV 3	404	-92	2918	35.14	541.97	18.87
890	SLV 4	370	-119	2913	35.14	539.92	26.26
890	SLV 5	154	554	1858	16.24	428.1	-140.14
890	SLV 6	131	535	1854	16.24	426.73	-135.16
890	SLV 7	120	-457	3298	42.82	570.23	113.37
890	SLV 8	98	-476	3295	42.82	568.86	118.35
890	SLV 9	-75	547	1752	14.84	409.98	-136.23
890	SLV 10	-97	529	1749	14.84	408.6	-131.25
890	SLV 11	-108	-464	3193	41.43	552.11	117.28
890	SLV 12	-131	-482	3190	41.43	550.73	122.26
890	SLV 13	-348	190	2134	22.52	438.91	-44.14
890	SLV 14	-381	163	2129	22.52	436.87	-36.74
890	SLV 15	-358	-113	2567	30.5	481.55	31.91
890	SLV 16	-391	-140	2561	30.5	479.51	39.31
890	SLV FO 1	454	229	2482	27	500.32	-62.01
890	SLV FO 2	417	199	2476	27	498.07	-53.88
890	SLV FO 3	443	-104	2957	35.77	547.23	21.65
890	SLV FO 4	406	-134	2952	35.78	544.97	29.78
890	SLV FO 5	168	605	1791	14.98	421.97	-153.26
890	SLV FO 6	143	585	1787	14.98	420.46	-147.78
890	SLV FO 7	131	-507	3376	44.22	578.32	125.6
890	SLV FO 8	106	-527	3372	44.22	576.8	131.08
890	SLV FO 9	-83	598	1675	13.44	402.04	-148.96
890	SLV FO 10	-108	578	1671	13.44	400.52	-143.48
890	SLV FO 11	-120	-514	3260	42.69	558.38	129.91
890	SLV FO 12	-145	-534	3256	42.69	556.86	135.38
890	SLV FO 13	-384	206	2095	21.89	433.86	-47.66
890	SLV FO 14	-420	176	2090	21.89	431.61	-39.53
890	SLV FO 15	-395	-128	2571	30.66	480.76	36
890	SLV FO 16	-431	-158	2565	30.66	478.51	44.13
890	CRTFP Ux+	0	0	0	0	0	0
890	CRTFP Ux-	0	0	0	0	0	0
890	CRTFP Uy+	0	0	0	0	0	0
890	CRTFP Uy-	0	0	0	0	0	0
892	SLU 1	27	58	4165	50.95	-34.79	0.1
892	SLU 2	27	86	4128	50.22	-34.67	0.15
892	SLU 3	28	58	4264	52.23	-35.82	0.09
892	SLU 4	28	75	4242	51.79	-35.75	0.12
892	SLU 5	28	86	4193	51.07	-35.32	0.14
892	SLU 6	29	58	4330	53.08	-36.48	0.07
892	SLU 7	29	75	4307	52.64	-36.41	0.11
892	SLU 8	29	58	4295	52.64	-36.09	0.07
892	SLU 9	29	74	4273	52.2	-36.02	0.1
892	SLU 10	30	90	4687	56.98	-38.46	0.19
892	SLU 11	31	62	4823	58.99	-39.61	0.12
892	SLU 12	31	79	4801	58.56	-39.54	0.16
892	SLU 13	31	89	4752	57.83	-39.11	0.17
892	SLU 14	32	62	4889	59.84	-40.26	0.11
892	SLU 15	32	79	4866	59.4	-40.19	0.14
892	SLU 16	32	61	4854	59.4	-39.88	0.1
892	SLU 17	32	78	4832	58.97	-39.81	0.13
892	SLU 18	31	64	4964	60.61	-40.2	0.15
892	SLU 19	31	80	4941	60.17	-40.12	0.18
892	SLU 20	32	63	5029	61.45	-40.85	0.13
892	SLU 21	32	80	5007	61.02	-40.78	0.16
892	SLU 22	32	63	4858	59.58	-39.9	0.15
892	SLU 23	32	91	4822	58.86	-39.78	0.21
892	SLU 24	33	64	4958	60.86	-40.94	0.14
892	SLU 25	33	80	4936	60.43	-40.86	0.17
892	SLU 26	33	91	4887	59.7	-40.43	0.19
892	SLU 27	34	63	5023	61.71	-41.59	0.13
892	SLU 28	34	80	5001	61.27	-41.52	0.16
892	SLU 29	34	63	4989	61.27	-41.2	0.12
892	SLU 30	34	79	4967	60.84	-41.13	0.15
892	SLU 31	35	95	5380	65.62	-43.57	0.24
892	SLU 32	36	67	5517	67.63	-44.72	0.17
892	SLU 33	36	84	5495	67.19	-44.65	0.21
892	SLU 34	36	95	5446	66.46	-44.22	0.22
892	SLU 35	37	67	5582	68.47	-45.37	0.16
892	SLU 36	37	84	5560	68.04	-45.3	0.19
892	SLU 37	37	67	5548	68.04	-44.99	0.15
892	SLU 38	37	83	5526	67.6	-44.92	0.19
892	SLU 39	36	69	5657	69.24	-45.31	0.2
892	SLU 40	36	85	5635	68.81	-45.24	0.23
892	SLU 41	37	68	5722	70.09	-45.96	0.18
892	SLU 42	37	85	5700	69.65	-45.89	0.22
892	SLU 43	33	74	5177	63.27	-43.47	0.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
892	SLU 44	33	101	5140	62.55	-43.36	0.17
892	SLU 45	35	74	5276	64.55	-44.51	0.1
892	SLU 46	35	91	5254	64.12	-44.44	0.13
892	SLU 47	34	101	5205	63.39	-44.01	0.15
892	SLU 48	36	74	5341	65.4	-45.16	0.09
892	SLU 49	36	90	5319	64.96	-45.09	0.12
892	SLU 50	35	73	5307	64.96	-44.78	0.08
892	SLU 51	36	90	5285	64.53	-44.71	0.11
892	SLU 52	36	105	5699	69.31	-47.14	0.2
892	SLU 53	38	78	5835	71.32	-48.29	0.13
892	SLU 54	38	95	5813	70.88	-48.22	0.17
892	SLU 55	38	105	5764	70.15	-47.79	0.18
892	SLU 56	39	78	5900	72.16	-48.95	0.12
892	SLU 57	39	94	5878	71.73	-48.87	0.15
892	SLU 58	38	77	5866	71.73	-48.56	0.11
892	SLU 59	39	94	5844	71.29	-48.49	0.15
892	SLU 60	38	79	5975	72.93	-48.88	0.16
892	SLU 61	38	96	5953	72.5	-48.81	0.19
892	SLU 62	39	79	6041	73.78	-49.53	0.14
892	SLU 63	39	96	6018	73.34	-49.46	0.18
892	SLU 64	38	79	5870	71.91	-48.58	0.16
892	SLU 65	38	107	5833	71.18	-48.47	0.22
892	SLU 66	39	79	5969	73.19	-49.62	0.15
892	SLU 67	39	96	5947	72.75	-49.55	0.19
892	SLU 68	39	106	5899	72.03	-49.12	0.2
892	SLU 69	40	79	6035	74.03	-50.27	0.14
892	SLU 70	41	96	6013	73.6	-50.2	0.17
892	SLU 71	40	78	6001	73.6	-49.89	0.13
892	SLU 72	40	95	5978	73.16	-49.82	0.16
892	SLU 73	41	110	6392	77.94	-52.25	0.25
892	SLU 74	42	83	6528	79.95	-53.4	0.19
892	SLU 75	43	100	6506	79.51	-53.33	0.22
892	SLU 76	42	110	6457	78.79	-52.9	0.24
892	SLU 77	44	83	6594	80.8	-54.06	0.17
892	SLU 78	44	99	6572	80.36	-53.99	0.2
892	SLU 79	43	82	6560	80.36	-53.67	0.16
892	SLU 80	43	99	6537	79.92	-53.6	0.2
892	SLU 81	42	84	6669	81.57	-53.99	0.21
892	SLU 82	42	101	6647	81.13	-53.92	0.24
892	SLU 83	43	84	6734	82.41	-54.64	0.19
892	SLU 84	44	101	6712	81.98	-54.57	0.23
892	SLE RA 1	28	60	4363	53.41	-36.25	0.11
892	SLE RA 2	28	78	4339	52.93	-36.17	0.15
892	SLE RA 3	29	60	4429	54.27	-36.94	0.11
892	SLE RA 4	29	71	4415	53.98	-36.89	0.13
892	SLE RA 5	29	78	4382	53.49	-36.61	0.14
892	SLE RA 6	30	60	4473	54.83	-37.37	0.1
892	SLE RA 7	30	71	4458	54.54	-37.33	0.12
892	SLE RA 8	30	59	4450	54.54	-37.12	0.09
892	SLE RA 9	30	70	4435	54.25	-37.07	0.11
892	SLE RA 10	30	81	4711	57.44	-38.69	0.17
892	SLE RA 11	31	62	4802	58.78	-39.46	0.13
892	SLE RA 12	31	73	4787	58.49	-39.42	0.15
892	SLE RA 13	31	80	4755	58	-39.13	0.16
892	SLE RA 14	32	62	4845	59.34	-39.9	0.12
892	SLE RA 15	32	73	4831	59.05	-39.85	0.14
892	SLE RA 16	32	62	4823	59.05	-39.64	0.11
892	SLE RA 17	32	73	4808	58.76	-39.6	0.14
892	SLE RA 18	31	63	4895	59.86	-39.85	0.15
892	SLE RA 19	31	74	4881	59.56	-39.81	0.17
892	SLE RA 20	32	63	4939	60.42	-40.29	0.13
892	SLE RA 21	32	74	4924	60.13	-40.24	0.16
892	SLE FR 1	28	60	4363	53.41	-36.25	0.11
892	SLE FR 2	28	63	4358	53.32	-36.23	0.12
892	SLE FR 3	28	59	4380	53.64	-36.42	0.11
892	SLE FR 4	29	64	4518	55.25	-37.31	0.13
892	SLE FR 5	29	61	4540	55.57	-37.5	0.12
892	SLE FR 6	30	61	4629	56.64	-38.05	0.13
892	SLE QP 1	28	60	4363	53.41	-36.25	0.11
892	SLE QP 2	29	61	4523	55.35	-37.33	0.12
892	SLD 1	546	203	3905	45.47	-11.65	-8.67
892	SLD 2	501	234	3914	45.52	-11.89	-6.4
892	SLD 3	551	-148	4485	56.72	-14.25	-9.45
892	SLD 4	506	-118	4494	56.76	-14.49	-7.17
892	SLD 5	185	632	3456	35.33	-25.64	-1.74
892	SLD 6	156	651	3462	35.36	-25.8	-0.27
892	SLD 7	200	-541	5389	72.8	-34.31	-4.31
892	SLD 8	171	-521	5395	72.83	-34.46	-2.84
892	SLD 9	-113	642	3650	37.86	-40.2	3.08
892	SLD 10	-142	662	3656	37.9	-40.35	4.56
892	SLD 11	-98	-530	5583	75.34	-48.87	0.52
892	SLD 12	-127	-510	5589	75.37	-49.02	1.99
892	SLD 13	-448	239	4552	53.93	-60.17	7.41
892	SLD 14	-493	270	4561	53.98	-60.41	9.69
892	SLD 15	-443	-113	5131	65.17	-62.77	6.64
892	SLD 16	-488	-82	5141	65.22	-63.01	8.92
892	SLV 1	838	306	3521	39.21	2.9	-13.61
892	SLV 2	767	354	3536	39.29	2.53	-10.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
892	SLV 3	846	-288	4501	58.21	-1.5	-14.91
892	SLV 4	775	-241	4515	58.28	-1.87	-11.32
892	SLV 5	273	1026	2733	21.69	-18.52	-2.69
892	SLV 6	226	1059	2743	21.74	-18.77	-0.28
892	SLV 7	299	-954	5999	85	-33.18	-7.03
892	SLV 8	251	-922	6009	85.05	-33.43	-4.61
892	SLV 9	-193	1043	3036	25.65	-41.23	4.86
892	SLV 10	-241	1075	3046	25.7	-41.48	7.27
892	SLV 11	-168	-937	6302	88.96	-55.89	0.53
892	SLV 12	-215	-905	6312	89.01	-56.14	2.94
892	SLV 13	-717	362	4530	52.41	-72.79	11.57
892	SLV 14	-788	410	4545	52.49	-73.16	15.15
892	SLV 15	-709	-232	5510	71.4	-77.19	10.27
892	SLV 16	-780	-184	5525	71.48	-77.56	13.86
892	SLV FO 1	919	330	3421	37.6	6.92	-14.98
892	SLV FO 2	841	383	3437	37.68	6.51	-11.03
892	SLV FO 3	927	-323	4498	58.49	2.08	-16.41
892	SLV FO 4	849	-271	4515	58.58	1.68	-12.46
892	SLV FO 5	298	1123	2554	18.32	-16.64	-2.98
892	SLV FO 6	245	1158	2565	18.38	-16.92	-0.32
892	SLV FO 7	326	-1056	6147	87.96	-32.77	-7.74
892	SLV FO 8	273	-1020	6158	88.02	-33.04	-5.08
892	SLV FO 9	-215	1141	2888	22.68	-41.62	5.33
892	SLV FO 10	-268	1177	2899	22.73	-41.89	7.99
892	SLV FO 11	-187	-1037	6480	92.32	-57.74	0.57
892	SLV FO 12	-240	-1002	6491	92.37	-58.02	3.22
892	SLV FO 13	-791	392	4531	52.12	-76.34	12.71
892	SLV FO 14	-869	445	4547	52.2	-76.75	16.66
892	SLV FO 15	-783	-262	5609	73.01	-81.18	11.28
892	SLV FO 16	-861	-209	5625	73.09	-81.58	15.23
892	CRTFP Ux+	0	0	0	0	0	0
892	CRTFP Ux-	0	0	0	0	0	0
892	CRTFP Uy+	0	0	0	0	0	0
892	CRTFP Uy-	0	0	0	0	0	0
894	SLU 1	-47	-4	3177	0.07	-322.06	-0.99
894	SLU 2	-46	16	3137	-0.19	-319.26	4.05
894	SLU 3	-47	-5	3262	0.13	-329.44	-1.13
894	SLU 4	-47	7	3239	-0.03	-327.76	1.89
894	SLU 5	-46	16	3194	-0.14	-324.15	3.99
894	SLU 6	-48	-5	3319	0.17	-334.32	-1.19
894	SLU 7	-47	7	3295	0.02	-332.65	1.83
894	SLU 8	-48	-4	3290	0.16	-331.83	-1.1
894	SLU 9	-47	8	3267	0.01	-330.15	1.92
894	SLU 10	-49	17	3526	-0.21	-356.08	4.24
894	SLU 11	-51	-4	3651	0.1	-366.25	-0.94
894	SLU 12	-50	8	3628	-0.05	-364.57	2.08
894	SLU 13	-50	17	3583	-0.17	-360.96	4.18
894	SLU 14	-51	-4	3708	0.15	-371.13	-1
894	SLU 15	-51	8	3685	0	-369.46	2.03
894	SLU 16	-51	-4	3680	0.14	-368.64	-0.91
894	SLU 17	-50	8	3656	-0.02	-366.96	2.11
894	SLU 18	-51	-3	3732	0.03	-374.65	-0.71
894	SLU 19	-51	9	3709	-0.12	-372.97	2.31
894	SLU 20	-52	-3	3789	0.08	-379.53	-0.77
894	SLU 21	-51	9	3766	-0.07	-377.85	2.25
894	SLU 22	-52	-6	3693	0.21	-369.43	-1.53
894	SLU 23	-51	14	3653	-0.05	-366.63	3.5
894	SLU 24	-53	-7	3778	0.27	-376.81	-1.68
894	SLU 25	-53	5	3755	0.11	-375.13	1.35
894	SLU 26	-52	14	3710	0	-371.51	3.45
894	SLU 27	-54	-7	3835	0.31	-381.69	-1.73
894	SLU 28	-53	5	3811	0.16	-380.01	1.29
894	SLU 29	-53	-7	3806	0.3	-379.19	-1.65
894	SLU 30	-53	5	3783	0.15	-377.51	1.38
894	SLU 31	-55	15	4042	-0.07	-403.44	3.7
894	SLU 32	-57	-6	4167	0.24	-413.62	-1.48
894	SLU 33	-56	6	4144	0.09	-411.94	1.54
894	SLU 34	-55	14	4099	-0.03	-408.32	3.64
894	SLU 35	-57	-6	4224	0.29	-418.5	-1.54
894	SLU 36	-57	6	4201	0.14	-416.82	1.48
894	SLU 37	-57	-6	4196	0.28	-416	-1.45
894	SLU 38	-56	6	4172	0.12	-414.32	1.57
894	SLU 39	-57	-5	4248	0.17	-422.01	-1.26
894	SLU 40	-57	7	4225	0.02	-420.34	1.76
894	SLU 41	-58	-5	4305	0.22	-426.9	-1.31
894	SLU 42	-57	7	4282	0.07	-425.22	1.71
894	SLU 43	-59	-4	3953	0.04	-402.44	-1.1
894	SLU 44	-58	16	3913	-0.22	-399.64	3.94
894	SLU 45	-60	-5	4038	0.1	-409.82	-1.24
894	SLU 46	-59	7	4015	-0.05	-408.14	1.78
894	SLU 47	-58	15	3970	-0.17	-404.53	3.88
894	SLU 48	-60	-5	4095	0.14	-414.7	-1.3
894	SLU 49	-59	7	4072	-0.01	-413.02	1.72
894	SLU 50	-60	-5	4067	0.13	-412.21	-1.21
894	SLU 51	-59	7	4043	-0.02	-410.53	1.81
894	SLU 52	-61	16	4303	-0.24	-436.45	4.13
894	SLU 53	-63	-4	4427	0.07	-446.63	-1.05
894	SLU 54	-62	8	4404	-0.08	-444.95	1.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
894	SLU 55	-62	16	4359	-0.19	-441.34	4.07
894	SLU 56	-63	-5	4484	0.12	-451.51	-1.11
894	SLU 57	-63	8	4461	-0.03	-449.84	1.92
894	SLU 58	-63	-4	4456	0.11	-449.02	-1.02
894	SLU 59	-62	8	4432	-0.05	-447.34	2
894	SLU 60	-64	-3	4508	0	-455.03	-0.82
894	SLU 61	-63	9	4485	-0.15	-453.35	2.2
894	SLU 62	-64	-4	4565	0.05	-459.91	-0.88
894	SLU 63	-63	8	4542	-0.1	-458.23	2.14
894	SLU 64	-64	-7	4469	0.18	-449.8	-1.64
894	SLU 65	-63	13	4429	-0.08	-447.01	3.39
894	SLU 66	-65	-7	4554	0.24	-457.18	-1.79
894	SLU 67	-65	5	4531	0.09	-455.51	1.24
894	SLU 68	-64	13	4486	-0.03	-451.89	3.34
894	SLU 69	-66	-7	4611	0.28	-462.07	-1.84
894	SLU 70	-65	5	4588	0.13	-460.39	1.18
894	SLU 71	-65	-7	4583	0.27	-459.57	-1.76
894	SLU 72	-65	5	4559	0.12	-457.89	1.27
894	SLU 73	-67	14	4819	-0.1	-483.82	3.59
894	SLU 74	-69	-7	4943	0.21	-494	-1.59
894	SLU 75	-68	6	4920	0.06	-492.32	1.43
894	SLU 76	-67	14	4875	-0.05	-488.7	3.53
894	SLU 77	-69	-7	5000	0.26	-498.88	-1.65
894	SLU 78	-69	5	4977	0.11	-497.2	1.37
894	SLU 79	-69	-6	4972	0.25	-496.38	-1.56
894	SLU 80	-68	6	4948	0.09	-494.7	1.46
894	SLU 81	-69	-6	5024	0.14	-502.39	-1.37
894	SLU 82	-69	6	5001	-0.01	-500.71	1.66
894	SLU 83	-70	-6	5081	0.19	-507.27	-1.42
894	SLU 84	-69	6	5058	0.04	-505.6	1.6
894	SLE RA 1	-48	-5	3324	0.11	-335.59	-1.14
894	SLE RA 2	-48	9	3298	-0.06	-333.73	2.21
894	SLE RA 3	-49	-5	3381	0.15	-340.51	-1.24
894	SLE RA 4	-48	3	3365	0.04	-339.4	0.78
894	SLE RA 5	-48	9	3336	-0.03	-336.98	2.18
894	SLE RA 6	-49	-5	3419	0.18	-343.77	-1.28
894	SLE RA 7	-49	3	3403	0.08	-342.65	0.74
894	SLE RA 8	-49	-5	3400	0.17	-342.1	-1.22
894	SLE RA 9	-48	3	3384	0.07	-340.99	0.8
894	SLE RA 10	-50	9	3557	-0.08	-358.27	2.34
894	SLE RA 11	-51	-5	3640	0.13	-365.05	-1.11
894	SLE RA 12	-51	4	3625	0.03	-363.94	0.9
894	SLE RA 13	-50	9	3595	-0.05	-361.53	2.3
894	SLE RA 14	-51	-5	3678	0.16	-368.31	-1.15
894	SLE RA 15	-51	3	3663	0.06	-367.19	0.87
894	SLE RA 16	-51	-4	3659	0.15	-366.64	-1.09
894	SLE RA 17	-51	4	3644	0.05	-365.53	0.92
894	SLE RA 18	-51	-4	3695	0.08	-370.65	-0.96
894	SLE RA 19	-51	4	3679	-0.02	-369.53	1.05
894	SLE RA 20	-52	-4	3733	0.11	-373.91	-1
894	SLE RA 21	-51	4	3717	0.01	-372.79	1.02
894	SLE FR 1	-48	-5	3324	0.11	-335.59	-1.14
894	SLE FR 2	-48	-2	3319	0.07	-335.22	-0.47
894	SLE FR 3	-48	-5	3339	0.12	-336.9	-1.16
894	SLE FR 4	-49	-2	3430	0.07	-345.74	-0.42
894	SLE FR 5	-49	-5	3450	0.11	-347.41	-1.1
894	SLE FR 6	-50	-4	3509	0.1	-353.12	-1.05
894	SLE QP 1	-48	-5	3324	0.11	-335.59	-1.14
894	SLE QP 2	-49	-4	3435	0.1	-346.11	-1.09
894	SLD 1	232	143	4066	-1.85	-415.12	35.55
894	SLD 2	199	43	4106	-1.54	-419.1	10.61
894	SLD 3	220	-112	4646	1.97	-453.12	-28.11
894	SLD 4	187	-212	4687	2.27	-457.1	-53.06
894	SLD 5	59	444	2737	-6.32	-308.48	110.79
894	SLD 6	38	379	2764	-6.13	-311.06	94.65
894	SLD 7	19	-406	4671	6.39	-435.16	-101.43
894	SLD 8	-3	-471	4698	6.59	-437.74	-117.57
894	SLD 9	-96	462	2173	-6.39	-254.49	115.39
894	SLD 10	-117	397	2199	-6.19	-257.06	99.25
894	SLD 11	-136	-388	4107	6.32	-381.16	-96.83
894	SLD 12	-158	-453	4133	6.52	-383.74	-112.97
894	SLD 13	-285	203	2184	-2.07	-235.12	50.88
894	SLD 14	-318	103	2225	-1.77	-239.1	25.94
894	SLD 15	-297	-51	2764	1.74	-273.13	-12.78
894	SLD 16	-330	-152	2805	2.05	-277.11	-37.73
894	SLV 1	392	243	4381	-3.18	-451.26	60.3
894	SLV 2	340	84	4445	-2.7	-457.52	21.03
894	SLV 3	371	-188	5361	3.26	-515.48	-47.28
894	SLV 4	319	-346	5425	3.75	-521.75	-86.56
894	SLV 5	124	752	2221	-10.75	-279.08	187.83
894	SLV 6	89	646	2264	-10.43	-283.3	161.38
894	SLV 7	55	-683	5487	10.73	-493.16	-170.78
894	SLV 8	20	-789	5530	11.06	-497.38	-197.23
894	SLV 9	-119	781	1340	-10.86	-194.85	195.05
894	SLV 10	-154	674	1383	-10.53	-199.07	168.61
894	SLV 11	-188	-655	4606	10.63	-408.92	-163.56
894	SLV 12	-222	-761	4650	10.95	-413.14	-190
894	SLV 13	-418	337	1445	-3.55	-170.48	84.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
894	SLV 14	-469	179	1510	-3.06	-176.74	45.1
894	SLV 15	-438	-93	2425	2.9	-234.7	-23.2
894	SLV 16	-490	-251	2489	3.38	-240.97	-62.48
894	SLV FO 1	436	267	4475	-3.51	-461.77	66.44
894	SLV FO 2	379	93	4546	-2.98	-468.66	23.24
894	SLV FO 3	413	-206	5553	3.58	-532.42	-51.9
894	SLV FO 4	356	-380	5624	4.11	-539.31	-95.1
894	SLV FO 5	141	828	2099	-11.84	-272.38	206.72
894	SLV FO 6	103	711	2147	-11.48	-277.02	177.63
894	SLV FO 7	66	-751	5692	11.8	-507.86	-187.75
894	SLV FO 8	27	-868	5740	12.16	-512.5	-216.84
894	SLV FO 9	-126	859	1130	-11.96	-179.72	214.66
894	SLV FO 10	-164	742	1178	-11.6	-184.36	185.57
894	SLV FO 11	-201	-720	4723	11.68	-415.2	-179.81
894	SLV FO 12	-240	-837	4771	12.04	-419.85	-208.9
894	SLV FO 13	-455	371	1246	-3.91	-152.91	92.93
894	SLV FO 14	-511	197	1317	-3.38	-159.81	49.72
894	SLV FO 15	-477	-102	2324	3.18	-223.56	-25.41
894	SLV FO 16	-534	-276	2395	3.71	-230.45	-68.62
894	CRTFP Ux+	0	0	0	0	0	0
894	CRTFP Ux-	0	0	0	0	0	0
894	CRTFP Uy+	0	0	0	0	0	0
894	CRTFP Uy-	0	0	0	0	0	0
897	SLU 1	105	35	6419	1.69	11.96	-0.67
897	SLU 2	101	66	6332	1.19	10.55	-0.58
897	SLU 3	108	36	6593	1.86	12.73	-0.71
897	SLU 4	106	54	6541	1.56	11.89	-0.66
897	SLU 5	104	66	6448	1.32	11.08	-0.63
897	SLU 6	111	37	6709	1.99	13.26	-0.75
897	SLU 7	109	55	6657	1.68	12.42	-0.7
897	SLU 8	110	36	6652	1.95	13.01	-0.75
897	SLU 9	108	54	6600	1.64	12.17	-0.7
897	SLU 10	109	70	7165	1.34	12.69	-0.63
897	SLU 11	115	41	7426	2.01	14.87	-0.76
897	SLU 12	113	59	7374	1.71	14.03	-0.71
897	SLU 13	111	71	7282	1.47	13.22	-0.68
897	SLU 14	118	42	7543	2.13	15.4	-0.81
897	SLU 15	116	60	7491	1.83	14.55	-0.76
897	SLU 16	117	41	7486	2.09	15.15	-0.81
897	SLU 17	115	59	7433	1.79	14.31	-0.76
897	SLU 18	115	42	7610	1.9	15.01	-0.74
897	SLU 19	113	60	7557	1.6	14.17	-0.69
897	SLU 20	117	43	7726	2.03	15.54	-0.79
897	SLU 21	115	61	7674	1.73	14.69	-0.74
897	SLU 22	119	40	7506	2.22	15.33	-0.74
897	SLU 23	116	70	7419	1.72	13.93	-0.65
897	SLU 24	122	41	7680	2.38	16.11	-0.78
897	SLU 25	120	59	7628	2.08	15.27	-0.73
897	SLU 26	118	71	7536	1.84	14.46	-0.7
897	SLU 27	125	41	7797	2.51	16.64	-0.83
897	SLU 28	123	59	7744	2.21	15.79	-0.78
897	SLU 29	124	41	7739	2.47	16.39	-0.83
897	SLU 30	122	59	7687	2.17	15.55	-0.78
897	SLU 31	123	75	8253	1.86	16.07	-0.71
897	SLU 32	130	46	8514	2.53	18.24	-0.84
897	SLU 33	128	64	8461	2.23	17.4	-0.78
897	SLU 34	125	75	8369	1.99	16.59	-0.75
897	SLU 35	132	46	8630	2.66	18.77	-0.88
897	SLU 36	130	64	8578	2.36	17.93	-0.83
897	SLU 37	131	46	8573	2.62	18.52	-0.88
897	SLU 38	129	64	8520	2.32	17.68	-0.83
897	SLU 39	129	47	8697	2.43	18.38	-0.81
897	SLU 40	127	65	8645	2.13	17.54	-0.76
897	SLU 41	132	47	8813	2.55	18.91	-0.86
897	SLU 42	130	65	8761	2.25	18.07	-0.81
897	SLU 43	131	45	7972	2.02	14.38	-0.84
897	SLU 44	128	75	7885	1.52	12.98	-0.76
897	SLU 45	135	45	8146	2.19	15.16	-0.89
897	SLU 46	133	63	8094	1.89	14.32	-0.83
897	SLU 47	130	75	8001	1.65	13.51	-0.8
897	SLU 48	137	46	8262	2.31	15.69	-0.93
897	SLU 49	135	64	8210	2.01	14.85	-0.88
897	SLU 50	136	46	8205	2.27	15.44	-0.93
897	SLU 51	134	64	8153	1.97	14.6	-0.88
897	SLU 52	135	79	8718	1.67	15.12	-0.81
897	SLU 53	142	50	8979	2.34	17.3	-0.94
897	SLU 54	140	68	8927	2.03	16.46	-0.89
897	SLU 55	138	80	8835	1.79	15.65	-0.85
897	SLU 56	144	51	9096	2.46	17.82	-0.98
897	SLU 57	142	69	9044	2.16	16.98	-0.93
897	SLU 58	143	50	9039	2.42	17.58	-0.98
897	SLU 59	141	68	8986	2.12	16.74	-0.93
897	SLU 60	142	52	9163	2.23	17.44	-0.92
897	SLU 61	140	70	9110	1.93	16.6	-0.87
897	SLU 62	144	52	9279	2.36	17.96	-0.96
897	SLU 63	142	70	9227	2.06	17.12	-0.91
897	SLU 64	145	49	9059	2.55	17.76	-0.91
897	SLU 65	142	79	8972	2.04	16.36	-0.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
897	SLU 66	149	50	9233	2.71	18.54	-0.96
897	SLU 67	147	68	9181	2.41	17.7	-0.91
897	SLU 68	145	80	9089	2.17	16.89	-0.87
897	SLU 69	151	50	9350	2.84	19.06	-1
897	SLU 70	149	68	9297	2.54	18.22	-0.95
897	SLU 71	150	50	9292	2.8	18.82	-1
897	SLU 72	148	68	9240	2.5	17.98	-0.95
897	SLU 73	149	84	9806	2.19	18.49	-0.88
897	SLU 74	156	55	10067	2.86	20.67	-1.01
897	SLU 75	154	73	10014	2.56	19.83	-0.96
897	SLU 76	152	84	9922	2.32	19.02	-0.93
897	SLU 77	159	55	10183	2.99	21.2	-1.05
897	SLU 78	157	73	10131	2.68	20.36	-1
897	SLU 79	158	55	10126	2.95	20.95	-1.06
897	SLU 80	156	73	10073	2.64	20.11	-1
897	SLU 81	156	56	10250	2.76	20.81	-0.99
897	SLU 82	154	74	10198	2.46	19.97	-0.94
897	SLU 83	158	57	10366	2.88	21.34	-1.03
897	SLU 84	156	75	10314	2.58	20.5	-0.98
897	SLE RA 1	109	37	6730	1.84	12.92	-0.69
897	SLE RA 2	107	57	6672	1.51	11.99	-0.63
897	SLE RA 3	111	37	6846	1.95	13.44	-0.72
897	SLE RA 4	110	49	6811	1.75	12.88	-0.68
897	SLE RA 5	108	57	6749	1.59	12.34	-0.66
897	SLE RA 6	113	38	6923	2.04	13.79	-0.75
897	SLE RA 7	111	50	6888	1.84	13.23	-0.71
897	SLE RA 8	112	37	6885	2.01	13.62	-0.75
897	SLE RA 9	111	49	6850	1.81	13.06	-0.71
897	SLE RA 10	111	60	7227	1.61	13.41	-0.67
897	SLE RA 11	116	41	7401	2.05	14.86	-0.75
897	SLE RA 12	115	53	7366	1.85	14.3	-0.72
897	SLE RA 13	113	60	7305	1.69	13.76	-0.7
897	SLE RA 14	118	41	7479	2.14	15.21	-0.78
897	SLE RA 15	116	53	7444	1.94	14.65	-0.75
897	SLE RA 16	117	41	7441	2.11	15.05	-0.78
897	SLE RA 17	116	53	7406	1.91	14.49	-0.75
897	SLE RA 18	116	41	7523	1.98	14.95	-0.74
897	SLE RA 19	114	53	7489	1.78	14.39	-0.7
897	SLE RA 20	117	42	7601	2.07	15.31	-0.77
897	SLE RA 21	116	54	7566	1.87	14.75	-0.73
897	SLE FR 1	109	37	6730	1.84	12.92	-0.69
897	SLE FR 2	108	41	6718	1.78	12.73	-0.68
897	SLE FR 3	109	37	6761	1.88	13.06	-0.7
897	SLE FR 4	110	42	6956	1.82	13.34	-0.69
897	SLE FR 5	111	38	6999	1.92	13.67	-0.71
897	SLE FR 6	112	39	7127	1.91	13.94	-0.71
897	SLE QP 1	109	37	6730	1.84	12.92	-0.69
897	SLE QP 2	111	38	6968	1.89	13.53	-0.7
897	SLD 1	650	215	5598	-1.94	5.68	-3.37
897	SLD 2	580	306	5519	-2.46	6.88	-1.14
897	SLD 3	698	-170	6931	5.48	25.81	-4.67
897	SLD 4	628	-80	6852	4.96	27	-2.44
897	SLD 5	211	660	4549	-10.44	-19.56	0.08
897	SLD 6	166	719	4498	-10.77	-18.78	1.53
897	SLD 7	373	-625	8992	14.32	47.53	-4.25
897	SLD 8	327	-566	8941	13.98	48.3	-2.81
897	SLD 9	-106	643	4994	-10.21	-21.24	1.4
897	SLD 10	-151	701	4944	-10.55	-20.47	2.85
897	SLD 11	56	-642	9438	14.54	45.84	-2.93
897	SLD 12	10	-584	9387	14.21	46.62	-1.49
897	SLD 13	-406	156	7084	-1.19	0.06	1.03
897	SLD 14	-477	247	7005	-1.71	1.25	3.27
897	SLD 15	-358	-229	8417	6.24	20.18	-0.27
897	SLD 16	-428	-139	8338	5.71	21.38	1.97
897	SLV 1	952	339	4744	-4.57	0.31	-4.82
897	SLV 2	842	482	4620	-5.39	2.2	-1.3
897	SLV 3	1034	-312	6997	7.98	34.35	-7.01
897	SLV 4	923	-170	6873	7.16	36.23	-3.5
897	SLV 5	260	1090	2907	-18.93	-42.4	0.74
897	SLV 6	186	1186	2823	-19.48	-41.14	3.11
897	SLV 7	532	-1082	10417	22.9	71.04	-6.58
897	SLV 8	458	-986	10333	22.34	72.31	-4.22
897	SLV 9	-236	1062	3602	-18.57	-45.25	2.81
897	SLV 10	-311	1158	3519	-19.13	-43.98	5.18
897	SLV 11	36	-1110	11113	23.25	68.2	-4.51
897	SLV 12	-38	-1014	11029	22.7	69.46	-2.14
897	SLV 13	-702	246	7063	-3.39	-9.17	2.09
897	SLV 14	-812	389	6939	-4.21	-7.28	5.61
897	SLV 15	-620	-405	9316	9.16	24.86	-0.11
897	SLV 16	-730	-263	9192	8.34	26.75	3.41
897	SLV FO 1	1036	369	4521	-5.21	-1.01	-5.23
897	SLV FO 2	915	526	4385	-6.12	1.06	-1.36
897	SLV FO 3	1126	-347	7000	8.59	36.43	-7.64
897	SLV FO 4	1005	-191	6864	7.68	38.5	-3.78
897	SLV FO 5	275	1195	2500	-21.01	-48	0.88
897	SLV FO 6	193	1301	2409	-21.62	-46.6	3.49
897	SLV FO 7	574	-1194	10762	25	76.79	-7.17
897	SLV FO 8	493	-1088	10670	24.39	78.19	-4.57

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
897	SLV FO 9	-271	1165	3266	-20.62	-51.13	3.16
897	SLV FO 10	-353	1270	3174	-21.23	-49.73	5.77
897	SLV FO 11	29	-1224	11527	25.39	73.66	-4.89
897	SLV FO 12	-53	-1119	11435	24.78	75.06	-2.29
897	SLV FO 13	-783	267	7072	-3.91	-11.44	2.37
897	SLV FO 14	-904	424	6936	-4.82	-9.37	6.24
897	SLV FO 15	-693	-450	9551	9.89	26	-0.05
897	SLV FO 16	-814	-293	9415	8.99	28.07	3.82
897	CRTFP Ux+	0	0	0	0	0	0
897	CRTFP Ux-	0	0	0	0	0	0
897	CRTFP Uy+	0	0	0	0	0	0
897	CRTFP Uy-	0	0	0	0	0	0
900	SLU 1	63	23	3839	1.14	715.04	-8.06
900	SLU 2	61	48	3784	0.76	707.7	-16.69
900	SLU 3	65	24	3938	1.28	731.47	-8.31
900	SLU 4	64	38	3905	1.05	727.07	-13.49
900	SLU 5	63	49	3849	0.87	718.41	-17.06
900	SLU 6	66	25	4003	1.38	742.17	-8.68
900	SLU 7	65	40	3970	1.15	737.77	-13.86
900	SLU 8	65	25	3969	1.36	736.44	-8.8
900	SLU 9	65	40	3936	1.13	732.04	-13.98
900	SLU 10	66	51	4247	0.87	788.87	-17.69
900	SLU 11	69	27	4400	1.38	812.64	-9.31
900	SLU 12	68	41	4368	1.15	808.23	-14.49
900	SLU 13	67	52	4312	0.97	799.57	-18.06
900	SLU 14	70	28	4465	1.48	823.34	-9.68
900	SLU 15	69	42	4433	1.25	818.94	-14.86
900	SLU 16	70	28	4431	1.46	817.61	-9.81
900	SLU 17	69	43	4399	1.23	813.21	-14.98
900	SLU 18	69	27	4499	1.29	831	-9.49
900	SLU 19	68	42	4467	1.06	826.6	-14.67
900	SLU 20	70	28	4564	1.4	841.7	-9.86
900	SLU 21	69	43	4532	1.17	837.3	-15.04
900	SLU 22	70	23	4449	1.53	820.17	-8.23
900	SLU 23	69	48	4394	1.15	812.83	-16.86
900	SLU 24	72	24	4548	1.66	836.59	-8.48
900	SLU 25	71	39	4515	1.43	832.19	-13.66
900	SLU 26	70	49	4459	1.25	823.53	-17.23
900	SLU 27	73	25	4613	1.77	847.29	-8.85
900	SLU 28	73	40	4580	1.54	842.89	-14.03
900	SLU 29	73	26	4579	1.74	841.57	-8.97
900	SLU 30	72	40	4546	1.51	837.16	-14.15
900	SLU 31	73	51	4857	1.25	894	-17.86
900	SLU 32	76	27	5010	1.76	917.76	-9.48
900	SLU 33	75	42	4978	1.53	913.36	-14.66
900	SLU 34	74	52	4922	1.36	904.7	-18.23
900	SLU 35	78	28	5075	1.87	928.46	-9.85
900	SLU 36	77	43	5043	1.64	924.06	-15.03
900	SLU 37	77	28	5041	1.84	922.74	-9.97
900	SLU 38	76	43	5008	1.62	918.33	-15.15
900	SLU 39	76	28	5109	1.68	936.12	-9.66
900	SLU 40	75	42	5076	1.45	931.72	-14.84
900	SLU 41	78	29	5174	1.78	946.82	-10.03
900	SLU 42	77	43	5142	1.55	942.42	-15.21
900	SLU 43	79	30	4781	1.36	893.51	-10.42
900	SLU 44	78	54	4727	0.97	886.18	-19.05
900	SLU 45	81	30	4880	1.49	909.94	-10.67
900	SLU 46	80	45	4848	1.26	905.54	-15.85
900	SLU 47	79	55	4792	1.08	896.88	-19.42
900	SLU 48	82	31	4946	1.59	920.64	-11.04
900	SLU 49	81	46	4913	1.36	916.24	-16.22
900	SLU 50	82	32	4911	1.57	914.91	-11.16
900	SLU 51	81	47	4879	1.34	910.51	-16.34
900	SLU 52	82	57	5189	1.08	967.34	-20.05
900	SLU 53	85	33	5343	1.59	991.11	-11.67
900	SLU 54	84	48	5310	1.36	986.71	-16.85
900	SLU 55	83	58	5254	1.18	978.05	-20.42
900	SLU 56	86	34	5408	1.7	1001.81	-12.04
900	SLU 57	86	49	5375	1.47	997.41	-17.22
900	SLU 58	86	35	5374	1.67	996.08	-12.17
900	SLU 59	85	49	5341	1.44	991.68	-17.34
900	SLU 60	85	34	5442	1.5	1009.47	-11.85
900	SLU 61	84	49	5409	1.27	1005.07	-17.03
900	SLU 62	86	35	5507	1.61	1020.17	-12.22
900	SLU 63	86	50	5474	1.38	1015.77	-17.4
900	SLU 64	87	30	5391	1.74	998.64	-10.59
900	SLU 65	85	55	5337	1.36	991.3	-19.22
900	SLU 66	88	31	5490	1.87	1015.06	-10.84
900	SLU 67	88	46	5458	1.64	1010.66	-16.02
900	SLU 68	86	56	5402	1.47	1002	-19.59
900	SLU 69	90	32	5555	1.98	1025.76	-11.21
900	SLU 70	89	47	5523	1.75	1021.36	-16.39
900	SLU 71	89	32	5521	1.95	1020.04	-11.33
900	SLU 72	88	47	5489	1.72	1015.64	-16.51
900	SLU 73	89	58	5799	1.46	1072.47	-20.22
900	SLU 74	93	34	5953	1.97	1096.23	-11.84
900	SLU 75	92	49	5920	1.74	1091.83	-17.02
900	SLU 76	91	59	5864	1.57	1083.17	-20.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
900	SLU 77	94	35	6018	2.08	1106.93	-12.21
900	SLU 78	93	50	5985	1.85	1102.53	-17.39
900	SLU 79	93	35	5984	2.06	1101.21	-12.33
900	SLU 80	93	50	5951	1.83	1096.8	-17.51
900	SLU 81	93	34	6052	1.89	1114.59	-12.02
900	SLU 82	92	49	6019	1.66	1110.19	-17.2
900	SLU 83	94	35	6117	1.99	1125.29	-12.39
900	SLU 84	93	50	6084	1.76	1120.89	-17.57
900	SLE RA 1	65	23	4013	1.25	745.08	-8.11
900	SLE RA 2	64	40	3977	1	740.19	-13.86
900	SLE RA 3	66	24	4079	1.34	756.03	-8.28
900	SLE RA 4	66	33	4057	1.19	753.09	-11.73
900	SLE RA 5	65	40	4020	1.07	747.32	-14.11
900	SLE RA 6	67	24	4122	1.41	763.16	-8.52
900	SLE RA 7	66	34	4101	1.26	760.23	-11.97
900	SLE RA 8	67	25	4100	1.4	759.35	-8.6
900	SLE RA 9	66	34	4078	1.24	756.41	-12.06
900	SLE RA 10	67	41	4285	1.07	794.3	-14.53
900	SLE RA 11	69	25	4387	1.41	810.14	-8.94
900	SLE RA 12	68	35	4366	1.26	807.21	-12.39
900	SLE RA 13	68	42	4328	1.14	801.43	-14.78
900	SLE RA 14	70	26	4431	1.48	817.28	-9.19
900	SLE RA 15	69	36	4409	1.33	814.34	-12.64
900	SLE RA 16	69	26	4408	1.46	813.46	-9.27
900	SLE RA 17	69	36	4386	1.31	810.52	-12.72
900	SLE RA 18	69	26	4453	1.35	822.38	-9.06
900	SLE RA 19	68	36	4432	1.2	819.45	-12.51
900	SLE RA 20	70	27	4497	1.42	829.52	-9.31
900	SLE RA 21	69	36	4475	1.27	826.58	-12.76
900	SLE FR 1	65	23	4013	1.25	745.08	-8.11
900	SLE FR 2	65	26	4006	1.2	744.1	-9.26
900	SLE FR 3	65	23	4030	1.28	747.93	-8.21
900	SLE FR 4	66	27	4138	1.23	767.29	-9.55
900	SLE FR 5	66	24	4162	1.31	771.12	-8.49
900	SLE FR 6	67	24	4233	1.3	783.73	-8.59
900	SLE QP 1	65	23	4013	1.25	745.08	-8.11
900	SLE QP 2	66	24	4145	1.28	768.27	-8.39
900	SLD 1	413	83	2695	-1.75	537.59	-29.11
900	SLD 2	368	207	2626	-2.24	529.04	-72.31
900	SLD 3	432	-231	3508	4.02	646.74	80.66
900	SLD 4	387	-107	3440	3.52	638.19	37.46
900	SLD 5	149	496	2488	-8.28	535	-173.6
900	SLD 6	119	577	2444	-8.6	529.48	-201.54
900	SLD 7	213	-550	5200	10.93	898.84	192.3
900	SLD 8	184	-470	5156	10.61	893.31	164.35
900	SLD 9	-52	518	3135	-8.05	643.23	-181.14
900	SLD 10	-81	598	3090	-8.37	637.7	-209.09
900	SLD 11	13	-529	5846	11.17	1007.06	184.76
900	SLD 12	-16	-448	5802	10.85	1001.53	156.81
900	SLD 13	-255	155	4850	-0.95	898.35	-54.25
900	SLD 14	-300	279	4782	-1.45	889.8	-97.45
900	SLD 15	-236	-159	5664	4.81	1007.5	55.52
900	SLD 16	-281	-35	5595	4.32	998.95	12.32
900	SLV 1	608	134	1830	-3.82	401.33	-47.32
900	SLV 2	537	330	1722	-4.6	387.87	-115.33
900	SLV 3	641	-396	3205	5.92	585.8	138.22
900	SLV 4	570	-201	3097	5.14	572.34	70.2
900	SLV 5	192	826	1385	-14.88	380.91	-288.77
900	SLV 6	145	957	1312	-15.4	371.85	-334.57
900	SLV 7	301	-943	5969	17.6	995.83	329.68
900	SLV 8	254	-812	5896	17.07	986.76	283.89
900	SLV 9	-121	860	2394	-14.5	549.77	-300.68
900	SLV 10	-169	991	2321	-15.03	540.71	-346.47
900	SLV 11	-12	-909	6978	17.97	1164.69	317.78
900	SLV 12	-60	-778	6905	17.45	1155.63	271.98
900	SLV 13	-438	249	5193	-2.57	964.2	-86.99
900	SLV 14	-509	444	5085	-3.35	950.74	-155.01
900	SLV 15	-405	-282	6568	7.17	1148.67	98.55
900	SLV 16	-476	-87	6460	6.39	1135.21	30.53
900	SLV FO 1	662	146	1598	-4.33	364.63	-51.21
900	SLV FO 2	584	360	1480	-5.19	349.83	-126.03
900	SLV FO 3	698	-438	3111	6.38	567.55	152.88
900	SLV FO 4	620	-223	2992	5.53	552.75	78.06
900	SLV FO 5	205	906	1109	-16.49	342.18	-316.81
900	SLV FO 6	152	1050	1029	-17.07	332.21	-367.18
900	SLV FO 7	325	-1040	6151	19.23	1018.58	363.49
900	SLV FO 8	272	-895	6071	18.65	1008.61	313.11
900	SLV FO 9	-140	943	2219	-16.08	527.92	-329.9
900	SLV FO 10	-193	1088	2139	-16.66	517.96	-380.27
900	SLV FO 11	-20	-1003	7261	19.64	1204.33	350.39
900	SLV FO 12	-73	-858	7181	19.06	1194.36	300.02
900	SLV FO 13	-488	271	5298	-2.96	983.79	-94.85
900	SLV FO 14	-566	486	5179	-3.82	968.99	-169.67
900	SLV FO 15	-452	-313	6810	7.76	1186.71	109.24
900	SLV FO 16	-530	-98	6692	6.9	1171.91	34.42
900	CRTFP Ux+	0	0	0	0	0	0
900	CRTFP Ux-	0	0	0	0	0	0
900	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
900	CRTFP Uy-	0	0	0	0	0	0
902	SLU 1	-97	10	6389	-0.56	-4.14	1.33
902	SLU 2	-93	42	6305	-1.04	-2.07	1.24
902	SLU 3	-100	10	6563	-0.46	-4.74	1.38
902	SLU 4	-97	30	6512	-0.75	-3.5	1.32
902	SLU 5	-95	42	6421	-0.97	-2.52	1.27
902	SLU 6	-101	10	6678	-0.38	-5.19	1.4
902	SLU 7	-99	30	6628	-0.68	-3.95	1.35
902	SLU 8	-100	10	6620	-0.41	-5.04	1.39
902	SLU 9	-98	30	6570	-0.7	-3.8	1.33
902	SLU 10	-100	44	7145	-1.24	-3.91	1.47
902	SLU 11	-106	12	7402	-0.66	-6.58	1.6
902	SLU 12	-104	31	7352	-0.95	-5.34	1.55
902	SLU 13	-101	44	7260	-1.17	-4.36	1.5
902	SLU 14	-108	12	7518	-0.58	-7.04	1.63
902	SLU 15	-105	31	7467	-0.88	-5.79	1.57
902	SLU 16	-106	12	7460	-0.61	-6.88	1.61
902	SLU 17	-104	31	7410	-0.9	-5.64	1.56
902	SLU 18	-106	12	7589	-0.84	-6.77	1.65
902	SLU 19	-104	31	7538	-1.13	-5.52	1.6
902	SLU 20	-108	12	7704	-0.77	-7.22	1.68
902	SLU 21	-106	31	7654	-1.06	-5.98	1.63
902	SLU 22	-110	10	7482	-0.46	-6.85	1.6
902	SLU 23	-106	42	7398	-0.94	-4.77	1.51
902	SLU 24	-113	10	7656	-0.36	-7.45	1.64
902	SLU 25	-110	30	7605	-0.65	-6.21	1.58
902	SLU 26	-108	42	7514	-0.87	-5.23	1.53
902	SLU 27	-114	10	7771	-0.28	-7.9	1.67
902	SLU 28	-112	29	7721	-0.58	-6.66	1.61
902	SLU 29	-113	10	7713	-0.31	-7.75	1.65
902	SLU 30	-111	30	7663	-0.6	-6.51	1.6
902	SLU 31	-113	44	8238	-1.14	-6.62	1.73
902	SLU 32	-119	12	8495	-0.56	-9.29	1.86
902	SLU 33	-117	31	8445	-0.85	-8.05	1.81
902	SLU 34	-114	44	8353	-1.07	-7.07	1.76
902	SLU 35	-121	12	8611	-0.48	-9.74	1.89
902	SLU 36	-118	31	8560	-0.78	-8.5	1.84
902	SLU 37	-119	12	8553	-0.51	-9.59	1.87
902	SLU 38	-117	31	8502	-0.8	-8.35	1.82
902	SLU 39	-119	12	8682	-0.74	-9.48	1.92
902	SLU 40	-117	31	8631	-1.03	-8.23	1.86
902	SLU 41	-121	12	8797	-0.67	-9.93	1.94
902	SLU 42	-119	31	8747	-0.96	-8.69	1.89
902	SLU 43	-122	14	7931	-0.76	-4.45	1.64
902	SLU 44	-118	45	7847	-1.24	-2.38	1.55
902	SLU 45	-124	14	8105	-0.66	-5.06	1.69
902	SLU 46	-122	33	8054	-0.95	-3.81	1.63
902	SLU 47	-120	45	7963	-1.17	-2.83	1.58
902	SLU 48	-126	14	8220	-0.58	-5.51	1.71
902	SLU 49	-124	33	8170	-0.88	-4.26	1.66
902	SLU 50	-125	14	8162	-0.61	-5.36	1.7
902	SLU 51	-122	33	8112	-0.9	-4.11	1.64
902	SLU 52	-125	47	8687	-1.44	-4.22	1.78
902	SLU 53	-131	15	8944	-0.86	-6.9	1.91
902	SLU 54	-129	34	8894	-1.15	-5.65	1.86
902	SLU 55	-126	47	8802	-1.37	-4.67	1.81
902	SLU 56	-132	15	9060	-0.78	-7.35	1.94
902	SLU 57	-130	34	9010	-1.08	-6.11	1.88
902	SLU 58	-131	15	9002	-0.81	-7.2	1.92
902	SLU 59	-129	34	8952	-1.1	-5.95	1.87
902	SLU 60	-131	16	9131	-1.04	-7.08	1.96
902	SLU 61	-129	35	9080	-1.33	-5.84	1.91
902	SLU 62	-133	16	9246	-0.97	-7.53	1.99
902	SLU 63	-130	35	9196	-1.26	-6.29	1.94
902	SLU 64	-135	14	9024	-0.66	-7.16	1.91
902	SLU 65	-131	45	8940	-1.15	-5.09	1.82
902	SLU 66	-137	14	9198	-0.56	-7.76	1.95
902	SLU 67	-135	33	9147	-0.85	-6.52	1.89
902	SLU 68	-132	45	9056	-1.07	-5.54	1.84
902	SLU 69	-139	14	9313	-0.49	-8.22	1.98
902	SLU 70	-136	33	9263	-0.78	-6.97	1.92
902	SLU 71	-138	14	9255	-0.51	-8.06	1.96
902	SLU 72	-135	33	9205	-0.8	-6.82	1.91
902	SLU 73	-138	47	9780	-1.34	-6.93	2.04
902	SLU 74	-144	15	10037	-0.76	-9.6	2.17
902	SLU 75	-142	34	9987	-1.05	-8.36	2.12
902	SLU 76	-139	47	9895	-1.27	-7.38	2.07
902	SLU 77	-145	15	10153	-0.68	-10.06	2.2
902	SLU 78	-143	34	10103	-0.98	-8.81	2.15
902	SLU 79	-144	15	10095	-0.71	-9.9	2.18
902	SLU 80	-142	34	10045	-1	-8.66	2.13
902	SLU 81	-144	15	10224	-0.94	-9.79	2.23
902	SLU 82	-142	35	10173	-1.23	-8.55	2.17
902	SLU 83	-145	15	10339	-0.87	-10.24	2.25
902	SLU 84	-143	35	10289	-1.16	-9	2.2
902	SLE RA 1	-101	10	6702	-0.53	-4.91	1.41
902	SLE RA 2	-98	32	6645	-0.85	-3.53	1.35
902	SLE RA 3	-102	10	6817	-0.46	-5.32	1.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
902	SLE RA 4	-101	23	6784	-0.66	-4.49	1.4
902	SLE RA 5	-99	32	6722	-0.8	-3.83	1.37
902	SLE RA 6	-103	10	6894	-0.41	-5.62	1.45
902	SLE RA 7	-102	23	6861	-0.61	-4.79	1.42
902	SLE RA 8	-103	10	6855	-0.43	-5.51	1.44
902	SLE RA 9	-101	23	6822	-0.62	-4.69	1.41
902	SLE RA 10	-103	33	7205	-0.99	-4.76	1.5
902	SLE RA 11	-107	11	7377	-0.6	-6.54	1.59
902	SLE RA 12	-105	24	7343	-0.79	-5.71	1.55
902	SLE RA 13	-104	33	7282	-0.94	-5.06	1.52
902	SLE RA 14	-108	11	7454	-0.55	-6.84	1.6
902	SLE RA 15	-106	24	7420	-0.74	-6.01	1.57
902	SLE RA 16	-107	11	7415	-0.56	-6.74	1.59
902	SLE RA 17	-106	24	7382	-0.76	-5.91	1.56
902	SLE RA 18	-107	12	7501	-0.72	-6.67	1.62
902	SLE RA 19	-106	24	7468	-0.91	-5.84	1.59
902	SLE RA 20	-108	12	7578	-0.67	-6.97	1.64
902	SLE RA 21	-107	24	7545	-0.86	-6.14	1.6
902	SLE FR 1	-101	10	6702	-0.53	-4.91	1.41
902	SLE FR 2	-100	15	6690	-0.59	-4.64	1.4
902	SLE FR 3	-101	10	6732	-0.51	-5.03	1.42
902	SLE FR 4	-102	15	6930	-0.65	-5.16	1.46
902	SLE FR 5	-103	11	6972	-0.56	-5.56	1.48
902	SLE FR 6	-104	11	7101	-0.62	-5.79	1.52
902	SLE QP 1	-101	10	6702	-0.53	-4.91	1.41
902	SLE QP 2	-103	11	6941	-0.58	-5.44	1.47
902	SLD 1	510	292	7063	-4.01	13.04	-3.03
902	SLD 2	436	195	7125	-3.54	11.62	-0.67
902	SLD 3	464	-111	8320	3.22	-15.97	-1.82
902	SLD 4	390	-208	8382	3.69	-17.39	0.54
902	SLD 5	165	723	5060	-12.66	44.35	-2.12
902	SLD 6	117	660	5100	-12.35	43.43	-0.6
902	SLD 7	9	-620	9251	11.44	-52.34	1.91
902	SLD 8	-39	-682	9291	11.74	-53.26	3.44
902	SLD 9	-167	704	4591	-12.91	42.39	-0.49
902	SLD 10	-214	641	4632	-12.6	41.47	1.03
902	SLD 11	-322	-638	8783	11.18	-54.3	3.54
902	SLD 12	-370	-701	8823	11.49	-55.22	5.07
902	SLD 13	-595	230	5500	-4.86	6.51	2.41
902	SLD 14	-669	133	5563	-4.38	5.09	4.76
902	SLD 15	-642	-173	6758	2.37	-22.5	3.62
902	SLD 16	-716	-270	6820	2.85	-23.92	5.97
902	SLV 1	860	476	7049	-6.4	25.64	-5.66
902	SLV 2	744	324	7147	-5.66	23.4	-1.95
902	SLV 3	781	-204	9174	5.81	-23.39	-3.62
902	SLV 4	665	-357	9271	6.56	-25.63	0.09
902	SLV 5	328	1211	3734	-20.99	78.66	-4.45
902	SLV 6	250	1108	3799	-20.49	77.15	-1.95
902	SLV 7	64	-1057	10815	19.72	-84.76	2.35
902	SLV 8	-14	-1160	10881	20.22	-86.27	4.84
902	SLV 9	-191	1182	3002	-21.39	75.39	-1.9
902	SLV 10	-270	1079	3068	-20.89	73.89	0.6
902	SLV 11	-455	-1086	10084	19.32	-88.03	4.9
902	SLV 12	-533	-1189	10149	19.83	-89.53	7.4
902	SLV 13	-870	379	4612	-7.73	14.75	2.85
902	SLV 14	-987	226	4709	-6.98	12.51	6.56
902	SLV 15	-949	-302	6736	4.49	-34.28	4.89
902	SLV 16	-1066	-455	6834	5.24	-36.51	8.6
902	SLV FO 1	957	523	7060	-6.99	28.74	-6.37
902	SLV FO 2	829	355	7168	-6.16	26.28	-2.29
902	SLV FO 3	870	-226	9397	6.45	-25.18	-4.12
902	SLV FO 4	742	-394	9504	7.27	-27.64	-0.04
902	SLV FO 5	371	1331	3413	-23.04	87.07	-5.04
902	SLV FO 6	285	1218	3485	-22.48	85.41	-2.3
902	SLV FO 7	81	-1164	11202	21.75	-92.7	2.43
902	SLV FO 8	-5	-1277	11275	22.31	-94.35	5.18
902	SLV FO 9	-200	1299	2608	-23.47	83.48	-2.24
902	SLV FO 10	-286	1186	2681	-22.92	81.82	0.51
902	SLV FO 11	-490	-1196	10398	21.31	-96.29	5.24
902	SLV FO 12	-576	-1309	10470	21.87	-97.94	7.99
902	SLV FO 13	-947	415	4379	-8.44	16.77	2.99
902	SLV FO 14	-1075	247	4486	-7.62	14.31	7.07
902	SLV FO 15	-1034	-333	6715	5	-37.16	5.23
902	SLV FO 16	-1162	-501	6823	5.82	-39.62	9.31
902	CRTFP Ux+	0	0	0	0	0	0
902	CRTFP Ux-	0	0	0	0	0	0
902	CRTFP Uy+	0	0	0	0	0	0
902	CRTFP Uy-	0	0	0	0	0	0
905	SLU 1	5	37	2412	-2.06	374.39	-9.08
905	SLU 2	6	53	2390	-2.22	373.6	-12.95
905	SLU 3	6	38	2474	-2.08	383	-9.28
905	SLU 4	6	47	2461	-2.17	382.52	-11.6
905	SLU 5	6	53	2431	-2.23	379.28	-13.04
905	SLU 6	6	38	2515	-2.09	388.67	-9.37
905	SLU 7	6	48	2502	-2.18	388.2	-11.69
905	SLU 8	6	38	2494	-2.08	385.74	-9.26
905	SLU 9	6	47	2481	-2.17	385.27	-11.58
905	SLU 10	6	56	2708	-2.57	420.03	-13.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
905	SLU 11	6	41	2792	-2.43	429.42	-10.08
905	SLU 12	6	51	2779	-2.53	428.95	-12.4
905	SLU 13	7	56	2750	-2.58	425.71	-13.84
905	SLU 14	6	42	2833	-2.44	435.1	-10.17
905	SLU 15	7	51	2820	-2.54	434.62	-12.49
905	SLU 16	6	41	2812	-2.43	432.17	-10.06
905	SLU 17	7	51	2799	-2.53	431.7	-12.38
905	SLU 18	6	42	2867	-2.57	440.72	-10.22
905	SLU 19	6	51	2854	-2.66	440.24	-12.54
905	SLU 20	6	42	2908	-2.58	446.39	-10.31
905	SLU 21	7	52	2895	-2.67	445.92	-12.63
905	SLU 22	6	43	2815	-2.35	432.04	-10.38
905	SLU 23	7	58	2793	-2.51	431.25	-14.25
905	SLU 24	6	43	2876	-2.37	440.64	-10.59
905	SLU 25	7	53	2863	-2.46	440.17	-12.91
905	SLU 26	7	58	2834	-2.52	436.92	-14.34
905	SLU 27	7	44	2917	-2.38	446.32	-10.68
905	SLU 28	7	53	2904	-2.47	445.84	-13
905	SLU 29	7	43	2897	-2.37	443.39	-10.57
905	SLU 30	7	53	2884	-2.46	442.91	-12.89
905	SLU 31	7	61	3111	-2.86	477.68	-15.05
905	SLU 32	7	47	3195	-2.72	487.07	-11.39
905	SLU 33	7	56	3182	-2.82	486.6	-13.71
905	SLU 34	7	62	3152	-2.87	483.35	-15.14
905	SLU 35	7	47	3236	-2.73	492.74	-11.48
905	SLU 36	8	56	3223	-2.83	492.27	-13.8
905	SLU 37	7	47	3215	-2.72	489.82	-11.37
905	SLU 38	8	56	3202	-2.82	489.34	-13.69
905	SLU 39	7	47	3269	-2.86	498.36	-11.53
905	SLU 40	7	57	3256	-2.95	497.89	-13.85
905	SLU 41	7	48	3310	-2.87	504.04	-11.62
905	SLU 42	7	57	3297	-2.96	503.56	-13.94
905	SLU 43	7	47	2997	-2.58	466.95	-11.36
905	SLU 44	7	62	2976	-2.74	466.16	-15.22
905	SLU 45	7	47	3059	-2.6	475.55	-11.56
905	SLU 46	7	57	3046	-2.69	475.08	-13.88
905	SLU 47	8	62	3017	-2.75	471.83	-15.31
905	SLU 48	7	48	3100	-2.61	481.22	-11.65
905	SLU 49	8	57	3087	-2.7	480.75	-13.97
905	SLU 50	7	47	3079	-2.6	478.29	-11.54
905	SLU 51	8	57	3066	-2.69	477.82	-13.86
905	SLU 52	8	65	3294	-3.09	512.58	-16.02
905	SLU 53	7	51	3377	-2.95	521.98	-12.36
905	SLU 54	8	60	3364	-3.05	521.5	-14.68
905	SLU 55	8	66	3335	-3.1	518.26	-16.12
905	SLU 56	8	51	3418	-2.96	527.65	-12.45
905	SLU 57	8	60	3405	-3.06	527.18	-14.77
905	SLU 58	8	51	3398	-2.95	524.72	-12.34
905	SLU 59	8	60	3385	-3.05	524.25	-14.66
905	SLU 60	7	51	3452	-3.09	533.27	-12.5
905	SLU 61	8	61	3439	-3.18	532.8	-14.82
905	SLU 62	7	52	3493	-3.1	538.95	-12.59
905	SLU 63	8	61	3480	-3.19	538.47	-14.91
905	SLU 64	7	52	3400	-2.87	524.59	-12.66
905	SLU 65	8	67	3378	-3.03	523.8	-16.53
905	SLU 66	8	53	3462	-2.89	533.19	-12.86
905	SLU 67	8	62	3449	-2.98	532.72	-15.18
905	SLU 68	8	68	3419	-3.04	529.48	-16.62
905	SLU 69	8	53	3503	-2.9	538.87	-12.95
905	SLU 70	8	62	3490	-2.99	538.4	-15.27
905	SLU 71	8	53	3482	-2.89	535.94	-12.84
905	SLU 72	8	62	3469	-2.98	535.47	-15.16
905	SLU 73	8	71	3697	-3.38	570.23	-17.33
905	SLU 74	8	56	3780	-3.24	579.62	-13.66
905	SLU 75	9	65	3767	-3.34	579.15	-15.98
905	SLU 76	9	71	3738	-3.39	575.9	-17.42
905	SLU 77	9	57	3821	-3.25	585.3	-13.75
905	SLU 78	9	66	3808	-3.35	584.82	-16.07
905	SLU 79	8	56	3800	-3.24	582.37	-13.64
905	SLU 80	9	65	3787	-3.34	581.89	-15.96
905	SLU 81	8	57	3855	-3.38	590.92	-13.8
905	SLU 82	8	66	3842	-3.47	590.44	-16.12
905	SLU 83	8	57	3896	-3.39	596.59	-13.9
905	SLU 84	9	66	3883	-3.48	596.12	-16.22
905	SLE RA 1	5	39	2527	-2.15	390.86	-9.45
905	SLE RA 2	6	49	2512	-2.25	390.34	-12.03
905	SLE RA 3	6	39	2568	-2.16	396.6	-9.59
905	SLE RA 4	6	46	2559	-2.22	396.28	-11.13
905	SLE RA 5	6	49	2540	-2.26	394.12	-12.09
905	SLE RA 6	6	40	2595	-2.16	400.38	-9.65
905	SLE RA 7	6	46	2587	-2.22	400.07	-11.19
905	SLE RA 8	6	39	2582	-2.16	398.43	-9.57
905	SLE RA 9	6	45	2573	-2.22	398.11	-11.12
905	SLE RA 10	6	51	2725	-2.49	421.29	-12.56
905	SLE RA 11	6	42	2780	-2.39	427.55	-10.12
905	SLE RA 12	6	48	2772	-2.46	427.23	-11.67
905	SLE RA 13	6	52	2752	-2.49	425.07	-12.62
905	SLE RA 14	6	42	2808	-2.4	431.33	-10.18

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
905	SLE RA 15	7	48	2799	-2.46	431.02	-11.73
905	SLE RA 16	6	42	2794	-2.39	429.38	-10.11
905	SLE RA 17	6	48	2785	-2.46	429.06	-11.65
905	SLE RA 18	6	42	2830	-2.48	435.08	-10.21
905	SLE RA 19	6	48	2821	-2.55	434.76	-11.76
905	SLE RA 20	6	42	2857	-2.49	438.86	-10.28
905	SLE RA 21	6	48	2849	-2.55	438.55	-11.82
905	SLE FR 1	5	39	2527	-2.15	390.86	-9.45
905	SLE FR 2	6	41	2524	-2.17	390.76	-9.97
905	SLE FR 3	6	39	2538	-2.15	392.38	-9.48
905	SLE FR 4	6	42	2615	-2.27	404.02	-10.2
905	SLE FR 5	6	40	2629	-2.25	405.64	-9.7
905	SLE FR 6	6	40	2678	-2.31	412.97	-9.83
905	SLE QP 1	5	39	2527	-2.15	390.86	-9.45
905	SLE QP 2	6	40	2618	-2.25	404.13	-9.68
905	SLD 1	289	152	2572	-3.36	415.67	-38.08
905	SLD 2	262	134	2571	-3.28	414.23	-33.27
905	SLD 3	281	-40	2912	-1.04	431.94	10.04
905	SLD 4	253	-58	2910	-0.96	430.5	14.84
905	SLD 5	108	368	2089	-6.11	383.16	-92
905	SLD 6	90	356	2088	-6.06	382.23	-88.89
905	SLD 7	80	-273	3221	1.62	437.4	68.37
905	SLD 8	63	-285	3220	1.67	436.47	71.48
905	SLD 9	-51	364	2015	-6.17	371.79	-90.84
905	SLD 10	-69	352	2014	-6.12	370.86	-87.73
905	SLD 11	-79	-277	3147	1.57	426.02	69.53
905	SLD 12	-97	-289	3146	1.62	425.09	72.64
905	SLD 13	-242	138	2325	-3.53	377.76	-34.2
905	SLD 14	-270	119	2324	-3.46	376.32	-29.4
905	SLD 15	-250	-54	2665	-1.21	394.03	13.91
905	SLD 16	-278	-73	2663	-1.14	392.59	18.72
905	SLV 1	450	228	2525	-4.13	421.05	-57.2
905	SLV 2	406	199	2522	-4.01	418.78	-49.64
905	SLV 3	436	-97	3099	-0.21	448.62	24.08
905	SLV 4	392	-126	3096	-0.09	446.35	31.65
905	SLV 5	168	594	1720	-8.78	367.82	-148.63
905	SLV 6	139	575	1718	-8.7	366.29	-143.53
905	SLV 7	122	-488	3633	4.29	459.71	122.31
905	SLV 8	92	-508	3632	4.37	458.18	127.41
905	SLV 9	-81	587	1604	-8.86	350.08	-146.77
905	SLV 10	-110	568	1602	-8.79	348.55	-141.67
905	SLV 11	-128	-495	3518	4.21	441.97	124.17
905	SLV 12	-157	-515	3516	4.29	440.44	129.27
905	SLV 13	-381	205	2139	-4.41	361.91	-51.01
905	SLV 14	-425	176	2137	-4.29	359.64	-43.44
905	SLV 15	-395	-120	2713	-0.48	389.48	30.28
905	SLV 16	-439	-149	2711	-0.37	387.21	37.84
905	SLV FO 1	494	247	2515	-4.32	422.74	-61.96
905	SLV FO 2	447	215	2513	-4.19	420.24	-53.63
905	SLV FO 3	479	-110	3147	0	453.07	27.45
905	SLV FO 4	431	-142	3144	0.13	450.57	35.78
905	SLV FO 5	185	650	1630	-9.43	364.19	-162.52
905	SLV FO 6	152	628	1628	-9.35	362.5	-156.92
905	SLV FO 7	133	-541	3735	4.94	465.27	135.51
905	SLV FO 8	101	-563	3733	5.03	463.59	141.12
905	SLV FO 9	-90	642	1503	-9.53	344.67	-160.48
905	SLV FO 10	-122	621	1501	-9.44	342.99	-154.87
905	SLV FO 11	-141	-549	3608	4.85	445.75	137.56
905	SLV FO 12	-173	-570	3606	4.94	444.07	143.16
905	SLV FO 13	-420	222	2092	-4.62	357.69	-55.14
905	SLV FO 14	-468	190	2089	-4.49	355.19	-46.81
905	SLV FO 15	-435	-136	2723	-0.31	388.01	34.27
905	SLV FO 16	-483	-168	2720	-0.18	385.52	42.6
905	CRTFP Ux+	0	0	0	0	0	0
905	CRTFP Ux-	0	0	0	0	0	0
905	CRTFP Uy+	0	0	0	0	0	0
905	CRTFP Uy-	0	0	0	0	0	0
907	SLU 1	26	65	4465	1.2	-34.7	0.65
907	SLU 2	26	95	4415	0.82	-34.58	0.7
907	SLU 3	27	66	4575	1.33	-35.73	0.67
907	SLU 4	27	84	4544	1.1	-35.66	0.7
907	SLU 5	27	95	4487	0.91	-35.23	0.71
907	SLU 6	28	66	4647	1.42	-36.38	0.68
907	SLU 7	28	83	4616	1.19	-36.31	0.71
907	SLU 8	28	65	4609	1.38	-36	0.67
907	SLU 9	28	83	4579	1.15	-35.93	0.69
907	SLU 10	28	100	5011	0.86	-38.32	0.83
907	SLU 11	30	70	5171	1.37	-39.47	0.8
907	SLU 12	30	88	5140	1.15	-39.4	0.83
907	SLU 13	30	99	5083	0.95	-38.97	0.83
907	SLU 14	31	70	5243	1.46	-40.12	0.81
907	SLU 15	31	88	5212	1.24	-40.05	0.84
907	SLU 16	31	69	5205	1.42	-39.74	0.79
907	SLU 17	31	87	5175	1.2	-39.67	0.82
907	SLU 18	30	72	5317	1.26	-40.04	0.84
907	SLU 19	30	90	5286	1.03	-39.97	0.86
907	SLU 20	31	72	5389	1.35	-40.69	0.84
907	SLU 21	31	89	5358	1.12	-40.62	0.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
907	SLU 22	30	71	5214	1.58	-39.77	0.83
907	SLU 23	30	101	5164	1.2	-39.64	0.87
907	SLU 24	31	72	5324	1.71	-40.79	0.85
907	SLU 25	31	90	5293	1.48	-40.72	0.87
907	SLU 26	31	101	5236	1.29	-40.29	0.88
907	SLU 27	33	72	5396	1.8	-41.44	0.85
907	SLU 28	33	89	5365	1.57	-41.37	0.88
907	SLU 29	32	71	5358	1.76	-41.06	0.84
907	SLU 30	32	89	5328	1.53	-40.99	0.87
907	SLU 31	33	106	5760	1.24	-43.38	1
907	SLU 32	34	76	5920	1.75	-44.53	0.98
907	SLU 33	34	94	5889	1.52	-44.46	1
907	SLU 34	34	105	5832	1.33	-44.03	1.01
907	SLU 35	35	76	5992	1.84	-45.18	0.98
907	SLU 36	35	94	5961	1.61	-45.11	1.01
907	SLU 37	35	75	5954	1.8	-44.8	0.97
907	SLU 38	35	93	5924	1.57	-44.73	1
907	SLU 39	34	78	6066	1.64	-45.11	1.01
907	SLU 40	34	96	6035	1.41	-45.03	1.04
907	SLU 41	35	78	6138	1.73	-45.75	1.02
907	SLU 42	35	95	6107	1.5	-45.68	1.04
907	SLU 43	32	83	5548	1.43	-43.38	0.79
907	SLU 44	32	113	5497	1.06	-43.26	0.84
907	SLU 45	33	83	5657	1.56	-44.41	0.81
907	SLU 46	33	101	5627	1.34	-44.33	0.84
907	SLU 47	33	112	5569	1.14	-43.9	0.84
907	SLU 48	35	83	5729	1.65	-45.06	0.82
907	SLU 49	35	101	5699	1.43	-44.98	0.84
907	SLU 50	34	82	5692	1.61	-44.67	0.8
907	SLU 51	34	100	5662	1.39	-44.6	0.83
907	SLU 52	35	117	6093	1.1	-47	0.96
907	SLU 53	36	88	6253	1.61	-48.15	0.94
907	SLU 54	36	106	6223	1.38	-48.07	0.97
907	SLU 55	36	117	6165	1.19	-47.64	0.97
907	SLU 56	37	88	6325	1.69	-48.79	0.94
907	SLU 57	37	105	6295	1.47	-48.72	0.97
907	SLU 58	37	87	6288	1.66	-48.41	0.93
907	SLU 59	37	105	6258	1.43	-48.34	0.96
907	SLU 60	36	89	6399	1.49	-48.72	0.97
907	SLU 61	36	107	6369	1.27	-48.65	1
907	SLU 62	37	89	6471	1.58	-49.37	0.98
907	SLU 63	37	107	6441	1.36	-49.29	1.01
907	SLU 64	36	89	6297	1.81	-48.44	0.96
907	SLU 65	36	119	6246	1.43	-48.32	1.01
907	SLU 66	38	89	6406	1.94	-49.47	0.98
907	SLU 67	38	107	6376	1.71	-49.4	1.01
907	SLU 68	37	118	6318	1.52	-48.97	1.02
907	SLU 69	39	89	6478	2.03	-50.12	0.99
907	SLU 70	39	107	6448	1.8	-50.04	1.02
907	SLU 71	39	88	6441	1.99	-49.74	0.98
907	SLU 72	39	106	6411	1.76	-49.66	1
907	SLU 73	39	123	6842	1.47	-52.06	1.14
907	SLU 74	40	94	7002	1.98	-53.21	1.11
907	SLU 75	40	112	6972	1.75	-53.14	1.14
907	SLU 76	40	123	6914	1.56	-52.71	1.14
907	SLU 77	42	94	7074	2.07	-53.86	1.12
907	SLU 78	42	111	7044	1.84	-53.78	1.15
907	SLU 79	41	93	7037	2.03	-53.48	1.1
907	SLU 80	41	111	7007	1.8	-53.4	1.13
907	SLU 81	40	95	7148	1.87	-53.78	1.15
907	SLU 82	40	113	7118	1.64	-53.71	1.18
907	SLU 83	41	95	7220	1.96	-54.43	1.15
907	SLU 84	41	113	7190	1.73	-54.36	1.18
907	SLE RA 1	27	67	4679	1.31	-36.15	0.7
907	SLE RA 2	27	87	4646	1.06	-36.07	0.73
907	SLE RA 3	28	67	4752	1.4	-36.84	0.72
907	SLE RA 4	28	79	4732	1.24	-36.79	0.73
907	SLE RA 5	28	87	4694	1.12	-36.5	0.74
907	SLE RA 6	29	67	4800	1.46	-37.27	0.72
907	SLE RA 7	29	79	4780	1.3	-37.22	0.74
907	SLE RA 8	29	67	4775	1.43	-37.01	0.71
907	SLE RA 9	29	79	4755	1.28	-36.96	0.73
907	SLE RA 10	29	90	5043	1.09	-38.56	0.82
907	SLE RA 11	30	70	5149	1.42	-39.33	0.8
907	SLE RA 12	30	82	5129	1.27	-39.28	0.82
907	SLE RA 13	30	90	5091	1.15	-38.99	0.82
907	SLE RA 14	31	70	5197	1.48	-39.76	0.81
907	SLE RA 15	31	82	5177	1.33	-39.71	0.82
907	SLE RA 16	30	70	5172	1.46	-39.51	0.8
907	SLE RA 17	30	82	5152	1.31	-39.46	0.82
907	SLE RA 18	30	71	5247	1.35	-39.71	0.83
907	SLE RA 19	30	83	5227	1.2	-39.66	0.84
907	SLE RA 20	30	71	5295	1.41	-40.14	0.83
907	SLE RA 21	30	83	5275	1.26	-40.09	0.85
907	SLE FR 1	27	67	4679	1.31	-36.15	0.7
907	SLE FR 2	27	71	4673	1.26	-36.13	0.71
907	SLE FR 3	27	67	4698	1.33	-36.32	0.71
907	SLE FR 4	28	72	4843	1.27	-37.2	0.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
907	SLE FR 5	28	68	4869	1.35	-37.39	0.74
907	SLE FR 6	28	69	4963	1.33	-37.93	0.76
907	SLE QP 1	27	67	4679	1.31	-36.15	0.7
907	SLE QP 2	28	68	4850	1.32	-37.22	0.74
907	SLD 1	598	221	4100	-1.63	-10.6	-2.82
907	SLD 2	540	254	4107	-1.73	-10.77	-0.7
907	SLD 3	604	-155	4887	4.03	-13.26	-3.44
907	SLD 4	545	-122	4894	3.93	-13.42	-1.32
907	SLD 5	201	679	3429	-8.13	-25.18	0.26
907	SLD 6	163	700	3433	-8.2	-25.29	1.63
907	SLD 7	219	-575	6054	10.74	-34.03	-1.83
907	SLD 8	181	-554	6059	10.67	-34.13	-0.46
907	SLD 9	-126	690	3640	-8.03	-40.3	1.94
907	SLD 10	-163	711	3645	-8.1	-40.41	3.31
907	SLD 11	-108	-563	6266	10.84	-49.15	-0.14
907	SLD 12	-145	-542	6270	10.78	-49.26	1.23
907	SLD 13	-490	259	4805	-1.28	-61.01	2.81
907	SLD 14	-548	292	4812	-1.39	-61.18	4.92
907	SLD 15	-484	-117	5592	4.38	-63.67	2.18
907	SLD 16	-543	-84	5599	4.27	-63.83	4.3
907	SLV 1	920	330	3629	-3.66	4.48	-4.8
907	SLV 2	828	382	3640	-3.82	4.22	-1.47
907	SLV 3	929	-305	4959	5.91	-0.01	-5.86
907	SLV 4	838	-254	4970	5.75	-0.27	-2.52
907	SLV 5	299	1101	2463	-14.65	-17.85	0.06
907	SLV 6	237	1135	2470	-14.76	-18.03	2.3
907	SLV 7	329	-1017	6899	17.24	-32.82	-3.46
907	SLV 8	267	-982	6906	17.13	-32.99	-1.22
907	SLV 9	-212	1119	2793	-14.48	-41.45	2.7
907	SLV 10	-274	1153	2800	-14.6	-41.62	4.95
907	SLV 11	-182	-999	7229	17.41	-56.41	-0.82
907	SLV 12	-243	-964	7236	17.3	-56.58	1.42
907	SLV 13	-782	390	4729	-3.1	-74.17	4
907	SLV 14	-874	442	4740	-3.27	-74.42	7.34
907	SLV 15	-773	-245	6059	6.47	-78.65	2.95
907	SLV 16	-865	-194	6070	6.3	-78.91	6.28
907	SLV FO 1	1009	356	3506	-4.15	8.65	-5.35
907	SLV FO 2	909	413	3519	-4.34	8.36	-1.69
907	SLV FO 3	1019	-342	4970	6.37	3.71	-6.52
907	SLV FO 4	919	-286	4983	6.19	3.42	-2.85
907	SLV FO 5	326	1204	2224	-16.25	-15.92	-0.01
907	SLV FO 6	258	1242	2232	-16.37	-16.11	2.46
907	SLV FO 7	359	-1125	7104	18.83	-32.37	-3.89
907	SLV FO 8	291	-1087	7112	18.71	-32.57	-1.42
907	SLV FO 9	-236	1224	2587	-16.06	-41.87	2.9
907	SLV FO 10	-304	1262	2595	-16.19	-42.06	5.37
907	SLV FO 11	-202	-1105	7467	19.02	-58.33	-0.98
907	SLV FO 12	-270	-1067	7475	18.89	-58.52	1.49
907	SLV FO 13	-863	423	4717	-3.54	-77.86	4.33
907	SLV FO 14	-964	479	4729	-3.73	-78.14	8
907	SLV FO 15	-853	-276	6180	6.98	-82.8	3.17
907	SLV FO 16	-954	-220	6193	6.8	-83.08	6.83
907	CRTFP Ux+	0	0	0	0	0	0
907	CRTFP Ux-	0	0	0	0	0	0
907	CRTFP Uy+	0	0	0	0	0	0
907	CRTFP Uy-	0	0	0	0	0	0
909	SLU 1	-48	-5	3207	1.88	-348.66	-1.12
909	SLU 2	-47	15	3159	1.59	-343.96	3.91
909	SLU 3	-49	-5	3295	1.99	-357.19	-1.27
909	SLU 4	-48	7	3266	1.82	-354.37	1.75
909	SLU 5	-47	15	3218	1.67	-349.66	3.85
909	SLU 6	-49	-6	3354	2.07	-362.88	-1.33
909	SLU 7	-49	7	3325	1.9	-360.07	1.69
909	SLU 8	-49	-5	3325	2.04	-360.05	-1.24
909	SLU 9	-48	7	3296	1.87	-357.23	1.78
909	SLU 10	-50	16	3551	1.82	-383.71	4.09
909	SLU 11	-52	-5	3687	2.22	-396.94	-1.09
909	SLU 12	-52	7	3659	2.05	-394.12	1.93
909	SLU 13	-51	16	3610	1.9	-389.41	4.03
909	SLU 14	-53	-5	3746	2.3	-402.63	-1.16
909	SLU 15	-52	7	3718	2.13	-399.81	1.86
909	SLU 16	-52	-5	3717	2.27	-399.8	-1.07
909	SLU 17	-52	8	3688	2.1	-396.98	1.95
909	SLU 18	-53	-4	3767	2.2	-405.45	-0.87
909	SLU 19	-52	8	3739	2.03	-402.63	2.15
909	SLU 20	-53	-4	3826	2.28	-411.14	-0.93
909	SLU 21	-53	8	3798	2.11	-408.32	2.09
909	SLU 22	-54	-7	3732	2.35	-401.18	-1.69
909	SLU 23	-53	13	3685	2.06	-396.48	3.34
909	SLU 24	-55	-8	3821	2.46	-409.71	-1.84
909	SLU 25	-54	4	3792	2.29	-406.89	1.18
909	SLU 26	-53	13	3744	2.14	-402.18	3.28
909	SLU 27	-55	-8	3880	2.54	-415.4	-1.9
909	SLU 28	-55	4	3851	2.37	-412.59	1.12
909	SLU 29	-55	-8	3850	2.51	-412.57	-1.81
909	SLU 30	-54	5	3822	2.34	-409.75	1.21
909	SLU 31	-56	14	4077	2.29	-436.23	3.52
909	SLU 32	-58	-7	4213	2.69	-449.46	-1.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
909	SLU 33	-58	5	4184	2.51	-446.64	1.36
909	SLU 34	-57	14	4136	2.37	-441.93	3.46
909	SLU 35	-59	-7	4272	2.77	-455.15	-1.73
909	SLU 36	-58	5	4243	2.59	-452.33	1.29
909	SLU 37	-59	-7	4243	2.74	-452.32	-1.64
909	SLU 38	-58	5	4214	2.56	-449.5	1.38
909	SLU 39	-59	-6	4293	2.67	-457.97	-1.44
909	SLU 40	-58	6	4264	2.5	-455.15	1.58
909	SLU 41	-60	-6	4352	2.75	-463.66	-1.5
909	SLU 42	-59	6	4323	2.58	-460.84	1.52
909	SLU 43	-60	-5	3989	2.28	-435.25	-1.26
909	SLU 44	-59	15	3941	1.99	-430.56	3.77
909	SLU 45	-61	-6	4077	2.39	-443.78	-1.41
909	SLU 46	-60	6	4048	2.22	-440.96	1.61
909	SLU 47	-59	15	4000	2.08	-436.25	3.71
909	SLU 48	-61	-6	4136	2.47	-449.48	-1.47
909	SLU 49	-61	6	4107	2.3	-446.66	1.55
909	SLU 50	-61	-6	4107	2.44	-446.64	-1.38
909	SLU 51	-60	6	4078	2.27	-443.82	1.64
909	SLU 52	-62	16	4333	2.22	-470.31	3.95
909	SLU 53	-65	-5	4469	2.62	-483.53	-1.24
909	SLU 54	-64	7	4441	2.45	-480.71	1.79
909	SLU 55	-63	15	4392	2.3	-476	3.89
909	SLU 56	-65	-5	4528	2.7	-489.23	-1.3
909	SLU 57	-64	7	4499	2.53	-486.41	1.72
909	SLU 58	-65	-5	4499	2.67	-486.39	-1.21
909	SLU 59	-64	7	4470	2.5	-483.57	1.81
909	SLU 60	-65	-4	4549	2.6	-492.04	-1.01
909	SLU 61	-64	8	4520	2.43	-489.22	2.01
909	SLU 62	-66	-5	4608	2.69	-497.73	-1.07
909	SLU 63	-65	8	4579	2.51	-494.91	1.95
909	SLU 64	-66	-8	4514	2.75	-487.77	-1.83
909	SLU 65	-65	13	4467	2.46	-483.08	3.2
909	SLU 66	-67	-8	4602	2.86	-496.3	-1.98
909	SLU 67	-66	4	4574	2.69	-493.48	1.04
909	SLU 68	-65	12	4526	2.54	-488.77	3.14
909	SLU 69	-67	-8	4661	2.94	-502	-2.04
909	SLU 70	-67	4	4633	2.77	-499.18	0.98
909	SLU 71	-67	-8	4632	2.91	-499.16	-1.95
909	SLU 72	-66	4	4604	2.74	-496.34	1.07
909	SLU 73	-69	13	4859	2.69	-522.83	3.38
909	SLU 74	-71	-8	4995	3.09	-536.05	-1.8
909	SLU 75	-70	5	4966	2.92	-533.23	1.22
909	SLU 76	-69	13	4918	2.77	-528.52	3.32
909	SLU 77	-71	-8	5054	3.17	-541.75	-1.87
909	SLU 78	-71	4	5025	3	-538.93	1.15
909	SLU 79	-71	-7	5024	3.14	-538.91	-1.78
909	SLU 80	-70	5	4996	2.97	-536.09	1.24
909	SLU 81	-71	-7	5075	3.07	-544.56	-1.58
909	SLU 82	-71	5	5046	2.9	-541.74	1.44
909	SLU 83	-72	-7	5134	3.15	-550.25	-1.64
909	SLU 84	-71	5	5105	2.98	-547.43	1.38
909	SLE RA 1	-49	-5	3357	2.01	-363.67	-1.28
909	SLE RA 2	-49	8	3325	1.82	-360.54	2.07
909	SLE RA 3	-50	-6	3416	2.09	-369.35	-1.38
909	SLE RA 4	-50	2	3397	1.97	-367.47	0.63
909	SLE RA 5	-49	8	3365	1.88	-364.33	2.03
909	SLE RA 6	-50	-6	3455	2.14	-373.15	-1.42
909	SLE RA 7	-50	2	3436	2.03	-371.27	0.59
909	SLE RA 8	-50	-6	3436	2.12	-371.26	-1.36
909	SLE RA 9	-50	2	3417	2.01	-369.38	0.65
909	SLE RA 10	-51	9	3587	1.97	-387.04	2.19
909	SLE RA 11	-52	-5	3677	2.24	-395.85	-1.27
909	SLE RA 12	-52	3	3658	2.12	-393.97	0.75
909	SLE RA 13	-51	8	3626	2.03	-390.83	2.15
909	SLE RA 14	-53	-5	3717	2.29	-399.65	-1.31
909	SLE RA 15	-52	3	3698	2.18	-397.77	0.71
909	SLE RA 16	-53	-5	3697	2.27	-397.76	-1.25
909	SLE RA 17	-52	3	3678	2.16	-395.88	0.77
909	SLE RA 18	-53	-5	3731	2.23	-401.52	-1.12
909	SLE RA 19	-52	3	3712	2.11	-399.65	0.9
909	SLE RA 20	-53	-5	3770	2.28	-405.32	-1.16
909	SLE RA 21	-53	3	3751	2.17	-403.44	0.86
909	SLE FR 1	-49	-5	3357	2.01	-363.67	-1.28
909	SLE FR 2	-49	-3	3351	1.97	-363.04	-0.61
909	SLE FR 3	-49	-5	3373	2.03	-365.19	-1.3
909	SLE FR 4	-50	-2	3463	2.04	-374.4	-0.56
909	SLE FR 5	-51	-5	3485	2.1	-376.54	-1.25
909	SLE FR 6	-51	-5	3544	2.12	-382.6	-1.2
909	SLE QP 1	-49	-5	3357	2.01	-363.67	-1.28
909	SLE QP 2	-50	-5	3469	2.08	-375.03	-1.23
909	SLD 1	245	142	4042	0.44	-434.91	35.36
909	SLD 2	207	42	4094	0.8	-440.66	10.44
909	SLD 3	231	-112	4750	4.71	-502.34	-28.23
909	SLD 4	193	-213	4801	5.06	-508.09	-53.16
909	SLD 5	66	443	2559	-4.94	-289.72	110.52
909	SLD 6	42	378	2592	-4.72	-293.43	94.4
909	SLD 7	19	-406	4917	9.28	-514.5	-101.46

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
909	SLD 8	-6	-471	4950	9.5	-518.22	-117.59
909	SLD 9	-95	461	1988	-5.35	-231.83	115.12
909	SLD 10	-120	396	2021	-5.12	-235.55	99
909	SLD 11	-142	-388	4346	8.87	-456.62	-96.86
909	SLD 12	-167	-453	4379	9.1	-460.33	-112.99
909	SLD 13	-293	202	2137	-0.91	-241.96	50.7
909	SLD 14	-332	102	2189	-0.56	-247.71	25.77
909	SLD 15	-308	-52	2845	3.36	-309.39	-12.9
909	SLD 16	-346	-153	2896	3.71	-315.14	-37.83
909	SLV 1	414	242	4317	-0.75	-464.02	60.08
909	SLV 2	353	84	4398	-0.2	-473.07	20.84
909	SLV 3	390	-188	5512	6.46	-577.96	-47.38
909	SLV 4	329	-347	5593	7.01	-587.01	-86.63
909	SLV 5	136	751	1896	-9.8	-227.22	187.48
909	SLV 6	96	645	1951	-9.43	-233.32	161.05
909	SLV 7	57	-683	5879	14.22	-607.03	-170.74
909	SLV 8	16	-790	5934	14.59	-613.12	-197.16
909	SLV 9	-117	780	1005	-10.44	-136.93	194.7
909	SLV 10	-158	673	1059	-10.07	-143.02	168.28
909	SLV 11	-196	-655	4988	13.59	-516.73	-163.52
909	SLV 12	-237	-762	5042	13.96	-522.83	-189.94
909	SLV 13	-430	336	1345	-2.86	-163.04	84.16
909	SLV 14	-491	178	1426	-2.31	-172.09	44.92
909	SLV 15	-454	-94	2540	4.35	-276.98	-23.3
909	SLV 16	-515	-252	2621	4.9	-286.03	-62.55
909	SLV FO 1	460	267	4402	-1.03	-472.92	66.22
909	SLV FO 2	393	93	4491	-0.42	-482.88	23.04
909	SLV FO 3	434	-207	5716	6.9	-598.26	-52
909	SLV FO 4	367	-381	5805	7.5	-608.21	-95.17
909	SLV FO 5	155	827	1739	-10.99	-212.44	206.35
909	SLV FO 6	110	710	1799	-10.58	-219.15	177.28
909	SLV FO 7	68	-751	6120	15.43	-630.23	-187.69
909	SLV FO 8	23	-868	6180	15.84	-636.93	-216.76
909	SLV FO 9	-123	858	758	-11.69	-113.12	214.29
909	SLV FO 10	-168	741	818	-11.28	-119.82	185.23
909	SLV FO 11	-211	-720	5139	14.74	-530.9	-179.75
909	SLV FO 12	-256	-837	5199	15.15	-537.61	-208.81
909	SLV FO 13	-468	370	1133	-3.35	-141.84	92.7
909	SLV FO 14	-535	196	1222	-2.74	-151.79	49.53
909	SLV FO 15	-494	-103	2447	4.58	-267.17	-25.51
909	SLV FO 16	-561	-277	2536	5.18	-277.13	-68.68
909	CRTFP Ux+	0	0	0	0	0	0
909	CRTFP Ux-	0	0	0	0	0	0
909	CRTFP Uy+	0	0	0	0	0	0
909	CRTFP Uy-	0	0	0	0	0	0
912	SLU 1	108	37	6473	1.69	17.86	-0.44
912	SLU 2	104	67	6370	1.19	16.42	-0.38
912	SLU 3	112	37	6652	1.84	18.8	-0.47
912	SLU 4	109	55	6590	1.54	17.93	-0.43
912	SLU 5	107	67	6490	1.31	17.04	-0.41
912	SLU 6	114	38	6772	1.96	19.43	-0.5
912	SLU 7	112	56	6711	1.66	18.56	-0.47
912	SLU 8	113	38	6714	1.92	19.12	-0.51
912	SLU 9	111	56	6652	1.62	18.25	-0.47
912	SLU 10	112	72	7208	1.32	19.4	-0.41
912	SLU 11	119	42	7490	1.97	21.78	-0.5
912	SLU 12	117	60	7428	1.67	20.91	-0.47
912	SLU 13	114	72	7328	1.43	20.02	-0.45
912	SLU 14	122	43	7610	2.09	22.41	-0.54
912	SLU 15	120	61	7548	1.79	21.54	-0.5
912	SLU 16	121	43	7552	2.05	22.1	-0.54
912	SLU 17	118	61	7490	1.75	21.23	-0.51
912	SLU 18	119	44	7670	1.87	22.12	-0.49
912	SLU 19	116	62	7608	1.57	21.25	-0.45
912	SLU 20	121	44	7790	1.99	22.75	-0.52
912	SLU 21	119	62	7728	1.69	21.88	-0.49
912	SLU 22	122	41	7577	2.18	22.33	-0.47
912	SLU 23	119	71	7473	1.68	20.89	-0.41
912	SLU 24	126	42	7756	2.33	23.27	-0.5
912	SLU 25	124	60	7694	2.03	22.4	-0.47
912	SLU 26	121	72	7594	1.8	21.52	-0.44
912	SLU 27	129	43	7876	2.45	23.9	-0.54
912	SLU 28	127	61	7814	2.15	23.03	-0.5
912	SLU 29	128	42	7817	2.41	23.59	-0.54
912	SLU 30	126	60	7755	2.11	22.72	-0.5
912	SLU 31	126	76	8311	1.81	23.87	-0.45
912	SLU 32	134	47	8593	2.46	26.25	-0.54
912	SLU 33	131	65	8531	2.16	25.38	-0.5
912	SLU 34	129	77	8431	1.92	24.5	-0.48
912	SLU 35	136	48	8714	2.58	26.88	-0.57
912	SLU 36	134	66	8652	2.28	26.01	-0.54
912	SLU 37	135	47	8655	2.54	26.57	-0.58
912	SLU 38	133	65	8593	2.24	25.7	-0.54
912	SLU 39	133	48	8773	2.36	26.59	-0.52
912	SLU 40	131	66	8711	2.06	25.72	-0.49
912	SLU 41	136	49	8894	2.48	27.22	-0.56
912	SLU 42	134	67	8832	2.18	26.35	-0.52
912	SLU 43	135	46	8037	2.02	21.69	-0.56

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
912	SLU 44	131	76	7933	1.53	20.24	-0.5
912	SLU 45	139	47	8216	2.18	22.62	-0.59
912	SLU 46	137	65	8154	1.88	21.76	-0.55
912	SLU 47	134	77	8054	1.64	20.87	-0.53
912	SLU 48	142	47	8336	2.3	23.25	-0.62
912	SLU 49	139	65	8274	2	22.39	-0.59
912	SLU 50	141	47	8277	2.26	22.94	-0.63
912	SLU 51	138	65	8216	1.96	22.08	-0.59
912	SLU 52	139	81	8771	1.65	23.22	-0.53
912	SLU 53	146	52	9053	2.31	25.6	-0.62
912	SLU 54	144	70	8991	2.01	24.74	-0.59
912	SLU 55	142	82	8892	1.77	23.85	-0.57
912	SLU 56	149	52	9174	2.43	26.23	-0.66
912	SLU 57	147	70	9112	2.13	25.37	-0.62
912	SLU 58	148	52	9115	2.39	25.92	-0.66
912	SLU 59	146	70	9053	2.09	25.06	-0.63
912	SLU 60	146	53	9233	2.21	25.94	-0.61
912	SLU 61	144	71	9172	1.91	25.08	-0.57
912	SLU 62	149	54	9354	2.33	26.57	-0.64
912	SLU 63	146	72	9292	2.03	25.7	-0.61
912	SLU 64	150	51	9140	2.51	26.16	-0.59
912	SLU 65	146	81	9037	2.02	24.71	-0.53
912	SLU 66	154	52	9319	2.67	27.1	-0.62
912	SLU 67	151	70	9257	2.37	26.23	-0.59
912	SLU 68	149	81	9157	2.13	25.34	-0.56
912	SLU 69	156	52	9440	2.79	27.72	-0.66
912	SLU 70	154	70	9378	2.49	26.86	-0.62
912	SLU 71	155	52	9381	2.75	27.41	-0.66
912	SLU 72	153	70	9319	2.45	26.55	-0.62
912	SLU 73	154	86	9875	2.14	27.69	-0.57
912	SLU 74	161	56	10157	2.8	30.08	-0.66
912	SLU 75	159	74	10095	2.5	29.21	-0.62
912	SLU 76	156	86	9995	2.26	28.32	-0.6
912	SLU 77	164	57	10277	2.92	30.7	-0.69
912	SLU 78	161	75	10215	2.62	29.84	-0.66
912	SLU 79	163	57	10219	2.88	30.39	-0.7
912	SLU 80	160	75	10157	2.58	29.53	-0.66
912	SLU 81	161	58	10337	2.7	30.41	-0.64
912	SLU 82	158	76	10275	2.4	29.55	-0.61
912	SLU 83	163	58	10457	2.82	31.04	-0.68
912	SLU 84	161	76	10395	2.52	30.18	-0.64
912	SLE RA 1	112	38	6788	1.83	19.14	-0.45
912	SLE RA 2	110	58	6720	1.49	18.17	-0.41
912	SLE RA 3	115	39	6908	1.93	19.76	-0.47
912	SLE RA 4	113	51	6866	1.73	19.19	-0.44
912	SLE RA 5	111	58	6800	1.57	18.59	-0.43
912	SLE RA 6	116	39	6988	2.01	20.18	-0.49
912	SLE RA 7	115	51	6947	1.81	19.6	-0.47
912	SLE RA 8	116	39	6949	1.98	19.98	-0.49
912	SLE RA 9	114	51	6908	1.78	19.4	-0.47
912	SLE RA 10	115	61	7278	1.58	20.16	-0.43
912	SLE RA 11	120	42	7466	2.02	21.75	-0.49
912	SLE RA 12	118	54	7425	1.82	21.17	-0.47
912	SLE RA 13	116	62	7358	1.66	20.58	-0.45
912	SLE RA 14	121	42	7546	2.1	22.17	-0.52
912	SLE RA 15	120	54	7505	1.9	21.59	-0.49
912	SLE RA 16	121	42	7507	2.07	21.96	-0.52
912	SLE RA 17	119	54	7466	1.87	21.38	-0.49
912	SLE RA 18	119	43	7586	1.95	21.98	-0.48
912	SLE RA 19	118	55	7545	1.75	21.4	-0.46
912	SLE RA 20	121	43	7666	2.03	22.39	-0.5
912	SLE RA 21	119	55	7625	1.83	21.82	-0.48
912	SLE FR 1	112	38	6788	1.83	19.14	-0.45
912	SLE FR 2	112	42	6775	1.76	18.95	-0.44
912	SLE FR 3	113	38	6820	1.86	19.31	-0.46
912	SLE FR 4	114	43	7014	1.8	19.8	-0.45
912	SLE FR 5	115	40	7060	1.89	20.16	-0.47
912	SLE FR 6	116	40	7187	1.89	20.56	-0.46
912	SLE QP 1	112	38	6788	1.83	19.14	-0.45
912	SLE QP 2	114	39	7028	1.86	19.99	-0.46
912	SLD 1	669	216	5533	-2.14	10.98	-3.86
912	SLD 2	587	306	5439	-2.62	12.33	-1.65
912	SLD 3	723	-169	7103	5.23	31.81	-4.83
912	SLD 4	641	-79	7008	4.74	33.16	-2.61
912	SLD 5	212	661	4215	-10.42	-14.55	-0.4
912	SLD 6	159	719	4154	-10.73	-13.67	1.03
912	SLD 7	394	-623	9448	14.12	54.9	-3.61
912	SLD 8	341	-564	9386	13.81	55.77	-2.18
912	SLD 9	-112	643	4669	-10.08	-15.8	1.26
912	SLD 10	-165	702	4608	-10.4	-14.92	2.7
912	SLD 11	69	-640	9902	14.46	53.65	-1.95
912	SLD 12	16	-582	9840	14.14	54.53	-0.51
912	SLD 13	-413	158	7047	-1.01	6.82	1.7
912	SLD 14	-495	248	6952	-1.5	8.17	3.91
912	SLD 15	-359	-227	8617	6.35	27.65	0.73
912	SLD 16	-440	-137	8522	5.86	29	2.95
912	SLV 1	979	340	4594	-4.85	5.01	-5.74
912	SLV 2	851	482	4445	-5.62	7.13	-2.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
912	SLV 3	1071	-311	7248	7.59	40.24	-7.37
912	SLV 4	943	-169	7098	6.82	42.37	-3.88
912	SLV 5	258	1090	2302	-18.88	-38.34	-0.23
912	SLV 6	172	1186	2201	-19.39	-36.91	2.12
912	SLV 7	565	-1079	11145	22.59	79.1	-5.65
912	SLV 8	478	-984	11045	22.07	80.54	-3.3
912	SLV 9	-250	1062	3011	-18.35	-40.56	2.38
912	SLV 10	-336	1158	2910	-18.86	-39.13	4.73
912	SLV 11	57	-1107	11854	23.12	76.89	-3.04
912	SLV 12	-30	-1011	11754	22.6	78.32	-0.69
912	SLV 13	-714	248	6957	-3.09	-2.39	2.97
912	SLV 14	-843	390	6808	-3.86	-0.26	6.45
912	SLV 15	-622	-403	9610	9.35	32.84	1.34
912	SLV 16	-751	-261	9461	8.58	34.97	4.83
912	SLV FO 1	1066	370	4351	-5.53	3.51	-6.27
912	SLV FO 2	924	526	4187	-6.37	5.85	-2.43
912	SLV FO 3	1167	-346	7270	8.16	42.27	-8.06
912	SLV FO 4	1025	-190	7105	7.32	44.6	-4.22
912	SLV FO 5	273	1195	1829	-20.95	-44.17	-0.21
912	SLV FO 6	177	1300	1719	-21.52	-42.6	2.38
912	SLV FO 7	610	-1191	11557	24.66	85.02	-6.17
912	SLV FO 8	515	-1086	11447	24.1	86.59	-3.58
912	SLV FO 9	-286	1165	2609	-20.37	-46.61	2.67
912	SLV FO 10	-381	1270	2498	-20.94	-45.04	5.25
912	SLV FO 11	51	-1221	12337	25.24	82.58	-3.29
912	SLV FO 12	-44	-1116	12226	24.68	84.15	-0.71
912	SLV FO 13	-797	269	6950	-3.59	-4.63	3.31
912	SLV FO 14	-938	425	6786	-4.43	-2.29	7.15
912	SLV FO 15	-696	-447	9869	10.09	34.13	1.52
912	SLV FO 16	-837	-291	9704	9.25	36.47	5.36
912	CRTFP Ux+	0	0	0	0	0	0
912	CRTFP Ux-	0	0	0	0	0	0
912	CRTFP Uy+	0	0	0	0	0	0
912	CRTFP Uy-	0	0	0	0	0	0
915	SLU 1	64	22	3920	4.38	771.28	-7.81
915	SLU 2	62	47	3854	3.93	759.55	-16.44
915	SLU 3	66	23	4025	4.6	790.2	-8.05
915	SLU 4	65	38	3985	4.33	783.17	-13.23
915	SLU 5	64	48	3923	4.1	772.09	-16.8
915	SLU 6	68	24	4094	4.77	802.74	-8.42
915	SLU 7	67	39	4054	4.5	795.71	-13.59
915	SLU 8	67	24	4059	4.71	796.36	-8.54
915	SLU 9	66	39	4019	4.45	789.32	-13.71
915	SLU 10	67	50	4326	4.47	847.54	-17.41
915	SLU 11	70	26	4497	5.14	878.2	-9.03
915	SLU 12	69	40	4457	4.87	871.16	-14.2
915	SLU 13	68	51	4395	4.64	860.08	-17.78
915	SLU 14	72	27	4566	5.3	890.74	-9.39
915	SLU 15	71	41	4526	5.04	883.7	-14.57
915	SLU 16	71	27	4531	5.25	884.35	-9.52
915	SLU 17	70	42	4491	4.98	877.31	-14.69
915	SLU 18	70	26	4595	5.14	896.98	-9.21
915	SLU 19	69	41	4555	4.88	889.94	-14.38
915	SLU 20	72	27	4664	5.31	909.52	-9.57
915	SLU 21	71	42	4624	5.05	902.48	-14.75
915	SLU 22	72	22	4550	5.33	887.78	-7.95
915	SLU 23	70	47	4484	4.89	876.05	-16.57
915	SLU 24	74	23	4655	5.56	906.7	-8.18
915	SLU 25	73	38	4615	5.29	899.67	-13.36
915	SLU 26	72	48	4553	5.06	888.59	-16.93
915	SLU 27	75	24	4724	5.72	919.24	-8.55
915	SLU 28	74	39	4684	5.46	912.21	-13.72
915	SLU 29	75	24	4688	5.67	912.86	-8.67
915	SLU 30	74	39	4648	5.4	905.82	-13.85
915	SLU 31	75	50	4955	5.43	964.04	-17.54
915	SLU 32	78	26	5127	6.1	994.7	-9.16
915	SLU 33	77	41	5087	5.83	987.66	-14.33
915	SLU 34	76	51	5025	5.6	976.58	-17.91
915	SLU 35	80	27	5196	6.26	1007.24	-9.52
915	SLU 36	79	42	5156	6	1000.2	-14.7
915	SLU 37	79	27	5160	6.21	1000.85	-9.65
915	SLU 38	78	42	5120	5.94	993.81	-14.82
915	SLU 39	78	26	5224	6.1	1013.48	-9.34
915	SLU 40	77	41	5184	5.84	1006.44	-14.51
915	SLU 41	80	27	5293	6.27	1026.02	-9.7
915	SLU 42	79	42	5253	6.01	1018.98	-14.88
915	SLU 43	81	29	4881	5.36	962.72	-10.11
915	SLU 44	79	53	4814	4.92	950.99	-18.74
915	SLU 45	83	29	4985	5.58	981.65	-10.35
915	SLU 46	82	44	4945	5.32	974.61	-15.53
915	SLU 47	81	54	4883	5.09	963.53	-19.1
915	SLU 48	84	30	5054	5.75	994.19	-10.72
915	SLU 49	83	45	5014	5.49	987.15	-15.89
915	SLU 50	84	31	5019	5.69	987.8	-10.84
915	SLU 51	83	45	4979	5.43	980.76	-16.01
915	SLU 52	83	56	5286	5.46	1038.98	-19.71
915	SLU 53	87	32	5457	6.12	1069.64	-11.33
915	SLU 54	86	47	5417	5.86	1062.6	-16.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
915	SLU 55	85	57	5355	5.62	1051.52	-20.08
915	SLU 56	89	33	5526	6.29	1082.18	-11.69
915	SLU 57	88	48	5486	6.02	1075.14	-16.87
915	SLU 58	88	33	5491	6.23	1075.79	-11.82
915	SLU 59	87	48	5451	5.97	1068.75	-16.99
915	SLU 60	87	33	5555	6.13	1088.42	-11.51
915	SLU 61	86	47	5515	5.86	1081.38	-16.68
915	SLU 62	88	34	5624	6.3	1100.96	-11.87
915	SLU 63	87	48	5584	6.03	1093.92	-17.05
915	SLU 64	89	29	5510	6.32	1079.22	-10.24
915	SLU 65	87	54	5444	5.88	1067.49	-18.87
915	SLU 66	91	30	5615	6.54	1098.14	-10.48
915	SLU 67	90	44	5575	6.28	1091.11	-15.66
915	SLU 68	88	55	5513	6.04	1080.03	-19.23
915	SLU 69	92	31	5684	6.71	1110.68	-10.85
915	SLU 70	91	45	5644	6.44	1103.65	-16.02
915	SLU 71	92	31	5649	6.65	1104.3	-10.97
915	SLU 72	91	46	5609	6.39	1097.26	-16.14
915	SLU 73	91	56	5916	6.42	1155.48	-19.84
915	SLU 74	95	32	6087	7.08	1186.14	-11.46
915	SLU 75	94	47	6047	6.81	1179.1	-16.63
915	SLU 76	93	57	5985	6.58	1168.02	-20.21
915	SLU 77	96	33	6156	7.25	1198.68	-11.82
915	SLU 78	95	48	6116	6.98	1191.64	-17
915	SLU 79	96	34	6121	7.19	1192.29	-11.95
915	SLU 80	95	49	6081	6.93	1185.25	-17.12
915	SLU 81	95	33	6184	7.09	1204.92	-11.64
915	SLU 82	94	48	6144	6.82	1197.88	-16.81
915	SLU 83	96	34	6254	7.25	1217.46	-12
915	SLU 84	95	49	6214	6.99	1210.42	-17.18
915	SLE RA 1	66	22	4100	4.65	804.56	-7.85
915	SLE RA 2	65	39	4056	4.36	796.74	-13.6
915	SLE RA 3	68	23	4170	4.8	817.18	-8.01
915	SLE RA 4	67	33	4143	4.62	812.49	-11.46
915	SLE RA 5	66	39	4102	4.47	805.1	-13.84
915	SLE RA 6	69	23	4216	4.91	825.54	-8.25
915	SLE RA 7	68	33	4189	4.73	820.85	-11.7
915	SLE RA 8	68	24	4193	4.87	821.28	-8.34
915	SLE RA 9	68	33	4166	4.7	816.59	-11.78
915	SLE RA 10	68	41	4371	4.71	855.41	-14.25
915	SLE RA 11	71	25	4485	5.16	875.84	-8.66
915	SLE RA 12	70	34	4458	4.98	871.15	-12.11
915	SLE RA 13	69	41	4417	4.83	863.77	-14.49
915	SLE RA 14	72	25	4531	5.27	884.2	-8.9
915	SLE RA 15	71	35	4504	5.09	879.51	-12.35
915	SLE RA 16	71	25	4507	5.23	879.94	-8.99
915	SLE RA 17	71	35	4480	5.06	875.25	-12.44
915	SLE RA 18	70	25	4550	5.16	888.36	-8.78
915	SLE RA 19	70	35	4523	4.99	883.67	-12.23
915	SLE RA 20	71	26	4596	5.27	896.72	-9.02
915	SLE RA 21	71	35	4569	5.1	892.03	-12.47
915	SLE FR 1	66	22	4100	4.65	804.56	-7.85
915	SLE FR 2	66	25	4091	4.59	803	-9
915	SLE FR 3	67	22	4119	4.69	807.91	-7.95
915	SLE FR 4	67	26	4226	4.74	828.14	-9.28
915	SLE FR 5	68	23	4254	4.85	833.05	-8.23
915	SLE FR 6	68	24	4325	4.91	846.46	-8.32
915	SLE QP 1	66	22	4100	4.65	804.56	-7.85
915	SLE QP 2	68	23	4235	4.8	829.7	-8.13
915	SLD 1	426	82	2675	0.42	552.77	-28.82
915	SLD 2	373	206	2591	-0.15	538.58	-71.99
915	SLD 3	450	-232	3673	7.07	727.89	80.85
915	SLD 4	397	-108	3589	6.5	713.69	37.68
915	SLD 5	148	495	2269	-6.49	483.49	-173.18
915	SLD 6	114	575	2214	-6.86	474.31	-201.11
915	SLD 7	228	-551	5594	15.66	1067.21	192.38
915	SLD 8	194	-471	5540	15.29	1058.03	164.45
915	SLD 9	-59	517	2931	-5.68	601.38	-180.71
915	SLD 10	-93	597	2876	-6.05	592.19	-208.64
915	SLD 11	22	-529	6256	16.47	1185.09	184.85
915	SLD 12	-12	-449	6202	16.1	1175.91	156.91
915	SLD 13	-262	154	4882	3.11	945.71	-53.94
915	SLD 14	-314	278	4797	2.54	931.52	-97.11
915	SLD 15	-238	-160	5879	9.75	1120.83	55.73
915	SLD 16	-290	-36	5795	9.18	1106.63	12.55
915	SLV 1	627	133	1737	-2.46	386.36	-47
915	SLV 2	544	329	1605	-3.36	364.01	-114.97
915	SLV 3	667	-397	3423	8.77	682.3	138.37
915	SLV 4	585	-202	3291	7.87	659.96	70.39
915	SLV 5	189	824	953	-14.24	252.02	-288.24
915	SLV 6	134	956	864	-14.84	236.98	-334.01
915	SLV 7	325	-944	6574	23.19	1238.5	329.64
915	SLV 8	269	-813	6484	22.59	1223.46	283.88
915	SLV 9	-134	859	1986	-12.98	435.95	-300.14
915	SLV 10	-189	990	1897	-13.59	420.9	-345.9
915	SLV 11	2	-910	7606	24.45	1422.43	317.75
915	SLV 12	-54	-778	7517	23.85	1407.38	271.98
915	SLV 13	-450	248	5180	1.73	999.45	-86.65

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
915	SLV 14	-532	443	5047	0.83	977.1	-154.63
915	SLV 15	-409	-283	6866	12.96	1295.39	98.71
915	SLV 16	-492	-87	6733	12.06	1273.05	30.74
915	SLV FO 1	683	145	1487	-3.18	342.02	-50.89
915	SLV FO 2	592	359	1341	-4.17	317.44	-125.66
915	SLV FO 3	727	-439	3342	9.17	667.56	153.02
915	SLV FO 4	637	-224	3196	8.18	642.98	78.24
915	SLV FO 5	201	904	625	-16.14	194.25	-316.25
915	SLV FO 6	140	1049	527	-16.81	177.7	-366.6
915	SLV FO 7	350	-1041	6807	25.03	1279.38	363.42
915	SLV FO 8	289	-896	6709	24.37	1262.83	313.08
915	SLV FO 9	-154	942	1761	-14.76	396.57	-329.34
915	SLV FO 10	-215	1087	1663	-15.43	380.02	-379.68
915	SLV FO 11	-5	-1003	7943	26.42	1481.7	350.33
915	SLV FO 12	-66	-858	7845	25.75	1465.15	299.99
915	SLV FO 13	-501	270	5274	1.43	1016.42	-94.5
915	SLV FO 14	-592	485	5128	0.44	991.84	-169.28
915	SLV FO 15	-457	-313	7129	13.78	1341.96	109.4
915	SLV FO 16	-547	-99	6983	12.79	1317.38	34.62
915	CRTFP Ux+	0	0	0	0	0	0
915	CRTFP Ux-	0	0	0	0	0	0
915	CRTFP Uy+	0	0	0	0	0	0
915	CRTFP Uy-	0	0	0	0	0	0
917	SLU 1	-104	11	6386	0.45	-6.77	1.07
917	SLU 2	-100	43	6287	-0.02	-4.7	1
917	SLU 3	-106	11	6563	0.57	-7.44	1.1
917	SLU 4	-104	30	6503	0.28	-6.2	1.06
917	SLU 5	-101	43	6405	0.07	-5.2	1.02
917	SLU 6	-108	11	6681	0.66	-7.94	1.12
917	SLU 7	-106	30	6621	0.37	-6.7	1.08
917	SLU 8	-107	11	6622	0.63	-7.76	1.11
917	SLU 9	-104	30	6562	0.35	-6.52	1.07
917	SLU 10	-107	44	7122	-0.12	-6.91	1.21
917	SLU 11	-114	13	7398	0.47	-9.65	1.31
917	SLU 12	-112	32	7338	0.19	-8.41	1.27
917	SLU 13	-109	44	7240	-0.03	-7.41	1.23
917	SLU 14	-116	13	7516	0.56	-10.15	1.33
917	SLU 15	-113	32	7456	0.28	-8.91	1.29
917	SLU 16	-115	13	7457	0.53	-9.97	1.32
917	SLU 17	-112	32	7397	0.25	-8.73	1.28
917	SLU 18	-115	13	7579	0.31	-9.93	1.37
917	SLU 19	-112	32	7519	0.03	-8.68	1.33
917	SLU 20	-116	13	7697	0.4	-10.42	1.39
917	SLU 21	-114	32	7637	0.12	-9.18	1.35
917	SLU 22	-118	11	7484	0.68	-9.95	1.3
917	SLU 23	-114	43	7385	0.21	-7.89	1.23
917	SLU 24	-121	11	7660	0.8	-10.63	1.33
917	SLU 25	-118	30	7601	0.51	-9.39	1.29
917	SLU 26	-115	43	7503	0.3	-8.38	1.25
917	SLU 27	-122	11	7778	0.89	-11.12	1.35
917	SLU 28	-120	30	7719	0.6	-9.88	1.31
917	SLU 29	-121	11	7720	0.86	-10.94	1.34
917	SLU 30	-119	30	7660	0.57	-9.7	1.3
917	SLU 31	-122	44	8220	0.11	-10.09	1.44
917	SLU 32	-128	13	8495	0.7	-12.83	1.54
917	SLU 33	-126	32	8436	0.42	-11.59	1.5
917	SLU 34	-123	44	8338	0.2	-10.59	1.46
917	SLU 35	-130	13	8613	0.79	-13.33	1.56
917	SLU 36	-128	32	8554	0.51	-12.09	1.52
917	SLU 37	-129	13	8555	0.76	-13.15	1.55
917	SLU 38	-126	32	8495	0.48	-11.91	1.51
917	SLU 39	-129	13	8676	0.54	-13.11	1.6
917	SLU 40	-127	32	8617	0.26	-11.87	1.56
917	SLU 41	-131	13	8794	0.63	-13.6	1.62
917	SLU 42	-128	32	8735	0.35	-12.36	1.58
917	SLU 43	-130	15	7925	0.5	-7.71	1.31
917	SLU 44	-126	46	7826	0.03	-5.64	1.25
917	SLU 45	-133	15	8102	0.62	-8.38	1.35
917	SLU 46	-130	34	8043	0.34	-7.14	1.31
917	SLU 47	-127	46	7944	0.12	-6.14	1.27
917	SLU 48	-134	15	8220	0.71	-8.88	1.37
917	SLU 49	-132	34	8161	0.43	-7.64	1.33
917	SLU 50	-133	15	8161	0.68	-8.7	1.35
917	SLU 51	-131	34	8102	0.4	-7.46	1.31
917	SLU 52	-134	48	8661	-0.06	-7.85	1.46
917	SLU 53	-140	16	8937	0.53	-10.59	1.55
917	SLU 54	-138	35	8878	0.25	-9.35	1.52
917	SLU 55	-135	48	8779	0.03	-8.35	1.48
917	SLU 56	-142	16	9055	0.62	-11.09	1.57
917	SLU 57	-140	35	8996	0.34	-9.85	1.54
917	SLU 58	-141	16	8996	0.59	-10.91	1.56
917	SLU 59	-138	35	8937	0.31	-9.67	1.52
917	SLU 60	-141	17	9118	0.37	-10.87	1.61
917	SLU 61	-139	36	9059	0.09	-9.62	1.57
917	SLU 62	-143	17	9236	0.46	-11.36	1.63
917	SLU 63	-140	36	9177	0.18	-10.12	1.59
917	SLU 64	-144	15	9023	0.73	-10.89	1.54
917	SLU 65	-140	46	8924	0.26	-8.83	1.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
917	SLU 66	-147	15	9200	0.85	-11.57	1.57
917	SLU 67	-145	34	9140	0.57	-10.33	1.53
917	SLU 68	-142	46	9042	0.35	-9.32	1.49
917	SLU 69	-149	15	9318	0.94	-12.06	1.59
917	SLU 70	-146	34	9258	0.66	-10.82	1.55
917	SLU 71	-147	15	9259	0.91	-11.88	1.58
917	SLU 72	-145	34	9200	0.63	-10.64	1.54
917	SLU 73	-148	48	9759	0.17	-11.03	1.68
917	SLU 74	-155	16	10035	0.76	-13.77	1.78
917	SLU 75	-152	35	9975	0.47	-12.53	1.74
917	SLU 76	-149	48	9877	0.26	-11.53	1.7
917	SLU 77	-156	16	10153	0.85	-14.27	1.8
917	SLU 78	-154	35	10093	0.56	-13.03	1.76
917	SLU 79	-155	16	10094	0.82	-14.09	1.79
917	SLU 80	-153	35	10035	0.54	-12.85	1.75
917	SLU 81	-155	17	10216	0.6	-14.05	1.84
917	SLU 82	-153	36	10156	0.31	-12.81	1.8
917	SLU 83	-157	17	10334	0.69	-14.54	1.86
917	SLU 84	-154	36	10274	0.4	-13.3	1.82
917	SLE RA 1	-108	11	6699	0.51	-7.68	1.14
917	SLE RA 2	-105	32	6634	0.2	-6.3	1.09
917	SLE RA 3	-110	11	6817	0.59	-8.13	1.16
917	SLE RA 4	-108	24	6778	0.4	-7.3	1.13
917	SLE RA 5	-106	32	6712	0.26	-6.63	1.1
917	SLE RA 6	-111	11	6896	0.65	-8.46	1.17
917	SLE RA 7	-109	24	6856	0.46	-7.63	1.14
917	SLE RA 8	-110	11	6857	0.63	-8.34	1.16
917	SLE RA 9	-108	24	6817	0.44	-7.51	1.14
917	SLE RA 10	-110	33	7190	0.14	-7.77	1.23
917	SLE RA 11	-115	12	7374	0.53	-9.6	1.3
917	SLE RA 12	-113	25	7334	0.34	-8.77	1.27
917	SLE RA 13	-111	33	7269	0.2	-8.1	1.24
917	SLE RA 14	-116	12	7453	0.59	-9.93	1.31
917	SLE RA 15	-114	25	7413	0.4	-9.1	1.28
917	SLE RA 16	-115	12	7413	0.57	-9.81	1.3
917	SLE RA 17	-113	25	7374	0.38	-8.99	1.27
917	SLE RA 18	-115	13	7495	0.42	-9.78	1.33
917	SLE RA 19	-114	25	7455	0.23	-8.96	1.31
917	SLE RA 20	-116	13	7573	0.48	-10.11	1.35
917	SLE RA 21	-115	25	7534	0.29	-9.29	1.32
917	SLE FR 1	-108	11	6699	0.51	-7.68	1.14
917	SLE FR 2	-107	16	6686	0.45	-7.4	1.13
917	SLE FR 3	-108	11	6731	0.54	-7.81	1.14
917	SLE FR 4	-109	16	6925	0.42	-8.04	1.19
917	SLE FR 5	-110	12	6969	0.51	-8.44	1.2
917	SLE FR 6	-112	12	7097	0.47	-8.73	1.24
917	SLE QP 1	-108	11	6699	0.51	-7.68	1.14
917	SLE QP 2	-110	12	6938	0.49	-8.31	1.2
917	SLD 1	528	292	6960	-2.48	10.35	-3.86
917	SLD 2	442	195	7035	-2.07	8.95	-1.5
917	SLD 3	476	-110	8438	4.57	-18.6	-2.95
917	SLD 4	389	-207	8513	4.98	-20.01	-0.6
917	SLD 5	176	722	4690	-11.16	41.44	-2.1
917	SLD 6	120	659	4739	-10.9	40.54	-0.57
917	SLD 7	1	-618	9616	12.33	-55.07	0.91
917	SLD 8	-55	-680	9665	12.59	-55.98	2.44
917	SLD 9	-165	704	4211	-11.62	39.35	-0.05
917	SLD 10	-221	641	4260	-11.36	38.45	1.48
917	SLD 11	-340	-636	9137	11.87	-57.16	2.97
917	SLD 12	-396	-699	9186	12.13	-58.07	4.49
917	SLD 13	-609	230	5363	-4.01	3.38	2.99
917	SLD 14	-696	133	5438	-3.6	1.98	5.34
917	SLD 15	-662	-172	6841	3.04	-25.57	3.89
917	SLD 16	-748	-268	6916	3.45	-26.97	6.25
917	SLV 1	893	476	6875	-4.6	23	-6.78
917	SLV 2	757	323	6995	-3.96	20.79	-3.07
917	SLV 3	804	-203	9373	7.31	-25.94	-5.26
917	SLV 4	668	-356	9492	7.95	-28.15	-1.54
917	SLV 5	351	1209	3109	-19.22	75.71	-4.2
917	SLV 6	259	1106	3190	-18.79	74.23	-1.7
917	SLV 7	55	-1054	11434	20.48	-87.41	0.88
917	SLV 8	-37	-1157	11514	20.91	-88.89	3.38
917	SLV 9	-183	1180	2362	-19.94	72.27	-0.98
917	SLV 10	-275	1077	2442	-19.51	70.78	1.51
917	SLV 11	-479	-1083	10686	19.76	-90.85	4.09
917	SLV 12	-571	-1186	10767	20.19	-92.34	6.59
917	SLV 13	-888	379	4384	-6.98	11.52	3.93
917	SLV 14	-1024	227	4503	-6.34	9.31	7.65
917	SLV 15	-977	-300	6881	4.93	-37.41	5.46
917	SLV 16	-1113	-452	7001	5.57	-39.62	9.17
917	SLV FO 1	993	522	6869	-5.1	26.13	-7.58
917	SLV FO 2	843	354	7000	-4.4	23.7	-3.49
917	SLV FO 3	896	-225	9616	8	-27.7	-5.9
917	SLV FO 4	746	-392	9747	8.7	-30.13	-1.82
917	SLV FO 5	397	1329	2727	-21.19	84.12	-4.74
917	SLV FO 6	296	1216	2815	-20.72	82.48	-1.99
917	SLV FO 7	71	-1161	11883	22.48	-95.32	0.84
917	SLV FO 8	-30	-1274	11972	22.95	-96.95	3.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
917	SLV FO 9	-191	1297	1904	-21.98	80.33	-1.2
917	SLV FO 10	-291	1184	1993	-21.51	78.69	1.55
917	SLV FO 11	-516	-1193	11061	21.69	-99.1	4.38
917	SLV FO 12	-617	-1305	11149	22.16	-100.74	7.13
917	SLV FO 13	-966	416	4129	-7.73	13.51	4.21
917	SLV FO 14	-1116	248	4260	-7.03	11.07	8.29
917	SLV FO 15	-1064	-331	6876	5.37	-40.32	5.88
917	SLV FO 16	-1213	-499	7007	6.07	-42.76	9.97
917	CRTFP Ux+	0	0	0	0	0	0
917	CRTFP Ux-	0	0	0	0	0	0
917	CRTFP Uy+	0	0	0	0	0	0
917	CRTFP Uy-	0	0	0	0	0	0
920	SLU 1	-3	38	2364	-0.86	304.58	-9.22
920	SLU 2	-2	53	2336	-1.05	303.66	-13.09
920	SLU 3	-2	39	2425	-0.84	311.35	-9.43
920	SLU 4	-2	48	2409	-0.95	310.8	-11.75
920	SLU 5	-2	54	2378	-1.04	308.13	-13.18
920	SLU 6	-2	39	2467	-0.82	315.82	-9.52
920	SLU 7	-2	48	2450	-0.94	315.27	-11.84
920	SLU 8	-2	39	2446	-0.83	313.52	-9.41
920	SLU 9	-2	48	2430	-0.94	312.97	-11.73
920	SLU 10	-3	57	2646	-1.24	339.75	-13.91
920	SLU 11	-3	42	2735	-1.03	347.44	-10.25
920	SLU 12	-3	51	2718	-1.14	346.88	-12.56
920	SLU 13	-2	57	2687	-1.22	344.22	-14
920	SLU 14	-3	43	2776	-1.01	351.91	-10.34
920	SLU 15	-3	52	2760	-1.12	351.36	-12.66
920	SLU 16	-3	42	2755	-1.02	349.61	-10.23
920	SLU 17	-2	51	2739	-1.13	349.06	-12.55
920	SLU 18	-4	43	2806	-1.13	356.13	-10.39
920	SLU 19	-3	52	2789	-1.25	355.58	-12.71
920	SLU 20	-3	43	2847	-1.11	360.6	-10.49
920	SLU 21	-3	52	2830	-1.23	360.05	-12.8
920	SLU 22	-3	43	2760	-0.94	349.88	-10.54
920	SLU 23	-3	59	2733	-1.13	348.96	-14.4
920	SLU 24	-3	44	2822	-0.91	356.65	-10.74
920	SLU 25	-3	53	2806	-1.03	356.1	-13.06
920	SLU 26	-2	59	2774	-1.11	353.43	-14.49
920	SLU 27	-3	45	2863	-0.9	361.12	-10.83
920	SLU 28	-2	54	2847	-1.01	360.57	-13.15
920	SLU 29	-3	44	2843	-0.9	358.82	-10.72
920	SLU 30	-2	53	2826	-1.01	358.27	-13.04
920	SLU 31	-3	62	3042	-1.31	385.05	-15.22
920	SLU 32	-4	48	3131	-1.1	392.74	-11.56
920	SLU 33	-3	57	3115	-1.22	392.18	-13.88
920	SLU 34	-3	63	3083	-1.3	389.52	-15.31
920	SLU 35	-4	48	3173	-1.08	397.21	-11.65
920	SLU 36	-3	57	3156	-1.2	396.66	-13.97
920	SLU 37	-4	48	3152	-1.09	394.91	-11.54
920	SLU 38	-3	57	3136	-1.2	394.36	-13.86
920	SLU 39	-4	48	3202	-1.2	401.43	-11.71
920	SLU 40	-4	57	3186	-1.32	400.88	-14.03
920	SLU 41	-4	49	3243	-1.19	405.9	-11.8
920	SLU 42	-4	58	3227	-1.3	405.35	-14.12
920	SLU 43	-3	47	2937	-1.1	380.42	-11.54
920	SLU 44	-2	63	2909	-1.29	379.5	-15.4
920	SLU 45	-3	48	2999	-1.07	387.19	-11.74
920	SLU 46	-3	58	2982	-1.19	386.64	-14.06
920	SLU 47	-2	63	2951	-1.27	383.98	-15.49
920	SLU 48	-3	49	3040	-1.06	391.67	-11.84
920	SLU 49	-2	58	3023	-1.17	391.11	-14.15
920	SLU 50	-3	48	3019	-1.06	389.37	-11.72
920	SLU 51	-2	57	3003	-1.18	388.82	-14.04
920	SLU 52	-3	66	3219	-1.48	415.59	-16.22
920	SLU 53	-4	52	3308	-1.26	423.28	-12.56
920	SLU 54	-3	61	3292	-1.38	422.73	-14.88
920	SLU 55	-3	67	3260	-1.46	420.06	-16.31
920	SLU 56	-4	52	3349	-1.24	427.75	-12.65
920	SLU 57	-3	61	3333	-1.36	427.2	-14.97
920	SLU 58	-3	52	3328	-1.25	425.45	-12.54
920	SLU 59	-3	61	3312	-1.36	424.9	-14.86
920	SLU 60	-4	52	3379	-1.37	431.97	-12.71
920	SLU 61	-4	62	3362	-1.48	431.42	-15.03
920	SLU 62	-4	53	3420	-1.35	436.44	-12.8
920	SLU 63	-4	62	3403	-1.46	435.89	-15.12
920	SLU 64	-4	53	3333	-1.17	425.72	-12.85
920	SLU 65	-3	68	3306	-1.36	424.8	-16.72
920	SLU 66	-4	54	3395	-1.15	432.49	-13.06
920	SLU 67	-3	63	3379	-1.26	431.94	-15.38
920	SLU 68	-3	69	3347	-1.34	429.28	-16.81
920	SLU 69	-3	54	3436	-1.13	436.97	-13.15
920	SLU 70	-3	63	3420	-1.24	436.41	-15.47
920	SLU 71	-3	54	3416	-1.13	434.67	-13.04
920	SLU 72	-3	63	3399	-1.25	434.12	-15.36
920	SLU 73	-4	72	3615	-1.55	460.89	-17.54
920	SLU 74	-4	57	3705	-1.34	468.58	-13.88
920	SLU 75	-4	66	3688	-1.45	468.03	-16.19
920	SLU 76	-4	72	3657	-1.53	465.36	-17.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
920	SLU 77	-4	57	3746	-1.32	473.05	-13.97
920	SLU 78	-4	67	3729	-1.43	472.5	-16.29
920	SLU 79	-4	57	3725	-1.32	470.75	-13.86
920	SLU 80	-4	66	3709	-1.44	470.2	-16.18
920	SLU 81	-5	58	3775	-1.44	477.27	-14.02
920	SLU 82	-4	67	3759	-1.55	476.72	-16.34
920	SLU 83	-5	58	3816	-1.42	481.74	-14.12
920	SLU 84	-4	67	3800	-1.53	481.19	-16.43
920	SLE RA 1	-3	39	2477	-0.88	317.52	-9.6
920	SLE RA 2	-2	50	2459	-1.01	316.91	-12.17
920	SLE RA 3	-3	40	2518	-0.87	322.04	-9.73
920	SLE RA 4	-2	46	2507	-0.95	321.67	-11.28
920	SLE RA 5	-2	50	2486	-1	319.89	-12.24
920	SLE RA 6	-3	40	2546	-0.86	325.02	-9.8
920	SLE RA 7	-2	46	2535	-0.93	324.65	-11.34
920	SLE RA 8	-3	40	2532	-0.86	323.48	-9.72
920	SLE RA 9	-2	46	2521	-0.94	323.12	-11.27
920	SLE RA 10	-3	52	2665	-1.14	340.97	-12.72
920	SLE RA 11	-3	42	2724	-0.99	346.09	-10.28
920	SLE RA 12	-3	48	2714	-1.07	345.73	-11.83
920	SLE RA 13	-3	52	2692	-1.12	343.95	-12.78
920	SLE RA 14	-3	43	2752	-0.98	349.07	-10.34
920	SLE RA 15	-3	49	2741	-1.06	348.71	-11.89
920	SLE RA 16	-3	42	2738	-0.99	347.54	-10.27
920	SLE RA 17	-3	48	2727	-1.06	347.17	-11.81
920	SLE RA 18	-3	43	2772	-1.06	351.89	-10.38
920	SLE RA 19	-3	49	2761	-1.14	351.52	-11.92
920	SLE RA 20	-3	43	2799	-1.05	354.87	-10.44
920	SLE RA 21	-3	49	2788	-1.13	354.5	-11.99
920	SLE FR 1	-3	39	2477	-0.88	317.52	-9.6
920	SLE FR 2	-3	41	2473	-0.91	317.4	-10.11
920	SLE FR 3	-3	40	2488	-0.88	318.71	-9.62
920	SLE FR 4	-3	42	2562	-0.96	327.71	-10.35
920	SLE FR 5	-3	41	2576	-0.93	329.02	-9.86
920	SLE FR 6	-3	41	2624	-0.97	334.7	-9.99
920	SLE QP 1	-3	39	2477	-0.88	317.52	-9.6
920	SLE QP 2	-3	40	2565	-0.94	327.83	-9.83
920	SLD 1	293	153	2480	-2.29	338.11	-38.31
920	SLD 2	259	135	2481	-2.19	336.95	-33.48
920	SLD 3	283	-39	2902	0.51	355.78	9.77
920	SLD 4	250	-58	2903	0.61	354.62	14.61
920	SLD 5	106	369	1899	-5.61	304.32	-92.14
920	SLD 6	84	357	1900	-5.55	303.57	-89.01
920	SLD 7	74	-272	3306	3.73	363.21	68.13
920	SLD 8	53	-284	3307	3.79	362.46	71.26
920	SLD 9	-59	365	1823	-5.67	293.2	-90.93
920	SLD 10	-81	353	1824	-5.6	292.45	-87.8
920	SLD 11	-90	-276	3231	3.67	352.09	69.35
920	SLD 12	-112	-288	3232	3.73	351.34	72.48
920	SLD 13	-256	139	2228	-2.48	301.04	-34.27
920	SLD 14	-289	120	2229	-2.39	299.88	-29.43
920	SLD 15	-265	-54	2650	0.32	318.71	13.81
920	SLD 16	-299	-72	2651	0.41	317.55	18.65
920	SLV 1	460	229	2404	-3.22	342.7	-57.49
920	SLV 2	407	200	2406	-3.07	340.87	-49.87
920	SLV 3	444	-96	3118	1.51	372.61	23.74
920	SLV 4	391	-125	3120	1.66	370.78	31.36
920	SLV 5	170	595	1434	-8.83	287.27	-148.75
920	SLV 6	134	575	1435	-8.73	286.04	-143.62
920	SLV 7	117	-488	3813	6.95	386.97	122.02
920	SLV 8	81	-507	3814	7.05	385.74	127.15
920	SLV 9	-87	588	1316	-8.92	269.92	-146.81
920	SLV 10	-123	568	1318	-8.82	268.69	-141.68
920	SLV 11	-140	-495	3695	6.85	369.62	123.96
920	SLV 12	-176	-514	3696	6.95	368.39	129.09
920	SLV 13	-398	206	2011	-3.53	284.88	-51.02
920	SLV 14	-450	176	2013	-3.39	283.05	-43.41
920	SLV 15	-413	-119	2725	1.2	314.79	30.21
920	SLV 16	-466	-148	2727	1.35	312.96	37.83
920	SLV FO 1	507	248	2388	-3.45	344.18	-62.25
920	SLV FO 2	448	216	2390	-3.29	342.18	-53.87
920	SLV FO 3	489	-109	3173	1.75	377.09	27.1
920	SLV FO 4	431	-141	3175	1.92	375.08	35.48
920	SLV FO 5	187	651	1321	-9.62	283.21	-162.64
920	SLV FO 6	148	629	1323	-9.51	281.86	-157
920	SLV FO 7	129	-540	3938	7.74	392.88	135.21
920	SLV FO 8	90	-562	3939	7.85	391.53	140.85
920	SLV FO 9	-96	643	1191	-9.72	264.13	-160.51
920	SLV FO 10	-135	621	1193	-9.61	262.78	-154.87
920	SLV FO 11	-154	-548	3808	7.63	373.8	137.34
920	SLV FO 12	-193	-570	3810	7.74	372.45	142.98
920	SLV FO 13	-437	222	1956	-3.79	280.58	-55.14
920	SLV FO 14	-495	190	1958	-3.63	278.58	-46.76
920	SLV FO 15	-454	-135	2741	1.41	313.48	34.21
920	SLV FO 16	-513	-167	2743	1.58	311.48	42.59
920	CRTFP Ux+	0	0	0	0	0	0
920	CRTFP Ux-	0	0	0	0	0	0
920	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
920	CRTFP Uy-	0	0	0	0	0	0
922	SLU 1	22	68	4533	2.95	-32.18	0.77
922	SLU 2	22	98	4470	2.53	-32.07	0.8
922	SLU 3	23	69	4647	3.13	-33.13	0.8
922	SLU 4	23	87	4609	2.88	-33.06	0.82
922	SLU 5	23	98	4545	2.66	-32.66	0.81
922	SLU 6	24	69	4723	3.26	-33.73	0.81
922	SLU 7	24	87	4685	3.01	-33.66	0.83
922	SLU 8	24	68	4684	3.2	-33.38	0.79
922	SLU 9	24	86	4646	2.95	-33.31	0.81
922	SLU 10	24	103	5070	2.78	-35.49	0.97
922	SLU 11	25	74	5248	3.39	-36.56	0.96
922	SLU 12	25	92	5210	3.14	-36.49	0.98
922	SLU 13	25	103	5146	2.91	-36.09	0.98
922	SLU 14	26	74	5324	3.52	-37.16	0.98
922	SLU 15	26	92	5286	3.26	-37.09	0.99
922	SLU 16	26	73	5285	3.46	-36.81	0.96
922	SLU 17	26	91	5247	3.21	-36.74	0.98
922	SLU 18	25	75	5391	3.31	-37.08	1.01
922	SLU 19	25	93	5353	3.06	-37.01	1.03
922	SLU 20	26	75	5467	3.44	-37.68	1.02
922	SLU 21	26	93	5429	3.19	-37.61	1.04
922	SLU 22	25	75	5299	3.61	-36.84	0.98
922	SLU 23	25	105	5235	3.19	-36.72	1.01
922	SLU 24	27	76	5413	3.79	-37.79	1.01
922	SLU 25	26	93	5375	3.54	-37.72	1.03
922	SLU 26	26	105	5311	3.32	-37.32	1.02
922	SLU 27	28	75	5489	3.92	-38.39	1.02
922	SLU 28	28	93	5451	3.67	-38.32	1.04
922	SLU 29	28	75	5450	3.86	-38.03	1
922	SLU 30	27	92	5412	3.61	-37.96	1.02
922	SLU 31	27	110	5836	3.45	-40.15	1.18
922	SLU 32	29	80	6014	4.05	-41.22	1.18
922	SLU 33	28	98	5976	3.8	-41.14	1.19
922	SLU 34	28	109	5912	3.57	-40.74	1.19
922	SLU 35	30	80	6090	4.18	-41.81	1.19
922	SLU 36	30	98	6052	3.93	-41.74	1.21
922	SLU 37	30	80	6051	4.12	-41.46	1.17
922	SLU 38	29	97	6013	3.87	-41.39	1.19
922	SLU 39	28	82	6157	3.97	-41.73	1.22
922	SLU 40	28	100	6119	3.72	-41.66	1.24
922	SLU 41	29	82	6233	4.1	-42.33	1.23
922	SLU 42	29	100	6195	3.85	-42.26	1.25
922	SLU 43	27	87	5630	3.61	-40.24	0.93
922	SLU 44	27	116	5567	3.19	-40.13	0.96
922	SLU 45	29	87	5745	3.79	-41.19	0.96
922	SLU 46	29	105	5707	3.54	-41.12	0.97
922	SLU 47	28	116	5642	3.31	-40.72	0.97
922	SLU 48	30	87	5820	3.92	-41.79	0.97
922	SLU 49	30	105	5782	3.67	-41.72	0.99
922	SLU 50	30	87	5781	3.86	-41.44	0.95
922	SLU 51	30	104	5743	3.61	-41.37	0.97
922	SLU 52	29	121	6168	3.44	-43.55	1.13
922	SLU 53	31	92	6346	4.05	-44.62	1.12
922	SLU 54	31	110	6308	3.8	-44.55	1.14
922	SLU 55	30	121	6243	3.57	-44.15	1.14
922	SLU 56	32	92	6421	4.17	-45.22	1.13
922	SLU 57	32	110	6383	3.92	-45.15	1.15
922	SLU 58	32	91	6382	4.12	-44.87	1.12
922	SLU 59	32	109	6344	3.86	-44.8	1.14
922	SLU 60	30	94	6489	3.97	-45.14	1.17
922	SLU 61	30	112	6451	3.72	-45.07	1.19
922	SLU 62	31	94	6564	4.1	-45.74	1.18
922	SLU 63	31	111	6526	3.85	-45.67	1.2
922	SLU 64	31	93	6396	4.27	-44.9	1.14
922	SLU 65	30	123	6333	3.85	-44.78	1.17
922	SLU 66	32	94	6511	4.45	-45.85	1.17
922	SLU 67	32	112	6473	4.2	-45.78	1.19
922	SLU 68	32	123	6408	3.98	-45.38	1.18
922	SLU 69	33	94	6586	4.58	-46.45	1.18
922	SLU 70	33	112	6548	4.33	-46.38	1.2
922	SLU 71	33	93	6547	4.52	-46.09	1.16
922	SLU 72	33	111	6509	4.27	-46.02	1.18
922	SLU 73	32	128	6934	4.1	-48.21	1.34
922	SLU 74	34	99	7112	4.71	-49.27	1.33
922	SLU 75	34	117	7073	4.46	-49.2	1.35
922	SLU 76	34	128	7009	4.23	-48.8	1.35
922	SLU 77	35	99	7187	4.84	-49.87	1.35
922	SLU 78	35	116	7149	4.58	-49.8	1.36
922	SLU 79	35	98	7148	4.78	-49.52	1.33
922	SLU 80	35	116	7110	4.53	-49.45	1.35
922	SLU 81	34	100	7255	4.63	-49.79	1.38
922	SLU 82	33	118	7216	4.38	-49.72	1.4
922	SLU 83	35	100	7330	4.76	-50.39	1.39
922	SLU 84	35	118	7292	4.51	-50.32	1.41
922	SLE RA 1	23	70	4752	3.14	-33.51	0.83
922	SLE RA 2	23	90	4710	2.86	-33.43	0.85
922	SLE RA 3	24	71	4828	3.26	-34.15	0.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
922	SLE RA 4	24	83	4803	3.09	-34.1	0.86
922	SLE RA 5	24	90	4760	2.94	-33.83	0.86
922	SLE RA 6	25	71	4878	3.35	-34.55	0.86
922	SLE RA 7	24	82	4853	3.18	-34.5	0.87
922	SLE RA 8	24	70	4853	3.31	-34.31	0.85
922	SLE RA 9	24	82	4827	3.14	-34.26	0.86
922	SLE RA 10	24	93	5110	3.03	-35.72	0.96
922	SLE RA 11	25	74	5229	3.43	-36.43	0.96
922	SLE RA 12	25	86	5203	3.26	-36.38	0.97
922	SLE RA 13	25	93	5160	3.11	-36.12	0.97
922	SLE RA 14	26	74	5279	3.52	-36.83	0.97
922	SLE RA 15	26	86	5254	3.35	-36.78	0.98
922	SLE RA 16	26	73	5253	3.48	-36.6	0.96
922	SLE RA 17	26	85	5228	3.31	-36.55	0.97
922	SLE RA 18	25	75	5324	3.38	-36.78	0.99
922	SLE RA 19	25	87	5299	3.21	-36.73	1
922	SLE RA 20	26	75	5374	3.47	-37.18	1
922	SLE RA 21	25	87	5349	3.3	-37.13	1.01
922	SLE FR 1	23	70	4752	3.14	-33.51	0.83
922	SLE FR 2	23	74	4743	3.08	-33.5	0.83
922	SLE FR 3	23	70	4772	3.17	-33.67	0.83
922	SLE FR 4	23	76	4915	3.15	-34.48	0.88
922	SLE FR 5	24	72	4944	3.24	-34.65	0.88
922	SLE FR 6	24	73	5038	3.26	-35.15	0.91
922	SLE QP 1	23	70	4752	3.14	-33.51	0.83
922	SLE QP 2	23	72	4924	3.21	-34.49	0.88
922	SLD 1	615	224	4076	-0.03	-8.68	-3.5
922	SLD 2	545	257	4079	-0.15	-8.76	-1.2
922	SLD 3	622	-151	5056	6.19	-11.22	-3.94
922	SLD 4	552	-119	5059	6.08	-11.29	-1.65
922	SLD 5	202	681	3182	-7.18	-22.9	-0.16
922	SLD 6	157	702	3184	-7.26	-22.95	1.33
922	SLD 7	226	-570	6449	13.56	-31.33	-1.64
922	SLD 8	181	-549	6451	13.49	-31.38	-0.16
922	SLD 9	-134	693	3396	-7.07	-37.6	1.91
922	SLD 10	-179	714	3398	-7.14	-37.65	3.4
922	SLD 11	-110	-559	6663	13.68	-46.04	0.43
922	SLD 12	-155	-538	6665	13.6	-46.09	1.91
922	SLD 13	-505	262	4788	0.34	-57.7	3.4
922	SLD 14	-575	295	4791	0.23	-57.77	5.7
922	SLD 15	-498	-113	5768	6.57	-60.23	2.96
922	SLD 16	-568	-81	5771	6.45	-60.3	5.25
922	SLV 1	949	333	3537	-2.27	5.93	-5.96
922	SLV 2	839	384	3543	-2.45	5.82	-2.34
922	SLV 3	961	-301	5193	8.25	1.65	-6.71
922	SLV 4	851	-250	5198	8.07	1.54	-3.1
922	SLV 5	303	1102	1995	-14.35	-15.85	-0.71
922	SLV 6	230	1137	1999	-14.47	-15.93	1.73
922	SLV 7	343	-1012	7515	20.71	-30.12	-3.22
922	SLV 8	269	-977	7518	20.58	-30.19	-0.78
922	SLV 9	-222	1121	2329	-14.16	-38.79	2.54
922	SLV 10	-296	1155	2332	-14.29	-38.87	4.97
922	SLV 11	-183	-993	7848	20.9	-53.05	0.03
922	SLV 12	-256	-959	7852	20.77	-53.13	2.46
922	SLV 13	-804	393	4649	-1.65	-70.52	4.85
922	SLV 14	-914	445	4654	-1.83	-70.64	8.47
922	SLV 15	-792	-241	6305	8.87	-74.8	4.1
922	SLV 16	-902	-190	6310	8.69	-74.92	7.71
922	SLV FO 1	1041	359	3398	-2.81	9.98	-6.64
922	SLV FO 2	921	415	3404	-3.02	9.85	-2.67
922	SLV FO 3	1054	-338	5220	8.76	5.27	-7.47
922	SLV FO 4	934	-282	5226	8.55	5.14	-3.5
922	SLV FO 5	331	1206	1702	-16.11	-13.99	-0.86
922	SLV FO 6	250	1243	1706	-16.24	-14.07	1.81
922	SLV FO 7	375	-1120	7774	22.46	-29.68	-3.63
922	SLV FO 8	294	-1082	7778	22.32	-29.76	-0.95
922	SLV FO 9	-247	1225	2069	-15.9	-39.22	2.7
922	SLV FO 10	-328	1263	2073	-16.04	-39.31	5.38
922	SLV FO 11	-203	-1100	8141	22.66	-54.91	-0.06
922	SLV FO 12	-284	-1062	8145	22.53	-55	2.62
922	SLV FO 13	-887	426	4621	-2.13	-74.13	5.25
922	SLV FO 14	-1007	482	4627	-2.33	-74.25	9.23
922	SLV FO 15	-874	-272	6443	9.44	-78.84	4.42
922	SLV FO 16	-994	-216	6449	9.23	-78.96	8.4
922	CRTFP Ux+	0	0	0	0	0	0
922	CRTFP Ux-	0	0	0	0	0	0
922	CRTFP Uy+	0	0	0	0	0	0
922	CRTFP Uy-	0	0	0	0	0	0
924	SLU 1	-50	-5	3297	3.87	-415.02	-1.26
924	SLU 2	-48	15	3240	3.55	-407.65	3.77
924	SLU 3	-51	-6	3390	4.04	-425.88	-1.42
924	SLU 4	-50	6	3356	3.85	-421.46	1.6
924	SLU 5	-49	14	3302	3.67	-414.95	3.7
924	SLU 6	-52	-6	3452	4.16	-433.17	-1.48
924	SLU 7	-51	6	3418	3.97	-428.75	1.53
924	SLU 8	-51	-6	3422	4.11	-429.61	-1.39
924	SLU 9	-50	6	3387	3.92	-425.19	1.62
924	SLU 10	-52	15	3644	4.05	-455.71	3.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
924	SLU 11	-55	-5	3794	4.54	-473.93	-1.26
924	SLU 12	-54	7	3759	4.35	-469.51	1.76
924	SLU 13	-53	15	3706	4.17	-463.01	3.86
924	SLU 14	-56	-6	3856	4.66	-481.23	-1.33
924	SLU 15	-55	6	3821	4.47	-476.81	1.69
924	SLU 16	-55	-5	3825	4.61	-477.67	-1.23
924	SLU 17	-54	7	3791	4.42	-473.25	1.78
924	SLU 18	-56	-5	3874	4.59	-483.67	-1.04
924	SLU 19	-55	8	3840	4.39	-479.25	1.98
924	SLU 20	-56	-5	3936	4.71	-490.97	-1.1
924	SLU 21	-55	7	3902	4.51	-486.55	1.91
924	SLU 22	-56	-8	3843	4.7	-479.86	-1.86
924	SLU 23	-55	12	3786	4.38	-472.49	3.17
924	SLU 24	-58	-9	3936	4.88	-490.72	-2.01
924	SLU 25	-57	4	3902	4.68	-486.3	1
924	SLU 26	-56	12	3848	4.5	-479.79	3.11
924	SLU 27	-58	-9	3998	5	-498.01	-2.08
924	SLU 28	-57	3	3964	4.8	-493.59	0.94
924	SLU 29	-58	-8	3968	4.95	-494.45	-1.99
924	SLU 30	-57	4	3933	4.75	-490.03	1.03
924	SLU 31	-59	13	4190	4.88	-520.55	3.33
924	SLU 32	-62	-8	4340	5.37	-538.77	-1.86
924	SLU 33	-61	4	4305	5.18	-534.35	1.16
924	SLU 34	-60	13	4252	5	-527.84	3.26
924	SLU 35	-62	-8	4402	5.5	-546.07	-1.92
924	SLU 36	-61	4	4367	5.3	-541.65	1.09
924	SLU 37	-62	-8	4371	5.45	-542.51	-1.83
924	SLU 38	-61	4	4337	5.25	-538.09	1.19
924	SLU 39	-62	-7	4420	5.42	-548.51	-1.63
924	SLU 40	-61	5	4386	5.22	-544.09	1.38
924	SLU 41	-63	-7	4482	5.54	-555.81	-1.7
924	SLU 42	-62	5	4448	5.34	-551.39	1.32
924	SLU 43	-62	-6	4099	4.75	-517.29	-1.43
924	SLU 44	-61	14	4042	4.43	-509.93	3.59
924	SLU 45	-64	-7	4192	4.92	-528.15	-1.59
924	SLU 46	-63	5	4158	4.73	-523.73	1.43
924	SLU 47	-62	14	4104	4.55	-517.22	3.53
924	SLU 48	-64	-7	4254	5.04	-535.45	-1.66
924	SLU 49	-63	5	4220	4.85	-531.03	1.36
924	SLU 50	-64	-7	4224	4.99	-531.89	-1.57
924	SLU 51	-63	5	4189	4.8	-527.47	1.45
924	SLU 52	-65	15	4446	4.93	-557.98	3.75
924	SLU 53	-68	-6	4596	5.42	-576.21	-1.43
924	SLU 54	-67	6	4561	5.23	-571.79	1.58
924	SLU 55	-66	14	4508	5.05	-565.28	3.69
924	SLU 56	-68	-7	4658	5.54	-583.5	-1.5
924	SLU 57	-68	6	4623	5.35	-579.08	1.52
924	SLU 58	-68	-6	4627	5.49	-579.94	-1.41
924	SLU 59	-67	6	4593	5.3	-575.52	1.61
924	SLU 60	-68	-5	4676	5.47	-585.95	-1.21
924	SLU 61	-67	7	4642	5.27	-581.53	1.81
924	SLU 62	-69	-6	4738	5.59	-593.24	-1.28
924	SLU 63	-68	6	4704	5.39	-588.82	1.74
924	SLU 64	-69	-9	4645	5.58	-582.13	-2.03
924	SLU 65	-68	12	4588	5.26	-574.77	3
924	SLU 66	-70	-9	4738	5.75	-592.99	-2.19
924	SLU 67	-69	3	4704	5.56	-588.57	0.83
924	SLU 68	-68	11	4650	5.38	-582.06	2.93
924	SLU 69	-71	-10	4800	5.87	-600.29	-2.25
924	SLU 70	-70	3	4766	5.68	-595.87	0.76
924	SLU 71	-70	-9	4770	5.82	-596.72	-2.16
924	SLU 72	-70	3	4735	5.63	-592.31	0.86
924	SLU 73	-72	12	4992	5.76	-622.82	3.15
924	SLU 74	-74	-9	5142	6.25	-641.05	-2.03
924	SLU 75	-73	3	5107	6.06	-636.63	0.99
924	SLU 76	-72	12	5054	5.88	-630.12	3.09
924	SLU 77	-75	-9	5204	6.37	-648.34	-2.1
924	SLU 78	-74	3	5169	6.18	-643.92	0.92
924	SLU 79	-74	-9	5173	6.32	-644.78	-2
924	SLU 80	-74	3	5139	6.13	-640.36	1.01
924	SLU 81	-75	-8	5222	6.3	-650.79	-1.81
924	SLU 82	-74	4	5188	6.1	-646.37	1.21
924	SLU 83	-76	-8	5284	6.42	-658.08	-1.87
924	SLU 84	-75	4	5250	6.22	-653.66	1.15
924	SLE RA 1	-52	-6	3453	4.11	-433.54	-1.43
924	SLE RA 2	-51	7	3415	3.89	-428.63	1.92
924	SLE RA 3	-52	-7	3515	4.22	-440.78	-1.53
924	SLE RA 4	-52	2	3492	4.1	-437.84	0.48
924	SLE RA 5	-51	7	3457	3.98	-433.5	1.88
924	SLE RA 6	-53	-7	3557	4.31	-445.65	-1.58
924	SLE RA 7	-52	1	3534	4.18	-442.7	0.43
924	SLE RA 8	-53	-6	3536	4.27	-443.27	-1.52
924	SLE RA 9	-52	2	3513	4.14	-440.33	0.49
924	SLE RA 10	-53	8	3684	4.23	-460.67	2.03
924	SLE RA 11	-55	-6	3784	4.56	-472.82	-1.43
924	SLE RA 12	-55	2	3761	4.43	-469.87	0.58
924	SLE RA 13	-54	8	3726	4.31	-465.54	1.98
924	SLE RA 14	-56	-6	3826	4.64	-477.68	-1.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
924	SLE RA 15	-55	2	3803	4.51	-474.74	0.54
924	SLE RA 16	-55	-6	3805	4.6	-475.31	-1.41
924	SLE RA 17	-55	2	3782	4.48	-472.36	0.6
924	SLE RA 18	-56	-6	3838	4.59	-479.31	-1.28
924	SLE RA 19	-55	3	3815	4.46	-476.37	0.73
924	SLE RA 20	-56	-6	3879	4.67	-484.18	-1.32
924	SLE RA 21	-55	2	3856	4.54	-481.23	0.69
924	SLE FR 1	-52	-6	3453	4.11	-433.54	-1.43
924	SLE FR 2	-52	-3	3446	4.07	-432.56	-0.76
924	SLE FR 3	-52	-6	3470	4.14	-435.49	-1.45
924	SLE FR 4	-53	-3	3561	4.21	-446.29	-0.72
924	SLE FR 5	-53	-6	3585	4.29	-449.22	-1.4
924	SLE FR 6	-54	-6	3646	4.35	-456.43	-1.36
924	SLE QP 1	-52	-6	3453	4.11	-433.54	-1.43
924	SLE QP 2	-53	-6	3569	4.25	-447.28	-1.39
924	SLD 1	261	142	4096	2.96	-504.47	35.18
924	SLD 2	216	41	4159	3.36	-513.04	10.28
924	SLD 3	242	-113	4946	7.77	-612.24	-28.32
924	SLD 4	197	-213	5009	8.17	-620.82	-53.22
924	SLD 5	77	442	2426	-3.5	-299.49	110.2
924	SLD 6	48	377	2467	-3.24	-305.04	94.09
924	SLD 7	16	-407	5261	12.54	-658.73	-101.44
924	SLD 8	-13	-472	5301	12.79	-664.28	-117.55
924	SLD 9	-92	460	1836	-4.29	-230.27	114.78
924	SLD 10	-122	395	1877	-4.03	-235.82	98.67
924	SLD 11	-153	-389	4670	11.75	-589.51	-96.86
924	SLD 12	-182	-454	4711	12.01	-595.06	-112.97
924	SLD 13	-303	201	2128	0.34	-273.73	50.44
924	SLD 14	-348	101	2191	0.74	-282.31	25.54
924	SLD 15	-321	-53	2979	5.15	-381.51	-13.05
924	SLD 16	-366	-154	3042	5.55	-390.08	-37.95
924	SLV 1	439	241	4335	1.92	-529.44	59.88
924	SLV 2	368	83	4435	2.55	-542.94	20.67
924	SLV 3	408	-189	5772	10.05	-711.52	-47.42
924	SLV 4	337	-347	5871	10.68	-725.03	-86.62
924	SLV 5	155	750	1602	-8.89	-193.25	187.04
924	SLV 6	107	644	1669	-8.46	-202.34	160.64
924	SLV 7	52	-684	6390	18.2	-800.18	-170.6
924	SLV 8	4	-790	6457	18.62	-809.28	-197
924	SLV 9	-110	779	681	-10.11	-85.27	194.23
924	SLV 10	-158	672	748	-9.69	-94.37	167.83
924	SLV 11	-213	-656	5469	16.97	-692.21	-163.41
924	SLV 12	-261	-762	5536	17.39	-701.3	-189.81
924	SLV 13	-443	335	1266	-2.17	-169.52	83.85
924	SLV 14	-514	177	1366	-1.54	-183.03	44.65
924	SLV 15	-474	-95	2703	5.96	-351.61	-23.44
924	SLV 16	-545	-253	2802	6.58	-365.11	-62.65
924	SLV FO 1	488	266	4412	1.69	-537.66	66
924	SLV FO 2	410	92	4521	2.38	-552.51	22.87
924	SLV FO 3	454	-207	5992	10.63	-737.94	-52.02
924	SLV FO 4	377	-381	6101	11.32	-752.8	-95.15
924	SLV FO 5	176	826	1405	-10.2	-167.84	205.88
924	SLV FO 6	123	709	1478	-9.74	-177.85	176.84
924	SLV FO 7	62	-752	6672	19.59	-835.48	-187.53
924	SLV FO 8	10	-869	6745	20.06	-845.48	-216.56
924	SLV FO 9	-116	857	392	-11.55	-49.07	213.79
924	SLV FO 10	-168	740	466	-11.09	-59.07	184.75
924	SLV FO 11	-229	-721	5659	18.24	-716.7	-179.61
924	SLV FO 12	-281	-838	5732	18.71	-726.71	-208.65
924	SLV FO 13	-482	369	1036	-2.81	-141.75	92.38
924	SLV FO 14	-560	195	1145	-2.12	-156.61	49.25
924	SLV FO 15	-516	-104	2616	6.13	-342.04	-25.65
924	SLV FO 16	-594	-278	2725	6.82	-356.89	-68.77
924	CRTFP Ux+	0	0	0	0	0	0
924	CRTFP Ux-	0	0	0	0	0	0
924	CRTFP Uy+	0	0	0	0	0	0
924	CRTFP Uy-	0	0	0	0	0	0
927	SLU 1	109	38	6528	1.8	23.79	-0.02
927	SLU 2	105	68	6410	1.31	22.3	0.01
927	SLU 3	113	39	6712	1.94	24.89	-0.03
927	SLU 4	111	56	6641	1.65	24	-0.02
927	SLU 5	108	68	6533	1.42	23.03	-0.01
927	SLU 6	116	39	6836	2.05	25.62	-0.05
927	SLU 7	114	57	6765	1.76	24.73	-0.04
927	SLU 8	115	39	6776	2.01	25.25	-0.06
927	SLU 9	113	57	6705	1.72	24.35	-0.05
927	SLU 10	113	73	7251	1.43	26.13	0.01
927	SLU 11	121	44	7554	2.06	28.72	-0.04
927	SLU 12	118	62	7483	1.77	27.82	-0.02
927	SLU 13	116	73	7375	1.54	26.85	-0.02
927	SLU 14	124	44	7678	2.17	29.45	-0.06
927	SLU 15	121	62	7607	1.88	28.55	-0.04
927	SLU 16	123	44	7618	2.13	29.07	-0.06
927	SLU 17	120	62	7547	1.84	28.18	-0.05
927	SLU 18	120	45	7731	1.96	29.26	-0.03
927	SLU 19	118	63	7659	1.67	28.36	-0.01
927	SLU 20	123	45	7855	2.07	29.99	-0.05
927	SLU 21	121	63	7783	1.78	29.09	-0.03

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
927	SLU 22	124	43	7647	2.26	29.36	0.01
927	SLU 23	120	72	7528	1.77	27.87	0.04
927	SLU 24	128	43	7831	2.4	30.46	-0.01
927	SLU 25	125	61	7760	2.11	29.57	0.01
927	SLU 26	123	73	7652	1.88	28.6	0.02
927	SLU 27	131	44	7955	2.51	31.19	-0.03
927	SLU 28	128	62	7884	2.22	30.3	-0.01
927	SLU 29	130	44	7895	2.47	30.82	-0.03
927	SLU 30	127	62	7824	2.18	29.93	-0.02
927	SLU 31	128	78	8370	1.89	31.7	0.03
927	SLU 32	135	48	8673	2.52	34.29	-0.01
927	SLU 33	133	66	8601	2.23	33.4	0.01
927	SLU 34	130	78	8494	2	32.43	0.01
927	SLU 35	138	49	8797	2.63	35.02	-0.03
927	SLU 36	136	67	8725	2.34	34.13	-0.01
927	SLU 37	137	49	8737	2.59	34.65	-0.04
927	SLU 38	135	67	8665	2.3	33.75	-0.02
927	SLU 39	135	50	8849	2.42	34.83	0
927	SLU 40	132	68	8778	2.13	33.94	0.02
927	SLU 41	138	50	8973	2.53	35.56	-0.02
927	SLU 42	135	68	8902	2.24	34.66	0
927	SLU 43	137	47	8103	2.18	29.01	-0.04
927	SLU 44	133	77	7985	1.69	27.52	-0.01
927	SLU 45	141	48	8287	2.32	30.12	-0.05
927	SLU 46	139	66	8216	2.03	29.22	-0.03
927	SLU 47	136	78	8109	1.8	28.25	-0.03
927	SLU 48	144	49	8411	2.43	30.85	-0.07
927	SLU 49	142	67	8340	2.14	29.95	-0.05
927	SLU 50	143	48	8351	2.39	30.47	-0.08
927	SLU 51	141	66	8280	2.1	29.58	-0.06
927	SLU 52	141	82	8826	1.81	31.35	-0.01
927	SLU 53	149	53	9129	2.44	33.94	-0.05
927	SLU 54	146	71	9058	2.15	33.05	-0.04
927	SLU 55	144	83	8950	1.92	32.08	-0.03
927	SLU 56	152	54	9253	2.55	34.67	-0.07
927	SLU 57	149	72	9182	2.26	33.78	-0.06
927	SLU 58	151	53	9193	2.51	34.3	-0.08
927	SLU 59	148	71	9122	2.22	33.41	-0.06
927	SLU 60	148	55	9306	2.35	34.48	-0.04
927	SLU 61	146	73	9234	2.06	33.59	-0.02
927	SLU 62	151	55	9430	2.45	35.21	-0.06
927	SLU 63	149	73	9358	2.16	34.32	-0.04
927	SLU 64	152	52	9222	2.64	34.59	-0.01
927	SLU 65	148	82	9103	2.15	33.1	0.02
927	SLU 66	156	53	9406	2.78	35.69	-0.02
927	SLU 67	153	71	9335	2.49	34.8	0
927	SLU 68	151	83	9227	2.26	33.83	0
927	SLU 69	159	53	9530	2.89	36.42	-0.04
927	SLU 70	156	71	9459	2.6	35.52	-0.03
927	SLU 71	158	53	9470	2.85	36.05	-0.05
927	SLU 72	155	71	9399	2.56	35.15	-0.03
927	SLU 73	155	87	9945	2.27	36.92	0.02
927	SLU 74	163	58	10248	2.9	39.52	-0.02
927	SLU 75	161	76	10176	2.61	38.62	-0.01
927	SLU 76	158	88	10069	2.38	37.65	0
927	SLU 77	166	59	10372	3.01	40.25	-0.04
927	SLU 78	164	76	10300	2.72	39.35	-0.03
927	SLU 79	165	58	10312	2.97	39.87	-0.05
927	SLU 80	163	76	10240	2.68	38.98	-0.04
927	SLU 81	163	59	10424	2.8	40.06	-0.01
927	SLU 82	160	77	10353	2.51	39.16	0
927	SLU 83	166	60	10548	2.91	40.78	-0.03
927	SLU 84	163	78	10477	2.62	39.89	-0.02
927	SLE RA 1	114	39	6848	1.93	25.38	-0.01
927	SLE RA 2	111	59	6769	1.61	24.39	0.01
927	SLE RA 3	116	40	6971	2.03	26.12	-0.02
927	SLE RA 4	115	52	6923	1.83	25.52	-0.01
927	SLE RA 5	113	59	6851	1.68	24.87	-0.01
927	SLE RA 6	118	40	7053	2.1	26.6	-0.04
927	SLE RA 7	116	52	7006	1.9	26.01	-0.02
927	SLE RA 8	117	40	7013	2.07	26.35	-0.04
927	SLE RA 9	116	52	6966	1.88	25.76	-0.03
927	SLE RA 10	116	62	7330	1.68	26.94	0
927	SLE RA 11	121	43	7532	2.1	28.67	-0.02
927	SLE RA 12	120	55	7484	1.91	28.07	-0.01
927	SLE RA 13	118	63	7413	1.76	27.43	-0.01
927	SLE RA 14	123	43	7614	2.18	29.15	-0.04
927	SLE RA 15	122	55	7567	1.98	28.56	-0.03
927	SLE RA 16	122	43	7574	2.15	28.9	-0.04
927	SLE RA 17	121	55	7527	1.96	28.31	-0.03
927	SLE RA 18	121	44	7650	2.04	29.03	-0.02
927	SLE RA 19	119	56	7602	1.85	28.43	0
927	SLE RA 20	123	44	7732	2.11	29.51	-0.03
927	SLE RA 21	121	56	7685	1.92	28.92	-0.02
927	SLE FR 1	114	39	6848	1.93	25.38	-0.01
927	SLE FR 2	113	43	6832	1.86	25.18	-0.01
927	SLE FR 3	114	39	6881	1.96	25.57	-0.02
927	SLE FR 4	115	45	7073	1.9	26.28	-0.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
927	SLE FR 5	117	41	7122	1.99	26.67	-0.02
927	SLE FR 6	117	42	7249	1.98	27.2	-0.02
927	SLE QP 1	114	39	6848	1.93	25.38	-0.01
927	SLE QP 2	116	41	7089	1.96	26.47	-0.02
927	SLD 1	690	216	5462	-2.35	17	-4.11
927	SLD 2	597	307	5353	-2.76	18.51	-1.97
927	SLD 3	748	-168	7264	4.78	38.57	-4.61
927	SLD 4	655	-78	7155	4.37	40.08	-2.47
927	SLD 5	215	661	3887	-10.07	-9.34	-0.85
927	SLD 6	155	719	3816	-10.34	-8.37	0.54
927	SLD 7	410	-621	9893	13.69	62.56	-2.53
927	SLD 8	350	-562	9822	13.43	63.53	-1.15
927	SLD 9	-119	643	4355	-9.5	-10.58	1.12
927	SLD 10	-179	702	4284	-9.77	-9.61	2.5
927	SLD 11	76	-638	10361	14.26	61.32	-0.57
927	SLD 12	16	-580	10290	14	62.29	0.82
927	SLD 13	-423	159	7022	-0.45	12.87	2.44
927	SLD 14	-516	249	6913	-0.86	14.37	4.58
927	SLD 15	-365	-225	8824	6.68	34.44	1.94
927	SLD 16	-458	-135	8715	6.27	35.94	4.08
927	SLV 1	1011	340	4434	-5.22	10.72	-6.4
927	SLV 2	864	482	4262	-5.86	13.09	-3.03
927	SLV 3	1110	-310	7479	6.82	47.2	-7.25
927	SLV 4	963	-168	7307	6.18	49.57	-3.88
927	SLV 5	262	1089	1706	-18.35	-34.02	-1.27
927	SLV 6	163	1185	1590	-18.78	-32.42	1
927	SLV 7	591	-1076	11856	21.81	87.57	-4.1
927	SLV 8	492	-981	11740	21.38	89.17	-1.84
927	SLV 9	-261	1062	2437	-17.46	-36.22	1.81
927	SLV 10	-359	1158	2321	-17.89	-34.63	4.07
927	SLV 11	68	-1104	12587	22.7	85.37	-1.03
927	SLV 12	-30	-1008	12471	22.27	86.97	1.24
927	SLV 13	-732	249	6870	-2.26	3.38	3.85
927	SLV 14	-878	391	6698	-2.9	5.75	7.22
927	SLV 15	-633	-401	9915	9.79	39.86	3
927	SLV 16	-779	-259	9743	9.15	42.23	6.37
927	SLV FO 1	1100	370	4169	-5.94	9.14	-7.04
927	SLV FO 2	939	526	3980	-6.65	11.75	-3.33
927	SLV FO 3	1209	-345	7518	7.31	49.27	-7.97
927	SLV FO 4	1048	-189	7329	6.61	51.88	-4.27
927	SLV FO 5	277	1194	1168	-20.38	-40.07	-1.39
927	SLV FO 6	168	1299	1040	-20.85	-38.31	1.1
927	SLV FO 7	638	-1188	12333	23.79	93.68	-4.51
927	SLV FO 8	530	-1083	12205	23.32	95.44	-2.02
927	SLV FO 9	-298	1164	1972	-19.4	-42.49	1.99
927	SLV FO 10	-407	1269	1844	-19.87	-40.74	4.48
927	SLV FO 11	63	-1218	13137	24.77	91.26	-1.13
927	SLV FO 12	-45	-1113	13009	24.3	93.02	1.36
927	SLV FO 13	-816	270	6848	-2.68	1.07	4.24
927	SLV FO 14	-977	426	6659	-3.39	3.68	7.94
927	SLV FO 15	-708	-445	10198	10.57	41.19	3.3
927	SLV FO 16	-869	-288	10008	9.87	43.8	7.01
927	CRTFP Ux+	0	0	0	0	0	0
927	CRTFP Ux-	0	0	0	0	0	0
927	CRTFP Uy+	0	0	0	0	0	0
927	CRTFP Uy-	0	0	0	0	0	0
930	SLU 1	-10	38	2360	0.7	275.05	-9.26
930	SLU 2	-9	53	2326	0.48	273.17	-13.12
930	SLU 3	-10	39	2424	0.77	281.23	-9.47
930	SLU 4	-10	48	2403	0.64	280.1	-11.78
930	SLU 5	-9	54	2369	0.53	277.27	-13.21
930	SLU 6	-10	39	2466	0.83	285.33	-9.56
930	SLU 7	-10	48	2446	0.69	284.2	-11.88
930	SLU 8	-10	39	2445	0.8	283.25	-9.45
930	SLU 9	-10	48	2424	0.67	282.12	-11.76
930	SLU 10	-11	57	2633	0.51	304.6	-13.95
930	SLU 11	-12	42	2730	0.8	312.66	-10.29
930	SLU 12	-12	51	2710	0.67	311.53	-12.61
930	SLU 13	-11	57	2675	0.56	308.7	-14.04
930	SLU 14	-12	43	2773	0.86	316.75	-10.39
930	SLU 15	-12	52	2752	0.72	315.63	-12.7
930	SLU 16	-12	42	2751	0.83	314.67	-10.27
930	SLU 17	-11	51	2731	0.7	313.55	-12.59
930	SLU 18	-13	43	2798	0.75	319.94	-10.44
930	SLU 19	-12	52	2778	0.61	318.82	-12.76
930	SLU 20	-13	43	2841	0.8	324.04	-10.53
930	SLU 21	-12	52	2820	0.66	322.92	-12.85
930	SLU 22	-12	43	2759	0.92	315.4	-10.57
930	SLU 23	-11	59	2725	0.69	313.52	-14.43
930	SLU 24	-12	44	2822	0.99	321.58	-10.78
930	SLU 25	-12	53	2802	0.85	320.45	-13.09
930	SLU 26	-11	59	2767	0.74	317.62	-14.53
930	SLU 27	-12	45	2865	1.04	325.67	-10.87
930	SLU 28	-12	54	2844	0.9	324.55	-13.19
930	SLU 29	-12	44	2843	1.02	323.59	-10.76
930	SLU 30	-12	53	2823	0.88	322.47	-13.08
930	SLU 31	-13	62	3032	0.72	344.95	-15.26
930	SLU 32	-14	48	3129	1.02	353	-11.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
930	SLU 33	-14	57	3109	0.88	351.88	-13.92
930	SLU 34	-13	63	3074	0.77	349.04	-15.35
930	SLU 35	-14	48	3171	1.07	357.1	-11.7
930	SLU 36	-14	57	3151	0.93	355.97	-14.01
930	SLU 37	-14	48	3150	1.05	355.02	-11.58
930	SLU 38	-13	57	3130	0.91	353.89	-13.9
930	SLU 39	-15	48	3197	0.96	360.29	-11.75
930	SLU 40	-14	57	3177	0.82	359.16	-14.07
930	SLU 41	-15	49	3239	1.01	364.39	-11.85
930	SLU 42	-14	58	3219	0.87	363.26	-14.16
930	SLU 43	-13	47	2932	0.84	343.73	-11.59
930	SLU 44	-12	63	2898	0.61	341.86	-15.45
930	SLU 45	-13	48	2995	0.91	349.91	-11.8
930	SLU 46	-12	58	2975	0.78	348.79	-14.11
930	SLU 47	-12	63	2940	0.66	345.95	-15.54
930	SLU 48	-13	49	3037	0.96	354.01	-11.89
930	SLU 49	-12	58	3017	0.83	352.88	-14.2
930	SLU 50	-12	48	3016	0.94	351.93	-11.78
930	SLU 51	-12	57	2996	0.81	350.8	-14.09
930	SLU 52	-14	66	3204	0.64	373.28	-16.28
930	SLU 53	-14	52	3302	0.94	381.34	-12.62
930	SLU 54	-14	61	3281	0.81	380.21	-14.94
930	SLU 55	-13	67	3247	0.7	377.38	-16.37
930	SLU 56	-14	52	3344	0.99	385.44	-12.71
930	SLU 57	-14	61	3324	0.86	384.31	-15.03
930	SLU 58	-14	52	3323	0.97	383.35	-12.6
930	SLU 59	-14	61	3302	0.84	382.23	-14.92
930	SLU 60	-15	52	3370	0.88	388.63	-12.77
930	SLU 61	-15	62	3349	0.75	387.5	-15.09
930	SLU 62	-15	53	3412	0.94	392.72	-12.86
930	SLU 63	-15	62	3392	0.8	391.6	-15.18
930	SLU 64	-15	53	3330	1.05	384.08	-12.9
930	SLU 65	-14	68	3296	0.83	382.2	-16.76
930	SLU 66	-15	54	3394	1.13	390.26	-13.11
930	SLU 67	-14	63	3373	0.99	389.13	-15.42
930	SLU 68	-14	69	3339	0.88	386.3	-16.86
930	SLU 69	-15	54	3436	1.18	394.36	-13.2
930	SLU 70	-14	63	3416	1.04	393.23	-15.52
930	SLU 71	-15	54	3415	1.16	392.28	-13.09
930	SLU 72	-14	63	3394	1.02	391.15	-15.4
930	SLU 73	-16	72	3603	0.86	413.63	-17.59
930	SLU 74	-16	57	3700	1.16	421.68	-13.93
930	SLU 75	-16	66	3680	1.02	420.56	-16.25
930	SLU 76	-16	72	3645	0.91	417.73	-17.68
930	SLU 77	-16	57	3743	1.21	425.78	-14.03
930	SLU 78	-16	67	3722	1.07	424.66	-16.34
930	SLU 79	-16	57	3722	1.19	423.7	-13.91
930	SLU 80	-16	66	3701	1.05	422.58	-16.23
930	SLU 81	-17	58	3769	1.1	428.97	-14.08
930	SLU 82	-17	67	3748	0.96	427.85	-16.4
930	SLU 83	-17	58	3811	1.15	433.07	-14.17
930	SLU 84	-17	67	3790	1.01	431.95	-16.49
930	SLE RA 1	-11	39	2474	0.76	286.58	-9.64
930	SLE RA 2	-10	50	2452	0.61	285.33	-12.21
930	SLE RA 3	-11	40	2516	0.81	290.7	-9.77
930	SLE RA 4	-11	46	2503	0.72	289.95	-11.32
930	SLE RA 5	-10	50	2480	0.65	288.06	-12.27
930	SLE RA 6	-11	40	2545	0.85	293.43	-9.83
930	SLE RA 7	-11	46	2531	0.75	292.68	-11.38
930	SLE RA 8	-11	40	2531	0.83	292.04	-9.76
930	SLE RA 9	-10	46	2517	0.74	291.29	-11.3
930	SLE RA 10	-11	52	2656	0.63	306.28	-12.76
930	SLE RA 11	-12	42	2721	0.83	311.65	-10.32
930	SLE RA 12	-12	48	2707	0.74	310.9	-11.87
930	SLE RA 13	-11	52	2684	0.67	309.01	-12.82
930	SLE RA 14	-12	43	2749	0.87	314.38	-10.39
930	SLE RA 15	-12	49	2735	0.77	313.63	-11.93
930	SLE RA 16	-12	42	2735	0.85	312.99	-10.31
930	SLE RA 17	-12	48	2721	0.76	312.24	-11.85
930	SLE RA 18	-12	43	2766	0.79	316.51	-10.42
930	SLE RA 19	-12	49	2753	0.7	315.76	-11.97
930	SLE RA 20	-12	43	2794	0.83	319.24	-10.48
930	SLE RA 21	-12	49	2781	0.74	318.49	-12.03
930	SLE FR 1	-11	39	2474	0.76	286.58	-9.64
930	SLE FR 2	-11	42	2470	0.73	286.33	-10.15
930	SLE FR 3	-11	40	2485	0.78	287.67	-9.66
930	SLE FR 4	-11	43	2557	0.74	295.31	-10.39
930	SLE FR 5	-11	41	2573	0.79	296.65	-9.9
930	SLE FR 6	-12	41	2620	0.78	301.54	-10.03
930	SLE QP 1	-11	39	2474	0.76	286.58	-9.64
930	SLE QP 2	-11	40	2562	0.77	295.56	-9.87
930	SLD 1	299	153	2428	-0.82	299.54	-38.42
930	SLD 2	259	135	2433	-0.7	298.98	-33.56
930	SLD 3	290	-39	2950	2.53	330.85	9.62
930	SLD 4	249	-58	2954	2.64	330.29	14.47
930	SLD 5	104	369	1730	-4.8	249.36	-92.13
930	SLD 6	77	357	1733	-4.72	249	-88.99
930	SLD 7	71	-272	3468	6.35	353.73	67.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
930	SLD 8	45	-284	3471	6.43	353.37	71.13
930	SLD 9	-68	364	1653	-4.88	237.75	-90.87
930	SLD 10	-94	352	1655	-4.81	237.38	-87.73
930	SLD 11	-100	-276	3391	6.27	342.12	69.25
930	SLD 12	-126	-288	3394	6.34	341.75	72.39
930	SLD 13	-272	138	2170	-1.1	260.82	-34.22
930	SLD 14	-312	120	2174	-0.98	260.26	-29.36
930	SLD 15	-282	-54	2691	2.25	292.13	13.82
930	SLD 16	-322	-72	2696	2.36	291.57	18.67
930	SLV 1	476	229	2319	-1.92	299.72	-57.62
930	SLV 2	412	200	2327	-1.75	298.83	-49.97
930	SLV 3	459	-95	3200	3.73	352.67	23.53
930	SLV 4	396	-125	3208	3.91	351.78	31.18
930	SLV 5	171	595	1151	-8.64	216.67	-148.7
930	SLV 6	129	575	1156	-8.52	216.07	-143.56
930	SLV 7	117	-487	4089	10.2	393.16	121.8
930	SLV 8	74	-507	4094	10.32	392.56	126.95
930	SLV 9	-97	588	1030	-8.78	198.55	-146.69
930	SLV 10	-139	568	1035	-8.66	197.96	-141.55
930	SLV 11	-151	-494	3968	10.07	375.04	123.81
930	SLV 12	-194	-514	3973	10.19	374.45	128.96
930	SLV 13	-418	206	1916	-2.36	239.33	-50.92
930	SLV 14	-482	176	1923	-2.19	238.45	-43.28
930	SLV 15	-435	-119	2797	3.29	292.28	30.23
930	SLV 16	-498	-148	2804	3.47	291.39	37.87
930	SLV FO 1	524	248	2295	-2.19	300.14	-62.39
930	SLV FO 2	454	216	2303	-2	299.16	-53.98
930	SLV FO 3	506	-109	3264	4.03	358.38	26.87
930	SLV FO 4	436	-141	3272	4.22	357.4	35.28
930	SLV FO 5	190	650	1010	-9.59	208.78	-162.58
930	SLV FO 6	143	629	1015	-9.45	208.12	-156.92
930	SLV FO 7	130	-540	4241	11.14	402.92	134.97
930	SLV FO 8	83	-562	4247	11.28	402.26	140.63
930	SLV FO 9	-105	643	877	-9.73	188.85	-160.37
930	SLV FO 10	-152	621	882	-9.6	188.2	-154.71
930	SLV FO 11	-165	-548	4108	11	382.99	137.18
930	SLV FO 12	-212	-569	4114	11.13	382.33	142.84
930	SLV FO 13	-459	222	1851	-2.68	233.71	-55.03
930	SLV FO 14	-529	190	1859	-2.48	232.74	-46.62
930	SLV FO 15	-477	-135	2821	3.54	291.95	34.24
930	SLV FO 16	-547	-167	2829	3.74	290.98	42.65
930	CRTFP Ux+	0	0	0	0	0	0
930	CRTFP Ux-	0	0	0	0	0	0
930	CRTFP Uy+	0	0	0	0	0	0
930	CRTFP Uy-	0	0	0	0	0	0
932	SLU 1	18	71	4655	4.56	-29.71	0.81
932	SLU 2	17	101	4577	4.11	-29.59	0.83
932	SLU 3	19	72	4776	4.8	-30.58	0.84
932	SLU 4	19	90	4729	4.52	-30.51	0.86
932	SLU 5	18	101	4657	4.27	-30.14	0.85
932	SLU 6	20	72	4856	4.96	-31.13	0.86
932	SLU 7	20	90	4809	4.68	-31.06	0.87
932	SLU 8	20	71	4815	4.88	-30.81	0.84
932	SLU 9	20	89	4768	4.61	-30.74	0.86
932	SLU 10	18	106	5189	4.56	-32.71	1.02
932	SLU 11	20	77	5388	5.25	-33.7	1.04
932	SLU 12	20	95	5342	4.98	-33.63	1.05
932	SLU 13	20	106	5269	4.72	-33.26	1.04
932	SLU 14	21	77	5468	5.41	-34.25	1.05
932	SLU 15	21	95	5422	5.14	-34.18	1.06
932	SLU 16	21	76	5427	5.34	-33.93	1.03
932	SLU 17	21	94	5381	5.07	-33.86	1.05
932	SLU 18	19	79	5529	5.21	-34.17	1.09
932	SLU 19	19	97	5483	4.94	-34.1	1.1
932	SLU 20	20	79	5609	5.37	-34.71	1.1
932	SLU 21	20	96	5563	5.1	-34.65	1.11
932	SLU 22	20	78	5446	5.49	-33.96	1.04
932	SLU 23	20	108	5369	5.04	-33.85	1.06
932	SLU 24	21	79	5567	5.73	-34.84	1.08
932	SLU 25	21	97	5521	5.45	-34.77	1.09
932	SLU 26	21	108	5449	5.2	-34.4	1.08
932	SLU 27	22	79	5648	5.89	-35.38	1.09
932	SLU 28	22	97	5601	5.62	-35.32	1.1
932	SLU 29	22	78	5606	5.81	-35.06	1.07
932	SLU 30	22	96	5560	5.54	-34.99	1.09
932	SLU 31	21	113	5981	5.49	-36.97	1.26
932	SLU 32	22	84	6180	6.18	-37.95	1.27
932	SLU 33	22	102	6133	5.91	-37.89	1.28
932	SLU 34	22	113	6061	5.65	-37.52	1.27
932	SLU 35	23	84	6260	6.35	-38.5	1.28
932	SLU 36	23	102	6213	6.07	-38.44	1.29
932	SLU 37	23	83	6219	6.27	-38.18	1.27
932	SLU 38	23	101	6172	6	-38.11	1.28
932	SLU 39	21	86	6321	6.14	-38.42	1.32
932	SLU 40	21	103	6274	5.87	-38.35	1.33
932	SLU 41	22	86	6401	6.3	-38.97	1.33
932	SLU 42	22	103	6354	6.03	-38.9	1.35
932	SLU 43	22	90	5779	5.61	-37.16	0.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
932	SLU 44	22	120	5702	5.15	-37.05	1
932	SLU 45	23	91	5901	5.84	-38.04	1.01
932	SLU 46	23	109	5854	5.57	-37.97	1.02
932	SLU 47	23	120	5782	5.31	-37.6	1.01
932	SLU 48	25	91	5981	6.01	-38.59	1.02
932	SLU 49	24	109	5934	5.73	-38.52	1.04
932	SLU 50	25	90	5940	5.93	-38.26	1.01
932	SLU 51	24	108	5893	5.66	-38.19	1.02
932	SLU 52	23	125	6314	5.61	-40.17	1.19
932	SLU 53	25	96	6513	6.3	-41.16	1.2
932	SLU 54	24	114	6466	6.03	-41.09	1.21
932	SLU 55	24	125	6394	5.77	-40.72	1.2
932	SLU 56	26	96	6593	6.46	-41.71	1.21
932	SLU 57	25	114	6547	6.19	-41.64	1.23
932	SLU 58	26	95	6552	6.39	-41.38	1.2
932	SLU 59	25	113	6505	6.11	-41.31	1.21
932	SLU 60	24	98	6654	6.26	-41.62	1.25
932	SLU 61	24	116	6608	5.99	-41.55	1.26
932	SLU 62	25	98	6734	6.42	-42.17	1.27
932	SLU 63	25	115	6688	6.15	-42.1	1.28
932	SLU 64	25	97	6571	6.54	-41.42	1.21
932	SLU 65	24	127	6493	6.08	-41.3	1.23
932	SLU 66	26	98	6692	6.78	-42.29	1.24
932	SLU 67	25	116	6646	6.5	-42.22	1.25
932	SLU 68	25	127	6574	6.25	-41.85	1.24
932	SLU 69	27	98	6772	6.94	-42.84	1.25
932	SLU 70	27	116	6726	6.66	-42.77	1.27
932	SLU 71	27	97	6731	6.86	-42.51	1.24
932	SLU 72	26	115	6685	6.59	-42.45	1.25
932	SLU 73	25	132	7106	6.54	-44.42	1.42
932	SLU 74	27	103	7305	7.23	-45.41	1.43
932	SLU 75	26	121	7258	6.96	-45.34	1.44
932	SLU 76	26	132	7186	6.7	-44.97	1.44
932	SLU 77	28	103	7385	7.39	-45.96	1.45
932	SLU 78	28	121	7338	7.12	-45.89	1.46
932	SLU 79	28	102	7344	7.32	-45.63	1.43
932	SLU 80	27	120	7297	7.05	-45.57	1.44
932	SLU 81	26	105	7446	7.19	-45.87	1.48
932	SLU 82	26	123	7399	6.92	-45.8	1.49
932	SLU 83	27	105	7526	7.35	-46.42	1.5
932	SLU 84	27	122	7479	7.08	-46.35	1.51
932	SLE RA 1	18	73	4881	4.83	-30.92	0.88
932	SLE RA 2	18	93	4829	4.52	-30.85	0.89
932	SLE RA 3	19	74	4962	4.98	-31.51	0.9
932	SLE RA 4	19	86	4930	4.8	-31.46	0.91
932	SLE RA 5	19	93	4882	4.63	-31.21	0.9
932	SLE RA 6	20	74	5015	5.09	-31.87	0.91
932	SLE RA 7	20	86	4984	4.91	-31.83	0.92
932	SLE RA 8	20	73	4988	5.04	-31.66	0.9
932	SLE RA 9	20	85	4956	4.86	-31.61	0.91
932	SLE RA 10	19	97	5237	4.83	-32.93	1.02
932	SLE RA 11	20	77	5370	5.29	-33.59	1.03
932	SLE RA 12	20	89	5339	5.11	-33.54	1.04
932	SLE RA 13	20	96	5291	4.93	-33.29	1.03
932	SLE RA 14	21	77	5423	5.4	-33.95	1.04
932	SLE RA 15	20	89	5392	5.21	-33.91	1.05
932	SLE RA 16	21	77	5396	5.34	-33.74	1.03
932	SLE RA 17	20	89	5365	5.16	-33.69	1.03
932	SLE RA 18	19	78	5464	5.26	-33.89	1.06
932	SLE RA 19	19	90	5433	5.08	-33.85	1.07
932	SLE RA 20	20	78	5517	5.37	-34.26	1.07
932	SLE RA 21	20	90	5486	5.19	-34.22	1.08
932	SLE FR 1	18	73	4881	4.83	-30.92	0.88
932	SLE FR 2	18	77	4870	4.76	-30.91	0.88
932	SLE FR 3	19	73	4902	4.87	-31.07	0.88
932	SLE FR 4	19	79	5045	4.9	-31.8	0.94
932	SLE FR 5	19	75	5077	5	-31.96	0.94
932	SLE FR 6	19	76	5172	5.04	-32.41	0.97
932	SLE QP 1	18	73	4881	4.83	-30.92	0.88
932	SLE QP 2	19	75	5056	4.96	-31.82	0.93
932	SLD 1	634	227	4101	1.38	-6.78	-4.03
932	SLD 2	553	259	4101	1.26	-6.76	-1.63
932	SLD 3	643	-148	5291	8.12	-9.19	-4.35
932	SLD 4	561	-115	5291	8	-9.18	-1.95
932	SLD 5	204	683	2965	-6.31	-20.65	-0.49
932	SLD 6	152	704	2965	-6.39	-20.64	1.07
932	SLD 7	233	-566	6931	16.14	-28.69	-1.55
932	SLD 8	180	-545	6930	16.06	-28.68	0
932	SLD 9	-143	694	3181	-6.15	-34.95	1.87
932	SLD 10	-196	715	3181	-6.23	-34.94	3.42
932	SLD 11	-114	-554	7146	16.3	-42.99	0.8
932	SLD 12	-167	-533	7146	16.22	-42.98	2.35
932	SLD 13	-524	265	4821	1.91	-54.45	3.82
932	SLD 14	-606	298	4820	1.79	-54.44	6.21
932	SLD 15	-515	-110	6010	8.65	-56.87	3.5
932	SLD 16	-597	-77	6010	8.53	-56.85	5.89
932	SLV 1	982	335	3490	-1.08	7.39	-6.83
932	SLV 2	853	387	3489	-1.28	7.42	-3.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
932	SLV 3	996	-297	5500	10.3	3.31	-7.37
932	SLV 4	868	-246	5499	10.11	3.34	-3.59
932	SLV 5	310	1103	1537	-14.09	-13.87	-1.28
932	SLV 6	223	1138	1537	-14.22	-13.85	1.26
932	SLV 7	358	-1006	8238	23.87	-27.47	-3.08
932	SLV 8	271	-972	8237	23.74	-27.45	-0.54
932	SLV 9	-234	1121	1874	-13.82	-36.18	2.4
932	SLV 10	-321	1156	1874	-13.95	-36.16	4.95
932	SLV 11	-186	-988	8574	24.13	-49.78	0.61
932	SLV 12	-273	-954	8574	24	-49.76	3.15
932	SLV 13	-830	396	4612	-0.2	-66.97	5.46
932	SLV 14	-959	447	4611	-0.39	-66.94	9.24
932	SLV 15	-816	-237	6622	11.19	-71.05	4.92
932	SLV 16	-945	-186	6621	11	-71.02	8.7
932	SLV FO 1	1078	362	3333	-1.69	11.31	-7.61
932	SLV FO 2	937	418	3332	-1.9	11.35	-3.45
932	SLV FO 3	1094	-335	5544	10.84	6.83	-8.2
932	SLV FO 4	953	-278	5544	10.62	6.86	-4.05
932	SLV FO 5	339	1206	1186	-16	-12.08	-1.5
932	SLV FO 6	244	1244	1185	-16.14	-12.06	1.29
932	SLV FO 7	392	-1114	8556	25.76	-27.03	-3.48
932	SLV FO 8	296	-1076	8555	25.61	-27.01	-0.69
932	SLV FO 9	-259	1226	1556	-15.7	-36.62	2.55
932	SLV FO 10	-354	1264	1555	-15.85	-36.6	5.35
932	SLV FO 11	-206	-1094	8926	26.05	-51.57	0.57
932	SLV FO 12	-302	-1056	8926	25.91	-51.55	3.37
932	SLV FO 13	-915	428	4568	-0.71	-70.49	5.91
932	SLV FO 14	-1057	484	4567	-0.93	-70.46	10.07
932	SLV FO 15	-899	-268	6779	11.81	-74.98	5.32
932	SLV FO 16	-1041	-212	6778	11.6	-74.94	9.47
932	CRTFP Ux+	0	0	0	0	0	0
932	CRTFP Ux-	0	0	0	0	0	0
932	CRTFP Uy+	0	0	0	0	0	0
932	CRTFP Uy-	0	0	0	0	0	0
935	SLU 1	-181	21	10658	1377.99	-20.86	24.12
935	SLU 2	-174	73	10464	1351.03	-17.66	23.15
935	SLU 3	-186	21	10960	1417.51	-22.18	24.75
935	SLU 4	-181	52	10844	1401.33	-20.26	24.17
935	SLU 5	-176	73	10666	1377.54	-18.6	23.51
935	SLU 6	-188	21	11163	1444.02	-23.12	25.11
935	SLU 7	-184	52	11046	1427.85	-21.2	24.53
935	SLU 8	-186	21	11063	1431.02	-22.74	24.83
935	SLU 9	-182	52	10946	1414.84	-20.82	24.25
935	SLU 10	-189	75	11846	1528.98	-22.54	25.42
935	SLU 11	-201	23	12343	1595.47	-27.05	27.03
935	SLU 12	-196	55	12226	1579.29	-25.13	26.44
935	SLU 13	-191	76	12049	1555.5	-23.47	25.78
935	SLU 14	-203	23	12545	1621.98	-27.99	27.38
935	SLU 15	-199	55	12428	1605.81	-26.07	26.8
935	SLU 16	-201	23	12445	1608.98	-27.61	27.11
935	SLU 17	-197	55	12329	1592.8	-25.69	26.52
935	SLU 18	-202	24	12633	1632.22	-27.82	27.37
935	SLU 19	-198	56	12516	1616.04	-25.9	26.79
935	SLU 20	-205	24	12835	1658.73	-28.76	27.73
935	SLU 21	-201	56	12719	1642.55	-26.84	27.14
935	SLU 22	-207	21	12499	1616.49	-27.67	27.73
935	SLU 23	-199	73	12305	1589.53	-24.47	26.76
935	SLU 24	-211	21	12801	1656.01	-28.98	28.36
935	SLU 25	-207	53	12685	1639.84	-27.06	27.78
935	SLU 26	-202	73	12507	1616.05	-25.41	27.11
935	SLU 27	-214	21	13004	1682.53	-29.92	28.72
935	SLU 28	-210	53	12887	1666.35	-28	28.13
935	SLU 29	-212	21	12904	1669.53	-29.55	28.44
935	SLU 30	-208	53	12787	1653.35	-27.63	27.86
935	SLU 31	-214	76	13687	1767.49	-29.34	29.03
935	SLU 32	-226	24	14184	1833.97	-33.86	30.64
935	SLU 33	-222	55	14067	1817.8	-31.94	30.05
935	SLU 34	-217	76	13889	1794.01	-30.28	29.39
935	SLU 35	-229	24	14386	1860.49	-34.8	30.99
935	SLU 36	-225	55	14269	1844.31	-32.88	30.41
935	SLU 37	-227	24	14286	1847.48	-34.42	30.71
935	SLU 38	-223	55	14170	1831.31	-32.5	30.13
935	SLU 39	-228	25	14474	1870.72	-34.63	30.98
935	SLU 40	-224	56	14357	1854.54	-32.71	30.39
935	SLU 41	-231	25	14676	1897.24	-35.57	31.33
935	SLU 42	-226	56	14560	1881.06	-33.65	30.75
935	SLU 43	-226	27	13225	1709.61	-24.79	30.12
935	SLU 44	-219	79	13030	1682.65	-21.59	29.15
935	SLU 45	-231	27	13527	1749.13	-26.1	30.75
935	SLU 46	-227	58	13410	1732.95	-24.18	30.17
935	SLU 47	-222	79	13233	1709.16	-22.53	29.51
935	SLU 48	-234	27	13729	1775.65	-27.04	31.11
935	SLU 49	-229	58	13612	1759.47	-25.12	30.53
935	SLU 50	-232	27	13629	1762.64	-26.67	30.83
935	SLU 51	-227	58	13513	1746.47	-24.75	30.25
935	SLU 52	-234	82	14413	1860.61	-26.46	31.42
935	SLU 53	-246	30	14909	1927.09	-30.97	33.03
935	SLU 54	-242	61	14792	1910.91	-29.05	32.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
935	SLU 55	-237	82	14615	1887.12	-27.4	31.78
935	SLU 56	-249	30	15111	1953.61	-31.91	33.38
935	SLU 57	-244	61	14995	1937.43	-29.99	32.8
935	SLU 58	-247	30	15012	1940.6	-31.54	33.11
935	SLU 59	-242	61	14895	1924.42	-29.62	32.52
935	SLU 60	-248	31	15199	1963.84	-31.75	33.37
935	SLU 61	-243	62	15083	1947.66	-29.83	32.79
935	SLU 62	-250	31	15402	1990.35	-32.69	33.73
935	SLU 63	-246	62	15285	1974.18	-30.77	33.14
935	SLU 64	-252	27	15065	1948.12	-31.59	33.73
935	SLU 65	-245	79	14871	1921.16	-28.4	32.76
935	SLU 66	-257	27	15368	1987.64	-32.91	34.36
935	SLU 67	-252	59	15251	1971.46	-30.99	33.78
935	SLU 68	-248	80	15073	1947.67	-29.33	33.11
935	SLU 69	-260	27	15570	2014.15	-33.85	34.72
935	SLU 70	-255	59	15453	1997.98	-31.93	34.13
935	SLU 71	-257	27	15470	2001.15	-33.47	34.44
935	SLU 72	-253	59	15354	1984.97	-31.55	33.86
935	SLU 73	-260	82	16253	2099.11	-33.27	35.03
935	SLU 74	-272	30	16750	2165.6	-37.78	36.64
935	SLU 75	-268	61	16633	2149.42	-35.86	36.05
935	SLU 76	-263	82	16456	2125.63	-34.21	35.39
935	SLU 77	-275	30	16952	2192.11	-38.72	36.99
935	SLU 78	-270	61	16836	2175.93	-36.8	36.41
935	SLU 79	-272	30	16853	2179.11	-38.35	36.71
935	SLU 80	-268	61	16736	2162.93	-36.43	36.13
935	SLU 81	-274	31	17040	2202.34	-38.55	36.98
935	SLU 82	-269	62	16924	2186.17	-36.64	36.39
935	SLU 83	-276	31	17243	2228.86	-39.49	37.33
935	SLU 84	-272	62	17126	2212.68	-37.57	36.75
935	SLE RA 1	-188	21	11184	1446.13	-22.81	25.15
935	SLE RA 2	-183	56	11055	1428.16	-20.67	24.51
935	SLE RA 3	-191	21	11386	1472.48	-23.68	25.58
935	SLE RA 4	-189	42	11308	1461.69	-22.4	25.19
935	SLE RA 5	-185	56	11190	1445.84	-21.3	24.74
935	SLE RA 6	-193	21	11521	1490.16	-24.31	25.81
935	SLE RA 7	-190	42	11443	1479.37	-23.03	25.42
935	SLE RA 8	-192	21	11454	1481.49	-24.06	25.63
935	SLE RA 9	-189	42	11376	1470.7	-22.78	25.24
935	SLE RA 10	-193	57	11976	1546.8	-23.92	26.02
935	SLE RA 11	-201	23	12307	1591.12	-26.93	27.09
935	SLE RA 12	-199	44	12229	1580.33	-25.65	26.7
935	SLE RA 13	-195	57	12111	1564.47	-24.55	26.26
935	SLE RA 14	-203	23	12442	1608.8	-27.56	27.33
935	SLE RA 15	-200	44	12364	1598.01	-26.28	26.94
935	SLE RA 16	-202	23	12376	1600.13	-27.31	27.14
935	SLE RA 17	-199	44	12298	1589.34	-26.03	26.75
935	SLE RA 18	-203	23	12501	1615.62	-27.45	27.32
935	SLE RA 19	-200	44	12423	1604.83	-26.17	26.93
935	SLE RA 20	-204	23	12636	1633.29	-28.07	27.56
935	SLE RA 21	-201	44	12558	1622.51	-26.79	27.17
935	SLE FR 1	-188	21	11184	1446.13	-22.81	25.15
935	SLE FR 2	-187	28	11158	1442.54	-22.38	25.02
935	SLE FR 3	-189	21	11238	1453.2	-23.06	25.25
935	SLE FR 4	-192	29	11553	1493.38	-23.77	25.67
935	SLE FR 5	-193	22	11633	1504.05	-24.45	25.9
935	SLE FR 6	-195	22	11843	1530.88	-25.13	26.24
935	SLE QP 1	-188	21	11184	1446.13	-22.81	25.15
935	SLE QP 2	-193	22	11579	1496.98	-24.2	25.8
935	SLD 1	922	481	11440	1468.99	5.64	-128.34
935	SLD 2	753	322	11589	1489.46	3.52	-101.82
935	SLD 3	828	-179	14353	1873.57	-39.13	-115.65
935	SLD 4	658	-338	14502	1894.05	-41.25	-89.13
935	SLD 5	314	1188	7093	871.41	53.02	-44.28
935	SLD 6	205	1085	7190	884.66	51.65	-27.13
935	SLD 7	0	-1012	16804	2220.02	-96.21	-1.99
935	SLD 8	-110	-1115	16900	2233.27	-97.58	15.17
935	SLD 9	-275	1158	6258	760.69	49.18	36.44
935	SLD 10	-385	1055	6354	773.93	47.81	53.6
935	SLD 11	-590	-1042	15969	2109.3	-100.05	78.73
935	SLD 12	-699	-1145	16065	2122.55	-101.42	95.89
935	SLD 13	-1043	381	8656	1099.91	-7.15	140.74
935	SLD 14	-1213	222	8805	1120.39	-9.26	167.26
935	SLD 15	-1138	-279	11569	1504.5	-51.91	153.43
935	SLD 16	-1307	-438	11718	1524.97	-54.03	179.95
935	SLV 1	1560	783	11173	1426.92	25.59	-216.43
935	SLV 2	1292	533	11407	1459.16	22.26	-174.67
935	SLV 3	1400	-332	16095	2110.55	-50.07	-195
935	SLV 4	1133	-583	16329	2142.79	-53.41	-153.25
935	SLV 5	624	1988	3948	433.1	106.12	-87.15
935	SLV 6	445	1820	4106	454.81	103.88	-59.04
935	SLV 7	94	-1729	20356	2711.88	-146.1	-15.74
935	SLV 8	-86	-1898	20514	2733.58	-148.35	12.38
935	SLV 9	-299	1941	2645	260.38	99.95	39.23
935	SLV 10	-479	1772	2803	282.08	97.7	67.34
935	SLV 11	-830	-1776	19053	2539.15	-152.28	110.65
935	SLV 12	-1010	-1945	19211	2560.85	-154.52	138.76
935	SLV 13	-1518	626	6829	851.17	5.01	204.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
935	SLV 14	-1785	375	7063	883.4	1.68	246.61
935	SLV 15	-1677	-489	11751	1534.8	-70.66	226.28
935	SLV 16	-1945	-740	11986	1567.04	-73.99	268.04
935	SLV FO 1	1735	860	11132	1419.92	30.57	-240.65
935	SLV FO 2	1441	584	11390	1455.38	26.9	-194.72
935	SLV FO 3	1560	-367	16547	2171.91	-52.66	-217.08
935	SLV FO 4	1266	-643	16804	2207.37	-56.33	-171.15
935	SLV FO 5	706	2185	3185	326.72	119.16	-98.45
935	SLV FO 6	508	1999	3358	350.59	116.69	-67.53
935	SLV FO 7	122	-1904	21233	2833.37	-158.29	-19.89
935	SLV FO 8	-76	-2090	21407	2857.24	-160.76	11.03
935	SLV FO 9	-309	2133	1751	136.72	112.36	40.58
935	SLV FO 10	-507	1947	1925	160.59	109.89	71.5
935	SLV FO 11	-893	-1956	19800	2643.37	-165.08	119.13
935	SLV FO 12	-1091	-2142	19974	2667.24	-167.55	150.06
935	SLV FO 13	-1651	686	6354	786.58	7.93	222.76
935	SLV FO 14	-1945	411	6612	822.05	4.26	268.69
935	SLV FO 15	-1826	-540	11769	1538.58	-75.3	246.33
935	SLV FO 16	-2120	-816	12027	1574.04	-78.97	292.26
935	CRTFP Ux+	0	0	0	0	0	0
935	CRTFP Ux-	0	0	0	0	0	0
935	CRTFP Uy+	0	0	0	0.01	0	0
935	CRTFP Uy-	0	0	0	-0.01	0	0
938	SLU 1	67	21	4099	7.67	901.93	-7.58
938	SLU 2	65	46	4019	7.16	884.39	-16.19
938	SLU 3	69	22	4212	7.99	925.54	-7.81
938	SLU 4	68	37	4164	7.68	915.02	-12.98
938	SLU 5	67	47	4094	7.39	900.22	-16.55
938	SLU 6	71	23	4287	8.22	941.36	-8.17
938	SLU 7	70	38	4239	7.92	930.84	-13.33
938	SLU 8	71	23	4250	8.13	933.58	-8.29
938	SLU 9	69	38	4201	7.83	923.06	-13.46
938	SLU 10	69	49	4513	8.14	989.06	-17.15
938	SLU 11	74	25	4706	8.97	1030.2	-8.77
938	SLU 12	73	39	4658	8.66	1019.68	-13.93
938	SLU 13	71	50	4588	8.37	1004.88	-17.5
938	SLU 14	76	26	4782	9.2	1046.03	-9.12
938	SLU 15	74	40	4733	8.9	1035.51	-14.29
938	SLU 16	75	26	4744	9.11	1038.25	-9.25
938	SLU 17	74	41	4696	8.81	1027.72	-14.41
938	SLU 18	74	25	4806	9.07	1051.45	-8.95
938	SLU 19	72	40	4757	8.76	1040.93	-14.11
938	SLU 20	75	26	4881	9.3	1067.28	-9.3
938	SLU 21	74	41	4832	9	1056.75	-14.47
938	SLU 22	75	22	4766	9.22	1042.95	-7.68
938	SLU 23	73	46	4686	8.71	1025.41	-16.29
938	SLU 24	78	22	4879	9.54	1066.56	-7.91
938	SLU 25	76	37	4831	9.23	1056.04	-13.08
938	SLU 26	75	47	4761	8.94	1041.24	-16.65
938	SLU 27	79	23	4954	9.77	1082.39	-8.26
938	SLU 28	78	38	4906	9.46	1071.87	-13.43
938	SLU 29	79	24	4917	9.68	1074.61	-8.39
938	SLU 30	78	38	4868	9.37	1064.08	-13.56
938	SLU 31	78	49	5180	9.69	1130.08	-17.25
938	SLU 32	82	25	5373	10.52	1171.23	-8.86
938	SLU 33	81	40	5325	10.21	1160.71	-14.03
938	SLU 34	80	50	5255	9.92	1145.91	-17.6
938	SLU 35	84	26	5449	10.75	1187.06	-9.22
938	SLU 36	83	41	5400	10.44	1176.53	-14.38
938	SLU 37	83	26	5411	10.66	1179.27	-9.34
938	SLU 38	82	41	5363	10.35	1168.75	-14.51
938	SLU 39	82	25	5473	10.62	1192.47	-9.04
938	SLU 40	81	40	5424	10.31	1181.95	-14.21
938	SLU 41	84	26	5548	10.85	1208.3	-9.4
938	SLU 42	82	41	5499	10.54	1197.78	-14.57
938	SLU 43	84	28	5101	9.44	1124.15	-9.82
938	SLU 44	82	52	5020	8.93	1106.62	-18.43
938	SLU 45	87	28	5213	9.76	1147.76	-10.05
938	SLU 46	85	43	5165	9.45	1137.24	-15.22
938	SLU 47	84	53	5095	9.16	1122.44	-18.79
938	SLU 48	88	29	5288	9.99	1163.59	-10.41
938	SLU 49	87	44	5240	9.69	1153.07	-15.57
938	SLU 50	88	30	5251	9.9	1155.81	-10.53
938	SLU 51	87	44	5202	9.6	1145.28	-15.7
938	SLU 52	87	55	5514	9.91	1211.28	-19.39
938	SLU 53	91	31	5708	10.74	1252.43	-11.01
938	SLU 54	90	46	5659	10.43	1241.91	-16.17
938	SLU 55	88	56	5589	10.14	1227.11	-19.74
938	SLU 56	93	32	5783	10.97	1268.26	-11.36
938	SLU 57	92	47	5734	10.67	1257.73	-16.53
938	SLU 58	92	32	5745	10.88	1260.47	-11.49
938	SLU 59	91	47	5697	10.58	1249.95	-16.65
938	SLU 60	91	31	5807	10.84	1273.67	-11.19
938	SLU 61	90	46	5759	10.54	1263.15	-16.35
938	SLU 62	93	32	5882	11.07	1289.5	-11.54
938	SLU 63	91	47	5834	10.77	1278.98	-16.71
938	SLU 64	93	28	5768	10.99	1265.18	-9.92
938	SLU 65	91	52	5687	10.48	1247.64	-18.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
938	SLU 66	95	28	5880	11.31	1288.79	-10.15
938	SLU 67	94	43	5832	11	1278.27	-15.32
938	SLU 68	92	53	5762	10.71	1263.47	-18.89
938	SLU 69	97	29	5955	11.54	1304.62	-10.5
938	SLU 70	95	44	5907	11.23	1294.09	-15.67
938	SLU 71	96	30	5918	11.45	1296.83	-10.63
938	SLU 72	95	45	5869	11.15	1286.31	-15.8
938	SLU 73	95	55	6181	11.46	1352.31	-19.49
938	SLU 74	99	31	6375	12.29	1393.45	-11.1
938	SLU 75	98	46	6326	11.98	1382.93	-16.27
938	SLU 76	97	56	6256	11.69	1368.13	-19.84
938	SLU 77	101	32	6450	12.52	1409.28	-11.46
938	SLU 78	100	47	6401	12.21	1398.76	-16.63
938	SLU 79	101	33	6412	12.43	1401.5	-11.59
938	SLU 80	99	47	6364	12.13	1390.98	-16.75
938	SLU 81	99	32	6474	12.39	1414.7	-11.28
938	SLU 82	98	46	6426	12.08	1404.18	-16.45
938	SLU 83	101	33	6549	12.62	1430.53	-11.64
938	SLU 84	100	47	6501	12.31	1420	-16.81
938	SLE RA 1	70	21	4290	8.11	942.22	-7.61
938	SLE RA 2	68	38	4236	7.77	930.53	-13.35
938	SLE RA 3	71	22	4365	8.32	957.96	-7.76
938	SLE RA 4	70	32	4333	8.12	950.95	-11.21
938	SLE RA 5	69	38	4286	7.93	941.08	-13.59
938	SLE RA 6	72	22	4415	8.48	968.51	-8
938	SLE RA 7	71	32	4383	8.28	961.5	-11.44
938	SLE RA 8	72	23	4390	8.42	963.32	-8.08
938	SLE RA 9	71	33	4358	8.22	956.31	-11.53
938	SLE RA 10	71	40	4566	8.43	1000.3	-13.99
938	SLE RA 11	74	24	4695	8.98	1027.74	-8.4
938	SLE RA 12	73	33	4662	8.77	1020.72	-11.84
938	SLE RA 13	72	40	4616	8.58	1010.86	-14.22
938	SLE RA 14	75	24	4745	9.13	1038.29	-8.64
938	SLE RA 15	74	34	4712	8.93	1031.27	-12.08
938	SLE RA 16	75	24	4720	9.07	1033.1	-8.72
938	SLE RA 17	74	34	4687	8.87	1026.08	-12.16
938	SLE RA 18	74	24	4761	9.05	1041.9	-8.52
938	SLE RA 19	73	34	4729	8.84	1034.89	-11.96
938	SLE RA 20	75	25	4811	9.2	1052.45	-8.76
938	SLE RA 21	74	34	4779	9	1045.44	-12.2
938	SLE FR 1	70	21	4290	8.11	942.22	-7.61
938	SLE FR 2	69	25	4279	8.04	939.88	-8.76
938	SLE FR 3	70	22	4310	8.17	946.44	-7.7
938	SLE FR 4	71	25	4421	8.32	969.78	-9.03
938	SLE FR 5	71	22	4451	8.45	976.34	-7.98
938	SLE FR 6	72	23	4526	8.58	992.06	-8.06
938	SLE QP 1	70	21	4290	8.11	942.22	-7.61
938	SLE QP 2	71	22	4431	8.39	972.12	-7.88
938	SLD 1	440	81	2720	2.59	617.84	-28.52
938	SLD 2	379	205	2618	1.94	596.23	-71.66
938	SLD 3	470	-233	3930	10.23	880.26	81.01
938	SLD 4	410	-109	3827	9.57	858.65	37.87
938	SLD 5	145	494	2101	-4.81	471.58	-172.7
938	SLD 6	106	574	2035	-5.24	457.6	-200.61
938	SLD 7	248	-552	6133	20.63	1346.32	192.38
938	SLD 8	209	-471	6067	20.21	1332.34	164.47
938	SLD 9	-67	516	2796	-3.42	611.91	-180.24
938	SLD 10	-106	596	2730	-3.85	597.93	-208.15
938	SLD 11	36	-530	6828	22.02	1486.65	184.85
938	SLD 12	-3	-450	6761	21.59	1472.67	156.94
938	SLD 13	-269	153	5035	7.22	1085.6	-53.63
938	SLD 14	-329	277	4933	6.56	1063.99	-96.77
938	SLD 15	-238	-161	6245	14.85	1348.02	55.89
938	SLD 16	-298	-37	6142	14.19	1326.41	12.75
938	SLV 1	646	133	1684	-1.15	402.47	-46.66
938	SLV 2	552	328	1523	-2.18	368.45	-114.59
938	SLV 3	699	-398	3728	11.75	845.96	138.46
938	SLV 4	604	-202	3567	10.72	811.93	70.54
938	SLV 5	182	823	537	-13.84	134.96	-287.61
938	SLV 6	118	954	428	-14.54	112.05	-333.35
938	SLV 7	356	-944	7351	29.16	1613.24	329.47
938	SLV 8	292	-813	7242	28.46	1590.34	283.74
938	SLV 9	-150	857	1620	-11.68	353.91	-299.5
938	SLV 10	-214	989	1512	-12.37	331	-345.24
938	SLV 11	23	-910	8434	31.32	1832.2	317.58
938	SLV 12	-41	-779	8326	30.62	1809.29	271.85
938	SLV 13	-462	247	5296	6.07	1132.31	-86.3
938	SLV 14	-557	442	5135	5.03	1098.29	-154.23
938	SLV 15	-410	-284	7340	18.97	1575.8	98.82
938	SLV 16	-505	-88	7179	17.93	1541.77	30.9
938	SLV FO 1	704	144	1409	-2.1	345.51	-50.54
938	SLV FO 2	600	358	1232	-3.24	308.08	-125.26
938	SLV FO 3	761	-440	3658	12.09	833.34	153.1
938	SLV FO 4	657	-225	3480	10.95	795.91	78.38
938	SLV FO 5	193	903	147	-16.06	51.24	-315.59
938	SLV FO 6	123	1048	28	-16.83	26.04	-365.89
938	SLV FO 7	384	-1041	7643	31.23	1677.36	363.21
938	SLV FO 8	314	-896	7523	30.47	1652.16	312.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
938	SLV FO 9	-173	941	1339	-13.68	292.09	-328.67
938	SLV FO 10	-243	1085	1220	-14.45	266.89	-378.97
938	SLV FO 11	19	-1003	8835	33.61	1918.2	350.13
938	SLV FO 12	-52	-859	8715	32.85	1893.01	299.82
938	SLV FO 13	-515	269	5382	5.83	1148.33	-94.14
938	SLV FO 14	-620	484	5205	4.7	1110.91	-168.86
938	SLV FO 15	-458	-314	7631	20.02	1636.17	109.5
938	SLV FO 16	-562	-99	7454	18.88	1598.74	34.78
938	CRTFP Ux+	0	0	0	0	0	0
938	CRTFP Ux-	0	0	0	0	0	0
938	CRTFP Uy+	0	0	0	0	0	0
938	CRTFP Uy-	0	0	0	0	0	0
939	SLU 1	-14	129	8980	10	13.17	13.71
939	SLU 2	-12	190	8841	-4.12	13.1	13.77
939	SLU 3	-14	132	9220	14.27	13.59	14.15
939	SLU 4	-12	168	9136	5.8	13.55	14.19
939	SLU 5	-11	191	9001	-1.1	13.38	14.05
939	SLU 6	-13	133	9380	17.3	13.88	14.42
939	SLU 7	-12	169	9296	8.83	13.84	14.46
939	SLU 8	-13	131	9300	16.05	13.74	14.26
939	SLU 9	-11	168	9216	7.58	13.7	14.29
939	SLU 10	-14	201	10004	-6.66	14.73	15.48
939	SLU 11	-17	143	10383	11.74	15.22	15.86
939	SLU 12	-15	179	10300	3.26	15.18	15.9
939	SLU 13	-14	202	10164	-3.64	15.01	15.76
939	SLU 14	-16	144	10543	14.76	15.51	16.14
939	SLU 15	-14	180	10459	6.29	15.47	16.17
939	SLU 16	-15	142	10463	13.51	15.37	15.97
939	SLU 17	-14	179	10380	5.04	15.32	16.01
939	SLU 18	-18	145	10642	6.37	15.49	16.15
939	SLU 19	-17	181	10558	-2.1	15.45	16.19
939	SLU 20	-17	146	10802	9.4	15.78	16.43
939	SLU 21	-16	182	10718	0.92	15.74	16.47
939	SLU 22	-17	147	10496	18.47	15.34	16.15
939	SLU 23	-14	208	10357	4.34	15.27	16.21
939	SLU 24	-17	150	10736	22.74	15.77	16.59
939	SLU 25	-15	186	10652	14.27	15.73	16.63
939	SLU 26	-14	209	10517	7.37	15.56	16.49
939	SLU 27	-16	151	10895	25.77	16.06	16.86
939	SLU 28	-14	188	10812	17.3	16.01	16.9
939	SLU 29	-15	149	10816	24.52	15.91	16.7
939	SLU 30	-14	186	10732	16.05	15.87	16.74
939	SLU 31	-17	219	11520	1.8	16.9	17.92
939	SLU 32	-19	161	11899	20.2	17.4	18.3
939	SLU 33	-18	198	11815	11.73	17.36	18.34
939	SLU 34	-16	220	11680	4.83	17.19	18.2
939	SLU 35	-18	162	12059	23.23	17.69	18.58
939	SLU 36	-17	199	11975	14.76	17.64	18.62
939	SLU 37	-18	160	11979	21.98	17.54	18.41
939	SLU 38	-16	197	11895	13.51	17.5	18.45
939	SLU 39	-21	163	12157	14.84	17.67	18.59
939	SLU 40	-19	199	12074	6.36	17.63	18.63
939	SLU 41	-20	164	12317	17.86	17.96	18.87
939	SLU 42	-18	201	12234	9.39	17.92	18.91
939	SLU 43	-18	161	11154	10.09	16.37	16.98
939	SLU 44	-15	222	11015	-4.03	16.3	17.04
939	SLU 45	-17	164	11394	14.37	16.8	17.42
939	SLU 46	-16	201	11311	5.9	16.76	17.46
939	SLU 47	-14	224	11175	-1	16.59	17.32
939	SLU 48	-17	165	11554	17.4	17.08	17.7
939	SLU 49	-15	202	11471	8.92	17.04	17.73
939	SLU 50	-16	163	11474	16.15	16.94	17.53
939	SLU 51	-15	200	11391	7.67	16.9	17.57
939	SLU 52	-18	234	12179	-6.57	17.93	18.76
939	SLU 53	-20	175	12557	11.83	18.43	19.13
939	SLU 54	-18	212	12474	3.36	18.38	19.17
939	SLU 55	-17	235	12338	-3.54	18.21	19.03
939	SLU 56	-19	176	12717	14.86	18.71	19.41
939	SLU 57	-18	213	12634	6.38	18.67	19.45
939	SLU 58	-19	174	12637	13.61	18.57	19.24
939	SLU 59	-17	211	12554	5.13	18.53	19.28
939	SLU 60	-22	177	12816	6.47	18.7	19.43
939	SLU 61	-20	214	12733	-2.01	18.66	19.47
939	SLU 62	-21	178	12976	9.49	18.98	19.7
939	SLU 63	-19	215	12892	1.02	18.94	19.74
939	SLU 64	-21	179	12670	18.56	18.55	19.42
939	SLU 65	-18	241	12531	4.44	18.48	19.49
939	SLU 66	-20	182	12910	22.84	18.98	19.86
939	SLU 67	-18	219	12827	14.37	18.93	19.9
939	SLU 68	-17	242	12691	7.47	18.76	19.76
939	SLU 69	-19	183	13070	25.87	19.26	20.14
939	SLU 70	-18	220	12986	17.39	19.22	20.18
939	SLU 71	-19	182	12990	24.62	19.12	19.97
939	SLU 72	-17	218	12907	16.14	19.08	20.01
939	SLU 73	-20	252	13694	1.9	20.11	21.2
939	SLU 74	-23	193	14073	20.3	20.6	21.58
939	SLU 75	-21	230	13990	11.83	20.56	21.61
939	SLU 76	-20	253	13854	4.93	20.39	21.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
939	SLU 77	-22	194	14233	23.33	20.89	21.85
939	SLU 78	-20	231	14150	14.85	20.85	21.89
939	SLU 79	-22	193	14153	22.08	20.75	21.69
939	SLU 80	-20	229	14070	13.6	20.71	21.72
939	SLU 81	-24	195	14332	14.93	20.88	21.87
939	SLU 82	-23	232	14248	6.46	20.83	21.91
939	SLU 83	-23	196	14492	17.96	21.16	22.14
939	SLU 84	-22	233	14408	9.49	21.12	22.18
939	SLE RA 1	-15	134	9413	12.42	13.79	14.4
939	SLE RA 2	-13	175	9320	3	13.74	14.45
939	SLE RA 3	-15	136	9573	15.27	14.07	14.7
939	SLE RA 4	-14	160	9517	9.62	14.05	14.72
939	SLE RA 5	-13	176	9427	5.02	13.93	14.63
939	SLE RA 6	-14	137	9680	17.29	14.26	14.88
939	SLE RA 7	-13	161	9624	11.64	14.24	14.91
939	SLE RA 8	-14	135	9626	16.45	14.17	14.77
939	SLE RA 9	-13	160	9571	10.8	14.14	14.8
939	SLE RA 10	-15	182	10096	1.31	14.83	15.59
939	SLE RA 11	-17	143	10348	13.58	15.16	15.84
939	SLE RA 12	-16	168	10293	7.93	15.13	15.87
939	SLE RA 13	-15	183	10203	3.33	15.02	15.77
939	SLE RA 14	-16	144	10455	15.59	15.35	16.02
939	SLE RA 15	-15	168	10399	9.94	15.32	16.05
939	SLE RA 16	-16	143	10402	14.76	15.26	15.91
939	SLE RA 17	-15	167	10346	9.11	15.23	15.94
939	SLE RA 18	-18	144	10521	10	15.34	16.03
939	SLE RA 19	-17	169	10465	4.35	15.31	16.06
939	SLE RA 20	-17	145	10627	12.02	15.53	16.22
939	SLE RA 21	-16	170	10572	6.37	15.5	16.24
939	SLE FR 1	-15	134	9413	12.42	13.79	14.4
939	SLE FR 2	-15	142	9395	10.53	13.78	14.41
939	SLE FR 3	-15	134	9456	13.22	13.87	14.48
939	SLE FR 4	-16	145	9727	9.81	14.25	14.9
939	SLE FR 5	-16	137	9788	12.5	14.33	14.97
939	SLE FR 6	-16	139	9967	11.21	14.56	15.22
939	SLE QP 1	-15	134	9413	12.42	13.79	14.4
939	SLE QP 2	-16	137	9745	11.69	14.25	14.89
939	SLD 1	1269	570	9159	-105.99	14.55	0.59
939	SLD 2	1097	512	9176	-99.17	14.69	12.49
939	SLD 3	1235	-194	11285	102.06	15.71	-0.64
939	SLD 4	1064	-252	11302	108.88	15.85	11.26
939	SLD 5	450	1436	6342	-340.34	12.56	10.4
939	SLD 6	339	1399	6353	-335.93	12.65	18.1
939	SLD 7	339	-1111	13429	353.16	16.42	6.3
939	SLD 8	228	-1149	13440	357.57	16.52	14
939	SLD 9	-260	1423	6051	-334.19	11.99	15.78
939	SLD 10	-371	1386	6062	-329.78	12.08	23.48
939	SLD 11	-371	-1125	13138	359.31	15.86	11.68
939	SLD 12	-482	-1162	13149	363.72	15.95	19.38
939	SLD 13	-1096	526	8189	-85.49	12.66	18.53
939	SLD 14	-1267	468	8206	-78.67	12.8	30.42
939	SLD 15	-1129	-238	10315	122.56	13.82	17.3
939	SLD 16	-1301	-296	10332	129.38	13.96	29.19
939	SLV 1	1997	864	8692	-185.84	14.65	-7.51
939	SLV 2	1727	773	8719	-175.1	14.88	11.23
939	SLV 3	1941	-427	12285	165.77	16.61	-9.61
939	SLV 4	1671	-518	12312	176.5	16.84	9.12
939	SLV 5	724	2330	3974	-582.84	11.35	7.87
939	SLV 6	542	2269	3992	-575.62	11.51	20.48
939	SLV 7	536	-1973	15953	589.18	17.9	0.85
939	SLV 8	354	-2035	15971	596.41	18.05	13.46
939	SLV 9	-386	2309	3520	-573.03	10.46	16.33
939	SLV 10	-568	2248	3538	-565.8	10.61	28.94
939	SLV 11	-574	-1995	15499	599	17	9.3
939	SLV 12	-756	-2056	15516	606.23	17.16	21.91
939	SLV 13	-1703	792	7179	-153.12	11.66	20.67
939	SLV 14	-1973	701	7205	-142.38	11.89	39.4
939	SLV 15	-1759	-499	10772	198.49	13.63	18.56
939	SLV 16	-2029	-590	10799	209.22	13.86	37.29
939	SLV FO 1	2198	937	8587	-205.59	14.69	-9.75
939	SLV FO 2	1901	837	8616	-193.78	14.94	10.86
939	SLV FO 3	2136	-484	12540	181.18	16.85	-12.06
939	SLV FO 4	1839	-584	12569	192.99	17.1	8.54
939	SLV FO 5	798	2550	3397	-642.3	11.06	7.17
939	SLV FO 6	598	2482	3417	-634.35	11.23	21.04
939	SLV FO 7	591	-2184	16573	646.93	18.26	-0.56
939	SLV FO 8	391	-2252	16593	654.88	18.43	13.32
939	SLV FO 9	-423	2526	2898	-631.5	10.08	16.47
939	SLV FO 10	-623	2459	2918	-623.55	10.25	30.34
939	SLV FO 11	-630	-2208	16074	657.73	17.27	8.74
939	SLV FO 12	-830	-2275	16094	665.68	17.45	22.61
939	SLV FO 13	-1871	858	6922	-169.6	11.41	21.25
939	SLV FO 14	-2168	758	6951	-157.79	11.66	41.85
939	SLV FO 15	-1933	-562	10875	217.17	13.56	18.93
939	SLV FO 16	-2230	-662	10904	228.98	13.82	39.53
939	CRTFP Ux+	0	0	0	0	0	0
939	CRTFP Ux-	0	0	0	0	0	0
939	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
939	CRTFP Uy-	0	0	0	0	0	0
940	SLU 1	-53	-6	3453	5.99	-525.82	-1.4
940	SLU 2	-51	14	3385	5.62	-514.89	3.61
940	SLU 3	-55	-7	3552	6.23	-540.35	-1.57
940	SLU 4	-54	5	3511	6.01	-533.79	1.44
940	SLU 5	-52	14	3451	5.79	-524.69	3.54
940	SLU 6	-55	-7	3619	6.39	-550.15	-1.64
940	SLU 7	-54	5	3578	6.17	-543.59	1.37
940	SLU 8	-55	-7	3586	6.32	-545.41	-1.54
940	SLU 9	-54	5	3545	6.1	-538.86	1.47
940	SLU 10	-56	15	3809	6.41	-577.2	3.75
940	SLU 11	-59	-6	3976	7.01	-602.66	-1.43
940	SLU 12	-58	6	3935	6.79	-596.1	1.58
940	SLU 13	-57	14	3875	6.58	-587	3.68
940	SLU 14	-60	-7	4042	7.18	-612.45	-1.5
940	SLU 15	-59	5	4002	6.96	-605.9	1.51
940	SLU 16	-59	-6	4010	7.11	-607.72	-1.41
940	SLU 17	-58	6	3969	6.89	-601.16	1.6
940	SLU 18	-60	-5	4059	7.12	-614.83	-1.21
940	SLU 19	-58	7	4018	6.9	-608.27	1.8
940	SLU 20	-60	-6	4125	7.28	-624.63	-1.28
940	SLU 21	-59	6	4084	7.06	-618.07	1.73
940	SLU 22	-61	-9	4031	7.21	-610.99	-2.03
940	SLU 23	-59	11	3963	6.84	-600.06	2.99
940	SLU 24	-62	-9	4130	7.44	-625.52	-2.19
940	SLU 25	-61	3	4089	7.22	-618.96	0.82
940	SLU 26	-60	11	4030	7	-609.86	2.92
940	SLU 27	-63	-10	4197	7.61	-635.32	-2.26
940	SLU 28	-62	2	4156	7.38	-628.76	0.75
940	SLU 29	-62	-9	4164	7.53	-630.59	-2.17
940	SLU 30	-61	3	4123	7.31	-624.03	0.85
940	SLU 31	-63	12	4387	7.63	-662.37	3.13
940	SLU 32	-66	-9	4554	8.23	-687.83	-2.05
940	SLU 33	-65	3	4513	8.01	-681.27	0.96
940	SLU 34	-64	12	4454	7.79	-672.17	3.06
940	SLU 35	-67	-9	4621	8.39	-697.63	-2.12
940	SLU 36	-66	3	4580	8.17	-691.07	0.89
940	SLU 37	-67	-9	4588	8.32	-692.89	-2.03
940	SLU 38	-65	3	4547	8.1	-686.34	0.98
940	SLU 39	-67	-8	4637	8.33	-700	-1.83
940	SLU 40	-66	4	4596	8.11	-693.44	1.18
940	SLU 41	-68	-8	4703	8.5	-709.8	-1.9
940	SLU 42	-67	4	4663	8.28	-703.24	1.11
940	SLU 43	-67	-7	4291	7.37	-654.36	-1.61
940	SLU 44	-65	13	4222	7.01	-643.43	3.41
940	SLU 45	-68	-8	4390	7.61	-668.89	-1.77
940	SLU 46	-67	4	4349	7.39	-662.33	1.24
940	SLU 47	-66	13	4289	7.17	-653.23	3.34
940	SLU 48	-69	-8	4456	7.77	-678.69	-1.84
940	SLU 49	-68	4	4415	7.55	-672.13	1.17
940	SLU 50	-68	-8	4424	7.7	-673.96	-1.75
940	SLU 51	-67	4	4383	7.48	-667.4	1.26
940	SLU 52	-69	14	4646	7.79	-705.74	3.54
940	SLU 53	-73	-7	4814	8.39	-731.2	-1.64
940	SLU 54	-71	5	4773	8.17	-724.64	1.37
940	SLU 55	-70	13	4713	7.96	-715.54	3.47
940	SLU 56	-73	-8	4880	8.56	-741	-1.71
940	SLU 57	-72	5	4839	8.34	-734.44	1.3
940	SLU 58	-73	-7	4848	8.49	-736.26	-1.61
940	SLU 59	-72	5	4807	8.27	-729.71	1.4
940	SLU 60	-73	-6	4896	8.5	-743.37	-1.42
940	SLU 61	-72	6	4855	8.28	-736.82	1.59
940	SLU 62	-74	-7	4963	8.66	-753.17	-1.49
940	SLU 63	-73	5	4922	8.44	-746.61	1.53
940	SLU 64	-74	-10	4869	8.59	-739.53	-2.23
940	SLU 65	-72	10	4801	8.22	-728.6	2.78
940	SLU 66	-76	-10	4968	8.82	-754.06	-2.4
940	SLU 67	-74	2	4927	8.6	-747.51	0.61
940	SLU 68	-73	10	4867	8.38	-738.4	2.71
940	SLU 69	-76	-11	5034	8.99	-763.86	-2.47
940	SLU 70	-75	1	4994	8.77	-757.3	0.54
940	SLU 71	-76	-10	5002	8.92	-759.13	-2.37
940	SLU 72	-75	2	4961	8.69	-752.57	0.64
940	SLU 73	-77	11	5225	9.01	-790.91	2.92
940	SLU 74	-80	-10	5392	9.61	-816.37	-2.26
940	SLU 75	-79	2	5351	9.39	-809.81	0.75
940	SLU 76	-77	11	5291	9.17	-800.71	2.85
940	SLU 77	-81	-10	5458	9.77	-826.17	-2.33
940	SLU 78	-80	2	5417	9.55	-819.61	0.68
940	SLU 79	-80	-10	5426	9.7	-821.44	-2.24
940	SLU 80	-79	2	5385	9.48	-814.88	0.77
940	SLU 81	-80	-9	5475	9.71	-828.54	-2.04
940	SLU 82	-79	3	5434	9.49	-821.99	0.97
940	SLU 83	-81	-9	5541	9.88	-838.34	-2.11
940	SLU 84	-80	3	5500	9.66	-831.79	0.9
940	SLE RA 1	-55	-7	3618	6.34	-550.15	-1.58
940	SLE RA 2	-54	7	3573	6.09	-542.87	1.76
940	SLE RA 3	-56	-7	3684	6.5	-559.84	-1.69

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
940	SLE RA 4	-56	1	3657	6.35	-555.47	0.32
940	SLE RA 5	-55	6	3617	6.2	-549.4	1.72
940	SLE RA 6	-57	-8	3729	6.6	-566.37	-1.74
940	SLE RA 7	-56	1	3701	6.46	-562	0.27
940	SLE RA 8	-56	-7	3707	6.56	-563.22	-1.67
940	SLE RA 9	-56	1	3680	6.41	-558.84	0.33
940	SLE RA 10	-57	7	3855	6.62	-584.41	1.86
940	SLE RA 11	-59	-7	3967	7.02	-601.38	-1.6
940	SLE RA 12	-59	1	3940	6.87	-597.01	0.41
940	SLE RA 13	-58	7	3900	6.73	-590.94	1.81
940	SLE RA 14	-60	-7	4011	7.13	-607.91	-1.65
940	SLE RA 15	-59	1	3984	6.98	-603.54	0.36
940	SLE RA 16	-59	-7	3990	7.08	-604.75	-1.58
940	SLE RA 17	-59	1	3962	6.94	-600.38	0.42
940	SLE RA 18	-60	-6	4022	7.09	-609.49	-1.45
940	SLE RA 19	-59	2	3995	6.94	-605.12	0.56
940	SLE RA 20	-60	-7	4066	7.2	-616.03	-1.5
940	SLE RA 21	-59	1	4039	7.05	-611.65	0.51
940	SLE FR 1	-55	-7	3618	6.34	-550.15	-1.58
940	SLE FR 2	-55	-4	3609	6.29	-548.69	-0.91
940	SLE FR 3	-56	-7	3636	6.38	-552.76	-1.6
940	SLE FR 4	-56	-4	3730	6.52	-566.5	-0.87
940	SLE FR 5	-57	-7	3757	6.61	-570.57	-1.56
940	SLE FR 6	-58	-7	3820	6.71	-579.82	-1.52
940	SLE QP 1	-55	-7	3618	6.34	-550.15	-1.58
940	SLE QP 2	-57	-7	3739	6.56	-567.95	-1.54
940	SLD 1	275	141	4231	5.59	-629.11	35.02
940	SLD 2	223	41	4307	6.04	-641.63	10.15
940	SLD 3	250	-113	5242	11.03	-790.28	-28.34
940	SLD 4	198	-214	5319	11.48	-802.8	-53.21
940	SLD 5	90	441	2339	-2.04	-339.69	109.83
940	SLD 6	56	376	2388	-1.75	-347.79	93.74
940	SLD 7	6	-407	5711	16.06	-876.92	-101.36
940	SLD 8	-27	-472	5761	16.36	-885.02	-117.45
940	SLD 9	-86	459	1718	-3.23	-250.89	114.37
940	SLD 10	-120	394	1767	-2.94	-258.99	98.27
940	SLD 11	-170	-389	5090	14.88	-788.12	-96.83
940	SLD 12	-203	-454	5140	15.17	-796.22	-112.92
940	SLD 13	-312	200	2160	1.65	-333.11	50.13
940	SLD 14	-364	100	2236	2.1	-345.63	25.25
940	SLD 15	-337	-54	3172	7.08	-494.28	-13.23
940	SLD 16	-389	-155	3248	7.54	-506.8	-38.11
940	SLV 1	465	241	4440	4.69	-652.82	59.71
940	SLV 2	383	83	4560	5.4	-672.53	20.54
940	SLV 3	423	-189	6149	13.87	-925.1	-47.35
940	SLV 4	341	-347	6269	14.58	-944.81	-86.52
940	SLV 5	179	749	1335	-8.05	-176.78	186.52
940	SLV 6	124	643	1416	-7.57	-190.05	160.15
940	SLV 7	38	-684	7032	22.54	-1084.38	-170.35
940	SLV 8	-17	-791	7113	23.02	-1097.65	-196.72
940	SLV 9	-97	777	366	-9.89	-38.26	193.64
940	SLV 10	-152	671	447	-9.42	-51.53	167.27
940	SLV 11	-238	-656	6063	20.7	-945.86	-163.23
940	SLV 12	-293	-763	6144	21.18	-959.13	-189.6
940	SLV 13	-454	334	1209	-1.45	-191.1	83.44
940	SLV 14	-536	176	1330	-0.74	-210.81	44.27
940	SLV 15	-496	-96	2918	7.72	-463.38	-23.63
940	SLV 16	-578	-254	3039	8.44	-483.09	-62.79
940	SLV FO 1	517	265	4510	4.51	-661.31	65.83
940	SLV FO 2	427	92	4642	5.29	-682.99	22.75
940	SLV FO 3	470	-208	6390	14.6	-960.81	-51.94
940	SLV FO 4	381	-381	6522	15.38	-982.49	-95.02
940	SLV FO 5	203	825	1094	-9.51	-137.66	205.32
940	SLV FO 6	142	708	1184	-8.98	-152.26	176.32
940	SLV FO 7	48	-752	7361	24.14	-1136.02	-187.23
940	SLV FO 8	-13	-869	7450	24.67	-1150.61	-216.24
940	SLV FO 9	-100	856	28	-11.54	14.71	213.15
940	SLV FO 10	-161	738	118	-11.01	0.11	184.15
940	SLV FO 11	-256	-721	6295	22.11	-983.65	-179.4
940	SLV FO 12	-316	-838	6384	22.64	-998.25	-208.41
940	SLV FO 13	-494	368	956	-2.26	-153.41	91.93
940	SLV FO 14	-584	194	1089	-1.47	-175.09	48.85
940	SLV FO 15	-540	-105	2836	7.84	-452.92	-25.83
940	SLV FO 16	-630	-279	2969	8.62	-474.6	-68.92
940	CRTFP Ux+	0	0	0	0	0	0
940	CRTFP Ux-	0	0	0	0	0	0
940	CRTFP Uy+	0	0	0	0	0	0
940	CRTFP Uy-	0	0	0	0	0	0
943	SLU 1	93	33	5621	-155.59	25.04	3.03
943	SLU 2	89	58	5507	-152.71	23.72	2.92
943	SLU 3	96	34	5781	-159.98	26.11	3.13
943	SLU 4	94	49	5713	-158.25	25.32	3.07
943	SLU 5	92	59	5616	-155.67	24.43	2.99
943	SLU 6	98	34	5890	-162.95	26.81	3.2
943	SLU 7	96	49	5821	-161.22	26.03	3.13
943	SLU 8	98	34	5837	-161.52	26.45	3.16
943	SLU 9	96	49	5769	-159.79	25.66	3.1
943	SLU 10	96	63	6228	-172.76	27.67	3.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
943	SLU 11	102	38	6502	-180.04	30.06	3.34
943	SLU 12	100	53	6434	-178.31	29.27	3.28
943	SLU 13	98	63	6337	-175.73	28.37	3.21
943	SLU 14	105	38	6611	-183.01	30.76	3.41
943	SLU 15	103	54	6543	-181.28	29.97	3.35
943	SLU 16	104	38	6559	-181.58	30.39	3.38
943	SLU 17	102	53	6491	-179.85	29.6	3.32
943	SLU 18	102	39	6651	-184.24	30.67	3.33
943	SLU 19	100	54	6583	-182.51	29.88	3.27
943	SLU 20	104	40	6760	-187.21	31.38	3.4
943	SLU 21	102	55	6691	-185.48	30.59	3.34
943	SLU 22	105	37	6587	-182.28	30.68	3.46
943	SLU 23	101	63	6473	-179.39	29.36	3.35
943	SLU 24	108	38	6747	-186.67	31.75	3.56
943	SLU 25	106	53	6679	-184.94	30.96	3.5
943	SLU 26	104	63	6582	-182.36	30.07	3.42
943	SLU 27	111	38	6856	-189.64	32.46	3.63
943	SLU 28	109	54	6788	-187.91	31.67	3.56
943	SLU 29	110	38	6804	-188.21	32.09	3.59
943	SLU 30	108	53	6736	-186.48	31.3	3.53
943	SLU 31	108	67	7195	-199.45	33.31	3.57
943	SLU 32	115	42	7469	-206.73	35.7	3.77
943	SLU 33	113	57	7401	-205	34.91	3.71
943	SLU 34	110	67	7303	-202.42	34.01	3.64
943	SLU 35	117	43	7577	-209.69	36.4	3.84
943	SLU 36	115	58	7509	-207.97	35.61	3.78
943	SLU 37	116	42	7525	-208.27	36.03	3.81
943	SLU 38	114	58	7457	-206.54	35.24	3.75
943	SLU 39	114	43	7617	-210.93	36.32	3.76
943	SLU 40	112	59	7549	-209.2	35.53	3.7
943	SLU 41	117	44	7726	-213.9	37.02	3.83
943	SLU 42	114	59	7658	-212.17	36.23	3.77
943	SLU 43	116	41	6975	-193.11	30.61	3.79
943	SLU 44	113	67	6862	-190.23	29.3	3.68
943	SLU 45	120	42	7136	-197.51	31.69	3.89
943	SLU 46	117	57	7068	-195.78	30.9	3.83
943	SLU 47	115	67	6970	-193.2	30	3.75
943	SLU 48	122	42	7244	-200.47	32.39	3.96
943	SLU 49	120	58	7176	-198.74	31.6	3.89
943	SLU 50	121	42	7192	-199.04	32.02	3.92
943	SLU 51	119	58	7124	-197.32	31.23	3.86
943	SLU 52	119	71	7583	-210.29	33.24	3.9
943	SLU 53	126	46	7857	-217.57	35.63	4.1
943	SLU 54	124	62	7789	-215.84	34.84	4.04
943	SLU 55	122	72	7692	-213.25	33.95	3.97
943	SLU 56	128	47	7966	-220.53	36.34	4.17
943	SLU 57	126	62	7898	-218.8	35.55	4.11
943	SLU 58	128	47	7914	-219.1	35.97	4.14
943	SLU 59	126	62	7846	-217.37	35.18	4.08
943	SLU 60	125	48	8006	-221.77	36.25	4.09
943	SLU 61	123	63	7938	-220.04	35.46	4.03
943	SLU 62	128	48	8114	-224.73	36.95	4.16
943	SLU 63	126	63	8046	-223	36.16	4.1
943	SLU 64	129	46	7942	-219.8	36.25	4.22
943	SLU 65	125	71	7828	-216.92	34.94	4.11
943	SLU 66	132	46	8102	-224.2	37.33	4.32
943	SLU 67	130	62	8034	-222.47	36.54	4.26
943	SLU 68	128	71	7937	-219.89	35.64	4.18
943	SLU 69	134	47	8211	-227.16	38.03	4.39
943	SLU 70	132	62	8143	-225.43	37.24	4.32
943	SLU 71	133	46	8159	-225.73	37.66	4.35
943	SLU 72	131	62	8090	-224	36.87	4.29
943	SLU 73	131	75	8550	-236.98	38.89	4.33
943	SLU 74	138	51	8824	-244.25	41.27	4.53
943	SLU 75	136	66	8755	-242.53	40.49	4.47
943	SLU 76	134	76	8658	-239.94	39.59	4.4
943	SLU 77	141	51	8932	-247.22	41.98	4.6
943	SLU 78	139	66	8864	-245.49	41.19	4.54
943	SLU 79	140	51	8880	-245.79	41.61	4.57
943	SLU 80	138	66	8812	-244.06	40.82	4.51
943	SLU 81	138	52	8972	-248.46	41.89	4.52
943	SLU 82	136	67	8904	-246.73	41.1	4.46
943	SLU 83	140	52	9081	-251.42	42.6	4.59
943	SLU 84	138	68	9013	-249.69	41.81	4.53
943	SLE RA 1	96	34	5897	-163.21	26.65	3.15
943	SLE RA 2	94	51	5821	-161.29	25.77	3.08
943	SLE RA 3	98	35	6004	-166.14	27.36	3.22
943	SLE RA 4	97	45	5958	-164.99	26.84	3.18
943	SLE RA 5	96	51	5893	-163.27	26.24	3.13
943	SLE RA 6	100	35	6076	-168.12	27.83	3.26
943	SLE RA 7	99	45	6031	-166.97	27.31	3.22
943	SLE RA 8	99	35	6041	-167.17	27.59	3.24
943	SLE RA 9	98	45	5996	-166.01	27.06	3.2
943	SLE RA 10	98	54	6302	-174.66	28.4	3.22
943	SLE RA 11	103	37	6485	-179.51	29.99	3.36
943	SLE RA 12	101	48	6439	-178.36	29.47	3.32
943	SLE RA 13	100	54	6374	-176.64	28.87	3.27
943	SLE RA 14	104	38	6557	-181.49	30.46	3.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
943	SLE RA 15	103	48	6511	-180.34	29.94	3.36
943	SLE RA 16	104	38	6522	-180.54	30.22	3.38
943	SLE RA 17	102	48	6477	-179.39	29.69	3.34
943	SLE RA 18	102	38	6584	-182.32	30.41	3.35
943	SLE RA 19	101	48	6538	-181.16	29.88	3.31
943	SLE RA 20	104	39	6656	-184.29	30.88	3.4
943	SLE RA 21	103	49	6611	-183.14	30.35	3.36
943	SLE FR 1	96	34	5897	-163.21	26.65	3.15
943	SLE FR 2	96	37	5881	-162.83	26.47	3.14
943	SLE FR 3	97	34	5926	-164	26.84	3.17
943	SLE FR 4	98	39	6088	-168.56	27.6	3.2
943	SLE FR 5	99	35	6132	-169.73	27.96	3.23
943	SLE FR 6	99	36	6240	-172.76	28.53	3.25
943	SLE QP 1	96	34	5897	-163.21	26.65	3.15
943	SLE QP 2	98	35	6103	-168.94	27.78	3.21
943	SLD 1	606	185	4600	-129.98	15.2	13.62
943	SLD 2	518	262	4498	-127.31	16.62	12.8
943	SLD 3	657	-143	6314	-173.61	34.3	15.09
943	SLD 4	569	-66	6212	-170.94	35.72	14.27
943	SLD 5	188	564	3070	-91.55	-5.21	4.25
943	SLD 6	131	613	3004	-89.82	-4.29	3.72
943	SLD 7	358	-528	8784	-236.98	58.45	9.14
943	SLD 8	301	-478	8718	-235.25	59.37	8.61
943	SLD 9	-105	549	3488	-102.64	-3.82	-2.19
943	SLD 10	-162	599	3422	-100.91	-2.9	-2.72
943	SLD 11	65	-543	9202	-248.07	59.84	2.7
943	SLD 12	8	-493	9136	-246.34	60.76	2.17
943	SLD 13	-373	136	5993	-166.95	19.84	-7.85
943	SLD 14	-461	213	5891	-164.28	21.25	-8.67
943	SLD 15	-322	-191	7708	-210.58	38.93	-6.38
943	SLD 16	-410	-114	7605	-207.91	40.35	-7.2
943	SLV 1	890	290	3647	-105.32	6.6	19.43
943	SLV 2	751	411	3486	-101.11	8.83	18.14
943	SLV 3	976	-264	6544	-179.06	38.9	21.9
943	SLV 4	838	-143	6383	-174.85	41.13	20.62
943	SLV 5	231	928	1002	-38.81	-27.98	4.56
943	SLV 6	138	1010	894	-35.98	-26.48	3.7
943	SLV 7	518	-916	10659	-284.59	79.68	12.81
943	SLV 8	425	-835	10550	-281.76	81.18	11.95
943	SLV 9	-229	905	1655	-56.13	-25.63	-5.52
943	SLV 10	-322	987	1547	-53.29	-24.13	-6.39
943	SLV 11	58	-939	11311	-301.91	82.03	2.73
943	SLV 12	-35	-858	11203	-299.08	83.53	1.86
943	SLV 13	-642	213	5822	-163.04	14.42	-14.19
943	SLV 14	-780	334	5662	-158.83	16.65	-15.48
943	SLV 15	-555	-340	8719	-236.77	46.72	-11.72
943	SLV 16	-694	-219	8558	-232.57	48.95	-13.01
943	SLV FO 1	969	315	3401	-98.96	4.49	21.05
943	SLV FO 2	817	448	3225	-94.33	6.94	19.63
943	SLV FO 3	1064	-293	6588	-180.07	40.01	23.77
943	SLV FO 4	912	-160	6411	-175.44	42.46	22.36
943	SLV FO 5	244	1018	492	-25.8	-33.55	4.7
943	SLV FO 6	141	1107	373	-22.68	-31.9	3.75
943	SLV FO 7	560	-1011	11114	-296.16	84.87	13.77
943	SLV FO 8	457	-922	10995	-293.04	86.52	12.82
943	SLV FO 9	-261	992	1210	-44.84	-30.97	-6.4
943	SLV FO 10	-364	1082	1091	-41.73	-29.32	-7.35
943	SLV FO 11	55	-1037	11832	-315.21	87.45	2.68
943	SLV FO 12	-48	-947	11713	-312.09	89.1	1.72
943	SLV FO 13	-716	231	5794	-162.45	13.09	-15.94
943	SLV FO 14	-868	364	5617	-157.82	15.54	-17.35
943	SLV FO 15	-621	-378	8981	-243.56	48.61	-13.21
943	SLV FO 16	-773	-245	8804	-238.93	51.06	-14.63
943	CRTFP Ux+	0	0	0	0	0	0
943	CRTFP Ux-	0	0	0	0	0	0
943	CRTFP Uy+	0	0	0	0	0	0
943	CRTFP Uy-	0	0	0	0	0	0
946	SLU 1	-16	38	2413	2.58	290.36	-9.22
946	SLU 2	-16	53	2371	2.31	286.62	-13.07
946	SLU 3	-17	38	2479	2.71	297.34	-9.42
946	SLU 4	-16	48	2454	2.55	295.09	-11.73
946	SLU 5	-16	53	2415	2.4	291.27	-13.16
946	SLU 6	-17	39	2524	2.8	301.99	-9.51
946	SLU 7	-16	48	2499	2.64	299.74	-11.82
946	SLU 8	-17	38	2502	2.76	299.66	-9.4
946	SLU 9	-16	48	2477	2.6	297.42	-11.71
946	SLU 10	-18	56	2683	2.61	319.69	-13.89
946	SLU 11	-19	42	2791	3.01	330.41	-10.24
946	SLU 12	-19	51	2766	2.84	328.16	-12.55
946	SLU 13	-18	57	2727	2.7	324.34	-13.98
946	SLU 14	-19	42	2836	3.1	335.06	-10.33
946	SLU 15	-19	51	2811	2.93	332.81	-12.64
946	SLU 16	-19	42	2814	3.06	332.74	-10.22
946	SLU 17	-19	51	2788	2.89	330.49	-12.53
946	SLU 18	-20	42	2858	3	337.61	-10.39
946	SLU 19	-19	52	2833	2.84	335.36	-12.7
946	SLU 20	-20	43	2903	3.09	342.26	-10.48
946	SLU 21	-20	52	2878	2.93	340.01	-12.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
946	SLU 22	-20	43	2824	3.14	334.04	-10.51
946	SLU 23	-19	58	2782	2.87	330.29	-14.37
946	SLU 24	-20	44	2891	3.27	341.01	-10.72
946	SLU 25	-19	53	2865	3.11	338.76	-13.03
946	SLU 26	-19	59	2826	2.96	334.94	-14.46
946	SLU 27	-20	44	2935	3.36	345.66	-10.81
946	SLU 28	-19	53	2910	3.2	343.42	-13.12
946	SLU 29	-20	44	2913	3.32	343.34	-10.7
946	SLU 30	-19	53	2888	3.16	341.09	-13.01
946	SLU 31	-21	62	3094	3.17	363.37	-15.19
946	SLU 32	-22	47	3202	3.56	374.09	-11.54
946	SLU 33	-22	56	3177	3.4	371.84	-13.85
946	SLU 34	-21	62	3138	3.25	368.02	-15.28
946	SLU 35	-22	47	3247	3.65	378.74	-11.63
946	SLU 36	-22	57	3222	3.49	376.49	-13.94
946	SLU 37	-22	47	3225	3.61	376.42	-11.52
946	SLU 38	-22	56	3200	3.45	374.17	-13.83
946	SLU 39	-23	48	3269	3.56	381.29	-11.69
946	SLU 40	-23	57	3244	3.4	379.04	-14
946	SLU 41	-23	48	3314	3.65	385.94	-11.78
946	SLU 42	-23	57	3289	3.49	383.69	-14.09
946	SLU 43	-20	47	2996	3.17	362.5	-11.54
946	SLU 44	-20	62	2954	2.9	358.75	-15.39
946	SLU 45	-21	48	3062	3.3	369.47	-11.74
946	SLU 46	-20	57	3037	3.14	367.22	-14.05
946	SLU 47	-20	63	2998	2.99	363.4	-15.48
946	SLU 48	-21	48	3107	3.39	374.12	-11.83
946	SLU 49	-20	57	3082	3.22	371.87	-14.14
946	SLU 50	-20	48	3085	3.35	371.8	-11.72
946	SLU 51	-20	57	3060	3.18	369.55	-14.03
946	SLU 52	-22	66	3266	3.19	391.82	-16.21
946	SLU 53	-23	51	3374	3.59	402.55	-12.56
946	SLU 54	-23	60	3349	3.43	400.3	-14.87
946	SLU 55	-22	66	3310	3.28	396.47	-16.3
946	SLU 56	-23	52	3419	3.68	407.2	-12.65
946	SLU 57	-23	61	3393	3.52	404.95	-14.96
946	SLU 58	-23	51	3397	3.64	404.87	-12.54
946	SLU 59	-22	60	3371	3.48	402.62	-14.85
946	SLU 60	-24	52	3441	3.58	409.75	-12.71
946	SLU 61	-23	61	3416	3.42	407.5	-15.02
946	SLU 62	-24	52	3486	3.67	414.4	-12.8
946	SLU 63	-23	61	3461	3.51	412.15	-15.11
946	SLU 64	-23	52	3407	3.73	406.18	-12.83
946	SLU 65	-23	68	3365	3.46	402.43	-16.69
946	SLU 66	-24	53	3473	3.85	413.15	-13.04
946	SLU 67	-23	62	3448	3.69	410.9	-15.35
946	SLU 68	-23	68	3409	3.55	407.08	-16.78
946	SLU 69	-24	53	3518	3.94	417.8	-13.13
946	SLU 70	-23	63	3493	3.78	415.55	-15.44
946	SLU 71	-24	53	3496	3.9	415.48	-13.02
946	SLU 72	-23	62	3471	3.74	413.23	-15.33
946	SLU 73	-25	71	3677	3.75	435.5	-17.51
946	SLU 74	-26	56	3785	4.15	446.22	-13.86
946	SLU 75	-26	66	3760	3.99	443.97	-16.17
946	SLU 76	-25	71	3721	3.84	440.15	-17.6
946	SLU 77	-26	57	3830	4.24	450.87	-13.95
946	SLU 78	-26	66	3805	4.08	448.62	-16.26
946	SLU 79	-26	56	3808	4.2	448.55	-13.84
946	SLU 80	-26	66	3782	4.04	446.3	-16.15
946	SLU 81	-27	57	3852	4.14	453.43	-14.01
946	SLU 82	-26	66	3827	3.98	451.18	-16.32
946	SLU 83	-27	57	3897	4.23	458.08	-14.1
946	SLU 84	-27	67	3872	4.07	455.83	-16.41
946	SLE RA 1	-17	39	2530	2.74	302.84	-9.59
946	SLE RA 2	-17	49	2502	2.56	300.34	-12.16
946	SLE RA 3	-17	40	2575	2.83	307.49	-9.72
946	SLE RA 4	-17	46	2558	2.72	305.99	-11.26
946	SLE RA 5	-17	50	2532	2.62	303.44	-12.22
946	SLE RA 6	-18	40	2604	2.89	310.59	-9.78
946	SLE RA 7	-17	46	2588	2.78	309.09	-11.32
946	SLE RA 8	-17	40	2590	2.86	309.04	-9.71
946	SLE RA 9	-17	46	2573	2.75	307.54	-11.25
946	SLE RA 10	-18	52	2710	2.76	322.39	-12.7
946	SLE RA 11	-19	42	2783	3.02	329.54	-10.27
946	SLE RA 12	-19	48	2766	2.92	328.04	-11.81
946	SLE RA 13	-18	52	2740	2.82	325.49	-12.77
946	SLE RA 14	-19	42	2812	3.08	332.64	-10.33
946	SLE RA 15	-19	48	2795	2.98	331.14	-11.87
946	SLE RA 16	-19	42	2797	3.06	331.09	-10.26
946	SLE RA 17	-19	48	2781	2.95	329.59	-11.8
946	SLE RA 18	-20	42	2827	3.02	334.34	-10.37
946	SLE RA 19	-19	48	2810	2.91	332.84	-11.91
946	SLE RA 20	-20	42	2857	3.08	337.44	-10.43
946	SLE RA 21	-19	49	2840	2.97	335.94	-11.97
946	SLE FR 1	-17	39	2530	2.74	302.84	-9.59
946	SLE FR 2	-17	41	2525	2.71	302.34	-10.1
946	SLE FR 3	-17	39	2542	2.77	304.08	-9.61
946	SLE FR 4	-18	42	2614	2.79	311.79	-10.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
946	SLE FR 5	-18	40	2631	2.85	313.53	-9.85
946	SLE FR 6	-18	41	2679	2.88	318.59	-9.98
946	SLE QP 1	-17	39	2530	2.74	302.84	-9.59
946	SLE QP 2	-18	40	2619	2.83	312.29	-9.82
946	SLD 1	310	153	2430	0.98	304.59	-38.37
946	SLD 2	262	134	2438	1.11	304.91	-33.52
946	SLD 3	300	-39	3069	4.96	363.38	9.59
946	SLD 4	253	-58	3078	5.08	363.7	14.44
946	SLD 5	103	368	1591	-3.77	220.77	-91.98
946	SLD 6	72	356	1597	-3.69	220.97	-88.84
946	SLD 7	71	-272	3723	9.47	416.72	67.91
946	SLD 8	41	-284	3728	9.55	416.93	71.05
946	SLD 9	-77	364	1510	-3.9	207.66	-90.69
946	SLD 10	-107	352	1516	-3.81	207.86	-87.55
946	SLD 11	-108	-276	3642	9.34	403.61	69.2
946	SLD 12	-139	-288	3648	9.42	403.82	72.33
946	SLD 13	-289	138	2161	0.57	260.89	-34.09
946	SLD 14	-336	119	2169	0.7	261.21	-29.23
946	SLD 15	-298	-54	2800	4.54	319.68	13.88
946	SLD 16	-346	-73	2809	4.67	320	18.73
946	SLV 1	495	229	2282	-0.3	296.43	-57.58
946	SLV 2	421	199	2295	-0.1	296.94	-49.94
946	SLV 3	479	-96	3363	6.41	395.8	23.46
946	SLV 4	405	-125	3376	6.61	396.31	31.09
946	SLV 5	174	594	876	-8.33	156.72	-148.48
946	SLV 6	124	574	885	-8.19	157.07	-143.33
946	SLV 7	121	-487	4479	14.04	487.97	121.64
946	SLV 8	70	-507	4488	14.18	488.31	126.78
946	SLV 9	-107	587	751	-8.53	136.28	-146.42
946	SLV 10	-157	567	760	-8.39	136.62	-141.28
946	SLV 11	-160	-494	4353	13.85	467.52	123.69
946	SLV 12	-210	-514	4362	13.98	467.86	128.83
946	SLV 13	-441	205	1863	-0.96	228.28	-50.74
946	SLV 14	-515	176	1876	-0.76	228.78	-43.1
946	SLV 15	-457	-119	2943	5.76	327.65	30.3
946	SLV 16	-531	-149	2957	5.96	328.16	37.93
946	SLV FO 1	547	247	2248	-0.62	294.84	-62.35
946	SLV FO 2	465	215	2263	-0.4	295.4	-53.95
946	SLV FO 3	529	-109	3437	6.77	404.15	26.78
946	SLV FO 4	447	-141	3452	6.99	404.71	35.19
946	SLV FO 5	194	649	702	-9.45	141.17	-162.34
946	SLV FO 6	138	628	712	-9.3	141.54	-156.68
946	SLV FO 7	135	-540	4665	15.16	505.53	134.78
946	SLV FO 8	79	-561	4675	15.31	505.91	140.44
946	SLV FO 9	-115	641	564	-9.66	118.68	-160.08
946	SLV FO 10	-171	620	574	-9.51	119.05	-154.43
946	SLV FO 11	-174	-548	4527	14.95	483.04	137.04
946	SLV FO 12	-230	-569	4537	15.1	483.42	142.7
946	SLV FO 13	-483	221	1787	-1.33	219.87	-54.83
946	SLV FO 14	-565	189	1802	-1.11	220.43	-46.43
946	SLV FO 15	-501	-135	2976	6.05	329.19	34.31
946	SLV FO 16	-583	-167	2991	6.27	329.74	42.71
946	CRTFP Ux+	0	0	0	0	0	0
946	CRTFP Ux-	0	0	0	0	0	0
946	CRTFP Uy+	0	0	0	0	0	0
946	CRTFP Uy-	0	0	0	0	0	0
948	SLU 1	14	74	4830	6.32	-27.28	0.78
948	SLU 2	13	103	4737	5.83	-27.17	0.8
948	SLU 3	15	75	4960	6.61	-28.07	0.81
948	SLU 4	14	92	4904	6.31	-28.01	0.82
948	SLU 5	14	103	4823	6.02	-27.67	0.81
948	SLU 6	16	75	5046	6.81	-28.58	0.83
948	SLU 7	15	92	4990	6.51	-28.51	0.84
948	SLU 8	16	74	5002	6.71	-28.28	0.82
948	SLU 9	15	92	4946	6.42	-28.21	0.82
948	SLU 10	13	109	5368	6.51	-29.98	1
948	SLU 11	15	80	5590	7.29	-30.89	1.02
948	SLU 12	14	98	5535	7	-30.82	1.03
948	SLU 13	14	109	5454	6.71	-30.48	1.02
948	SLU 14	16	80	5676	7.49	-31.39	1.03
948	SLU 15	15	98	5621	7.2	-31.33	1.04
948	SLU 16	16	79	5632	7.4	-31.1	1.02
948	SLU 17	15	97	5577	7.1	-31.03	1.03
948	SLU 18	14	82	5731	7.29	-31.3	1.07
948	SLU 19	13	99	5675	7	-31.23	1.08
948	SLU 20	15	82	5817	7.49	-31.8	1.09
948	SLU 21	14	99	5761	7.2	-31.73	1.1
948	SLU 22	14	81	5657	7.55	-31.13	1.02
948	SLU 23	14	111	5564	7.06	-31.02	1.03
948	SLU 24	15	82	5786	7.85	-31.93	1.05
948	SLU 25	15	100	5731	7.55	-31.86	1.06
948	SLU 26	15	111	5649	7.26	-31.52	1.05
948	SLU 27	16	82	5872	8.04	-32.43	1.07
948	SLU 28	16	100	5816	7.75	-32.37	1.07
948	SLU 29	16	81	5828	7.95	-32.14	1.05
948	SLU 30	16	99	5773	7.65	-32.07	1.06
948	SLU 31	14	116	6194	7.74	-33.84	1.24
948	SLU 32	15	87	6417	8.53	-34.75	1.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
948	SLU 33	15	105	6361	8.23	-34.68	1.26
948	SLU 34	15	116	6280	7.94	-34.34	1.25
948	SLU 35	16	87	6503	8.73	-35.25	1.27
948	SLU 36	16	105	6447	8.43	-35.18	1.28
948	SLU 37	16	87	6459	8.63	-34.95	1.25
948	SLU 38	16	104	6403	8.34	-34.89	1.26
948	SLU 39	14	89	6557	8.53	-35.16	1.31
948	SLU 40	14	107	6502	8.23	-35.09	1.32
948	SLU 41	15	89	6643	8.73	-35.66	1.32
948	SLU 42	15	107	6588	8.43	-35.59	1.33
948	SLU 43	17	93	5996	7.79	-34.14	0.94
948	SLU 44	17	123	5903	7.3	-34.03	0.95
948	SLU 45	18	94	6125	8.08	-34.94	0.97
948	SLU 46	18	112	6070	7.79	-34.87	0.98
948	SLU 47	18	123	5988	7.49	-34.53	0.97
948	SLU 48	19	94	6211	8.28	-35.44	0.99
948	SLU 49	19	112	6155	7.98	-35.37	0.99
948	SLU 50	19	93	6167	8.19	-35.14	0.97
948	SLU 51	19	111	6112	7.89	-35.07	0.98
948	SLU 52	17	129	6533	7.98	-36.84	1.15
948	SLU 53	18	100	6756	8.76	-37.75	1.17
948	SLU 54	18	117	6700	8.47	-37.69	1.18
948	SLU 55	18	128	6619	8.18	-37.34	1.17
948	SLU 56	19	100	6842	8.96	-38.25	1.19
948	SLU 57	19	117	6786	8.67	-38.19	1.2
948	SLU 58	19	99	6798	8.87	-37.96	1.17
948	SLU 59	19	117	6742	8.57	-37.89	1.18
948	SLU 60	17	101	6896	8.76	-38.16	1.23
948	SLU 61	17	119	6841	8.47	-38.09	1.24
948	SLU 62	18	101	6982	8.96	-38.66	1.24
948	SLU 63	18	119	6927	8.67	-38.6	1.25
948	SLU 64	18	101	6822	9.02	-37.99	1.17
948	SLU 65	18	130	6729	8.53	-37.88	1.19
948	SLU 66	19	102	6952	9.32	-38.79	1.2
948	SLU 67	19	119	6896	9.02	-38.73	1.21
948	SLU 68	19	130	6815	8.73	-38.38	1.2
948	SLU 69	20	102	7038	9.52	-39.29	1.22
948	SLU 70	20	119	6982	9.22	-39.23	1.23
948	SLU 71	20	101	6994	9.42	-39	1.21
948	SLU 72	20	118	6938	9.13	-38.93	1.21
948	SLU 73	18	136	7360	9.21	-40.7	1.39
948	SLU 74	19	107	7583	10	-41.61	1.41
948	SLU 75	19	125	7527	9.7	-41.54	1.42
948	SLU 76	19	136	7446	9.41	-41.2	1.41
948	SLU 77	20	107	7668	10.2	-42.11	1.42
948	SLU 78	20	125	7613	9.9	-42.04	1.43
948	SLU 79	20	106	7625	10.1	-41.81	1.41
948	SLU 80	20	124	7569	9.81	-41.75	1.42
948	SLU 81	18	109	7723	10	-42.02	1.46
948	SLU 82	18	126	7667	9.7	-41.95	1.47
948	SLU 83	19	109	7809	10.2	-42.52	1.48
948	SLU 84	19	126	7753	9.9	-42.45	1.49
948	SLE RA 1	14	76	5066	6.67	-28.38	0.85
948	SLE RA 2	14	96	5004	6.34	-28.3	0.86
948	SLE RA 3	14	76	5153	6.87	-28.91	0.87
948	SLE RA 4	14	88	5115	6.67	-28.87	0.88
948	SLE RA 5	14	96	5061	6.47	-28.64	0.87
948	SLE RA 6	15	76	5210	7	-29.24	0.88
948	SLE RA 7	15	88	5173	6.8	-29.2	0.89
948	SLE RA 8	15	76	5181	6.93	-29.05	0.87
948	SLE RA 9	15	88	5143	6.74	-29	0.88
948	SLE RA 10	14	99	5425	6.8	-30.18	0.99
948	SLE RA 11	14	80	5573	7.32	-30.79	1.01
948	SLE RA 12	14	92	5536	7.12	-30.74	1.01
948	SLE RA 13	14	99	5482	6.93	-30.52	1.01
948	SLE RA 14	15	80	5630	7.45	-31.12	1.02
948	SLE RA 15	15	92	5593	7.26	-31.08	1.02
948	SLE RA 16	15	80	5601	7.39	-30.92	1.01
948	SLE RA 17	15	91	5564	7.19	-30.88	1.01
948	SLE RA 18	14	81	5667	7.32	-31.06	1.04
948	SLE RA 19	14	93	5630	7.12	-31.02	1.05
948	SLE RA 20	14	81	5724	7.45	-31.39	1.05
948	SLE RA 21	14	93	5687	7.26	-31.35	1.06
948	SLE FR 1	14	76	5066	6.67	-28.38	0.85
948	SLE FR 2	14	80	5054	6.6	-28.36	0.85
948	SLE FR 3	14	76	5089	6.72	-28.51	0.85
948	SLE FR 4	14	81	5234	6.8	-29.17	0.91
948	SLE FR 5	14	78	5269	6.92	-29.32	0.91
948	SLE FR 6	14	79	5366	7	-29.72	0.95
948	SLE QP 1	14	76	5066	6.67	-28.38	0.85
948	SLE QP 2	14	78	5246	6.87	-29.18	0.91
948	SLD 1	656	229	4175	2.89	-4.89	-4.34
948	SLD 2	562	261	4170	2.77	-4.78	-1.92
948	SLD 3	666	-145	5591	10.2	-7.19	-4.58
948	SLD 4	572	-112	5587	10.07	-7.08	-2.16
948	SLD 5	208	684	2777	-5.39	-18.43	-0.71
948	SLD 6	147	705	2774	-5.47	-18.36	0.85
948	SLD 7	241	-561	7499	18.97	-26.09	-1.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
948	SLD 8	180	-541	7496	18.89	-26.02	0.03
948	SLD 9	-152	696	2996	-5.16	-32.34	1.78
948	SLD 10	-213	717	2994	-5.24	-32.27	3.35
948	SLD 11	-119	-550	7718	19.2	-40.01	0.96
948	SLD 12	-180	-529	7715	19.12	-39.94	2.53
948	SLD 13	-544	267	4906	3.66	-51.28	3.98
948	SLD 14	-638	300	4901	3.53	-51.17	6.4
948	SLD 15	-534	-106	6322	10.97	-53.58	3.74
948	SLD 16	-629	-74	6318	10.84	-53.47	6.15
948	SLV 1	1019	337	3483	0.15	8.86	-7.3
948	SLV 2	871	388	3476	-0.04	9.03	-3.5
948	SLV 3	1035	-294	5877	12.5	4.97	-7.71
948	SLV 4	887	-243	5870	12.31	5.14	-3.91
948	SLV 5	318	1103	1088	-13.84	-11.91	-1.64
948	SLV 6	218	1138	1083	-13.97	-11.79	0.92
948	SLV 7	373	-1001	9067	27.32	-24.86	-3.01
948	SLV 8	273	-967	9062	27.19	-24.75	-0.45
948	SLV 9	-245	1122	1430	-13.46	-33.62	2.27
948	SLV 10	-345	1156	1425	-13.59	-33.5	4.83
948	SLV 11	-191	-983	9409	27.71	-46.57	0.89
948	SLV 12	-291	-948	9404	27.57	-46.46	3.46
948	SLV 13	-859	398	4623	1.43	-63.51	5.73
948	SLV 14	-1008	449	4616	1.23	-63.34	9.53
948	SLV 15	-843	-233	7017	13.78	-67.4	5.31
948	SLV 16	-991	-182	7009	13.58	-67.22	9.12
948	SLV FO 1	1119	363	3307	-0.52	12.66	-8.12
948	SLV FO 2	956	419	3299	-0.74	12.85	-3.94
948	SLV FO 3	1137	-331	5940	13.07	8.39	-8.58
948	SLV FO 4	974	-275	5932	12.85	8.57	-4.39
948	SLV FO 5	349	1206	672	-15.91	-10.18	-1.89
948	SLV FO 6	239	1244	667	-16.06	-10.05	0.92
948	SLV FO 7	409	-1109	9449	29.37	-24.43	-3.41
948	SLV FO 8	299	-1071	9444	29.22	-24.31	-0.59
948	SLV FO 9	-271	1226	1049	-15.49	-34.06	2.41
948	SLV FO 10	-381	1264	1043	-15.64	-33.93	5.22
948	SLV FO 11	-211	-1089	9825	29.79	-48.31	0.89
948	SLV FO 12	-321	-1051	9820	29.64	-48.19	3.71
948	SLV FO 13	-947	430	4560	0.88	-66.94	6.21
948	SLV FO 14	-1110	486	4553	0.66	-66.75	10.39
948	SLV FO 15	-929	-264	7194	14.47	-71.22	5.75
948	SLV FO 16	-1092	-208	7186	14.25	-71.03	9.94
948	CRTFP Ux+	0	0	0	0	0	0
948	CRTFP Ux-	0	0	0	0	0	0
948	CRTFP Uy+	0	0	0	0	0	0
948	CRTFP Uy-	0	0	0	0	0	0
951	SLU 1	47	14	2888	-193.39	723.21	-1.68
951	SLU 2	45	30	2825	-189.28	707.28	-7.55
951	SLU 3	49	14	2969	-198.79	743.03	-1.7
951	SLU 4	48	24	2931	-196.33	733.46	-5.23
951	SLU 5	47	31	2880	-192.9	720.63	-7.7
951	SLU 6	50	15	3024	-202.41	756.38	-1.85
951	SLU 7	49	25	2986	-199.95	746.82	-5.37
951	SLU 8	50	15	2997	-200.63	749.93	-1.96
951	SLU 9	49	25	2959	-198.16	740.36	-5.49
951	SLU 10	49	32	3175	-212.66	792.77	-7.96
951	SLU 11	52	16	3319	-222.17	828.52	-2.11
951	SLU 12	51	26	3281	-219.71	818.96	-5.64
951	SLU 13	50	33	3229	-216.28	806.13	-8.11
951	SLU 14	53	17	3373	-225.79	841.88	-2.26
951	SLU 15	52	27	3335	-223.33	832.31	-5.78
951	SLU 16	53	17	3346	-224	835.42	-2.37
951	SLU 17	52	27	3309	-221.54	825.86	-5.9
951	SLU 18	52	16	3387	-226.79	845.35	-2.26
951	SLU 19	51	26	3350	-224.33	835.79	-5.79
951	SLU 20	53	17	3442	-230.41	858.71	-2.4
951	SLU 21	52	27	3404	-227.94	849.14	-5.93
951	SLU 22	53	14	3363	-225.11	839.55	-1.3
951	SLU 23	51	30	3300	-221.01	823.62	-7.18
951	SLU 24	55	14	3444	-230.52	859.37	-1.33
951	SLU 25	54	24	3407	-228.05	849.8	-4.86
951	SLU 26	53	31	3355	-224.63	836.97	-7.33
951	SLU 27	56	15	3499	-234.13	872.72	-1.48
951	SLU 28	55	25	3461	-231.67	863.16	-5
951	SLU 29	56	15	3472	-232.35	866.27	-1.59
951	SLU 30	55	25	3434	-229.89	856.7	-5.12
951	SLU 31	55	32	3650	-244.39	909.11	-7.59
951	SLU 32	58	16	3794	-253.9	944.86	-1.74
951	SLU 33	57	26	3756	-251.43	935.3	-5.27
951	SLU 34	56	33	3704	-248.01	922.47	-7.74
951	SLU 35	59	17	3848	-257.51	958.22	-1.89
951	SLU 36	58	27	3811	-255.05	948.66	-5.41
951	SLU 37	59	17	3821	-255.73	951.76	-2
951	SLU 38	58	27	3784	-253.27	942.2	-5.53
951	SLU 39	58	16	3862	-258.51	961.69	-1.89
951	SLU 40	57	26	3825	-256.05	952.13	-5.42
951	SLU 41	59	17	3917	-262.13	975.05	-2.03
951	SLU 42	58	27	3879	-259.67	965.48	-5.56
951	SLU 43	59	18	3591	-240.53	900.29	-2.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
951	SLU 44	58	34	3529	-236.42	884.35	-8.18
951	SLU 45	61	18	3673	-245.93	920.1	-2.33
951	SLU 46	60	28	3635	-243.47	910.54	-5.86
951	SLU 47	59	35	3583	-240.04	897.71	-8.33
951	SLU 48	62	19	3727	-249.55	933.46	-2.48
951	SLU 49	61	29	3689	-247.09	923.9	-6
951	SLU 50	62	19	3700	-247.77	927	-2.59
951	SLU 51	61	29	3663	-245.3	917.44	-6.12
951	SLU 52	61	36	3878	-259.8	969.85	-8.59
951	SLU 53	64	20	4022	-269.31	1005.6	-2.74
951	SLU 54	63	30	3984	-266.85	996.04	-6.27
951	SLU 55	62	37	3933	-263.42	983.2	-8.74
951	SLU 56	65	21	4076	-272.93	1018.95	-2.89
951	SLU 57	64	31	4039	-270.47	1009.39	-6.41
951	SLU 58	65	21	4050	-271.15	1012.5	-3
951	SLU 59	64	31	4012	-268.68	1002.94	-6.53
951	SLU 60	64	20	4091	-273.93	1022.43	-2.89
951	SLU 61	63	30	4053	-271.47	1012.86	-6.42
951	SLU 62	65	21	4145	-277.55	1035.78	-3.03
951	SLU 63	64	31	4107	-275.08	1026.22	-6.56
951	SLU 64	65	18	4067	-272.25	1016.63	-1.93
951	SLU 65	64	34	4004	-268.15	1000.69	-7.81
951	SLU 66	67	18	4148	-277.66	1036.44	-1.96
951	SLU 67	66	28	4110	-275.19	1026.88	-5.49
951	SLU 68	65	35	4058	-271.77	1014.05	-7.95
951	SLU 69	68	19	4202	-281.27	1049.8	-2.11
951	SLU 70	67	29	4164	-278.81	1040.24	-5.63
951	SLU 71	68	19	4175	-279.49	1043.34	-2.22
951	SLU 72	67	29	4138	-277.03	1033.78	-5.75
951	SLU 73	67	36	4353	-291.53	1086.19	-8.22
951	SLU 74	70	20	4497	-301.04	1121.94	-2.37
951	SLU 75	69	30	4460	-298.57	1112.38	-5.9
951	SLU 76	68	37	4408	-295.15	1099.54	-8.36
951	SLU 77	71	21	4552	-304.65	1135.29	-2.52
951	SLU 78	70	31	4514	-302.19	1125.73	-6.04
951	SLU 79	71	21	4525	-302.87	1128.84	-2.63
951	SLU 80	70	31	4487	-300.41	1119.28	-6.16
951	SLU 81	70	21	4566	-305.65	1138.77	-2.52
951	SLU 82	69	30	4528	-303.19	1129.2	-6.05
951	SLU 83	71	21	4620	-309.27	1152.12	-2.66
951	SLU 84	70	31	4583	-306.81	1142.56	-6.19
951	SLE RA 1	49	14	3024	-202.45	756.45	-1.57
951	SLE RA 2	48	25	2982	-199.72	745.83	-5.49
951	SLE RA 3	50	14	3078	-206.06	769.66	-1.59
951	SLE RA 4	49	21	3053	-204.41	763.29	-3.94
951	SLE RA 5	49	25	3018	-202.13	754.73	-5.58
951	SLE RA 6	51	15	3114	-208.47	778.57	-1.68
951	SLE RA 7	50	21	3089	-206.82	772.19	-4.03
951	SLE RA 8	51	15	3096	-207.28	774.26	-1.76
951	SLE RA 9	50	21	3071	-205.64	767.89	-4.11
951	SLE RA 10	50	26	3215	-215.3	802.83	-5.76
951	SLE RA 11	52	15	3311	-221.64	826.66	-1.86
951	SLE RA 12	51	22	3286	-220	820.28	-4.21
951	SLE RA 13	51	26	3251	-217.72	811.73	-5.86
951	SLE RA 14	53	16	3347	-224.05	835.56	-1.96
951	SLE RA 15	52	22	3322	-222.41	829.19	-4.31
951	SLE RA 16	53	16	3329	-222.86	831.26	-2.03
951	SLE RA 17	52	22	3304	-221.22	824.88	-4.38
951	SLE RA 18	52	16	3357	-224.72	837.88	-1.96
951	SLE RA 19	51	22	3331	-223.08	831.5	-4.31
951	SLE RA 20	53	16	3393	-227.13	846.78	-2.06
951	SLE RA 21	52	23	3368	-225.49	840.41	-4.41
951	SLE FR 1	49	14	3024	-202.45	756.45	-1.57
951	SLE FR 2	49	16	3015	-201.91	754.33	-2.35
951	SLE FR 3	49	14	3038	-203.42	760.02	-1.61
951	SLE FR 4	50	17	3115	-208.59	778.76	-2.47
951	SLE FR 5	50	15	3138	-210.1	784.44	-1.72
951	SLE FR 6	50	15	3190	-213.59	797.17	-1.76
951	SLE QP 1	49	14	3024	-202.45	756.45	-1.57
951	SLE QP 2	50	14	3124	-209.13	780.88	-1.69
951	SLD 1	301	54	1875	-126.25	480.74	-3.28
951	SLD 2	257	136	1795	-121.03	460.93	-35.25
951	SLD 3	327	-156	2816	-187.78	719.51	71.68
951	SLD 4	282	-73	2736	-182.57	699.71	39.72
951	SLD 5	94	330	1335	-91.84	332.13	-110.32
951	SLD 6	65	383	1283	-88.47	319.32	-131
951	SLD 7	180	-369	4473	-296.96	1128.05	139.57
951	SLD 8	151	-315	4422	-293.59	1115.24	118.89
951	SLD 9	-51	344	1825	-124.68	446.53	-122.26
951	SLD 10	-80	398	1774	-121.3	433.71	-142.94
951	SLD 11	35	-354	4964	-329.8	1242.45	127.63
951	SLD 12	6	-301	4913	-326.42	1229.63	106.94
951	SLD 13	-183	102	3511	-235.7	862.05	-43.09
951	SLD 14	-227	185	3431	-230.48	842.25	-75.06
951	SLD 15	-157	-108	4452	-297.24	1100.83	31.88
951	SLD 16	-202	-25	4372	-292.02	1081.02	-0.09
951	SLV 1	442	88	1114	-75.85	297.22	-8.66
951	SLV 2	372	219	989	-67.63	266.04	-59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
951	SLV 3	486	-266	2706	-179.85	700.75	118.04
951	SLV 4	415	-136	2580	-171.64	669.57	67.71
951	SLV 5	115	549	131	-12.95	29.59	-186.55
951	SLV 6	67	637	46	-7.42	8.59	-220.44
951	SLV 7	260	-631	5436	-359.62	1374.68	235.79
951	SLV 8	212	-543	5351	-354.09	1353.68	201.9
951	SLV 9	-113	572	896	-64.18	208.08	-205.28
951	SLV 10	-160	660	812	-58.65	187.08	-239.16
951	SLV 11	33	-608	6201	-410.85	1553.17	217.07
951	SLV 12	-15	-521	6117	-405.32	1532.17	183.18
951	SLV 13	-316	164	3667	-246.63	892.2	-71.08
951	SLV 14	-386	295	3541	-238.42	861.01	-121.41
951	SLV 15	-272	-190	5259	-350.63	1295.72	55.62
951	SLV 16	-343	-59	5133	-342.42	1264.54	5.29
951	SLV FO 1	481	95	914	-62.52	248.86	-9.36
951	SLV FO 2	404	239	775	-53.48	214.55	-64.73
951	SLV FO 3	529	-294	2664	-176.92	692.74	130.01
951	SLV FO 4	452	-151	2526	-167.89	658.43	74.65
951	SLV FO 5	121	603	-169	6.67	-45.54	-205.04
951	SLV FO 6	69	699	-262	12.76	-68.64	-242.31
951	SLV FO 7	281	-696	5667	-374.67	1434.06	259.54
951	SLV FO 8	229	-599	5574	-368.58	1410.96	222.26
951	SLV FO 9	-129	628	674	-49.69	150.8	-225.64
951	SLV FO 10	-181	725	580	-43.6	127.7	-262.91
951	SLV FO 11	31	-671	6509	-431.02	1630.4	238.94
951	SLV FO 12	-21	-574	6416	-424.94	1607.3	201.67
951	SLV FO 13	-352	179	3721	-250.38	903.33	-78.02
951	SLV FO 14	-430	323	3583	-241.34	869.02	-133.38
951	SLV FO 15	-304	-210	5472	-364.78	1347.21	61.35
951	SLV FO 16	-382	-67	5334	-355.75	1312.9	5.99
951	CRTFP Ux+	0	0	0	0	0	0
951	CRTFP Ux-	0	0	0	0	0	0
951	CRTFP Uy+	0	0	0	0	0	0
951	CRTFP Uy-	0	0	0	0	0	0
952	SLU 1	-49	-6	3129	-82.33	-577.93	-2.73
952	SLU 2	-47	11	3061	-80.69	-564.92	1.62
952	SLU 3	-51	-6	3220	-84.69	-594.5	-2.91
952	SLU 4	-49	4	3179	-83.71	-586.7	-0.3
952	SLU 5	-48	11	3122	-82.28	-576.12	1.54
952	SLU 6	-51	-7	3282	-86.29	-605.7	-3
952	SLU 7	-50	4	3241	-85.3	-597.9	-0.39
952	SLU 8	-51	-6	3252	-85.51	-600.32	-2.9
952	SLU 9	-50	4	3211	-84.53	-592.51	-0.29
952	SLU 10	-51	12	3446	-90.79	-634.87	1.61
952	SLU 11	-55	-6	3606	-94.8	-664.45	-2.92
952	SLU 12	-53	4	3565	-93.81	-656.65	-0.31
952	SLU 13	-52	12	3508	-92.38	-646.06	1.53
952	SLU 14	-55	-6	3667	-96.39	-675.65	-3.01
952	SLU 15	-54	4	3626	-95.4	-667.84	-0.4
952	SLU 16	-55	-6	3638	-95.62	-670.26	-2.91
952	SLU 17	-54	4	3597	-94.63	-662.46	-0.3
952	SLU 18	-55	-5	3680	-96.77	-677.85	-2.75
952	SLU 19	-54	5	3639	-95.78	-670.05	-0.13
952	SLU 20	-56	-6	3741	-98.36	-689.05	-2.83
952	SLU 21	-54	5	3700	-97.37	-681.24	-0.22
952	SLU 22	-56	-8	3658	-96.13	-674.17	-3.48
952	SLU 23	-54	9	3590	-94.48	-661.16	0.87
952	SLU 24	-58	-9	3750	-98.49	-690.75	-3.66
952	SLU 25	-56	2	3709	-97.5	-682.94	-1.05
952	SLU 26	-55	9	3652	-96.07	-672.36	0.79
952	SLU 27	-58	-9	3811	-100.08	-701.94	-3.75
952	SLU 28	-57	1	3770	-99.09	-694.14	-1.14
952	SLU 29	-58	-9	3781	-99.31	-696.56	-3.65
952	SLU 30	-56	2	3741	-98.32	-688.76	-1.04
952	SLU 31	-58	9	3976	-104.59	-731.11	0.86
952	SLU 32	-62	-8	4135	-108.6	-760.69	-3.68
952	SLU 33	-60	2	4094	-107.61	-752.89	-1.06
952	SLU 34	-59	9	4038	-106.18	-742.3	0.77
952	SLU 35	-62	-9	4197	-110.19	-771.89	-3.76
952	SLU 36	-61	2	4156	-109.2	-764.08	-1.15
952	SLU 37	-62	-8	4167	-109.41	-766.51	-3.66
952	SLU 38	-60	2	4126	-108.43	-758.7	-1.05
952	SLU 39	-62	-8	4209	-110.56	-774.09	-3.5
952	SLU 40	-61	3	4169	-109.58	-766.29	-0.89
952	SLU 41	-63	-8	4271	-112.15	-785.29	-3.58
952	SLU 42	-61	2	4230	-111.17	-777.48	-0.97
952	SLU 43	-62	-7	3886	-102.3	-718.31	-3.29
952	SLU 44	-59	10	3818	-100.66	-705.3	1.06
952	SLU 45	-63	-7	3977	-104.66	-734.89	-3.47
952	SLU 46	-62	3	3936	-103.68	-727.08	-0.86
952	SLU 47	-60	10	3879	-102.25	-716.5	0.98
952	SLU 48	-64	-8	4039	-106.25	-746.08	-3.56
952	SLU 49	-63	3	3998	-105.27	-738.28	-0.95
952	SLU 50	-63	-7	4009	-105.48	-740.7	-3.46
952	SLU 51	-62	3	3968	-104.5	-732.9	-0.85
952	SLU 52	-63	11	4203	-110.76	-775.25	1.05
952	SLU 53	-67	-7	4363	-114.77	-804.83	-3.48
952	SLU 54	-66	3	4322	-113.78	-797.03	-0.87

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
952	SLU 55	-64	11	4265	-112.35	-786.44	0.97
952	SLU 56	-68	-7	4424	-116.36	-816.03	-3.57
952	SLU 57	-67	3	4383	-115.37	-808.22	-0.96
952	SLU 58	-67	-7	4395	-115.59	-810.65	-3.47
952	SLU 59	-66	3	4354	-114.6	-802.84	-0.86
952	SLU 60	-67	-6	4437	-116.74	-818.23	-3.31
952	SLU 61	-66	4	4396	-115.75	-810.43	-0.69
952	SLU 62	-68	-6	4498	-118.33	-829.43	-3.39
952	SLU 63	-67	4	4457	-117.34	-821.62	-0.78
952	SLU 64	-69	-9	4415	-116.1	-814.55	-4.04
952	SLU 65	-66	8	4347	-114.45	-801.54	0.31
952	SLU 66	-70	-10	4507	-118.46	-831.13	-4.22
952	SLU 67	-69	1	4466	-117.47	-823.32	-1.61
952	SLU 68	-67	8	4409	-116.04	-812.74	0.23
952	SLU 69	-71	-10	4568	-120.05	-842.32	-4.31
952	SLU 70	-69	0	4527	-119.06	-834.52	-1.7
952	SLU 71	-70	-10	4538	-119.28	-836.94	-4.21
952	SLU 72	-69	1	4498	-118.29	-829.14	-1.6
952	SLU 73	-70	9	4733	-124.56	-871.49	0.3
952	SLU 74	-74	-9	4892	-128.56	-901.07	-4.24
952	SLU 75	-73	1	4852	-127.58	-893.27	-1.63
952	SLU 76	-71	8	4795	-126.15	-882.69	0.21
952	SLU 77	-75	-10	4954	-130.16	-912.27	-4.32
952	SLU 78	-73	1	4913	-129.17	-904.46	-1.71
952	SLU 79	-74	-9	4924	-129.38	-906.89	-4.22
952	SLU 80	-73	1	4883	-128.4	-899.08	-1.61
952	SLU 81	-74	-9	4966	-130.53	-914.47	-4.06
952	SLU 82	-73	2	4926	-129.55	-906.67	-1.45
952	SLU 83	-75	-9	5028	-132.12	-925.67	-4.14
952	SLU 84	-74	2	4987	-131.14	-917.86	-1.53
952	SLE RA 1	-51	-6	3280	-86.27	-605.42	-2.94
952	SLE RA 2	-50	5	3235	-85.18	-596.75	-0.04
952	SLE RA 3	-52	-7	3341	-87.85	-616.48	-3.07
952	SLE RA 4	-51	0	3314	-87.19	-611.27	-1.32
952	SLE RA 5	-50	5	3276	-86.24	-604.22	-0.1
952	SLE RA 6	-53	-7	3382	-88.91	-623.94	-3.12
952	SLE RA 7	-52	0	3355	-88.25	-618.74	-1.38
952	SLE RA 8	-52	-7	3362	-88.39	-620.35	-3.06
952	SLE RA 9	-51	0	3335	-87.74	-615.15	-1.32
952	SLE RA 10	-52	5	3492	-91.91	-643.38	-0.05
952	SLE RA 11	-55	-7	3598	-94.59	-663.11	-3.07
952	SLE RA 12	-54	0	3571	-93.93	-657.9	-1.33
952	SLE RA 13	-53	5	3533	-92.97	-650.85	-0.11
952	SLE RA 14	-55	-7	3639	-95.65	-670.57	-3.13
952	SLE RA 15	-54	0	3612	-94.99	-665.37	-1.39
952	SLE RA 16	-55	-7	3619	-95.13	-666.98	-3.07
952	SLE RA 17	-54	0	3592	-94.47	-661.78	-1.32
952	SLE RA 18	-55	-6	3647	-95.9	-672.04	-2.95
952	SLE RA 19	-54	1	3620	-95.24	-666.84	-1.21
952	SLE RA 20	-56	-6	3688	-96.96	-679.5	-3.01
952	SLE RA 21	-55	1	3661	-96.3	-674.3	-1.27
952	SLE FR 1	-51	-6	3280	-86.27	-605.42	-2.94
952	SLE FR 2	-51	-4	3271	-86.05	-603.69	-2.36
952	SLE FR 3	-51	-7	3296	-86.7	-608.41	-2.97
952	SLE FR 4	-52	-4	3381	-88.94	-623.68	-2.37
952	SLE FR 5	-53	-6	3407	-89.58	-628.39	-2.97
952	SLE FR 6	-53	-6	3464	-91.09	-638.73	-2.95
952	SLE QP 1	-51	-6	3280	-86.27	-605.42	-2.94
952	SLE QP 2	-52	-6	3390	-89.16	-625.41	-2.95
952	SLD 1	245	120	3790	-100.75	-686.59	43.04
952	SLD 2	195	34	3867	-102.59	-701.35	20.32
952	SLD 3	216	-97	4799	-125.13	-879.2	-11.92
952	SLD 4	166	-183	4876	-126.97	-893.96	-34.63
952	SLD 5	90	376	1966	-55.34	-349.08	98.13
952	SLD 6	57	321	2016	-56.53	-358.63	83.44
952	SLD 7	-7	-349	5330	-136.61	-991.11	-85.04
952	SLD 8	-40	-404	5380	-137.8	-1000.66	-99.74
952	SLD 9	-65	391	1400	-40.52	-250.16	93.84
952	SLD 10	-97	336	1450	-41.71	-259.71	79.15
952	SLD 11	-162	-334	4764	-121.79	-892.19	-89.33
952	SLD 12	-195	-389	4815	-122.98	-901.74	-104.03
952	SLD 13	-271	170	1904	-51.35	-356.86	28.74
952	SLD 14	-321	85	1982	-53.19	-371.62	6.02
952	SLD 15	-300	-47	2914	-75.73	-549.46	-26.21
952	SLD 16	-350	-133	2991	-77.57	-564.23	-48.93
952	SLV 1	416	205	3947	-105.64	-708.27	72.71
952	SLV 2	337	70	4069	-108.55	-731.51	36.94
952	SLV 3	366	-162	5652	-146.83	-1033.65	-20.15
952	SLV 4	287	-297	5774	-149.74	-1056.89	-55.92
952	SLV 5	177	640	949	-31.1	-152.43	167.26
952	SLV 6	124	549	1031	-33.05	-168.08	143.17
952	SLV 7	13	-585	6632	-168.39	-1237.04	-142.26
952	SLV 8	-40	-676	6714	-170.34	-1252.69	-166.34
952	SLV 9	-65	664	67	-7.98	1.87	160.45
952	SLV 10	-118	573	149	-9.93	-13.78	136.37
952	SLV 11	-229	-562	5750	-145.27	-1082.74	-149.07
952	SLV 12	-282	-653	5832	-147.22	-1098.39	-173.15
952	SLV 13	-392	285	1007	-28.58	-193.93	50.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
952	SLV 14	-471	149	1128	-31.49	-217.17	14.26
952	SLV 15	-442	-83	2711	-69.77	-519.31	-42.83
952	SLV 16	-521	-218	2833	-72.68	-542.55	-78.6
952	SLV FO 1	462	227	4003	-107.29	-716.55	80.27
952	SLV FO 2	376	78	4137	-110.49	-742.12	40.93
952	SLV FO 3	408	-178	5878	-152.6	-1074.47	-21.87
952	SLV FO 4	321	-326	6012	-155.79	-1100.04	-61.21
952	SLV FO 5	200	704	705	-25.29	-105.13	184.28
952	SLV FO 6	142	604	795	-27.44	-122.35	157.79
952	SLV FO 7	20	-643	6956	-176.31	-1298.2	-156.19
952	SLV FO 8	-39	-743	7046	-178.46	-1315.42	-182.68
952	SLV FO 9	-66	731	-266	0.14	64.6	176.79
952	SLV FO 10	-125	630	-175	-2.01	47.39	150.3
952	SLV FO 11	-247	-617	5986	-150.88	-1128.47	-163.68
952	SLV FO 12	-305	-717	6076	-153.03	-1145.69	-190.17
952	SLV FO 13	-426	314	768	-22.53	-150.78	55.32
952	SLV FO 14	-513	165	902	-25.72	-176.35	15.98
952	SLV FO 15	-480	-91	2644	-67.83	-508.7	-46.82
952	SLV FO 16	-567	-239	2778	-71.03	-534.27	-86.16
952	CRTFP Ux+	0	0	0	0	0	0
952	CRTFP Ux-	0	0	0	0	0	0
952	CRTFP Uy+	0	0	0	0	0	0
952	CRTFP Uy-	0	0	0	0	0	0
968	SLU 1	123	46	7830	-334.95	-139.03	8.18
968	SLU 2	118	82	7658	-329.24	-136.99	8.68
968	SLU 3	127	47	8056	-344.33	-142.61	8.46
968	SLU 4	125	68	7953	-340.9	-141.38	8.76
968	SLU 5	122	82	7811	-335.57	-139.45	8.88
968	SLU 6	131	48	8209	-350.66	-145.06	8.65
968	SLU 7	128	69	8106	-347.23	-143.84	8.95
968	SLU 8	130	48	8136	-347.62	-143.94	8.57
968	SLU 9	127	69	8032	-344.19	-142.72	8.87
968	SLU 10	127	88	8657	-372.58	-153.88	9.33
968	SLU 11	136	54	9055	-387.68	-159.49	9.1
968	SLU 12	133	75	8952	-384.25	-158.27	9.41
968	SLU 13	130	88	8810	-378.92	-156.33	9.52
968	SLU 14	139	54	9208	-394.01	-161.95	9.3
968	SLU 15	136	75	9105	-390.58	-160.73	9.6
968	SLU 16	138	54	9135	-390.96	-160.83	9.21
968	SLU 17	135	75	9031	-387.53	-159.61	9.52
968	SLU 18	135	55	9257	-396.88	-163.16	9.11
968	SLU 19	132	76	9154	-393.45	-161.93	9.41
968	SLU 20	138	56	9410	-403.21	-165.61	9.3
968	SLU 21	136	77	9307	-399.78	-164.39	9.6
968	SLU 22	139	52	9178	-392.33	-161.36	9.3
968	SLU 23	134	87	9006	-386.61	-159.31	9.81
968	SLU 24	143	53	9404	-401.71	-164.93	9.58
968	SLU 25	141	74	9301	-398.28	-163.71	9.88
968	SLU 26	138	88	9158	-392.95	-161.77	10
968	SLU 27	147	54	9557	-408.04	-167.39	9.77
968	SLU 28	144	75	9453	-404.61	-166.16	10.07
968	SLU 29	146	54	9484	-404.99	-166.27	9.69
968	SLU 30	143	75	9380	-401.57	-165.04	9.99
968	SLU 31	143	94	10005	-429.96	-176.2	10.46
968	SLU 32	152	59	10403	-445.06	-181.82	10.23
968	SLU 33	149	81	10300	-441.63	-180.59	10.53
968	SLU 34	146	94	10158	-436.29	-178.65	10.65
968	SLU 35	155	60	10556	-451.39	-184.27	10.42
968	SLU 36	152	81	10453	-447.96	-183.05	10.72
968	SLU 37	154	60	10483	-448.34	-183.15	10.34
968	SLU 38	151	81	10379	-444.91	-181.93	10.64
968	SLU 39	151	61	10605	-454.25	-185.48	10.23
968	SLU 40	148	82	10502	-450.82	-184.25	10.53
968	SLU 41	154	62	10758	-460.59	-187.93	10.42
968	SLU 42	152	83	10655	-457.16	-186.71	10.72
968	SLU 43	154	58	9717	-415.77	-173.09	10.25
968	SLU 44	150	93	9545	-410.05	-171.05	10.75
968	SLU 45	159	59	9943	-425.14	-176.67	10.53
968	SLU 46	156	80	9840	-421.72	-175.44	10.83
968	SLU 47	153	94	9698	-416.38	-173.51	10.95
968	SLU 48	162	60	10096	-431.48	-179.12	10.72
968	SLU 49	159	81	9993	-428.05	-177.9	11.02
968	SLU 50	161	60	10023	-428.43	-178	10.64
968	SLU 51	158	81	9919	-425	-176.78	10.94
968	SLU 52	158	100	10544	-453.4	-187.94	11.4
968	SLU 53	167	65	10942	-468.49	-193.55	11.17
968	SLU 54	164	86	10839	-465.06	-192.33	11.48
968	SLU 55	162	100	10697	-459.73	-190.39	11.59
968	SLU 56	171	66	11095	-474.82	-196.01	11.37
968	SLU 57	168	87	10992	-471.39	-194.78	11.67
968	SLU 58	170	66	11022	-471.78	-194.89	11.28
968	SLU 59	167	87	10918	-468.35	-193.66	11.59
968	SLU 60	167	67	11144	-477.69	-197.21	11.18
968	SLU 61	164	88	11041	-474.26	-195.99	11.48
968	SLU 62	170	68	11297	-484.02	-199.67	11.37
968	SLU 63	167	89	11194	-480.59	-198.44	11.67
968	SLU 64	170	64	11065	-473.14	-195.41	11.37
968	SLU 65	166	99	10893	-467.43	-193.37	11.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
968	SLU 66	175	65	11291	-482.52	-198.99	11.65
968	SLU 67	172	86	11188	-479.09	-197.76	11.95
968	SLU 68	169	100	11045	-473.76	-195.83	12.07
968	SLU 69	178	66	11444	-488.85	-201.44	11.84
968	SLU 70	175	87	11340	-485.43	-200.22	12.14
968	SLU 71	177	66	11370	-485.81	-200.32	11.76
968	SLU 72	174	87	11267	-482.38	-199.1	12.06
968	SLU 73	174	105	11892	-510.77	-210.26	12.53
968	SLU 74	183	71	12290	-525.87	-215.87	12.3
968	SLU 75	180	92	12187	-522.44	-214.65	12.6
968	SLU 76	178	106	12044	-517.11	-212.71	12.72
968	SLU 77	187	72	12443	-532.2	-218.33	12.49
968	SLU 78	184	93	12339	-528.77	-217.1	12.79
968	SLU 79	186	72	12369	-529.15	-217.21	12.41
968	SLU 80	183	93	12266	-525.73	-215.98	12.71
968	SLU 81	182	73	12492	-535.07	-219.53	12.3
968	SLU 82	180	94	12389	-531.64	-218.31	12.6
968	SLU 83	186	74	12645	-541.4	-221.99	12.49
968	SLU 84	183	95	12541	-537.97	-220.77	12.79
968	SLE RA 1	128	48	8215	-351.35	-145.41	8.5
968	SLE RA 2	124	72	8100	-347.53	-144.05	8.84
968	SLE RA 3	130	49	8366	-357.6	-147.8	8.68
968	SLE RA 4	129	63	8297	-355.31	-146.98	8.89
968	SLE RA 5	127	72	8202	-351.76	-145.69	8.97
968	SLE RA 6	133	49	8468	-361.82	-149.43	8.81
968	SLE RA 7	131	63	8399	-359.53	-148.62	9.01
968	SLE RA 8	132	49	8419	-359.79	-148.69	8.76
968	SLE RA 9	130	63	8350	-357.5	-147.87	8.96
968	SLE RA 10	130	76	8766	-376.43	-155.31	9.27
968	SLE RA 11	136	53	9032	-386.5	-159.05	9.12
968	SLE RA 12	134	67	8963	-384.21	-158.24	9.32
968	SLE RA 13	132	76	8868	-380.65	-156.94	9.4
968	SLE RA 14	138	53	9134	-390.72	-160.69	9.25
968	SLE RA 15	137	67	9065	-388.43	-159.87	9.45
968	SLE RA 16	138	53	9085	-388.69	-159.94	9.19
968	SLE RA 17	136	67	9016	-386.4	-159.13	9.39
968	SLE RA 18	136	54	9167	-392.63	-161.49	9.12
968	SLE RA 19	134	68	9098	-390.34	-160.68	9.32
968	SLE RA 20	138	54	9268	-396.85	-163.13	9.25
968	SLE RA 21	136	68	9200	-394.56	-162.31	9.45
968	SLE FR 1	128	48	8215	-351.35	-145.41	8.5
968	SLE FR 2	127	53	8192	-350.58	-145.14	8.57
968	SLE FR 3	128	48	8256	-353.03	-146.07	8.55
968	SLE FR 4	129	55	8478	-362.97	-149.96	8.76
968	SLE FR 5	131	50	8541	-365.42	-150.89	8.74
968	SLE FR 6	132	51	8691	-371.99	-153.45	8.81
968	SLE QP 1	128	48	8215	-351.35	-145.41	8.5
968	SLE QP 2	130	50	8501	-363.73	-150.24	8.69
968	SLD 1	858	255	6246	-286.95	-118.28	39.47
968	SLD 2	725	361	6098	-281.21	-112.82	38.27
968	SLD 3	926	-196	8844	-373.63	-149.97	33.36
968	SLD 4	794	-89	8695	-367.89	-144.51	32.16
968	SLD 5	267	776	3911	-210.23	-93.53	27.39
968	SLD 6	182	845	3815	-206.52	-90	26.62
968	SLD 7	496	-726	12568	-499.16	-199.17	7.03
968	SLD 8	410	-657	12472	-495.44	-195.64	6.26
968	SLD 9	-150	756	4529	-232.02	-104.84	11.12
968	SLD 10	-236	825	4433	-228.3	-101.3	10.34
968	SLD 11	78	-745	13186	-520.94	-210.47	-9.24
968	SLD 12	-7	-676	13090	-517.23	-206.94	-10.02
968	SLD 13	-534	189	8306	-359.57	-155.96	-14.79
968	SLD 14	-666	295	8158	-353.83	-150.5	-15.98
968	SLD 15	-465	-261	10903	-446.25	-187.65	-20.89
968	SLD 16	-598	-155	10755	-440.51	-182.19	-22.09
968	SLV 1	1266	399	4815	-238.31	-98.24	57.29
968	SLV 2	1057	566	4581	-229.27	-89.65	55.4
968	SLV 3	1382	-363	9205	-384.8	-151.77	46.95
968	SLV 4	1173	-195	8971	-375.76	-143.17	45.06
968	SLV 5	334	1278	781	-105.62	-55.06	39.3
968	SLV 6	194	1391	624	-99.53	-49.28	38.03
968	SLV 7	720	-1260	15413	-593.91	-233.48	4.84
968	SLV 8	579	-1147	15255	-587.82	-227.69	3.57
968	SLV 9	-319	1247	1746	-139.64	-72.78	13.81
968	SLV 10	-460	1360	1589	-133.55	-66.99	12.54
968	SLV 11	66	-1291	16377	-627.93	-251.2	-20.65
968	SLV 12	-74	-1178	16220	-621.84	-245.41	-21.92
968	SLV 13	-913	295	8030	-351.7	-157.3	-27.68
968	SLV 14	-1122	462	7797	-342.66	-148.7	-29.57
968	SLV 15	-797	-467	12420	-498.19	-210.82	-38.02
968	SLV 16	-1006	-299	12186	-489.15	-202.23	-39.91
968	SLV FO 1	1379	434	4447	-225.77	-93.04	62.15
968	SLV FO 2	1150	618	4189	-215.82	-83.59	60.07
968	SLV FO 3	1507	-404	9275	-386.91	-151.92	50.78
968	SLV FO 4	1277	-219	9018	-376.96	-142.47	48.7
968	SLV FO 5	355	1401	10	-79.81	-45.55	42.36
968	SLV FO 6	200	1525	-164	-73.11	-39.18	40.96
968	SLV FO 7	779	-1391	16104	-616.93	-241.8	4.46
968	SLV FO 8	624	-1267	15931	-610.23	-235.44	3.06

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
968	SLV FO 9	-364	1366	1071	-117.23	-65.03	14.32
968	SLV FO 10	-519	1491	897	-110.53	-58.67	12.92
968	SLV FO 11	60	-1425	17165	-654.35	-261.29	-23.58
968	SLV FO 12	-95	-1301	16992	-647.65	-254.93	-24.98
968	SLV FO 13	-1017	319	7983	-350.5	-158.01	-31.32
968	SLV FO 14	-1247	504	7726	-340.55	-148.55	-33.4
968	SLV FO 15	-890	-518	12812	-511.64	-216.88	-42.69
968	SLV FO 16	-1119	-334	12554	-501.69	-207.43	-44.77
968	CRTFP Ux+	0	0	0	0	0	0
968	CRTFP Ux-	0	0	0	0	0	0
968	CRTFP Uy+	0	0	0	0	0	0
968	CRTFP Uy-	0	0	0	0	0	0
985	SLU 1	-21	37	2531	4.74	357.51	-9.1
985	SLU 2	-20	52	2479	4.43	350.8	-12.94
985	SLU 3	-21	38	2603	4.94	366.9	-9.3
985	SLU 4	-21	47	2572	4.75	362.87	-11.6
985	SLU 5	-20	53	2528	4.56	357.08	-13.03
985	SLU 6	-21	38	2651	5.08	373.19	-9.38
985	SLU 7	-21	47	2620	4.89	369.16	-11.69
985	SLU 8	-21	37	2627	5.01	370.09	-9.28
985	SLU 9	-20	47	2596	4.82	366.06	-11.58
985	SLU 10	-23	55	2806	5.02	392.81	-13.76
985	SLU 11	-24	41	2929	5.54	408.92	-10.11
985	SLU 12	-23	50	2898	5.35	404.89	-12.42
985	SLU 13	-23	56	2854	5.16	399.1	-13.84
985	SLU 14	-24	41	2977	5.67	415.2	-10.2
985	SLU 15	-24	50	2946	5.48	411.17	-12.5
985	SLU 16	-24	41	2953	5.61	412.1	-10.09
985	SLU 17	-23	50	2922	5.42	408.07	-12.4
985	SLU 18	-25	41	2997	5.59	417.54	-10.26
985	SLU 19	-24	51	2966	5.4	413.51	-12.57
985	SLU 20	-25	42	3045	5.73	423.82	-10.35
985	SLU 21	-24	51	3014	5.54	419.79	-12.65
985	SLU 22	-24	42	2966	5.7	414.18	-10.37
985	SLU 23	-24	57	2915	5.39	407.47	-14.22
985	SLU 24	-25	43	3038	5.9	423.57	-10.57
985	SLU 25	-24	52	3007	5.71	419.54	-12.88
985	SLU 26	-24	58	2963	5.52	413.75	-14.31
985	SLU 27	-25	43	3086	6.03	429.85	-10.66
985	SLU 28	-24	52	3056	5.84	425.83	-12.97
985	SLU 29	-25	43	3063	5.97	426.75	-10.55
985	SLU 30	-24	52	3032	5.78	422.72	-12.86
985	SLU 31	-26	61	3241	5.98	449.48	-15.03
985	SLU 32	-28	46	3364	6.49	465.58	-11.38
985	SLU 33	-27	55	3334	6.3	461.55	-13.69
985	SLU 34	-27	61	3289	6.12	455.77	-15.12
985	SLU 35	-28	46	3412	6.63	471.87	-11.47
985	SLU 36	-27	56	3382	6.44	467.84	-13.78
985	SLU 37	-27	46	3389	6.57	468.77	-11.36
985	SLU 38	-27	55	3358	6.38	464.74	-13.67
985	SLU 39	-28	47	3432	6.55	474.2	-11.53
985	SLU 40	-28	56	3401	6.36	470.17	-13.84
985	SLU 41	-28	47	3480	6.69	480.49	-11.62
985	SLU 42	-28	56	3450	6.5	476.46	-13.93
985	SLU 43	-25	46	3141	5.84	445.34	-11.39
985	SLU 44	-25	61	3089	5.52	438.62	-15.24
985	SLU 45	-26	47	3213	6.04	454.73	-11.59
985	SLU 46	-25	56	3182	5.85	450.7	-13.9
985	SLU 47	-25	62	3137	5.66	444.91	-15.32
985	SLU 48	-26	47	3261	6.17	461.01	-11.68
985	SLU 49	-26	56	3230	5.98	456.98	-13.98
985	SLU 50	-26	47	3237	6.11	457.91	-11.57
985	SLU 51	-25	56	3206	5.92	453.88	-13.88
985	SLU 52	-28	65	3415	6.12	480.64	-16.05
985	SLU 53	-29	50	3539	6.63	496.74	-12.4
985	SLU 54	-28	59	3508	6.44	492.71	-14.71
985	SLU 55	-28	65	3464	6.25	486.92	-16.14
985	SLU 56	-29	50	3587	6.77	503.03	-12.49
985	SLU 57	-28	60	3556	6.58	499	-14.8
985	SLU 58	-29	50	3563	6.7	499.93	-12.38
985	SLU 59	-28	59	3532	6.51	495.9	-14.69
985	SLU 60	-29	51	3607	6.69	505.36	-12.55
985	SLU 61	-29	60	3576	6.5	501.33	-14.86
985	SLU 62	-30	51	3655	6.82	511.65	-12.64
985	SLU 63	-29	60	3624	6.63	507.62	-14.95
985	SLU 64	-29	51	3576	6.8	502.01	-12.67
985	SLU 65	-28	67	3525	6.48	495.29	-16.51
985	SLU 66	-30	52	3648	7	511.39	-12.86
985	SLU 67	-29	61	3617	6.81	507.36	-15.17
985	SLU 68	-29	67	3573	6.62	501.58	-16.6
985	SLU 69	-30	52	3696	7.13	517.68	-12.95
985	SLU 70	-29	62	3665	6.94	513.65	-15.26
985	SLU 71	-29	52	3673	7.07	514.58	-12.84
985	SLU 72	-29	61	3642	6.88	510.55	-15.15
985	SLU 73	-31	70	3851	7.08	537.31	-17.32
985	SLU 74	-32	55	3974	7.59	553.41	-13.68
985	SLU 75	-32	64	3943	7.4	549.38	-15.98
985	SLU 76	-31	70	3899	7.21	543.59	-17.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
985	SLU 77	-33	56	4022	7.72	559.7	-13.76
985	SLU 78	-32	65	3992	7.53	555.67	-16.07
985	SLU 79	-32	55	3999	7.66	556.59	-13.65
985	SLU 80	-32	64	3968	7.47	552.56	-15.96
985	SLU 81	-33	56	4042	7.65	562.03	-13.83
985	SLU 82	-33	65	4011	7.46	558	-16.13
985	SLU 83	-33	56	4090	7.78	568.31	-13.91
985	SLU 84	-33	65	4059	7.59	564.28	-16.22
985	SLE RA 1	-22	38	2655	5.02	373.7	-9.46
985	SLE RA 2	-21	48	2621	4.81	369.23	-12.03
985	SLE RA 3	-22	39	2703	5.15	379.96	-9.59
985	SLE RA 4	-22	45	2683	5.02	377.28	-11.13
985	SLE RA 5	-21	49	2653	4.9	373.42	-12.09
985	SLE RA 6	-22	39	2735	5.24	384.15	-9.65
985	SLE RA 7	-22	45	2715	5.11	381.47	-11.19
985	SLE RA 8	-22	39	2719	5.2	382.09	-9.58
985	SLE RA 9	-21	45	2699	5.07	379.4	-11.12
985	SLE RA 10	-23	51	2838	5.2	397.24	-12.57
985	SLE RA 11	-24	41	2921	5.55	407.97	-10.14
985	SLE RA 12	-24	47	2900	5.42	405.29	-11.67
985	SLE RA 13	-23	51	2870	5.29	401.43	-12.63
985	SLE RA 14	-24	41	2953	5.64	412.16	-10.19
985	SLE RA 15	-24	47	2932	5.51	409.48	-11.73
985	SLE RA 16	-24	41	2937	5.59	410.1	-10.12
985	SLE RA 17	-23	47	2916	5.47	407.41	-11.66
985	SLE RA 18	-24	41	2966	5.58	413.72	-10.24
985	SLE RA 19	-24	48	2945	5.46	411.03	-11.77
985	SLE RA 20	-24	42	2998	5.67	417.91	-10.29
985	SLE RA 21	-24	48	2977	5.55	415.22	-11.83
985	SLE FR 1	-22	38	2655	5.02	373.7	-9.46
985	SLE FR 2	-22	40	2648	4.98	372.81	-9.98
985	SLE FR 3	-22	38	2668	5.05	375.38	-9.49
985	SLE FR 4	-22	41	2742	5.15	384.81	-10.21
985	SLE FR 5	-22	39	2761	5.22	387.38	-9.72
985	SLE FR 6	-23	40	2811	5.3	393.71	-9.85
985	SLE QP 1	-22	38	2655	5.02	373.7	-9.46
985	SLE QP 2	-22	39	2748	5.19	385.71	-9.69
985	SLD 1	323	152	2495	3.07	360.03	-38.19
985	SLD 2	268	133	2507	3.21	361.54	-33.36
985	SLD 3	313	-40	3274	7.76	462.86	9.68
985	SLD 4	259	-58	3287	7.9	464.37	14.51
985	SLD 5	104	367	1488	-2.58	221.79	-91.68
985	SLD 6	69	355	1496	-2.49	222.77	-88.56
985	SLD 7	74	-272	4086	13.04	564.54	67.89
985	SLD 8	39	-284	4094	13.13	565.52	71.01
985	SLD 9	-84	362	1403	-2.76	205.89	-90.4
985	SLD 10	-119	350	1411	-2.67	206.87	-87.28
985	SLD 11	-114	-276	4001	12.86	548.65	69.17
985	SLD 12	-149	-288	4009	12.96	549.63	72.29
985	SLD 13	-304	137	2210	2.48	307.05	-33.9
985	SLD 14	-358	118	2223	2.62	308.56	-29.07
985	SLD 15	-313	-55	2990	7.16	409.87	13.97
985	SLD 16	-367	-73	3002	7.31	411.39	18.8
985	SLV 1	518	227	2302	1.58	338.94	-57.35
985	SLV 2	433	198	2322	1.8	341.32	-49.75
985	SLV 3	503	-96	3619	9.5	512.73	23.53
985	SLV 4	417	-125	3639	9.73	515.12	31.12
985	SLV 5	179	592	613	-7.95	107.64	-148.07
985	SLV 6	122	572	626	-7.8	109.24	-142.95
985	SLV 7	128	-487	5004	18.45	686.96	121.51
985	SLV 8	70	-506	5017	18.6	688.57	126.63
985	SLV 9	-115	585	480	-8.23	82.85	-146.02
985	SLV 10	-173	565	493	-8.08	84.45	-140.9
985	SLV 11	-166	-494	4870	18.17	662.17	123.56
985	SLV 12	-224	-514	4884	18.32	663.78	128.68
985	SLV 13	-462	204	1858	0.65	256.3	-50.51
985	SLV 14	-548	175	1878	0.87	258.68	-42.91
985	SLV 15	-478	-120	3175	8.57	430.1	30.36
985	SLV 16	-563	-149	3195	8.79	432.48	37.96
985	SLV FO 1	572	246	2257	1.22	334.26	-62.11
985	SLV FO 2	478	214	2279	1.47	336.88	-53.76
985	SLV FO 3	555	-110	3706	9.93	525.44	26.85
985	SLV FO 4	461	-142	3728	10.18	528.06	35.2
985	SLV FO 5	199	647	399	-9.26	79.83	-161.9
985	SLV FO 6	136	626	414	-9.1	81.6	-156.28
985	SLV FO 7	143	-539	5229	19.78	717.09	134.63
985	SLV FO 8	79	-561	5244	19.94	718.85	140.26
985	SLV FO 9	-124	639	253	-9.57	52.56	-159.65
985	SLV FO 10	-188	618	268	-9.4	54.33	-154.02
985	SLV FO 11	-181	-547	5083	19.47	689.82	136.89
985	SLV FO 12	-244	-569	5098	19.64	691.58	142.52
985	SLV FO 13	-506	220	1769	0.2	243.36	-54.59
985	SLV FO 14	-600	188	1791	0.44	245.98	-46.24
985	SLV FO 15	-523	-136	3218	8.91	434.54	34.37
985	SLV FO 16	-617	-168	3240	9.15	437.16	42.73
985	CRTFP Ux+	0	0	0	0	0	0
985	CRTFP Ux-	0	0	0	0	0	0
985	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
985	CRTFP Uy-	0	0	0	0	0	0
987	SLU 1	10	76	5068	8.48	-24.88	0.68
987	SLU 2	9	105	4959	7.94	-24.77	0.69
987	SLU 3	10	77	5209	8.84	-25.61	0.71
987	SLU 4	10	94	5143	8.51	-25.54	0.72
987	SLU 5	10	105	5052	8.18	-25.23	0.71
987	SLU 6	11	77	5302	9.08	-26.06	0.73
987	SLU 7	11	94	5236	8.76	-26	0.73
987	SLU 8	11	76	5254	8.96	-25.79	0.71
987	SLU 9	11	94	5189	8.64	-25.73	0.72
987	SLU 10	8	111	5616	8.9	-27.29	0.9
987	SLU 11	9	82	5866	9.8	-28.12	0.91
987	SLU 12	9	100	5800	9.48	-28.06	0.92
987	SLU 13	9	111	5709	9.15	-27.75	0.91
987	SLU 14	10	82	5959	10.05	-28.58	0.93
987	SLU 15	10	100	5893	9.72	-28.51	0.94
987	SLU 16	10	82	5912	9.93	-28.31	0.91
987	SLU 17	10	99	5846	9.61	-28.24	0.92
987	SLU 18	8	84	6007	9.86	-28.48	0.97
987	SLU 19	8	102	5941	9.53	-28.41	0.98
987	SLU 20	9	84	6100	10.1	-28.93	0.99
987	SLU 21	9	102	6034	9.78	-28.87	0.99
987	SLU 22	9	84	5941	10.1	-28.35	0.9
987	SLU 23	9	113	5831	9.56	-28.24	0.92
987	SLU 24	10	84	6081	10.46	-29.07	0.93
987	SLU 25	10	102	6015	10.13	-29.01	0.94
987	SLU 26	10	113	5924	9.8	-28.7	0.93
987	SLU 27	11	84	6174	10.7	-29.53	0.95
987	SLU 28	11	102	6108	10.38	-29.46	0.96
987	SLU 29	11	84	6127	10.58	-29.26	0.94
987	SLU 30	11	101	6061	10.26	-29.19	0.94
987	SLU 31	8	119	6488	10.52	-30.76	1.12
987	SLU 32	9	90	6738	11.43	-31.59	1.13
987	SLU 33	9	108	6673	11.1	-31.53	1.14
987	SLU 34	9	119	6581	10.77	-31.21	1.13
987	SLU 35	10	90	6831	11.67	-32.04	1.15
987	SLU 36	10	108	6766	11.34	-31.98	1.16
987	SLU 37	10	89	6784	11.55	-31.77	1.14
987	SLU 38	10	107	6718	11.23	-31.71	1.14
987	SLU 39	8	92	6880	11.48	-31.95	1.19
987	SLU 40	8	109	6814	11.16	-31.88	1.2
987	SLU 41	9	92	6973	11.72	-32.4	1.21
987	SLU 42	9	109	6907	11.4	-32.33	1.21
987	SLU 43	13	96	6289	10.46	-31.16	0.81
987	SLU 44	12	125	6180	9.92	-31.05	0.82
987	SLU 45	13	97	6430	10.82	-31.88	0.84
987	SLU 46	13	114	6364	10.5	-31.82	0.85
987	SLU 47	13	125	6273	10.17	-31.5	0.84
987	SLU 48	14	97	6523	11.07	-32.34	0.86
987	SLU 49	14	114	6457	10.74	-32.27	0.86
987	SLU 50	14	96	6476	10.95	-32.07	0.84
987	SLU 51	14	114	6410	10.63	-32	0.85
987	SLU 52	11	131	6837	10.89	-33.57	1.02
987	SLU 53	12	103	7087	11.79	-34.4	1.04
987	SLU 54	12	120	7021	11.47	-34.34	1.05
987	SLU 55	12	131	6930	11.13	-34.02	1.04
987	SLU 56	13	103	7180	12.03	-34.85	1.06
987	SLU 57	13	120	7114	11.71	-34.79	1.06
987	SLU 58	13	102	7133	11.92	-34.58	1.04
987	SLU 59	13	119	7067	11.59	-34.52	1.05
987	SLU 60	11	104	7228	11.85	-34.75	1.1
987	SLU 61	11	122	7163	11.52	-34.69	1.11
987	SLU 62	12	104	7321	12.09	-35.21	1.11
987	SLU 63	12	122	7256	11.77	-35.14	1.12
987	SLU 64	12	104	7162	12.08	-34.62	1.03
987	SLU 65	12	133	7052	11.54	-34.52	1.04
987	SLU 66	13	104	7302	12.44	-35.35	1.06
987	SLU 67	13	122	7237	12.12	-35.28	1.07
987	SLU 68	13	133	7146	11.79	-34.97	1.06
987	SLU 69	14	104	7395	12.69	-35.8	1.08
987	SLU 70	14	122	7330	12.36	-35.74	1.08
987	SLU 71	14	104	7348	12.57	-35.53	1.06
987	SLU 72	14	121	7282	12.25	-35.47	1.07
987	SLU 73	11	139	7710	12.51	-37.03	1.25
987	SLU 74	12	110	7960	13.41	-37.87	1.26
987	SLU 75	12	128	7894	13.09	-37.8	1.27
987	SLU 76	12	139	7803	12.76	-37.49	1.26
987	SLU 77	13	110	8053	13.66	-38.32	1.28
987	SLU 78	13	128	7987	13.33	-38.26	1.29
987	SLU 79	13	109	8005	13.54	-38.05	1.26
987	SLU 80	13	127	7940	13.21	-37.99	1.27
987	SLU 81	11	112	8101	13.47	-38.22	1.32
987	SLU 82	11	130	8035	13.14	-38.16	1.33
987	SLU 83	12	112	8194	13.71	-38.68	1.34
987	SLU 84	11	130	8128	13.39	-38.61	1.34
987	SLE RA 1	10	78	5318	8.94	-25.87	0.75
987	SLE RA 2	9	98	5244	8.58	-25.8	0.75
987	SLE RA 3	10	79	5411	9.18	-26.36	0.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
987	SLE RA 4	10	90	5367	8.96	-26.31	0.77
987	SLE RA 5	10	98	5306	8.74	-26.1	0.76
987	SLE RA 6	11	79	5473	9.34	-26.66	0.78
987	SLE RA 7	11	90	5429	9.13	-26.61	0.78
987	SLE RA 8	11	78	5442	9.26	-26.48	0.77
987	SLE RA 9	11	90	5398	9.05	-26.43	0.77
987	SLE RA 10	9	102	5683	9.22	-27.48	0.89
987	SLE RA 11	9	82	5849	9.82	-28.03	0.9
987	SLE RA 12	9	94	5805	9.61	-27.99	0.9
987	SLE RA 13	9	102	5745	9.39	-27.78	0.9
987	SLE RA 14	10	82	5911	9.99	-28.34	0.91
987	SLE RA 15	10	94	5867	9.77	-28.29	0.91
987	SLE RA 16	10	82	5880	9.91	-28.16	0.9
987	SLE RA 17	10	94	5836	9.69	-28.11	0.91
987	SLE RA 18	9	84	5943	9.86	-28.27	0.94
987	SLE RA 19	8	95	5900	9.64	-28.23	0.94
987	SLE RA 20	9	84	6005	10.02	-28.57	0.95
987	SLE RA 21	9	95	5962	9.81	-28.53	0.95
987	SLE FR 1	10	78	5318	8.94	-25.87	0.75
987	SLE FR 2	10	82	5303	8.87	-25.86	0.75
987	SLE FR 3	10	78	5342	9	-25.99	0.75
987	SLE FR 4	9	84	5491	9.14	-26.58	0.81
987	SLE FR 5	10	80	5530	9.28	-26.71	0.81
987	SLE FR 6	9	81	5630	9.4	-27.07	0.84
987	SLE QP 1	10	78	5318	8.94	-25.87	0.75
987	SLE QP 2	9	80	5505	9.22	-26.59	0.8
987	SLD 1	679	231	4302	4.72	-3.01	-4.35
987	SLD 2	572	263	4294	4.59	-2.81	-2.01
987	SLD 3	690	-142	5966	12.74	-5.21	-4.57
987	SLD 4	583	-110	5958	12.62	-5.01	-2.23
987	SLD 5	212	685	2622	-4.28	-16.23	-0.82
987	SLD 6	143	705	2616	-4.36	-16.1	0.69
987	SLD 7	248	-558	8169	22.46	-23.53	-1.54
987	SLD 8	179	-537	8163	22.38	-23.41	-0.03
987	SLD 9	-161	696	2847	-3.95	-29.78	1.63
987	SLD 10	-230	717	2842	-4.03	-29.65	3.15
987	SLD 11	-125	-546	8394	22.79	-37.08	0.91
987	SLD 12	-194	-525	8389	22.71	-36.95	2.43
987	SLD 13	-565	269	5053	5.81	-48.18	3.83
987	SLD 14	-671	301	5044	5.69	-47.98	6.17
987	SLD 15	-554	-104	6717	13.84	-50.37	3.62
987	SLD 16	-660	-71	6708	13.71	-50.17	5.96
987	SLV 1	1057	339	3520	1.64	10.33	-7.27
987	SLV 2	889	390	3507	1.44	10.64	-3.58
987	SLV 3	1075	-291	6333	15.2	6.62	-7.63
987	SLV 4	907	-240	6319	15.01	6.94	-3.95
987	SLV 5	328	1103	647	-13.59	-9.96	-1.76
987	SLV 6	215	1137	638	-13.73	-9.74	0.73
987	SLV 7	387	-996	10021	31.62	-22.3	-2.96
987	SLV 8	274	-962	10012	31.49	-22.09	-0.48
987	SLV 9	-256	1121	999	-13.06	-31.09	2.09
987	SLV 10	-369	1155	989	-13.19	-30.88	4.57
987	SLV 11	-196	-978	10372	32.16	-43.44	0.88
987	SLV 12	-309	-943	10363	32.02	-43.23	3.36
987	SLV 13	-889	399	4691	3.43	-60.12	5.55
987	SLV 14	-1057	450	4678	3.23	-59.81	9.24
987	SLV 15	-871	-230	7504	16.99	-63.83	5.19
987	SLV 16	-1039	-179	7490	16.79	-63.51	8.88
987	SLV FO 1	1162	365	3322	0.88	14.02	-8.07
987	SLV FO 2	977	421	3307	0.66	14.37	-4.02
987	SLV FO 3	1182	-328	6415	15.8	9.94	-8.47
987	SLV FO 4	997	-272	6400	15.59	10.29	-4.42
987	SLV FO 5	360	1205	161	-15.87	-8.29	-2.01
987	SLV FO 6	235	1243	151	-16.02	-8.06	0.72
987	SLV FO 7	425	-1103	10473	33.86	-21.88	-3.34
987	SLV FO 8	301	-1066	10463	33.71	-21.64	-0.61
987	SLV FO 9	-282	1225	548	-15.28	-31.54	2.22
987	SLV FO 10	-407	1263	538	-15.43	-31.31	4.95
987	SLV FO 11	-217	-1083	10859	34.45	-45.12	0.89
987	SLV FO 12	-341	-1046	10849	34.3	-44.89	3.62
987	SLV FO 13	-979	431	4610	2.85	-63.48	6.03
987	SLV FO 14	-1163	487	4595	2.63	-63.13	10.08
987	SLV FO 15	-959	-261	7704	17.77	-67.55	5.63
987	SLV FO 16	-1143	-205	7689	17.55	-67.2	9.68
987	CRTFP Ux+	0	0	0	0	0	0
987	CRTFP Ux-	0	0	0	0	0	0
987	CRTFP Uy+	0	0	0	0	0	0
987	CRTFP Uy-	0	0	0	0	0	0
992	SLU 1	28	11	2040	57.09	486.47	-3.35
992	SLU 2	27	20	1991	55.69	475.78	-5.58
992	SLU 3	29	11	2100	58.77	500.34	-3.43
992	SLU 4	28	16	2070	57.93	493.93	-4.77
992	SLU 5	27	20	2032	56.82	485.08	-5.64
992	SLU 6	30	11	2140	59.9	509.64	-3.49
992	SLU 7	29	16	2111	59.06	503.22	-4.82
992	SLU 8	29	11	2121	59.35	505.06	-3.46
992	SLU 9	29	16	2091	58.51	498.65	-4.8
992	SLU 10	29	21	2250	62.92	536.74	-5.99

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
992	SLU 11	31	12	2359	65.99	561.3	-3.84
992	SLU 12	30	18	2329	65.16	554.89	-5.18
992	SLU 13	29	21	2291	64.05	546.04	-6.05
992	SLU 14	31	13	2399	67.12	570.6	-3.9
992	SLU 15	31	18	2370	66.29	564.18	-5.23
992	SLU 16	31	12	2380	66.58	566.02	-3.87
992	SLU 17	31	18	2350	65.74	559.61	-5.21
992	SLU 18	30	13	2410	67.42	573.56	-3.94
992	SLU 19	30	18	2381	66.58	567.14	-5.27
992	SLU 20	31	13	2450	68.55	582.85	-3.99
992	SLU 21	31	18	2421	67.71	576.44	-5.33
992	SLU 22	31	12	2392	66.94	568.87	-3.76
992	SLU 23	30	21	2343	65.54	558.17	-5.99
992	SLU 24	32	12	2452	68.62	582.73	-3.84
992	SLU 25	32	18	2422	67.78	576.32	-5.18
992	SLU 26	31	21	2384	66.67	567.47	-6.05
992	SLU 27	33	12	2492	69.75	592.03	-3.9
992	SLU 28	32	18	2463	68.91	585.61	-5.23
992	SLU 29	33	12	2473	69.2	587.46	-3.87
992	SLU 30	32	18	2443	68.36	581.04	-5.21
992	SLU 31	32	22	2602	72.77	619.14	-6.4
992	SLU 32	34	14	2711	75.84	643.69	-4.25
992	SLU 33	33	19	2682	75	637.28	-5.59
992	SLU 34	33	23	2643	73.9	628.43	-6.46
992	SLU 35	35	14	2751	76.97	652.99	-4.31
992	SLU 36	34	19	2722	76.13	646.57	-5.64
992	SLU 37	35	14	2732	76.43	648.42	-4.28
992	SLU 38	34	19	2702	75.59	642	-5.62
992	SLU 39	34	14	2762	77.27	655.95	-4.35
992	SLU 40	33	20	2733	76.43	649.54	-5.68
992	SLU 41	35	14	2802	78.4	665.25	-4.4
992	SLU 42	34	20	2773	77.56	658.83	-5.74
992	SLU 43	35	13	2531	70.84	604.17	-4.22
992	SLU 44	34	22	2483	69.44	593.47	-6.45
992	SLU 45	36	14	2591	72.52	618.03	-4.29
992	SLU 46	35	19	2562	71.68	611.62	-5.63
992	SLU 47	35	23	2523	70.57	602.77	-6.5
992	SLU 48	37	14	2631	73.65	627.33	-4.35
992	SLU 49	36	19	2602	72.81	620.91	-5.69
992	SLU 50	36	14	2612	73.1	622.76	-4.33
992	SLU 51	36	19	2583	72.26	616.34	-5.67
992	SLU 52	36	24	2742	76.67	654.43	-6.86
992	SLU 53	38	15	2850	79.75	678.99	-4.7
992	SLU 54	37	21	2821	78.91	672.58	-6.04
992	SLU 55	36	24	2782	77.8	663.73	-6.91
992	SLU 56	39	15	2890	80.88	688.29	-4.76
992	SLU 57	38	21	2861	80.04	681.87	-6.1
992	SLU 58	38	15	2871	80.33	683.72	-4.74
992	SLU 59	38	21	2842	79.49	677.3	-6.08
992	SLU 60	37	16	2901	81.17	691.25	-4.8
992	SLU 61	37	21	2872	80.33	684.84	-6.14
992	SLU 62	38	16	2942	82.3	700.55	-4.86
992	SLU 63	38	21	2912	81.46	694.13	-6.2
992	SLU 64	38	15	2883	80.69	686.56	-4.63
992	SLU 65	37	24	2835	79.29	675.87	-6.86
992	SLU 66	39	15	2943	82.37	700.43	-4.7
992	SLU 67	39	20	2914	81.53	694.01	-6.04
992	SLU 68	38	24	2875	80.42	685.16	-6.91
992	SLU 69	40	15	2983	83.5	709.72	-4.76
992	SLU 70	40	21	2954	82.66	703.31	-6.1
992	SLU 71	40	15	2964	82.95	705.15	-4.74
992	SLU 72	39	20	2935	82.11	698.73	-6.08
992	SLU 73	39	25	3094	86.52	736.83	-7.27
992	SLU 74	41	16	3202	89.59	761.39	-5.11
992	SLU 75	41	22	3173	88.76	754.97	-6.45
992	SLU 76	40	25	3134	87.65	746.12	-7.32
992	SLU 77	42	17	3242	90.72	770.68	-5.17
992	SLU 78	41	22	3213	89.89	764.27	-6.51
992	SLU 79	42	17	3223	90.18	766.11	-5.15
992	SLU 80	41	22	3194	89.34	759.69	-6.49
992	SLU 81	41	17	3253	91.02	773.65	-5.21
992	SLU 82	40	22	3224	90.18	767.23	-6.55
992	SLU 83	42	17	3294	92.15	782.94	-5.27
992	SLU 84	41	22	3264	91.31	776.53	-6.61
992	SLE RA 1	29	11	2141	59.91	510.01	-3.47
992	SLE RA 2	28	17	2108	58.97	502.89	-4.95
992	SLE RA 3	29	11	2180	61.02	519.26	-3.52
992	SLE RA 4	29	15	2161	60.46	514.98	-4.41
992	SLE RA 5	29	17	2135	59.73	509.08	-4.99
992	SLE RA 6	30	11	2207	61.78	525.46	-3.56
992	SLE RA 7	30	15	2188	61.22	521.18	-4.45
992	SLE RA 8	30	11	2194	61.41	522.41	-3.54
992	SLE RA 9	29	15	2175	60.85	518.13	-4.44
992	SLE RA 10	29	18	2281	63.79	543.53	-5.23
992	SLE RA 11	31	12	2353	65.84	559.9	-3.79
992	SLE RA 12	30	16	2334	65.28	555.62	-4.69
992	SLE RA 13	30	18	2308	64.55	549.72	-5.27
992	SLE RA 14	31	12	2380	66.59	566.1	-3.83

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
992	SLE RA 15	31	16	2360	66.04	561.82	-4.72
992	SLE RA 16	31	12	2367	66.23	563.05	-3.82
992	SLE RA 17	31	16	2348	65.67	558.77	-4.71
992	SLE RA 18	30	12	2387	66.79	568.07	-3.86
992	SLE RA 19	30	16	2368	66.23	563.8	-4.75
992	SLE RA 20	31	13	2414	67.54	574.27	-3.9
992	SLE RA 21	31	16	2395	66.98	569.99	-4.79
992	SLE FR 1	29	11	2141	59.91	510.01	-3.47
992	SLE FR 2	29	12	2134	59.72	508.59	-3.77
992	SLE FR 3	29	11	2151	60.21	512.49	-3.48
992	SLE FR 4	29	13	2208	61.79	526.01	-3.88
992	SLE FR 5	29	12	2225	62.27	529.91	-3.6
992	SLE FR 6	30	12	2264	63.35	539.04	-3.66
992	SLE QP 1	29	11	2141	59.91	510.01	-3.47
992	SLE QP 2	29	11	2215	61.97	527.43	-3.59
992	SLD 1	224	67	1579	43.55	372.18	-22.4
992	SLD 2	188	92	1541	42.51	366.47	-27.66
992	SLD 3	240	-49	2311	64.61	534.44	6.15
992	SLD 4	203	-24	2274	63.57	528.73	0.89
992	SLD 5	70	199	919	24.69	235.76	-51.63
992	SLD 6	46	216	895	24.02	232.06	-55.03
992	SLD 7	123	-187	3361	94.88	776.61	43.55
992	SLD 8	99	-170	3337	94.21	772.92	40.15
992	SLD 9	-41	193	1092	29.73	281.95	-47.33
992	SLD 10	-64	210	1068	29.06	278.25	-50.73
992	SLD 11	12	-193	3534	99.93	822.8	47.85
992	SLD 12	-11	-176	3510	99.26	819.1	44.45
992	SLD 13	-145	47	2155	60.37	526.14	-8.07
992	SLD 14	-181	72	2118	59.34	520.43	-13.32
992	SLD 15	-129	-69	2888	81.43	688.39	20.49
992	SLD 16	-165	-44	2850	80.4	682.68	15.23
992	SLV 1	333	105	1175	31.86	274.68	-34.81
992	SLV 2	276	145	1116	30.23	265.69	-43.09
992	SLV 3	360	-90	2413	67.45	548.93	13.44
992	SLV 4	303	-51	2354	65.82	539.93	5.17
992	SLV 5	91	329	36	-0.73	37.34	-84.6
992	SLV 6	52	356	-4	-1.83	31.28	-90.17
992	SLV 7	180	-323	4163	117.9	951.5	76.25
992	SLV 8	141	-297	4123	116.8	945.45	70.68
992	SLV 9	-83	319	306	7.14	109.42	-77.86
992	SLV 10	-121	346	266	6.05	103.36	-83.43
992	SLV 11	7	-333	4433	125.78	1023.58	83
992	SLV 12	-32	-306	4393	124.68	1017.52	77.42
992	SLV 13	-244	74	2075	58.12	514.93	-12.34
992	SLV 14	-302	113	2016	56.49	505.93	-20.62
992	SLV 15	-217	-122	3313	93.71	789.18	35.92
992	SLV 16	-275	-82	3254	92.08	780.18	27.64
992	SLV FO 1	364	115	1071	28.85	249.41	-37.93
992	SLV FO 2	301	158	1006	27.06	239.51	-47.04
992	SLV FO 3	393	-100	2433	68	551.08	15.15
992	SLV FO 4	330	-57	2368	66.2	541.18	6.04
992	SLV FO 5	97	361	-181	-7.01	-11.67	-92.7
992	SLV FO 6	54	390	-225	-8.21	-18.33	-98.83
992	SLV FO 7	195	-357	4357	123.49	993.91	84.24
992	SLV FO 8	152	-327	4314	122.28	987.25	78.11
992	SLV FO 9	-94	350	116	1.66	67.61	-85.28
992	SLV FO 10	-136	380	72	0.45	60.95	-91.41
992	SLV FO 11	4	-367	4654	132.16	1073.19	91.65
992	SLV FO 12	-38	-338	4611	130.95	1066.53	85.52
992	SLV FO 13	-271	80	2061	57.74	513.68	-13.21
992	SLV FO 14	-335	123	1996	55.95	503.78	-22.32
992	SLV FO 15	-242	-136	3423	96.89	815.35	39.87
992	SLV FO 16	-305	-92	3358	95.09	805.46	30.76
992	CRTFP Ux+	0	0	0	0	0	0
992	CRTFP Ux-	0	0	0	0	0	0
992	CRTFP Uy+	0	0	0	0	0	0
992	CRTFP Uy-	0	0	0	0	0	0
993	SLU 1	-87	-12	5526	-1266.32	-951.03	-23.35
993	SLU 2	-82	18	5400	-1240.05	-929.37	-16.94
993	SLU 3	-89	-13	5688	-1302.92	-978.93	-24.16
993	SLU 4	-86	5	5613	-1287.15	-965.93	-20.31
993	SLU 5	-84	17	5510	-1264.7	-948.21	-17.38
993	SLU 6	-90	-13	5798	-1327.57	-997.77	-24.59
993	SLU 7	-88	4	5723	-1311.81	-984.77	-20.75
993	SLU 8	-89	-13	5745	-1315.63	-988.71	-24.23
993	SLU 9	-87	5	5670	-1299.87	-975.71	-20.38
993	SLU 10	-89	18	6084	-1395.52	-1046.58	-18.57
993	SLU 11	-96	-12	6371	-1458.39	-1096.15	-25.78
993	SLU 12	-93	6	6296	-1442.63	-1083.15	-21.94
993	SLU 13	-91	18	6193	-1420.18	-1065.42	-19.01
993	SLU 14	-97	-13	6481	-1483.04	-1114.98	-26.22
993	SLU 15	-95	5	6406	-1467.28	-1101.98	-22.38
993	SLU 16	-96	-12	6428	-1471.1	-1105.92	-25.86
993	SLU 17	-94	6	6353	-1455.34	-1092.92	-22.01
993	SLU 18	-96	-11	6501	-1488.43	-1118.48	-25.68
993	SLU 19	-94	7	6426	-1472.66	-1105.49	-21.83
993	SLU 20	-98	-11	6611	-1513.08	-1137.32	-26.11
993	SLU 21	-95	6	6536	-1497.31	-1124.32	-22.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
993	SLU 22	-99	-16	6466	-1479.19	-1112.48	-27.14
993	SLU 23	-95	14	6341	-1452.91	-1090.82	-20.73
993	SLU 24	-101	-17	6629	-1515.78	-1140.38	-27.94
993	SLU 25	-99	1	6554	-1500.02	-1127.38	-24.09
993	SLU 26	-96	13	6451	-1477.57	-1109.65	-21.17
993	SLU 27	-103	-17	6739	-1540.44	-1159.21	-28.38
993	SLU 28	-100	0	6663	-1524.67	-1146.22	-24.53
993	SLU 29	-102	-17	6686	-1528.49	-1150.15	-28.01
993	SLU 30	-99	1	6611	-1512.73	-1137.16	-24.17
993	SLU 31	-102	14	7024	-1608.39	-1208.03	-22.35
993	SLU 32	-108	-16	7312	-1671.25	-1257.59	-29.57
993	SLU 33	-106	1	7237	-1655.49	-1244.6	-25.72
993	SLU 34	-103	14	7134	-1633.04	-1226.87	-22.79
993	SLU 35	-110	-17	7422	-1695.91	-1276.43	-30
993	SLU 36	-107	1	7347	-1680.14	-1263.43	-26.16
993	SLU 37	-109	-16	7369	-1683.97	-1267.37	-29.64
993	SLU 38	-106	1	7294	-1668.2	-1254.37	-25.79
993	SLU 39	-109	-15	7442	-1701.29	-1279.93	-29.46
993	SLU 40	-106	3	7367	-1685.53	-1266.93	-25.62
993	SLU 41	-110	-15	7552	-1725.94	-1298.77	-29.9
993	SLU 42	-108	2	7477	-1710.18	-1285.77	-26.05
993	SLU 43	-108	-14	6861	-1573.24	-1180.99	-29.06
993	SLU 44	-104	16	6736	-1546.97	-1159.32	-22.65
993	SLU 45	-111	-15	7023	-1609.83	-1208.89	-29.86
993	SLU 46	-108	3	6948	-1594.07	-1195.89	-26.02
993	SLU 47	-105	15	6845	-1571.62	-1178.16	-23.09
993	SLU 48	-112	-15	7133	-1634.49	-1227.72	-30.3
993	SLU 49	-110	2	7058	-1618.72	-1214.72	-26.46
993	SLU 50	-111	-15	7080	-1622.55	-1218.66	-29.94
993	SLU 51	-109	3	7005	-1606.78	-1205.66	-26.09
993	SLU 52	-111	16	7419	-1702.44	-1276.54	-24.28
993	SLU 53	-118	-14	7706	-1765.3	-1326.1	-31.49
993	SLU 54	-115	3	7631	-1749.54	-1313.1	-27.65
993	SLU 55	-112	16	7528	-1727.09	-1295.38	-24.72
993	SLU 56	-119	-15	7816	-1789.96	-1344.94	-31.93
993	SLU 57	-117	3	7741	-1774.19	-1331.94	-28.08
993	SLU 58	-118	-14	7763	-1778.02	-1335.88	-31.56
993	SLU 59	-116	4	7688	-1762.25	-1322.88	-27.72
993	SLU 60	-118	-13	7837	-1795.34	-1348.44	-31.38
993	SLU 61	-116	5	7762	-1779.58	-1335.44	-27.54
993	SLU 62	-120	-13	7946	-1819.99	-1367.28	-31.82
993	SLU 63	-117	4	7871	-1804.23	-1354.28	-27.98
993	SLU 64	-121	-18	7801	-1786.1	-1342.44	-32.84
993	SLU 65	-116	12	7676	-1759.83	-1320.77	-26.44
993	SLU 66	-123	-19	7964	-1822.7	-1370.33	-33.65
993	SLU 67	-121	-1	7889	-1806.93	-1357.34	-29.8
993	SLU 68	-118	11	7786	-1784.48	-1339.61	-26.87
993	SLU 69	-125	-19	8074	-1847.35	-1389.17	-34.09
993	SLU 70	-122	-2	7999	-1831.59	-1376.17	-30.24
993	SLU 71	-123	-19	8021	-1835.41	-1380.11	-33.72
993	SLU 72	-121	-1	7946	-1819.65	-1367.11	-29.88
993	SLU 73	-123	12	8359	-1915.3	-1437.99	-28.06
993	SLU 74	-130	-18	8647	-1978.17	-1487.55	-35.27
993	SLU 75	-127	-1	8572	-1962.4	-1474.55	-31.43
993	SLU 76	-125	12	8469	-1939.95	-1456.83	-28.5
993	SLU 77	-132	-19	8757	-2002.82	-1506.39	-35.71
993	SLU 78	-129	-1	8682	-1987.06	-1493.39	-31.87
993	SLU 79	-130	-18	8704	-1990.88	-1497.33	-35.35
993	SLU 80	-128	-1	8629	-1975.12	-1484.33	-31.5
993	SLU 81	-131	-17	8777	-2008.2	-1509.89	-35.17
993	SLU 82	-128	1	8702	-1992.44	-1496.89	-31.32
993	SLU 83	-132	-17	8887	-2032.86	-1528.72	-35.61
993	SLU 84	-129	0	8812	-2017.09	-1515.73	-31.76
993	SLE RA 1	-90	-13	5794	-1327.14	-997.16	-24.43
993	SLE RA 2	-87	7	5711	-1309.63	-982.72	-20.16
993	SLE RA 3	-92	-13	5903	-1351.54	-1015.76	-24.97
993	SLE RA 4	-90	-2	5853	-1341.03	-1007.09	-22.4
993	SLE RA 5	-88	7	5784	-1326.06	-995.28	-20.45
993	SLE RA 6	-93	-14	5976	-1367.97	-1028.32	-25.26
993	SLE RA 7	-91	-2	5926	-1357.46	-1019.65	-22.7
993	SLE RA 8	-92	-13	5941	-1360.01	-1022.28	-25.02
993	SLE RA 9	-90	-2	5891	-1349.5	-1013.61	-22.45
993	SLE RA 10	-92	7	6166	-1413.27	-1060.86	-21.25
993	SLE RA 11	-96	-13	6358	-1455.19	-1093.9	-26.05
993	SLE RA 12	-95	-1	6308	-1444.68	-1085.24	-23.49
993	SLE RA 13	-93	7	6239	-1429.71	-1073.42	-21.54
993	SLE RA 14	-97	-13	6431	-1471.62	-1106.46	-26.35
993	SLE RA 15	-96	-2	6381	-1461.11	-1097.79	-23.78
993	SLE RA 16	-97	-13	6396	-1463.66	-1100.42	-26.1
993	SLE RA 17	-95	-1	6346	-1453.15	-1091.75	-23.54
993	SLE RA 18	-97	-12	6445	-1475.21	-1108.79	-25.98
993	SLE RA 19	-95	0	6395	-1464.7	-1100.13	-23.42
993	SLE RA 20	-98	-13	6518	-1491.65	-1121.35	-26.27
993	SLE RA 21	-96	-1	6468	-1481.14	-1112.69	-23.71
993	SLE FR 1	-90	-13	5794	-1327.14	-997.16	-24.43
993	SLE FR 2	-89	-9	5778	-1323.64	-994.27	-23.58
993	SLE FR 3	-90	-13	5824	-1333.72	-1002.18	-24.55
993	SLE FR 4	-91	-9	5973	-1368.06	-1027.76	-24.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
993	SLE FR 5	-92	-13	6019	-1378.14	-1035.67	-25.01
993	SLE FR 6	-93	-12	6120	-1401.18	-1052.98	-25.21
993	SLE QP 1	-90	-13	5794	-1327.14	-997.16	-24.43
993	SLE QP 2	-92	-13	5989	-1371.56	-1030.65	-24.9
993	SLD 1	421	204	6670	-1546.82	-1138.58	146.96
993	SLD 2	332	57	6813	-1576.7	-1163.08	98.14
993	SLD 3	365	-167	8523	-1936.16	-1459.87	65.8
993	SLD 4	275	-314	8667	-1966.03	-1484.38	16.98
993	SLD 5	163	640	3358	-828.46	-571.48	158.22
993	SLD 6	105	545	3451	-847.79	-587.34	126.64
993	SLD 7	-25	-596	9535	-2126.25	-1642.46	-112.31
993	SLD 8	-83	-691	9628	-2145.58	-1658.31	-143.9
993	SLD 9	-101	665	2351	-597.54	-402.99	94.1
993	SLD 10	-159	571	2444	-616.87	-418.84	62.52
993	SLD 11	-289	-570	8528	-1895.34	-1473.96	-176.43
993	SLD 12	-347	-665	8621	-1914.66	-1489.82	-208.02
993	SLD 13	-459	289	3312	-777.09	-576.92	-66.78
993	SLD 14	-549	142	3456	-806.96	-601.43	-115.59
993	SLD 15	-516	-82	5166	-1166.43	-898.22	-147.94
993	SLD 16	-605	-229	5309	-1196.3	-922.72	-196.75
993	SLV 1	715	349	6930	-1619.55	-1178.03	249.6
993	SLV 2	574	118	7156	-1666.58	-1216.61	172.73
993	SLV 3	620	-277	10061	-2277.25	-1720.79	112.48
993	SLV 4	479	-508	10286	-2324.28	-1759.38	35.62
993	SLV 5	321	1089	1482	-439.68	-244.47	279.75
993	SLV 6	226	934	1634	-471.34	-270.44	228.01
993	SLV 7	4	-999	11917	-2632	-2053.69	-177.3
993	SLV 8	-91	-1154	12069	-2663.66	-2079.67	-229.05
993	SLV 9	-93	1129	-90	-79.46	18.37	179.25
993	SLV 10	-188	974	62	-111.13	-7.61	127.5
993	SLV 11	-410	-959	10345	-2271.78	-1790.86	-277.8
993	SLV 12	-505	-1114	10497	-2303.45	-1816.84	-329.55
993	SLV 13	-663	483	1693	-418.84	-301.92	-85.41
993	SLV 14	-804	252	1918	-465.88	-340.51	-162.28
993	SLV 15	-759	-143	4823	-1076.54	-844.69	-222.53
993	SLV 16	-899	-374	5049	-1123.57	-883.27	-299.39
993	SLV FO 1	796	385	7024	-1644.35	-1192.76	277.05
993	SLV FO 2	641	131	7273	-1696.09	-1235.21	192.5
993	SLV FO 3	691	-304	10468	-2367.81	-1789.81	126.22
993	SLV FO 4	536	-558	10716	-2419.55	-1832.25	41.67
993	SLV FO 5	362	1199	1031	-346.49	-165.85	310.22
993	SLV FO 6	258	1028	1198	-381.32	-194.42	253.3
993	SLV FO 7	13	-1097	12509	-2758.04	-2155.99	-192.54
993	SLV FO 8	-91	-1269	12677	-2792.87	-2184.57	-249.46
993	SLV FO 9	-93	1243	-698	49.75	123.27	199.67
993	SLV FO 10	-197	1072	-530	14.91	94.69	142.74
993	SLV FO 11	-442	-1053	10781	-2361.81	-1866.88	-303.09
993	SLV FO 12	-546	-1224	10948	-2396.64	-1895.45	-360.02
993	SLV FO 13	-721	533	1263	-323.57	-229.05	-91.47
993	SLV FO 14	-875	279	1511	-375.31	-271.49	-176.01
993	SLV FO 15	-825	-156	4706	-1047.04	-826.09	-242.29
993	SLV FO 16	-980	-411	4955	-1098.78	-868.54	-326.84
993	CRTFP Ux+	0	0	0	0	0	0
993	CRTFP Ux-	0	0	0	0	0	0
993	CRTFP Uy+	0	0	0	-0.01	0	0
993	CRTFP Uy-	0	0	0	0.01	0	0
995	SLU 1	-64	-5	3862	-1066.4	-99.21	-22.45
995	SLU 2	-61	16	3777	-1045.48	-97.06	-20.85
995	SLU 3	-66	-6	3974	-1096.52	-102.09	-23.08
995	SLU 4	-64	7	3923	-1083.97	-100.79	-22.13
995	SLU 5	-62	16	3853	-1065.76	-99	-21.21
995	SLU 6	-67	-6	4050	-1116.8	-104.02	-23.45
995	SLU 7	-65	7	3999	-1104.25	-102.73	-22.49
995	SLU 8	-66	-6	4014	-1106.95	-103.09	-23.17
995	SLU 9	-64	7	3963	-1094.4	-101.8	-22.22
995	SLU 10	-66	17	4252	-1173.8	-109.23	-22.66
995	SLU 11	-71	-5	4450	-1224.84	-114.26	-24.89
995	SLU 12	-69	8	4399	-1212.29	-112.96	-23.94
995	SLU 13	-67	16	4328	-1194.07	-111.17	-23.02
995	SLU 14	-72	-6	4526	-1245.12	-116.19	-25.26
995	SLU 15	-70	7	4475	-1232.56	-114.9	-24.3
995	SLU 16	-71	-5	4489	-1235.27	-115.26	-24.98
995	SLU 17	-70	8	4438	-1222.72	-113.97	-24.03
995	SLU 18	-72	-4	4541	-1249.71	-116.6	-25.03
995	SLU 19	-70	8	4490	-1237.16	-115.31	-24.08
995	SLU 20	-73	-5	4617	-1269.98	-118.54	-25.4
995	SLU 21	-71	8	4566	-1257.43	-117.24	-24.44
995	SLU 22	-73	-8	4515	-1241.76	-115.92	-25.67
995	SLU 23	-70	14	4430	-1220.84	-113.76	-24.08
995	SLU 24	-75	-8	4628	-1271.88	-118.79	-26.31
995	SLU 25	-73	4	4577	-1259.33	-117.49	-25.36
995	SLU 26	-71	13	4506	-1241.12	-115.7	-24.44
995	SLU 27	-76	-9	4704	-1292.16	-120.72	-26.68
995	SLU 28	-74	4	4653	-1279.61	-119.43	-25.72
995	SLU 29	-75	-8	4667	-1282.31	-119.79	-26.4
995	SLU 30	-74	5	4616	-1269.76	-118.5	-25.44
995	SLU 31	-76	14	4906	-1349.16	-125.93	-25.89
995	SLU 32	-80	-8	5103	-1400.2	-130.96	-28.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
995	SLU 33	-78	5	5052	-1387.65	-129.66	-27.17
995	SLU 34	-77	14	4982	-1369.43	-127.87	-26.25
995	SLU 35	-81	-8	5179	-1420.48	-132.9	-28.49
995	SLU 36	-80	5	5128	-1407.92	-131.6	-27.53
995	SLU 37	-81	-8	5143	-1410.63	-131.96	-28.21
995	SLU 38	-79	5	5092	-1398.08	-130.67	-27.25
995	SLU 39	-81	-7	5194	-1425.07	-133.3	-28.26
995	SLU 40	-79	6	5144	-1412.52	-132.01	-27.3
995	SLU 41	-82	-7	5270	-1445.35	-135.24	-28.62
995	SLU 42	-80	6	5219	-1432.79	-133.95	-27.67
995	SLU 43	-80	-6	4796	-1326.19	-123.25	-28.07
995	SLU 44	-77	15	4711	-1305.27	-121.1	-26.48
995	SLU 45	-82	-6	4909	-1356.32	-126.12	-28.71
995	SLU 46	-80	6	4858	-1343.77	-124.83	-27.75
995	SLU 47	-78	15	4787	-1325.55	-123.03	-26.84
995	SLU 48	-83	-7	4985	-1376.59	-128.06	-29.07
995	SLU 49	-81	6	4934	-1364.04	-126.77	-28.12
995	SLU 50	-82	-6	4948	-1366.75	-127.13	-28.8
995	SLU 51	-81	6	4897	-1354.19	-125.83	-27.84
995	SLU 52	-83	16	5187	-1433.59	-133.27	-28.29
995	SLU 53	-87	-6	5384	-1484.64	-138.29	-30.52
995	SLU 54	-86	7	5334	-1472.08	-137	-29.56
995	SLU 55	-84	16	5263	-1453.87	-135.2	-28.65
995	SLU 56	-88	-6	5460	-1504.91	-140.23	-30.88
995	SLU 57	-87	7	5410	-1492.36	-138.94	-29.93
995	SLU 58	-88	-6	5424	-1495.06	-139.3	-30.61
995	SLU 59	-86	7	5373	-1482.51	-138	-29.65
995	SLU 60	-88	-5	5476	-1509.5	-140.64	-30.66
995	SLU 61	-86	8	5425	-1496.95	-139.34	-29.7
995	SLU 62	-89	-5	5552	-1529.78	-142.58	-31.02
995	SLU 63	-87	7	5501	-1517.23	-141.28	-30.07
995	SLU 64	-89	-8	5450	-1501.55	-139.95	-31.3
995	SLU 65	-86	13	5365	-1480.64	-137.8	-29.71
995	SLU 66	-91	-9	5562	-1531.68	-142.83	-31.94
995	SLU 67	-89	4	5511	-1519.13	-141.53	-30.98
995	SLU 68	-87	13	5441	-1500.91	-139.73	-30.07
995	SLU 69	-92	-9	5638	-1551.95	-144.76	-32.3
995	SLU 70	-90	4	5587	-1539.4	-143.47	-31.35
995	SLU 71	-91	-9	5602	-1542.11	-143.83	-32.03
995	SLU 72	-90	4	5551	-1529.55	-142.53	-31.07
995	SLU 73	-92	13	5840	-1608.95	-149.97	-31.52
995	SLU 74	-96	-8	6038	-1660	-155	-33.75
995	SLU 75	-95	4	5987	-1647.44	-153.7	-32.79
995	SLU 76	-93	13	5916	-1629.23	-151.91	-31.88
995	SLU 77	-97	-9	6114	-1680.27	-156.93	-34.11
995	SLU 78	-96	4	6063	-1667.72	-155.64	-33.16
995	SLU 79	-97	-8	6077	-1670.42	-156	-33.84
995	SLU 80	-95	4	6026	-1657.87	-154.7	-32.88
995	SLU 81	-97	-8	6129	-1684.86	-157.34	-33.89
995	SLU 82	-95	5	6078	-1672.31	-156.05	-32.93
995	SLU 83	-98	-8	6205	-1705.14	-159.28	-34.25
995	SLU 84	-96	5	6154	-1692.59	-157.98	-33.29
995	SLE RA 1	-67	-6	4048	-1116.5	-103.99	-23.37
995	SLE RA 2	-65	8	3992	-1102.56	-102.55	-22.31
995	SLE RA 3	-68	-6	4124	-1136.58	-105.9	-23.79
995	SLE RA 4	-67	2	4090	-1128.22	-105.04	-23.16
995	SLE RA 5	-65	8	4043	-1116.07	-103.84	-22.55
995	SLE RA 6	-69	-6	4174	-1150.1	-107.19	-24.04
995	SLE RA 7	-67	2	4140	-1141.73	-106.33	-23.4
995	SLE RA 8	-68	-6	4150	-1143.54	-106.57	-23.85
995	SLE RA 9	-67	2	4116	-1135.17	-105.71	-23.21
995	SLE RA 10	-68	9	4309	-1188.1	-110.66	-23.51
995	SLE RA 11	-71	-6	4441	-1222.13	-114.01	-25
995	SLE RA 12	-70	3	4407	-1213.76	-113.15	-24.36
995	SLE RA 13	-69	9	4360	-1201.62	-111.95	-23.75
995	SLE RA 14	-72	-6	4491	-1235.65	-115.31	-25.24
995	SLE RA 15	-71	2	4457	-1227.28	-114.44	-24.61
995	SLE RA 16	-72	-6	4467	-1229.08	-114.68	-25.06
995	SLE RA 17	-70	3	4433	-1220.71	-113.82	-24.42
995	SLE RA 18	-72	-5	4501	-1238.71	-115.58	-25.09
995	SLE RA 19	-71	3	4467	-1230.34	-114.71	-24.45
995	SLE RA 20	-72	-6	4552	-1252.23	-116.87	-25.33
995	SLE RA 21	-71	3	4518	-1243.86	-116.01	-24.7
995	SLE FR 1	-67	-6	4048	-1116.5	-103.99	-23.37
995	SLE FR 2	-66	-3	4037	-1113.71	-103.7	-23.16
995	SLE FR 3	-67	-6	4069	-1121.91	-104.5	-23.47
995	SLE FR 4	-68	-3	4173	-1150.37	-107.18	-23.67
995	SLE FR 5	-68	-6	4205	-1158.57	-107.98	-23.98
995	SLE FR 6	-69	-6	4275	-1177.6	-109.78	-24.23
995	SLE QP 1	-67	-6	4048	-1116.5	-103.99	-23.37
995	SLE QP 2	-68	-6	4184	-1153.16	-107.46	-23.89
995	SLD 1	316	151	4647	-1302.42	-118.19	115.23
995	SLD 2	251	45	4743	-1326	-120.55	89.59
995	SLD 3	278	-118	5907	-1612.82	-150.27	94.76
995	SLD 4	212	-224	6003	-1636.4	-152.63	69.12
995	SLD 5	117	467	2395	-723.07	-61.62	53.34
995	SLD 6	74	399	2457	-738.33	-63.15	36.75
995	SLD 7	-11	-429	6596	-1757.75	-168.55	-14.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
995	SLD 8	-54	-497	6658	-1773	-170.07	-31.48
995	SLD 9	-83	486	1711	-533.32	-44.85	-16.29
995	SLD 10	-125	418	1773	-548.58	-46.38	-32.88
995	SLD 11	-211	-411	5912	-1568	-151.78	-84.52
995	SLD 12	-253	-479	5973	-1583.25	-153.3	-101.11
995	SLD 13	-349	212	2366	-669.92	-62.3	-116.89
995	SLD 14	-414	107	2461	-693.51	-64.66	-142.53
995	SLD 15	-387	-57	3626	-980.32	-94.37	-137.36
995	SLD 16	-453	-162	3722	-1003.91	-96.73	-163
995	SLV 1	536	256	4824	-1365.74	-122.11	195.34
995	SLV 2	433	90	4974	-1402.87	-125.82	154.96
995	SLV 3	471	-198	6953	-1890.09	-176.3	160.77
995	SLV 4	368	-365	7103	-1927.23	-180.01	120.39
995	SLV 5	231	793	1119	-414.74	-28.98	101.85
995	SLV 6	162	681	1221	-439.74	-31.48	74.66
995	SLV 7	14	-722	8216	-2162.58	-209.61	-13.38
995	SLV 8	-55	-834	8317	-2187.58	-212.11	-40.57
995	SLV 9	-81	822	52	-118.75	-2.82	-7.21
995	SLV 10	-151	710	153	-143.75	-5.32	-34.39
995	SLV 11	-298	-693	7148	-1866.59	-183.45	-122.43
995	SLV 12	-367	-805	7249	-1891.59	-185.95	-149.62
995	SLV 13	-505	353	1266	-379.1	-34.92	-168.17
995	SLV 14	-608	187	1416	-416.23	-38.63	-208.54
995	SLV 15	-570	-101	3394	-903.45	-89.1	-202.73
995	SLV 16	-673	-268	3545	-940.58	-92.82	-243.11
995	SLV FO 1	597	282	4888	-1387	-123.57	217.26
995	SLV FO 2	483	99	5053	-1427.85	-127.66	172.85
995	SLV FO 3	525	-218	7230	-1963.79	-183.18	179.24
995	SLV FO 4	412	-400	7395	-2004.63	-187.27	134.82
995	SLV FO 5	261	873	813	-340.9	-21.13	114.42
995	SLV FO 6	185	750	924	-368.4	-23.88	84.52
995	SLV FO 7	23	-793	8619	-2263.52	-219.82	-12.33
995	SLV FO 8	-54	-916	8730	-2291.02	-222.57	-42.23
995	SLV FO 9	-83	905	-361	-15.3	7.64	-5.54
995	SLV FO 10	-159	782	-250	-42.8	4.89	-35.44
995	SLV FO 11	-321	-761	7445	-1937.93	-191.05	-132.29
995	SLV FO 12	-397	-884	7556	-1965.43	-193.8	-162.19
995	SLV FO 13	-548	389	974	-301.69	-27.66	-182.59
995	SLV FO 14	-662	206	1139	-342.54	-31.75	-227.01
995	SLV FO 15	-620	-111	3316	-878.48	-87.27	-220.62
995	SLV FO 16	-733	-294	3481	-919.33	-91.35	-265.03
995	CRTFP Ux+	0	0	0	0	0	0
995	CRTFP Ux-	0	0	0	0	0	0
995	CRTFP Uy+	0	0	0	0	0	0
995	CRTFP Uy-	0	0	0	0	0	0
996	SLU 1	-75	0	4131	-990.74	11.06	-25.86
996	SLU 2	-71	23	4041	-971.96	10.78	-24.72
996	SLU 3	-77	0	4250	-1018.1	11.41	-26.57
996	SLU 4	-75	14	4196	-1006.83	11.24	-25.89
996	SLU 5	-72	23	4122	-990.37	11.01	-25.13
996	SLU 6	-78	0	4331	-1036.51	11.65	-26.98
996	SLU 7	-76	14	4277	-1025.24	11.48	-26.3
996	SLU 8	-77	0	4292	-1027.56	11.53	-26.68
996	SLU 9	-75	14	4238	-1016.29	11.36	-25.99
996	SLU 10	-77	24	4548	-1088.4	12.19	-26.85
996	SLU 11	-83	1	4757	-1134.54	12.82	-28.7
996	SLU 12	-81	15	4703	-1123.27	12.65	-28.02
996	SLU 13	-78	24	4629	-1106.81	12.42	-27.26
996	SLU 14	-84	1	4838	-1152.95	13.06	-29.11
996	SLU 15	-82	15	4784	-1141.68	12.89	-28.43
996	SLU 16	-83	1	4799	-1144	12.95	-28.81
996	SLU 17	-81	15	4745	-1132.73	12.77	-28.13
996	SLU 18	-83	1	4855	-1157.08	13.07	-28.9
996	SLU 19	-81	15	4801	-1145.81	12.9	-28.22
996	SLU 20	-84	1	4936	-1175.49	13.31	-29.31
996	SLU 21	-82	15	4882	-1164.22	13.14	-28.63
996	SLU 22	-85	-2	4826	-1149.85	13.03	-29.52
996	SLU 23	-82	22	4737	-1131.07	12.75	-28.38
996	SLU 24	-87	-2	4946	-1177.21	13.38	-30.24
996	SLU 25	-85	12	4892	-1165.94	13.21	-29.55
996	SLU 26	-83	22	4817	-1149.48	12.99	-28.79
996	SLU 27	-88	-2	5027	-1195.62	13.62	-30.65
996	SLU 28	-86	12	4973	-1184.35	13.45	-29.96
996	SLU 29	-87	-2	4988	-1186.67	13.51	-30.34
996	SLU 30	-85	12	4934	-1175.4	13.34	-29.66
996	SLU 31	-88	22	5243	-1247.51	14.16	-30.51
996	SLU 32	-93	-1	5453	-1293.65	14.79	-32.37
996	SLU 33	-91	13	5399	-1282.38	14.62	-31.68
996	SLU 34	-89	22	5324	-1265.92	14.4	-30.92
996	SLU 35	-94	-1	5533	-1312.06	15.03	-32.78
996	SLU 36	-92	13	5480	-1300.79	14.86	-32.1
996	SLU 37	-94	-1	5495	-1303.11	14.92	-32.47
996	SLU 38	-92	13	5441	-1291.84	14.75	-31.79
996	SLU 39	-94	0	5550	-1316.19	15.05	-32.56
996	SLU 40	-92	14	5497	-1304.92	14.88	-31.88
996	SLU 41	-95	0	5631	-1334.6	15.29	-32.98
996	SLU 42	-93	13	5577	-1323.33	15.11	-32.29
996	SLU 43	-93	1	5131	-1233.4	13.7	-32.36

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
996	SLU 44	-90	24	5042	-1214.62	13.42	-31.22
996	SLU 45	-95	1	5251	-1260.76	14.05	-33.07
996	SLU 46	-93	14	5197	-1249.5	13.88	-32.39
996	SLU 47	-91	24	5122	-1233.03	13.65	-31.63
996	SLU 48	-97	0	5332	-1279.17	14.29	-33.48
996	SLU 49	-94	14	5278	-1267.91	14.12	-32.8
996	SLU 50	-96	1	5293	-1270.22	14.18	-33.18
996	SLU 51	-94	15	5239	-1258.96	14.01	-32.49
996	SLU 52	-96	25	5549	-1331.06	14.83	-33.35
996	SLU 53	-101	1	5758	-1377.2	15.46	-35.2
996	SLU 54	-99	15	5704	-1365.94	15.29	-34.52
996	SLU 55	-97	25	5629	-1349.47	15.06	-33.76
996	SLU 56	-103	1	5839	-1395.61	15.7	-35.61
996	SLU 57	-101	15	5785	-1384.35	15.53	-34.93
996	SLU 58	-102	2	5800	-1386.66	15.59	-35.31
996	SLU 59	-100	16	5746	-1375.4	15.42	-34.63
996	SLU 60	-102	2	5856	-1399.75	15.72	-35.4
996	SLU 61	-100	16	5802	-1388.48	15.55	-34.72
996	SLU 62	-103	2	5936	-1418.16	15.95	-35.81
996	SLU 63	-101	16	5882	-1406.89	15.78	-35.13
996	SLU 64	-104	-1	5827	-1392.52	15.67	-36.02
996	SLU 65	-100	22	5737	-1373.74	15.39	-34.88
996	SLU 66	-106	-1	5947	-1419.88	16.03	-36.74
996	SLU 67	-104	13	5893	-1408.61	15.85	-36.05
996	SLU 68	-102	22	5818	-1392.15	15.63	-35.29
996	SLU 69	-107	-1	6027	-1438.29	16.26	-37.15
996	SLU 70	-105	13	5973	-1427.02	16.09	-36.46
996	SLU 71	-106	-1	5988	-1429.34	16.15	-36.84
996	SLU 72	-104	13	5934	-1418.07	15.98	-36.16
996	SLU 73	-107	23	6244	-1490.18	16.8	-37.01
996	SLU 74	-112	0	6454	-1536.32	17.44	-38.87
996	SLU 75	-110	13	6400	-1525.05	17.27	-38.18
996	SLU 76	-108	23	6325	-1508.59	17.04	-37.42
996	SLU 77	-113	0	6534	-1554.73	17.67	-39.28
996	SLU 78	-111	13	6480	-1543.46	17.5	-38.6
996	SLU 79	-112	0	6495	-1545.78	17.56	-38.97
996	SLU 80	-110	14	6441	-1534.51	17.39	-38.29
996	SLU 81	-113	0	6551	-1558.86	17.69	-39.06
996	SLU 82	-111	14	6497	-1547.59	17.52	-38.38
996	SLU 83	-114	0	6632	-1577.27	17.93	-39.48
996	SLU 84	-112	14	6578	-1566	17.76	-38.79
996	SLE RA 1	-78	0	4329	-1036.2	11.62	-26.9
996	SLE RA 2	-75	15	4270	-1023.68	11.43	-26.14
996	SLE RA 3	-79	-1	4409	-1054.44	11.86	-27.38
996	SLE RA 4	-78	9	4373	-1046.93	11.74	-26.92
996	SLE RA 5	-76	15	4323	-1035.95	11.59	-26.42
996	SLE RA 6	-80	-1	4463	-1066.71	12.02	-27.65
996	SLE RA 7	-78	9	4427	-1059.2	11.9	-27.2
996	SLE RA 8	-79	0	4437	-1060.74	11.94	-27.45
996	SLE RA 9	-78	9	4401	-1053.23	11.83	-27
996	SLE RA 10	-79	16	4608	-1101.3	12.37	-27.56
996	SLE RA 11	-83	0	4747	-1132.06	12.8	-28.8
996	SLE RA 12	-82	9	4711	-1124.55	12.68	-28.35
996	SLE RA 13	-80	16	4661	-1113.58	12.53	-27.84
996	SLE RA 14	-84	0	4801	-1144.34	12.96	-29.07
996	SLE RA 15	-82	9	4765	-1136.83	12.84	-28.62
996	SLE RA 16	-83	0	4775	-1138.37	12.88	-28.87
996	SLE RA 17	-82	9	4739	-1130.86	12.77	-28.42
996	SLE RA 18	-83	1	4812	-1147.09	12.97	-28.93
996	SLE RA 19	-82	10	4776	-1139.58	12.85	-28.48
996	SLE RA 20	-84	0	4866	-1159.37	13.13	-29.21
996	SLE RA 21	-83	10	4830	-1151.85	13.01	-28.75
996	SLE FR 1	-78	0	4329	-1036.2	11.62	-26.9
996	SLE FR 2	-77	3	4317	-1033.69	11.59	-26.75
996	SLE FR 3	-78	0	4351	-1041.11	11.69	-27.01
996	SLE FR 4	-79	3	4462	-1066.96	11.99	-27.36
996	SLE FR 5	-80	0	4496	-1074.37	12.09	-27.62
996	SLE FR 6	-80	0	4571	-1091.64	12.3	-27.92
996	SLE QP 1	-78	0	4329	-1036.2	11.62	-26.9
996	SLE QP 2	-79	0	4474	-1069.47	12.03	-27.51
996	SLD 1	366	236	4920	-1199	15.1	127.99
996	SLD 2	290	122	5018	-1219.72	15.53	101.79
996	SLD 3	321	-57	6255	-1478.51	19.2	113.12
996	SLD 4	246	-170	6353	-1499.23	19.63	86.92
996	SLD 5	135	534	2567	-680.81	6.66	46.23
996	SLD 6	86	460	2630	-694.22	6.94	29.28
996	SLD 7	-13	-441	7016	-1612.5	20.32	-3.32
996	SLD 8	-62	-514	7079	-1625.91	20.59	-20.28
996	SLD 9	-96	514	1869	-513.02	3.46	-34.75
996	SLD 10	-145	441	1933	-526.43	3.73	-51.7
996	SLD 11	-244	-461	6318	-1444.71	17.12	-84.3
996	SLD 12	-293	-534	6382	-1458.12	17.39	-101.26
996	SLD 13	-404	170	2595	-639.7	4.43	-141.94
996	SLD 14	-480	57	2693	-660.42	4.85	-168.14
996	SLD 15	-449	-122	3930	-919.21	8.53	-156.81
996	SLD 16	-524	-236	4028	-939.93	8.95	-183.01
996	SLV 1	621	388	5083	-1253.3	16.56	217.01
996	SLV 2	502	209	5237	-1285.93	17.23	175.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
996	SLV 3	546	-106	7338	-1725.47	23.48	191.9
996	SLV 4	427	-285	7492	-1758.1	24.15	150.65
996	SLV 5	267	899	1208	-402.39	2.77	91.62
996	SLV 6	186	779	1312	-424.36	3.21	63.85
996	SLV 7	17	-748	8724	-1976.31	25.83	7.93
996	SLV 8	-63	-869	8828	-1998.28	26.28	-19.84
996	SLV 9	-95	868	120	-140.65	-2.23	-35.18
996	SLV 10	-175	748	224	-162.62	-1.78	-62.96
996	SLV 11	-345	-779	7636	-1714.57	20.84	-118.87
996	SLV 12	-425	-899	7740	-1736.54	21.29	-146.65
996	SLV 13	-585	285	1456	-380.83	-0.09	-205.67
996	SLV 14	-704	106	1611	-413.46	0.57	-246.93
996	SLV 15	-660	-209	3711	-853	6.83	-230.78
996	SLV 16	-779	-388	3865	-885.64	7.49	-272.03
996	SLV FO 1	691	427	5144	-1271.68	17.01	241.46
996	SLV FO 2	560	230	5314	-1307.57	17.75	196.08
996	SLV FO 3	608	-117	7624	-1791.07	24.63	213.84
996	SLV FO 4	477	-314	7794	-1826.96	25.36	168.46
996	SLV FO 5	301	989	881	-335.69	1.84	103.54
996	SLV FO 6	213	857	996	-359.85	2.33	72.98
996	SLV FO 7	27	-823	9150	-2066.99	27.22	11.48
996	SLV FO 8	-62	-955	9264	-2091.16	27.71	-19.07
996	SLV FO 9	-97	955	-315	-47.77	-3.66	-35.95
996	SLV FO 10	-185	823	-201	-71.94	-3.16	-66.5
996	SLV FO 11	-371	-857	7953	-1779.08	21.72	-128.01
996	SLV FO 12	-460	-989	8067	-1803.24	22.21	-158.56
996	SLV FO 13	-636	314	1154	-311.97	-1.31	-223.49
996	SLV FO 14	-767	117	1324	-347.86	-0.57	-268.87
996	SLV FO 15	-718	-230	3635	-831.36	6.31	-251.11
996	SLV FO 16	-849	-427	3805	-867.25	7.04	-296.49
996	CRTFP Ux+	0	0	0	0	0	0
996	CRTFP Ux-	0	0	0	0	0	0
996	CRTFP Uy+	0	0	0	0	0	0
996	CRTFP Uy-	0	0	0	0	0	0
997	SLU 1	-75	7	3844	-796.22	8.31	-25.94
997	SLU 2	-71	28	3762	-781.9	8.09	-24.8
997	SLU 3	-77	7	3954	-817.56	8.57	-26.65
997	SLU 4	-75	20	3905	-808.98	8.44	-25.97
997	SLU 5	-73	29	3836	-796.26	8.26	-25.21
997	SLU 6	-78	7	4029	-831.92	8.75	-27.06
997	SLU 7	-76	20	3979	-823.33	8.62	-26.38
997	SLU 8	-77	7	3993	-824.93	8.67	-26.76
997	SLU 9	-75	20	3943	-816.34	8.53	-26.08
997	SLU 10	-78	30	4232	-872.81	9.13	-26.96
997	SLU 11	-83	8	4425	-908.47	9.62	-28.81
997	SLU 12	-81	21	4376	-899.88	9.48	-28.13
997	SLU 13	-79	30	4307	-887.16	9.31	-27.37
997	SLU 14	-84	8	4499	-922.82	9.8	-29.22
997	SLU 15	-82	21	4450	-914.24	9.66	-28.54
997	SLU 16	-83	8	4463	-915.83	9.71	-28.91
997	SLU 17	-81	21	4414	-907.24	9.58	-28.23
997	SLU 18	-84	8	4516	-926.08	9.8	-29.01
997	SLU 19	-82	21	4467	-917.49	9.66	-28.33
997	SLU 20	-85	8	4591	-940.44	9.98	-29.42
997	SLU 21	-83	21	4541	-931.85	9.84	-28.74
997	SLU 22	-85	6	4488	-920.33	9.78	-29.62
997	SLU 23	-82	28	4406	-906.02	9.56	-28.49
997	SLU 24	-87	6	4599	-941.68	10.05	-30.34
997	SLU 25	-85	19	4550	-933.09	9.91	-29.66
997	SLU 26	-83	28	4481	-920.38	9.74	-28.9
997	SLU 27	-89	6	4673	-956.04	10.23	-30.75
997	SLU 28	-87	19	4624	-947.45	10.09	-30.07
997	SLU 29	-88	6	4637	-949.04	10.14	-30.44
997	SLU 30	-86	19	4588	-940.45	10.01	-29.76
997	SLU 31	-88	29	4877	-996.93	10.6	-30.64
997	SLU 32	-94	7	5070	-1032.59	11.09	-32.49
997	SLU 33	-92	20	5020	-1024	10.95	-31.81
997	SLU 34	-89	29	4951	-1011.28	10.78	-31.05
997	SLU 35	-95	7	5144	-1046.94	11.27	-32.9
997	SLU 36	-93	20	5095	-1038.35	11.13	-32.22
997	SLU 37	-94	7	5108	-1039.95	11.18	-32.6
997	SLU 38	-92	20	5059	-1031.36	11.05	-31.91
997	SLU 39	-94	8	5161	-1050.2	11.27	-32.7
997	SLU 40	-92	21	5111	-1041.61	11.13	-32.02
997	SLU 41	-95	8	5235	-1064.55	11.45	-33.11
997	SLU 42	-93	21	5186	-1055.97	11.31	-32.43
997	SLU 43	-93	9	4776	-992.53	10.3	-32.46
997	SLU 44	-90	31	4694	-978.21	10.07	-31.32
997	SLU 45	-96	9	4886	-1013.87	10.56	-33.17
997	SLU 46	-94	22	4837	-1005.29	10.43	-32.49
997	SLU 47	-91	31	4768	-992.57	10.25	-31.73
997	SLU 48	-97	9	4961	-1028.23	10.74	-33.58
997	SLU 49	-95	22	4912	-1019.64	10.61	-32.9
997	SLU 50	-96	9	4925	-1021.24	10.66	-33.28
997	SLU 51	-94	22	4876	-1012.65	10.52	-32.6
997	SLU 52	-96	32	5164	-1069.12	11.12	-33.47
997	SLU 53	-102	10	5357	-1104.78	11.61	-35.32
997	SLU 54	-100	23	5308	-1096.19	11.47	-34.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
997	SLU 55	-97	32	5239	-1083.47	11.3	-33.88
997	SLU 56	-103	10	5432	-1119.13	11.79	-35.74
997	SLU 57	-101	23	5382	-1110.55	11.65	-35.05
997	SLU 58	-102	10	5396	-1112.14	11.7	-35.43
997	SLU 59	-100	23	5346	-1103.55	11.56	-34.75
997	SLU 60	-102	11	5448	-1122.39	11.79	-35.53
997	SLU 61	-100	24	5399	-1113.8	11.65	-34.85
997	SLU 62	-103	11	5523	-1136.75	11.97	-35.94
997	SLU 63	-101	24	5473	-1128.16	11.83	-35.26
997	SLU 64	-104	8	5421	-1116.64	11.77	-36.14
997	SLU 65	-101	30	5338	-1102.33	11.54	-35.01
997	SLU 66	-106	8	5531	-1137.99	12.03	-36.86
997	SLU 67	-104	21	5482	-1129.4	11.9	-36.18
997	SLU 68	-102	30	5413	-1116.69	11.72	-35.42
997	SLU 69	-107	8	5605	-1152.35	12.21	-37.27
997	SLU 70	-105	21	5556	-1143.76	12.08	-36.59
997	SLU 71	-107	9	5570	-1145.35	12.13	-36.96
997	SLU 72	-104	22	5520	-1136.77	11.99	-36.28
997	SLU 73	-107	31	5809	-1193.24	12.59	-37.16
997	SLU 74	-112	9	6002	-1228.9	13.08	-39.01
997	SLU 75	-110	22	5952	-1220.31	12.94	-38.33
997	SLU 76	-108	31	5883	-1207.59	12.77	-37.57
997	SLU 77	-114	10	6076	-1243.25	13.26	-39.42
997	SLU 78	-112	23	6027	-1234.66	13.12	-38.74
997	SLU 79	-113	10	6040	-1236.26	13.17	-39.11
997	SLU 80	-111	23	5991	-1227.67	13.04	-38.43
997	SLU 81	-113	10	6093	-1246.51	13.26	-39.22
997	SLU 82	-111	23	6044	-1237.92	13.12	-38.53
997	SLU 83	-114	10	6167	-1260.86	13.44	-39.63
997	SLU 84	-112	23	6118	-1252.28	13.3	-38.95
997	SLE RA 1	-78	6	4028	-831.68	8.73	-26.99
997	SLE RA 2	-75	21	3973	-822.14	8.58	-26.23
997	SLE RA 3	-79	6	4102	-845.91	8.91	-27.47
997	SLE RA 4	-78	15	4069	-840.18	8.82	-27.01
997	SLE RA 5	-76	21	4023	-831.71	8.7	-26.51
997	SLE RA 6	-80	7	4151	-855.48	9.03	-27.74
997	SLE RA 7	-79	15	4118	-849.75	8.94	-27.29
997	SLE RA 8	-79	7	4127	-850.82	8.97	-27.54
997	SLE RA 9	-78	15	4094	-845.09	8.88	-27.08
997	SLE RA 10	-80	22	4287	-882.74	9.27	-27.67
997	SLE RA 11	-83	7	4415	-906.51	9.6	-28.9
997	SLE RA 12	-82	16	4382	-900.79	9.51	-28.45
997	SLE RA 13	-80	22	4337	-892.31	9.39	-27.94
997	SLE RA 14	-84	7	4465	-916.08	9.72	-29.18
997	SLE RA 15	-83	16	4432	-910.36	9.63	-28.72
997	SLE RA 16	-83	7	4441	-911.42	9.66	-28.97
997	SLE RA 17	-82	16	4408	-905.7	9.57	-28.52
997	SLE RA 18	-84	8	4476	-918.26	9.72	-29.04
997	SLE RA 19	-82	16	4443	-912.53	9.63	-28.59
997	SLE RA 20	-84	8	4526	-927.82	9.84	-29.31
997	SLE RA 21	-83	16	4493	-922.1	9.75	-28.86
997	SLE FR 1	-78	6	4028	-831.68	8.73	-26.99
997	SLE FR 2	-77	9	4017	-829.77	8.7	-26.84
997	SLE FR 3	-78	6	4048	-835.51	8.78	-27.1
997	SLE FR 4	-79	10	4151	-855.74	9	-27.45
997	SLE FR 5	-80	7	4182	-861.48	9.08	-27.72
997	SLE FR 6	-81	7	4252	-874.97	9.23	-28.02
997	SLE QP 1	-78	6	4028	-831.68	8.73	-26.99
997	SLE QP 2	-80	7	4162	-857.65	9.03	-27.61
997	SLD 1	366	226	4523	-949.42	11.76	128.2
997	SLD 2	290	121	4609	-964.56	12.11	101.96
997	SLD 3	322	-48	5749	-1163.71	14.97	113.37
997	SLD 4	246	-153	5836	-1178.86	15.32	87.13
997	SLD 5	134	506	2395	-557.53	4.91	46.18
997	SLD 6	85	438	2451	-567.33	5.14	29.2
997	SLD 7	-13	-406	6484	-1271.86	15.62	-3.25
997	SLD 8	-62	-474	6540	-1281.66	15.85	-20.23
997	SLD 9	-97	488	1785	-433.64	2.21	-34.98
997	SLD 10	-146	420	1841	-443.44	2.44	-51.96
997	SLD 11	-244	-424	5874	-1147.97	12.91	-84.42
997	SLD 12	-293	-492	5930	-1157.77	13.14	-101.39
997	SLD 13	-405	167	2489	-536.45	2.73	-142.34
997	SLD 14	-481	62	2576	-551.59	3.09	-168.58
997	SLD 15	-450	-107	3716	-750.74	5.94	-157.17
997	SLD 16	-525	-212	3802	-765.89	6.3	-183.41
997	SLV 1	622	367	4644	-986.82	13.07	217.39
997	SLV 2	502	202	4781	-1010.66	13.64	176.08
997	SLV 3	547	-95	6717	-1348.85	18.5	192.35
997	SLV 4	428	-261	6853	-1372.69	19.06	151.04
997	SLV 5	266	847	1139	-342.87	1.91	91.59
997	SLV 6	186	736	1231	-358.92	2.29	63.77
997	SLV 7	18	-694	8046	-1549.64	19.99	8.11
997	SLV 8	-62	-806	8138	-1565.7	20.37	-19.71
997	SLV 9	-97	819	187	-149.61	-2.31	-35.51
997	SLV 10	-177	708	279	-165.66	-1.93	-63.32
997	SLV 11	-345	-722	7094	-1356.38	15.76	-118.98
997	SLV 12	-425	-833	7186	-1372.43	16.14	-146.8
997	SLV 13	-587	274	1472	-342.61	-1	-206.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
997	SLV 14	-706	109	1608	-366.46	-0.44	-247.56
997	SLV 15	-661	-188	3544	-704.64	4.42	-231.29
997	SLV 16	-781	-353	3680	-728.49	4.98	-272.61
997	SLV FO 1	692	403	4693	-999.73	13.48	241.89
997	SLV FO 2	560	221	4842	-1025.96	14.1	196.45
997	SLV FO 3	610	-106	6972	-1397.97	19.44	214.35
997	SLV FO 4	479	-287	7122	-1424.2	20.06	168.9
997	SLV FO 5	300	931	836	-291.39	1.2	103.51
997	SLV FO 6	212	808	937	-309.05	1.62	72.91
997	SLV FO 7	28	-764	8434	-1618.84	21.08	11.68
997	SLV FO 8	-61	-887	8535	-1636.5	21.5	-18.92
997	SLV FO 9	-98	900	-210	-78.8	-3.44	-36.3
997	SLV FO 10	-187	778	-110	-96.46	-3.03	-66.89
997	SLV FO 11	-371	-795	7388	-1406.25	16.44	-128.12
997	SLV FO 12	-460	-917	7488	-1423.91	16.85	-158.72
997	SLV FO 13	-638	301	1203	-291.11	-2.01	-224.11
997	SLV FO 14	-769	119	1353	-317.34	-1.39	-269.56
997	SLV FO 15	-719	-208	3482	-689.34	3.96	-251.66
997	SLV FO 16	-851	-389	3632	-715.57	4.58	-297.11
997	CRTFP Ux+	0	0	0	0	0	0
997	CRTFP Ux-	0	0	0	0	0	0
997	CRTFP Uy+	0	0	0	0	0	0
997	CRTFP Uy-	0	0	0	0	0	0
998	SLU 1	-75	12	3640	-666.19	5.46	-25.96
998	SLU 2	-71	33	3564	-654.98	5.3	-24.83
998	SLU 3	-77	13	3744	-683.5	5.63	-26.67
998	SLU 4	-75	25	3698	-676.78	5.54	-25.99
998	SLU 5	-73	33	3634	-666.61	5.41	-25.24
998	SLU 6	-78	13	3814	-695.13	5.75	-27.08
998	SLU 7	-76	25	3768	-688.4	5.65	-26.4
998	SLU 8	-77	13	3780	-689.45	5.7	-26.78
998	SLU 9	-75	25	3735	-682.72	5.6	-26.1
998	SLU 10	-78	34	4009	-728.98	5.95	-27
998	SLU 11	-83	14	4190	-757.51	6.29	-28.84
998	SLU 12	-81	26	4144	-750.78	6.19	-28.16
998	SLU 13	-79	35	4079	-740.61	6.07	-27.41
998	SLU 14	-84	14	4260	-769.13	6.41	-29.25
998	SLU 15	-82	27	4214	-762.41	6.31	-28.57
998	SLU 16	-83	14	4226	-763.45	6.35	-28.95
998	SLU 17	-81	27	4180	-756.72	6.26	-28.27
998	SLU 18	-84	14	4277	-771.91	6.4	-29.06
998	SLU 19	-82	27	4231	-765.18	6.3	-28.38
998	SLU 20	-85	15	4347	-783.54	6.52	-29.47
998	SLU 21	-83	27	4301	-776.81	6.42	-28.79
998	SLU 22	-85	13	4249	-767.03	6.4	-29.65
998	SLU 23	-82	33	4173	-755.81	6.24	-28.52
998	SLU 24	-87	13	4353	-784.34	6.58	-30.37
998	SLU 25	-85	25	4307	-777.61	6.48	-29.69
998	SLU 26	-83	34	4243	-767.44	6.36	-28.93
998	SLU 27	-89	13	4423	-795.97	6.7	-30.77
998	SLU 28	-87	26	4377	-789.24	6.6	-30.1
998	SLU 29	-88	13	4389	-790.28	6.64	-30.47
998	SLU 30	-86	26	4343	-783.55	6.55	-29.79
998	SLU 31	-88	35	4618	-829.81	6.9	-30.69
998	SLU 32	-94	14	4799	-858.34	7.24	-32.54
998	SLU 33	-92	27	4753	-851.61	7.14	-31.86
998	SLU 34	-89	35	4688	-841.44	7.02	-31.1
998	SLU 35	-95	15	4869	-869.97	7.36	-32.94
998	SLU 36	-93	27	4823	-863.24	7.26	-32.27
998	SLU 37	-94	15	4835	-864.28	7.3	-32.64
998	SLU 38	-92	27	4789	-857.56	7.21	-31.96
998	SLU 39	-94	15	4886	-872.74	7.34	-32.75
998	SLU 40	-92	27	4840	-866.01	7.25	-32.07
998	SLU 41	-95	15	4956	-884.37	7.46	-33.16
998	SLU 42	-93	27	4910	-877.64	7.37	-32.48
998	SLU 43	-93	16	4524	-831.48	6.77	-32.48
998	SLU 44	-90	36	4447	-820.27	6.61	-31.35
998	SLU 45	-95	16	4628	-848.79	6.94	-33.19
998	SLU 46	-93	29	4582	-842.06	6.85	-32.51
998	SLU 47	-91	37	4517	-831.89	6.73	-31.76
998	SLU 48	-97	17	4698	-860.42	7.06	-33.6
998	SLU 49	-95	29	4652	-853.69	6.97	-32.92
998	SLU 50	-96	17	4664	-854.74	7.01	-33.3
998	SLU 51	-94	29	4618	-848.01	6.91	-32.62
998	SLU 52	-96	38	4893	-894.27	7.27	-33.52
998	SLU 53	-102	18	5073	-922.79	7.6	-35.36
998	SLU 54	-100	30	5027	-916.06	7.51	-34.68
998	SLU 55	-97	38	4963	-905.9	7.39	-33.93
998	SLU 56	-103	18	5143	-934.42	7.72	-35.77
998	SLU 57	-101	30	5097	-927.69	7.63	-35.09
998	SLU 58	-102	18	5109	-928.74	7.67	-35.47
998	SLU 59	-100	30	5063	-922.01	7.57	-34.79
998	SLU 60	-102	18	5160	-937.2	7.71	-35.58
998	SLU 61	-100	30	5114	-930.47	7.61	-34.9
998	SLU 62	-103	18	5230	-948.82	7.83	-35.99
998	SLU 63	-101	31	5184	-942.1	7.73	-35.31
998	SLU 64	-104	16	5132	-932.31	7.72	-36.17
998	SLU 65	-101	37	5056	-921.1	7.56	-35.04

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
998	SLU 66	-106	17	5236	-949.62	7.89	-36.89
998	SLU 67	-104	29	5190	-942.9	7.8	-36.21
998	SLU 68	-102	37	5126	-932.73	7.67	-35.45
998	SLU 69	-107	17	5306	-961.25	8.01	-37.3
998	SLU 70	-105	29	5261	-954.52	7.91	-36.62
998	SLU 71	-106	17	5273	-955.57	7.95	-36.99
998	SLU 72	-104	29	5227	-948.84	7.86	-36.31
998	SLU 73	-107	38	5501	-995.1	8.21	-37.21
998	SLU 74	-112	18	5682	-1023.63	8.55	-39.06
998	SLU 75	-110	30	5636	-1016.9	8.45	-38.38
998	SLU 76	-108	39	5571	-1006.73	8.33	-37.62
998	SLU 77	-114	18	5752	-1035.25	8.67	-39.47
998	SLU 78	-112	31	5706	-1028.53	8.57	-38.79
998	SLU 79	-113	18	5718	-1029.57	8.61	-39.16
998	SLU 80	-111	31	5672	-1022.84	8.52	-38.48
998	SLU 81	-113	18	5769	-1038.03	8.66	-39.27
998	SLU 82	-111	31	5723	-1031.3	8.56	-38.6
998	SLU 83	-114	19	5839	-1049.66	8.78	-39.68
998	SLU 84	-112	31	5793	-1042.93	8.68	-39
998	SLE RA 1	-78	12	3814	-695	5.73	-27.01
998	SLE RA 2	-75	26	3763	-687.53	5.62	-26.26
998	SLE RA 3	-79	13	3884	-706.54	5.84	-27.49
998	SLE RA 4	-78	21	3853	-702.06	5.78	-27.04
998	SLE RA 5	-76	26	3810	-695.28	5.7	-26.53
998	SLE RA 6	-80	13	3930	-714.3	5.92	-27.76
998	SLE RA 7	-79	21	3900	-709.81	5.86	-27.31
998	SLE RA 8	-79	13	3908	-710.51	5.89	-27.56
998	SLE RA 9	-78	21	3877	-706.02	5.82	-27.11
998	SLE RA 10	-80	27	4060	-736.86	6.06	-27.71
998	SLE RA 11	-83	14	4181	-755.88	6.28	-28.94
998	SLE RA 12	-82	22	4150	-751.39	6.22	-28.48
998	SLE RA 13	-80	27	4107	-744.61	6.14	-27.98
998	SLE RA 14	-84	14	4227	-763.63	6.36	-29.21
998	SLE RA 15	-83	22	4197	-759.14	6.3	-28.76
998	SLE RA 16	-83	14	4205	-759.84	6.33	-29.01
998	SLE RA 17	-82	22	4174	-755.36	6.26	-28.55
998	SLE RA 18	-84	14	4238	-765.48	6.35	-29.08
998	SLE RA 19	-82	22	4208	-760.99	6.29	-28.63
998	SLE RA 20	-84	14	4285	-773.23	6.43	-29.35
998	SLE RA 21	-83	22	4255	-768.75	6.37	-28.9
998	SLE FR 1	-78	12	3814	-695	5.73	-27.01
998	SLE FR 2	-77	15	3804	-693.51	5.71	-26.86
998	SLE FR 3	-78	13	3833	-698.1	5.76	-27.12
998	SLE FR 4	-79	16	3931	-714.65	5.89	-27.48
998	SLE FR 5	-80	13	3960	-719.25	5.95	-27.74
998	SLE FR 6	-81	13	4026	-730.24	6.04	-28.05
998	SLE QP 1	-78	12	3814	-695	5.73	-27.01
998	SLE QP 2	-79	13	3942	-716.15	5.91	-27.63
998	SLD 1	367	218	4226	-777.38	8.31	128.45
998	SLD 2	291	120	4303	-788.49	8.6	102.17
998	SLD 3	323	-39	5372	-946.74	10.59	113.66
998	SLD 4	247	-137	5449	-957.85	10.87	87.39
998	SLD 5	134	481	2276	-475.72	3.14	46.17
998	SLD 6	85	418	2326	-482.91	3.32	29.17
998	SLD 7	-12	-376	6094	-1040.26	10.72	-3.11
998	SLD 8	-61	-439	6144	-1047.45	10.9	-20.11
998	SLD 9	-98	465	1739	-384.84	0.93	-35.16
998	SLD 10	-147	402	1789	-392.03	1.11	-52.16
998	SLD 11	-244	-392	5557	-949.38	8.51	-84.44
998	SLD 12	-293	-456	5607	-956.57	8.69	-101.44
998	SLD 13	-406	163	2434	-474.44	0.96	-142.66
998	SLD 14	-482	65	2511	-485.55	1.24	-168.93
998	SLD 15	-450	-95	3580	-643.8	3.23	-157.44
998	SLD 16	-526	-192	3657	-654.91	3.52	-183.72
998	SLV 1	622	350	4311	-800.62	9.51	217.79
998	SLV 2	503	197	4432	-818.12	9.96	176.42
998	SLV 3	549	-84	6246	-1086.75	13.35	192.83
998	SLV 4	429	-238	6367	-1104.25	13.8	151.46
998	SLV 5	265	802	1095	-304.25	1.08	91.58
998	SLV 6	185	699	1176	-316.03	1.39	63.73
998	SLV 7	19	-647	7545	-1258.03	13.89	8.36
998	SLV 8	-61	-750	7627	-1269.82	14.19	-19.49
998	SLV 9	-98	776	256	-162.48	-2.36	-35.78
998	SLV 10	-178	672	338	-174.26	-2.06	-63.63
998	SLV 11	-344	-673	6707	-1116.26	10.44	-118.99
998	SLV 12	-424	-776	6788	-1128.04	10.75	-146.85
998	SLV 13	-588	263	1516	-328.04	-1.97	-206.73
998	SLV 14	-708	110	1637	-345.54	-1.52	-248.1
998	SLV 15	-662	-171	3451	-614.17	1.87	-231.69
998	SLV 16	-781	-325	3572	-631.68	2.32	-273.06
998	SLV FO 1	693	384	4348	-809.06	9.87	242.33
998	SLV FO 2	561	215	4481	-828.31	10.36	196.83
998	SLV FO 3	611	-94	6476	-1123.81	14.09	214.87
998	SLV FO 4	480	-263	6610	-1143.06	14.59	169.37
998	SLV FO 5	300	881	810	-263.06	0.6	103.5
998	SLV FO 6	211	767	900	-276.02	0.93	72.86
998	SLV FO 7	29	-713	7906	-1312.22	14.68	11.96
998	SLV FO 8	-59	-826	7995	-1325.18	15.02	-18.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
998	SLV FO 9	-100	852	-112	-107.11	-3.19	-36.59
998	SLV FO 10	-188	738	-23	-120.07	-2.85	-67.23
998	SLV FO 11	-370	-741	6983	-1156.27	10.9	-128.13
998	SLV FO 12	-459	-855	7073	-1169.23	11.23	-158.77
998	SLV FO 13	-639	288	1273	-289.23	-2.76	-224.64
998	SLV FO 14	-770	120	1407	-308.48	-2.26	-270.14
998	SLV FO 15	-720	-190	3402	-603.98	1.47	-252.1
998	SLV FO 16	-852	-358	3535	-623.23	1.96	-297.6
998	CRTFP Ux+	0	0	0	0	0	0
998	CRTFP Ux-	0	0	0	0	0	0
998	CRTFP Uy+	0	0	0	0	0	0
998	CRTFP Uy-	0	0	0	0	0	0
999	SLU 1	-74	17	3520	-598.16	2.68	-25.92
999	SLU 2	-71	36	3448	-588.72	2.59	-24.79
999	SLU 3	-76	17	3620	-613.34	2.77	-26.62
999	SLU 4	-74	29	3577	-607.68	2.71	-25.95
999	SLU 5	-72	37	3515	-598.9	2.65	-25.19
999	SLU 6	-78	18	3688	-623.53	2.83	-27.03
999	SLU 7	-76	30	3644	-617.86	2.77	-26.35
999	SLU 8	-77	18	3655	-618.53	2.8	-26.73
999	SLU 9	-75	29	3611	-612.86	2.75	-26.05
999	SLU 10	-77	38	3879	-654.15	2.87	-26.97
999	SLU 11	-83	19	4052	-678.78	3.06	-28.81
999	SLU 12	-81	31	4008	-673.11	3	-28.13
999	SLU 13	-79	38	3947	-664.33	2.93	-27.38
999	SLU 14	-84	19	4119	-688.96	3.12	-29.21
999	SLU 15	-82	31	4076	-683.29	3.06	-28.53
999	SLU 16	-83	19	4087	-683.96	3.09	-28.91
999	SLU 17	-81	31	4043	-678.29	3.03	-28.23
999	SLU 18	-83	19	4137	-691.64	3.09	-29.03
999	SLU 19	-81	31	4093	-685.97	3.03	-28.36
999	SLU 20	-84	19	4204	-701.82	3.15	-29.44
999	SLU 21	-82	31	4161	-696.16	3.09	-28.76
999	SLU 22	-85	18	4109	-687.02	3.12	-29.61
999	SLU 23	-82	37	4036	-677.57	3.02	-28.49
999	SLU 24	-87	18	4209	-702.2	3.21	-30.32
999	SLU 25	-85	30	4165	-696.53	3.15	-29.64
999	SLU 26	-83	38	4103	-687.75	3.08	-28.89
999	SLU 27	-88	19	4276	-712.38	3.27	-30.73
999	SLU 28	-86	31	4232	-706.71	3.21	-30.05
999	SLU 29	-87	19	4243	-707.38	3.24	-30.42
999	SLU 30	-85	31	4200	-701.71	3.18	-29.75
999	SLU 31	-88	39	4468	-743.01	3.31	-30.67
999	SLU 32	-93	20	4640	-767.63	3.49	-32.5
999	SLU 33	-91	32	4597	-761.96	3.43	-31.83
999	SLU 34	-89	39	4535	-753.19	3.37	-31.07
999	SLU 35	-94	20	4708	-777.81	3.55	-32.91
999	SLU 36	-92	32	4664	-772.15	3.5	-32.23
999	SLU 37	-94	20	4675	-772.81	3.53	-32.61
999	SLU 38	-92	32	4631	-767.15	3.47	-31.93
999	SLU 39	-94	20	4725	-780.49	3.53	-32.73
999	SLU 40	-92	32	4682	-774.83	3.47	-32.06
999	SLU 41	-95	21	4793	-790.68	3.59	-33.14
999	SLU 42	-93	32	4749	-785.01	3.53	-32.46
999	SLU 43	-93	22	4375	-747.15	3.34	-32.42
999	SLU 44	-90	41	4302	-737.7	3.24	-31.3
999	SLU 45	-95	22	4475	-762.33	3.43	-33.13
999	SLU 46	-93	34	4431	-756.66	3.37	-32.45
999	SLU 47	-91	41	4369	-747.89	3.3	-31.7
999	SLU 48	-96	23	4542	-772.51	3.49	-33.54
999	SLU 49	-94	34	4498	-766.84	3.43	-32.86
999	SLU 50	-95	22	4509	-767.51	3.46	-33.23
999	SLU 51	-93	34	4466	-761.84	3.4	-32.56
999	SLU 52	-96	42	4733	-803.14	3.52	-33.48
999	SLU 53	-101	24	4906	-827.77	3.71	-35.31
999	SLU 54	-99	35	4863	-822.1	3.65	-34.64
999	SLU 55	-97	43	4801	-813.32	3.59	-33.88
999	SLU 56	-103	24	4974	-837.95	3.77	-35.72
999	SLU 57	-101	36	4930	-832.28	3.71	-35.04
999	SLU 58	-102	24	4941	-832.95	3.74	-35.42
999	SLU 59	-100	36	4897	-827.28	3.68	-34.74
999	SLU 60	-102	24	4991	-840.63	3.74	-35.54
999	SLU 61	-100	35	4948	-834.96	3.69	-34.87
999	SLU 62	-103	24	5059	-850.81	3.8	-35.95
999	SLU 63	-101	36	5015	-845.14	3.75	-35.27
999	SLU 64	-104	23	4963	-836	3.77	-36.12
999	SLU 65	-100	42	4890	-826.56	3.68	-34.99
999	SLU 66	-106	23	5063	-851.18	3.86	-36.83
999	SLU 67	-104	35	5019	-845.52	3.8	-36.15
999	SLU 68	-102	43	4958	-836.74	3.74	-35.4
999	SLU 69	-107	24	5130	-861.36	3.92	-37.23
999	SLU 70	-105	35	5087	-855.7	3.87	-36.56
999	SLU 71	-106	24	5098	-856.36	3.9	-36.93
999	SLU 72	-104	35	5054	-850.7	3.84	-36.25
999	SLU 73	-107	44	5322	-891.99	3.96	-37.18
999	SLU 74	-112	25	5495	-916.62	4.15	-39.01
999	SLU 75	-110	36	5451	-910.95	4.09	-38.33
999	SLU 76	-108	44	5389	-902.17	4.02	-37.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
999	SLU 77	-113	25	5562	-926.8	4.21	-39.41
999	SLU 78	-111	37	5518	-921.13	4.15	-38.74
999	SLU 79	-112	25	5529	-921.8	4.18	-39.11
999	SLU 80	-110	37	5486	-916.13	4.12	-38.44
999	SLU 81	-113	25	5580	-929.48	4.18	-39.24
999	SLU 82	-111	36	5536	-923.81	4.12	-38.56
999	SLU 83	-114	25	5647	-939.66	4.24	-39.64
999	SLU 84	-112	37	5603	-933.99	4.18	-38.97
999	SLE RA 1	-77	17	3688	-623.55	2.81	-26.97
999	SLE RA 2	-75	30	3640	-617.25	2.74	-26.22
999	SLE RA 3	-79	18	3755	-633.67	2.87	-27.44
999	SLE RA 4	-77	25	3726	-629.89	2.83	-26.99
999	SLE RA 5	-76	30	3685	-624.04	2.78	-26.49
999	SLE RA 6	-80	18	3800	-640.46	2.91	-27.71
999	SLE RA 7	-78	26	3771	-636.68	2.87	-27.26
999	SLE RA 8	-79	18	3778	-637.13	2.89	-27.51
999	SLE RA 9	-78	26	3749	-633.35	2.85	-27.06
999	SLE RA 10	-79	31	3928	-660.88	2.93	-27.68
999	SLE RA 11	-83	19	4043	-677.29	3.06	-28.9
999	SLE RA 12	-82	26	4014	-673.52	3.02	-28.45
999	SLE RA 13	-80	31	3973	-667.66	2.97	-27.95
999	SLE RA 14	-84	19	4088	-684.08	3.1	-29.17
999	SLE RA 15	-82	27	4059	-680.3	3.06	-28.72
999	SLE RA 16	-83	19	4066	-680.75	3.08	-28.97
999	SLE RA 17	-82	27	4037	-676.97	3.04	-28.52
999	SLE RA 18	-83	19	4099	-685.87	3.08	-29.05
999	SLE RA 19	-82	26	4070	-682.09	3.04	-28.6
999	SLE RA 20	-84	19	4144	-692.66	3.12	-29.32
999	SLE RA 21	-83	27	4115	-688.88	3.08	-28.87
999	SLE FR 1	-77	17	3688	-623.55	2.81	-26.97
999	SLE FR 2	-77	20	3679	-622.29	2.79	-26.82
999	SLE FR 3	-78	17	3706	-626.27	2.82	-27.08
999	SLE FR 4	-79	20	3802	-640.99	2.88	-27.45
999	SLE FR 5	-80	18	3830	-644.96	2.91	-27.7
999	SLE FR 6	-80	18	3894	-654.71	2.94	-28.01
999	SLE QP 1	-77	17	3688	-623.55	2.81	-26.97
999	SLE QP 2	-79	18	3812	-642.25	2.89	-27.6
999	SLD 1	368	213	4030	-679.21	5	128.71
999	SLD 2	292	122	4099	-687.8	5.22	102.41
999	SLD 3	324	-31	5122	-823.29	6.35	113.99
999	SLD 4	249	-122	5191	-831.88	6.56	87.7
999	SLD 5	133	462	2209	-433.32	1.44	46.17
999	SLD 6	84	403	2254	-438.87	1.58	29.16
999	SLD 7	-10	-352	5849	-913.6	5.93	-2.87
999	SLD 8	-59	-410	5894	-919.15	6.07	-19.89
999	SLD 9	-99	446	1729	-365.34	-0.29	-35.31
999	SLD 10	-148	387	1774	-370.9	-0.15	-52.32
999	SLD 11	-243	-368	5370	-845.62	4.19	-84.35
999	SLD 12	-292	-427	5415	-851.17	4.33	-101.36
999	SLD 13	-407	157	2432	-452.61	-0.78	-142.89
999	SLD 14	-483	66	2501	-461.2	-0.57	-169.19
999	SLD 15	-450	-87	3524	-596.7	0.56	-157.6
999	SLD 16	-526	-178	3594	-605.28	0.78	-183.9
999	SLV 1	623	339	4081	-690.52	6.09	218.17
999	SLV 2	504	196	4190	-704.04	6.43	176.77
999	SLV 3	551	-73	5926	-933.97	8.37	193.32
999	SLV 4	431	-217	6035	-947.49	8.71	151.92
999	SLV 5	264	766	1074	-284.97	0.34	91.55
999	SLV 6	184	670	1147	-294.07	0.57	63.67
999	SLV 7	22	-609	7224	-1096.48	7.91	8.72
999	SLV 8	-59	-705	7297	-1105.58	8.14	-19.15
999	SLV 9	-100	740	326	-178.91	-2.36	-36.04
999	SLV 10	-180	644	400	-188.02	-2.14	-63.91
999	SLV 11	-342	-635	6476	-990.42	5.21	-118.86
999	SLV 12	-423	-731	6550	-999.53	5.43	-146.74
999	SLV 13	-590	252	1588	-337.01	-2.93	-207.11
999	SLV 14	-709	109	1698	-350.53	-2.59	-248.52
999	SLV 15	-663	-161	3433	-580.46	-0.66	-231.96
999	SLV 16	-782	-304	3543	-593.98	-0.32	-273.36
999	SLV FO 1	694	371	4108	-695.34	6.42	242.75
999	SLV FO 2	562	214	4228	-710.21	6.79	197.2
999	SLV FO 3	613	-83	6137	-963.14	8.91	215.41
999	SLV FO 4	482	-240	6258	-978.01	9.29	169.87
999	SLV FO 5	298	841	800	-249.24	0.09	103.46
999	SLV FO 6	210	735	881	-259.25	0.34	72.8
999	SLV FO 7	32	-671	7565	-1141.9	8.42	12.35
999	SLV FO 8	-57	-777	7646	-1151.91	8.67	-18.31
999	SLV FO 9	-102	813	-23	-132.58	-2.89	-36.88
999	SLV FO 10	-190	707	58	-142.59	-2.64	-67.55
999	SLV FO 11	-369	-700	6742	-1025.24	5.44	-127.99
999	SLV FO 12	-457	-806	6824	-1035.25	5.69	-158.65
999	SLV FO 13	-641	275	1366	-306.48	-3.51	-225.06
999	SLV FO 14	-772	118	1486	-321.35	-3.14	-270.61
999	SLV FO 15	-721	-179	3395	-574.28	-1.01	-252.39
999	SLV FO 16	-852	-336	3516	-589.15	-0.64	-297.94
999	CRTFP Ux+	0	0	0	0	0	0
999	CRTFP Ux-	0	0	0	0	0	0
999	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
999	CRTFP Uy-	0	0	0	0	0	0
1000	SLU 1	-74	20	3479	-587.5	0.11	-25.82
1000	SLU 2	-71	38	3409	-578.57	0.08	-24.7
1000	SLU 3	-76	20	3578	-602.32	0.12	-26.52
1000	SLU 4	-74	31	3536	-596.96	0.1	-25.85
1000	SLU 5	-72	39	3475	-588.49	0.08	-25.1
1000	SLU 6	-77	21	3645	-612.24	0.12	-26.92
1000	SLU 7	-75	32	3602	-606.88	0.1	-26.25
1000	SLU 8	-76	21	3612	-607.34	0.12	-26.62
1000	SLU 9	-74	32	3570	-601.98	0.1	-25.95
1000	SLU 10	-77	40	3837	-643.2	0.01	-26.89
1000	SLU 11	-82	22	4006	-666.95	0.06	-28.71
1000	SLU 12	-80	33	3964	-661.59	0.03	-28.04
1000	SLU 13	-78	40	3904	-653.12	0.02	-27.29
1000	SLU 14	-83	22	4073	-676.87	0.06	-29.11
1000	SLU 15	-81	33	4030	-671.51	0.04	-28.44
1000	SLU 16	-82	22	4041	-671.98	0.06	-28.81
1000	SLU 17	-81	33	3998	-666.62	0.04	-28.14
1000	SLU 18	-83	22	4091	-679.84	0.02	-28.95
1000	SLU 19	-81	33	4049	-674.48	0	-28.28
1000	SLU 20	-84	22	4158	-689.76	0.03	-29.35
1000	SLU 21	-82	33	4115	-684.4	0.01	-28.68
1000	SLU 22	-85	21	4062	-674.88	0.07	-29.51
1000	SLU 23	-81	40	3991	-665.95	0.04	-28.39
1000	SLU 24	-87	22	4161	-689.7	0.08	-30.21
1000	SLU 25	-85	33	4118	-684.34	0.06	-29.54
1000	SLU 26	-82	40	4058	-675.87	0.04	-28.79
1000	SLU 27	-88	22	4227	-699.62	0.09	-30.61
1000	SLU 28	-86	33	4185	-694.26	0.07	-29.94
1000	SLU 29	-87	22	4195	-694.72	0.09	-30.31
1000	SLU 30	-85	33	4152	-689.36	0.06	-29.64
1000	SLU 31	-88	41	4420	-730.58	-0.03	-30.59
1000	SLU 32	-93	23	4589	-754.33	0.02	-32.41
1000	SLU 33	-91	34	4547	-748.97	0	-31.73
1000	SLU 34	-89	42	4486	-740.5	-0.02	-30.99
1000	SLU 35	-94	24	4655	-764.25	0.02	-32.81
1000	SLU 36	-92	35	4613	-758.89	0	-32.13
1000	SLU 37	-93	24	4623	-759.36	0.02	-32.51
1000	SLU 38	-91	35	4581	-754	0	-31.83
1000	SLU 39	-93	23	4674	-767.22	-0.02	-32.65
1000	SLU 40	-92	34	4632	-761.86	-0.04	-31.97
1000	SLU 41	-95	24	4740	-777.14	-0.01	-33.05
1000	SLU 42	-93	35	4698	-771.78	-0.03	-32.37
1000	SLU 43	-92	25	4324	-733.8	0.16	-32.3
1000	SLU 44	-89	44	4253	-724.86	0.12	-31.18
1000	SLU 45	-95	26	4422	-748.61	0.17	-33
1000	SLU 46	-93	37	4380	-743.25	0.14	-32.33
1000	SLU 47	-90	44	4319	-734.78	0.13	-31.58
1000	SLU 48	-96	26	4489	-758.53	0.17	-33.4
1000	SLU 49	-94	37	4446	-753.17	0.15	-32.73
1000	SLU 50	-95	26	4456	-753.64	0.17	-33.1
1000	SLU 51	-93	37	4414	-748.28	0.15	-32.43
1000	SLU 52	-96	45	4681	-789.5	0.06	-33.37
1000	SLU 53	-101	27	4851	-813.24	0.1	-35.19
1000	SLU 54	-99	38	4808	-807.88	0.08	-34.52
1000	SLU 55	-97	46	4748	-799.42	0.06	-33.77
1000	SLU 56	-102	28	4917	-823.16	0.11	-35.59
1000	SLU 57	-100	39	4875	-817.8	0.09	-34.92
1000	SLU 58	-101	27	4885	-818.27	0.11	-35.29
1000	SLU 59	-99	39	4842	-812.91	0.08	-34.62
1000	SLU 60	-101	27	4936	-826.13	0.07	-35.43
1000	SLU 61	-99	38	4893	-820.77	0.05	-34.76
1000	SLU 62	-103	28	5002	-836.05	0.07	-35.83
1000	SLU 63	-101	39	4960	-830.69	0.05	-35.16
1000	SLU 64	-103	26	4906	-821.18	0.12	-35.99
1000	SLU 65	-100	45	4835	-812.24	0.08	-34.87
1000	SLU 66	-105	27	5005	-835.99	0.13	-36.69
1000	SLU 67	-103	38	4962	-830.63	0.11	-36.02
1000	SLU 68	-101	46	4902	-822.16	0.09	-35.27
1000	SLU 69	-106	28	5071	-845.91	0.13	-37.09
1000	SLU 70	-104	39	5029	-840.55	0.11	-36.42
1000	SLU 71	-105	27	5039	-841.02	0.13	-36.79
1000	SLU 72	-103	39	4997	-835.66	0.11	-36.12
1000	SLU 73	-106	47	5264	-876.88	0.02	-37.07
1000	SLU 74	-111	29	5433	-900.62	0.06	-38.89
1000	SLU 75	-109	40	5391	-895.26	0.04	-38.21
1000	SLU 76	-107	47	5330	-886.8	0.03	-37.47
1000	SLU 77	-112	29	5500	-910.54	0.07	-39.29
1000	SLU 78	-111	40	5457	-905.18	0.05	-38.61
1000	SLU 79	-112	29	5467	-905.65	0.07	-38.99
1000	SLU 80	-110	40	5425	-900.29	0.05	-38.31
1000	SLU 81	-112	28	5518	-913.51	0.03	-39.13
1000	SLU 82	-110	40	5476	-908.15	0.01	-38.45
1000	SLU 83	-113	29	5585	-923.43	0.04	-39.53
1000	SLU 84	-111	40	5542	-918.07	0.01	-38.85
1000	SLE RA 1	-77	20	3646	-612.47	0.1	-26.88
1000	SLE RA 2	-75	32	3599	-606.52	0.08	-26.13
1000	SLE RA 3	-78	20	3712	-622.34	0.11	-27.34

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1000	SLE RA 4	-77	28	3683	-618.77	0.09	-26.89
1000	SLE RA 5	-76	33	3643	-613.13	0.08	-26.4
1000	SLE RA 6	-79	21	3756	-628.96	0.11	-27.61
1000	SLE RA 7	-78	28	3728	-625.38	0.1	-27.16
1000	SLE RA 8	-78	21	3734	-625.7	0.11	-27.41
1000	SLE RA 9	-77	28	3706	-622.12	0.09	-26.96
1000	SLE RA 10	-79	33	3884	-649.6	0.03	-27.59
1000	SLE RA 11	-82	21	3997	-665.43	0.06	-28.8
1000	SLE RA 12	-81	29	3969	-661.86	0.05	-28.36
1000	SLE RA 13	-80	34	3929	-656.22	0.04	-27.86
1000	SLE RA 14	-83	22	4042	-672.05	0.07	-29.07
1000	SLE RA 15	-82	29	4013	-668.47	0.05	-28.62
1000	SLE RA 16	-83	22	4020	-668.78	0.07	-28.87
1000	SLE RA 17	-81	29	3992	-665.21	0.05	-28.42
1000	SLE RA 18	-83	21	4054	-674.03	0.04	-28.96
1000	SLE RA 19	-82	29	4026	-670.45	0.03	-28.52
1000	SLE RA 20	-84	22	4098	-680.64	0.04	-29.23
1000	SLE RA 21	-82	29	4070	-677.06	0.03	-28.78
1000	SLE FR 1	-77	20	3646	-612.47	0.1	-26.88
1000	SLE FR 2	-77	22	3636	-611.28	0.1	-26.73
1000	SLE FR 3	-77	20	3664	-615.12	0.1	-26.98
1000	SLE FR 4	-78	23	3759	-629.75	0.08	-27.35
1000	SLE FR 5	-79	21	3786	-633.58	0.08	-27.61
1000	SLE FR 6	-80	21	3850	-643.25	0.07	-27.92
1000	SLE QP 1	-77	20	3646	-612.47	0.1	-26.88
1000	SLE QP 2	-79	20	3768	-630.94	0.08	-27.5
1000	SLD 1	368	210	3928	-649	1.96	128.95
1000	SLD 2	293	125	3992	-656.41	2.11	102.65
1000	SLD 3	326	-25	4993	-786.18	2.42	114.34
1000	SLD 4	250	-110	5057	-793.6	2.57	88.04
1000	SLD 5	133	449	2189	-427	-0.08	46.16
1000	SLD 6	84	394	2230	-431.8	0.02	29.14
1000	SLD 7	-9	-335	5741	-884.29	1.46	-2.54
1000	SLD 8	-57	-390	5782	-889.09	1.55	-19.56
1000	SLD 9	-100	431	1754	-372.79	-1.39	-35.44
1000	SLD 10	-149	376	1796	-377.58	-1.29	-52.46
1000	SLD 11	-241	-353	5306	-830.07	0.15	-84.14
1000	SLD 12	-290	-408	5348	-834.87	0.24	-101.16
1000	SLD 13	-408	151	2479	-468.27	-2.41	-143.04
1000	SLD 14	-483	66	2543	-475.69	-2.26	-169.35
1000	SLD 15	-450	-84	3545	-605.46	-1.95	-157.65
1000	SLD 16	-526	-169	3609	-612.87	-1.8	-183.96
1000	SLV 1	624	333	3947	-650.18	2.99	218.49
1000	SLV 2	505	198	4048	-661.85	3.22	177.08
1000	SLV 3	553	-65	5747	-882	3.76	193.82
1000	SLV 4	434	-199	5849	-893.67	4	152.4
1000	SLV 5	263	742	1073	-282.94	-0.26	91.45
1000	SLV 6	183	651	1141	-290.8	-0.11	63.56
1000	SLV 7	24	-583	7074	-1055.66	2.32	9.2
1000	SLV 8	-56	-673	7142	-1063.52	2.48	-18.68
1000	SLV 9	-102	714	395	-198.35	-2.31	-36.32
1000	SLV 10	-182	624	463	-206.21	-2.15	-64.21
1000	SLV 11	-340	-611	6396	-971.07	0.27	-118.57
1000	SLV 12	-420	-701	6464	-978.93	0.43	-146.45
1000	SLV 13	-591	240	1688	-368.2	-3.83	-207.41
1000	SLV 14	-710	106	1789	-379.88	-3.59	-248.82
1000	SLV 15	-663	-157	3488	-600.02	-3.05	-232.08
1000	SLV 16	-782	-292	3589	-611.69	-2.82	-273.5
1000	SLV FO 1	694	364	3965	-652.1	3.28	243.09
1000	SLV FO 2	563	216	4076	-664.95	3.53	197.54
1000	SLV FO 3	616	-73	5945	-907.1	4.13	215.95
1000	SLV FO 4	485	-221	6057	-919.94	4.39	170.4
1000	SLV FO 5	297	814	803	-248.14	-0.3	103.34
1000	SLV FO 6	209	715	878	-256.79	-0.13	72.67
1000	SLV FO 7	35	-643	7404	-1098.14	2.54	12.87
1000	SLV FO 8	-54	-743	7479	-1106.78	2.72	-17.8
1000	SLV FO 9	-104	784	58	-155.09	-2.55	-37.21
1000	SLV FO 10	-192	684	132	-163.74	-2.37	-67.88
1000	SLV FO 11	-366	-674	6659	-1005.08	0.29	-127.67
1000	SLV FO 12	-455	-773	6733	-1013.73	0.47	-158.35
1000	SLV FO 13	-642	262	1480	-341.93	-4.22	-225.4
1000	SLV FO 14	-773	114	1591	-354.77	-3.96	-270.96
1000	SLV FO 15	-721	-175	3460	-596.93	-3.37	-252.54
1000	SLV FO 16	-852	-323	3571	-609.77	-3.11	-298.1
1000	CRTFP Ux+	0	0	0	0	0	0
1000	CRTFP Ux-	0	0	0	0	0	0
1000	CRTFP Uy+	0	0	0	0	0	0
1000	CRTFP Uy-	0	0	0	0	0	0
1001	SLU 1	-73	20	3510	-628.42	-2.15	-25.69
1001	SLU 2	-70	39	3440	-618.85	-2.13	-24.58
1001	SLU 3	-75	21	3610	-644.46	-2.21	-26.38
1001	SLU 4	-73	32	3568	-638.71	-2.2	-25.71
1001	SLU 5	-71	39	3507	-629.57	-2.17	-24.97
1001	SLU 6	-76	22	3677	-655.18	-2.25	-26.77
1001	SLU 7	-75	33	3635	-649.44	-2.24	-26.11
1001	SLU 8	-76	21	3644	-649.88	-2.23	-26.48
1001	SLU 9	-74	32	3602	-644.13	-2.22	-25.81
1001	SLU 10	-76	40	3875	-689.73	-2.5	-26.78

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1001	SLU 11	-82	22	4045	-715.34	-2.58	-28.58
1001	SLU 12	-80	33	4002	-709.59	-2.57	-27.92
1001	SLU 13	-78	41	3942	-700.45	-2.54	-27.18
1001	SLU 14	-83	23	4112	-726.06	-2.62	-28.98
1001	SLU 15	-81	34	4069	-720.32	-2.61	-28.31
1001	SLU 16	-82	23	4079	-720.76	-2.6	-28.68
1001	SLU 17	-80	34	4037	-715.01	-2.59	-28.01
1001	SLU 18	-82	22	4132	-729.68	-2.68	-28.84
1001	SLU 19	-80	33	4089	-723.93	-2.66	-28.17
1001	SLU 20	-83	23	4199	-740.41	-2.72	-29.23
1001	SLU 21	-82	34	4156	-734.66	-2.71	-28.56
1001	SLU 22	-84	22	4100	-723.85	-2.6	-29.38
1001	SLU 23	-81	40	4030	-714.28	-2.58	-28.27
1001	SLU 24	-86	23	4200	-739.89	-2.67	-30.07
1001	SLU 25	-84	34	4158	-734.14	-2.66	-29.4
1001	SLU 26	-82	41	4097	-725	-2.63	-28.66
1001	SLU 27	-87	23	4267	-750.62	-2.71	-30.46
1001	SLU 28	-85	34	4225	-744.87	-2.7	-29.8
1001	SLU 29	-86	23	4234	-745.31	-2.69	-30.16
1001	SLU 30	-84	34	4192	-739.56	-2.68	-29.5
1001	SLU 31	-87	42	4465	-785.16	-2.95	-30.47
1001	SLU 32	-92	24	4635	-810.77	-3.04	-32.27
1001	SLU 33	-90	35	4592	-805.02	-3.03	-31.6
1001	SLU 34	-88	42	4532	-795.88	-3	-30.86
1001	SLU 35	-93	24	4702	-821.49	-3.08	-32.66
1001	SLU 36	-91	35	4659	-815.75	-3.07	-32
1001	SLU 37	-92	24	4669	-816.19	-3.06	-32.37
1001	SLU 38	-91	35	4627	-810.44	-3.05	-31.7
1001	SLU 39	-93	24	4722	-825.11	-3.13	-32.52
1001	SLU 40	-91	35	4679	-819.36	-3.12	-31.86
1001	SLU 41	-94	24	4789	-835.84	-3.18	-32.92
1001	SLU 42	-92	35	4746	-830.09	-3.16	-32.25
1001	SLU 43	-92	26	4361	-784.23	-2.63	-32.13
1001	SLU 44	-89	44	4291	-774.65	-2.61	-31.02
1001	SLU 45	-94	27	4461	-800.26	-2.7	-32.82
1001	SLU 46	-92	38	4418	-794.52	-2.69	-32.16
1001	SLU 47	-90	45	4358	-785.38	-2.66	-31.42
1001	SLU 48	-95	27	4528	-810.99	-2.74	-33.22
1001	SLU 49	-93	38	4485	-805.25	-2.73	-32.55
1001	SLU 50	-94	27	4495	-805.68	-2.72	-32.92
1001	SLU 51	-92	38	4453	-799.94	-2.71	-32.25
1001	SLU 52	-95	46	4726	-845.53	-2.98	-33.23
1001	SLU 53	-100	28	4896	-871.14	-3.07	-35.03
1001	SLU 54	-98	39	4853	-865.4	-3.06	-34.36
1001	SLU 55	-96	46	4793	-856.26	-3.03	-33.62
1001	SLU 56	-101	29	4963	-881.87	-3.11	-35.42
1001	SLU 57	-99	40	4920	-876.13	-3.1	-34.75
1001	SLU 58	-100	28	4930	-876.56	-3.09	-35.12
1001	SLU 59	-98	39	4888	-870.82	-3.08	-34.46
1001	SLU 60	-101	28	4982	-885.49	-3.16	-35.28
1001	SLU 61	-99	39	4940	-879.74	-3.15	-34.61
1001	SLU 62	-102	28	5049	-896.21	-3.21	-35.67
1001	SLU 63	-100	39	5007	-890.47	-3.19	-35.01
1001	SLU 64	-102	27	4951	-879.66	-3.09	-35.82
1001	SLU 65	-99	46	4881	-870.08	-3.07	-34.71
1001	SLU 66	-104	28	5051	-895.7	-3.16	-36.51
1001	SLU 67	-102	39	5008	-889.95	-3.14	-35.84
1001	SLU 68	-100	46	4948	-880.81	-3.11	-35.1
1001	SLU 69	-105	29	5118	-906.42	-3.2	-36.9
1001	SLU 70	-104	40	5075	-900.68	-3.19	-36.24
1001	SLU 71	-105	29	5085	-901.12	-3.18	-36.61
1001	SLU 72	-103	40	5043	-895.37	-3.16	-35.94
1001	SLU 73	-105	47	5316	-940.96	-3.44	-36.91
1001	SLU 74	-111	30	5486	-966.57	-3.53	-38.71
1001	SLU 75	-109	41	5443	-960.83	-3.51	-38.05
1001	SLU 76	-107	48	5383	-951.69	-3.48	-37.31
1001	SLU 77	-112	30	5553	-977.3	-3.57	-39.11
1001	SLU 78	-110	41	5510	-971.56	-3.56	-38.44
1001	SLU 79	-111	30	5520	-971.99	-3.55	-38.81
1001	SLU 80	-109	41	5478	-966.25	-3.53	-38.14
1001	SLU 81	-111	29	5572	-980.92	-3.62	-38.96
1001	SLU 82	-109	40	5530	-975.17	-3.61	-38.3
1001	SLU 83	-112	30	5639	-991.64	-3.66	-39.36
1001	SLU 84	-110	41	5597	-985.9	-3.65	-38.69
1001	SLE RA 1	-76	21	3679	-655.69	-2.28	-26.74
1001	SLE RA 2	-74	33	3632	-649.3	-2.26	-26
1001	SLE RA 3	-78	21	3745	-666.38	-2.32	-27.2
1001	SLE RA 4	-76	29	3717	-662.55	-2.31	-26.76
1001	SLE RA 5	-75	33	3677	-656.46	-2.29	-26.27
1001	SLE RA 6	-78	22	3790	-673.53	-2.35	-27.47
1001	SLE RA 7	-77	29	3762	-669.7	-2.34	-27.02
1001	SLE RA 8	-78	22	3768	-669.99	-2.33	-27.27
1001	SLE RA 9	-77	29	3740	-666.16	-2.33	-26.82
1001	SLE RA 10	-78	34	3922	-696.56	-2.51	-27.47
1001	SLE RA 11	-82	22	4035	-713.63	-2.57	-28.67
1001	SLE RA 12	-81	29	4007	-709.8	-2.56	-28.23
1001	SLE RA 13	-79	34	3966	-703.71	-2.54	-27.73
1001	SLE RA 14	-83	23	4080	-720.78	-2.6	-28.93

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1001	SLE RA 15	-81	30	4052	-716.95	-2.59	-28.49
1001	SLE RA 16	-82	22	4058	-717.24	-2.58	-28.74
1001	SLE RA 17	-81	30	4030	-713.41	-2.57	-28.29
1001	SLE RA 18	-82	22	4093	-723.19	-2.63	-28.84
1001	SLE RA 19	-81	29	4065	-719.36	-2.62	-28.4
1001	SLE RA 20	-83	22	4138	-730.34	-2.66	-29.1
1001	SLE RA 21	-82	30	4110	-726.51	-2.65	-28.66
1001	SLE FR 1	-76	21	3679	-655.69	-2.28	-26.74
1001	SLE FR 2	-76	23	3669	-654.41	-2.27	-26.6
1001	SLE FR 3	-77	21	3697	-658.55	-2.29	-26.85
1001	SLE FR 4	-78	24	3794	-674.66	-2.38	-27.22
1001	SLE FR 5	-78	21	3821	-678.8	-2.39	-27.48
1001	SLE FR 6	-79	21	3886	-689.44	-2.45	-27.79
1001	SLE QP 1	-76	21	3679	-655.69	-2.28	-26.74
1001	SLE QP 2	-78	21	3803	-675.94	-2.38	-27.37
1001	SLD 1	369	208	3910	-679.64	-0.68	129.15
1001	SLD 2	293	127	3970	-687.05	-0.59	102.86
1001	SLD 3	327	-22	4974	-826.81	-1.03	114.68
1001	SLD 4	252	-103	5035	-834.22	-0.95	88.4
1001	SLD 5	132	441	2210	-452.56	-1.34	46.09
1001	SLD 6	83	389	2250	-457.35	-1.29	29.08
1001	SLD 7	-6	-327	5758	-943.12	-2.54	-2.14
1001	SLD 8	-55	-380	5797	-947.92	-2.48	-19.14
1001	SLD 9	-101	422	1809	-403.96	-2.28	-35.6
1001	SLD 10	-150	370	1848	-408.76	-2.23	-52.61
1001	SLD 11	-240	-346	5356	-894.52	-3.48	-83.82
1001	SLD 12	-289	-399	5396	-899.32	-3.42	-100.83
1001	SLD 13	-408	145	2572	-517.66	-3.82	-143.14
1001	SLD 14	-484	65	2632	-525.07	-3.73	-169.43
1001	SLD 15	-450	-85	3636	-664.82	-4.17	-157.61
1001	SLD 16	-525	-166	3697	-672.24	-4.09	-183.9
1001	SLV 1	625	329	3900	-672.14	0.3	218.72
1001	SLV 2	506	202	3995	-683.81	0.44	177.33
1001	SLV 3	555	-61	5698	-920.83	-0.3	194.29
1001	SLV 4	436	-188	5794	-932.51	-0.17	152.9
1001	SLV 5	261	728	1087	-295.43	-0.68	91.23
1001	SLV 6	181	642	1152	-303.29	-0.59	63.37
1001	SLV 7	27	-570	7081	-1124.42	-2.7	9.8
1001	SLV 8	-53	-656	7145	-1132.28	-2.61	-18.07
1001	SLV 9	-104	698	461	-219.6	-2.15	-36.67
1001	SLV 10	-184	613	525	-227.46	-2.06	-64.54
1001	SLV 11	-338	-600	6455	-1048.59	-4.17	-118.11
1001	SLV 12	-418	-686	6519	-1056.45	-4.08	-145.98
1001	SLV 13	-592	230	1813	-419.37	-4.6	-207.64
1001	SLV 14	-711	103	1908	-431.04	-4.46	-249.03
1001	SLV 15	-662	-159	3611	-668.07	-5.2	-232.07
1001	SLV 16	-781	-286	3706	-679.74	-5.07	-273.46
1001	SLV FO 1	695	359	3909	-671.76	0.57	243.33
1001	SLV FO 2	564	220	4015	-684.6	0.72	197.8
1001	SLV FO 3	618	-69	5887	-945.32	-0.1	216.45
1001	SLV FO 4	487	-209	5993	-958.17	0.05	170.93
1001	SLV FO 5	295	799	816	-257.38	-0.51	103.09
1001	SLV FO 6	207	704	886	-266.03	-0.41	72.44
1001	SLV FO 7	38	-630	7409	-1169.27	-2.74	13.51
1001	SLV FO 8	-50	-724	7479	-1177.91	-2.64	-17.14
1001	SLV FO 9	-106	766	127	-173.97	-2.13	-37.6
1001	SLV FO 10	-194	672	198	-182.61	-2.03	-68.26
1001	SLV FO 11	-364	-662	6720	-1085.85	-4.35	-127.19
1001	SLV FO 12	-452	-756	6791	-1094.5	-4.25	-157.84
1001	SLV FO 13	-644	251	1614	-393.71	-4.82	-225.67
1001	SLV FO 14	-774	111	1719	-406.55	-4.67	-271.2
1001	SLV FO 15	-721	-177	3592	-667.28	-5.49	-252.54
1001	SLV FO 16	-852	-317	3697	-680.12	-5.34	-298.07
1001	CRTFP Ux+	0	0	0	0	0	0
1001	CRTFP Ux-	0	0	0	0	0	0
1001	CRTFP Uy+	0	0	0	0	0	0
1001	CRTFP Uy-	0	0	0	0	0	0
1002	SLU 1	-73	19	3602	-713.55	-3.95	-25.54
1002	SLU 2	-70	38	3530	-702.29	-3.88	-24.44
1002	SLU 3	-75	20	3704	-732.18	-4.07	-26.22
1002	SLU 4	-73	31	3661	-725.42	-4.03	-25.56
1002	SLU 5	-71	38	3599	-714.75	-3.96	-24.83
1002	SLU 6	-76	21	3773	-744.64	-4.16	-26.61
1002	SLU 7	-74	32	3730	-737.88	-4.11	-25.95
1002	SLU 8	-75	20	3739	-738.47	-4.11	-26.32
1002	SLU 9	-73	31	3696	-731.71	-4.07	-25.66
1002	SLU 10	-76	39	3979	-785.53	-4.5	-26.66
1002	SLU 11	-81	21	4154	-815.42	-4.69	-28.44
1002	SLU 12	-79	32	4110	-808.66	-4.65	-27.78
1002	SLU 13	-77	39	4048	-797.99	-4.58	-27.05
1002	SLU 14	-82	22	4222	-827.88	-4.77	-28.82
1002	SLU 15	-80	33	4179	-821.12	-4.73	-28.17
1002	SLU 16	-81	22	4189	-821.71	-4.73	-28.53
1002	SLU 17	-79	33	4146	-814.95	-4.69	-27.87
1002	SLU 18	-82	21	4244	-832.46	-4.83	-28.7
1002	SLU 19	-80	32	4201	-825.71	-4.79	-28.04
1002	SLU 20	-83	22	4313	-844.92	-4.91	-29.09
1002	SLU 21	-81	33	4270	-838.17	-4.87	-28.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1002	SLU 22	-83	21	4210	-825.28	-4.75	-29.22
1002	SLU 23	-80	39	4138	-814.02	-4.68	-28.12
1002	SLU 24	-85	21	4313	-843.91	-4.87	-29.9
1002	SLU 25	-83	32	4270	-837.15	-4.83	-29.24
1002	SLU 26	-81	40	4207	-826.48	-4.76	-28.51
1002	SLU 27	-86	22	4382	-856.37	-4.95	-30.29
1002	SLU 28	-84	33	4338	-849.61	-4.91	-29.63
1002	SLU 29	-86	22	4348	-850.2	-4.91	-30
1002	SLU 30	-84	33	4305	-843.44	-4.87	-29.34
1002	SLU 31	-86	40	4588	-897.26	-5.29	-30.34
1002	SLU 32	-92	23	4762	-927.15	-5.49	-32.11
1002	SLU 33	-90	34	4719	-920.39	-5.44	-31.46
1002	SLU 34	-88	41	4657	-909.72	-5.38	-30.72
1002	SLU 35	-93	23	4831	-939.61	-5.57	-32.5
1002	SLU 36	-91	34	4788	-932.85	-5.53	-31.85
1002	SLU 37	-92	23	4798	-933.44	-5.53	-32.21
1002	SLU 38	-90	34	4755	-926.68	-5.48	-31.55
1002	SLU 39	-92	22	4853	-944.19	-5.63	-32.38
1002	SLU 40	-90	33	4810	-937.44	-5.59	-31.72
1002	SLU 41	-93	23	4921	-956.65	-5.71	-32.77
1002	SLU 42	-92	34	4878	-949.9	-5.67	-32.11
1002	SLU 43	-91	25	4473	-889.31	-4.86	-31.94
1002	SLU 44	-88	43	4401	-878.05	-4.79	-30.84
1002	SLU 45	-93	25	4576	-907.94	-4.99	-32.62
1002	SLU 46	-91	36	4533	-901.18	-4.94	-31.97
1002	SLU 47	-89	44	4470	-890.51	-4.88	-31.23
1002	SLU 48	-94	26	4645	-920.4	-5.07	-33.01
1002	SLU 49	-92	37	4601	-913.64	-5.03	-32.35
1002	SLU 50	-93	26	4611	-914.23	-5.03	-32.72
1002	SLU 51	-91	37	4568	-907.47	-4.99	-32.06
1002	SLU 52	-94	44	4851	-961.29	-5.41	-33.06
1002	SLU 53	-99	27	5025	-991.18	-5.6	-34.84
1002	SLU 54	-97	38	4982	-984.42	-5.56	-34.18
1002	SLU 55	-95	45	4920	-973.75	-5.49	-33.45
1002	SLU 56	-100	27	5094	-1003.64	-5.68	-35.22
1002	SLU 57	-99	38	5051	-996.88	-5.64	-34.57
1002	SLU 58	-100	27	5061	-997.47	-5.64	-34.93
1002	SLU 59	-98	38	5018	-990.71	-5.6	-34.27
1002	SLU 60	-100	26	5116	-1008.22	-5.74	-35.1
1002	SLU 61	-98	37	5073	-1001.47	-5.7	-34.44
1002	SLU 62	-101	27	5185	-1020.68	-5.83	-35.49
1002	SLU 63	-99	38	5141	-1013.93	-5.78	-34.83
1002	SLU 64	-102	26	5082	-1001.04	-5.66	-35.62
1002	SLU 65	-98	44	5010	-989.78	-5.59	-34.52
1002	SLU 66	-103	27	5184	-1019.67	-5.78	-36.3
1002	SLU 67	-102	38	5141	-1012.91	-5.74	-35.64
1002	SLU 68	-100	45	5079	-1002.24	-5.67	-34.91
1002	SLU 69	-105	27	5253	-1032.13	-5.86	-36.69
1002	SLU 70	-103	38	5210	-1025.37	-5.82	-36.03
1002	SLU 71	-104	27	5220	-1025.96	-5.82	-36.4
1002	SLU 72	-102	38	5177	-1019.2	-5.78	-35.74
1002	SLU 73	-105	46	5460	-1073.02	-6.21	-36.74
1002	SLU 74	-110	28	5634	-1102.91	-6.4	-38.52
1002	SLU 75	-108	39	5591	-1096.15	-6.36	-37.86
1002	SLU 76	-106	46	5529	-1085.48	-6.29	-37.13
1002	SLU 77	-111	28	5703	-1115.37	-6.48	-38.9
1002	SLU 78	-109	39	5660	-1108.61	-6.44	-38.25
1002	SLU 79	-110	28	5669	-1109.2	-6.44	-38.61
1002	SLU 80	-108	39	5626	-1102.44	-6.4	-37.95
1002	SLU 81	-111	28	5724	-1119.95	-6.54	-38.78
1002	SLU 82	-109	39	5681	-1113.19	-6.5	-38.12
1002	SLU 83	-112	28	5793	-1132.41	-6.62	-39.17
1002	SLU 84	-110	39	5750	-1125.65	-6.58	-38.51
1002	SLE RA 1	-76	20	3775	-745.47	-4.18	-26.59
1002	SLE RA 2	-74	32	3728	-737.96	-4.13	-25.86
1002	SLE RA 3	-77	20	3844	-757.89	-4.26	-27.05
1002	SLE RA 4	-76	28	3815	-753.39	-4.23	-26.61
1002	SLE RA 5	-74	32	3774	-746.27	-4.19	-26.12
1002	SLE RA 6	-78	21	3890	-766.2	-4.31	-27.3
1002	SLE RA 7	-77	28	3861	-761.69	-4.29	-26.87
1002	SLE RA 8	-77	20	3867	-762.08	-4.29	-27.11
1002	SLE RA 9	-76	28	3839	-757.58	-4.26	-26.67
1002	SLE RA 10	-78	33	4027	-793.46	-4.54	-27.34
1002	SLE RA 11	-81	21	4143	-813.39	-4.67	-28.52
1002	SLE RA 12	-80	28	4115	-808.88	-4.64	-28.08
1002	SLE RA 13	-79	33	4073	-801.77	-4.6	-27.59
1002	SLE RA 14	-82	21	4189	-821.69	-4.73	-28.78
1002	SLE RA 15	-81	29	4161	-817.19	-4.7	-28.34
1002	SLE RA 16	-81	21	4167	-817.58	-4.7	-28.58
1002	SLE RA 17	-80	29	4138	-813.07	-4.67	-28.15
1002	SLE RA 18	-82	21	4204	-824.75	-4.76	-28.7
1002	SLE RA 19	-81	28	4175	-820.24	-4.74	-28.26
1002	SLE RA 20	-83	21	4250	-833.06	-4.82	-28.96
1002	SLE RA 21	-81	29	4221	-828.55	-4.79	-28.52
1002	SLE FR 1	-76	20	3775	-745.47	-4.18	-26.59
1002	SLE FR 2	-75	22	3766	-743.97	-4.17	-26.45
1002	SLE FR 3	-76	20	3794	-748.79	-4.2	-26.7
1002	SLE FR 4	-77	23	3894	-767.75	-4.34	-27.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1002	SLE FR 5	-78	20	3922	-772.58	-4.38	-27.33
1002	SLE FR 6	-79	20	3990	-785.11	-4.47	-27.65
1002	SLE QP 1	-76	20	3775	-745.47	-4.18	-26.59
1002	SLE QP 2	-78	20	3904	-769.25	-4.35	-27.22
1002	SLD 1	370	206	3962	-762.27	-2.78	129.28
1002	SLD 2	294	129	4021	-770.69	-2.75	103.03
1002	SLD 3	329	-24	5048	-934.52	-3.84	115
1002	SLD 4	254	-101	5107	-942.94	-3.81	88.75
1002	SLD 5	131	438	2265	-504.46	-2.27	45.93
1002	SLD 6	83	388	2303	-509.91	-2.25	28.95
1002	SLD 7	-4	-328	5883	-1078.61	-5.82	-1.66
1002	SLD 8	-53	-378	5921	-1084.06	-5.8	-18.64
1002	SLD 9	-102	418	1886	-454.45	-2.9	-35.81
1002	SLD 10	-151	369	1925	-459.9	-2.88	-52.79
1002	SLD 11	-238	-348	5505	-1028.6	-6.46	-83.4
1002	SLD 12	-287	-397	5543	-1034.05	-6.44	-100.38
1002	SLD 13	-409	141	2701	-595.57	-4.89	-143.2
1002	SLD 14	-484	64	2760	-603.99	-4.86	-169.45
1002	SLD 15	-449	-89	3787	-767.82	-5.96	-157.48
1002	SLD 16	-525	-165	3846	-776.23	-5.93	-183.72
1002	SLV 1	625	325	3924	-747.17	-1.82	218.82
1002	SLV 2	507	204	4017	-760.42	-1.78	177.49
1002	SLV 3	557	-63	5758	-1038.24	-3.63	194.7
1002	SLV 4	438	-184	5851	-1051.49	-3.58	153.38
1002	SLV 5	260	723	1111	-318.7	-0.87	90.87
1002	SLV 6	180	642	1173	-327.63	-0.83	63.05
1002	SLV 7	31	-571	7225	-1288.93	-6.88	10.5
1002	SLV 8	-49	-652	7287	-1297.85	-6.85	-17.32
1002	SLV 9	-106	693	521	-240.66	-1.86	-37.12
1002	SLV 10	-186	611	583	-249.58	-1.83	-64.94
1002	SLV 11	-335	-601	6635	-1210.88	-7.87	-117.5
1002	SLV 12	-415	-683	6697	-1219.81	-7.84	-145.32
1002	SLV 13	-593	224	1957	-487.02	-5.13	-207.83
1002	SLV 14	-712	103	2050	-500.27	-5.08	-249.15
1002	SLV 15	-662	-164	3791	-778.09	-6.93	-231.94
1002	SLV 16	-781	-285	3884	-791.34	-6.88	-273.26
1002	SLV FO 1	696	356	3926	-744.96	-1.57	243.42
1002	SLV FO 2	565	223	4028	-759.54	-1.52	197.97
1002	SLV FO 3	620	-71	5943	-1065.14	-3.56	216.9
1002	SLV FO 4	490	-204	6046	-1079.72	-3.5	171.44
1002	SLV FO 5	293	793	831	-273.65	-0.52	102.68
1002	SLV FO 6	206	704	900	-283.46	-0.48	72.08
1002	SLV FO 7	41	-630	7557	-1340.9	-7.13	14.27
1002	SLV FO 8	-46	-720	7626	-1350.71	-7.1	-16.33
1002	SLV FO 9	-109	760	182	-187.8	-1.61	-38.11
1002	SLV FO 10	-197	670	251	-197.61	-1.57	-68.72
1002	SLV FO 11	-361	-663	6908	-1255.05	-8.22	-126.52
1002	SLV FO 12	-449	-753	6977	-1264.86	-8.19	-157.13
1002	SLV FO 13	-645	244	1762	-458.79	-5.2	-225.89
1002	SLV FO 14	-775	111	1864	-473.37	-5.15	-271.34
1002	SLV FO 15	-720	-183	3780	-778.97	-7.19	-252.41
1002	SLV FO 16	-851	-316	3882	-793.55	-7.14	-297.87
1002	CRTFP Ux+	0	0	0	0	0	0
1002	CRTFP Ux-	0	0	0	0	0	0
1002	CRTFP Uy+	0	0	0	0	0	0
1002	CRTFP Uy-	0	0	0	0	0	0
1003	SLU 1	-72	17	3737	-833.93	-5.1	-25.39
1003	SLU 2	-69	36	3663	-820.07	-4.99	-24.31
1003	SLU 3	-74	18	3844	-856.27	-5.26	-26.06
1003	SLU 4	-72	29	3799	-847.95	-5.2	-25.42
1003	SLU 5	-70	36	3734	-835.01	-5.1	-24.69
1003	SLU 6	-75	18	3915	-871.21	-5.37	-26.44
1003	SLU 7	-73	29	3871	-862.89	-5.3	-25.8
1003	SLU 8	-74	18	3880	-863.81	-5.31	-26.15
1003	SLU 9	-73	29	3836	-855.5	-5.25	-25.51
1003	SLU 10	-76	37	4133	-920.63	-5.76	-26.54
1003	SLU 11	-81	19	4314	-956.82	-6.04	-28.29
1003	SLU 12	-79	30	4269	-948.51	-5.97	-27.64
1003	SLU 13	-77	37	4205	-935.57	-5.87	-26.92
1003	SLU 14	-82	19	4386	-971.76	-6.14	-28.67
1003	SLU 15	-80	30	4341	-963.45	-6.08	-28.02
1003	SLU 16	-81	19	4351	-964.37	-6.09	-28.38
1003	SLU 17	-79	30	4306	-956.05	-6.02	-27.73
1003	SLU 18	-81	19	4409	-977.58	-6.2	-28.57
1003	SLU 19	-80	30	4364	-969.27	-6.14	-27.92
1003	SLU 20	-82	19	4481	-992.52	-6.31	-28.95
1003	SLU 21	-81	30	4436	-984.21	-6.25	-28.3
1003	SLU 22	-83	18	4373	-968.64	-6.11	-29.06
1003	SLU 23	-80	37	4298	-954.78	-6.01	-27.99
1003	SLU 24	-85	19	4479	-990.97	-6.28	-29.74
1003	SLU 25	-83	30	4435	-982.66	-6.21	-29.09
1003	SLU 26	-81	37	4370	-969.72	-6.11	-28.37
1003	SLU 27	-86	19	4551	-1005.92	-6.38	-30.12
1003	SLU 28	-84	30	4506	-997.6	-6.32	-29.47
1003	SLU 29	-85	19	4516	-998.52	-6.33	-29.83
1003	SLU 30	-83	30	4471	-990.21	-6.26	-29.18
1003	SLU 31	-86	38	4769	-1055.33	-6.78	-30.21
1003	SLU 32	-91	20	4950	-1091.53	-7.05	-31.96

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1003	SLU 33	-89	31	4905	-1083.21	-6.99	-31.32
1003	SLU 34	-87	38	4840	-1070.27	-6.89	-30.6
1003	SLU 35	-92	20	5022	-1106.47	-7.16	-32.35
1003	SLU 36	-90	31	4977	-1098.15	-7.09	-31.7
1003	SLU 37	-91	20	4987	-1099.08	-7.1	-32.06
1003	SLU 38	-89	31	4942	-1090.76	-7.04	-31.41
1003	SLU 39	-92	20	5045	-1112.29	-7.22	-32.25
1003	SLU 40	-90	31	5000	-1103.97	-7.16	-31.6
1003	SLU 41	-93	20	5116	-1127.23	-7.33	-32.63
1003	SLU 42	-91	31	5072	-1118.91	-7.26	-31.98
1003	SLU 43	-90	22	4640	-1037.93	-6.28	-31.74
1003	SLU 44	-87	41	4566	-1024.07	-6.17	-30.67
1003	SLU 45	-92	23	4747	-1060.26	-6.44	-32.42
1003	SLU 46	-90	34	4702	-1051.95	-6.38	-31.77
1003	SLU 47	-88	41	4637	-1039.01	-6.28	-31.05
1003	SLU 48	-93	23	4818	-1075.2	-6.55	-32.8
1003	SLU 49	-92	34	4774	-1066.89	-6.49	-32.15
1003	SLU 50	-93	23	4783	-1067.81	-6.5	-32.51
1003	SLU 51	-91	34	4739	-1059.49	-6.43	-31.86
1003	SLU 52	-94	42	5036	-1124.62	-6.95	-32.89
1003	SLU 53	-99	24	5217	-1160.82	-7.22	-34.64
1003	SLU 54	-97	35	5172	-1152.5	-7.15	-34
1003	SLU 55	-95	42	5108	-1139.56	-7.05	-33.28
1003	SLU 56	-100	24	5289	-1175.76	-7.32	-35.03
1003	SLU 57	-98	35	5244	-1167.44	-7.26	-34.38
1003	SLU 58	-99	24	5254	-1168.36	-7.27	-34.74
1003	SLU 59	-97	35	5209	-1160.05	-7.21	-34.09
1003	SLU 60	-99	24	5312	-1181.58	-7.39	-34.92
1003	SLU 61	-98	35	5267	-1173.26	-7.32	-34.28
1003	SLU 62	-101	24	5384	-1196.52	-7.49	-35.31
1003	SLU 63	-99	35	5339	-1188.2	-7.43	-34.66
1003	SLU 64	-101	23	5276	-1172.63	-7.29	-35.42
1003	SLU 65	-98	42	5201	-1158.77	-7.19	-34.34
1003	SLU 66	-103	24	5382	-1194.97	-7.46	-36.09
1003	SLU 67	-101	35	5338	-1186.65	-7.39	-35.45
1003	SLU 68	-99	42	5273	-1173.71	-7.3	-34.73
1003	SLU 69	-104	24	5454	-1209.91	-7.57	-36.48
1003	SLU 70	-102	35	5410	-1201.59	-7.5	-35.83
1003	SLU 71	-103	24	5419	-1202.52	-7.51	-36.19
1003	SLU 72	-101	35	5375	-1194.2	-7.45	-35.54
1003	SLU 73	-104	43	5672	-1259.33	-7.96	-36.57
1003	SLU 74	-109	25	5853	-1295.52	-8.23	-38.32
1003	SLU 75	-107	36	5808	-1287.21	-8.17	-37.67
1003	SLU 76	-105	43	5744	-1274.27	-8.07	-36.95
1003	SLU 77	-110	25	5925	-1310.46	-8.34	-38.7
1003	SLU 78	-108	36	5880	-1302.15	-8.28	-38.06
1003	SLU 79	-109	25	5890	-1303.07	-8.29	-38.41
1003	SLU 80	-108	36	5845	-1294.75	-8.22	-37.76
1003	SLU 81	-110	25	5948	-1316.28	-8.4	-38.6
1003	SLU 82	-108	36	5903	-1307.97	-8.34	-37.95
1003	SLU 83	-111	25	6020	-1331.22	-8.51	-38.98
1003	SLU 84	-109	36	5975	-1322.91	-8.44	-38.34
1003	SLE RA 1	-75	18	3919	-872.42	-5.39	-26.44
1003	SLE RA 2	-73	30	3869	-863.18	-5.32	-25.72
1003	SLE RA 3	-77	18	3990	-887.31	-5.5	-26.89
1003	SLE RA 4	-75	25	3960	-881.77	-5.45	-26.46
1003	SLE RA 5	-74	30	3917	-873.14	-5.39	-25.97
1003	SLE RA 6	-77	18	4038	-897.27	-5.57	-27.14
1003	SLE RA 7	-76	26	4008	-891.73	-5.53	-26.71
1003	SLE RA 8	-77	18	4014	-892.34	-5.53	-26.95
1003	SLE RA 9	-76	26	3984	-886.8	-5.49	-26.52
1003	SLE RA 10	-77	31	4183	-930.22	-5.83	-27.2
1003	SLE RA 11	-81	19	4303	-954.35	-6.01	-28.37
1003	SLE RA 12	-80	26	4274	-948.8	-5.97	-27.94
1003	SLE RA 13	-78	31	4230	-940.18	-5.9	-27.46
1003	SLE RA 14	-82	19	4351	-964.31	-6.09	-28.63
1003	SLE RA 15	-80	26	4321	-958.76	-6.04	-28.2
1003	SLE RA 16	-81	19	4328	-959.38	-6.05	-28.43
1003	SLE RA 17	-80	26	4298	-953.83	-6.01	-28
1003	SLE RA 18	-81	19	4367	-968.19	-6.13	-28.56
1003	SLE RA 19	-80	26	4337	-962.64	-6.08	-28.13
1003	SLE RA 20	-82	19	4414	-978.15	-6.2	-28.81
1003	SLE RA 21	-81	26	4385	-972.6	-6.15	-28.38
1003	SLE FR 1	-75	18	3919	-872.42	-5.39	-26.44
1003	SLE FR 2	-75	20	3909	-870.57	-5.37	-26.3
1003	SLE FR 3	-76	18	3938	-876.4	-5.42	-26.54
1003	SLE FR 4	-77	20	4043	-899.3	-5.6	-26.93
1003	SLE FR 5	-77	18	4072	-905.13	-5.64	-27.18
1003	SLE FR 6	-78	18	4143	-920.3	-5.76	-27.5
1003	SLE QP 1	-75	18	3919	-872.42	-5.39	-26.44
1003	SLE QP 2	-77	18	4053	-901.15	-5.61	-27.07
1003	SLD 1	370	202	4066	-886.31	-4.13	129.31
1003	SLD 2	295	129	4125	-896.61	-4.14	103.13
1003	SLD 3	330	-30	5192	-1096.77	-5.75	115.27
1003	SLD 4	255	-103	5251	-1107.07	-5.76	89.1
1003	SLD 5	130	438	2339	-575.72	-2.7	45.67
1003	SLD 6	82	391	2378	-582.38	-2.71	28.74
1003	SLD 7	-2	-336	6092	-1277.24	-8.11	-1.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1003	SLD 8	-51	-383	6130	-1283.91	-8.12	-18.05
1003	SLD 9	-103	419	1976	-518.39	-3.1	-36.1
1003	SLD 10	-152	372	2014	-525.05	-3.11	-53.03
1003	SLD 11	-236	-355	5728	-1219.92	-8.5	-82.89
1003	SLD 12	-285	-402	5767	-1226.58	-8.52	-99.82
1003	SLD 13	-409	139	2855	-695.23	-5.45	-143.25
1003	SLD 14	-484	66	2914	-705.53	-5.47	-169.42
1003	SLD 15	-449	-93	3981	-905.69	-7.07	-157.28
1003	SLD 16	-524	-166	4040	-915.99	-7.09	-183.46
1003	SLV 1	626	321	4000	-864.32	-3.19	218.76
1003	SLV 2	507	206	4093	-880.53	-3.22	177.55
1003	SLV 3	558	-71	5902	-1219.95	-5.93	195.05
1003	SLV 4	440	-187	5995	-1236.17	-5.96	153.85
1003	SLV 5	258	725	1135	-347.69	-0.72	90.32
1003	SLV 6	178	648	1198	-358.61	-0.74	62.58
1003	SLV 7	34	-582	7475	-1533.15	-9.86	11.3
1003	SLV 8	-46	-660	7538	-1544.06	-9.87	-16.44
1003	SLV 9	-108	696	568	-258.23	-1.34	-37.71
1003	SLV 10	-188	618	631	-269.15	-1.36	-65.45
1003	SLV 11	-332	-612	6908	-1443.69	-10.48	-116.73
1003	SLV 12	-412	-689	6971	-1454.61	-10.5	-144.47
1003	SLV 13	-594	223	2111	-566.13	-5.26	-208
1003	SLV 14	-713	107	2204	-582.35	-5.29	-249.2
1003	SLV 15	-662	-170	4013	-921.76	-8	-231.7
1003	SLV 16	-780	-285	4106	-937.98	-8.03	-272.91
1003	SLV FO 1	696	351	3995	-860.63	-2.95	243.34
1003	SLV FO 2	566	224	4097	-878.47	-2.98	198.02
1003	SLV FO 3	622	-80	6087	-1251.83	-5.96	217.27
1003	SLV FO 4	492	-207	6189	-1269.67	-5.99	171.94
1003	SLV FO 5	291	796	843	-292.34	-0.23	102.06
1003	SLV FO 6	203	711	912	-304.35	-0.25	71.54
1003	SLV FO 7	45	-642	7817	-1596.35	-10.28	15.14
1003	SLV FO 8	-43	-728	7886	-1608.36	-10.3	-15.38
1003	SLV FO 9	-112	764	220	-193.94	-0.92	-38.77
1003	SLV FO 10	-199	678	289	-205.95	-0.94	-69.29
1003	SLV FO 11	-358	-675	7194	-1497.94	-10.96	-125.69
1003	SLV FO 12	-445	-760	7263	-1509.95	-10.98	-156.21
1003	SLV FO 13	-646	243	1917	-532.63	-5.23	-226.09
1003	SLV FO 14	-776	116	2019	-550.47	-5.26	-271.42
1003	SLV FO 15	-720	-188	4009	-923.83	-8.24	-252.16
1003	SLV FO 16	-850	-315	4111	-941.67	-8.27	-297.49
1003	CRTFP Ux+	0	0	0	0	0	0
1003	CRTFP Ux-	0	0	0	0	0	0
1003	CRTFP Uy+	0	0	0	0	0	0
1003	CRTFP Uy-	0	0	0	0	0	0
1004	SLU 1	-72	15	3893	-978.97	-5.28	-25.23
1004	SLU 2	-69	34	3815	-961.75	-5.15	-24.17
1004	SLU 3	-74	15	4004	-1005.81	-5.46	-25.89
1004	SLU 4	-72	27	3958	-995.48	-5.38	-25.26
1004	SLU 5	-70	34	3890	-979.72	-5.27	-24.55
1004	SLU 6	-75	16	4080	-1023.77	-5.57	-26.27
1004	SLU 7	-73	27	4033	-1013.44	-5.49	-25.64
1004	SLU 8	-74	16	4043	-1014.9	-5.51	-25.98
1004	SLU 9	-72	27	3996	-1004.57	-5.44	-25.35
1004	SLU 10	-75	35	4309	-1083.14	-5.95	-26.41
1004	SLU 11	-80	16	4499	-1127.2	-6.26	-28.13
1004	SLU 12	-78	27	4452	-1116.87	-6.18	-27.5
1004	SLU 13	-76	35	4384	-1101.11	-6.07	-26.79
1004	SLU 14	-81	16	4574	-1145.17	-6.37	-28.51
1004	SLU 15	-79	28	4527	-1134.84	-6.29	-27.88
1004	SLU 16	-80	16	4537	-1136.29	-6.32	-28.22
1004	SLU 17	-79	28	4490	-1125.96	-6.24	-27.59
1004	SLU 18	-81	16	4599	-1152.38	-6.43	-28.43
1004	SLU 19	-79	27	4552	-1142.05	-6.35	-27.8
1004	SLU 20	-82	16	4674	-1170.35	-6.54	-28.81
1004	SLU 21	-80	28	4627	-1160.02	-6.47	-28.17
1004	SLU 22	-82	16	4560	-1141.42	-6.34	-28.9
1004	SLU 23	-79	34	4482	-1124.2	-6.21	-27.85
1004	SLU 24	-84	16	4671	-1168.26	-6.52	-29.57
1004	SLU 25	-82	27	4625	-1157.93	-6.44	-28.93
1004	SLU 26	-80	35	4557	-1142.17	-6.33	-28.22
1004	SLU 27	-85	16	4746	-1186.23	-6.63	-29.94
1004	SLU 28	-83	28	4700	-1175.9	-6.55	-29.31
1004	SLU 29	-84	16	4710	-1177.35	-6.57	-29.66
1004	SLU 30	-83	27	4663	-1167.02	-6.49	-29.02
1004	SLU 31	-86	35	4976	-1245.59	-7.01	-30.09
1004	SLU 32	-91	17	5165	-1289.65	-7.32	-31.81
1004	SLU 33	-89	28	5119	-1279.32	-7.24	-31.18
1004	SLU 34	-87	36	5051	-1263.56	-7.13	-30.47
1004	SLU 35	-92	17	5240	-1307.62	-7.43	-32.19
1004	SLU 36	-90	28	5194	-1297.29	-7.35	-31.55
1004	SLU 37	-91	17	5204	-1298.74	-7.38	-31.9
1004	SLU 38	-89	28	5157	-1288.41	-7.3	-31.26
1004	SLU 39	-91	17	5265	-1314.83	-7.49	-32.1
1004	SLU 40	-90	28	5219	-1304.5	-7.41	-31.47
1004	SLU 41	-93	17	5341	-1332.8	-7.6	-32.48
1004	SLU 42	-91	28	5294	-1322.47	-7.52	-31.85
1004	SLU 43	-90	19	4832	-1216.96	-6.51	-31.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1004	SLU 44	-87	38	4754	-1199.74	-6.37	-30.48
1004	SLU 45	-92	20	4944	-1243.8	-6.68	-32.2
1004	SLU 46	-90	31	4897	-1233.47	-6.6	-31.57
1004	SLU 47	-88	38	4829	-1217.71	-6.49	-30.86
1004	SLU 48	-93	20	5019	-1261.77	-6.79	-32.58
1004	SLU 49	-91	31	4972	-1251.44	-6.71	-31.95
1004	SLU 50	-92	20	4982	-1252.89	-6.74	-32.29
1004	SLU 51	-90	31	4935	-1242.56	-6.66	-31.66
1004	SLU 52	-93	39	5248	-1321.13	-7.18	-32.72
1004	SLU 53	-98	20	5438	-1365.19	-7.48	-34.44
1004	SLU 54	-96	32	5391	-1354.86	-7.4	-33.81
1004	SLU 55	-94	39	5323	-1339.1	-7.29	-33.1
1004	SLU 56	-99	21	5513	-1383.16	-7.59	-34.82
1004	SLU 57	-97	32	5466	-1372.83	-7.52	-34.19
1004	SLU 58	-98	21	5476	-1374.28	-7.54	-34.53
1004	SLU 59	-97	32	5429	-1363.95	-7.46	-33.9
1004	SLU 60	-99	20	5538	-1390.37	-7.65	-34.74
1004	SLU 61	-97	32	5491	-1380.04	-7.57	-34.11
1004	SLU 62	-100	21	5613	-1408.34	-7.77	-35.12
1004	SLU 63	-98	32	5566	-1398.01	-7.69	-34.48
1004	SLU 64	-100	20	5499	-1379.41	-7.57	-35.21
1004	SLU 65	-97	39	5421	-1362.19	-7.43	-34.16
1004	SLU 66	-102	20	5611	-1406.25	-7.74	-35.88
1004	SLU 67	-100	32	5564	-1395.92	-7.66	-35.24
1004	SLU 68	-98	39	5496	-1380.16	-7.55	-34.53
1004	SLU 69	-103	21	5686	-1424.22	-7.85	-36.25
1004	SLU 70	-101	32	5639	-1413.89	-7.77	-35.62
1004	SLU 71	-102	21	5649	-1415.34	-7.8	-35.96
1004	SLU 72	-101	32	5602	-1405.01	-7.72	-35.33
1004	SLU 73	-104	40	5915	-1483.58	-8.24	-36.4
1004	SLU 74	-109	21	6105	-1527.64	-8.54	-38.12
1004	SLU 75	-107	32	6058	-1517.31	-8.46	-37.48
1004	SLU 76	-105	40	5990	-1501.55	-8.35	-36.77
1004	SLU 77	-110	21	6180	-1545.61	-8.65	-38.49
1004	SLU 78	-108	33	6133	-1535.28	-8.58	-37.86
1004	SLU 79	-109	21	6143	-1536.74	-8.6	-38.21
1004	SLU 80	-107	33	6096	-1526.41	-8.52	-37.57
1004	SLU 81	-109	21	6205	-1552.83	-8.71	-38.41
1004	SLU 82	-108	32	6158	-1542.5	-8.63	-37.78
1004	SLU 83	-110	21	6280	-1570.79	-8.83	-38.79
1004	SLU 84	-109	33	6233	-1560.46	-8.75	-38.16
1004	SLE RA 1	-75	15	4083	-1025.38	-5.59	-26.28
1004	SLE RA 2	-73	28	4031	-1013.9	-5.5	-25.57
1004	SLE RA 3	-76	15	4158	-1043.27	-5.7	-26.72
1004	SLE RA 4	-75	23	4127	-1036.39	-5.65	-26.3
1004	SLE RA 5	-74	28	4081	-1025.88	-5.58	-25.83
1004	SLE RA 6	-77	16	4208	-1055.25	-5.78	-26.97
1004	SLE RA 7	-76	23	4177	-1048.37	-5.73	-26.55
1004	SLE RA 8	-76	16	4183	-1049.34	-5.74	-26.78
1004	SLE RA 9	-75	23	4152	-1042.45	-5.69	-26.36
1004	SLE RA 10	-77	28	4361	-1094.83	-6.03	-27.07
1004	SLE RA 11	-80	16	4487	-1124.2	-6.24	-28.22
1004	SLE RA 12	-79	24	4456	-1117.32	-6.18	-27.79
1004	SLE RA 13	-78	28	4411	-1106.81	-6.11	-27.32
1004	SLE RA 14	-81	16	4537	-1136.18	-6.31	-28.47
1004	SLE RA 15	-80	24	4506	-1129.29	-6.26	-28.04
1004	SLE RA 16	-81	16	4513	-1130.26	-6.27	-28.27
1004	SLE RA 17	-79	24	4482	-1123.38	-6.22	-27.85
1004	SLE RA 18	-81	16	4554	-1140.99	-6.35	-28.41
1004	SLE RA 19	-80	23	4523	-1134.1	-6.3	-27.99
1004	SLE RA 20	-82	16	4604	-1152.97	-6.43	-28.66
1004	SLE RA 21	-80	24	4573	-1146.08	-6.37	-28.24
1004	SLE FR 1	-75	15	4083	-1025.38	-5.59	-26.28
1004	SLE FR 2	-74	18	4073	-1023.08	-5.57	-26.14
1004	SLE FR 3	-75	15	4103	-1030.17	-5.62	-26.38
1004	SLE FR 4	-76	18	4214	-1057.77	-5.8	-26.78
1004	SLE FR 5	-77	16	4244	-1064.85	-5.85	-27.02
1004	SLE FR 6	-78	16	4319	-1083.19	-5.97	-27.34
1004	SLE QP 1	-75	15	4083	-1025.38	-5.59	-26.28
1004	SLE QP 2	-77	15	4224	-1060.06	-5.82	-26.92
1004	SLD 1	370	196	4195	-1039.34	-4.41	129.24
1004	SLD 2	295	127	4255	-1052.32	-4.46	103.18
1004	SLD 3	331	-40	5374	-1298.81	-6.35	115.51
1004	SLD 4	256	-110	5434	-1311.8	-6.4	89.44
1004	SLD 5	129	441	2417	-658.05	-2.45	45.28
1004	SLD 6	81	396	2456	-666.45	-2.48	28.42
1004	SLD 7	0	-348	6347	-1522.98	-8.9	-0.5
1004	SLD 8	-48	-393	6386	-1531.37	-8.94	-17.36
1004	SLD 9	-105	424	2063	-588.75	-2.69	-36.48
1004	SLD 10	-153	379	2102	-597.15	-2.73	-53.34
1004	SLD 11	-234	-365	5993	-1453.67	-9.15	-82.25
1004	SLD 12	-282	-410	6032	-1462.07	-9.18	-99.12
1004	SLD 13	-410	141	3015	-808.33	-5.23	-143.28
1004	SLD 14	-485	71	3075	-821.31	-5.28	-169.34
1004	SLD 15	-449	-96	4194	-1067.81	-7.17	-157.01
1004	SLD 16	-523	-165	4254	-1080.79	-7.22	-183.08
1004	SLV 1	625	314	4102	-1010.84	-3.5	218.55
1004	SLV 2	508	204	4196	-1031.28	-3.58	177.51

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1004	SLV 3	560	-86	6094	-1449.29	-6.77	195.35
1004	SLV 4	442	-196	6188	-1469.73	-6.85	154.32
1004	SLV 5	255	732	1149	-376.49	-0.14	89.56
1004	SLV 6	176	658	1213	-390.25	-0.19	61.93
1004	SLV 7	37	-601	7789	-1838.01	-11.05	12.25
1004	SLV 8	-42	-675	7852	-1851.77	-11.11	-15.38
1004	SLV 9	-111	706	597	-268.36	-0.52	-38.45
1004	SLV 10	-190	632	660	-282.12	-0.58	-66.08
1004	SLV 11	-329	-627	7236	-1729.87	-11.44	-115.76
1004	SLV 12	-409	-701	7300	-1743.63	-11.49	-143.39
1004	SLV 13	-596	227	2261	-650.4	-4.78	-208.15
1004	SLV 14	-713	117	2355	-670.83	-4.86	-249.19
1004	SLV 15	-661	-173	4253	-1088.85	-8.05	-231.34
1004	SLV 16	-779	-283	4347	-1109.29	-8.14	-272.38
1004	SLV FO 1	696	343	4090	-1005.92	-3.26	243.09
1004	SLV FO 2	566	223	4193	-1028.4	-3.35	197.95
1004	SLV FO 3	624	-96	6281	-1488.22	-6.87	217.58
1004	SLV FO 4	494	-217	6385	-1510.7	-6.96	172.44
1004	SLV FO 5	288	803	841	-308.14	0.43	101.2
1004	SLV FO 6	201	722	911	-323.27	0.37	70.81
1004	SLV FO 7	48	-663	8145	-1915.8	-11.58	16.16
1004	SLV FO 8	-39	-744	8215	-1930.94	-11.64	-14.23
1004	SLV FO 9	-115	775	234	-189.19	0.01	-39.61
1004	SLV FO 10	-202	694	304	-204.33	-0.05	-70
1004	SLV FO 11	-354	-691	7538	-1796.85	-12	-124.65
1004	SLV FO 12	-442	-772	7608	-1811.99	-12.06	-155.04
1004	SLV FO 13	-647	248	2064	-609.43	-4.68	-226.27
1004	SLV FO 14	-777	127	2168	-631.91	-4.77	-271.42
1004	SLV FO 15	-719	-192	4256	-1091.73	-8.28	-251.79
1004	SLV FO 16	-849	-312	4359	-1114.21	-8.37	-296.93
1004	CRTFP Ux+	0	0	0	0	0	0
1004	CRTFP Ux-	0	0	0	0	0	0
1004	CRTFP Uy+	0	0	0	0	0	0
1004	CRTFP Uy-	0	0	0	0	0	0
1005	SLU 1	-62	11	3482	-979.63	94.45	-21.94
1005	SLU 2	-59	28	3411	-961.52	92.57	-21.51
1005	SLU 3	-63	11	3582	-1007	97.16	-22.51
1005	SLU 4	-62	21	3540	-996.14	96.03	-22.25
1005	SLU 5	-60	28	3479	-979.86	94.39	-21.84
1005	SLU 6	-64	11	3650	-1025.34	98.98	-22.83
1005	SLU 7	-63	21	3607	-1014.48	97.85	-22.58
1005	SLU 8	-63	11	3617	-1016.31	98.09	-22.58
1005	SLU 9	-62	21	3574	-1005.44	96.96	-22.33
1005	SLU 10	-65	28	3856	-1085.62	104.56	-23.48
1005	SLU 11	-69	12	4027	-1131.1	109.15	-24.48
1005	SLU 12	-67	22	3985	-1120.24	108.02	-24.22
1005	SLU 13	-66	28	3924	-1103.96	106.38	-23.8
1005	SLU 14	-70	12	4095	-1149.45	110.98	-24.8
1005	SLU 15	-68	22	4052	-1138.58	109.84	-24.55
1005	SLU 16	-69	12	4062	-1140.41	110.09	-24.55
1005	SLU 17	-68	22	4019	-1129.54	108.95	-24.3
1005	SLU 18	-70	12	4117	-1156.91	111.59	-24.75
1005	SLU 19	-68	22	4075	-1146.05	110.45	-24.49
1005	SLU 20	-71	12	4185	-1175.25	113.41	-25.07
1005	SLU 21	-69	22	4143	-1164.39	112.27	-24.82
1005	SLU 22	-71	12	4082	-1145.61	110.64	-25.12
1005	SLU 23	-68	28	4011	-1127.5	108.75	-24.69
1005	SLU 24	-72	12	4182	-1172.99	113.35	-25.69
1005	SLU 25	-71	22	4140	-1162.12	112.22	-25.44
1005	SLU 26	-69	28	4079	-1145.84	110.57	-25.02
1005	SLU 27	-73	12	4250	-1191.33	115.17	-26.02
1005	SLU 28	-72	22	4208	-1180.46	114.04	-25.76
1005	SLU 29	-73	12	4217	-1182.29	114.28	-25.77
1005	SLU 30	-71	22	4175	-1171.43	113.15	-25.51
1005	SLU 31	-74	29	4456	-1251.6	120.74	-26.66
1005	SLU 32	-78	12	4627	-1297.09	125.34	-27.66
1005	SLU 33	-76	22	4585	-1286.22	124.21	-27.41
1005	SLU 34	-75	29	4524	-1269.94	122.57	-26.99
1005	SLU 35	-79	13	4695	-1315.43	127.16	-27.99
1005	SLU 36	-77	23	4652	-1304.56	126.03	-27.73
1005	SLU 37	-78	13	4662	-1306.39	126.27	-27.74
1005	SLU 38	-77	22	4619	-1295.53	125.14	-27.48
1005	SLU 39	-79	13	4718	-1322.9	127.77	-27.93
1005	SLU 40	-77	23	4675	-1312.03	126.64	-27.68
1005	SLU 41	-80	13	4785	-1341.24	129.59	-28.26
1005	SLU 42	-78	23	4743	-1330.37	128.46	-28
1005	SLU 43	-77	14	4321	-1216.61	117.24	-27.42
1005	SLU 44	-75	31	4250	-1198.5	115.35	-27
1005	SLU 45	-79	14	4421	-1243.98	119.95	-28
1005	SLU 46	-77	24	4379	-1233.12	118.82	-27.74
1005	SLU 47	-75	31	4317	-1216.84	117.17	-27.32
1005	SLU 48	-80	15	4489	-1262.32	121.77	-28.32
1005	SLU 49	-78	24	4446	-1251.46	120.64	-28.07
1005	SLU 50	-79	14	4456	-1253.29	120.88	-28.07
1005	SLU 51	-77	24	4413	-1242.42	119.75	-27.82
1005	SLU 52	-80	31	4695	-1322.6	127.34	-28.97
1005	SLU 53	-84	15	4866	-1368.08	131.94	-29.97
1005	SLU 54	-83	25	4824	-1357.22	130.81	-29.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1005	SLU 55	-81	32	4762	-1340.94	129.17	-29.29
1005	SLU 56	-85	15	4933	-1386.43	133.76	-30.29
1005	SLU 57	-84	25	4891	-1375.56	132.63	-30.04
1005	SLU 58	-84	15	4901	-1377.39	132.87	-30.04
1005	SLU 59	-83	25	4858	-1366.52	131.74	-29.79
1005	SLU 60	-85	15	4956	-1393.89	134.37	-30.24
1005	SLU 61	-83	25	4914	-1383.03	133.24	-29.98
1005	SLU 62	-86	15	5024	-1412.23	136.19	-30.56
1005	SLU 63	-84	25	4981	-1401.37	135.06	-30.31
1005	SLU 64	-86	15	4921	-1382.59	133.42	-30.61
1005	SLU 65	-84	31	4850	-1364.48	131.54	-30.18
1005	SLU 66	-88	15	5021	-1409.97	136.13	-31.18
1005	SLU 67	-86	25	4979	-1399.1	135	-30.93
1005	SLU 68	-84	31	4918	-1382.82	133.36	-30.51
1005	SLU 69	-89	15	5089	-1428.31	137.95	-31.51
1005	SLU 70	-87	25	5046	-1417.44	136.82	-31.25
1005	SLU 71	-88	15	5056	-1419.27	137.06	-31.26
1005	SLU 72	-86	25	5013	-1408.41	135.93	-31
1005	SLU 73	-89	32	5295	-1488.58	143.53	-32.15
1005	SLU 74	-93	16	5466	-1534.07	148.13	-33.15
1005	SLU 75	-92	26	5424	-1523.2	146.99	-32.89
1005	SLU 76	-90	32	5363	-1506.92	145.35	-32.48
1005	SLU 77	-94	16	5534	-1552.41	149.95	-33.47
1005	SLU 78	-93	26	5491	-1541.54	148.82	-33.22
1005	SLU 79	-93	16	5501	-1543.37	149.06	-33.23
1005	SLU 80	-92	26	5458	-1532.51	147.93	-32.97
1005	SLU 81	-94	16	5556	-1559.87	150.56	-33.42
1005	SLU 82	-93	26	5514	-1549.01	149.43	-33.17
1005	SLU 83	-95	16	5624	-1578.22	152.38	-33.75
1005	SLU 84	-93	26	5581	-1567.35	151.25	-33.49
1005	SLE RA 1	-64	11	3653	-1027.05	99.08	-22.84
1005	SLE RA 2	-63	22	3606	-1014.98	97.82	-22.56
1005	SLE RA 3	-65	11	3720	-1045.3	100.88	-23.23
1005	SLE RA 4	-64	18	3692	-1038.06	100.13	-23.06
1005	SLE RA 5	-63	22	3651	-1027.21	99.03	-22.78
1005	SLE RA 6	-66	11	3765	-1057.53	102.1	-23.44
1005	SLE RA 7	-65	18	3737	-1050.29	101.34	-23.27
1005	SLE RA 8	-65	11	3743	-1051.5	101.5	-23.28
1005	SLE RA 9	-64	18	3715	-1044.26	100.75	-23.11
1005	SLE RA 10	-66	23	3903	-1097.71	105.81	-23.87
1005	SLE RA 11	-69	12	4017	-1128.04	108.88	-24.54
1005	SLE RA 12	-68	18	3989	-1120.79	108.12	-24.37
1005	SLE RA 13	-67	23	3948	-1109.94	107.03	-24.09
1005	SLE RA 14	-70	12	4062	-1140.26	110.09	-24.76
1005	SLE RA 15	-69	19	4034	-1133.02	109.34	-24.59
1005	SLE RA 16	-69	12	4040	-1134.24	109.5	-24.59
1005	SLE RA 17	-68	18	4012	-1127	108.74	-24.42
1005	SLE RA 18	-70	12	4077	-1145.24	110.5	-24.72
1005	SLE RA 19	-69	19	4049	-1138	109.74	-24.55
1005	SLE RA 20	-70	12	4122	-1157.47	111.71	-24.94
1005	SLE RA 21	-69	19	4094	-1150.23	110.96	-24.77
1005	SLE FR 1	-64	11	3653	-1027.05	99.08	-22.84
1005	SLE FR 2	-64	13	3644	-1024.64	98.82	-22.79
1005	SLE FR 3	-64	11	3671	-1031.94	99.56	-22.93
1005	SLE FR 4	-65	14	3771	-1060.09	102.25	-23.35
1005	SLE FR 5	-66	11	3798	-1067.4	102.99	-23.49
1005	SLE FR 6	-67	12	3865	-1086.15	104.79	-23.78
1005	SLE QP 1	-64	11	3653	-1027.05	99.08	-22.84
1005	SLE QP 2	-66	11	3780	-1062.51	102.5	-23.41
1005	SLD 1	320	163	3723	-1041.4	101.74	107.55
1005	SLD 2	256	107	3776	-1055.39	103.19	86.67
1005	SLD 3	287	-45	4788	-1312.69	130.25	101.67
1005	SLD 4	223	-102	4842	-1326.68	131.7	80.79
1005	SLD 5	111	383	2137	-642.29	58.78	28.43
1005	SLD 6	69	347	2172	-651.34	59.72	14.92
1005	SLD 7	2	-312	5690	-1546.59	153.82	8.81
1005	SLD 8	-40	-349	5725	-1555.64	154.75	-4.69
1005	SLD 9	-92	372	1836	-569.37	50.25	-42.12
1005	SLD 10	-133	335	1871	-578.42	51.19	-55.63
1005	SLD 11	-201	-324	5389	-1473.67	145.29	-61.73
1005	SLD 12	-242	-360	5424	-1482.72	146.22	-75.24
1005	SLD 13	-355	125	2719	-798.34	73.31	-127.6
1005	SLD 14	-419	68	2772	-812.32	74.75	-148.48
1005	SLD 15	-387	-84	3785	-1069.63	101.82	-133.49
1005	SLD 16	-452	-141	3838	-1083.61	103.26	-154.36
1005	SLV 1	541	263	3621	-1011.91	99.46	182.09
1005	SLV 2	439	174	3705	-1033.92	101.73	149.22
1005	SLV 3	486	-90	5422	-1470.31	147.63	172.15
1005	SLV 4	384	-179	5506	-1492.32	149.91	139.27
1005	SLV 5	219	638	985	-347.98	28.1	59.46
1005	SLV 6	150	578	1042	-362.8	29.63	37.33
1005	SLV 7	35	-537	6989	-1875.98	188.68	26.31
1005	SLV 8	-33	-597	7045	-1890.8	190.21	4.18
1005	SLV 9	-98	620	516	-234.21	14.79	-50.99
1005	SLV 10	-167	560	572	-249.04	16.32	-73.12
1005	SLV 11	-282	-555	6519	-1762.21	175.37	-84.14
1005	SLV 12	-350	-615	6576	-1777.04	176.9	-106.27
1005	SLV 13	-516	202	2055	-632.69	55.1	-186.09

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1005	SLV 14	-617	113	2139	-654.71	57.37	-218.96
1005	SLV 15	-571	-151	3856	-1091.09	103.27	-196.03
1005	SLV 16	-672	-240	3940	-1113.11	105.54	-228.9
1005	SLV FO 1	601	288	3605	-1006.85	99.16	202.64
1005	SLV FO 2	490	190	3697	-1031.07	101.66	166.48
1005	SLV FO 3	541	-100	5586	-1511.09	152.15	191.7
1005	SLV FO 4	429	-198	5678	-1535.31	154.65	155.54
1005	SLV FO 5	247	701	706	-276.52	20.66	67.75
1005	SLV FO 6	172	635	768	-292.83	22.35	43.4
1005	SLV FO 7	45	-592	7309	-1957.32	197.3	31.28
1005	SLV FO 8	-30	-658	7372	-1973.63	198.98	6.94
1005	SLV FO 9	-102	681	189	-151.38	6.02	-53.75
1005	SLV FO 10	-177	615	251	-167.69	7.71	-78.1
1005	SLV FO 11	-304	-612	6793	-1832.18	182.66	-90.22
1005	SLV FO 12	-379	-678	6855	-1848.49	184.34	-114.56
1005	SLV FO 13	-561	221	1883	-589.71	50.36	-202.35
1005	SLV FO 14	-672	123	1975	-613.93	52.86	-238.51
1005	SLV FO 15	-621	-167	3864	-1093.95	103.35	-213.29
1005	SLV FO 16	-733	-265	3956	-1118.17	105.85	-249.45
1005	CRTFP Ux+	0	0	0	0	0	0
1005	CRTFP Ux-	0	0	0	0	0	0
1005	CRTFP Uy+	0	0	0	0	0	0
1005	CRTFP Uy-	0	0	0	0	0	0
1008	SLU 1	-220	29	13292	-3500.09	36.37	-61.59
1008	SLU 2	-211	91	13011	-3429.54	38.12	-59.56
1008	SLU 3	-226	29	13679	-3600.99	36.69	-63.21
1008	SLU 4	-221	67	13510	-3558.66	37.74	-61.99
1008	SLU 5	-215	91	13271	-3497.29	38.3	-60.48
1008	SLU 6	-229	30	13939	-3668.74	36.87	-64.12
1008	SLU 7	-224	67	13770	-3626.41	37.92	-62.91
1008	SLU 8	-226	30	13812	-3635.59	36.74	-63.42
1008	SLU 9	-221	67	13643	-3593.26	37.79	-62.21
1008	SLU 10	-232	95	14719	-3880.06	40.34	-64.97
1008	SLU 11	-246	33	15387	-4051.51	38.91	-68.62
1008	SLU 12	-241	70	15218	-4009.18	39.96	-67.4
1008	SLU 13	-235	95	14979	-3947.81	40.52	-65.89
1008	SLU 14	-249	33	15647	-4119.26	39.09	-69.53
1008	SLU 15	-244	70	15478	-4076.93	40.14	-68.32
1008	SLU 16	-247	33	15520	-4086.11	38.96	-68.83
1008	SLU 17	-242	70	15351	-4043.78	40.01	-67.62
1008	SLU 18	-249	34	15732	-4143.69	39.55	-69.32
1008	SLU 19	-244	71	15563	-4101.36	40.6	-68.1
1008	SLU 20	-252	34	15992	-4211.44	39.73	-70.23
1008	SLU 21	-247	71	15823	-4169.11	40.78	-69.02
1008	SLU 22	-253	30	15599	-4105.91	39.02	-70.5
1008	SLU 23	-244	92	15318	-4035.36	40.77	-68.48
1008	SLU 24	-258	30	15986	-4206.81	39.34	-72.12
1008	SLU 25	-253	68	15817	-4164.48	40.39	-70.91
1008	SLU 26	-247	92	15578	-4103.11	40.95	-69.4
1008	SLU 27	-262	31	16246	-4274.56	39.52	-73.04
1008	SLU 28	-256	68	16077	-4232.23	40.57	-71.83
1008	SLU 29	-259	31	16119	-4241.41	39.39	-72.34
1008	SLU 30	-254	68	15951	-4199.08	40.44	-71.12
1008	SLU 31	-265	96	17026	-4485.88	42.99	-73.89
1008	SLU 32	-279	34	17694	-4657.33	41.56	-77.53
1008	SLU 33	-274	71	17525	-4615	42.61	-76.32
1008	SLU 34	-268	96	17286	-4553.63	43.18	-74.81
1008	SLU 35	-282	34	17954	-4725.08	41.75	-78.45
1008	SLU 36	-277	71	17785	-4682.75	42.8	-77.24
1008	SLU 37	-280	34	17827	-4691.93	41.61	-77.75
1008	SLU 38	-274	71	17659	-4649.6	42.66	-76.54
1008	SLU 39	-282	35	18039	-4749.51	42.2	-78.23
1008	SLU 40	-277	72	17870	-4707.18	43.25	-77.02
1008	SLU 41	-285	35	18299	-4817.27	42.38	-79.15
1008	SLU 42	-280	72	18130	-4774.93	43.43	-77.94
1008	SLU 43	-275	38	16488	-4342.4	46.37	-77
1008	SLU 44	-266	100	16207	-4271.85	48.12	-74.98
1008	SLU 45	-281	38	16875	-4443.3	46.69	-78.62
1008	SLU 46	-275	75	16707	-4400.97	47.74	-77.41
1008	SLU 47	-269	100	16468	-4339.6	48.3	-75.89
1008	SLU 48	-284	38	17135	-4511.05	46.87	-79.54
1008	SLU 49	-279	75	16967	-4468.72	47.92	-78.32
1008	SLU 50	-281	38	17008	-4477.9	46.74	-78.84
1008	SLU 51	-276	75	16840	-4435.57	47.79	-77.62
1008	SLU 52	-287	103	17915	-4722.37	50.34	-80.39
1008	SLU 53	-301	41	18583	-4893.83	48.91	-84.03
1008	SLU 54	-296	78	18415	-4851.5	49.96	-82.82
1008	SLU 55	-290	103	18175	-4790.12	50.53	-81.3
1008	SLU 56	-304	41	18843	-4961.58	49.1	-84.95
1008	SLU 57	-299	79	18675	-4919.25	50.15	-83.74
1008	SLU 58	-302	41	18716	-4928.43	48.96	-84.25
1008	SLU 59	-296	79	18548	-4886.1	50.01	-83.03
1008	SLU 60	-304	42	18928	-4986.01	49.55	-84.73
1008	SLU 61	-299	80	18760	-4943.68	50.6	-83.52
1008	SLU 62	-307	43	19188	-5053.76	49.73	-85.65
1008	SLU 63	-302	80	19020	-5011.43	50.78	-84.43
1008	SLU 64	-308	39	18795	-4948.23	49.03	-85.92
1008	SLU 65	-299	101	18515	-4877.68	50.77	-83.89

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1008	SLU 66	-313	39	19182	-5049.13	49.34	-87.54
1008	SLU 67	-308	76	19014	-5006.8	50.39	-86.33
1008	SLU 68	-302	101	18775	-4945.43	50.96	-84.81
1008	SLU 69	-317	39	19442	-5116.88	49.53	-88.46
1008	SLU 70	-311	76	19274	-5074.55	50.57	-87.24
1008	SLU 71	-314	39	19315	-5083.73	49.39	-87.76
1008	SLU 72	-309	76	19147	-5041.4	50.44	-86.54
1008	SLU 73	-319	104	20223	-5328.2	53	-89.31
1008	SLU 74	-334	42	20890	-5499.65	51.57	-92.95
1008	SLU 75	-329	79	20722	-5457.32	52.61	-91.74
1008	SLU 76	-323	104	20483	-5395.95	53.18	-90.22
1008	SLU 77	-337	42	21150	-5567.4	51.75	-93.87
1008	SLU 78	-332	80	20982	-5525.07	52.8	-92.65
1008	SLU 79	-334	42	21023	-5534.25	51.61	-93.17
1008	SLU 80	-329	80	20855	-5491.92	52.66	-91.95
1008	SLU 81	-337	43	21235	-5591.83	52.2	-93.65
1008	SLU 82	-332	81	21067	-5549.5	53.25	-92.44
1008	SLU 83	-340	44	21495	-5659.58	52.38	-94.57
1008	SLU 84	-335	81	21327	-5617.25	53.43	-93.35
1008	SLE RA 1	-229	29	13951	-3673.18	37.13	-64.13
1008	SLE RA 2	-224	71	13764	-3626.15	38.3	-62.78
1008	SLE RA 3	-233	30	14209	-3740.45	37.34	-65.21
1008	SLE RA 4	-230	54	14097	-3712.23	38.04	-64.4
1008	SLE RA 5	-226	71	13937	-3671.31	38.42	-63.39
1008	SLE RA 6	-235	30	14382	-3785.61	37.46	-65.83
1008	SLE RA 7	-232	55	14270	-3757.39	38.16	-65.01
1008	SLE RA 8	-234	30	14298	-3763.51	37.37	-65.36
1008	SLE RA 9	-230	55	14185	-3735.29	38.07	-64.55
1008	SLE RA 10	-237	73	14902	-3926.49	39.78	-66.39
1008	SLE RA 11	-247	32	15347	-4040.8	38.82	-68.82
1008	SLE RA 12	-243	57	15235	-4012.58	39.52	-68.01
1008	SLE RA 13	-239	73	15076	-3971.66	39.9	-67
1008	SLE RA 14	-249	32	15521	-4085.96	38.94	-69.43
1008	SLE RA 15	-245	57	15409	-4057.74	39.64	-68.62
1008	SLE RA 16	-247	32	15436	-4063.86	38.85	-68.97
1008	SLE RA 17	-244	57	15324	-4035.64	39.55	-68.15
1008	SLE RA 18	-249	33	15577	-4102.25	39.25	-69.29
1008	SLE RA 19	-245	58	15465	-4074.03	39.95	-68.48
1008	SLE RA 20	-251	33	15751	-4147.42	39.37	-69.9
1008	SLE RA 21	-248	58	15639	-4119.2	40.07	-69.09
1008	SLE FR 1	-229	29	13951	-3673.18	37.13	-64.13
1008	SLE FR 2	-228	38	13913	-3663.77	37.36	-63.86
1008	SLE FR 3	-230	30	14020	-3691.25	37.18	-64.38
1008	SLE FR 4	-234	39	14401	-3792.49	38	-65.41
1008	SLE FR 5	-236	30	14508	-3819.97	37.81	-65.92
1008	SLE FR 6	-239	31	14764	-3887.71	38.19	-66.71
1008	SLE QP 1	-229	29	13951	-3673.18	37.13	-64.13
1008	SLE QP 2	-235	30	14439	-3801.9	37.76	-65.68
1008	SLD 1	1195	577	14072	-3721.43	72	307.32
1008	SLD 2	955	387	14281	-3774.48	71.22	247.89
1008	SLD 3	1082	-208	18295	-4781.77	48.92	280.67
1008	SLD 4	842	-398	18504	-4834.82	48.14	221.24
1008	SLD 5	407	1418	7888	-2160.37	83.17	96.95
1008	SLD 6	252	1295	8023	-2194.69	82.66	58.5
1008	SLD 7	30	-1199	21964	-5694.85	6.25	8.11
1008	SLD 8	-126	-1322	22099	-5729.17	5.74	-30.34
1008	SLD 9	-345	1383	6778	-1874.63	69.78	-101.02
1008	SLD 10	-500	1260	6913	-1908.96	69.28	-139.47
1008	SLD 11	-723	-1234	20855	-5409.11	-7.13	-189.86
1008	SLD 12	-878	-1357	20990	-5443.43	-7.64	-228.31
1008	SLD 13	-1313	459	10374	-2768.98	27.39	-352.6
1008	SLD 14	-1553	269	10583	-2822.03	26.61	-412.03
1008	SLD 15	-1426	-326	14597	-3829.33	4.31	-379.25
1008	SLD 16	-1666	-516	14806	-3882.37	3.53	-438.68
1008	SLV 1	2013	936	13591	-3607.19	92.74	520.24
1008	SLV 2	1635	637	13920	-3690.72	91.51	426.68
1008	SLV 3	1821	-390	20727	-5398.88	53.71	475.23
1008	SLV 4	1443	-690	21056	-5482.41	52.48	381.66
1008	SLV 5	800	2370	3300	-1010.5	113.67	195.84
1008	SLV 6	545	2169	3522	-1066.73	112.85	132.84
1008	SLV 7	162	-2052	27087	-6982.81	-16.41	45.78
1008	SLV 8	-92	-2254	27308	-7039.05	-17.24	-17.22
1008	SLV 9	-378	2315	1570	-564.76	92.77	-114.14
1008	SLV 10	-633	2113	1791	-620.99	91.94	-177.14
1008	SLV 11	-1016	-2108	25356	-6537.07	-37.32	-264.2
1008	SLV 12	-1270	-2309	25577	-6593.31	-38.15	-327.2
1008	SLV 13	-1914	751	7822	-2121.39	23.04	-513.02
1008	SLV 14	-2292	451	8151	-2204.92	21.82	-606.59
1008	SLV 15	-2105	-576	14958	-3913.09	-15.98	-558.04
1008	SLV 16	-2483	-875	15287	-3996.61	-17.21	-651.6
1008	SLV FO 1	2237	1027	13506	-3587.72	98.24	578.84
1008	SLV FO 2	1822	697	13868	-3679.6	96.88	475.91
1008	SLV FO 3	2027	-433	21356	-5558.58	55.31	529.32
1008	SLV FO 4	1611	-762	21717	-5650.46	53.96	426.39
1008	SLV FO 5	903	2604	2187	-731.36	121.27	221.99
1008	SLV FO 6	623	2382	2430	-793.21	120.36	152.69
1008	SLV FO 7	202	-2260	28352	-7300.9	-21.83	56.92
1008	SLV FO 8	-78	-2482	28595	-7362.76	-22.74	-12.37

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1008	SLV FO 9	-392	2543	283	-241.04	98.27	-118.99
1008	SLV FO 10	-672	2321	526	-302.9	97.36	-188.28
1008	SLV FO 11	-1094	-2322	26448	-6810.59	-44.83	-284.05
1008	SLV FO 12	-1374	-2543	26691	-6872.45	-45.74	-353.35
1008	SLV FO 13	-2082	823	7160	-1953.34	21.57	-557.75
1008	SLV FO 14	-2497	493	7522	-2045.22	20.22	-660.68
1008	SLV FO 15	-2292	-637	15010	-3924.21	-21.36	-607.27
1008	SLV FO 16	-2708	-966	15371	-4016.09	-22.71	-710.2
1008	CRTFP Ux+	0	0	0	0	0	0
1008	CRTFP Ux-	0	0	0	0	0	0
1008	CRTFP Uy+	0	0	0	-0.01	0	0
1008	CRTFP Uy-	0	0	0	0.01	0	0
1011	SLU 1	47	21	2895	-860.6	-124.47	17.36
1011	SLU 2	45	34	2832	-843.59	-121.77	17.3
1011	SLU 3	49	21	2978	-884.88	-128.04	17.97
1011	SLU 4	48	29	2940	-874.68	-126.41	17.93
1011	SLU 5	46	34	2888	-859.95	-124.18	17.76
1011	SLU 6	50	22	3034	-901.24	-130.45	18.43
1011	SLU 7	49	30	2996	-891.04	-128.83	18.4
1011	SLU 8	49	22	3007	-893.32	-129.3	18.29
1011	SLU 9	48	29	2969	-883.11	-127.67	18.25
1011	SLU 10	48	37	3199	-952.53	-137.54	18.54
1011	SLU 11	52	24	3345	-993.83	-143.81	19.21
1011	SLU 12	51	32	3307	-983.62	-142.19	19.18
1011	SLU 13	50	37	3255	-968.89	-139.95	19.01
1011	SLU 14	53	24	3401	-1010.19	-146.22	19.68
1011	SLU 15	52	32	3364	-999.98	-144.6	19.64
1011	SLU 16	53	24	3375	-1002.26	-145.07	19.54
1011	SLU 17	52	32	3337	-992.06	-143.45	19.5
1011	SLU 18	52	25	3420	-1016.24	-147	19.14
1011	SLU 19	50	32	3382	-1006.03	-145.38	19.1
1011	SLU 20	53	25	3476	-1032.59	-149.42	19.6
1011	SLU 21	52	33	3438	-1022.39	-147.8	19.57
1011	SLU 22	53	24	3390	-1006.74	-145.75	19.62
1011	SLU 23	51	37	3327	-989.73	-143.05	19.56
1011	SLU 24	55	24	3474	-1031.02	-149.31	20.23
1011	SLU 25	54	32	3436	-1020.81	-147.69	20.19
1011	SLU 26	52	37	3384	-1006.08	-145.46	20.02
1011	SLU 27	56	25	3530	-1047.38	-151.72	20.69
1011	SLU 28	55	32	3492	-1037.17	-150.1	20.66
1011	SLU 29	56	24	3503	-1039.45	-150.57	20.55
1011	SLU 30	55	32	3465	-1029.25	-148.95	20.51
1011	SLU 31	54	39	3695	-1098.67	-158.82	20.8
1011	SLU 32	58	27	3841	-1139.97	-165.08	21.48
1011	SLU 33	57	35	3803	-1129.76	-163.46	21.44
1011	SLU 34	56	40	3751	-1115.03	-161.23	21.27
1011	SLU 35	59	27	3897	-1156.32	-167.5	21.94
1011	SLU 36	58	35	3859	-1146.12	-165.88	21.9
1011	SLU 37	59	27	3870	-1148.4	-166.34	21.8
1011	SLU 38	58	35	3832	-1138.19	-164.72	21.76
1011	SLU 39	58	27	3915	-1162.37	-168.28	21.4
1011	SLU 40	57	35	3878	-1152.17	-166.66	21.36
1011	SLU 41	59	28	3972	-1178.73	-170.69	21.86
1011	SLU 42	58	36	3934	-1168.53	-169.07	21.83
1011	SLU 43	59	26	3593	-1068.67	-154.52	21.79
1011	SLU 44	57	39	3530	-1051.66	-151.82	21.73
1011	SLU 45	61	27	3676	-1092.96	-158.08	22.4
1011	SLU 46	59	35	3638	-1082.75	-156.46	22.36
1011	SLU 47	58	40	3586	-1068.02	-154.23	22.19
1011	SLU 48	62	27	3732	-1109.32	-160.49	22.87
1011	SLU 49	61	35	3695	-1099.11	-158.87	22.83
1011	SLU 50	61	27	3706	-1101.39	-159.34	22.72
1011	SLU 51	60	35	3668	-1091.19	-157.72	22.68
1011	SLU 52	60	42	3898	-1160.61	-167.59	22.98
1011	SLU 53	64	29	4044	-1201.9	-173.86	23.65
1011	SLU 54	63	37	4006	-1191.7	-172.24	23.61
1011	SLU 55	62	42	3954	-1176.97	-170	23.44
1011	SLU 56	65	30	4100	-1218.26	-176.27	24.11
1011	SLU 57	64	37	4062	-1208.06	-174.65	24.07
1011	SLU 58	65	29	4073	-1210.34	-175.12	23.97
1011	SLU 59	64	37	4035	-1200.13	-173.49	23.93
1011	SLU 60	64	30	4118	-1224.31	-177.05	23.57
1011	SLU 61	62	38	4080	-1214.1	-175.43	23.53
1011	SLU 62	65	30	4174	-1240.67	-179.46	24.04
1011	SLU 63	64	38	4136	-1230.46	-177.84	24
1011	SLU 64	65	29	4089	-1214.81	-175.79	24.05
1011	SLU 65	63	42	4026	-1197.8	-173.09	23.99
1011	SLU 66	67	30	4172	-1239.1	-179.36	24.66
1011	SLU 67	66	37	4134	-1228.89	-177.74	24.62
1011	SLU 68	64	42	4082	-1214.16	-175.5	24.46
1011	SLU 69	68	30	4228	-1255.45	-181.77	25.13
1011	SLU 70	67	38	4190	-1245.25	-180.15	25.09
1011	SLU 71	68	30	4201	-1247.53	-180.62	24.98
1011	SLU 72	66	37	4163	-1237.32	-179	24.95
1011	SLU 73	66	45	4393	-1306.75	-188.87	25.24
1011	SLU 74	70	32	4539	-1348.04	-195.13	25.91
1011	SLU 75	69	40	4502	-1337.83	-193.51	25.87
1011	SLU 76	68	45	4449	-1323.11	-191.28	25.7

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1011	SLU 77	71	32	4596	-1364.4	-197.54	26.37
1011	SLU 78	70	40	4558	-1354.19	-195.92	26.34
1011	SLU 79	71	32	4569	-1356.48	-196.39	26.23
1011	SLU 80	70	40	4531	-1346.27	-194.77	26.19
1011	SLU 81	70	33	4614	-1370.45	-198.33	25.83
1011	SLU 82	69	41	4576	-1360.24	-196.71	25.8
1011	SLU 83	71	33	4670	-1386.81	-200.74	26.3
1011	SLU 84	70	41	4632	-1376.6	-199.12	26.26
1011	SLE RA 1	49	22	3036	-902.35	-130.55	18.01
1011	SLE RA 2	47	30	2994	-891.01	-128.75	17.96
1011	SLE RA 3	50	22	3092	-918.54	-132.93	18.41
1011	SLE RA 4	49	27	3066	-911.74	-131.85	18.39
1011	SLE RA 5	48	31	3032	-901.92	-130.36	18.27
1011	SLE RA 6	51	22	3129	-929.45	-134.53	18.72
1011	SLE RA 7	50	27	3104	-922.64	-133.45	18.7
1011	SLE RA 8	50	22	3111	-924.16	-133.77	18.63
1011	SLE RA 9	50	27	3086	-917.36	-132.69	18.6
1011	SLE RA 10	50	32	3239	-963.64	-139.26	18.79
1011	SLE RA 11	52	24	3337	-991.17	-143.44	19.24
1011	SLE RA 12	51	29	3311	-984.37	-142.36	19.22
1011	SLE RA 13	50	32	3277	-974.55	-140.87	19.1
1011	SLE RA 14	53	24	3374	-1002.08	-145.05	19.55
1011	SLE RA 15	52	29	3349	-995.27	-143.97	19.53
1011	SLE RA 16	53	24	3356	-996.79	-144.28	19.46
1011	SLE RA 17	52	29	3331	-989.99	-143.2	19.43
1011	SLE RA 18	52	24	3386	-1006.11	-145.57	19.19
1011	SLE RA 19	51	29	3361	-999.31	-144.49	19.17
1011	SLE RA 20	53	24	3424	-1017.02	-147.18	19.5
1011	SLE RA 21	52	30	3399	-1010.21	-146.1	19.48
1011	SLE FR 1	49	22	3036	-902.35	-130.55	18.01
1011	SLE FR 2	48	23	3028	-900.08	-130.19	18
1011	SLE FR 3	49	22	3051	-906.71	-131.19	18.13
1011	SLE FR 4	49	24	3133	-931.21	-134.7	18.35
1011	SLE FR 5	50	23	3156	-937.84	-135.7	18.49
1011	SLE FR 6	50	23	3211	-954.23	-138.06	18.6
1011	SLE QP 1	49	22	3036	-902.35	-130.55	18.01
1011	SLE QP 2	50	22	3141	-933.48	-135.06	18.36
1011	SLD 1	325	69	2306	-702.73	-99.11	116.61
1011	SLD 2	274	115	2247	-688.29	-96.54	100.98
1011	SLD 3	351	-99	3259	-959.99	-139.91	118.99
1011	SLD 4	300	-53	3200	-945.56	-137.35	103.36
1011	SLD 5	101	283	1456	-476.58	-62.83	46.93
1011	SLD 6	68	313	1418	-467.24	-61.17	36.82
1011	SLD 7	189	-276	4632	-1334.12	-198.84	54.87
1011	SLD 8	156	-247	4594	-1324.78	-197.18	44.76
1011	SLD 9	-57	292	1689	-542.18	-72.93	-8.04
1011	SLD 10	-90	321	1651	-532.84	-71.27	-18.15
1011	SLD 11	31	-268	4865	-1399.72	-208.94	-0.1
1011	SLD 12	-2	-238	4827	-1390.38	-207.28	-10.21
1011	SLD 13	-201	98	3083	-921.4	-132.77	-66.64
1011	SLD 14	-252	144	3024	-906.97	-130.2	-82.27
1011	SLD 15	-175	-70	4035	-1178.67	-173.57	-64.26
1011	SLD 16	-226	-24	3977	-1164.23	-171.01	-79.88
1011	SLV 1	479	105	1776	-556.76	-76.32	172.09
1011	SLV 2	399	177	1684	-534.03	-72.29	147.48
1011	SLV 3	523	-179	3386	-991.56	-145.28	176.13
1011	SLV 4	444	-106	3294	-968.83	-141.24	151.53
1011	SLV 5	126	464	307	-165.26	-13.61	62.93
1011	SLV 6	72	512	245	-149.96	-10.89	46.37
1011	SLV 7	274	-481	5674	-1614.59	-243.46	76.42
1011	SLV 8	220	-433	5612	-1599.29	-240.74	59.86
1011	SLV 9	-121	478	671	-267.67	-29.37	-23.13
1011	SLV 10	-175	526	609	-252.37	-26.65	-39.7
1011	SLV 11	27	-468	6038	-1717	-259.22	-9.64
1011	SLV 12	-27	-419	5976	-1701.7	-256.51	-26.21
1011	SLV 13	-345	151	2989	-898.13	-128.87	-114.8
1011	SLV 14	-424	224	2897	-875.4	-124.84	-139.41
1011	SLV 15	-300	-132	4599	-1332.93	-197.83	-110.76
1011	SLV 16	-380	-60	4507	-1310.2	-193.79	-135.36
1011	SLV FO 1	522	113	1639	-519.08	-70.45	187.46
1011	SLV FO 2	434	193	1538	-494.08	-66.01	160.39
1011	SLV FO 3	571	-199	3411	-997.36	-146.3	191.91
1011	SLV FO 4	483	-119	3309	-972.36	-141.86	164.84
1011	SLV FO 5	133	508	23	-88.44	-1.46	67.39
1011	SLV FO 6	74	561	-45	-71.6	1.53	49.17
1011	SLV FO 7	296	-532	5927	-1682.7	-254.3	82.23
1011	SLV FO 8	238	-478	5859	-1665.87	-251.31	64.01
1011	SLV FO 9	-138	523	424	-201.09	-18.8	-27.28
1011	SLV FO 10	-197	577	355	-184.26	-15.81	-45.5
1011	SLV FO 11	25	-517	6328	-1795.36	-271.64	-12.44
1011	SLV FO 12	-34	-463	6259	-1778.52	-268.65	-30.67
1011	SLV FO 13	-384	164	2974	-894.6	-128.25	-128.12
1011	SLV FO 14	-472	244	2872	-869.59	-123.81	-155.19
1011	SLV FO 15	-335	-148	4745	-1372.88	-204.1	-123.67
1011	SLV FO 16	-423	-68	4643	-1347.87	-199.67	-150.73
1011	CRTFP Ux+	0	0	0	0	0	0
1011	CRTFP Ux-	0	0	0	0	0	0
1011	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1011	CRTFP Uy-	0	0	0	0	0	0
1012	SLU 1	62	29	3676	-1001.03	3.82	21.84
1012	SLU 2	60	46	3597	-981.78	3.72	20.98
1012	SLU 3	64	30	3781	-1028.91	3.95	22.62
1012	SLU 4	63	40	3734	-1017.36	3.89	22.11
1012	SLU 5	61	47	3668	-1000.55	3.81	21.58
1012	SLU 6	66	31	3852	-1047.68	4.03	23.22
1012	SLU 7	65	41	3805	-1036.13	3.97	22.71
1012	SLU 8	66	30	3818	-1038.58	3.99	23.04
1012	SLU 9	64	40	3771	-1027.03	3.93	22.53
1012	SLU 10	64	50	4061	-1107	4.29	22.48
1012	SLU 11	69	34	4246	-1154.13	4.51	24.12
1012	SLU 12	67	44	4198	-1142.58	4.46	23.61
1012	SLU 13	66	50	4132	-1125.78	4.37	23.08
1012	SLU 14	70	34	4317	-1172.9	4.6	24.72
1012	SLU 15	69	44	4269	-1161.35	4.54	24.21
1012	SLU 16	70	34	4283	-1163.8	4.56	24.54
1012	SLU 17	68	44	4235	-1152.25	4.5	24.02
1012	SLU 18	68	34	4340	-1179.92	4.63	23.98
1012	SLU 19	67	44	4292	-1168.37	4.57	23.47
1012	SLU 20	70	35	4411	-1198.69	4.71	24.58
1012	SLU 21	69	45	4363	-1187.14	4.66	24.07
1012	SLU 22	70	33	4303	-1168.97	4.58	24.67
1012	SLU 23	68	50	4223	-1149.71	4.48	23.82
1012	SLU 24	72	34	4408	-1196.84	4.71	25.46
1012	SLU 25	71	44	4360	-1185.29	4.65	24.94
1012	SLU 26	70	51	4295	-1168.49	4.57	24.42
1012	SLU 27	74	34	4479	-1215.62	4.79	26.06
1012	SLU 28	73	45	4431	-1204.07	4.73	25.55
1012	SLU 29	74	34	4445	-1206.51	4.75	25.87
1012	SLU 30	72	44	4397	-1194.96	4.69	25.36
1012	SLU 31	72	54	4688	-1274.94	5.05	25.32
1012	SLU 32	77	37	4873	-1322.07	5.28	26.95
1012	SLU 33	75	48	4825	-1310.52	5.22	26.44
1012	SLU 34	74	54	4759	-1293.71	5.14	25.92
1012	SLU 35	78	38	4944	-1340.84	5.36	27.56
1012	SLU 36	77	48	4896	-1329.29	5.3	27.04
1012	SLU 37	78	38	4910	-1331.74	5.32	27.37
1012	SLU 38	76	48	4862	-1320.19	5.26	26.86
1012	SLU 39	76	38	4967	-1347.86	5.39	26.81
1012	SLU 40	75	48	4919	-1336.31	5.33	26.3
1012	SLU 41	78	39	5038	-1366.63	5.48	27.41
1012	SLU 42	77	49	4990	-1355.08	5.42	26.9
1012	SLU 43	78	37	4564	-1243.76	4.71	27.41
1012	SLU 44	76	54	4485	-1224.51	4.61	26.56
1012	SLU 45	80	37	4669	-1271.64	4.83	28.2
1012	SLU 46	79	48	4622	-1260.09	4.77	27.69
1012	SLU 47	77	54	4556	-1243.28	4.69	27.16
1012	SLU 48	82	38	4740	-1290.41	4.92	28.8
1012	SLU 49	81	48	4693	-1278.86	4.86	28.29
1012	SLU 50	81	38	4707	-1281.31	4.88	28.61
1012	SLU 51	80	48	4659	-1269.76	4.82	28.1
1012	SLU 52	80	57	4949	-1349.73	5.17	28.06
1012	SLU 53	85	41	5134	-1396.86	5.4	29.7
1012	SLU 54	83	51	5086	-1385.31	5.34	29.18
1012	SLU 55	82	58	5020	-1368.51	5.26	28.66
1012	SLU 56	86	41	5205	-1415.64	5.48	30.3
1012	SLU 57	85	52	5157	-1404.08	5.43	29.79
1012	SLU 58	86	41	5171	-1406.53	5.44	30.11
1012	SLU 59	84	51	5123	-1394.98	5.38	29.6
1012	SLU 60	84	42	5228	-1422.65	5.52	29.55
1012	SLU 61	83	52	5180	-1411.1	5.46	29.04
1012	SLU 62	86	42	5299	-1441.42	5.6	30.15
1012	SLU 63	84	52	5251	-1429.87	5.54	29.64
1012	SLU 64	86	41	5191	-1411.7	5.47	30.25
1012	SLU 65	84	58	5112	-1392.44	5.37	29.4
1012	SLU 66	88	41	5296	-1439.57	5.59	31.03
1012	SLU 67	87	52	5248	-1428.02	5.54	30.52
1012	SLU 68	85	58	5183	-1411.22	5.45	30
1012	SLU 69	90	42	5367	-1458.35	5.68	31.63
1012	SLU 70	89	52	5319	-1446.8	5.62	31.12
1012	SLU 71	90	42	5333	-1449.25	5.64	31.45
1012	SLU 72	88	52	5285	-1437.69	5.58	30.94
1012	SLU 73	88	61	5576	-1517.67	5.94	30.9
1012	SLU 74	93	45	5761	-1564.8	6.16	32.53
1012	SLU 75	91	55	5713	-1553.25	6.1	32.02
1012	SLU 76	90	62	5647	-1536.44	6.02	31.5
1012	SLU 77	94	45	5832	-1583.57	6.25	33.13
1012	SLU 78	93	56	5784	-1572.02	6.19	32.62
1012	SLU 79	94	45	5798	-1574.47	6.2	32.95
1012	SLU 80	92	55	5750	-1562.92	6.14	32.44
1012	SLU 81	92	46	5855	-1590.59	6.28	32.39
1012	SLU 82	91	56	5807	-1579.04	6.22	31.88
1012	SLU 83	94	46	5926	-1609.36	6.36	32.99
1012	SLU 84	93	56	5878	-1597.81	6.3	32.48
1012	SLE RA 1	64	30	3855	-1049.01	4.04	22.65
1012	SLE RA 2	63	42	3802	-1036.18	3.97	22.08
1012	SLE RA 3	66	31	3925	-1067.6	4.12	23.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1012	SLE RA 4	65	38	3894	-1059.9	4.08	22.83
1012	SLE RA 5	64	42	3850	-1048.69	4.03	22.48
1012	SLE RA 6	67	31	3973	-1080.11	4.18	23.57
1012	SLE RA 7	66	38	3941	-1072.41	4.14	23.23
1012	SLE RA 8	67	31	3950	-1074.04	4.15	23.45
1012	SLE RA 9	66	38	3918	-1066.34	4.11	23.11
1012	SLE RA 10	66	44	4112	-1119.66	4.35	23.08
1012	SLE RA 11	69	33	4235	-1151.08	4.5	24.17
1012	SLE RA 12	68	40	4203	-1143.38	4.46	23.83
1012	SLE RA 13	67	44	4159	-1132.18	4.41	23.48
1012	SLE RA 14	70	34	4283	-1163.59	4.56	24.57
1012	SLE RA 15	69	40	4251	-1155.89	4.52	24.23
1012	SLE RA 16	70	33	4260	-1157.53	4.53	24.45
1012	SLE RA 17	69	40	4228	-1149.83	4.49	24.11
1012	SLE RA 18	69	34	4298	-1168.27	4.58	24.07
1012	SLE RA 19	68	41	4266	-1160.57	4.54	23.73
1012	SLE RA 20	70	34	4345	-1180.79	4.63	24.47
1012	SLE RA 21	69	41	4313	-1173.09	4.6	24.13
1012	SLE FR 1	64	30	3855	-1049.01	4.04	22.65
1012	SLE FR 2	64	33	3845	-1046.44	4.03	22.53
1012	SLE FR 3	65	31	3874	-1054.02	4.06	22.81
1012	SLE FR 4	65	34	3978	-1082.22	4.19	22.96
1012	SLE FR 5	66	32	4007	-1089.8	4.22	23.23
1012	SLE FR 6	67	32	4077	-1108.64	4.31	23.36
1012	SLE QP 1	64	30	3855	-1049.01	4.04	22.65
1012	SLE QP 2	66	31	3988	-1084.79	4.2	23.07
1012	SLD 1	423	85	2920	-827.82	3.52	147.97
1012	SLD 2	357	148	2843	-811.03	3.53	124.97
1012	SLD 3	459	-132	4122	-1119.56	4.98	160.42
1012	SLD 4	393	-68	4045	-1102.77	4.99	137.43
1012	SLD 5	131	365	1858	-568.13	1.79	45.64
1012	SLD 6	88	406	1808	-557.27	1.79	30.77
1012	SLD 7	249	-357	5865	-1540.61	6.64	87.16
1012	SLD 8	206	-316	5815	-1529.75	6.64	72.28
1012	SLD 9	-75	379	2161	-639.83	1.76	-26.13
1012	SLD 10	-117	420	2112	-628.97	1.76	-41.01
1012	SLD 11	43	-343	6168	-1612.31	6.61	15.38
1012	SLD 12	1	-302	6118	-1601.44	6.61	0.5
1012	SLD 13	-261	131	3931	-1066.81	3.41	-91.28
1012	SLD 14	-327	195	3854	-1050.02	3.42	-114.27
1012	SLD 15	-226	-86	5133	-1358.55	4.87	-78.82
1012	SLD 16	-292	-22	5056	-1341.76	4.88	-101.82
1012	SLV 1	624	128	2244	-664.89	3.05	217.95
1012	SLV 2	520	228	2122	-638.46	3.07	181.74
1012	SLV 3	683	-238	4275	-1157.97	5.51	238.97
1012	SLV 4	579	-138	4154	-1131.53	5.53	202.76
1012	SLV 5	162	597	406	-215.92	0.12	56.41
1012	SLV 6	92	665	325	-198.12	0.13	32.03
1012	SLV 7	361	-624	7178	-1859.51	8.32	126.48
1012	SLV 8	291	-556	7096	-1841.71	8.33	102.11
1012	SLV 9	-160	619	880	-327.87	0.07	-55.96
1012	SLV 10	-230	687	798	-310.07	0.08	-80.33
1012	SLV 11	40	-602	7651	-1971.45	8.27	14.12
1012	SLV 12	-30	-534	7570	-1953.66	8.28	-10.26
1012	SLV 13	-448	201	3822	-1038.05	2.87	-156.61
1012	SLV 14	-552	301	3701	-1011.61	2.89	-192.82
1012	SLV 15	-388	-165	5854	-1531.12	5.33	-135.59
1012	SLV 16	-492	-65	5733	-1504.69	5.35	-171.8
1012	SLV FO 1	679	138	2069	-622.9	2.94	237.43
1012	SLV FO 2	565	248	1936	-593.82	2.95	197.6
1012	SLV FO 3	745	-265	4304	-1165.29	5.65	260.56
1012	SLV FO 4	631	-155	4170	-1136.21	5.66	220.73
1012	SLV FO 5	172	654	48	-129.04	-0.28	59.74
1012	SLV FO 6	95	728	-41	-109.46	-0.28	32.93
1012	SLV FO 7	391	-689	7497	-1936.98	8.73	136.82
1012	SLV FO 8	314	-615	7407	-1917.4	8.74	110.01
1012	SLV FO 9	-182	678	569	-252.18	-0.34	-63.86
1012	SLV FO 10	-259	752	480	-232.6	-0.33	-90.68
1012	SLV FO 11	37	-665	8018	-2060.12	8.68	13.22
1012	SLV FO 12	-40	-591	7928	-2040.54	8.68	-13.6
1012	SLV FO 13	-499	218	3806	-1033.37	2.74	-174.58
1012	SLV FO 14	-614	328	3673	-1004.29	2.76	-214.41
1012	SLV FO 15	-434	-185	6040	-1575.75	5.45	-151.46
1012	SLV FO 16	-548	-75	5907	-1546.68	5.46	-191.28
1012	CRTFP Ux+	0	0	0	0	0	0
1012	CRTFP Ux-	0	0	0	0	0	0
1012	CRTFP Uy+	0	0	0	0	0	0
1012	CRTFP Uy-	0	0	0	0	0	0
1013	SLU 1	63	32	3545	-874.72	4.1	22.18
1013	SLU 2	61	48	3469	-858.43	4	21.31
1013	SLU 3	65	33	3646	-898.65	4.23	22.98
1013	SLU 4	64	43	3600	-888.88	4.17	22.46
1013	SLU 5	62	49	3537	-874.56	4.09	21.92
1013	SLU 6	67	33	3714	-914.78	4.32	23.59
1013	SLU 7	66	43	3668	-905.01	4.26	23.07
1013	SLU 8	67	33	3681	-906.97	4.27	23.4
1013	SLU 9	65	43	3635	-897.2	4.22	22.88
1013	SLU 10	65	52	3914	-965.94	4.61	22.82

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1013	SLU 11	70	36	4091	-1006.16	4.84	24.5
1013	SLU 12	68	46	4045	-996.39	4.78	23.97
1013	SLU 13	67	53	3982	-982.07	4.7	23.43
1013	SLU 14	71	37	4159	-1022.29	4.93	25.11
1013	SLU 15	70	47	4113	-1012.52	4.87	24.58
1013	SLU 16	71	36	4126	-1014.48	4.88	24.92
1013	SLU 17	69	47	4081	-1004.71	4.83	24.39
1013	SLU 18	69	37	4181	-1028.3	4.97	24.34
1013	SLU 19	68	47	4135	-1018.53	4.91	23.82
1013	SLU 20	71	37	4249	-1044.42	5.06	24.96
1013	SLU 21	70	47	4203	-1034.65	5	24.43
1013	SLU 22	71	36	4146	-1018.88	4.91	25.06
1013	SLU 23	69	53	4069	-1002.6	4.82	24.18
1013	SLU 24	74	37	4246	-1042.82	5.04	25.86
1013	SLU 25	72	47	4200	-1033.05	4.99	25.33
1013	SLU 26	71	53	4137	-1018.72	4.91	24.8
1013	SLU 27	75	37	4314	-1058.94	5.13	26.47
1013	SLU 28	74	47	4269	-1049.17	5.07	25.95
1013	SLU 29	75	37	4282	-1051.13	5.09	26.28
1013	SLU 30	73	47	4236	-1041.36	5.03	25.76
1013	SLU 31	73	56	4514	-1110.1	5.43	25.7
1013	SLU 32	78	40	4691	-1150.32	5.65	27.37
1013	SLU 33	76	50	4645	-1140.55	5.6	26.85
1013	SLU 34	75	57	4582	-1126.23	5.52	26.31
1013	SLU 35	80	41	4760	-1166.45	5.74	27.99
1013	SLU 36	78	51	4714	-1156.68	5.69	27.46
1013	SLU 37	79	41	4727	-1158.64	5.7	27.8
1013	SLU 38	78	51	4681	-1148.87	5.64	27.27
1013	SLU 39	78	41	4781	-1172.46	5.78	27.22
1013	SLU 40	76	51	4735	-1162.69	5.73	26.7
1013	SLU 41	79	42	4850	-1188.59	5.87	27.83
1013	SLU 42	78	52	4804	-1178.82	5.82	27.31
1013	SLU 43	79	40	4403	-1087.7	5.04	27.85
1013	SLU 44	77	56	4326	-1071.42	4.95	26.97
1013	SLU 45	82	41	4503	-1111.64	5.18	28.65
1013	SLU 46	80	51	4457	-1101.87	5.12	28.12
1013	SLU 47	79	57	4394	-1087.55	5.04	27.59
1013	SLU 48	83	41	4571	-1127.77	5.27	29.26
1013	SLU 49	82	51	4526	-1118	5.21	28.73
1013	SLU 50	83	41	4539	-1119.96	5.22	29.07
1013	SLU 51	81	51	4493	-1110.19	5.17	28.55
1013	SLU 52	81	60	4771	-1178.93	5.56	28.49
1013	SLU 53	86	44	4948	-1219.15	5.79	30.16
1013	SLU 54	84	54	4902	-1209.38	5.73	29.64
1013	SLU 55	83	61	4839	-1195.05	5.65	29.1
1013	SLU 56	88	45	5016	-1235.27	5.88	30.77
1013	SLU 57	86	55	4971	-1225.5	5.82	30.25
1013	SLU 58	87	44	4984	-1227.47	5.83	30.59
1013	SLU 59	86	55	4938	-1217.7	5.78	30.06
1013	SLU 60	85	45	5038	-1241.28	5.92	30.01
1013	SLU 61	84	55	4992	-1231.51	5.86	29.49
1013	SLU 62	87	45	5106	-1257.41	6.01	30.62
1013	SLU 63	86	56	5061	-1247.64	5.95	30.1
1013	SLU 64	88	44	5003	-1231.87	5.86	30.73
1013	SLU 65	85	61	4927	-1215.58	5.77	29.85
1013	SLU 66	90	45	5104	-1255.8	5.99	31.53
1013	SLU 67	88	55	5058	-1246.03	5.94	31
1013	SLU 68	87	61	4995	-1231.71	5.85	30.46
1013	SLU 69	92	45	5172	-1271.93	6.08	32.14
1013	SLU 70	90	55	5126	-1262.16	6.02	31.61
1013	SLU 71	91	45	5139	-1264.12	6.04	31.95
1013	SLU 72	89	55	5094	-1254.35	5.98	31.43
1013	SLU 73	89	64	5372	-1323.09	6.38	31.37
1013	SLU 74	94	48	5549	-1363.31	6.6	33.04
1013	SLU 75	93	58	5503	-1353.54	6.55	32.52
1013	SLU 76	91	65	5440	-1339.22	6.47	31.98
1013	SLU 77	96	49	5617	-1379.44	6.69	33.65
1013	SLU 78	94	59	5571	-1369.67	6.64	33.13
1013	SLU 79	95	49	5585	-1371.63	6.65	33.47
1013	SLU 80	94	59	5539	-1361.86	6.59	32.94
1013	SLU 81	94	49	5639	-1385.45	6.73	32.89
1013	SLU 82	92	59	5593	-1375.68	6.68	32.37
1013	SLU 83	95	50	5707	-1401.57	6.82	33.5
1013	SLU 84	94	60	5661	-1391.8	6.77	32.98
1013	SLE RA 1	66	33	3717	-915.91	4.33	23
1013	SLE RA 2	64	44	3666	-905.05	4.27	22.42
1013	SLE RA 3	67	33	3784	-931.86	4.42	23.54
1013	SLE RA 4	66	40	3753	-925.35	4.38	23.19
1013	SLE RA 5	65	44	3711	-915.8	4.33	22.83
1013	SLE RA 6	68	34	3829	-942.62	4.48	23.94
1013	SLE RA 7	67	41	3799	-936.1	4.44	23.59
1013	SLE RA 8	68	34	3807	-937.41	4.45	23.82
1013	SLE RA 9	67	40	3777	-930.9	4.41	23.47
1013	SLE RA 10	67	46	3962	-976.72	4.67	23.43
1013	SLE RA 11	70	36	4080	-1003.53	4.82	24.55
1013	SLE RA 12	69	43	4050	-997.02	4.79	24.2
1013	SLE RA 13	68	47	4008	-987.47	4.73	23.84
1013	SLE RA 14	71	36	4126	-1014.29	4.88	24.95

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1013	SLE RA 15	70	43	4095	-1007.77	4.85	24.6
1013	SLE RA 16	71	36	4104	-1009.08	4.85	24.83
1013	SLE RA 17	70	43	4074	-1002.57	4.82	24.48
1013	SLE RA 18	70	36	4140	-1018.29	4.91	24.45
1013	SLE RA 19	69	43	4110	-1011.78	4.87	24.1
1013	SLE RA 20	71	37	4186	-1029.04	4.97	24.85
1013	SLE RA 21	70	43	4155	-1022.53	4.93	24.5
1013	SLE FR 1	66	33	3717	-915.91	4.33	23
1013	SLE FR 2	65	35	3706	-913.73	4.32	22.89
1013	SLE FR 3	66	33	3735	-920.21	4.35	23.17
1013	SLE FR 4	66	36	3834	-944.45	4.49	23.32
1013	SLE FR 5	67	34	3862	-950.92	4.53	23.6
1013	SLE FR 6	68	35	3928	-967.1	4.62	23.72
1013	SLE QP 1	66	33	3717	-915.91	4.33	23
1013	SLE QP 2	67	34	3844	-946.62	4.5	23.44
1013	SLD 1	423	81	2794	-733.08	4.1	148.04
1013	SLD 2	357	149	2717	-718.02	4.1	124.97
1013	SLD 3	460	-133	3949	-980.54	5.49	160.86
1013	SLD 4	393	-66	3872	-965.48	5.48	137.78
1013	SLD 5	130	362	1790	-509.85	2.28	45.38
1013	SLD 6	87	406	1740	-500.11	2.28	30.46
1013	SLD 7	251	-354	5640	-1334.73	6.9	88.1
1013	SLD 8	209	-310	5591	-1324.99	6.9	73.17
1013	SLD 9	-75	378	2097	-568.26	2.11	-26.3
1013	SLD 10	-118	422	2047	-558.51	2.1	-41.23
1013	SLD 11	47	-338	5947	-1393.13	6.73	16.42
1013	SLD 12	4	-295	5897	-1383.39	6.72	1.49
1013	SLD 13	-260	134	3816	-927.76	3.52	-90.91
1013	SLD 14	-326	201	3738	-912.7	3.52	-113.98
1013	SLD 15	-223	-81	4971	-1175.23	4.91	-78.1
1013	SLD 16	-290	-14	4894	-1160.17	4.9	-101.17
1013	SLV 1	623	121	2131	-597.33	3.79	217.84
1013	SLV 2	519	227	2010	-573.62	3.78	181.51
1013	SLV 3	684	-242	4083	-1015.57	6.13	239.47
1013	SLV 4	580	-136	3962	-991.86	6.12	203.14
1013	SLV 5	160	591	392	-211.93	0.74	55.72
1013	SLV 6	89	662	310	-195.96	0.73	31.27
1013	SLV 7	365	-619	6899	-1606.06	8.54	127.84
1013	SLV 8	295	-548	6817	-1590.1	8.54	103.38
1013	SLV 9	-161	616	871	-303.15	0.46	-56.51
1013	SLV 10	-231	687	789	-287.18	0.46	-80.97
1013	SLV 11	44	-594	7377	-1697.28	8.27	15.61
1013	SLV 12	-26	-523	7295	-1681.31	8.27	-8.85
1013	SLV 13	-447	204	3726	-901.39	2.88	-156.27
1013	SLV 14	-551	310	3605	-877.67	2.88	-192.6
1013	SLV 15	-385	-159	5678	-1319.63	5.22	-134.64
1013	SLV 16	-489	-53	5556	-1295.91	5.22	-170.96
1013	SLV FO 1	678	130	1960	-562.4	3.71	237.28
1013	SLV FO 2	564	246	1826	-536.31	3.71	197.32
1013	SLV FO 3	746	-269	4107	-1022.46	6.29	261.08
1013	SLV FO 4	631	-153	3973	-996.38	6.28	221.11
1013	SLV FO 5	169	647	47	-138.46	0.36	58.95
1013	SLV FO 6	92	725	-43	-120.9	0.35	32.05
1013	SLV FO 7	395	-685	7204	-1672.01	8.95	138.28
1013	SLV FO 8	318	-606	7114	-1654.44	8.94	111.38
1013	SLV FO 9	-184	674	573	-238.8	0.06	-64.5
1013	SLV FO 10	-261	752	483	-221.24	0.06	-91.41
1013	SLV FO 11	42	-657	7730	-1772.35	8.65	14.82
1013	SLV FO 12	-35	-579	7640	-1754.78	8.65	-12.08
1013	SLV FO 13	-498	221	3714	-896.86	2.72	-174.24
1013	SLV FO 14	-613	337	3581	-870.78	2.71	-214.2
1013	SLV FO 15	-430	-178	5861	-1356.93	5.3	-150.44
1013	SLV FO 16	-545	-62	5728	-1330.84	5.29	-190.41
1013	CRTFP Ux+	0	0	0	0	0	0
1013	CRTFP Ux-	0	0	0	0	0	0
1013	CRTFP Uy+	0	0	0	0	0	0
1013	CRTFP Uy-	0	0	0	0	0	0
1014	SLU 1	64	34	3418	-760.88	3.59	22.51
1014	SLU 2	62	51	3344	-747.14	3.52	21.61
1014	SLU 3	66	35	3514	-781.29	3.71	23.32
1014	SLU 4	65	45	3470	-773.04	3.67	22.78
1014	SLU 5	63	51	3410	-760.9	3.6	22.23
1014	SLU 6	68	36	3580	-795.05	3.79	23.94
1014	SLU 7	67	46	3536	-786.8	3.74	23.4
1014	SLU 8	68	35	3549	-788.4	3.75	23.75
1014	SLU 9	66	45	3504	-780.16	3.71	23.21
1014	SLU 10	66	54	3770	-838.55	4.07	23.14
1014	SLU 11	71	39	3940	-872.69	4.26	24.85
1014	SLU 12	69	49	3896	-864.45	4.22	24.31
1014	SLU 13	68	55	3835	-852.31	4.15	23.76
1014	SLU 14	73	39	4006	-886.45	4.34	25.47
1014	SLU 15	71	49	3962	-878.21	4.29	24.93
1014	SLU 16	72	39	3975	-879.81	4.3	25.28
1014	SLU 17	70	49	3930	-871.56	4.26	24.74
1014	SLU 18	70	39	4026	-891.46	4.38	24.69
1014	SLU 19	69	49	3982	-883.22	4.34	24.15
1014	SLU 20	72	40	4092	-905.22	4.46	25.31
1014	SLU 21	71	50	4047	-896.98	4.41	24.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1014	SLU 22	72	38	3993	-883.52	4.32	25.42
1014	SLU 23	70	55	3919	-869.78	4.24	24.52
1014	SLU 24	75	39	4090	-903.93	4.43	26.24
1014	SLU 25	73	49	4045	-895.68	4.39	25.7
1014	SLU 26	72	56	3985	-883.54	4.32	25.15
1014	SLU 27	77	40	4155	-917.69	4.51	26.86
1014	SLU 28	75	50	4111	-909.44	4.47	26.32
1014	SLU 29	76	40	4124	-911.04	4.47	26.67
1014	SLU 30	74	50	4080	-902.8	4.43	26.13
1014	SLU 31	74	59	4345	-961.19	4.79	26.05
1014	SLU 32	79	43	4516	-995.33	4.98	27.77
1014	SLU 33	78	53	4471	-987.09	4.94	27.23
1014	SLU 34	76	60	4411	-974.95	4.87	26.68
1014	SLU 35	81	44	4581	-1009.09	5.06	28.39
1014	SLU 36	79	54	4537	-1000.85	5.02	27.85
1014	SLU 37	80	44	4550	-1002.45	5.02	28.2
1014	SLU 38	79	54	4506	-994.2	4.98	27.66
1014	SLU 39	79	44	4601	-1014.1	5.1	27.61
1014	SLU 40	77	54	4557	-1005.86	5.06	27.07
1014	SLU 41	80	44	4667	-1027.86	5.18	28.23
1014	SLU 42	79	55	4623	-1019.62	5.14	27.69
1014	SLU 43	81	42	4246	-947.09	4.42	28.26
1014	SLU 44	78	59	4172	-933.36	4.35	27.36
1014	SLU 45	83	43	4343	-967.5	4.54	29.07
1014	SLU 46	81	54	4298	-959.26	4.5	28.53
1014	SLU 47	80	60	4238	-947.12	4.43	27.98
1014	SLU 48	85	44	4408	-981.26	4.62	29.69
1014	SLU 49	83	54	4364	-973.02	4.57	29.16
1014	SLU 50	84	44	4377	-974.61	4.58	29.5
1014	SLU 51	83	54	4333	-966.37	4.54	28.96
1014	SLU 52	82	63	4598	-1024.76	4.9	28.89
1014	SLU 53	87	47	4768	-1058.91	5.09	30.6
1014	SLU 54	86	57	4724	-1050.67	5.05	30.06
1014	SLU 55	84	64	4664	-1038.52	4.98	29.51
1014	SLU 56	89	48	4834	-1072.67	5.17	31.22
1014	SLU 57	87	58	4790	-1064.43	5.12	30.68
1014	SLU 58	88	48	4803	-1066.02	5.13	31.03
1014	SLU 59	87	58	4758	-1057.78	5.09	30.49
1014	SLU 60	87	48	4854	-1077.68	5.21	30.44
1014	SLU 61	85	58	4810	-1069.43	5.17	29.9
1014	SLU 62	89	49	4920	-1091.44	5.29	31.06
1014	SLU 63	87	59	4876	-1083.19	5.24	30.52
1014	SLU 64	89	47	4821	-1069.74	5.15	31.17
1014	SLU 65	86	64	4747	-1056	5.08	30.28
1014	SLU 66	91	48	4918	-1090.14	5.26	31.99
1014	SLU 67	90	58	4874	-1081.9	5.22	31.45
1014	SLU 68	88	64	4813	-1069.76	5.15	30.9
1014	SLU 69	93	49	4983	-1103.9	5.34	32.61
1014	SLU 70	91	59	4939	-1095.66	5.3	32.07
1014	SLU 71	92	48	4952	-1097.26	5.3	32.42
1014	SLU 72	91	58	4908	-1089.01	5.26	31.88
1014	SLU 73	91	67	5173	-1147.4	5.62	31.81
1014	SLU 74	96	52	5344	-1181.55	5.81	33.52
1014	SLU 75	94	62	5299	-1173.31	5.77	32.98
1014	SLU 76	92	68	5239	-1161.16	5.7	32.43
1014	SLU 77	97	52	5409	-1195.31	5.89	34.14
1014	SLU 78	96	63	5365	-1187.07	5.85	33.6
1014	SLU 79	97	52	5378	-1188.66	5.85	33.95
1014	SLU 80	95	62	5334	-1180.42	5.81	33.41
1014	SLU 81	95	52	5430	-1200.32	5.93	33.36
1014	SLU 82	94	62	5385	-1192.07	5.89	32.82
1014	SLU 83	97	53	5495	-1214.08	6.01	33.98
1014	SLU 84	95	63	5451	-1205.83	5.97	33.44
1014	SLE RA 1	67	35	3582	-795.92	3.8	23.34
1014	SLE RA 2	65	46	3533	-786.76	3.75	22.74
1014	SLE RA 3	68	36	3647	-809.52	3.88	23.88
1014	SLE RA 4	67	43	3617	-804.03	3.85	23.52
1014	SLE RA 5	66	47	3577	-795.93	3.8	23.16
1014	SLE RA 6	69	36	3690	-818.7	3.93	24.3
1014	SLE RA 7	68	43	3661	-813.2	3.9	23.94
1014	SLE RA 8	69	36	3669	-814.27	3.9	24.17
1014	SLE RA 9	68	43	3640	-808.77	3.88	23.81
1014	SLE RA 10	68	49	3817	-847.7	4.12	23.76
1014	SLE RA 11	71	38	3930	-870.46	4.24	24.9
1014	SLE RA 12	70	45	3901	-864.97	4.21	24.54
1014	SLE RA 13	69	49	3861	-856.87	4.17	24.17
1014	SLE RA 14	72	39	3974	-879.64	4.3	25.32
1014	SLE RA 15	71	46	3945	-874.14	4.27	24.96
1014	SLE RA 16	72	39	3953	-875.2	4.27	25.19
1014	SLE RA 17	71	45	3924	-869.71	4.24	24.83
1014	SLE RA 18	71	39	3988	-882.97	4.32	24.8
1014	SLE RA 19	70	45	3958	-877.48	4.29	24.44
1014	SLE RA 20	72	39	4031	-892.15	4.38	25.21
1014	SLE RA 21	71	46	4002	-886.65	4.35	24.85
1014	SLE FR 1	67	35	3582	-795.92	3.8	23.34
1014	SLE FR 2	66	37	3572	-794.09	3.79	23.22
1014	SLE FR 3	67	35	3600	-799.59	3.82	23.5
1014	SLE FR 4	67	38	3694	-820.2	3.95	23.66

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1014	SLE FR 5	68	36	3721	-825.7	3.98	23.94
1014	SLE FR 6	69	37	3785	-839.45	4.06	24.07
1014	SLE QP 1	67	35	3582	-795.92	3.8	23.34
1014	SLE QP 2	68	36	3704	-822.04	3.96	23.78
1014	SLD 1	423	80	2660	-642.68	4.02	148.09
1014	SLD 2	357	151	2583	-629.1	4.03	124.95
1014	SLD 3	461	-134	3774	-852.1	5.11	161.22
1014	SLD 4	394	-64	3697	-838.53	5.12	138.09
1014	SLD 5	129	362	1714	-452.96	2.32	45.16
1014	SLD 6	86	407	1664	-444.18	2.33	30.19
1014	SLD 7	254	-352	5428	-1151.03	5.96	88.95
1014	SLD 8	211	-306	5378	-1142.25	5.96	73.98
1014	SLD 9	-76	379	2029	-501.82	1.96	-26.43
1014	SLD 10	-119	424	1980	-493.04	1.96	-41.4
1014	SLD 11	50	-335	5743	-1199.89	5.59	17.36
1014	SLD 12	7	-290	5693	-1191.11	5.59	2.39
1014	SLD 13	-259	136	3710	-805.54	2.8	-90.54
1014	SLD 14	-325	206	3633	-791.97	2.81	-113.67
1014	SLD 15	-221	-78	4825	-1014.97	3.89	-77.4
1014	SLD 16	-288	-8	4748	-1001.39	3.9	-100.53
1014	SLV 1	622	118	2003	-528.53	3.98	217.7
1014	SLV 2	518	229	1882	-507.16	3.99	181.27
1014	SLV 3	685	-244	3886	-882.48	5.83	239.88
1014	SLV 4	581	-133	3765	-861.11	5.83	203.45
1014	SLV 5	157	589	361	-201.15	1.17	55.11
1014	SLV 6	87	663	279	-186.76	1.18	30.59
1014	SLV 7	369	-617	6637	-1380.98	7.31	129.04
1014	SLV 8	298	-543	6555	-1366.59	7.32	104.52
1014	SLV 9	-163	615	853	-277.48	0.6	-56.97
1014	SLV 10	-233	690	771	-263.09	0.6	-81.49
1014	SLV 11	48	-591	7129	-1457.31	6.74	16.96
1014	SLV 12	-22	-517	7047	-1442.92	6.75	-7.56
1014	SLV 13	-445	205	3643	-782.96	2.08	-155.9
1014	SLV 14	-550	316	3522	-761.59	2.09	-192.32
1014	SLV 15	-382	-156	5526	-1136.91	3.92	-133.72
1014	SLV 16	-487	-46	5404	-1115.54	3.93	-170.15
1014	SLV FO 1	677	126	1833	-499.18	3.99	237.09
1014	SLV FO 2	563	248	1700	-475.67	4	197.02
1014	SLV FO 3	747	-272	3904	-888.53	6.01	261.49
1014	SLV FO 4	632	-150	3771	-865.02	6.02	221.42
1014	SLV FO 5	166	644	26	-139.06	0.89	58.25
1014	SLV FO 6	89	726	-63	-123.23	0.9	31.27
1014	SLV FO 7	399	-683	6930	-1436.88	7.65	139.57
1014	SLV FO 8	321	-601	6840	-1421.05	7.65	112.59
1014	SLV FO 9	-186	673	567	-223.02	0.26	-65.04
1014	SLV FO 10	-263	755	478	-207.19	0.27	-92.02
1014	SLV FO 11	47	-654	7471	-1520.84	7.02	16.28
1014	SLV FO 12	-31	-572	7381	-1505.01	7.02	-10.7
1014	SLV FO 13	-497	222	3637	-779.05	1.89	-173.87
1014	SLV FO 14	-612	344	3503	-755.54	1.9	-213.93
1014	SLV FO 15	-427	-176	5708	-1168.4	3.92	-149.47
1014	SLV FO 16	-542	-54	5575	-1144.89	3.93	-189.54
1014	CRTFP Ux+	0	0	0	0	0	0
1014	CRTFP Ux-	0	0	0	0	0	0
1014	CRTFP Uy+	0	0	0	0	0	0
1014	CRTFP Uy-	0	0	0	0	0	0
1015	SLU 1	65	35	3317	-669.22	2.54	22.81
1015	SLU 2	62	52	3245	-657.41	2.5	21.9
1015	SLU 3	67	37	3410	-686.79	2.62	23.64
1015	SLU 4	66	47	3367	-679.71	2.6	23.09
1015	SLU 5	64	53	3308	-669.27	2.55	22.53
1015	SLU 6	69	37	3473	-698.65	2.68	24.28
1015	SLU 7	68	48	3430	-691.57	2.65	23.72
1015	SLU 8	69	37	3443	-692.93	2.65	24.08
1015	SLU 9	67	47	3400	-685.85	2.63	23.53
1015	SLU 10	67	56	3655	-735.7	2.91	23.44
1015	SLU 11	72	40	3820	-765.08	3.03	25.19
1015	SLU 12	70	51	3777	-758	3.01	24.64
1015	SLU 13	69	57	3718	-747.56	2.96	24.07
1015	SLU 14	74	41	3883	-776.94	3.09	25.82
1015	SLU 15	72	52	3840	-769.85	3.06	25.27
1015	SLU 16	73	41	3853	-771.22	3.06	25.62
1015	SLU 17	71	51	3810	-764.14	3.04	25.07
1015	SLU 18	71	41	3902	-781.05	3.13	25.02
1015	SLU 19	70	51	3859	-773.97	3.1	24.47
1015	SLU 20	73	42	3966	-792.91	3.18	25.65
1015	SLU 21	72	52	3922	-785.83	3.16	25.1
1015	SLU 22	74	40	3871	-774.4	3.07	25.77
1015	SLU 23	71	57	3799	-762.6	3.03	24.85
1015	SLU 24	76	41	3964	-791.97	3.15	26.6
1015	SLU 25	74	51	3921	-784.89	3.13	26.05
1015	SLU 26	73	58	3862	-774.45	3.08	25.48
1015	SLU 27	78	42	4028	-803.83	3.21	27.23
1015	SLU 28	76	52	3985	-796.75	3.18	26.68
1015	SLU 29	77	42	3998	-798.12	3.18	27.03
1015	SLU 30	76	52	3954	-791.03	3.16	26.48
1015	SLU 31	75	61	4209	-840.88	3.44	26.4
1015	SLU 32	80	45	4375	-870.26	3.56	28.14

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1015	SLU 33	79	55	4331	-863.18	3.54	27.59
1015	SLU 34	77	62	4273	-852.74	3.49	27.03
1015	SLU 35	82	46	4438	-882.12	3.62	28.78
1015	SLU 36	80	56	4395	-875.04	3.59	28.22
1015	SLU 37	82	46	4408	-876.4	3.59	28.58
1015	SLU 38	80	56	4365	-869.32	3.57	28.03
1015	SLU 39	80	46	4457	-886.24	3.66	27.98
1015	SLU 40	78	56	4414	-879.15	3.63	27.42
1015	SLU 41	82	46	4520	-898.1	3.71	28.61
1015	SLU 42	80	57	4477	-891.01	3.69	28.06
1015	SLU 43	82	44	4121	-833.92	3.12	28.64
1015	SLU 44	79	61	4049	-822.11	3.08	27.73
1015	SLU 45	84	46	4215	-851.49	3.2	29.47
1015	SLU 46	82	56	4172	-844.41	3.18	28.92
1015	SLU 47	81	62	4113	-833.97	3.13	28.36
1015	SLU 48	86	46	4278	-863.35	3.26	30.11
1015	SLU 49	84	57	4235	-856.27	3.23	29.55
1015	SLU 50	85	46	4248	-857.63	3.23	29.91
1015	SLU 51	84	56	4205	-850.55	3.21	29.36
1015	SLU 52	83	65	4460	-900.4	3.49	29.27
1015	SLU 53	88	49	4625	-929.78	3.61	31.02
1015	SLU 54	87	60	4582	-922.7	3.59	30.47
1015	SLU 55	85	66	4523	-912.26	3.55	29.9
1015	SLU 56	90	50	4688	-941.64	3.67	31.65
1015	SLU 57	89	61	4645	-934.56	3.64	31.1
1015	SLU 58	90	50	4658	-935.92	3.64	31.45
1015	SLU 59	88	60	4615	-928.84	3.62	30.9
1015	SLU 60	88	50	4707	-945.76	3.71	30.85
1015	SLU 61	86	60	4664	-938.67	3.68	30.3
1015	SLU 62	90	51	4770	-957.61	3.76	31.48
1015	SLU 63	88	61	4727	-950.53	3.74	30.93
1015	SLU 64	90	49	4676	-939.1	3.65	31.6
1015	SLU 65	88	66	4604	-927.3	3.61	30.68
1015	SLU 66	93	50	4769	-956.68	3.73	32.43
1015	SLU 67	91	60	4726	-949.59	3.71	31.88
1015	SLU 68	89	67	4667	-939.16	3.66	31.31
1015	SLU 69	94	51	4833	-968.53	3.79	33.06
1015	SLU 70	93	61	4789	-961.45	3.76	32.51
1015	SLU 71	94	51	4802	-962.82	3.76	32.86
1015	SLU 72	92	61	4759	-955.74	3.74	32.31
1015	SLU 73	92	70	5014	-1005.58	4.02	32.23
1015	SLU 74	97	54	5179	-1034.96	4.14	33.97
1015	SLU 75	95	64	5136	-1027.88	4.12	33.42
1015	SLU 76	94	71	5077	-1017.44	4.07	32.86
1015	SLU 77	99	55	5243	-1046.82	4.2	34.61
1015	SLU 78	97	65	5199	-1039.74	4.17	34.06
1015	SLU 79	98	55	5212	-1041.1	4.17	34.41
1015	SLU 80	97	65	5169	-1034.02	4.15	33.86
1015	SLU 81	96	55	5262	-1050.94	4.24	33.81
1015	SLU 82	95	65	5219	-1043.86	4.21	33.25
1015	SLU 83	98	55	5325	-1062.8	4.29	34.44
1015	SLU 84	97	66	5282	-1055.71	4.27	33.89
1015	SLE RA 1	67	37	3475	-699.27	2.69	23.66
1015	SLE RA 2	66	48	3427	-691.4	2.66	23.05
1015	SLE RA 3	69	37	3537	-710.98	2.75	24.21
1015	SLE RA 4	68	44	3508	-706.26	2.73	23.84
1015	SLE RA 5	67	49	3469	-699.3	2.7	23.47
1015	SLE RA 6	70	38	3579	-718.89	2.78	24.63
1015	SLE RA 7	69	45	3551	-714.17	2.77	24.27
1015	SLE RA 8	70	38	3559	-715.08	2.76	24.5
1015	SLE RA 9	69	45	3531	-710.36	2.75	24.13
1015	SLE RA 10	69	51	3700	-743.59	2.94	24.08
1015	SLE RA 11	72	40	3811	-763.18	3.02	25.24
1015	SLE RA 12	71	47	3782	-758.45	3	24.87
1015	SLE RA 13	70	51	3743	-751.5	2.97	24.5
1015	SLE RA 14	73	41	3853	-771.08	3.06	25.66
1015	SLE RA 15	72	47	3824	-766.36	3.04	25.29
1015	SLE RA 16	73	40	3833	-767.27	3.04	25.53
1015	SLE RA 17	72	47	3804	-762.55	3.02	25.16
1015	SLE RA 18	72	40	3865	-773.83	3.08	25.13
1015	SLE RA 19	71	47	3837	-769.1	3.07	24.76
1015	SLE RA 20	73	41	3908	-781.73	3.12	25.55
1015	SLE RA 21	72	48	3879	-777.01	3.1	25.18
1015	SLE FR 1	67	37	3475	-699.27	2.69	23.66
1015	SLE FR 2	67	39	3465	-697.69	2.69	23.54
1015	SLE FR 3	68	37	3492	-702.43	2.71	23.83
1015	SLE FR 4	68	40	3583	-720.06	2.8	23.98
1015	SLE FR 5	69	38	3609	-724.8	2.82	24.27
1015	SLE FR 6	70	39	3670	-736.55	2.89	24.39
1015	SLE QP 1	67	37	3475	-699.27	2.69	23.66
1015	SLE QP 2	69	38	3592	-721.64	2.81	24.1
1015	SLD 1	423	80	2537	-564.05	3.47	148.1
1015	SLD 2	356	154	2459	-551.6	3.5	124.92
1015	SLD 3	462	-135	3623	-744.42	4.1	161.52
1015	SLD 4	395	-61	3545	-731.97	4.13	138.35
1015	SLD 5	128	364	1642	-402.96	2.04	44.96
1015	SLD 6	85	412	1592	-394.9	2.06	29.97
1015	SLD 7	257	-353	5261	-1004.19	4.15	89.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1015	SLD 8	214	-306	5211	-996.13	4.17	74.71
1015	SLD 9	-76	381	1973	-447.14	1.44	-26.51
1015	SLD 10	-119	429	1923	-439.08	1.46	-41.51
1015	SLD 11	52	-337	5592	-1048.37	3.56	18.23
1015	SLD 12	9	-289	5542	-1040.31	3.58	3.24
1015	SLD 13	-257	137	3639	-711.3	1.49	-90.15
1015	SLD 14	-324	211	3562	-698.85	1.52	-113.32
1015	SLD 15	-219	-79	4725	-891.67	2.12	-76.72
1015	SLD 16	-285	-5	4647	-879.22	2.15	-99.9
1015	SLV 1	621	117	1876	-464	3.79	217.52
1015	SLV 2	517	234	1754	-444.39	3.84	181.03
1015	SLV 3	686	-247	3710	-768.85	4.86	240.18
1015	SLV 4	582	-130	3588	-749.23	4.91	203.69
1015	SLV 5	155	592	317	-185.65	1.47	54.56
1015	SLV 6	85	670	235	-172.45	1.5	29.99
1015	SLV 7	372	-621	6433	-1201.81	5.04	130.11
1015	SLV 8	302	-543	6351	-1188.61	5.08	105.54
1015	SLV 9	-164	619	834	-254.66	0.54	-57.34
1015	SLV 10	-235	697	751	-241.46	0.57	-81.91
1015	SLV 11	53	-595	6949	-1270.82	4.12	18.2
1015	SLV 12	-18	-516	6867	-1257.62	4.15	-6.36
1015	SLV 13	-444	206	3596	-694.04	0.7	-155.49
1015	SLV 14	-549	322	3474	-674.42	0.75	-191.99
1015	SLV 15	-379	-158	5431	-998.88	1.78	-132.83
1015	SLV 16	-484	-42	5309	-979.27	1.83	-169.32
1015	SLV FO 1	677	125	1704	-438.23	3.89	236.86
1015	SLV FO 2	561	253	1570	-416.66	3.94	196.72
1015	SLV FO 3	748	-275	3722	-773.57	5.07	261.79
1015	SLV FO 4	633	-147	3588	-751.99	5.12	221.65
1015	SLV FO 5	164	647	-10	-132.05	1.33	57.61
1015	SLV FO 6	86	734	-101	-117.53	1.37	30.58
1015	SLV FO 7	403	-687	6717	-1249.83	5.27	140.71
1015	SLV FO 8	325	-601	6627	-1235.31	5.3	113.69
1015	SLV FO 9	-188	677	558	-207.96	0.31	-65.49
1015	SLV FO 10	-265	763	467	-193.44	0.35	-92.51
1015	SLV FO 11	51	-658	7285	-1325.74	4.25	17.62
1015	SLV FO 12	-26	-572	7194	-1311.22	4.29	-9.41
1015	SLV FO 13	-495	223	3596	-691.28	0.49	-173.45
1015	SLV FO 14	-611	351	3462	-669.7	0.55	-213.59
1015	SLV FO 15	-424	-178	5615	-1026.61	1.67	-148.52
1015	SLV FO 16	-539	-50	5480	-1005.04	1.73	-188.66
1015	CRTFP Ux+	0	0	0	0	0	0
1015	CRTFP Ux-	0	0	0	0	0	0
1015	CRTFP Uy+	0	0	0	0	0	0
1015	CRTFP Uy-	0	0	0	0	0	0
1016	SLU 1	66	36	3256	-608.34	1.1	23.1
1016	SLU 2	63	53	3185	-597.7	1.1	22.16
1016	SLU 3	68	37	3348	-624.04	1.13	23.94
1016	SLU 4	67	48	3305	-617.65	1.13	23.38
1016	SLU 5	65	54	3247	-608.3	1.12	22.8
1016	SLU 6	70	38	3410	-634.63	1.16	24.58
1016	SLU 7	69	49	3367	-628.25	1.16	24.02
1016	SLU 8	70	38	3380	-629.53	1.15	24.38
1016	SLU 9	68	48	3338	-623.14	1.15	23.82
1016	SLU 10	68	57	3585	-667.02	1.31	23.72
1016	SLU 11	73	41	3747	-693.36	1.35	25.5
1016	SLU 12	71	52	3705	-686.97	1.35	24.94
1016	SLU 13	70	58	3647	-677.61	1.34	24.36
1016	SLU 14	75	42	3809	-703.95	1.38	26.14
1016	SLU 15	73	53	3767	-697.56	1.37	25.58
1016	SLU 16	74	42	3780	-698.84	1.37	25.94
1016	SLU 17	72	52	3737	-692.46	1.36	25.38
1016	SLU 18	72	42	3827	-707.37	1.41	25.32
1016	SLU 19	71	52	3785	-700.99	1.41	24.76
1016	SLU 20	74	43	3889	-717.96	1.43	25.97
1016	SLU 21	73	53	3847	-711.58	1.43	25.4
1016	SLU 22	75	41	3798	-701.7	1.36	26.09
1016	SLU 23	72	58	3727	-691.06	1.36	25.16
1016	SLU 24	77	42	3889	-717.39	1.4	26.94
1016	SLU 25	75	52	3847	-711.01	1.4	26.37
1016	SLU 26	74	59	3789	-701.65	1.39	25.8
1016	SLU 27	79	43	3951	-727.98	1.42	27.58
1016	SLU 28	77	53	3908	-721.6	1.42	27.02
1016	SLU 29	78	43	3922	-722.88	1.41	27.37
1016	SLU 30	77	53	3879	-716.5	1.41	26.81
1016	SLU 31	76	62	4126	-760.37	1.58	26.72
1016	SLU 32	81	46	4289	-786.71	1.62	28.49
1016	SLU 33	80	56	4246	-780.32	1.62	27.93
1016	SLU 34	78	63	4188	-770.97	1.61	27.36
1016	SLU 35	83	47	4351	-797.3	1.64	29.14
1016	SLU 36	82	57	4308	-790.92	1.64	28.57
1016	SLU 37	83	46	4321	-792.2	1.63	28.93
1016	SLU 38	81	57	4279	-785.81	1.63	28.37
1016	SLU 39	81	46	4369	-800.72	1.68	28.32
1016	SLU 40	79	57	4326	-794.34	1.68	27.76
1016	SLU 41	83	47	4431	-811.31	1.7	28.96
1016	SLU 42	81	58	4388	-804.93	1.7	28.4
1016	SLU 43	83	45	4048	-758.84	1.34	29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1016	SLU 44	80	63	3976	-748.2	1.33	28.07
1016	SLU 45	85	47	4139	-774.54	1.37	29.84
1016	SLU 46	84	57	4096	-768.15	1.37	29.28
1016	SLU 47	82	64	4038	-758.79	1.36	28.71
1016	SLU 48	87	48	4201	-785.13	1.4	30.49
1016	SLU 49	85	58	4158	-778.74	1.39	29.92
1016	SLU 50	86	47	4171	-780.02	1.39	30.28
1016	SLU 51	85	58	4129	-773.64	1.38	29.72
1016	SLU 52	85	66	4376	-817.52	1.55	29.62
1016	SLU 53	90	50	4539	-843.85	1.59	31.4
1016	SLU 54	88	61	4496	-837.47	1.59	30.84
1016	SLU 55	86	67	4438	-828.11	1.58	30.27
1016	SLU 56	92	51	4601	-854.44	1.61	32.04
1016	SLU 57	90	62	4558	-848.06	1.61	31.48
1016	SLU 58	91	51	4571	-849.34	1.6	31.84
1016	SLU 59	89	62	4528	-842.96	1.6	31.28
1016	SLU 60	89	51	4619	-857.87	1.65	31.23
1016	SLU 61	88	61	4576	-851.48	1.65	30.67
1016	SLU 62	91	52	4680	-868.46	1.67	31.87
1016	SLU 63	89	62	4638	-862.07	1.67	31.31
1016	SLU 64	91	50	4589	-852.19	1.6	31.99
1016	SLU 65	89	67	4518	-841.55	1.6	31.06
1016	SLU 66	94	51	4680	-867.89	1.64	32.84
1016	SLU 67	92	61	4638	-861.5	1.64	32.28
1016	SLU 68	91	68	4580	-852.14	1.62	31.7
1016	SLU 69	96	52	4742	-878.48	1.66	33.48
1016	SLU 70	94	62	4700	-872.09	1.66	32.92
1016	SLU 71	95	52	4713	-873.38	1.65	33.28
1016	SLU 72	93	62	4670	-866.99	1.65	32.72
1016	SLU 73	93	71	4918	-910.87	1.82	32.62
1016	SLU 74	98	55	5080	-937.2	1.86	34.4
1016	SLU 75	97	65	5037	-930.82	1.86	33.84
1016	SLU 76	95	72	4979	-921.46	1.84	33.26
1016	SLU 77	100	56	5142	-947.8	1.88	35.04
1016	SLU 78	98	66	5099	-941.41	1.88	34.48
1016	SLU 79	100	56	5113	-942.69	1.87	34.84
1016	SLU 80	98	66	5070	-936.31	1.87	34.27
1016	SLU 81	98	55	5160	-951.22	1.92	34.22
1016	SLU 82	96	66	5117	-944.83	1.91	33.66
1016	SLU 83	100	56	5222	-961.81	1.94	34.86
1016	SLU 84	98	67	5179	-955.43	1.94	34.3
1016	SLE RA 1	68	37	3411	-635.02	1.17	23.95
1016	SLE RA 2	67	49	3364	-627.92	1.17	23.33
1016	SLE RA 3	70	38	3472	-645.48	1.2	24.52
1016	SLE RA 4	69	45	3444	-641.22	1.2	24.14
1016	SLE RA 5	68	50	3405	-634.98	1.19	23.76
1016	SLE RA 6	71	39	3513	-652.54	1.21	24.94
1016	SLE RA 7	70	46	3485	-648.28	1.21	24.57
1016	SLE RA 8	71	39	3494	-649.14	1.21	24.81
1016	SLE RA 9	70	46	3465	-644.88	1.21	24.43
1016	SLE RA 10	70	51	3630	-674.13	1.32	24.37
1016	SLE RA 11	73	41	3738	-691.69	1.34	25.55
1016	SLE RA 12	72	48	3710	-687.43	1.34	25.18
1016	SLE RA 13	71	52	3671	-681.2	1.33	24.8
1016	SLE RA 14	74	41	3780	-698.75	1.36	25.98
1016	SLE RA 15	73	48	3751	-694.5	1.36	25.61
1016	SLE RA 16	74	41	3760	-695.35	1.35	25.85
1016	SLE RA 17	73	48	3732	-691.09	1.35	25.47
1016	SLE RA 18	73	41	3792	-701.03	1.38	25.44
1016	SLE RA 19	72	48	3763	-696.78	1.38	25.06
1016	SLE RA 20	74	42	3833	-708.09	1.4	25.87
1016	SLE RA 21	73	49	3804	-703.84	1.4	25.49
1016	SLE FR 1	68	37	3411	-635.02	1.17	23.95
1016	SLE FR 2	68	40	3402	-633.6	1.17	23.83
1016	SLE FR 3	69	38	3428	-637.84	1.18	24.12
1016	SLE FR 4	69	41	3516	-653.4	1.24	24.27
1016	SLE FR 5	70	39	3542	-657.65	1.24	24.57
1016	SLE FR 6	71	39	3601	-668.02	1.28	24.7
1016	SLE QP 1	68	37	3411	-635.02	1.17	23.95
1016	SLE QP 2	70	38	3525	-654.82	1.24	24.4
1016	SLD 1	423	81	2438	-504.28	2.59	148.06
1016	SLD 2	356	159	2358	-492.34	2.65	124.86
1016	SLD 3	462	-138	3512	-666.98	2.66	161.75
1016	SLD 4	396	-60	3432	-655.04	2.73	138.54
1016	SLD 5	127	370	1584	-364.96	1.52	44.77
1016	SLD 6	84	420	1533	-357.24	1.57	29.76
1016	SLD 7	259	-360	5164	-907.31	1.76	90.38
1016	SLD 8	216	-310	5112	-899.58	1.8	75.37
1016	SLD 9	-76	387	1938	-410.06	0.67	-26.57
1016	SLD 10	-120	437	1887	-402.34	0.71	-41.58
1016	SLD 11	55	-343	5518	-952.4	0.91	19.03
1016	SLD 12	12	-293	5466	-944.68	0.95	4.02
1016	SLD 13	-256	137	3618	-654.6	-0.25	-89.75
1016	SLD 14	-323	215	3539	-642.66	-0.18	-112.95
1016	SLD 15	-217	-82	4692	-817.3	-0.18	-76.06
1016	SLD 16	-283	-4	4613	-805.37	-0.11	-99.27
1016	SLV 1	620	119	1759	-409.33	3.34	217.28
1016	SLV 2	515	241	1634	-390.54	3.44	180.75

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1016	SLV 3	687	-252	3574	-684.33	3.46	240.38
1016	SLV 4	582	-129	3449	-665.53	3.56	203.85
1016	SLV 5	153	601	266	-167.61	1.66	54.05
1016	SLV 6	83	683	182	-154.95	1.74	29.45
1016	SLV 7	376	-633	6316	-1084.26	2.06	131.05
1016	SLV 8	305	-551	6232	-1071.6	2.14	106.45
1016	SLV 9	-166	627	819	-238.04	0.34	-57.65
1016	SLV 10	-236	710	735	-225.39	0.41	-82.25
1016	SLV 11	57	-606	6868	-1154.69	0.74	19.34
1016	SLV 12	-14	-524	6784	-1142.04	0.81	-5.25
1016	SLV 13	-443	206	3601	-644.11	-1.09	-155.05
1016	SLV 14	-548	328	3477	-625.32	-0.98	-191.59
1016	SLV 15	-376	-164	5416	-919.11	-0.97	-131.95
1016	SLV 16	-481	-42	5291	-900.31	-0.86	-168.49
1016	SLV FO 1	675	127	1582	-384.78	3.55	236.57
1016	SLV FO 2	560	261	1445	-364.11	3.67	196.39
1016	SLV FO 3	749	-281	3579	-687.28	3.68	261.98
1016	SLV FO 4	633	-146	3441	-666.6	3.8	221.8
1016	SLV FO 5	162	657	-60	-118.89	1.71	57.01
1016	SLV FO 6	84	748	-152	-104.96	1.79	29.96
1016	SLV FO 7	406	-700	6595	-1127.2	2.15	141.71
1016	SLV FO 8	329	-609	6502	-1113.28	2.23	114.65
1016	SLV FO 9	-189	686	548	-196.36	0.25	-65.86
1016	SLV FO 10	-267	777	456	-182.44	0.33	-92.91
1016	SLV FO 11	55	-671	7203	-1204.68	0.69	18.84
1016	SLV FO 12	-22	-580	7110	-1190.76	0.77	-8.22
1016	SLV FO 13	-494	223	3609	-643.04	-1.32	-173
1016	SLV FO 14	-609	357	3472	-622.36	-1.2	-213.19
1016	SLV FO 15	-421	-184	5605	-945.54	-1.19	-147.59
1016	SLV FO 16	-536	-50	5468	-924.86	-1.07	-187.78
1016	CRTFP Ux+	0	0	0	0	0	0
1016	CRTFP Ux-	0	0	0	0	0	0
1016	CRTFP Uy+	0	0	0	0	0	0
1016	CRTFP Uy-	0	0	0	0	0	0
1017	SLU 1	67	35	3248	-584.96	-0.62	23.34
1017	SLU 2	64	53	3176	-574.59	-0.58	22.39
1017	SLU 3	69	37	3339	-599.92	-0.64	24.2
1017	SLU 4	68	47	3296	-593.7	-0.61	23.63
1017	SLU 5	66	54	3238	-584.68	-0.59	23.04
1017	SLU 6	71	38	3401	-610.01	-0.65	24.85
1017	SLU 7	69	48	3358	-603.78	-0.62	24.28
1017	SLU 8	71	38	3371	-605.14	-0.64	24.64
1017	SLU 9	69	48	3328	-598.92	-0.62	24.07
1017	SLU 10	69	57	3572	-639.97	-0.59	23.96
1017	SLU 11	74	41	3735	-665.31	-0.65	25.77
1017	SLU 12	72	51	3692	-659.08	-0.62	25.2
1017	SLU 13	70	58	3634	-650.06	-0.6	24.61
1017	SLU 14	76	42	3797	-675.4	-0.66	26.42
1017	SLU 15	74	52	3754	-669.17	-0.63	25.85
1017	SLU 16	75	41	3768	-670.53	-0.65	26.21
1017	SLU 17	73	52	3725	-664.3	-0.63	25.64
1017	SLU 18	73	41	3814	-678.37	-0.63	25.59
1017	SLU 19	72	52	3771	-672.15	-0.61	25.02
1017	SLU 20	75	42	3876	-688.46	-0.64	26.24
1017	SLU 21	73	53	3833	-682.23	-0.62	25.67
1017	SLU 22	75	40	3786	-673.3	-0.66	26.37
1017	SLU 23	73	57	3714	-662.92	-0.62	25.42
1017	SLU 24	78	41	3877	-688.26	-0.68	27.23
1017	SLU 25	76	52	3834	-682.03	-0.66	26.66
1017	SLU 26	75	59	3776	-673.01	-0.63	26.07
1017	SLU 27	80	42	3939	-698.34	-0.69	27.88
1017	SLU 28	78	53	3895	-692.12	-0.67	27.31
1017	SLU 29	79	42	3909	-693.48	-0.68	27.67
1017	SLU 30	78	53	3866	-687.25	-0.66	27.1
1017	SLU 31	77	61	4110	-728.31	-0.63	26.99
1017	SLU 32	82	45	4273	-753.64	-0.69	28.8
1017	SLU 33	81	55	4230	-747.42	-0.67	28.23
1017	SLU 34	79	62	4172	-738.4	-0.64	27.64
1017	SLU 35	84	46	4335	-763.73	-0.7	29.45
1017	SLU 36	83	57	4292	-757.5	-0.68	28.88
1017	SLU 37	84	46	4305	-758.86	-0.69	29.24
1017	SLU 38	82	56	4262	-752.64	-0.67	28.67
1017	SLU 39	82	45	4352	-766.71	-0.68	28.62
1017	SLU 40	80	56	4309	-760.48	-0.65	28.05
1017	SLU 41	84	46	4413	-776.79	-0.69	29.27
1017	SLU 42	82	57	4370	-770.57	-0.66	28.7
1017	SLU 43	84	45	4038	-730.17	-0.79	29.31
1017	SLU 44	81	62	3966	-719.79	-0.75	28.36
1017	SLU 45	86	46	4129	-745.12	-0.8	30.16
1017	SLU 46	85	57	4086	-738.9	-0.78	29.59
1017	SLU 47	83	64	4028	-729.88	-0.76	29.01
1017	SLU 48	88	47	4191	-755.21	-0.82	30.81
1017	SLU 49	86	58	4148	-748.99	-0.79	30.24
1017	SLU 50	88	47	4161	-750.34	-0.81	30.61
1017	SLU 51	86	57	4118	-744.12	-0.78	30.04
1017	SLU 52	86	66	4362	-785.18	-0.76	29.93
1017	SLU 53	91	50	4525	-810.51	-0.81	31.74
1017	SLU 54	89	60	4482	-804.28	-0.79	31.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1017	SLU 55	87	67	4424	-795.27	-0.77	30.58
1017	SLU 56	93	51	4587	-820.6	-0.83	32.39
1017	SLU 57	91	62	4544	-814.37	-0.8	31.82
1017	SLU 58	92	51	4558	-815.73	-0.82	32.18
1017	SLU 59	90	61	4515	-809.5	-0.79	31.61
1017	SLU 60	90	50	4604	-823.57	-0.8	31.55
1017	SLU 61	89	61	4561	-817.35	-0.78	30.98
1017	SLU 62	92	51	4666	-833.66	-0.81	32.2
1017	SLU 63	90	62	4623	-827.44	-0.79	31.63
1017	SLU 64	93	49	4576	-818.5	-0.83	32.34
1017	SLU 65	90	67	4504	-808.13	-0.79	31.39
1017	SLU 66	95	50	4667	-833.46	-0.85	33.19
1017	SLU 67	93	61	4624	-827.23	-0.83	32.62
1017	SLU 68	92	68	4566	-818.21	-0.8	32.04
1017	SLU 69	97	51	4729	-843.55	-0.86	33.84
1017	SLU 70	95	62	4686	-837.32	-0.84	33.27
1017	SLU 71	96	51	4699	-838.68	-0.85	33.64
1017	SLU 72	95	62	4656	-832.45	-0.83	33.06
1017	SLU 73	94	71	4900	-873.51	-0.8	32.96
1017	SLU 74	100	54	5063	-898.84	-0.86	34.77
1017	SLU 75	98	65	5020	-892.62	-0.84	34.19
1017	SLU 76	96	72	4962	-883.6	-0.81	33.61
1017	SLU 77	101	55	5125	-908.93	-0.87	35.41
1017	SLU 78	100	66	5082	-902.71	-0.85	34.84
1017	SLU 79	101	55	5095	-904.06	-0.86	35.21
1017	SLU 80	99	66	5052	-897.84	-0.84	34.64
1017	SLU 81	99	54	5142	-911.91	-0.85	34.58
1017	SLU 82	97	65	5099	-905.68	-0.82	34.01
1017	SLU 83	101	55	5203	-922	-0.86	35.23
1017	SLU 84	99	66	5160	-915.77	-0.83	34.66
1017	SLE RA 1	69	37	3402	-610.2	-0.63	24.21
1017	SLE RA 2	67	49	3354	-603.29	-0.6	23.58
1017	SLE RA 3	71	37	3462	-620.17	-0.64	24.78
1017	SLE RA 4	70	45	3434	-616.02	-0.63	24.4
1017	SLE RA 5	69	49	3395	-610.01	-0.61	24.01
1017	SLE RA 6	72	38	3503	-626.9	-0.65	25.21
1017	SLE RA 7	71	45	3475	-622.75	-0.63	24.83
1017	SLE RA 8	72	38	3484	-623.65	-0.64	25.07
1017	SLE RA 9	71	45	3455	-619.5	-0.63	24.69
1017	SLE RA 10	70	51	3618	-646.88	-0.61	24.62
1017	SLE RA 11	74	40	3726	-663.76	-0.65	25.83
1017	SLE RA 12	73	47	3698	-659.61	-0.63	25.45
1017	SLE RA 13	72	52	3659	-653.6	-0.62	25.06
1017	SLE RA 14	75	41	3768	-670.49	-0.66	26.26
1017	SLE RA 15	74	48	3739	-666.34	-0.64	25.88
1017	SLE RA 16	75	41	3748	-667.24	-0.65	26.12
1017	SLE RA 17	74	48	3719	-663.09	-0.64	25.74
1017	SLE RA 18	74	40	3779	-672.47	-0.64	25.71
1017	SLE RA 19	72	47	3750	-668.32	-0.62	25.33
1017	SLE RA 20	75	41	3820	-679.2	-0.65	26.14
1017	SLE RA 21	74	48	3791	-675.05	-0.63	25.76
1017	SLE FR 1	69	37	3402	-610.2	-0.63	24.21
1017	SLE FR 2	69	39	3392	-608.82	-0.62	24.08
1017	SLE FR 3	70	37	3418	-612.89	-0.63	24.38
1017	SLE FR 4	70	40	3505	-627.5	-0.63	24.53
1017	SLE FR 5	71	38	3531	-631.57	-0.64	24.83
1017	SLE FR 6	71	38	3590	-641.34	-0.63	24.96
1017	SLE QP 1	69	37	3402	-610.2	-0.63	24.21
1017	SLE QP 2	71	38	3515	-628.88	-0.63	24.66
1017	SLD 1	422	82	2371	-468.78	1.49	147.97
1017	SLD 2	356	164	2288	-456.51	1.61	124.76
1017	SLD 3	463	-143	3453	-627.13	0.92	161.88
1017	SLD 4	396	-61	3370	-614.86	1.04	138.66
1017	SLD 5	126	379	1545	-342.82	0.85	44.59
1017	SLD 6	83	432	1492	-334.89	0.93	29.57
1017	SLD 7	261	-373	5151	-870.64	-1.05	90.95
1017	SLD 8	218	-320	5098	-862.71	-0.98	75.93
1017	SLD 9	-77	395	1931	-395.06	-0.29	-26.61
1017	SLD 10	-120	448	1878	-387.12	-0.21	-41.63
1017	SLD 11	58	-356	5538	-922.88	-2.19	19.75
1017	SLD 12	15	-303	5485	-914.94	-2.12	4.73
1017	SLD 13	-255	137	3659	-642.91	-2.3	-89.35
1017	SLD 14	-322	219	3577	-630.64	-2.18	-112.56
1017	SLD 15	-215	-88	4741	-801.26	-2.87	-75.44
1017	SLD 16	-281	-7	4659	-788.99	-2.76	-98.66
1017	SLV 1	619	120	1660	-368.8	2.72	216.98
1017	SLV 2	514	249	1531	-349.48	2.9	180.43
1017	SLV 3	688	-260	3488	-636.43	1.75	240.46
1017	SLV 4	583	-131	3359	-617.11	1.93	203.91
1017	SLV 5	151	616	209	-148.55	1.8	53.56
1017	SLV 6	81	703	122	-135.55	1.93	28.95
1017	SLV 7	379	-653	6304	-1040.66	-1.42	131.84
1017	SLV 8	308	-566	6217	-1027.66	-1.29	107.23
1017	SLV 9	-167	642	813	-230.11	0.03	-57.91
1017	SLV 10	-238	729	725	-217.11	0.15	-82.52
1017	SLV 11	60	-627	6907	-1122.22	-3.19	20.37
1017	SLV 12	-10	-541	6820	-1109.21	-3.07	-4.24
1017	SLV 13	-441	207	3671	-640.65	-3.2	-154.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1017	SLV 14	-546	336	3541	-621.34	-3.02	-191.15
1017	SLV 15	-373	-174	5499	-908.29	-4.16	-131.11
1017	SLV 16	-478	-45	5370	-888.97	-3.98	-167.66
1017	SLV FO 1	674	129	1474	-342.79	3.05	236.21
1017	SLV FO 2	559	271	1332	-321.54	3.25	196
1017	SLV FO 3	749	-290	3486	-637.18	1.99	262.05
1017	SLV FO 4	634	-148	3343	-615.94	2.19	221.84
1017	SLV FO 5	159	674	-121	-100.52	2.05	56.45
1017	SLV FO 6	82	769	-217	-86.21	2.18	29.38
1017	SLV FO 7	410	-722	6583	-1081.84	-1.5	142.56
1017	SLV FO 8	332	-627	6487	-1067.53	-1.36	115.49
1017	SLV FO 9	-191	702	542	-190.23	0.09	-66.17
1017	SLV FO 10	-268	798	446	-175.93	0.23	-93.24
1017	SLV FO 11	59	-694	7247	-1171.55	-3.45	19.94
1017	SLV FO 12	-18	-598	7151	-1157.25	-3.31	-7.13
1017	SLV FO 13	-493	224	3686	-641.83	-3.45	-172.52
1017	SLV FO 14	-608	366	3544	-620.58	-3.25	-212.73
1017	SLV FO 15	-418	-195	5697	-936.23	-4.52	-146.69
1017	SLV FO 16	-533	-53	5555	-914.98	-4.32	-186.9
1017	CRTFP Ux+	0	0	0	0	0	0
1017	CRTFP Ux-	0	0	0	0	0	0
1017	CRTFP Uy+	0	0	0	0	0	0
1017	CRTFP Uy-	0	0	0	0	0	0
1018	SLU 1	67	34	3299	-604.5	-2.52	23.54
1018	SLU 2	65	52	3225	-593.38	-2.43	22.57
1018	SLU 3	70	35	3392	-620.02	-2.6	24.4
1018	SLU 4	68	46	3347	-613.35	-2.54	23.82
1018	SLU 5	67	53	3288	-603.84	-2.48	23.23
1018	SLU 6	72	36	3454	-630.48	-2.65	25.06
1018	SLU 7	70	47	3410	-623.81	-2.6	24.48
1018	SLU 8	71	36	3424	-625.41	-2.62	24.85
1018	SLU 9	70	47	3380	-618.75	-2.57	24.27
1018	SLU 10	69	56	3626	-660.57	-2.7	24.15
1018	SLU 11	74	39	3792	-687.21	-2.86	25.99
1018	SLU 12	73	50	3748	-680.54	-2.81	25.41
1018	SLU 13	71	57	3688	-671.03	-2.75	24.81
1018	SLU 14	76	40	3855	-697.67	-2.91	26.64
1018	SLU 15	75	51	3811	-691	-2.86	26.06
1018	SLU 16	76	40	3825	-692.61	-2.88	26.43
1018	SLU 17	74	51	3781	-685.94	-2.83	25.85
1018	SLU 18	74	39	3871	-700.48	-2.9	25.8
1018	SLU 19	72	50	3827	-693.82	-2.84	25.22
1018	SLU 20	76	40	3934	-710.94	-2.95	26.45
1018	SLU 21	74	51	3890	-704.27	-2.89	25.87
1018	SLU 22	76	37	3844	-695.57	-2.91	26.59
1018	SLU 23	73	56	3770	-684.46	-2.82	25.63
1018	SLU 24	79	39	3936	-711.1	-2.99	27.46
1018	SLU 25	77	50	3892	-704.43	-2.94	26.88
1018	SLU 26	75	57	3833	-694.92	-2.87	26.28
1018	SLU 27	81	40	3999	-721.55	-3.04	28.12
1018	SLU 28	79	51	3955	-714.89	-2.99	27.54
1018	SLU 29	80	40	3969	-716.49	-3.01	27.9
1018	SLU 30	78	51	3925	-709.82	-2.96	27.33
1018	SLU 31	78	59	4170	-751.65	-3.09	27.21
1018	SLU 32	83	42	4337	-778.29	-3.25	29.04
1018	SLU 33	82	53	4293	-771.62	-3.2	28.46
1018	SLU 34	80	61	4233	-762.11	-3.14	27.87
1018	SLU 35	85	43	4400	-788.75	-3.3	29.7
1018	SLU 36	83	54	4355	-782.08	-3.25	29.12
1018	SLU 37	85	43	4370	-783.68	-3.27	29.49
1018	SLU 38	83	54	4325	-777.01	-3.22	28.91
1018	SLU 39	83	43	4416	-791.56	-3.29	28.85
1018	SLU 40	81	54	4372	-784.89	-3.23	28.27
1018	SLU 41	85	44	4479	-802.02	-3.34	29.51
1018	SLU 42	83	55	4434	-795.35	-3.28	28.93
1018	SLU 43	85	42	4102	-754.62	-3.14	29.55
1018	SLU 44	82	61	4028	-743.51	-3.05	28.59
1018	SLU 45	87	44	4194	-770.14	-3.22	30.42
1018	SLU 46	85	55	4150	-763.47	-3.17	29.84
1018	SLU 47	84	62	4091	-753.96	-3.11	29.24
1018	SLU 48	89	45	4257	-780.6	-3.27	31.07
1018	SLU 49	87	56	4213	-773.93	-3.22	30.49
1018	SLU 50	88	45	4227	-775.54	-3.24	30.86
1018	SLU 51	87	56	4183	-768.87	-3.19	30.28
1018	SLU 52	86	65	4429	-810.7	-3.32	30.17
1018	SLU 53	92	47	4595	-837.34	-3.48	32
1018	SLU 54	90	58	4551	-830.67	-3.43	31.42
1018	SLU 55	88	66	4491	-821.16	-3.37	30.82
1018	SLU 56	94	49	4658	-847.79	-3.53	32.65
1018	SLU 57	92	60	4613	-841.13	-3.48	32.07
1018	SLU 58	93	48	4628	-842.73	-3.51	32.44
1018	SLU 59	91	60	4583	-836.06	-3.45	31.86
1018	SLU 60	91	48	4674	-850.61	-3.52	31.81
1018	SLU 61	89	59	4630	-843.94	-3.47	31.23
1018	SLU 62	93	49	4737	-861.07	-3.57	32.47
1018	SLU 63	91	60	4692	-854.4	-3.52	31.89
1018	SLU 64	93	46	4646	-845.7	-3.53	32.61
1018	SLU 65	91	65	4573	-834.58	-3.44	31.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1018	SLU 66	96	47	4739	-861.22	-3.61	33.47
1018	SLU 67	94	58	4695	-854.55	-3.56	32.89
1018	SLU 68	93	66	4635	-845.04	-3.5	32.3
1018	SLU 69	98	48	4802	-871.68	-3.66	34.13
1018	SLU 70	96	60	4758	-865.01	-3.61	33.55
1018	SLU 71	97	48	4772	-866.61	-3.63	33.92
1018	SLU 72	96	59	4728	-859.94	-3.58	33.34
1018	SLU 73	95	68	4973	-901.77	-3.71	33.22
1018	SLU 74	100	51	5140	-928.41	-3.87	35.05
1018	SLU 75	99	62	5096	-921.74	-3.82	34.48
1018	SLU 76	97	69	5036	-912.23	-3.76	33.88
1018	SLU 77	102	52	5203	-938.87	-3.92	35.71
1018	SLU 78	101	63	5158	-932.2	-3.87	35.13
1018	SLU 79	102	52	5173	-933.8	-3.9	35.5
1018	SLU 80	100	63	5128	-927.14	-3.84	34.92
1018	SLU 81	100	51	5219	-941.68	-3.91	34.87
1018	SLU 82	98	62	5175	-935.01	-3.86	34.29
1018	SLU 83	102	53	5282	-952.14	-3.96	35.52
1018	SLU 84	100	64	5237	-945.47	-3.91	34.94
1018	SLE RA 1	70	35	3454	-630.52	-2.63	24.41
1018	SLE RA 2	68	47	3405	-623.11	-2.57	23.77
1018	SLE RA 3	72	35	3516	-640.87	-2.68	24.99
1018	SLE RA 4	70	43	3487	-636.42	-2.65	24.6
1018	SLE RA 5	69	48	3447	-630.08	-2.61	24.2
1018	SLE RA 6	73	36	3558	-647.84	-2.72	25.42
1018	SLE RA 7	72	44	3529	-643.39	-2.68	25.04
1018	SLE RA 8	72	36	3538	-644.46	-2.7	25.28
1018	SLE RA 9	71	44	3509	-640.02	-2.66	24.9
1018	SLE RA 10	71	49	3672	-667.9	-2.75	24.82
1018	SLE RA 11	75	38	3783	-685.66	-2.86	26.04
1018	SLE RA 12	74	45	3754	-681.22	-2.82	25.66
1018	SLE RA 13	72	50	3714	-674.88	-2.78	25.26
1018	SLE RA 14	76	39	3825	-692.63	-2.89	26.48
1018	SLE RA 15	75	46	3796	-688.19	-2.86	26.09
1018	SLE RA 16	75	39	3805	-689.26	-2.87	26.34
1018	SLE RA 17	74	46	3776	-684.81	-2.84	25.95
1018	SLE RA 18	74	38	3836	-694.51	-2.88	25.92
1018	SLE RA 19	73	46	3807	-690.06	-2.85	25.53
1018	SLE RA 20	76	39	3878	-701.48	-2.92	26.35
1018	SLE RA 21	74	46	3848	-697.04	-2.88	25.97
1018	SLE FR 1	70	35	3454	-630.52	-2.63	24.41
1018	SLE FR 2	70	37	3445	-629.04	-2.62	24.28
1018	SLE FR 3	70	35	3471	-633.31	-2.64	24.59
1018	SLE FR 4	71	38	3559	-648.23	-2.69	24.73
1018	SLE FR 5	72	36	3586	-652.5	-2.72	25.04
1018	SLE FR 6	72	36	3645	-662.51	-2.76	25.16
1018	SLE QP 1	70	35	3454	-630.52	-2.63	24.41
1018	SLE QP 2	71	36	3569	-649.72	-2.71	24.86
1018	SLD 1	422	82	2342	-461.82	0.26	147.81
1018	SLD 2	355	169	2255	-448.14	0.42	124.59
1018	SLD 3	463	-152	3454	-630.72	-1.01	161.91
1018	SLD 4	396	-65	3367	-617.03	-0.84	138.7
1018	SLD 5	126	390	1530	-339.56	0.07	44.38
1018	SLD 6	82	446	1474	-330.71	0.18	29.35
1018	SLD 7	263	-391	5236	-902.55	-4.14	91.4
1018	SLD 8	220	-335	5180	-893.7	-4.03	76.38
1018	SLD 9	-77	406	1958	-405.73	-1.38	-26.66
1018	SLD 10	-120	462	1902	-396.88	-1.27	-41.68
1018	SLD 11	60	-374	5664	-968.72	-5.59	20.37
1018	SLD 12	17	-318	5608	-959.87	-5.48	5.35
1018	SLD 13	-254	137	3771	-682.4	-4.57	-88.97
1018	SLD 14	-321	224	3684	-668.71	-4.41	-112.19
1018	SLD 15	-213	-97	4883	-851.29	-5.84	-74.86
1018	SLD 16	-280	-11	4796	-837.61	-5.67	-98.08
1018	SLV 1	618	122	1583	-345.62	1.99	216.59
1018	SLV 2	513	259	1446	-324.07	2.26	180.04
1018	SLV 3	688	-274	3462	-631.09	-0.14	240.42
1018	SLV 4	583	-137	3325	-609.54	0.13	203.86
1018	SLV 5	150	636	149	-129.55	1.89	53.07
1018	SLV 6	79	728	57	-115.05	2.07	28.46
1018	SLV 7	381	-683	6412	-1081.1	-5.22	132.48
1018	SLV 8	310	-591	6320	-1066.6	-5.04	107.87
1018	SLV 9	-168	662	818	-232.84	-0.37	-58.14
1018	SLV 10	-239	754	726	-218.33	-0.19	-82.76
1018	SLV 11	64	-657	7081	-1184.38	-7.48	21.26
1018	SLV 12	-7	-565	6989	-1169.88	-7.3	-3.35
1018	SLV 13	-440	208	3813	-689.89	-5.54	-154.13
1018	SLV 14	-545	345	3676	-668.35	-5.27	-190.69
1018	SLV 15	-371	-187	5692	-975.36	-7.67	-130.31
1018	SLV 16	-476	-51	5555	-953.81	-7.41	-166.87
1018	SLV FO 1	673	131	1384	-315.21	2.46	235.77
1018	SLV FO 2	557	281	1234	-291.51	2.76	195.55
1018	SLV FO 3	749	-305	3451	-629.22	0.12	261.97
1018	SLV FO 4	634	-154	3301	-605.52	0.41	221.76
1018	SLV FO 5	157	696	-193	-77.54	2.35	55.9
1018	SLV FO 6	79	798	-294	-61.58	2.55	28.82
1018	SLV FO 7	412	-755	6696	-1124.24	-5.47	143.24
1018	SLV FO 8	334	-654	6595	-1108.28	-5.28	116.17

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1018	SLV FO 9	-192	725	543	-191.15	-0.14	-66.45
1018	SLV FO 10	-270	826	442	-175.19	0.06	-93.52
1018	SLV FO 11	63	-726	7432	-1237.85	-7.96	20.9
1018	SLV FO 12	-15	-625	7331	-1221.89	-7.76	-6.17
1018	SLV FO 13	-491	226	3837	-693.91	-5.82	-172.03
1018	SLV FO 14	-607	376	3687	-670.21	-5.53	-212.25
1018	SLV FO 15	-415	-210	5904	-1007.92	-8.17	-145.83
1018	SLV FO 16	-530	-59	5754	-984.22	-7.88	-186.04
1018	CRTFP Ux+	0	0	0	0	0	0
1018	CRTFP Ux-	0	0	0	0	0	0
1018	CRTFP Uy+	0	0	0	0	0	0
1018	CRTFP Uy-	0	0	0	0	0	0
1019	SLU 1	68	31	3414	-671.12	-4.53	23.67
1019	SLU 2	65	50	3337	-658.19	-4.4	22.69
1019	SLU 3	70	32	3510	-688.64	-4.67	24.54
1019	SLU 4	69	44	3464	-680.88	-4.59	23.95
1019	SLU 5	67	51	3402	-669.97	-4.49	23.35
1019	SLU 6	72	33	3575	-700.42	-4.77	25.2
1019	SLU 7	71	45	3529	-692.66	-4.69	24.61
1019	SLU 8	72	33	3544	-694.69	-4.72	24.98
1019	SLU 9	70	45	3498	-686.93	-4.64	24.4
1019	SLU 10	70	54	3750	-733.45	-4.93	24.27
1019	SLU 11	75	35	3924	-763.91	-5.21	26.13
1019	SLU 12	73	47	3877	-756.15	-5.12	25.54
1019	SLU 13	71	55	3815	-745.24	-5.02	24.93
1019	SLU 14	77	36	3989	-775.69	-5.3	26.79
1019	SLU 15	75	48	3942	-767.93	-5.22	26.2
1019	SLU 16	76	36	3958	-769.96	-5.25	26.57
1019	SLU 17	75	48	3911	-762.19	-5.17	25.98
1019	SLU 18	74	36	4005	-778.65	-5.29	25.93
1019	SLU 19	73	47	3958	-770.89	-5.21	25.34
1019	SLU 20	76	37	4070	-790.43	-5.39	26.59
1019	SLU 21	75	48	4023	-782.67	-5.31	26
1019	SLU 22	77	34	3977	-773.42	-5.29	26.74
1019	SLU 23	74	53	3900	-760.48	-5.15	25.76
1019	SLU 24	79	35	4074	-790.93	-5.43	27.62
1019	SLU 25	78	46	4027	-783.17	-5.35	27.03
1019	SLU 26	76	54	3965	-772.26	-5.25	26.42
1019	SLU 27	81	36	4139	-802.71	-5.52	28.28
1019	SLU 28	79	48	4092	-794.95	-5.44	27.69
1019	SLU 29	81	36	4108	-796.98	-5.47	28.06
1019	SLU 30	79	48	4061	-789.22	-5.39	27.47
1019	SLU 31	78	56	4314	-835.75	-5.69	27.35
1019	SLU 32	84	38	4487	-866.2	-5.96	29.2
1019	SLU 33	82	50	4441	-858.44	-5.88	28.61
1019	SLU 34	80	58	4379	-847.53	-5.78	28.01
1019	SLU 35	86	39	4552	-877.98	-6.05	29.86
1019	SLU 36	84	51	4506	-870.22	-5.97	29.27
1019	SLU 37	85	39	4521	-872.25	-6.01	29.65
1019	SLU 38	83	51	4475	-864.49	-5.92	29.06
1019	SLU 39	83	39	4568	-880.94	-6.05	29.01
1019	SLU 40	82	50	4522	-873.18	-5.97	28.42
1019	SLU 41	85	40	4633	-892.72	-6.14	29.67
1019	SLU 42	83	51	4587	-884.96	-6.06	29.08
1019	SLU 43	85	39	4245	-837.39	-5.64	29.71
1019	SLU 44	82	58	4168	-824.45	-5.5	28.73
1019	SLU 45	88	40	4341	-854.91	-5.78	30.59
1019	SLU 46	86	52	4295	-847.14	-5.7	30
1019	SLU 47	84	59	4233	-836.23	-5.59	29.39
1019	SLU 48	90	41	4406	-866.69	-5.87	31.24
1019	SLU 49	88	53	4360	-858.92	-5.79	30.66
1019	SLU 50	89	41	4375	-860.95	-5.82	31.03
1019	SLU 51	87	53	4329	-853.19	-5.74	30.44
1019	SLU 52	87	62	4581	-899.72	-6.03	30.32
1019	SLU 53	92	44	4755	-930.17	-6.31	32.17
1019	SLU 54	91	55	4708	-922.41	-6.23	31.58
1019	SLU 55	89	63	4646	-911.5	-6.13	30.98
1019	SLU 56	94	45	4820	-941.96	-6.4	32.83
1019	SLU 57	92	56	4773	-934.19	-6.32	32.24
1019	SLU 58	94	45	4789	-936.22	-6.35	32.62
1019	SLU 59	92	56	4742	-928.46	-6.27	32.03
1019	SLU 60	92	44	4836	-944.92	-6.4	31.98
1019	SLU 61	90	55	4789	-937.15	-6.31	31.39
1019	SLU 62	94	45	4901	-956.7	-6.49	32.64
1019	SLU 63	92	57	4854	-948.94	-6.41	32.05
1019	SLU 64	94	42	4808	-939.68	-6.39	32.79
1019	SLU 65	91	61	4731	-926.74	-6.26	31.81
1019	SLU 66	97	43	4905	-957.2	-6.53	33.66
1019	SLU 67	95	55	4858	-949.43	-6.45	33.07
1019	SLU 68	93	62	4796	-938.53	-6.35	32.47
1019	SLU 69	98	44	4970	-968.98	-6.62	34.32
1019	SLU 70	97	56	4923	-961.22	-6.54	33.73
1019	SLU 71	98	44	4939	-963.25	-6.58	34.11
1019	SLU 72	96	56	4892	-955.48	-6.49	33.52
1019	SLU 73	96	65	5145	-1002.01	-6.79	33.39
1019	SLU 74	101	46	5318	-1032.47	-7.06	35.25
1019	SLU 75	99	58	5272	-1024.7	-6.98	34.66
1019	SLU 76	98	66	5210	-1013.79	-6.88	34.05

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1019	SLU 77	103	48	5383	-1044.25	-7.15	35.91
1019	SLU 78	101	59	5337	-1036.48	-7.07	35.32
1019	SLU 79	102	48	5352	-1038.51	-7.11	35.69
1019	SLU 80	101	59	5306	-1030.75	-7.03	35.1
1019	SLU 81	101	47	5399	-1047.21	-7.15	35.05
1019	SLU 82	99	58	5353	-1039.44	-7.07	34.47
1019	SLU 83	103	48	5464	-1058.99	-7.24	35.71
1019	SLU 84	101	60	5418	-1051.23	-7.16	35.12
1019	SLE RA 1	70	32	3575	-700.35	-4.75	24.55
1019	SLE RA 2	69	44	3523	-691.72	-4.66	23.89
1019	SLE RA 3	72	32	3639	-712.03	-4.84	25.13
1019	SLE RA 4	71	40	3608	-706.85	-4.79	24.74
1019	SLE RA 5	70	45	3567	-699.58	-4.72	24.33
1019	SLE RA 6	73	33	3682	-719.88	-4.9	25.57
1019	SLE RA 7	72	41	3652	-714.71	-4.85	25.18
1019	SLE RA 8	73	33	3662	-716.06	-4.87	25.42
1019	SLE RA 9	72	41	3631	-710.88	-4.82	25.03
1019	SLE RA 10	72	47	3799	-741.9	-5.01	24.95
1019	SLE RA 11	75	35	3915	-762.21	-5.2	26.18
1019	SLE RA 12	74	42	3884	-757.03	-5.14	25.79
1019	SLE RA 13	73	48	3842	-749.76	-5.08	25.39
1019	SLE RA 14	76	35	3958	-770.06	-5.26	26.62
1019	SLE RA 15	75	43	3927	-764.89	-5.21	26.23
1019	SLE RA 16	76	35	3937	-766.24	-5.23	26.48
1019	SLE RA 17	75	43	3906	-761.06	-5.17	26.09
1019	SLE RA 18	75	35	3969	-772.03	-5.26	26.06
1019	SLE RA 19	74	43	3938	-766.86	-5.2	25.66
1019	SLE RA 20	76	36	4012	-779.89	-5.32	26.5
1019	SLE RA 21	75	43	3981	-774.71	-5.26	26.1
1019	SLE FR 1	70	32	3575	-700.35	-4.75	24.55
1019	SLE FR 2	70	34	3565	-698.62	-4.73	24.41
1019	SLE FR 3	71	32	3592	-703.49	-4.77	24.72
1019	SLE FR 4	71	35	3683	-720.13	-4.88	24.87
1019	SLE FR 5	72	33	3710	-725	-4.93	25.17
1019	SLE FR 6	73	33	3772	-736.19	-5	25.3
1019	SLE QP 1	70	32	3575	-700.35	-4.75	24.55
1019	SLE QP 2	72	33	3693	-721.86	-4.9	25
1019	SLD 1	421	81	2355	-486.48	-1.06	147.56
1019	SLD 2	355	173	2262	-470.1	-0.83	124.35
1019	SLD 3	463	-164	3520	-682.09	-3.04	161.84
1019	SLD 4	396	-72	3427	-665.71	-2.81	138.63
1019	SLD 5	125	403	1541	-357.41	-0.79	44.13
1019	SLD 6	82	463	1481	-346.81	-0.64	29.11
1019	SLD 7	264	-414	5424	-1009.44	-7.38	91.74
1019	SLD 8	221	-355	5363	-998.84	-7.24	76.73
1019	SLD 9	-78	420	2023	-444.87	-2.57	-26.73
1019	SLD 10	-121	479	1962	-434.27	-2.42	-41.75
1019	SLD 11	62	-398	5905	-1096.9	-9.16	20.88
1019	SLD 12	19	-338	5845	-1086.3	-9.02	5.87
1019	SLD 13	-253	137	3960	-778	-7	-88.64
1019	SLD 14	-320	229	3866	-761.62	-6.77	-111.85
1019	SLD 15	-211	-108	5124	-973.61	-8.97	-74.35
1019	SLD 16	-278	-16	5031	-957.23	-8.75	-97.56
1019	SLV 1	617	123	1530	-341.99	1.22	216.12
1019	SLV 2	512	268	1384	-316.19	1.58	179.58
1019	SLV 3	688	-292	3499	-672.59	-2.12	240.24
1019	SLV 4	582	-146	3352	-646.79	-1.76	203.7
1019	SLV 5	148	661	86	-111.29	1.94	52.57
1019	SLV 6	77	759	-13	-93.92	2.18	27.97
1019	SLV 7	383	-720	6648	-1213.31	-9.21	132.98
1019	SLV 8	312	-622	6549	-1195.94	-8.97	108.37
1019	SLV 9	-169	688	838	-247.77	-0.84	-58.37
1019	SLV 10	-240	785	739	-230.4	-0.6	-82.98
1019	SLV 11	67	-694	7399	-1349.79	-11.99	22.03
1019	SLV 12	-4	-596	7300	-1332.42	-11.75	-2.58
1019	SLV 13	-439	211	4034	-796.92	-8.04	-153.7
1019	SLV 14	-544	357	3887	-771.12	-7.68	-190.25
1019	SLV 15	-368	-203	6003	-1127.52	-11.39	-129.58
1019	SLV 16	-473	-58	5856	-1101.72	-11.03	-166.13
1019	SLV FO 1	672	132	1314	-304	1.84	235.24
1019	SLV FO 2	556	292	1153	-275.62	2.23	195.03
1019	SLV FO 3	749	-324	3479	-667.67	-1.84	261.77
1019	SLV FO 4	633	-164	3318	-639.29	-1.45	221.57
1019	SLV FO 5	155	724	-274	-50.23	2.63	55.33
1019	SLV FO 6	77	832	-383	-31.12	2.89	28.26
1019	SLV FO 7	414	-796	6943	-1262.46	-9.64	143.77
1019	SLV FO 8	337	-688	6834	-1243.35	-9.37	116.71
1019	SLV FO 9	-193	753	552	-200.36	-0.43	-66.71
1019	SLV FO 10	-271	861	443	-181.25	-0.17	-93.78
1019	SLV FO 11	66	-766	7769	-1412.59	-12.7	21.73
1019	SLV FO 12	-12	-659	7661	-1393.48	-12.43	-5.34
1019	SLV FO 13	-490	229	4068	-804.42	-8.35	-171.57
1019	SLV FO 14	-606	389	3907	-776.04	-7.96	-211.77
1019	SLV FO 15	-412	-227	6234	-1168.09	-12.03	-145.04
1019	SLV FO 16	-528	-67	6072	-1139.71	-11.64	-185.24
1019	CRTFP Ux+	0	0	0	0	0	0
1019	CRTFP Ux-	0	0	0	0	0	0
1019	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1019	CRTFP Uy-	0	0	0	0	0	0
1020	SLU 1	68	27	3596	-787.72	-6.58	23.72
1020	SLU 2	65	47	3513	-771.83	-6.4	22.73
1020	SLU 3	71	28	3697	-808.74	-6.78	24.6
1020	SLU 4	69	40	3648	-799.2	-6.67	24.01
1020	SLU 5	67	49	3582	-785.94	-6.53	23.39
1020	SLU 6	73	29	3766	-822.86	-6.91	25.26
1020	SLU 7	71	41	3717	-813.32	-6.81	24.67
1020	SLU 8	72	29	3733	-815.96	-6.85	25.05
1020	SLU 9	70	41	3684	-806.42	-6.74	24.45
1020	SLU 10	70	51	3948	-861.81	-7.2	24.32
1020	SLU 11	75	31	4133	-898.72	-7.58	26.19
1020	SLU 12	73	43	4083	-889.18	-7.47	25.59
1020	SLU 13	72	52	4017	-875.93	-7.33	24.98
1020	SLU 14	77	32	4202	-912.84	-7.72	26.85
1020	SLU 15	75	44	4152	-903.3	-7.61	26.25
1020	SLU 16	76	32	4169	-905.94	-7.65	26.63
1020	SLU 17	75	45	4119	-896.4	-7.54	26.04
1020	SLU 18	75	31	4218	-916.27	-7.72	25.99
1020	SLU 19	73	44	4168	-906.73	-7.61	25.39
1020	SLU 20	77	33	4286	-930.38	-7.86	26.65
1020	SLU 21	75	45	4237	-920.85	-7.75	26.05
1020	SLU 22	77	29	4190	-910.2	-7.7	26.81
1020	SLU 23	74	49	4107	-894.3	-7.52	25.82
1020	SLU 24	80	30	4292	-931.21	-7.9	27.69
1020	SLU 25	78	42	4242	-921.67	-7.79	27.09
1020	SLU 26	76	51	4176	-908.42	-7.65	26.48
1020	SLU 27	81	31	4360	-945.33	-8.04	28.35
1020	SLU 28	80	43	4311	-935.79	-7.93	27.75
1020	SLU 29	81	31	4327	-938.43	-7.97	28.13
1020	SLU 30	79	43	4278	-928.89	-7.86	27.54
1020	SLU 31	79	53	4543	-984.28	-8.32	27.4
1020	SLU 32	84	33	4727	-1021.19	-8.71	29.27
1020	SLU 33	82	45	4677	-1011.65	-8.6	28.68
1020	SLU 34	81	54	4611	-998.4	-8.45	28.06
1020	SLU 35	86	34	4796	-1035.31	-8.84	29.93
1020	SLU 36	84	46	4746	-1025.77	-8.73	29.34
1020	SLU 37	85	34	4763	-1028.41	-8.77	29.72
1020	SLU 38	84	47	4713	-1018.87	-8.66	29.12
1020	SLU 39	84	34	4812	-1038.74	-8.85	29.07
1020	SLU 40	82	46	4762	-1029.2	-8.74	28.48
1020	SLU 41	85	35	4881	-1052.86	-8.98	29.73
1020	SLU 42	84	47	4831	-1043.32	-8.87	29.14
1020	SLU 43	86	35	4471	-982.05	-8.17	29.78
1020	SLU 44	83	55	4388	-966.15	-7.98	28.79
1020	SLU 45	88	36	4572	-1003.07	-8.37	30.66
1020	SLU 46	86	48	4523	-993.53	-8.26	30.07
1020	SLU 47	84	56	4457	-980.27	-8.12	29.45
1020	SLU 48	90	37	4641	-1017.18	-8.5	31.32
1020	SLU 49	88	49	4592	-1007.65	-8.39	30.73
1020	SLU 50	89	37	4608	-1010.28	-8.44	31.11
1020	SLU 51	88	49	4559	-1000.75	-8.33	30.51
1020	SLU 52	87	58	4823	-1056.14	-8.79	30.38
1020	SLU 53	93	39	5008	-1093.05	-9.17	32.25
1020	SLU 54	91	51	4958	-1083.51	-9.06	31.65
1020	SLU 55	89	59	4892	-1070.25	-8.92	31.04
1020	SLU 56	94	40	5077	-1107.16	-9.31	32.91
1020	SLU 57	93	52	5027	-1097.63	-9.2	32.31
1020	SLU 58	94	40	5044	-1100.27	-9.24	32.69
1020	SLU 59	92	52	4994	-1090.73	-9.13	32.09
1020	SLU 60	92	39	5093	-1110.59	-9.31	32.05
1020	SLU 61	90	51	5043	-1101.06	-9.2	31.45
1020	SLU 62	94	40	5161	-1124.71	-9.45	32.71
1020	SLU 63	92	52	5112	-1115.17	-9.34	32.11
1020	SLU 64	94	37	5065	-1104.52	-9.29	32.87
1020	SLU 65	91	57	4982	-1088.63	-9.11	31.88
1020	SLU 66	97	38	5167	-1125.54	-9.49	33.75
1020	SLU 67	95	50	5117	-1116	-9.38	33.15
1020	SLU 68	93	58	5051	-1102.74	-9.24	32.54
1020	SLU 69	99	39	5235	-1139.66	-9.63	34.41
1020	SLU 70	97	51	5186	-1130.12	-9.52	33.81
1020	SLU 71	98	39	5202	-1132.76	-9.56	34.19
1020	SLU 72	96	51	5153	-1123.22	-9.45	33.6
1020	SLU 73	96	60	5418	-1178.61	-9.91	33.46
1020	SLU 74	101	41	5602	-1215.52	-10.29	35.33
1020	SLU 75	100	53	5552	-1205.98	-10.18	34.74
1020	SLU 76	98	61	5486	-1192.72	-10.04	34.12
1020	SLU 77	103	42	5671	-1229.64	-10.43	35.99
1020	SLU 78	102	54	5621	-1220.1	-10.32	35.4
1020	SLU 79	103	42	5638	-1222.74	-10.36	35.78
1020	SLU 80	101	54	5588	-1213.2	-10.25	35.18
1020	SLU 81	101	41	5687	-1233.07	-10.44	35.13
1020	SLU 82	99	53	5637	-1223.53	-10.33	34.54
1020	SLU 83	103	42	5756	-1247.18	-10.57	35.79
1020	SLU 84	101	54	5706	-1237.65	-10.46	35.2
1020	SLE RA 1	71	28	3765	-822.72	-6.9	24.61
1020	SLE RA 2	69	41	3710	-812.12	-6.78	23.94
1020	SLE RA 3	72	28	3833	-836.73	-7.03	25.19

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1020	SLE RA 4	71	36	3800	-830.37	-6.96	24.79
1020	SLE RA 5	70	42	3756	-821.53	-6.87	24.39
1020	SLE RA 6	74	29	3879	-846.14	-7.12	25.63
1020	SLE RA 7	72	37	3846	-839.78	-7.05	25.24
1020	SLE RA 8	73	29	3857	-841.54	-7.08	25.49
1020	SLE RA 9	72	37	3824	-835.18	-7.01	25.09
1020	SLE RA 10	72	43	4001	-872.11	-7.31	25
1020	SLE RA 11	75	30	4124	-896.71	-7.57	26.25
1020	SLE RA 12	74	39	4091	-890.36	-7.5	25.85
1020	SLE RA 13	73	44	4046	-881.52	-7.4	25.44
1020	SLE RA 14	77	31	4169	-906.12	-7.66	26.69
1020	SLE RA 15	75	39	4136	-899.77	-7.59	26.29
1020	SLE RA 16	76	31	4147	-901.53	-7.61	26.54
1020	SLE RA 17	75	39	4114	-895.17	-7.54	26.15
1020	SLE RA 18	75	31	4180	-908.41	-7.66	26.11
1020	SLE RA 19	74	39	4147	-902.05	-7.59	25.72
1020	SLE RA 20	76	31	4226	-917.82	-7.75	26.56
1020	SLE RA 21	75	39	4193	-911.46	-7.68	26.16
1020	SLE FR 1	71	28	3765	-822.72	-6.9	24.61
1020	SLE FR 2	70	30	3754	-820.6	-6.87	24.47
1020	SLE FR 3	71	28	3784	-826.48	-6.93	24.78
1020	SLE FR 4	72	31	3879	-846.3	-7.1	24.93
1020	SLE FR 5	72	29	3908	-852.19	-7.16	25.23
1020	SLE FR 6	73	29	3973	-865.56	-7.28	25.36
1020	SLE QP 1	71	28	3765	-822.72	-6.9	24.61
1020	SLE QP 2	72	29	3890	-848.42	-7.13	25.06
1020	SLD 1	421	79	2412	-544.68	-2.39	147.23
1020	SLD 2	354	177	2310	-524.18	-2.1	124.03
1020	SLD 3	463	-179	3653	-783.95	-5.08	161.67
1020	SLD 4	396	-80	3551	-763.45	-4.79	138.47
1020	SLD 5	124	417	1582	-397.96	-1.67	43.83
1020	SLD 6	81	481	1516	-384.7	-1.49	28.82
1020	SLD 7	265	-442	5719	-1195.53	-10.64	91.97
1020	SLD 8	222	-378	5653	-1182.27	-10.46	76.96
1020	SLD 9	-78	435	2127	-514.58	-3.8	-26.84
1020	SLD 10	-121	499	2061	-501.32	-3.61	-41.85
1020	SLD 11	63	-424	6264	-1312.15	-12.77	21.3
1020	SLD 12	20	-360	6198	-1298.89	-12.58	6.28
1020	SLD 13	-252	137	4229	-933.4	-9.47	-88.36
1020	SLD 14	-319	236	4127	-912.9	-9.18	-111.56
1020	SLD 15	-210	-120	5470	-1172.67	-12.16	-73.91
1020	SLD 16	-277	-22	5368	-1152.17	-11.87	-97.12
1020	SLV 1	616	123	1503	-359.08	0.44	215.57
1020	SLV 2	510	278	1343	-326.81	0.89	179.04
1020	SLV 3	687	-313	3601	-763.48	-4.11	239.95
1020	SLV 4	582	-158	3441	-731.21	-3.66	203.42
1020	SLV 5	146	689	23	-94.3	1.96	52.04
1020	SLV 6	75	793	-85	-72.58	2.26	27.45
1020	SLV 7	385	-764	7014	-1442.3	-13.21	133.33
1020	SLV 8	314	-659	6906	-1420.58	-12.9	108.74
1020	SLV 9	-170	716	873	-276.27	-1.35	-58.62
1020	SLV 10	-241	821	765	-254.54	-1.05	-83.22
1020	SLV 11	69	-736	7865	-1624.27	-16.52	22.67
1020	SLV 12	-2	-631	7757	-1602.55	-16.22	-1.92
1020	SLV 13	-438	215	4339	-965.64	-10.6	-153.31
1020	SLV 14	-543	370	4179	-933.37	-10.15	-189.84
1020	SLV 15	-366	-221	6436	-1370.04	-15.15	-128.92
1020	SLV 16	-472	-66	6276	-1337.77	-14.7	-165.45
1020	SLV FO 1	670	132	1265	-310.14	1.2	234.62
1020	SLV FO 2	554	303	1089	-274.65	1.7	194.43
1020	SLV FO 3	749	-347	3572	-754.98	-3.8	261.44
1020	SLV FO 4	633	-176	3396	-719.49	-3.31	221.26
1020	SLV FO 5	154	755	-364	-18.89	2.87	54.74
1020	SLV FO 6	76	869	-483	5.01	3.2	27.69
1020	SLV FO 7	416	-843	7327	-1501.69	-13.81	144.16
1020	SLV FO 8	338	-728	7208	-1477.79	-13.48	117.11
1020	SLV FO 9	-194	785	572	-219.05	-0.78	-66.99
1020	SLV FO 10	-272	900	453	-195.16	-0.44	-94.04
1020	SLV FO 11	68	-812	8262	-1701.86	-17.46	22.43
1020	SLV FO 12	-10	-697	8144	-1677.96	-17.12	-4.62
1020	SLV FO 13	-489	234	4384	-977.36	-10.95	-171.14
1020	SLV FO 14	-605	404	4208	-941.87	-10.45	-211.33
1020	SLV FO 15	-410	-246	6691	-1422.2	-15.95	-144.32
1020	SLV FO 16	-526	-75	6515	-1386.71	-15.46	-184.5
1020	CRTFP Ux+	0	0	0	0	0	0
1020	CRTFP Ux-	0	0	0	0	0	0
1020	CRTFP Uy+	0	0	0	0	0	0
1020	CRTFP Uy-	0	0	0	0	0	0
1021	SLU 1	68	23	3843	-955.83	-8.53	23.71
1021	SLU 2	65	44	3754	-935.83	-8.3	22.71
1021	SLU 3	71	24	3952	-981.9	-8.79	24.59
1021	SLU 4	69	37	3899	-969.9	-8.66	23.99
1021	SLU 5	67	45	3827	-953.32	-8.48	23.37
1021	SLU 6	73	25	4026	-999.39	-8.97	25.25
1021	SLU 7	71	38	3973	-987.38	-8.83	24.65
1021	SLU 8	72	25	3991	-990.81	-8.88	25.03
1021	SLU 9	70	38	3937	-978.81	-8.74	24.43
1021	SLU 10	70	47	4220	-1047.35	-9.36	24.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1021	SLU 11	75	27	4418	-1093.41	-9.85	26.17
1021	SLU 12	73	39	4365	-1081.41	-9.72	25.56
1021	SLU 13	72	48	4293	-1064.84	-9.54	24.94
1021	SLU 14	77	28	4492	-1110.9	-10.03	26.83
1021	SLU 15	75	40	4439	-1098.9	-9.89	26.22
1021	SLU 16	76	28	4456	-1102.32	-9.94	26.61
1021	SLU 17	75	41	4403	-1090.32	-9.8	26.01
1021	SLU 18	75	27	4509	-1115.14	-10.05	25.96
1021	SLU 19	73	40	4455	-1103.14	-9.91	25.36
1021	SLU 20	76	28	4582	-1132.63	-10.22	26.62
1021	SLU 21	75	41	4529	-1120.63	-10.08	26.02
1021	SLU 22	77	24	4480	-1107.69	-10	26.8
1021	SLU 23	74	45	4390	-1087.69	-9.78	25.79
1021	SLU 24	80	25	4589	-1133.76	-10.27	27.67
1021	SLU 25	78	38	4535	-1121.76	-10.13	27.07
1021	SLU 26	76	46	4464	-1105.18	-9.95	26.45
1021	SLU 27	81	26	4663	-1151.25	-10.44	28.33
1021	SLU 28	80	39	4609	-1139.25	-10.3	27.73
1021	SLU 29	81	26	4627	-1142.67	-10.35	28.12
1021	SLU 30	79	39	4574	-1130.67	-10.22	27.51
1021	SLU 31	79	48	4856	-1199.21	-10.84	27.37
1021	SLU 32	84	28	5055	-1245.28	-11.33	29.25
1021	SLU 33	82	40	5001	-1233.28	-11.19	28.65
1021	SLU 34	80	49	4930	-1216.7	-11.01	28.03
1021	SLU 35	86	29	5129	-1262.76	-11.5	29.91
1021	SLU 36	84	41	5075	-1250.76	-11.36	29.31
1021	SLU 37	85	29	5093	-1254.19	-11.41	29.69
1021	SLU 38	84	42	5040	-1242.19	-11.28	29.09
1021	SLU 39	83	28	5145	-1267	-11.52	29.05
1021	SLU 40	82	41	5092	-1255	-11.38	28.44
1021	SLU 41	85	29	5219	-1284.49	-11.69	29.71
1021	SLU 42	84	42	5165	-1272.49	-11.56	29.11
1021	SLU 43	85	30	4778	-1190.51	-10.59	29.77
1021	SLU 44	83	51	4688	-1170.51	-10.36	28.76
1021	SLU 45	88	30	4887	-1216.58	-10.85	30.65
1021	SLU 46	86	43	4833	-1204.58	-10.71	30.04
1021	SLU 47	84	52	4762	-1188	-10.53	29.42
1021	SLU 48	90	31	4961	-1234.07	-11.02	31.31
1021	SLU 49	88	44	4907	-1222.07	-10.89	30.7
1021	SLU 50	89	32	4925	-1225.49	-10.93	31.09
1021	SLU 51	88	44	4872	-1213.49	-10.8	30.48
1021	SLU 52	87	54	5154	-1282.03	-11.42	30.34
1021	SLU 53	93	33	5353	-1328.1	-11.91	32.22
1021	SLU 54	91	46	5299	-1316.1	-11.77	31.62
1021	SLU 55	89	55	5228	-1299.52	-11.59	31
1021	SLU 56	94	34	5427	-1345.58	-12.08	32.88
1021	SLU 57	93	47	5373	-1333.58	-11.95	32.28
1021	SLU 58	94	34	5391	-1337.01	-11.99	32.66
1021	SLU 59	92	47	5338	-1325.01	-11.86	32.06
1021	SLU 60	92	33	5443	-1349.82	-12.1	32.02
1021	SLU 61	90	46	5390	-1337.82	-11.96	31.42
1021	SLU 62	94	34	5517	-1367.31	-12.28	32.68
1021	SLU 63	92	47	5463	-1355.31	-12.14	32.08
1021	SLU 64	94	31	5414	-1342.37	-12.06	32.85
1021	SLU 65	91	52	5325	-1322.37	-11.83	31.85
1021	SLU 66	97	31	5524	-1368.44	-12.32	33.73
1021	SLU 67	95	44	5470	-1356.44	-12.18	33.13
1021	SLU 68	93	53	5399	-1339.86	-12.01	32.51
1021	SLU 69	99	32	5597	-1385.93	-12.49	34.39
1021	SLU 70	97	45	5544	-1373.93	-12.36	33.79
1021	SLU 71	98	33	5562	-1377.35	-12.41	34.17
1021	SLU 72	96	45	5508	-1365.35	-12.27	33.57
1021	SLU 73	96	55	5791	-1433.89	-12.89	33.42
1021	SLU 74	101	34	5990	-1479.96	-13.38	35.31
1021	SLU 75	100	47	5936	-1467.96	-13.24	34.7
1021	SLU 76	98	56	5865	-1451.38	-13.07	34.08
1021	SLU 77	103	35	6063	-1497.45	-13.55	35.97
1021	SLU 78	102	48	6010	-1485.45	-13.42	35.36
1021	SLU 79	103	35	6028	-1488.87	-13.47	35.75
1021	SLU 80	101	48	5974	-1476.87	-13.33	35.15
1021	SLU 81	101	35	6080	-1501.68	-13.57	35.1
1021	SLU 82	99	47	6026	-1489.68	-13.44	34.5
1021	SLU 83	103	36	6154	-1519.17	-13.75	35.76
1021	SLU 84	101	48	6100	-1507.17	-13.61	35.16
1021	SLE RA 1	71	23	4025	-999.22	-8.95	24.59
1021	SLE RA 2	69	38	3965	-985.89	-8.8	23.92
1021	SLE RA 3	72	24	4098	-1016.6	-9.13	25.18
1021	SLE RA 4	71	32	4062	-1008.6	-9.04	24.78
1021	SLE RA 5	70	38	4015	-997.54	-8.92	24.36
1021	SLE RA 6	74	25	4147	-1028.26	-9.24	25.62
1021	SLE RA 7	72	33	4111	-1020.26	-9.15	25.22
1021	SLE RA 8	73	25	4123	-1022.54	-9.18	25.47
1021	SLE RA 9	72	33	4088	-1014.54	-9.09	25.07
1021	SLE RA 10	72	39	4276	-1060.23	-9.51	24.97
1021	SLE RA 11	75	26	4408	-1090.94	-9.83	26.23
1021	SLE RA 12	74	34	4373	-1082.94	-9.74	25.83
1021	SLE RA 13	73	40	4325	-1071.89	-9.62	25.41
1021	SLE RA 14	77	26	4458	-1102.6	-9.95	26.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1021	SLE RA 15	75	35	4422	-1094.6	-9.86	26.27
1021	SLE RA 16	76	27	4434	-1096.88	-9.89	26.52
1021	SLE RA 17	75	35	4398	-1088.88	-9.8	26.12
1021	SLE RA 18	75	26	4469	-1105.43	-9.96	26.09
1021	SLE RA 19	74	34	4433	-1097.43	-9.87	25.69
1021	SLE RA 20	76	27	4518	-1117.09	-10.08	26.53
1021	SLE RA 21	75	35	4482	-1109.09	-9.99	26.13
1021	SLE FR 1	71	23	4025	-999.22	-8.95	24.59
1021	SLE FR 2	70	26	4013	-996.55	-8.92	24.46
1021	SLE FR 3	71	24	4045	-1003.88	-9	24.77
1021	SLE FR 4	72	27	4146	-1028.41	-9.23	24.91
1021	SLE FR 5	72	24	4178	-1035.75	-9.3	25.22
1021	SLE FR 6	73	25	4247	-1052.32	-9.46	25.34
1021	SLE QP 1	71	23	4025	-999.22	-8.95	24.59
1021	SLE QP 2	72	24	4158	-1031.08	-9.26	25.04
1021	SLD 1	420	76	2511	-637.15	-3.65	146.83
1021	SLD 2	353	181	2399	-611.11	-3.31	123.64
1021	SLD 3	463	-195	3851	-937.28	-7.01	161.42
1021	SLD 4	396	-90	3739	-911.24	-6.67	138.23
1021	SLD 5	123	432	1651	-462.22	-2.54	43.47
1021	SLD 6	80	500	1578	-445.38	-2.32	28.47
1021	SLD 7	266	-471	6118	-1462.65	-13.73	92.11
1021	SLD 8	222	-403	6045	-1445.81	-13.51	77.1
1021	SLD 9	-79	451	2271	-616.35	-5	-27.02
1021	SLD 10	-122	519	2198	-599.51	-4.78	-42.02
1021	SLD 11	64	-452	6738	-1616.78	-16.19	21.61
1021	SLD 12	21	-384	6665	-1599.94	-15.97	6.61
1021	SLD 13	-252	138	4577	-1150.92	-11.84	-88.14
1021	SLD 14	-319	243	4465	-1124.89	-11.5	-111.33
1021	SLD 15	-209	-133	5917	-1451.05	-15.2	-73.55
1021	SLD 16	-276	-28	5805	-1425.02	-14.86	-96.74
1021	SLV 1	614	122	1501	-397.11	-0.3	214.94
1021	SLV 2	509	287	1325	-356.13	0.24	178.42
1021	SLV 3	686	-336	3766	-904.37	-5.97	239.57
1021	SLV 4	581	-171	3590	-863.38	-5.44	203.06
1021	SLV 5	145	717	-41	-79.2	1.94	51.46
1021	SLV 6	74	828	-160	-51.6	2.3	26.88
1021	SLV 7	386	-809	7508	-1770.06	-16.98	133.58
1021	SLV 8	315	-698	7390	-1742.46	-16.62	109
1021	SLV 9	-171	746	926	-319.7	-1.89	-58.91
1021	SLV 10	-242	858	808	-292.1	-1.53	-83.5
1021	SLV 11	70	-780	8476	-2010.56	-20.81	23.21
1021	SLV 12	-1	-669	8357	-1982.96	-20.45	-1.38
1021	SLV 13	-437	219	4726	-1198.78	-13.08	-152.97
1021	SLV 14	-543	385	4550	-1157.79	-12.54	-189.49
1021	SLV 15	-365	-239	6991	-1706.04	-18.75	-128.33
1021	SLV 16	-470	-73	6815	-1665.05	-18.21	-164.85
1021	SLV FO 1	668	131	1236	-333.72	0.6	233.93
1021	SLV FO 2	553	313	1042	-288.63	1.19	193.76
1021	SLV FO 3	748	-372	3727	-891.7	-5.65	261.03
1021	SLV FO 4	632	-190	3533	-846.61	-5.05	220.86
1021	SLV FO 5	152	786	-461	15.99	3.06	54.1
1021	SLV FO 6	74	909	-592	46.34	3.46	27.06
1021	SLV FO 7	417	-893	7843	-1843.96	-17.75	144.44
1021	SLV FO 8	339	-770	7713	-1813.6	-17.35	117.39
1021	SLV FO 9	-195	818	603	-248.56	-1.16	-67.31
1021	SLV FO 10	-273	941	473	-218.21	-0.76	-94.35
1021	SLV FO 11	70	-861	8908	-2108.51	-21.97	23.03
1021	SLV FO 12	-8	-738	8777	-2078.15	-21.57	-4.02
1021	SLV FO 13	-488	238	4783	-1215.55	-13.46	-170.77
1021	SLV FO 14	-604	421	4589	-1170.46	-12.86	-210.94
1021	SLV FO 15	-409	-265	7274	-1773.53	-19.7	-143.67
1021	SLV FO 16	-524	-83	7080	-1728.44	-19.11	-183.84
1021	CRTFP Ux+	0	0	0	0	0	0
1021	CRTFP Ux-	0	0	0	0	0	0
1021	CRTFP Uy+	0	0	0	0	0	0
1021	CRTFP Uy-	0	0	0	0	0	0
1022	SLU 1	58	16	3508	-987.2	91.7	19.68
1022	SLU 2	55	35	3425	-966.07	89.56	18.28
1022	SLU 3	60	17	3608	-1014.58	94.31	20.41
1022	SLU 4	58	28	3559	-1001.91	93.03	19.58
1022	SLU 5	57	36	3493	-984.43	91.32	18.82
1022	SLU 6	62	18	3676	-1032.94	96.07	20.95
1022	SLU 7	60	29	3626	-1020.27	94.79	20.11
1022	SLU 8	61	18	3643	-1023.91	95.22	20.76
1022	SLU 9	59	29	3594	-1011.24	93.94	19.92
1022	SLU 10	59	37	3851	-1083.43	100.68	19.56
1022	SLU 11	64	19	4034	-1131.95	105.42	21.69
1022	SLU 12	62	30	3985	-1119.27	104.14	20.85
1022	SLU 13	61	38	3919	-1101.79	102.44	20.1
1022	SLU 14	65	20	4102	-1150.3	107.19	22.23
1022	SLU 15	64	31	4052	-1137.63	105.9	21.39
1022	SLU 16	65	20	4069	-1141.27	106.33	22.03
1022	SLU 17	63	31	4020	-1128.6	105.05	21.19
1022	SLU 18	63	19	4116	-1154.85	107.57	21.5
1022	SLU 19	62	31	4067	-1142.18	106.29	20.66
1022	SLU 20	65	20	4184	-1173.21	109.34	22.04
1022	SLU 21	63	31	4135	-1160.54	108.06	21.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1022	SLU 22	65	17	4090	-1146.96	106.89	22.3
1022	SLU 23	63	35	4008	-1125.84	104.75	20.9
1022	SLU 24	67	17	4191	-1174.35	109.5	23.03
1022	SLU 25	66	28	4141	-1161.67	108.22	22.19
1022	SLU 26	64	36	4076	-1144.19	106.52	21.44
1022	SLU 27	69	18	4258	-1192.71	111.26	23.57
1022	SLU 28	68	29	4209	-1180.03	109.98	22.73
1022	SLU 29	69	18	4226	-1183.68	110.41	23.37
1022	SLU 30	67	29	4176	-1171	109.13	22.54
1022	SLU 31	67	37	4434	-1243.2	115.87	22.17
1022	SLU 32	71	19	4617	-1291.71	120.62	24.31
1022	SLU 33	70	30	4568	-1279.04	119.33	23.47
1022	SLU 34	68	38	4502	-1261.55	117.63	22.71
1022	SLU 35	73	20	4685	-1310.07	122.38	24.85
1022	SLU 36	71	31	4635	-1297.39	121.1	24.01
1022	SLU 37	72	20	4652	-1301.04	121.53	24.65
1022	SLU 38	71	31	4603	-1288.36	120.25	23.81
1022	SLU 39	71	19	4699	-1314.62	122.77	24.12
1022	SLU 40	69	31	4650	-1301.94	121.49	23.28
1022	SLU 41	72	20	4767	-1332.98	124.53	24.66
1022	SLU 42	71	32	4717	-1320.3	123.25	23.82
1022	SLU 43	72	21	4360	-1228.58	114	24.69
1022	SLU 44	70	40	4278	-1207.45	111.86	23.29
1022	SLU 45	75	22	4460	-1255.97	116.61	25.42
1022	SLU 46	73	33	4411	-1243.29	115.33	24.58
1022	SLU 47	72	41	4345	-1225.81	113.62	23.83
1022	SLU 48	76	22	4528	-1274.32	118.37	25.96
1022	SLU 49	75	34	4479	-1261.65	117.09	25.12
1022	SLU 50	76	23	4495	-1265.29	117.52	25.76
1022	SLU 51	74	34	4446	-1252.62	116.24	24.93
1022	SLU 52	74	42	4704	-1324.81	122.98	24.56
1022	SLU 53	78	24	4887	-1373.33	127.72	26.7
1022	SLU 54	77	35	4837	-1360.65	126.44	25.86
1022	SLU 55	75	43	4772	-1343.17	124.74	25.1
1022	SLU 56	80	24	4954	-1391.69	129.49	27.24
1022	SLU 57	79	36	4905	-1379.01	128.2	26.4
1022	SLU 58	80	25	4921	-1382.65	128.63	27.04
1022	SLU 59	78	36	4872	-1369.98	127.35	26.2
1022	SLU 60	78	24	4969	-1396.24	129.87	26.51
1022	SLU 61	76	35	4919	-1383.56	128.59	25.67
1022	SLU 62	80	25	5036	-1414.59	131.64	27.05
1022	SLU 63	78	36	4987	-1401.92	130.36	26.21
1022	SLU 64	80	21	4943	-1388.34	129.19	27.3
1022	SLU 65	77	40	4861	-1367.22	127.05	25.9
1022	SLU 66	82	22	5043	-1415.73	131.8	28.04
1022	SLU 67	81	33	4994	-1403.06	130.52	27.2
1022	SLU 68	79	41	4928	-1385.58	128.82	26.44
1022	SLU 69	84	23	5111	-1434.09	133.56	28.58
1022	SLU 70	82	34	5062	-1421.41	132.28	27.74
1022	SLU 71	83	23	5078	-1425.06	132.71	28.38
1022	SLU 72	82	34	5029	-1412.38	131.43	27.54
1022	SLU 73	81	42	5287	-1484.58	138.17	27.18
1022	SLU 74	86	24	5469	-1533.09	142.92	29.31
1022	SLU 75	84	35	5420	-1520.42	141.63	28.47
1022	SLU 76	83	43	5354	-1502.94	139.93	27.72
1022	SLU 77	88	25	5537	-1551.45	144.68	29.85
1022	SLU 78	86	36	5488	-1538.78	143.4	29.01
1022	SLU 79	87	25	5504	-1542.42	143.83	29.66
1022	SLU 80	86	36	5455	-1529.74	142.55	28.82
1022	SLU 81	85	24	5552	-1556	145.07	29.12
1022	SLU 82	84	36	5502	-1543.33	143.79	28.29
1022	SLU 83	87	25	5619	-1574.36	146.83	29.66
1022	SLU 84	86	36	5570	-1561.68	145.55	28.82
1022	SLE RA 1	60	16	3674	-1032.84	96.04	20.43
1022	SLE RA 2	58	29	3619	-1018.76	94.61	19.49
1022	SLE RA 3	61	17	3741	-1051.1	97.78	20.92
1022	SLE RA 4	60	24	3708	-1042.65	96.92	20.36
1022	SLE RA 5	59	29	3664	-1031	95.79	19.85
1022	SLE RA 6	62	17	3786	-1063.34	98.95	21.28
1022	SLE RA 7	61	25	3753	-1054.89	98.1	20.72
1022	SLE RA 8	62	17	3764	-1057.32	98.39	21.15
1022	SLE RA 9	61	25	3731	-1048.87	97.53	20.59
1022	SLE RA 10	61	30	3903	-1097	102.02	20.34
1022	SLE RA 11	64	18	4025	-1129.34	105.19	21.77
1022	SLE RA 12	63	26	3992	-1120.89	104.33	21.21
1022	SLE RA 13	62	31	3948	-1109.24	103.2	20.7
1022	SLE RA 14	65	19	4070	-1141.58	106.36	22.13
1022	SLE RA 15	64	26	4037	-1133.13	105.51	21.57
1022	SLE RA 16	65	19	4048	-1135.56	105.8	22
1022	SLE RA 17	64	26	4015	-1127.11	104.94	21.44
1022	SLE RA 18	64	18	4080	-1144.62	106.62	21.64
1022	SLE RA 19	63	26	4047	-1136.16	105.77	21.08
1022	SLE RA 20	65	19	4125	-1156.85	107.8	22
1022	SLE RA 21	64	26	4092	-1148.4	106.94	21.44
1022	SLE FR 1	60	16	3674	-1032.84	96.04	20.43
1022	SLE FR 2	60	19	3663	-1030.03	95.75	20.24
1022	SLE FR 3	60	17	3692	-1037.74	96.51	20.57
1022	SLE FR 4	61	19	3785	-1063.56	98.93	20.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1022	SLE FR 5	61	17	3814	-1071.27	99.68	20.93
1022	SLE FR 6	62	17	3877	-1088.73	101.33	21.03
1022	SLE QP 1	60	16	3674	-1032.84	96.04	20.43
1022	SLE QP 2	61	17	3796	-1066.37	99.21	20.79
1022	SLD 1	356	62	2242	-642.41	59.71	122.22
1022	SLD 2	299	157	2137	-614.87	57.02	99.81
1022	SLD 3	393	-178	3475	-958.89	91.73	141.48
1022	SLD 4	336	-84	3370	-931.35	89.05	119.07
1022	SLD 5	104	378	1478	-463.97	39.26	25.9
1022	SLD 6	67	440	1411	-446.16	37.52	11.4
1022	SLD 7	226	-423	5587	-1518.9	146	90.1
1022	SLD 8	189	-361	5519	-1501.08	144.27	75.59
1022	SLD 9	-67	395	2072	-631.67	54.16	-34.01
1022	SLD 10	-104	456	2005	-613.85	52.42	-48.51
1022	SLD 11	55	-406	6181	-1686.59	160.9	30.18
1022	SLD 12	18	-344	6113	-1668.77	159.17	15.68
1022	SLD 13	-214	117	4222	-1201.4	109.38	-77.48
1022	SLD 14	-271	212	4117	-1173.86	106.69	-99.9
1022	SLD 15	-177	-123	5454	-1517.88	141.4	-58.23
1022	SLD 16	-234	-28	5350	-1490.34	138.72	-80.64
1022	SLV 1	521	101	1292	-384.51	35.51	178.53
1022	SLV 2	431	251	1127	-341.15	31.29	143.23
1022	SLV 3	583	-305	3375	-919.4	89.63	211.05
1022	SLV 4	493	-155	3211	-876.03	85.41	175.75
1022	SLV 5	122	630	-84	-58.67	-1.2	25.37
1022	SLV 6	62	731	-195	-29.48	-4.04	1.61
1022	SLV 7	328	-723	6860	-1841.61	179.21	133.79
1022	SLV 8	268	-623	6749	-1812.41	176.37	110.02
1022	SLV 9	-146	657	843	-320.33	22.06	-68.44
1022	SLV 10	-206	757	732	-291.14	19.21	-92.2
1022	SLV 11	60	-697	7787	-2103.27	202.46	39.98
1022	SLV 12	0	-596	7676	-2074.08	199.62	16.21
1022	SLV 13	-371	189	4381	-1256.72	113.02	-134.17
1022	SLV 14	-461	339	4216	-1213.35	108.79	-169.47
1022	SLV 15	-309	-217	6464	-1791.6	167.14	-101.65
1022	SLV 16	-399	-68	6300	-1748.23	162.91	-136.94
1022	SLV FO 1	567	110	1042	-316.33	29.14	194.3
1022	SLV FO 2	469	274	861	-268.63	24.49	155.47
1022	SLV FO 3	635	-337	3333	-904.7	88.67	230.08
1022	SLV FO 4	537	-172	3152	-857	84.03	191.25
1022	SLV FO 5	128	692	-472	42.1	-11.24	25.83
1022	SLV FO 6	62	802	-594	74.21	-14.36	-0.31
1022	SLV FO 7	355	-797	7166	-1919.13	187.21	145.08
1022	SLV FO 8	289	-687	7044	-1887.02	184.08	118.94
1022	SLV FO 9	-167	721	547	-245.73	14.34	-77.36
1022	SLV FO 10	-233	831	425	-213.61	11.21	-103.5
1022	SLV FO 11	60	-768	8186	-2206.96	212.79	41.89
1022	SLV FO 12	-6	-658	8064	-2174.85	209.66	15.75
1022	SLV FO 13	-415	206	4440	-1275.75	114.4	-149.67
1022	SLV FO 14	-513	371	4258	-1228.05	109.75	-188.49
1022	SLV FO 15	-347	-240	6731	-1864.12	173.93	-113.89
1022	SLV FO 16	-445	-76	6550	-1816.42	169.28	-152.72
1022	CRTFP Ux+	0	0	0	0	0	0
1022	CRTFP Ux-	0	0	0	0	0	0
1022	CRTFP Uy+	0	0	0	0	0	0
1022	CRTFP Uy-	0	0	0	0	0	0
1023	SLU 1	76	19	4833	-1785.38	959.81	25.17
1023	SLU 2	73	45	4720	-1745.67	937.65	18.29
1023	SLU 3	79	20	4971	-1835.85	987.1	26.14
1023	SLU 4	77	35	4903	-1812.02	973.8	22.02
1023	SLU 5	75	46	4813	-1779.55	956.03	18.9
1023	SLU 6	81	21	5064	-1869.73	1005.48	26.75
1023	SLU 7	79	36	4996	-1845.9	992.18	22.63
1023	SLU 8	81	21	5019	-1853.13	996.58	26.39
1023	SLU 9	79	37	4951	-1829.31	983.28	22.26
1023	SLU 10	78	48	5307	-1961.94	1053.85	19.66
1023	SLU 11	84	23	5558	-2052.12	1103.29	27.52
1023	SLU 12	82	38	5491	-2028.3	1089.99	23.39
1023	SLU 13	80	49	5400	-1995.82	1072.23	20.27
1023	SLU 14	86	23	5652	-2086	1121.67	28.13
1023	SLU 15	84	39	5584	-2062.18	1108.37	24
1023	SLU 16	86	24	5606	-2069.41	1112.77	27.76
1023	SLU 17	84	39	5539	-2045.58	1099.47	23.63
1023	SLU 18	83	23	5672	-2094.34	1125.81	27.13
1023	SLU 19	82	39	5604	-2070.51	1112.51	23
1023	SLU 20	86	24	5765	-2128.22	1144.19	27.74
1023	SLU 21	84	40	5697	-2104.39	1130.89	23.61
1023	SLU 22	86	19	5636	-2079.99	1118.55	29.03
1023	SLU 23	83	45	5523	-2040.29	1096.39	22.15
1023	SLU 24	89	20	5774	-2130.46	1145.83	30.01
1023	SLU 25	87	35	5707	-2106.64	1132.53	25.88
1023	SLU 26	85	46	5616	-2074.17	1114.77	22.76
1023	SLU 27	91	21	5868	-2164.34	1164.21	30.62
1023	SLU 28	89	36	5800	-2140.52	1150.92	26.49
1023	SLU 29	90	21	5822	-2147.75	1155.31	30.25
1023	SLU 30	88	36	5755	-2123.93	1142.02	26.12
1023	SLU 31	88	48	6111	-2256.56	1212.58	23.52
1023	SLU 32	94	22	6362	-2346.74	1262.03	31.38

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1023	SLU 33	92	38	6294	-2322.91	1248.73	27.25
1023	SLU 34	90	48	6204	-2290.44	1230.96	24.13
1023	SLU 35	96	23	6455	-2380.62	1280.41	31.99
1023	SLU 36	94	39	6387	-2356.79	1267.11	27.86
1023	SLU 37	95	24	6410	-2364.02	1271.51	31.62
1023	SLU 38	94	39	6342	-2340.2	1258.21	27.5
1023	SLU 39	93	23	6475	-2388.95	1284.54	30.99
1023	SLU 40	91	38	6408	-2365.13	1271.25	26.86
1023	SLU 41	96	24	6569	-2422.83	1302.92	31.6
1023	SLU 42	94	39	6501	-2399.01	1289.63	27.47
1023	SLU 43	96	25	6007	-2219.98	1193.33	31.39
1023	SLU 44	92	51	5894	-2180.27	1171.17	24.51
1023	SLU 45	99	26	6145	-2270.45	1220.62	32.37
1023	SLU 46	97	41	6077	-2246.63	1207.32	28.24
1023	SLU 47	95	52	5987	-2214.15	1189.55	25.13
1023	SLU 48	101	27	6238	-2304.33	1239	32.98
1023	SLU 49	99	42	6171	-2280.51	1225.7	28.85
1023	SLU 50	100	27	6193	-2287.74	1230.1	32.62
1023	SLU 51	98	43	6125	-2263.91	1216.8	28.49
1023	SLU 52	98	54	6482	-2396.55	1287.37	25.89
1023	SLU 53	104	28	6733	-2486.72	1336.81	33.74
1023	SLU 54	102	44	6665	-2462.9	1323.51	29.61
1023	SLU 55	100	55	6575	-2430.42	1305.75	26.5
1023	SLU 56	106	29	6826	-2520.6	1355.19	34.35
1023	SLU 57	104	45	6758	-2496.78	1341.89	30.23
1023	SLU 58	105	30	6781	-2504.01	1346.29	33.99
1023	SLU 59	103	45	6713	-2480.18	1332.99	29.86
1023	SLU 60	103	29	6846	-2528.94	1359.33	33.35
1023	SLU 61	101	45	6778	-2505.12	1346.03	29.23
1023	SLU 62	105	30	6939	-2562.82	1377.71	33.97
1023	SLU 63	103	45	6872	-2538.99	1364.41	29.84
1023	SLU 64	106	25	6810	-2514.6	1352.07	35.26
1023	SLU 65	102	51	6697	-2474.89	1329.91	28.38
1023	SLU 66	109	26	6949	-2565.07	1379.35	36.23
1023	SLU 67	107	41	6881	-2541.24	1366.05	32.1
1023	SLU 68	105	52	6791	-2508.77	1348.29	28.99
1023	SLU 69	111	27	7042	-2598.95	1397.73	36.84
1023	SLU 70	109	42	6974	-2575.12	1384.44	32.71
1023	SLU 71	110	27	6997	-2582.35	1388.83	36.48
1023	SLU 72	108	42	6929	-2558.53	1375.54	32.35
1023	SLU 73	107	53	7285	-2691.16	1446.1	29.75
1023	SLU 74	114	28	7536	-2781.34	1495.55	37.6
1023	SLU 75	112	44	7469	-2757.52	1482.25	33.48
1023	SLU 76	110	54	7378	-2725.04	1464.48	30.36
1023	SLU 77	116	29	7629	-2815.22	1513.93	38.21
1023	SLU 78	114	45	7562	-2791.39	1500.63	34.09
1023	SLU 79	115	30	7584	-2798.62	1505.03	37.85
1023	SLU 80	113	45	7516	-2774.8	1491.73	33.72
1023	SLU 81	113	29	7650	-2823.56	1518.06	37.22
1023	SLU 82	111	44	7582	-2799.73	1504.77	33.09
1023	SLU 83	115	30	7743	-2857.43	1536.45	37.83
1023	SLU 84	113	45	7675	-2833.61	1523.15	33.7
1023	SLE RA 1	79	19	5062	-1869.55	1005.17	26.27
1023	SLE RA 2	77	37	4987	-1843.08	990.39	21.68
1023	SLE RA 3	81	20	5154	-1903.2	1023.36	26.92
1023	SLE RA 4	80	30	5109	-1887.32	1014.49	24.17
1023	SLE RA 5	78	37	5049	-1865.67	1002.65	22.09
1023	SLE RA 6	82	20	5216	-1925.79	1035.61	27.33
1023	SLE RA 7	81	31	5171	-1909.9	1026.74	24.58
1023	SLE RA 8	82	21	5186	-1914.72	1029.68	27.09
1023	SLE RA 9	81	31	5141	-1898.84	1020.81	24.33
1023	SLE RA 10	80	38	5379	-1987.26	1067.86	22.6
1023	SLE RA 11	84	21	5546	-2047.38	1100.82	27.84
1023	SLE RA 12	83	32	5501	-2031.5	1091.95	25.08
1023	SLE RA 13	82	39	5441	-2009.85	1080.11	23.01
1023	SLE RA 14	86	22	5608	-2069.97	1113.07	28.24
1023	SLE RA 15	84	32	5563	-2054.09	1104.21	25.49
1023	SLE RA 16	85	22	5578	-2058.91	1107.14	28
1023	SLE RA 17	84	33	5533	-2043.02	1098.27	25.25
1023	SLE RA 18	84	22	5622	-2075.53	1115.83	27.58
1023	SLE RA 19	83	32	5577	-2059.64	1106.96	24.83
1023	SLE RA 20	85	22	5684	-2098.11	1128.08	27.99
1023	SLE RA 21	84	33	5639	-2082.23	1119.22	25.23
1023	SLE FR 1	79	19	5062	-1869.55	1005.17	26.27
1023	SLE FR 2	79	23	5047	-1864.26	1002.21	25.35
1023	SLE FR 3	80	20	5087	-1878.59	1010.07	26.43
1023	SLE FR 4	80	24	5215	-1926.05	1035.41	25.75
1023	SLE FR 5	81	20	5255	-1940.38	1043.27	26.83
1023	SLE FR 6	82	21	5342	-1972.54	1060.5	26.92
1023	SLE QP 1	79	19	5062	-1869.55	1005.17	26.27
1023	SLE QP 2	81	20	5230	-1931.35	1038.37	26.66
1023	SLD 1	473	80	3063	-1145.5	621.42	160.04
1023	SLD 2	398	211	2919	-1094.66	593.42	102.64
1023	SLD 3	521	-247	4753	-1740.36	953.79	249.65
1023	SLD 4	446	-117	4609	-1689.52	925.79	192.25
1023	SLD 5	139	512	2042	-802.21	414.05	-59.27
1023	SLD 6	90	596	1948	-769.31	395.93	-96.41
1023	SLD 7	298	-579	7675	-2785.08	1521.94	239.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1023	SLD 8	250	-494	7582	-2752.18	1503.83	202.28
1023	SLD 9	-89	535	2878	-1110.51	572.91	-148.96
1023	SLD 10	-137	619	2785	-1077.62	554.79	-186.1
1023	SLD 11	71	-556	8512	-3093.38	1680.8	149.73
1023	SLD 12	22	-471	8418	-3060.48	1662.68	112.59
1023	SLD 13	-285	157	5851	-2173.17	1150.94	-138.92
1023	SLD 14	-360	287	5707	-2122.33	1122.94	-196.33
1023	SLD 15	-237	-170	7541	-2768.03	1483.31	-49.31
1023	SLD 16	-312	-40	7397	-2717.19	1455.31	-106.72
1023	SLV 1	693	133	1740	-666.95	366.44	230.22
1023	SLV 2	574	339	1513	-586.9	322.35	139.83
1023	SLV 3	773	-420	4597	-1672.31	928.16	381.62
1023	SLV 4	655	-214	4369	-1592.26	884.07	291.24
1023	SLV 5	164	854	-107	-42.16	-6.92	-125.03
1023	SLV 6	84	993	-260	11.73	-36.6	-185.89
1023	SLV 7	433	-989	9414	-3393.38	1865.47	379.65
1023	SLV 8	354	-850	9261	-3339.48	1835.78	318.8
1023	SLV 9	-193	891	1199	-523.21	240.95	-265.47
1023	SLV 10	-272	1029	1045	-469.31	211.26	-326.33
1023	SLV 11	77	-952	10720	-3874.42	2113.34	239.21
1023	SLV 12	-2	-814	10566	-3820.53	2083.65	178.36
1023	SLV 13	-494	254	6091	-2270.43	1192.67	-237.91
1023	SLV 14	-612	460	5863	-2190.38	1148.58	-328.3
1023	SLV 15	-413	-299	8947	-3275.79	1754.38	-86.5
1023	SLV 16	-531	-93	8720	-3195.74	1710.29	-176.89
1023	SLV FO 1	754	145	1391	-540.51	299.25	250.57
1023	SLV FO 2	624	371	1141	-452.45	250.75	151.15
1023	SLV FO 3	843	-464	4533	-1646.41	917.14	417.12
1023	SLV FO 4	713	-237	4283	-1558.36	868.64	317.69
1023	SLV FO 5	172	938	-640	146.75	-111.45	-140.2
1023	SLV FO 6	84	1090	-809	206.04	-144.1	-207.14
1023	SLV FO 7	468	-1090	9833	-3539.58	1948.18	414.95
1023	SLV FO 8	381	-937	9664	-3480.3	1915.52	348.01
1023	SLV FO 9	-220	978	795	-382.39	161.21	-294.69
1023	SLV FO 10	-307	1130	627	-323.11	128.55	-361.63
1023	SLV FO 11	77	-1050	11268	-4068.73	2220.83	260.47
1023	SLV FO 12	-11	-897	11100	-4009.45	2188.18	193.53
1023	SLV FO 13	-552	278	6177	-2304.34	1208.1	-264.37
1023	SLV FO 14	-682	504	5927	-2216.28	1159.6	-363.79
1023	SLV FO 15	-463	-330	9319	-3410.24	1825.99	-97.82
1023	SLV FO 16	-593	-104	9069	-3322.18	1777.49	-197.25
1023	CRTFP Ux+	0	0	0	0	0	0
1023	CRTFP Ux-	0	0	0	0	0	0
1023	CRTFP Uy+	0	0	0	-0.01	0	0
1023	CRTFP Uy-	0	0	0	0.01	0	0
1025	SLU 1	-26	41	3148	99.01	577.84	-9.51
1025	SLU 2	-25	59	3075	96.41	564.57	-13.93
1025	SLU 3	-26	42	3240	102	594.28	-9.71
1025	SLU 4	-26	52	3196	100.44	586.31	-12.37
1025	SLU 5	-25	59	3137	98.42	575.6	-14.03
1025	SLU 6	-26	42	3302	104.01	605.3	-9.81
1025	SLU 7	-26	53	3258	102.45	597.34	-12.46
1025	SLU 8	-26	42	3271	103.02	599.9	-9.69
1025	SLU 9	-26	52	3228	101.46	591.93	-12.35
1025	SLU 10	-28	62	3481	109.18	635.78	-14.76
1025	SLU 11	-30	46	3646	114.77	665.49	-10.54
1025	SLU 12	-29	56	3602	113.21	657.53	-13.19
1025	SLU 13	-28	63	3542	111.19	646.81	-14.85
1025	SLU 14	-30	46	3707	116.78	676.52	-10.63
1025	SLU 15	-29	57	3664	115.22	668.55	-13.28
1025	SLU 16	-29	45	3677	115.79	671.11	-10.52
1025	SLU 17	-29	56	3633	114.23	663.14	-13.17
1025	SLU 18	-30	46	3727	117.25	679.57	-10.68
1025	SLU 19	-30	57	3684	115.69	671.61	-13.34
1025	SLU 20	-31	47	3789	119.26	690.6	-10.78
1025	SLU 21	-30	57	3745	117.7	682.64	-13.43
1025	SLU 22	-30	47	3696	116.49	674.87	-10.81
1025	SLU 23	-29	64	3623	113.89	661.6	-15.24
1025	SLU 24	-31	48	3788	119.48	691.31	-11.02
1025	SLU 25	-30	58	3745	117.92	683.35	-13.67
1025	SLU 26	-30	65	3685	115.9	672.63	-15.33
1025	SLU 27	-31	48	3850	121.49	702.33	-11.11
1025	SLU 28	-30	59	3806	119.93	694.37	-13.77
1025	SLU 29	-31	48	3820	120.51	696.93	-11
1025	SLU 30	-30	58	3776	118.95	688.96	-13.65
1025	SLU 31	-33	68	4029	126.66	732.81	-16.06
1025	SLU 32	-34	51	4194	132.25	762.52	-11.84
1025	SLU 33	-34	62	4150	130.69	754.56	-14.49
1025	SLU 34	-33	68	4091	128.67	743.84	-16.15
1025	SLU 35	-34	52	4255	134.26	773.55	-11.93
1025	SLU 36	-34	62	4212	132.7	765.58	-14.59
1025	SLU 37	-34	51	4225	133.28	768.14	-11.82
1025	SLU 38	-33	62	4181	131.72	760.18	-14.47
1025	SLU 39	-35	52	4275	134.73	776.61	-11.99
1025	SLU 40	-35	63	4232	133.17	768.64	-14.64
1025	SLU 41	-35	52	4337	136.74	787.63	-12.08
1025	SLU 42	-35	63	4293	135.18	779.67	-14.73
1025	SLU 43	-32	51	3905	122.71	717.93	-11.92

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1025	SLU 44	-31	69	3832	120.11	704.66	-16.34
1025	SLU 45	-32	52	3997	125.7	734.36	-12.12
1025	SLU 46	-32	63	3953	124.15	726.4	-14.78
1025	SLU 47	-31	69	3893	122.12	715.68	-16.43
1025	SLU 48	-33	53	4058	127.71	745.39	-12.21
1025	SLU 49	-32	63	4015	126.15	737.43	-14.87
1025	SLU 50	-32	52	4028	126.73	739.98	-12.1
1025	SLU 51	-32	63	3984	125.17	732.02	-14.76
1025	SLU 52	-34	73	4237	132.88	775.87	-17.16
1025	SLU 53	-36	56	4402	138.47	805.57	-12.94
1025	SLU 54	-35	66	4358	136.92	797.61	-15.6
1025	SLU 55	-35	73	4299	134.89	786.89	-17.25
1025	SLU 56	-36	56	4464	140.48	816.6	-13.03
1025	SLU 57	-35	67	4420	138.92	808.64	-15.69
1025	SLU 58	-36	56	4433	139.5	811.19	-12.92
1025	SLU 59	-35	66	4390	137.94	803.23	-15.58
1025	SLU 60	-37	57	4484	140.96	819.66	-13.09
1025	SLU 61	-36	67	4440	139.4	811.7	-15.74
1025	SLU 62	-37	57	4546	142.96	830.69	-13.18
1025	SLU 63	-36	68	4502	141.41	822.72	-15.84
1025	SLU 64	-36	57	4453	140.2	814.96	-13.22
1025	SLU 65	-36	75	4380	137.6	801.69	-17.64
1025	SLU 66	-37	58	4545	143.19	831.39	-13.42
1025	SLU 67	-36	69	4501	141.63	823.43	-16.08
1025	SLU 68	-36	75	4442	139.61	812.71	-17.74
1025	SLU 69	-37	58	4606	145.2	842.42	-13.52
1025	SLU 70	-37	69	4563	143.64	834.46	-16.17
1025	SLU 71	-37	58	4576	144.21	837.01	-13.4
1025	SLU 72	-36	68	4532	142.66	829.05	-16.06
1025	SLU 73	-39	78	4785	150.37	872.9	-18.46
1025	SLU 74	-40	62	4950	155.96	902.61	-14.25
1025	SLU 75	-40	72	4906	154.4	894.64	-16.9
1025	SLU 76	-39	79	4847	152.38	883.93	-18.56
1025	SLU 77	-40	62	5012	157.97	913.63	-14.34
1025	SLU 78	-40	73	4968	156.41	905.67	-16.99
1025	SLU 79	-40	62	4982	156.98	908.22	-14.23
1025	SLU 80	-40	72	4938	155.43	900.26	-16.88
1025	SLU 81	-41	62	5032	158.44	916.69	-14.39
1025	SLU 82	-41	73	4988	156.88	908.73	-17.05
1025	SLU 83	-41	63	5094	160.45	927.72	-14.48
1025	SLU 84	-41	73	5050	158.89	919.75	-17.14
1025	SLE RA 1	-27	43	3305	104	605.57	-9.88
1025	SLE RA 2	-26	54	3256	102.27	596.72	-12.83
1025	SLE RA 3	-27	43	3366	106	616.52	-10.02
1025	SLE RA 4	-27	50	3337	104.96	611.21	-11.79
1025	SLE RA 5	-27	55	3297	103.61	604.07	-12.89
1025	SLE RA 6	-27	44	3407	107.33	623.87	-10.08
1025	SLE RA 7	-27	51	3378	106.3	618.56	-11.85
1025	SLE RA 8	-27	43	3387	106.68	620.27	-10
1025	SLE RA 9	-27	50	3358	105.64	614.96	-11.77
1025	SLE RA 10	-29	57	3526	110.78	644.19	-13.38
1025	SLE RA 11	-30	46	3636	114.51	664	-10.57
1025	SLE RA 12	-29	53	3607	113.47	658.69	-12.34
1025	SLE RA 13	-29	57	3568	112.12	651.54	-13.44
1025	SLE RA 14	-30	46	3677	115.85	671.35	-10.63
1025	SLE RA 15	-29	53	3648	114.81	666.04	-12.4
1025	SLE RA 16	-29	46	3657	115.19	667.74	-10.55
1025	SLE RA 17	-29	53	3628	114.15	662.43	-12.32
1025	SLE RA 18	-30	46	3691	116.16	673.39	-10.66
1025	SLE RA 19	-30	53	3662	115.12	668.08	-12.43
1025	SLE RA 20	-30	46	3732	117.5	680.74	-10.73
1025	SLE RA 21	-30	53	3703	116.46	675.43	-12.5
1025	SLE FR 1	-27	43	3305	104	605.57	-9.88
1025	SLE FR 2	-27	45	3295	103.65	603.8	-10.47
1025	SLE FR 3	-27	43	3321	104.54	608.51	-9.91
1025	SLE FR 4	-28	46	3411	107.3	624.14	-10.71
1025	SLE FR 5	-28	44	3437	108.19	628.85	-10.14
1025	SLE FR 6	-29	44	3498	110.08	639.48	-10.27
1025	SLE QP 1	-27	43	3305	104	605.57	-9.88
1025	SLE QP 2	-28	44	3421	107.65	625.91	-10.12
1025	SLD 1	388	172	3038	93.25	562.96	-53.7
1025	SLD 2	318	151	3058	94.06	566.76	-46.21
1025	SLD 3	377	-47	4137	132.34	764.09	1.38
1025	SLD 4	307	-68	4158	133.15	767.89	8.87
1025	SLD 5	125	418	1635	43.92	301.32	-108.02
1025	SLD 6	79	405	1648	44.44	303.78	-103.17
1025	SLD 7	90	-312	5299	174.19	971.76	75.56
1025	SLD 8	45	-326	5312	174.71	974.22	80.41
1025	SLD 9	-101	413	1529	40.59	277.61	-100.64
1025	SLD 10	-146	400	1542	41.11	280.07	-95.79
1025	SLD 11	-135	-317	5193	170.86	948.05	82.94
1025	SLD 12	-180	-331	5206	171.38	950.51	87.79
1025	SLD 13	-363	155	2683	82.15	483.93	-29.1
1025	SLD 14	-433	134	2704	82.96	487.73	-21.61
1025	SLD 15	-374	-64	3783	121.24	685.06	25.98
1025	SLD 16	-443	-85	3803	122.05	688.86	33.46
1025	SLV 1	623	259	2752	82.65	514.6	-81.81
1025	SLV 2	513	226	2784	83.92	520.58	-70.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1025	SLV 3	606	-111	4610	148.7	854.53	11.23
1025	SLV 4	496	-144	4642	149.97	860.51	23.02
1025	SLV 5	215	676	396	-0.26	75.84	-174.94
1025	SLV 6	140	654	418	0.6	79.86	-167
1025	SLV 7	156	-558	6589	219.9	1208.95	135.2
1025	SLV 8	82	-581	6611	220.76	1212.97	143.14
1025	SLV 9	-138	668	230	-5.46	38.85	-163.37
1025	SLV 10	-212	646	252	-4.6	42.88	-155.44
1025	SLV 11	-196	-566	6423	214.7	1171.96	146.77
1025	SLV 12	-270	-589	6445	215.56	1175.99	154.71
1025	SLV 13	-552	232	2199	65.33	391.31	-43.25
1025	SLV 14	-662	199	2232	66.6	397.3	-31.46
1025	SLV 15	-569	-138	4057	131.38	731.25	49.79
1025	SLV 16	-679	-172	4089	132.65	737.23	61.58
1025	SLV FO 1	688	281	2685	80.15	503.47	-88.98
1025	SLV FO 2	567	244	2721	81.55	510.05	-76.01
1025	SLV FO 3	669	-127	4728	152.8	877.39	13.37
1025	SLV FO 4	548	-163	4764	154.21	883.97	26.34
1025	SLV FO 5	239	739	94	-11.05	20.83	-191.42
1025	SLV FO 6	157	715	118	-10.11	25.26	-182.69
1025	SLV FO 7	175	-618	6906	231.13	1267.25	149.73
1025	SLV FO 8	93	-643	6930	232.07	1271.68	158.47
1025	SLV FO 9	-149	731	-89	-16.77	-19.86	-178.7
1025	SLV FO 10	-230	706	-65	-15.83	-15.42	-169.97
1025	SLV FO 11	-213	-627	6723	225.41	1226.57	162.46
1025	SLV FO 12	-295	-652	6747	226.35	1231	171.19
1025	SLV FO 13	-604	251	2077	61.09	367.85	-46.57
1025	SLV FO 14	-725	214	2113	62.5	374.43	-33.6
1025	SLV FO 15	-623	-157	4120	133.75	741.78	55.78
1025	SLV FO 16	-744	-193	4156	135.15	748.36	68.75
1025	CRTFP Ux+	0	0	0	0	0	0
1025	CRTFP Ux-	0	0	0	0	0	0
1025	CRTFP Uy+	0	0	0	0	0	0
1025	CRTFP Uy-	0	0	0	0	0	0
1027	SLU 1	7	89	6217	190.9	-25.19	0.4
1027	SLU 2	7	122	6068	185.83	-25.07	0.43
1027	SLU 3	8	90	6394	196.54	-25.91	0.4
1027	SLU 4	8	110	6305	193.5	-25.84	0.42
1027	SLU 5	8	123	6186	189.58	-25.52	0.42
1027	SLU 6	9	90	6512	200.29	-26.37	0.39
1027	SLU 7	9	110	6423	197.25	-26.29	0.41
1027	SLU 8	9	89	6453	198.4	-26.09	0.37
1027	SLU 9	9	109	6363	195.36	-26.02	0.39
1027	SLU 10	4	129	6869	210.28	-27.54	0.72
1027	SLU 11	6	97	7196	220.98	-28.39	0.69
1027	SLU 12	5	117	7106	217.94	-28.31	0.71
1027	SLU 13	5	129	6987	214.03	-27.99	0.71
1027	SLU 14	6	97	7313	224.74	-28.84	0.68
1027	SLU 15	6	117	7224	221.69	-28.77	0.7
1027	SLU 16	7	96	7254	222.85	-28.57	0.66
1027	SLU 17	6	116	7165	219.8	-28.5	0.68
1027	SLU 18	4	98	7362	225.82	-28.72	0.81
1027	SLU 19	3	119	7272	222.78	-28.65	0.83
1027	SLU 20	5	99	7479	229.57	-29.17	0.8
1027	SLU 21	4	119	7390	226.53	-29.1	0.82
1027	SLU 22	6	98	7294	224.25	-28.62	0.67
1027	SLU 23	5	132	7146	219.18	-28.5	0.7
1027	SLU 24	6	99	7472	229.89	-29.35	0.67
1027	SLU 25	6	119	7383	226.85	-29.28	0.69
1027	SLU 26	6	132	7263	222.93	-28.96	0.69
1027	SLU 27	7	99	7590	233.64	-29.8	0.66
1027	SLU 28	7	119	7500	230.6	-29.73	0.68
1027	SLU 29	8	98	7530	231.75	-29.53	0.65
1027	SLU 30	7	118	7441	228.71	-29.46	0.66
1027	SLU 31	2	138	7947	243.63	-30.97	0.99
1027	SLU 32	4	106	8273	254.34	-31.82	0.96
1027	SLU 33	4	126	8184	251.3	-31.75	0.98
1027	SLU 34	3	138	8065	247.38	-31.43	0.98
1027	SLU 35	5	106	8391	258.09	-32.27	0.95
1027	SLU 36	4	126	8302	255.05	-32.2	0.97
1027	SLU 37	5	105	8331	256.2	-32	0.93
1027	SLU 38	5	125	8242	253.16	-31.93	0.95
1027	SLU 39	2	108	8439	259.18	-32.15	1.08
1027	SLU 40	2	128	8350	256.13	-32.08	1.1
1027	SLU 41	3	108	8557	262.93	-32.61	1.07
1027	SLU 42	3	128	8468	259.88	-32.54	1.09
1027	SLU 43	10	112	7713	236.73	-31.56	0.43
1027	SLU 44	9	146	7564	231.66	-31.44	0.46
1027	SLU 45	11	113	7890	242.37	-32.29	0.43
1027	SLU 46	10	133	7801	239.33	-32.22	0.45
1027	SLU 47	10	146	7682	235.41	-31.9	0.45
1027	SLU 48	12	113	8008	246.12	-32.74	0.42
1027	SLU 49	11	134	7919	243.08	-32.67	0.44
1027	SLU 50	12	112	7948	244.23	-32.47	0.4
1027	SLU 51	11	133	7859	241.19	-32.4	0.42
1027	SLU 52	7	153	8365	256.11	-33.92	0.75
1027	SLU 53	8	120	8691	266.82	-34.76	0.72
1027	SLU 54	8	140	8602	263.78	-34.69	0.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1027	SLU 55	8	153	8483	259.86	-34.37	0.73
1027	SLU 56	9	120	8809	270.57	-35.22	0.71
1027	SLU 57	9	140	8720	267.53	-35.15	0.73
1027	SLU 58	9	119	8749	268.68	-34.95	0.69
1027	SLU 59	9	139	8660	265.64	-34.87	0.71
1027	SLU 60	6	122	8857	271.66	-35.1	0.84
1027	SLU 61	6	142	8768	268.61	-35.03	0.86
1027	SLU 62	7	122	8975	275.41	-35.55	0.83
1027	SLU 63	7	142	8886	272.36	-35.48	0.85
1027	SLU 64	8	121	8790	270.09	-35	0.7
1027	SLU 65	8	155	8641	265.02	-34.88	0.73
1027	SLU 66	9	122	8967	275.73	-35.72	0.7
1027	SLU 67	9	143	8878	272.69	-35.65	0.72
1027	SLU 68	9	155	8759	268.77	-35.33	0.72
1027	SLU 69	10	122	9085	279.48	-36.18	0.69
1027	SLU 70	10	143	8996	276.44	-36.11	0.71
1027	SLU 71	10	121	9026	277.59	-35.91	0.67
1027	SLU 72	10	142	8936	274.55	-35.84	0.69
1027	SLU 73	5	162	9443	289.46	-37.35	1.02
1027	SLU 74	7	129	9769	300.17	-38.2	0.99
1027	SLU 75	6	149	9679	297.13	-38.13	1.01
1027	SLU 76	6	162	9560	293.21	-37.81	1.01
1027	SLU 77	8	129	9886	303.92	-38.65	0.98
1027	SLU 78	7	149	9797	300.88	-38.58	1
1027	SLU 79	8	128	9827	302.03	-38.38	0.96
1027	SLU 80	7	148	9738	298.99	-38.31	0.98
1027	SLU 81	5	131	9935	305.01	-38.53	1.11
1027	SLU 82	4	151	9845	301.97	-38.46	1.13
1027	SLU 83	6	131	10052	308.76	-38.99	1.1
1027	SLU 84	5	151	9963	305.72	-38.91	1.12
1027	SLE RA 1	7	91	6525	200.43	-26.17	0.48
1027	SLE RA 2	6	114	6426	197.05	-26.09	0.5
1027	SLE RA 3	7	92	6643	204.19	-26.65	0.48
1027	SLE RA 4	7	105	6584	202.16	-26.6	0.49
1027	SLE RA 5	7	114	6504	199.55	-26.39	0.49
1027	SLE RA 6	8	92	6722	206.69	-26.95	0.47
1027	SLE RA 7	8	106	6662	204.66	-26.91	0.48
1027	SLE RA 8	8	91	6682	205.43	-26.77	0.46
1027	SLE RA 9	8	105	6622	203.4	-26.73	0.47
1027	SLE RA 10	5	118	6960	213.35	-27.74	0.69
1027	SLE RA 11	6	97	7177	220.49	-28.3	0.67
1027	SLE RA 12	5	110	7118	218.46	-28.25	0.69
1027	SLE RA 13	5	118	7038	215.85	-28.04	0.68
1027	SLE RA 14	6	97	7256	222.99	-28.6	0.66
1027	SLE RA 15	6	110	7196	220.96	-28.56	0.68
1027	SLE RA 16	6	96	7216	221.73	-28.42	0.65
1027	SLE RA 17	6	109	7157	219.7	-28.37	0.67
1027	SLE RA 18	4	98	7288	223.71	-28.52	0.75
1027	SLE RA 19	4	111	7228	221.68	-28.47	0.76
1027	SLE RA 20	5	98	7366	226.21	-28.83	0.74
1027	SLE RA 21	5	111	7307	224.18	-28.78	0.76
1027	SLE FR 1	7	91	6525	200.43	-26.17	0.48
1027	SLE FR 2	7	96	6505	199.75	-26.15	0.48
1027	SLE FR 3	7	91	6556	201.43	-26.29	0.47
1027	SLE FR 4	6	98	6734	206.74	-26.86	0.56
1027	SLE FR 5	6	93	6785	208.41	-26.99	0.56
1027	SLE FR 6	6	95	6906	212.07	-27.34	0.61
1027	SLE QP 1	7	91	6525	200.43	-26.17	0.48
1027	SLE QP 2	6	93	6754	207.41	-26.87	0.56
1027	SLD 1	807	266	5183	155.82	-0.95	-27.28
1027	SLD 2	670	303	5169	155.21	-0.6	-20.88
1027	SLD 3	820	-161	7435	232.36	-3.3	-27.91
1027	SLD 4	683	-124	7420	231.75	-2.95	-21.51
1027	SLD 5	250	786	2871	75.95	-15.58	-7.94
1027	SLD 6	161	810	2861	75.56	-15.35	-3.8
1027	SLD 7	294	-636	10375	331.09	-23.44	-10.05
1027	SLD 8	206	-612	10365	330.7	-23.21	-5.91
1027	SLD 9	-194	799	3142	84.13	-30.53	7.03
1027	SLD 10	-282	823	3133	83.74	-30.31	11.17
1027	SLD 11	-149	-623	10646	339.27	-38.39	4.92
1027	SLD 12	-238	-599	10636	338.87	-38.17	9.06
1027	SLD 13	-671	310	6088	183.08	-50.79	22.63
1027	SLD 14	-808	347	6073	182.47	-50.44	29.03
1027	SLD 15	-658	-116	8339	259.62	-53.15	22
1027	SLD 16	-795	-79	8324	259.01	-52.8	28.4
1027	SLV 1	1259	390	4158	121.93	13.72	-43.01
1027	SLV 2	1044	448	4134	120.97	14.27	-32.94
1027	SLV 3	1282	-331	7962	251.29	9.74	-44.07
1027	SLV 4	1066	-273	7939	250.33	10.29	-33.99
1027	SLV 5	388	1264	209	-14.25	-8.76	-12.79
1027	SLV 6	243	1304	194	-14.89	-8.39	-6.01
1027	SLV 7	463	-1138	12891	416.95	-22.03	-16.31
1027	SLV 8	318	-1099	12875	416.31	-21.66	-9.53
1027	SLV 9	-306	1285	633	-1.48	-32.08	10.65
1027	SLV 10	-451	1325	617	-2.12	-31.71	17.43
1027	SLV 11	-231	-1117	13314	429.72	-45.36	7.12
1027	SLV 12	-376	-1078	13298	429.08	-44.99	13.9
1027	SLV 13	-1054	459	5569	164.49	-64.03	35.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1027	SLV 14	-1269	518	5545	163.54	-63.48	45.18
1027	SLV 15	-1032	-261	9373	293.85	-68.02	34.05
1027	SLV 16	-1247	-203	9350	292.9	-67.47	44.13
1027	SLV FO 1	1384	419	3898	113.38	17.78	-47.37
1027	SLV FO 2	1148	483	3872	112.33	18.38	-36.28
1027	SLV FO 3	1409	-374	8083	255.68	13.4	-48.53
1027	SLV FO 4	1172	-309	8057	254.63	14	-37.45
1027	SLV FO 5	426	1381	-445	-36.42	-6.95	-14.12
1027	SLV FO 6	267	1425	-462	-37.12	-6.54	-6.66
1027	SLV FO 7	509	-1261	13504	437.91	-21.55	-18
1027	SLV FO 8	349	-1218	13487	437.2	-21.14	-10.54
1027	SLV FO 9	-337	1405	20	-22.37	-32.6	11.66
1027	SLV FO 10	-496	1448	3	-23.08	-32.2	19.12
1027	SLV FO 11	-255	-1238	13970	451.95	-47.21	7.78
1027	SLV FO 12	-414	-1195	13953	451.24	-46.8	15.24
1027	SLV FO 13	-1160	496	5450	160.2	-67.75	38.57
1027	SLV FO 14	-1397	560	5424	159.15	-67.14	49.65
1027	SLV FO 15	-1135	-297	9635	302.5	-72.13	37.4
1027	SLV FO 16	-1372	-233	9609	301.45	-71.53	48.48
1027	CRTFP Ux+	0	0	0	0	0	0
1027	CRTFP Ux-	0	0	0	0	0	0
1027	CRTFP Uy+	0	0	0	0	0	0
1027	CRTFP Uy-	0	0	0	0	0	0
1031	SLU 1	29	15	2878	53.93	671.65	-3.97
1031	SLU 2	28	28	2807	52.49	656.55	-7.12
1031	SLU 3	30	15	2963	55.52	690.71	-4.05
1031	SLU 4	29	23	2920	54.66	681.65	-5.94
1031	SLU 5	28	28	2864	53.56	669.27	-7.18
1031	SLU 6	31	16	3020	56.59	703.43	-4.11
1031	SLU 7	30	23	2977	55.72	694.37	-6
1031	SLU 8	31	15	2992	56.06	697.08	-4.09
1031	SLU 9	30	23	2949	55.2	688.03	-5.98
1031	SLU 10	29	30	3170	59.21	739.72	-7.63
1031	SLU 11	31	17	3326	62.24	773.89	-4.56
1031	SLU 12	31	25	3283	61.38	764.83	-6.45
1031	SLU 13	30	30	3227	60.28	752.44	-7.69
1031	SLU 14	32	18	3383	63.31	786.61	-4.62
1031	SLU 15	32	25	3340	62.45	777.55	-6.51
1031	SLU 16	32	18	3356	62.79	780.26	-4.6
1031	SLU 17	31	25	3312	61.93	771.2	-6.49
1031	SLU 18	31	18	3397	63.53	790.47	-4.7
1031	SLU 19	30	26	3354	62.67	781.41	-6.59
1031	SLU 20	32	18	3454	64.6	803.19	-4.76
1031	SLU 21	31	26	3411	63.74	794.13	-6.65
1031	SLU 22	32	17	3374	63.18	784.47	-4.44
1031	SLU 23	31	30	3303	61.75	769.37	-7.59
1031	SLU 24	33	17	3459	64.78	803.54	-4.52
1031	SLU 25	32	25	3416	63.91	794.48	-6.41
1031	SLU 26	32	30	3360	62.81	782.09	-7.65
1031	SLU 27	34	17	3516	65.85	816.26	-4.58
1031	SLU 28	33	25	3473	64.98	807.2	-6.47
1031	SLU 29	34	17	3488	65.32	809.91	-4.56
1031	SLU 30	33	25	3445	64.46	800.85	-6.45
1031	SLU 31	32	32	3666	68.47	852.55	-8.1
1031	SLU 32	35	19	3822	71.5	886.71	-5.04
1031	SLU 33	34	27	3779	70.64	877.65	-6.93
1031	SLU 34	33	32	3723	69.54	865.27	-8.16
1031	SLU 35	36	20	3879	72.57	899.43	-5.1
1031	SLU 36	35	27	3836	71.71	890.37	-6.99
1031	SLU 37	35	19	3852	72.05	893.08	-5.07
1031	SLU 38	35	27	3808	71.19	884.02	-6.96
1031	SLU 39	34	20	3893	72.79	903.29	-5.17
1031	SLU 40	33	28	3850	71.93	894.23	-7.06
1031	SLU 41	35	20	3950	73.86	916.01	-5.23
1031	SLU 42	34	28	3907	73	906.95	-7.12
1031	SLU 43	36	19	3572	66.93	834.46	-5
1031	SLU 44	35	32	3500	65.49	819.36	-8.15
1031	SLU 45	37	19	3656	68.52	853.52	-5.08
1031	SLU 46	37	27	3613	67.66	844.47	-6.97
1031	SLU 47	36	32	3557	66.56	832.08	-8.21
1031	SLU 48	38	19	3713	69.59	866.24	-5.14
1031	SLU 49	38	27	3670	68.73	857.18	-7.03
1031	SLU 50	38	19	3686	69.07	859.9	-5.12
1031	SLU 51	37	27	3643	68.2	850.84	-7.01
1031	SLU 52	37	34	3863	72.21	902.53	-8.66
1031	SLU 53	39	21	4020	75.25	936.7	-5.59
1031	SLU 54	38	29	3977	74.38	927.64	-7.48
1031	SLU 55	37	34	3920	73.28	915.25	-8.72
1031	SLU 56	40	22	4077	76.32	949.42	-5.65
1031	SLU 57	39	29	4034	75.45	940.36	-7.54
1031	SLU 58	40	21	4049	75.79	943.07	-5.63
1031	SLU 59	39	29	4006	74.93	934.01	-7.52
1031	SLU 60	38	22	4091	76.54	953.28	-5.73
1031	SLU 61	38	30	4048	75.67	944.22	-7.62
1031	SLU 62	39	22	4148	77.61	966	-5.79
1031	SLU 63	39	30	4105	76.74	956.94	-7.68
1031	SLU 64	40	21	4068	76.19	947.28	-5.47
1031	SLU 65	38	33	3996	74.75	932.18	-8.62

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1031	SLU 66	41	21	4152	77.78	966.35	-5.55
1031	SLU 67	40	29	4109	76.92	957.29	-7.44
1031	SLU 68	39	34	4053	75.82	944.9	-8.68
1031	SLU 69	42	21	4209	78.85	979.07	-5.61
1031	SLU 70	41	29	4166	77.99	970.01	-7.5
1031	SLU 71	41	21	4182	78.33	972.72	-5.59
1031	SLU 72	41	29	4139	77.46	963.66	-7.48
1031	SLU 73	40	36	4359	81.47	1015.36	-9.13
1031	SLU 74	42	23	4516	84.51	1049.52	-6.06
1031	SLU 75	41	31	4473	83.64	1040.46	-7.95
1031	SLU 76	41	36	4416	82.54	1028.08	-9.19
1031	SLU 77	43	23	4573	85.58	1062.24	-6.13
1031	SLU 78	42	31	4529	84.71	1053.18	-8.02
1031	SLU 79	43	23	4545	85.05	1055.9	-6.1
1031	SLU 80	42	31	4502	84.19	1046.84	-7.99
1031	SLU 81	42	24	4587	85.8	1066.1	-6.2
1031	SLU 82	41	31	4544	84.93	1057.04	-8.09
1031	SLU 83	43	24	4644	86.86	1078.82	-6.26
1031	SLU 84	42	32	4601	86	1069.76	-8.15
1031	SLE RA 1	30	16	3020	56.57	703.88	-4.1
1031	SLE RA 2	29	24	2972	55.61	693.82	-6.2
1031	SLE RA 3	30	16	3076	57.63	716.59	-4.16
1031	SLE RA 4	30	21	3048	57.06	710.55	-5.42
1031	SLE RA 5	29	24	3010	56.32	702.3	-6.24
1031	SLE RA 6	31	16	3114	58.35	725.07	-4.2
1031	SLE RA 7	31	21	3086	57.77	719.03	-5.46
1031	SLE RA 8	31	16	3096	58	720.84	-4.18
1031	SLE RA 9	30	21	3067	57.42	714.8	-5.44
1031	SLE RA 10	30	25	3214	60.09	749.27	-6.55
1031	SLE RA 11	31	17	3319	62.12	772.04	-4.5
1031	SLE RA 12	31	22	3290	61.54	766	-5.76
1031	SLE RA 13	30	26	3252	60.81	757.75	-6.59
1031	SLE RA 14	32	17	3357	62.83	780.52	-4.54
1031	SLE RA 15	32	22	3328	62.25	774.48	-5.8
1031	SLE RA 16	32	17	3338	62.48	776.29	-4.53
1031	SLE RA 17	31	22	3310	61.9	770.25	-5.79
1031	SLE RA 18	31	18	3366	62.98	783.1	-4.59
1031	SLE RA 19	31	23	3337	62.4	777.06	-5.85
1031	SLE RA 20	32	18	3404	63.69	791.58	-4.63
1031	SLE RA 21	31	23	3375	63.11	785.54	-5.89
1031	SLE FR 1	30	16	3020	56.57	703.88	-4.1
1031	SLE FR 2	30	17	3011	56.38	701.87	-4.52
1031	SLE FR 3	30	16	3035	56.86	707.27	-4.12
1031	SLE FR 4	30	18	3114	58.3	725.63	-4.67
1031	SLE FR 5	30	16	3139	58.78	731.04	-4.27
1031	SLE FR 6	30	17	3193	59.77	743.49	-4.35
1031	SLE QP 1	30	16	3020	56.57	703.88	-4.1
1031	SLE QP 2	30	16	3124	58.49	727.65	-4.25
1031	SLD 1	316	94	2163	38.39	496.24	-28.53
1031	SLD 2	262	129	2113	37.58	490.52	-36.32
1031	SLD 3	334	-69	3245	60.04	725.95	11.89
1031	SLD 4	280	-33	3195	59.24	720.23	4.09
1031	SLD 5	98	280	1205	19.75	310.82	-71.47
1031	SLD 6	63	303	1172	19.23	307.12	-76.52
1031	SLD 7	158	-262	4808	91.94	1076.53	63.24
1031	SLD 8	123	-239	4776	91.42	1072.82	58.19
1031	SLD 9	-63	271	1472	25.56	382.47	-66.69
1031	SLD 10	-98	294	1439	25.04	378.77	-71.74
1031	SLD 11	-3	-270	5075	97.75	1148.17	68.02
1031	SLD 12	-37	-247	5043	97.23	1144.47	62.98
1031	SLD 13	-220	66	3053	57.75	735.07	-12.59
1031	SLD 14	-274	101	3003	56.94	729.34	-20.38
1031	SLD 15	-202	-97	4134	79.4	964.78	27.82
1031	SLD 16	-256	-61	4084	78.6	959.05	20.03
1031	SLV 1	477	148	1555	25.72	351.68	-44.76
1031	SLV 2	392	203	1477	24.45	342.66	-57.03
1031	SLV 3	507	-127	3383	62.32	739.96	23.54
1031	SLV 4	423	-71	3304	61.06	730.95	11.27
1031	SLV 5	134	462	-103	-6.62	27.64	-117.69
1031	SLV 6	77	499	-156	-7.47	21.57	-125.96
1031	SLV 7	236	-454	5987	115.39	1321.92	109.96
1031	SLV 8	179	-416	5934	114.54	1315.85	101.7
1031	SLV 9	-118	448	313	2.44	139.44	-110.2
1031	SLV 10	-175	486	260	1.59	133.37	-118.46
1031	SLV 11	-16	-467	6404	124.46	1433.72	117.46
1031	SLV 12	-73	-429	6351	123.61	1427.65	109.2
1031	SLV 13	-363	104	2944	55.93	724.34	-19.77
1031	SLV 14	-447	159	2865	54.66	715.33	-32.04
1031	SLV 15	-332	-171	4771	92.53	1112.63	48.53
1031	SLV 16	-417	-115	4692	91.27	1103.62	36.26
1031	SLV FO 1	522	161	1399	22.44	314.08	-48.81
1031	SLV FO 2	428	222	1312	21.05	304.17	-62.31
1031	SLV FO 3	555	-141	3408	62.7	741.2	26.32
1031	SLV FO 4	462	-80	3322	61.31	731.28	12.82
1031	SLV FO 5	144	506	-426	-13.13	-42.36	-129.04
1031	SLV FO 6	81	548	-484	-14.07	-49.04	-138.13
1031	SLV FO 7	256	-501	6274	121.08	1381.35	121.38
1031	SLV FO 8	193	-459	6216	120.15	1374.68	112.29

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1031	SLV FO 9	-133	492	32	-3.16	80.62	-120.79
1031	SLV FO 10	-196	533	-26	-4.1	73.94	-129.88
1031	SLV FO 11	-21	-515	6732	131.05	1504.33	129.63
1031	SLV FO 12	-84	-474	6674	130.12	1497.66	120.54
1031	SLV FO 13	-402	112	2926	55.67	724.01	-21.32
1031	SLV FO 14	-495	174	2839	54.28	714.1	-34.82
1031	SLV FO 15	-368	-190	4936	95.94	1151.13	53.81
1031	SLV FO 16	-461	-128	4849	94.54	1141.21	40.31
1031	CRTFP Ux+	0	0	0	0	0	0
1031	CRTFP Ux-	0	0	0	0	0	0
1031	CRTFP Uy+	0	0	0	0	0	0
1031	CRTFP Uy-	0	0	0	0	0	0
1034	SLU 1	-30	3	2101	0.82	-655.18	1.06
1034	SLU 2	-28	13	2051	0.76	-639.52	4.09
1034	SLU 3	-30	3	2163	0.86	-674.7	1.06
1034	SLU 4	-30	9	2133	0.82	-665.3	2.88
1034	SLU 5	-29	13	2093	0.79	-652.67	4.09
1034	SLU 6	-31	3	2205	0.88	-687.85	1.06
1034	SLU 7	-30	9	2176	0.85	-678.46	2.88
1034	SLU 8	-30	3	2185	0.87	-681.49	1.06
1034	SLU 9	-30	9	2155	0.83	-672.09	2.88
1034	SLU 10	-31	13	2320	0.85	-723.46	4.27
1034	SLU 11	-33	4	2432	0.95	-758.64	1.24
1034	SLU 12	-33	10	2403	0.91	-749.24	3.06
1034	SLU 13	-32	13	2362	0.88	-736.61	4.27
1034	SLU 14	-34	4	2475	0.98	-771.79	1.24
1034	SLU 15	-33	10	2445	0.94	-762.4	3.06
1034	SLU 16	-33	4	2454	0.96	-765.43	1.24
1034	SLU 17	-33	10	2424	0.93	-756.03	3.06
1034	SLU 18	-34	4	2485	0.96	-775.09	1.32
1034	SLU 19	-33	10	2456	0.92	-765.7	3.14
1034	SLU 20	-34	4	2527	0.98	-788.25	1.32
1034	SLU 21	-34	10	2498	0.94	-778.85	3.14
1034	SLU 22	-34	4	2468	0.98	-769.78	1.09
1034	SLU 23	-33	13	2419	0.92	-754.12	4.12
1034	SLU 24	-35	4	2531	1.02	-789.29	1.09
1034	SLU 25	-34	9	2501	0.98	-779.9	2.91
1034	SLU 26	-33	13	2461	0.95	-767.27	4.12
1034	SLU 27	-35	4	2573	1.04	-802.45	1.09
1034	SLU 28	-35	9	2543	1.01	-793.05	2.91
1034	SLU 29	-35	4	2552	1.03	-796.08	1.09
1034	SLU 30	-34	9	2523	1	-786.69	2.91
1034	SLU 31	-36	13	2688	1.01	-838.05	4.3
1034	SLU 32	-38	4	2800	1.11	-873.23	1.27
1034	SLU 33	-37	10	2770	1.07	-863.84	3.09
1034	SLU 34	-36	13	2730	1.04	-851.21	4.3
1034	SLU 35	-38	4	2842	1.14	-886.39	1.27
1034	SLU 36	-38	10	2812	1.1	-876.99	3.09
1034	SLU 37	-38	4	2822	1.13	-880.02	1.27
1034	SLU 38	-37	10	2792	1.09	-870.63	3.09
1034	SLU 39	-38	4	2853	1.12	-889.69	1.35
1034	SLU 40	-38	10	2823	1.08	-880.29	3.17
1034	SLU 41	-39	4	2895	1.14	-902.84	1.35
1034	SLU 42	-38	10	2865	1.1	-893.45	3.17
1034	SLU 43	-37	4	2605	1.01	-812.44	1.37
1034	SLU 44	-36	14	2555	0.95	-796.78	4.4
1034	SLU 45	-38	4	2667	1.05	-831.96	1.37
1034	SLU 46	-37	10	2638	1.01	-822.57	3.19
1034	SLU 47	-36	14	2597	0.98	-809.94	4.4
1034	SLU 48	-38	4	2709	1.07	-845.12	1.37
1034	SLU 49	-37	10	2680	1.04	-835.72	3.18
1034	SLU 50	-38	4	2689	1.06	-838.75	1.37
1034	SLU 51	-37	10	2659	1.03	-829.36	3.18
1034	SLU 52	-39	14	2824	1.05	-880.72	4.58
1034	SLU 53	-41	5	2937	1.14	-915.9	1.55
1034	SLU 54	-40	11	2907	1.11	-906.5	3.37
1034	SLU 55	-39	14	2867	1.07	-893.88	4.58
1034	SLU 56	-41	5	2979	1.17	-929.05	1.55
1034	SLU 57	-40	11	2949	1.13	-919.66	3.36
1034	SLU 58	-41	5	2958	1.16	-922.69	1.55
1034	SLU 59	-40	11	2929	1.12	-913.29	3.36
1034	SLU 60	-41	5	2989	1.15	-932.36	1.63
1034	SLU 61	-40	11	2960	1.11	-922.96	3.45
1034	SLU 62	-41	5	3032	1.17	-945.51	1.63
1034	SLU 63	-41	11	3002	1.13	-936.11	3.44
1034	SLU 64	-41	5	2972	1.17	-927.04	1.4
1034	SLU 65	-40	14	2923	1.11	-911.38	4.43
1034	SLU 66	-42	5	3035	1.21	-946.56	1.4
1034	SLU 67	-41	10	3005	1.17	-937.16	3.22
1034	SLU 68	-41	14	2965	1.14	-924.53	4.43
1034	SLU 69	-43	5	3077	1.23	-959.71	1.4
1034	SLU 70	-42	10	3047	1.2	-950.32	3.22
1034	SLU 71	-42	5	3057	1.22	-953.35	1.4
1034	SLU 72	-41	10	3027	1.19	-943.95	3.21
1034	SLU 73	-43	14	3192	1.21	-995.32	4.61
1034	SLU 74	-45	5	3304	1.3	-1030.5	1.58
1034	SLU 75	-44	11	3274	1.27	-1021.1	3.4
1034	SLU 76	-44	14	3234	1.23	-1008.47	4.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1034	SLU 77	-46	5	3346	1.33	-1043.65	1.58
1034	SLU 78	-45	11	3317	1.29	-1034.25	3.4
1034	SLU 79	-45	5	3326	1.32	-1037.29	1.58
1034	SLU 80	-45	11	3296	1.28	-1027.89	3.4
1034	SLU 81	-46	5	3357	1.31	-1046.95	1.66
1034	SLU 82	-45	11	3327	1.27	-1037.56	3.48
1034	SLU 83	-46	5	3399	1.33	-1060.11	1.66
1034	SLU 84	-45	11	3369	1.3	-1050.71	3.48
1034	SLE RA 1	-31	3	2206	0.87	-687.92	1.07
1034	SLE RA 2	-30	10	2173	0.83	-677.48	3.09
1034	SLE RA 3	-31	3	2247	0.89	-700.93	1.07
1034	SLE RA 4	-31	7	2227	0.87	-694.67	2.28
1034	SLE RA 5	-30	10	2201	0.84	-686.25	3.09
1034	SLE RA 6	-32	3	2275	0.91	-709.7	1.07
1034	SLE RA 7	-31	7	2256	0.88	-703.44	2.28
1034	SLE RA 8	-31	3	2262	0.9	-705.46	1.07
1034	SLE RA 9	-31	7	2242	0.88	-699.2	2.28
1034	SLE RA 10	-32	10	2352	0.89	-733.44	3.21
1034	SLE RA 11	-33	4	2427	0.95	-756.89	1.19
1034	SLE RA 12	-33	8	2407	0.93	-750.63	2.4
1034	SLE RA 13	-32	10	2380	0.91	-742.21	3.21
1034	SLE RA 14	-34	4	2455	0.97	-765.66	1.19
1034	SLE RA 15	-33	8	2435	0.95	-759.4	2.4
1034	SLE RA 16	-33	4	2441	0.96	-761.42	1.19
1034	SLE RA 17	-33	8	2422	0.94	-755.16	2.4
1034	SLE RA 18	-34	4	2462	0.96	-767.86	1.24
1034	SLE RA 19	-33	8	2442	0.93	-761.6	2.45
1034	SLE RA 20	-34	4	2490	0.97	-776.63	1.24
1034	SLE RA 21	-34	8	2470	0.95	-770.37	2.45
1034	SLE FR 1	-31	3	2206	0.87	-687.92	1.07
1034	SLE FR 2	-31	5	2199	0.86	-685.83	1.47
1034	SLE FR 3	-31	3	2217	0.87	-691.43	1.07
1034	SLE FR 4	-32	5	2276	0.89	-709.82	1.53
1034	SLE FR 5	-32	4	2294	0.9	-715.41	1.12
1034	SLE FR 6	-32	4	2334	0.91	-727.89	1.16
1034	SLE QP 1	-31	3	2206	0.87	-687.92	1.07
1034	SLE QP 2	-32	4	2282	0.89	-711.9	1.12
1034	SLD 1	192	66	2192	0.65	-678.57	21.3
1034	SLD 2	152	39	2228	0.69	-689.93	12.71
1034	SLD 3	177	-52	2937	1.57	-913.77	-17.06
1034	SLD 4	138	-79	2973	1.61	-925.12	-25.65
1034	SLD 5	64	206	1119	-0.58	-343.23	66.84
1034	SLD 6	39	189	1142	-0.55	-350.57	61.28
1034	SLD 7	16	-187	3603	2.49	-1127.2	-61.01
1034	SLD 8	-10	-204	3626	2.51	-1134.55	-66.57
1034	SLD 9	-54	212	939	-0.72	-289.26	68.82
1034	SLD 10	-79	195	962	-0.7	-296.61	63.26
1034	SLD 11	-102	-181	3423	2.34	-1073.23	-59.04
1034	SLD 12	-128	-198	3446	2.37	-1080.58	-64.59
1034	SLD 13	-201	86	1592	0.18	-498.68	27.89
1034	SLD 14	-241	59	1628	0.22	-510.04	19.3
1034	SLD 15	-216	-32	2337	1.1	-733.88	-10.46
1034	SLD 16	-255	-59	2373	1.14	-745.23	-19.05
1034	SLV 1	319	108	2093	0.46	-644.55	35.11
1034	SLV 2	257	67	2150	0.52	-662.43	21.59
1034	SLV 3	295	-91	3352	2.01	-1041.98	-29.69
1034	SLV 4	233	-133	3409	2.08	-1059.86	-43.22
1034	SLV 5	122	345	305	-1.61	-85.6	112.13
1034	SLV 6	81	317	344	-1.56	-97.64	103.02
1034	SLV 7	41	-319	4502	3.57	-1410.35	-103.88
1034	SLV 8	-1	-347	4540	3.62	-1422.39	-112.99
1034	SLV 9	-62	354	25	-1.83	-1.42	115.23
1034	SLV 10	-104	326	63	-1.79	-13.45	106.13
1034	SLV 11	-144	-310	4221	3.35	-1326.17	-100.78
1034	SLV 12	-186	-338	4260	3.4	-1338.21	-109.89
1034	SLV 13	-296	140	1156	-0.29	-363.95	45.46
1034	SLV 14	-358	98	1213	-0.22	-381.83	31.94
1034	SLV 15	-321	-59	2415	1.27	-761.37	-19.34
1034	SLV 16	-383	-101	2472	1.33	-779.25	-32.87
1034	SLV FO 1	354	119	2074	0.41	-637.82	38.51
1034	SLV FO 2	286	73	2136	0.48	-657.49	23.63
1034	SLV FO 3	327	-100	3459	2.12	-1074.99	-32.77
1034	SLV FO 4	259	-146	3521	2.19	-1094.66	-47.65
1034	SLV FO 5	138	379	108	-1.86	-22.97	123.23
1034	SLV FO 6	92	348	150	-1.81	-36.21	113.21
1034	SLV FO 7	48	-351	4724	3.84	-1480.2	-114.38
1034	SLV FO 8	2	-382	4766	3.89	-1493.44	-124.4
1034	SLV FO 9	-65	390	-201	-2.1	69.63	126.65
1034	SLV FO 10	-111	359	-159	-2.05	56.39	116.63
1034	SLV FO 11	-155	-341	4415	3.6	-1387.6	-110.97
1034	SLV FO 12	-201	-372	4457	3.65	-1400.84	-120.99
1034	SLV FO 13	-322	153	1044	-0.41	-329.15	49.9
1034	SLV FO 14	-391	108	1106	-0.33	-348.82	35.02
1034	SLV FO 15	-349	-66	2429	1.3	-766.32	-21.39
1034	SLV FO 16	-418	-112	2491	1.38	-785.99	-36.27
1034	CRTFP Ux+	0	0	0	0	0	0
1034	CRTFP Ux-	0	0	0	0	0	0
1034	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1034	CRTFP Uy-	0	0	0	0	0	0
1074	SLU 1	-26	4	2144	0.87	-661.8	1.1
1074	SLU 2	-25	13	2092	0.81	-645.47	4.12
1074	SLU 3	-27	4	2209	0.91	-681.65	1.1
1074	SLU 4	-26	9	2177	0.87	-671.85	2.91
1074	SLU 5	-26	13	2135	0.83	-658.86	4.12
1074	SLU 6	-27	4	2252	0.93	-695.04	1.09
1074	SLU 7	-27	9	2221	0.9	-685.24	2.91
1074	SLU 8	-27	4	2231	0.92	-688.58	1.09
1074	SLU 9	-26	9	2200	0.88	-678.78	2.91
1074	SLU 10	-28	13	2366	0.91	-729.87	4.31
1074	SLU 11	-30	4	2483	1.01	-766.06	1.28
1074	SLU 12	-29	10	2452	0.97	-756.26	3.09
1074	SLU 13	-28	13	2409	0.93	-743.26	4.3
1074	SLU 14	-30	4	2527	1.04	-779.45	1.28
1074	SLU 15	-29	10	2495	1	-769.65	3.09
1074	SLU 16	-30	4	2506	1.02	-772.99	1.28
1074	SLU 17	-29	10	2474	0.99	-763.19	3.09
1074	SLU 18	-30	4	2536	1.02	-782.38	1.36
1074	SLU 19	-30	10	2505	0.98	-772.58	3.17
1074	SLU 20	-31	4	2580	1.04	-795.77	1.36
1074	SLU 21	-30	10	2548	1	-785.97	3.17
1074	SLU 22	-31	4	2521	1.04	-777.57	1.13
1074	SLU 23	-29	13	2468	0.98	-761.23	4.16
1074	SLU 24	-31	4	2585	1.08	-797.42	1.13
1074	SLU 25	-31	9	2553	1.04	-787.62	2.95
1074	SLU 26	-30	13	2511	1	-774.62	4.16
1074	SLU 27	-31	4	2629	1.11	-810.81	1.13
1074	SLU 28	-31	9	2597	1.07	-801.01	2.95
1074	SLU 29	-31	4	2608	1.1	-804.35	1.13
1074	SLU 30	-31	9	2576	1.06	-794.55	2.95
1074	SLU 31	-32	14	2742	1.08	-845.64	4.34
1074	SLU 32	-34	4	2859	1.18	-881.83	1.31
1074	SLU 33	-33	10	2828	1.14	-872.03	3.13
1074	SLU 34	-33	14	2786	1.11	-859.03	4.34
1074	SLU 35	-34	4	2903	1.21	-895.22	1.31
1074	SLU 36	-34	10	2871	1.17	-885.42	3.13
1074	SLU 37	-34	4	2882	1.2	-888.76	1.31
1074	SLU 38	-33	10	2850	1.16	-878.96	3.13
1074	SLU 39	-35	4	2913	1.19	-898.15	1.39
1074	SLU 40	-34	10	2881	1.15	-888.35	3.21
1074	SLU 41	-35	4	2956	1.21	-911.54	1.39
1074	SLU 42	-34	10	2924	1.18	-901.74	3.21
1074	SLU 43	-33	5	2659	1.07	-820.65	1.41
1074	SLU 44	-32	14	2606	1.01	-804.32	4.44
1074	SLU 45	-33	5	2723	1.11	-840.5	1.41
1074	SLU 46	-33	10	2692	1.07	-830.7	3.23
1074	SLU 47	-32	14	2649	1.03	-817.71	4.44
1074	SLU 48	-34	5	2767	1.14	-853.89	1.41
1074	SLU 49	-33	10	2735	1.1	-844.09	3.23
1074	SLU 50	-33	5	2746	1.13	-847.43	1.41
1074	SLU 51	-33	10	2714	1.09	-837.63	3.23
1074	SLU 52	-35	14	2880	1.11	-888.72	4.62
1074	SLU 53	-36	5	2998	1.21	-924.91	1.59
1074	SLU 54	-36	11	2966	1.17	-915.11	3.41
1074	SLU 55	-35	14	2924	1.14	-902.11	4.62
1074	SLU 56	-37	5	3041	1.24	-938.3	1.59
1074	SLU 57	-36	11	3009	1.2	-928.5	3.41
1074	SLU 58	-36	5	3020	1.23	-931.84	1.59
1074	SLU 59	-36	11	2988	1.19	-922.04	3.41
1074	SLU 60	-37	5	3051	1.22	-941.23	1.67
1074	SLU 61	-36	11	3019	1.18	-931.43	3.49
1074	SLU 62	-37	5	3094	1.24	-954.62	1.67
1074	SLU 63	-36	11	3062	1.2	-944.82	3.49
1074	SLU 64	-37	5	3035	1.25	-936.42	1.45
1074	SLU 65	-36	14	2982	1.18	-920.08	4.47
1074	SLU 66	-38	5	3099	1.28	-956.27	1.45
1074	SLU 67	-37	10	3068	1.24	-946.47	3.26
1074	SLU 68	-36	14	3026	1.21	-933.47	4.47
1074	SLU 69	-38	5	3143	1.31	-969.66	1.45
1074	SLU 70	-37	10	3111	1.27	-959.86	3.26
1074	SLU 71	-38	5	3122	1.3	-963.2	1.45
1074	SLU 72	-37	10	3090	1.26	-953.4	3.26
1074	SLU 73	-39	15	3257	1.28	-1004.49	4.66
1074	SLU 74	-40	5	3374	1.38	-1040.67	1.63
1074	SLU 75	-40	11	3342	1.35	-1030.87	3.45
1074	SLU 76	-39	15	3300	1.31	-1017.88	4.66
1074	SLU 77	-41	5	3417	1.41	-1054.07	1.63
1074	SLU 78	-40	11	3386	1.37	-1044.27	3.45
1074	SLU 79	-40	5	3396	1.4	-1047.6	1.63
1074	SLU 80	-40	11	3365	1.36	-1037.8	3.44
1074	SLU 81	-41	6	3427	1.39	-1057	1.71
1074	SLU 82	-40	11	3395	1.35	-1047.2	3.53
1074	SLU 83	-41	6	3470	1.42	-1070.39	1.71
1074	SLU 84	-41	11	3439	1.38	-1060.59	3.52
1074	SLE RA 1	-27	4	2252	0.92	-694.88	1.11
1074	SLE RA 2	-27	10	2217	0.88	-683.99	3.12
1074	SLE RA 3	-28	4	2295	0.95	-708.11	1.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1074	SLE RA 4	-28	7	2274	0.92	-701.58	2.32
1074	SLE RA 5	-27	10	2246	0.89	-692.91	3.12
1074	SLE RA 6	-28	4	2324	0.96	-717.04	1.11
1074	SLE RA 7	-28	7	2303	0.94	-710.51	2.32
1074	SLE RA 8	-28	4	2310	0.95	-712.73	1.1
1074	SLE RA 9	-28	7	2289	0.93	-706.2	2.32
1074	SLE RA 10	-29	10	2400	0.94	-740.26	3.25
1074	SLE RA 11	-30	4	2478	1.01	-764.38	1.23
1074	SLE RA 12	-29	8	2457	0.99	-757.85	2.44
1074	SLE RA 13	-29	10	2429	0.96	-749.19	3.24
1074	SLE RA 14	-30	4	2507	1.03	-773.31	1.23
1074	SLE RA 15	-30	8	2486	1	-766.78	2.44
1074	SLE RA 16	-30	4	2493	1.02	-769	1.23
1074	SLE RA 17	-29	8	2472	1	-762.47	2.44
1074	SLE RA 18	-30	4	2513	1.02	-775.26	1.28
1074	SLE RA 19	-30	8	2492	0.99	-768.73	2.49
1074	SLE RA 20	-30	4	2542	1.03	-784.19	1.28
1074	SLE RA 21	-30	8	2521	1.01	-777.66	2.49
1074	SLE FR 1	-27	4	2252	0.92	-694.88	1.11
1074	SLE FR 2	-27	5	2245	0.91	-692.7	1.51
1074	SLE FR 3	-28	4	2264	0.93	-698.45	1.11
1074	SLE FR 4	-28	5	2323	0.94	-716.81	1.56
1074	SLE FR 5	-28	4	2342	0.96	-722.56	1.16
1074	SLE FR 6	-29	4	2383	0.97	-735.07	1.19
1074	SLE QP 1	-27	4	2252	0.92	-694.88	1.11
1074	SLE QP 2	-28	4	2330	0.95	-718.99	1.16
1074	SLD 1	200	66	2226	0.68	-682.84	21.38
1074	SLD 2	159	40	2265	0.73	-694.45	12.78
1074	SLD 3	187	-52	3021	1.65	-928.62	-16.92
1074	SLD 4	146	-78	3060	1.7	-940.23	-25.52
1074	SLD 5	68	206	1087	-0.62	-333.36	66.81
1074	SLD 6	41	189	1112	-0.59	-340.87	61.25
1074	SLD 7	23	-187	3736	2.63	-1152.64	-60.87
1074	SLD 8	-3	-204	3761	2.66	-1160.15	-66.43
1074	SLD 9	-53	212	899	-0.76	-277.83	68.75
1074	SLD 10	-80	194	924	-0.73	-285.34	63.19
1074	SLD 11	-98	-181	3549	2.48	-1097.11	-58.93
1074	SLD 12	-124	-198	3574	2.51	-1104.63	-64.5
1074	SLD 13	-203	86	1601	0.2	-497.75	27.84
1074	SLD 14	-244	59	1639	0.24	-509.36	19.24
1074	SLD 15	-216	-32	2396	1.17	-743.53	-10.46
1074	SLD 16	-257	-59	2434	1.22	-755.15	-19.06
1074	SLV 1	330	109	2116	0.47	-646.54	35.22
1074	SLV 2	266	67	2177	0.54	-664.82	21.68
1074	SLV 3	308	-90	3459	2.11	-1061.87	-29.5
1074	SLV 4	243	-132	3520	2.19	-1080.16	-43.04
1074	SLV 5	125	345	218	-1.7	-63.93	112.06
1074	SLV 6	82	317	259	-1.66	-76.24	102.94
1074	SLV 7	51	-319	4695	3.78	-1448.36	-103.66
1074	SLV 8	7	-347	4735	3.83	-1460.67	-112.78
1074	SLV 9	-64	354	-75	-1.93	22.69	115.1
1074	SLV 10	-107	326	-34	-1.88	10.38	105.98
1074	SLV 11	-139	-309	4402	3.55	-1361.75	-100.62
1074	SLV 12	-182	-337	4443	3.6	-1374.06	-109.74
1074	SLV 13	-300	140	1141	-0.29	-357.83	45.35
1074	SLV 14	-365	98	1201	-0.21	-376.11	31.81
1074	SLV 15	-322	-59	2484	1.36	-773.16	-19.36
1074	SLV 16	-387	-101	2544	1.43	-791.44	-32.9
1074	SLV FO 1	366	119	2095	0.42	-639.3	38.63
1074	SLV FO 2	295	73	2161	0.5	-659.41	23.73
1074	SLV FO 3	342	-100	3572	2.23	-1096.16	-32.56
1074	SLV FO 4	271	-146	3639	2.31	-1116.27	-47.46
1074	SLV FO 5	141	379	7	-1.97	1.58	123.15
1074	SLV FO 6	93	348	51	-1.92	-11.96	113.12
1074	SLV FO 7	58	-351	4931	4.06	-1521.3	-114.15
1074	SLV FO 8	11	-382	4976	4.12	-1534.84	-124.18
1074	SLV FO 9	-67	389	-315	-2.22	96.86	126.49
1074	SLV FO 10	-115	358	-270	-2.17	83.31	116.46
1074	SLV FO 11	-150	-341	4609	3.81	-1426.02	-110.8
1074	SLV FO 12	-197	-372	4654	3.87	-1439.57	-120.83
1074	SLV FO 13	-327	153	1022	-0.41	-321.71	49.77
1074	SLV FO 14	-398	107	1088	-0.33	-341.83	34.88
1074	SLV FO 15	-352	-66	2499	1.4	-778.58	-21.41
1074	SLV FO 16	-423	-112	2566	1.48	-798.69	-36.31
1074	CRTFP Ux+	0	0	0	0	0	0
1074	CRTFP Ux-	0	0	0	0	0	0
1074	CRTFP Uy+	0	0	0	0	0	0
1074	CRTFP Uy-	0	0	0	0	0	0
1078	SLU 1	-42	7	3679	-921.14	-638.44	-9.95
1078	SLU 2	-40	23	3589	-900.5	-622.61	-6.73
1078	SLU 3	-43	7	3790	-948.32	-657.65	-10.21
1078	SLU 4	-42	16	3736	-935.93	-648.16	-8.28
1078	SLU 5	-41	23	3664	-918.79	-635.57	-6.86
1078	SLU 6	-43	7	3865	-966.62	-670.62	-10.35
1078	SLU 7	-43	16	3810	-954.23	-661.12	-8.41
1078	SLU 8	-43	7	3829	-957.74	-664.37	-10.21
1078	SLU 9	-42	16	3774	-945.35	-654.87	-8.28
1078	SLU 10	-45	23	4060	-1018.85	-704.16	-7.76

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1078	SLU 11	-48	8	4262	-1066.68	-739.2	-11.24
1078	SLU 12	-47	17	4207	-1054.29	-729.7	-9.31
1078	SLU 13	-45	23	4135	-1037.15	-717.12	-7.89
1078	SLU 14	-48	8	4336	-1084.98	-752.16	-11.38
1078	SLU 15	-47	17	4282	-1072.59	-742.66	-9.44
1078	SLU 16	-48	8	4300	-1076.09	-745.91	-11.24
1078	SLU 17	-47	17	4246	-1063.71	-736.42	-9.31
1078	SLU 18	-49	8	4353	-1090.22	-754.94	-11.42
1078	SLU 19	-48	18	4299	-1077.83	-745.44	-9.49
1078	SLU 20	-49	8	4428	-1108.52	-767.9	-11.55
1078	SLU 21	-48	18	4373	-1096.13	-758.4	-9.62
1078	SLU 22	-49	7	4326	-1081.89	-750.38	-11.69
1078	SLU 23	-47	23	4235	-1061.25	-734.54	-8.47
1078	SLU 24	-50	7	4436	-1109.07	-769.59	-11.96
1078	SLU 25	-49	16	4382	-1096.68	-760.09	-10.02
1078	SLU 26	-48	23	4310	-1079.54	-747.5	-8.6
1078	SLU 27	-50	7	4511	-1127.37	-782.55	-12.09
1078	SLU 28	-49	16	4457	-1114.98	-773.05	-10.15
1078	SLU 29	-50	7	4475	-1118.49	-776.3	-11.96
1078	SLU 30	-49	16	4421	-1106.1	-766.8	-10.02
1078	SLU 31	-52	24	4707	-1179.6	-816.09	-9.5
1078	SLU 32	-54	8	4908	-1227.43	-851.14	-12.98
1078	SLU 33	-53	17	4854	-1215.04	-841.64	-11.05
1078	SLU 34	-52	24	4781	-1197.9	-829.05	-9.63
1078	SLU 35	-55	8	4982	-1245.73	-864.1	-13.12
1078	SLU 36	-54	17	4928	-1233.34	-854.6	-11.18
1078	SLU 37	-54	8	4946	-1236.85	-857.85	-12.98
1078	SLU 38	-53	17	4892	-1224.46	-848.35	-11.05
1078	SLU 39	-55	8	4999	-1250.97	-866.87	-13.16
1078	SLU 40	-54	18	4945	-1238.58	-857.38	-11.23
1078	SLU 41	-56	8	5074	-1269.27	-879.84	-13.29
1078	SLU 42	-55	18	5020	-1256.88	-870.34	-11.36
1078	SLU 43	-52	9	4562	-1142.37	-791.6	-12.34
1078	SLU 44	-51	24	4471	-1121.72	-775.77	-9.12
1078	SLU 45	-53	9	4672	-1169.55	-810.81	-12.6
1078	SLU 46	-52	18	4618	-1157.16	-801.31	-10.67
1078	SLU 47	-51	25	4546	-1140.02	-788.73	-9.25
1078	SLU 48	-54	9	4747	-1187.85	-823.77	-12.73
1078	SLU 49	-53	18	4693	-1175.46	-814.27	-10.8
1078	SLU 50	-53	9	4711	-1178.97	-817.52	-12.6
1078	SLU 51	-52	18	4657	-1166.58	-808.02	-10.67
1078	SLU 52	-55	25	4943	-1240.08	-857.32	-10.15
1078	SLU 53	-58	10	5144	-1287.9	-892.36	-13.63
1078	SLU 54	-57	19	5090	-1275.52	-882.86	-11.7
1078	SLU 55	-56	25	5017	-1258.38	-870.28	-10.28
1078	SLU 56	-58	10	5218	-1306.2	-905.32	-13.76
1078	SLU 57	-57	19	5164	-1293.82	-895.82	-11.83
1078	SLU 58	-58	10	5182	-1297.32	-899.07	-13.63
1078	SLU 59	-57	19	5128	-1284.94	-889.57	-11.7
1078	SLU 60	-59	10	5235	-1311.45	-908.1	-13.81
1078	SLU 61	-58	20	5181	-1299.06	-898.6	-11.88
1078	SLU 62	-59	10	5310	-1329.75	-921.06	-13.94
1078	SLU 63	-58	20	5256	-1317.36	-911.56	-12.01
1078	SLU 64	-59	9	5208	-1303.12	-903.53	-14.08
1078	SLU 65	-57	25	5117	-1282.47	-887.7	-10.86
1078	SLU 66	-60	9	5319	-1330.3	-922.74	-14.34
1078	SLU 67	-59	18	5264	-1317.91	-913.24	-12.41
1078	SLU 68	-58	25	5192	-1300.77	-900.66	-10.99
1078	SLU 69	-61	9	5393	-1348.6	-935.7	-14.48
1078	SLU 70	-60	18	5339	-1336.21	-926.2	-12.54
1078	SLU 71	-60	9	5357	-1339.72	-929.45	-14.34
1078	SLU 72	-59	18	5303	-1327.33	-919.95	-12.41
1078	SLU 73	-62	26	5589	-1400.83	-969.25	-11.89
1078	SLU 74	-65	10	5790	-1448.65	-1004.29	-15.37
1078	SLU 75	-64	19	5736	-1436.27	-994.79	-13.44
1078	SLU 76	-62	26	5664	-1419.13	-982.21	-12.02
1078	SLU 77	-65	10	5865	-1466.95	-1017.25	-15.5
1078	SLU 78	-64	19	5810	-1454.57	-1007.75	-13.57
1078	SLU 79	-65	10	5829	-1458.07	-1011	-15.37
1078	SLU 80	-64	19	5774	-1445.69	-1001.5	-13.44
1078	SLU 81	-66	10	5881	-1472.2	-1020.03	-15.55
1078	SLU 82	-65	20	5827	-1459.81	-1010.53	-13.62
1078	SLU 83	-66	10	5956	-1490.5	-1032.99	-15.68
1078	SLU 84	-65	20	5902	-1478.11	-1023.49	-13.75
1078	SLE RA 1	-44	7	3864	-967.07	-670.42	-10.45
1078	SLE RA 2	-43	17	3804	-953.31	-659.87	-8.3
1078	SLE RA 3	-45	7	3938	-985.19	-683.23	-10.62
1078	SLE RA 4	-44	13	3902	-976.93	-676.9	-9.34
1078	SLE RA 5	-43	17	3854	-965.51	-668.51	-8.39
1078	SLE RA 6	-45	7	3988	-997.39	-691.87	-10.71
1078	SLE RA 7	-44	13	3951	-989.13	-685.54	-9.42
1078	SLE RA 8	-45	7	3964	-991.47	-687.71	-10.62
1078	SLE RA 9	-44	13	3927	-983.21	-681.37	-9.34
1078	SLE RA 10	-46	18	4118	-1032.21	-714.24	-8.99
1078	SLE RA 11	-48	7	4252	-1064.09	-737.6	-11.31
1078	SLE RA 12	-47	14	4216	-1055.84	-731.26	-10.02
1078	SLE RA 13	-46	18	4168	-1044.41	-722.88	-9.07
1078	SLE RA 14	-48	7	4302	-1076.29	-746.24	-11.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1078	SLE RA 15	-47	14	4266	-1068.03	-739.91	-10.11
1078	SLE RA 16	-48	7	4278	-1070.37	-742.07	-11.31
1078	SLE RA 17	-47	14	4242	-1062.11	-735.74	-10.02
1078	SLE RA 18	-48	8	4313	-1079.79	-748.09	-11.43
1078	SLE RA 19	-48	14	4277	-1071.53	-741.76	-10.14
1078	SLE RA 20	-49	8	4363	-1091.99	-756.73	-11.52
1078	SLE RA 21	-48	14	4327	-1083.73	-750.4	-10.23
1078	SLE FR 1	-44	7	3864	-967.07	-670.42	-10.45
1078	SLE FR 2	-44	9	3852	-964.32	-668.31	-10.02
1078	SLE FR 3	-44	7	3884	-971.95	-673.88	-10.48
1078	SLE FR 4	-45	9	3987	-998.13	-691.61	-10.31
1078	SLE FR 5	-45	7	4019	-1005.76	-697.18	-10.78
1078	SLE FR 6	-46	7	4089	-1023.43	-709.26	-10.94
1078	SLE QP 1	-44	7	3864	-967.07	-670.42	-10.45
1078	SLE QP 2	-45	7	3999	-1000.89	-693.72	-10.74
1078	SLD 1	342	114	3831	-970.55	-661.3	111.39
1078	SLD 2	273	68	3898	-985.96	-672.69	85.23
1078	SLD 3	321	-85	5190	-1281.3	-899.57	70.6
1078	SLD 4	252	-132	5257	-1296.71	-910.96	44.45
1078	SLD 5	114	349	1875	-517.81	-320.65	92.29
1078	SLD 6	70	319	1919	-527.78	-328.02	75.37
1078	SLD 7	45	-315	6406	-1553.64	-1114.88	-43.66
1078	SLD 8	0	-345	6449	-1563.61	-1122.24	-60.58
1078	SLD 9	-91	359	1548	-438.16	-265.21	39.1
1078	SLD 10	-136	329	1592	-448.13	-272.57	22.17
1078	SLD 11	-160	-305	6079	-1473.99	-1059.43	-96.86
1078	SLD 12	-205	-335	6122	-1483.96	-1066.8	-113.78
1078	SLD 13	-342	146	2741	-705.06	-476.49	-65.94
1078	SLD 14	-412	99	2807	-720.47	-487.88	-92.09
1078	SLD 15	-363	-54	4100	-1015.81	-714.76	-106.72
1078	SLD 16	-432	-100	4167	-1031.22	-726.15	-132.88
1078	SLV 1	562	187	3648	-933.28	-627.59	183.1
1078	SLV 2	454	114	3753	-957.55	-645.52	141.92
1078	SLV 3	527	-150	5945	-1458.37	-1030.21	114.2
1078	SLV 4	419	-223	6050	-1482.64	-1048.14	73.02
1078	SLV 5	210	585	391	-179.69	-59.89	159.59
1078	SLV 6	137	536	461	-196.03	-71.96	131.87
1078	SLV 7	94	-537	8046	-1929.99	-1401.97	-70.07
1078	SLV 8	20	-586	8117	-1946.33	-1414.04	-97.79
1078	SLV 9	-111	600	-119	-55.44	26.6	76.31
1078	SLV 10	-184	551	-49	-71.78	14.53	48.58
1078	SLV 11	-228	-522	7536	-1805.74	-1315.49	-153.35
1078	SLV 12	-301	-571	7607	-1822.08	-1327.56	-181.08
1078	SLV 13	-509	237	1948	-519.13	-339.31	-94.51
1078	SLV 14	-618	164	2053	-543.4	-357.24	-135.69
1078	SLV 15	-544	-100	4244	-1044.22	-741.93	-163.41
1078	SLV 16	-653	-173	4349	-1068.49	-759.86	-204.59
1078	SLV FO 1	623	205	3613	-926.52	-620.97	202.49
1078	SLV FO 2	503	125	3729	-953.21	-640.69	157.19
1078	SLV FO 3	584	-165	6139	-1504.12	-1063.86	126.7
1078	SLV FO 4	465	-246	6255	-1530.81	-1083.58	81.4
1078	SLV FO 5	236	643	30	-97.57	3.5	176.62
1078	SLV FO 6	156	589	108	-115.54	-9.78	146.13
1078	SLV FO 7	108	-591	8451	-2022.9	-1472.8	-76
1078	SLV FO 8	27	-645	8529	-2040.87	-1486.08	-106.5
1078	SLV FO 9	-117	659	-531	39.1	98.63	85.01
1078	SLV FO 10	-198	605	-453	21.13	85.35	54.51
1078	SLV FO 11	-246	-575	7890	-1886.23	-1377.67	-167.61
1078	SLV FO 12	-326	-629	7968	-1904.2	-1390.94	-198.11
1078	SLV FO 13	-555	260	1743	-470.96	-303.87	-102.89
1078	SLV FO 14	-675	179	1858	-497.65	-323.59	-148.19
1078	SLV FO 15	-594	-111	4269	-1048.56	-746.75	-178.68
1078	SLV FO 16	-713	-191	4384	-1075.25	-766.48	-223.97
1078	CRTFP Ux+	0	0	0	0	0	0
1078	CRTFP Ux-	0	0	0	0	0	0
1078	CRTFP Uy+	0	0	0	0	0	0
1078	CRTFP Uy-	0	0	0	0	0	0
1080	SLU 1	-37	6	3174	-985.33	-84.69	-12.84
1080	SLU 2	-36	20	3097	-964.14	-82.66	-11.97
1080	SLU 3	-38	6	3269	-1014.02	-87.22	-13.15
1080	SLU 4	-37	14	3223	-1001.3	-86	-12.63
1080	SLU 5	-36	20	3161	-983.45	-84.36	-12.13
1080	SLU 6	-38	6	3333	-1033.33	-88.92	-13.31
1080	SLU 7	-38	14	3287	-1020.61	-87.7	-12.79
1080	SLU 8	-38	6	3302	-1023.94	-88.09	-13.15
1080	SLU 9	-37	14	3256	-1011.23	-86.88	-12.63
1080	SLU 10	-40	21	3503	-1089.68	-93.45	-13.35
1080	SLU 11	-42	7	3674	-1139.56	-98.01	-14.53
1080	SLU 12	-41	15	3629	-1126.85	-96.79	-14.01
1080	SLU 13	-40	21	3567	-1108.99	-95.16	-13.5
1080	SLU 14	-42	7	3738	-1158.87	-99.71	-14.69
1080	SLU 15	-42	15	3693	-1146.16	-98.49	-14.16
1080	SLU 16	-42	7	3708	-1149.49	-98.89	-14.53
1080	SLU 17	-41	15	3662	-1136.77	-97.67	-14.01
1080	SLU 18	-43	7	3754	-1164.68	-100.11	-14.81
1080	SLU 19	-42	15	3708	-1151.97	-98.89	-14.29
1080	SLU 20	-43	7	3818	-1183.99	-101.81	-14.97
1080	SLU 21	-42	15	3772	-1171.27	-100.59	-14.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1080	SLU 22	-43	6	3729	-1155.43	-99.46	-14.92
1080	SLU 23	-42	20	3653	-1134.24	-97.43	-14.04
1080	SLU 24	-44	6	3824	-1184.12	-101.98	-15.23
1080	SLU 25	-43	14	3778	-1171.41	-100.76	-14.7
1080	SLU 26	-42	20	3717	-1153.55	-99.13	-14.2
1080	SLU 27	-44	6	3888	-1203.43	-103.68	-15.38
1080	SLU 28	-44	14	3842	-1190.71	-102.46	-14.86
1080	SLU 29	-44	6	3857	-1194.04	-102.86	-15.22
1080	SLU 30	-43	14	3811	-1181.33	-101.64	-14.7
1080	SLU 31	-46	21	4059	-1259.79	-108.22	-15.42
1080	SLU 32	-48	7	4230	-1309.66	-112.77	-16.6
1080	SLU 33	-47	15	4184	-1296.95	-111.55	-16.08
1080	SLU 34	-46	21	4122	-1279.09	-109.92	-15.58
1080	SLU 35	-48	7	4294	-1328.97	-114.47	-16.76
1080	SLU 36	-48	15	4248	-1316.26	-113.26	-16.23
1080	SLU 37	-48	7	4263	-1319.59	-113.65	-16.6
1080	SLU 38	-47	15	4217	-1306.87	-112.43	-16.08
1080	SLU 39	-49	7	4309	-1334.78	-114.87	-16.88
1080	SLU 40	-48	16	4263	-1322.07	-113.66	-16.36
1080	SLU 41	-49	7	4373	-1354.09	-116.57	-17.04
1080	SLU 42	-48	16	4327	-1341.37	-115.36	-16.51
1080	SLU 43	-46	7	3935	-1222.61	-105.04	-15.99
1080	SLU 44	-45	21	3859	-1201.42	-103.01	-15.12
1080	SLU 45	-47	7	4030	-1251.3	-107.56	-16.3
1080	SLU 46	-46	16	3985	-1238.58	-106.34	-15.78
1080	SLU 47	-45	21	3923	-1220.73	-104.71	-15.27
1080	SLU 48	-48	7	4094	-1270.6	-109.26	-16.45
1080	SLU 49	-47	16	4049	-1257.89	-108.05	-15.93
1080	SLU 50	-47	7	4063	-1261.22	-108.44	-16.3
1080	SLU 51	-46	16	4018	-1248.51	-107.22	-15.77
1080	SLU 52	-49	22	4265	-1326.96	-113.8	-16.49
1080	SLU 53	-51	8	4436	-1376.84	-118.35	-17.68
1080	SLU 54	-50	17	4390	-1364.13	-117.14	-17.15
1080	SLU 55	-49	22	4329	-1346.27	-115.5	-16.65
1080	SLU 56	-52	8	4500	-1396.15	-120.05	-17.83
1080	SLU 57	-51	17	4454	-1383.44	-118.84	-17.31
1080	SLU 58	-51	8	4469	-1386.77	-119.23	-17.67
1080	SLU 59	-50	17	4423	-1374.05	-118.01	-17.15
1080	SLU 60	-52	8	4515	-1401.96	-120.45	-17.96
1080	SLU 61	-51	17	4469	-1389.24	-119.24	-17.43
1080	SLU 62	-52	8	4579	-1421.27	-122.15	-18.11
1080	SLU 63	-52	17	4533	-1408.55	-120.94	-17.59
1080	SLU 64	-52	7	4491	-1392.71	-119.8	-18.06
1080	SLU 65	-51	22	4414	-1371.52	-117.77	-17.19
1080	SLU 66	-53	7	4586	-1421.4	-122.32	-18.37
1080	SLU 67	-52	16	4540	-1408.68	-121.11	-17.85
1080	SLU 68	-51	22	4478	-1390.83	-119.47	-17.34
1080	SLU 69	-53	7	4650	-1440.71	-124.03	-18.52
1080	SLU 70	-53	16	4604	-1427.99	-122.81	-18
1080	SLU 71	-53	7	4619	-1431.32	-123.2	-18.37
1080	SLU 72	-52	16	4573	-1418.61	-121.99	-17.85
1080	SLU 73	-55	22	4820	-1497.06	-128.56	-18.56
1080	SLU 74	-57	8	4992	-1546.94	-133.12	-19.75
1080	SLU 75	-56	17	4946	-1534.23	-131.9	-19.22
1080	SLU 76	-55	22	4884	-1516.37	-130.27	-18.72
1080	SLU 77	-57	8	5056	-1566.25	-134.82	-19.9
1080	SLU 78	-57	17	5010	-1553.54	-133.6	-19.38
1080	SLU 79	-57	8	5025	-1556.87	-134	-19.74
1080	SLU 80	-56	17	4979	-1544.15	-132.78	-19.22
1080	SLU 81	-58	9	5071	-1572.06	-135.22	-20.03
1080	SLU 82	-57	17	5025	-1559.35	-134	-19.5
1080	SLU 83	-58	9	5135	-1591.37	-136.92	-20.18
1080	SLU 84	-57	17	5089	-1578.65	-135.7	-19.66
1080	SLE RA 1	-39	6	3332	-1033.93	-88.91	-13.44
1080	SLE RA 2	-38	15	3281	-1019.8	-87.56	-12.86
1080	SLE RA 3	-39	6	3396	-1053.06	-90.59	-13.64
1080	SLE RA 4	-39	11	3365	-1044.58	-89.78	-13.29
1080	SLE RA 5	-38	15	3324	-1032.67	-88.69	-12.96
1080	SLE RA 6	-40	6	3438	-1065.93	-91.73	-13.75
1080	SLE RA 7	-39	11	3408	-1057.45	-90.92	-13.4
1080	SLE RA 8	-39	6	3418	-1059.67	-91.18	-13.64
1080	SLE RA 9	-39	11	3387	-1051.2	-90.37	-13.29
1080	SLE RA 10	-41	16	3552	-1103.5	-94.75	-13.77
1080	SLE RA 11	-42	6	3666	-1136.75	-97.79	-14.56
1080	SLE RA 12	-42	12	3636	-1128.28	-96.98	-14.21
1080	SLE RA 13	-41	16	3595	-1116.37	-95.89	-13.88
1080	SLE RA 14	-42	6	3709	-1149.62	-98.92	-14.66
1080	SLE RA 15	-42	12	3678	-1141.15	-98.11	-14.32
1080	SLE RA 16	-42	6	3688	-1143.37	-98.37	-14.56
1080	SLE RA 17	-42	12	3658	-1134.89	-97.56	-14.21
1080	SLE RA 18	-43	7	3719	-1153.5	-99.19	-14.75
1080	SLE RA 19	-42	12	3688	-1145.02	-98.38	-14.4
1080	SLE RA 20	-43	7	3762	-1166.37	-100.32	-14.85
1080	SLE RA 21	-42	12	3731	-1157.89	-99.51	-14.5
1080	SLE FR 1	-39	6	3332	-1033.93	-88.91	-13.44
1080	SLE FR 2	-39	8	3322	-1031.1	-88.64	-13.32
1080	SLE FR 3	-39	6	3349	-1039.08	-89.36	-13.48
1080	SLE FR 4	-40	8	3438	-1066.97	-91.72	-13.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1080	SLE FR 5	-40	6	3465	-1074.95	-92.45	-13.87
1080	SLE FR 6	-41	6	3526	-1093.71	-94.05	-14.09
1080	SLE QP 1	-39	6	3332	-1033.93	-88.91	-13.44
1080	SLE QP 2	-40	6	3448	-1069.8	-91.99	-13.83
1080	SLD 1	308	101	3301	-1040.34	-87.72	110.64
1080	SLD 2	247	61	3356	-1055.81	-89.13	88.09
1080	SLD 3	290	-78	4451	-1360.48	-118.27	99.53
1080	SLD 4	229	-118	4506	-1375.96	-119.68	76.99
1080	SLD 5	102	312	1651	-572.73	-44.12	44.26
1080	SLD 6	62	286	1687	-582.74	-45.03	29.67
1080	SLD 7	43	-283	5483	-1639.87	-145.98	7.25
1080	SLD 8	3	-309	5519	-1649.88	-146.89	-7.33
1080	SLD 9	-83	321	1378	-489.72	-37.1	-20.33
1080	SLD 10	-123	295	1413	-499.73	-38.01	-34.91
1080	SLD 11	-142	-274	5210	-1556.86	-138.95	-57.33
1080	SLD 12	-182	-300	5246	-1566.87	-139.86	-71.92
1080	SLD 13	-309	130	2391	-763.64	-64.3	-104.64
1080	SLD 14	-370	90	2446	-779.12	-65.71	-127.19
1080	SLD 15	-326	-49	3541	-1083.79	-94.86	-115.75
1080	SLD 16	-388	-89	3596	-1099.26	-96.27	-138.29
1080	SLV 1	506	165	3144	-1002.95	-83.33	181.78
1080	SLV 2	409	102	3230	-1027.32	-85.55	146.27
1080	SLV 3	476	-136	5086	-1543.91	-134.96	163.03
1080	SLV 4	379	-199	5173	-1568.28	-137.18	127.53
1080	SLV 5	188	523	394	-224.75	-10.67	79.9
1080	SLV 6	122	480	453	-241.15	-12.16	56
1080	SLV 7	87	-482	6870	-2027.93	-182.78	17.43
1080	SLV 8	22	-524	6928	-2044.34	-184.28	-6.47
1080	SLV 9	-102	536	-32	-95.26	0.29	-21.18
1080	SLV 10	-167	494	27	-111.66	-1.2	-45.09
1080	SLV 11	-202	-468	6444	-1898.45	-171.82	-83.66
1080	SLV 12	-267	-511	6502	-1914.85	-173.32	-107.56
1080	SLV 13	-459	211	1724	-571.32	-46.8	-155.19
1080	SLV 14	-556	148	1810	-595.69	-49.02	-190.69
1080	SLV 15	-489	-91	3666	-1112.28	-98.44	-173.93
1080	SLV 16	-586	-153	3753	-1136.65	-100.66	-209.44
1080	SLV FO 1	561	181	3113	-996.27	-82.46	201.34
1080	SLV FO 2	454	112	3208	-1023.07	-84.9	162.28
1080	SLV FO 3	527	-150	5250	-1591.32	-139.26	180.72
1080	SLV FO 4	421	-220	5346	-1618.12	-141.7	141.67
1080	SLV FO 5	210	574	89	-140.24	-2.54	89.28
1080	SLV FO 6	139	528	153	-158.29	-4.18	62.98
1080	SLV FO 7	100	-531	7212	-2123.75	-191.86	20.55
1080	SLV FO 8	28	-578	7276	-2141.8	-193.5	-5.74
1080	SLV FO 9	-108	589	-380	2.2	9.52	-21.92
1080	SLV FO 10	-180	543	-316	-15.85	7.88	-48.21
1080	SLV FO 11	-219	-516	6744	-1981.31	-179.81	-90.64
1080	SLV FO 12	-290	-562	6808	-1999.36	-181.45	-116.94
1080	SLV FO 13	-501	231	1551	-521.48	-42.28	-169.33
1080	SLV FO 14	-607	162	1646	-548.28	-44.72	-208.38
1080	SLV FO 15	-534	-100	3688	-1116.53	-99.08	-189.94
1080	SLV FO 16	-640	-169	3784	-1143.33	-101.52	-229
1080	CRTFP Ux+	0	0	0	0	0	0
1080	CRTFP Ux-	0	0	0	0	0	0
1080	CRTFP Uy+	0	0	0	0	0	0
1080	CRTFP Uy-	0	0	0	0	0	0
1081	SLU 1	-43	6	3565	-1020.68	6.23	-14.93
1081	SLU 2	-41	23	3479	-999.25	6.07	-14.38
1081	SLU 3	-44	6	3671	-1050.01	6.42	-15.28
1081	SLU 4	-43	16	3620	-1037.15	6.33	-14.96
1081	SLU 5	-42	23	3551	-1018.98	6.2	-14.56
1081	SLU 6	-44	6	3742	-1069.74	6.56	-15.46
1081	SLU 7	-43	16	3691	-1056.88	6.46	-15.13
1081	SLU 8	-44	6	3708	-1060.14	6.49	-15.28
1081	SLU 9	-43	16	3657	-1047.28	6.4	-14.95
1081	SLU 10	-46	24	3933	-1127.83	6.92	-16
1081	SLU 11	-48	8	4125	-1178.59	7.28	-16.9
1081	SLU 12	-47	18	4074	-1165.73	7.18	-16.58
1081	SLU 13	-46	24	4005	-1147.56	7.05	-16.18
1081	SLU 14	-49	8	4196	-1198.32	7.41	-17.08
1081	SLU 15	-48	18	4145	-1185.46	7.32	-16.75
1081	SLU 16	-48	8	4162	-1188.73	7.35	-16.9
1081	SLU 17	-47	18	4110	-1175.87	7.25	-16.57
1081	SLU 18	-49	8	4213	-1204.37	7.45	-17.24
1081	SLU 19	-48	18	4162	-1191.51	7.35	-16.92
1081	SLU 20	-50	8	4285	-1224.1	7.58	-17.42
1081	SLU 21	-49	18	4233	-1211.24	7.49	-17.09
1081	SLU 22	-50	7	4186	-1194.7	7.4	-17.32
1081	SLU 23	-48	24	4100	-1173.27	7.24	-16.78
1081	SLU 24	-51	7	4292	-1224.02	7.59	-17.68
1081	SLU 25	-50	17	4241	-1211.17	7.5	-17.35
1081	SLU 26	-48	24	4172	-1193	7.37	-16.95
1081	SLU 27	-51	7	4363	-1243.75	7.73	-17.85
1081	SLU 28	-50	17	4312	-1230.9	7.63	-17.52
1081	SLU 29	-51	7	4329	-1234.16	7.66	-17.67
1081	SLU 30	-50	17	4278	-1221.3	7.57	-17.34
1081	SLU 31	-53	25	4554	-1301.85	8.09	-18.4
1081	SLU 32	-55	8	4746	-1352.61	8.45	-19.3

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1081	SLU 33	-54	18	4695	-1339.75	8.35	-18.97
1081	SLU 34	-53	25	4626	-1321.58	8.22	-18.57
1081	SLU 35	-56	8	4817	-1372.34	8.58	-19.47
1081	SLU 36	-55	18	4766	-1359.48	8.49	-19.14
1081	SLU 37	-55	8	4783	-1362.74	8.52	-19.29
1081	SLU 38	-54	18	4731	-1349.88	8.42	-18.96
1081	SLU 39	-56	9	4834	-1378.39	8.62	-19.64
1081	SLU 40	-55	19	4783	-1365.53	8.52	-19.31
1081	SLU 41	-57	9	4906	-1398.12	8.75	-19.81
1081	SLU 42	-56	19	4854	-1385.26	8.66	-19.48
1081	SLU 43	-53	8	4421	-1267.22	7.69	-18.59
1081	SLU 44	-52	25	4336	-1245.79	7.53	-18.04
1081	SLU 45	-54	8	4527	-1296.55	7.89	-18.94
1081	SLU 46	-53	18	4476	-1283.69	7.8	-18.61
1081	SLU 47	-52	25	4407	-1265.52	7.67	-18.22
1081	SLU 48	-55	8	4599	-1316.28	8.03	-19.11
1081	SLU 49	-54	18	4548	-1303.42	7.93	-18.79
1081	SLU 50	-54	8	4564	-1306.68	7.96	-18.93
1081	SLU 51	-53	18	4513	-1293.83	7.87	-18.61
1081	SLU 52	-56	26	4790	-1374.38	8.39	-19.66
1081	SLU 53	-59	9	4981	-1425.13	8.75	-20.56
1081	SLU 54	-58	19	4930	-1412.27	8.65	-20.23
1081	SLU 55	-57	26	4861	-1394.11	8.52	-19.84
1081	SLU 56	-59	9	5053	-1444.86	8.88	-20.74
1081	SLU 57	-58	19	5002	-1432	8.78	-20.41
1081	SLU 58	-59	9	5018	-1435.27	8.82	-20.56
1081	SLU 59	-58	19	4967	-1422.41	8.72	-20.23
1081	SLU 60	-60	10	5070	-1450.91	8.91	-20.9
1081	SLU 61	-59	20	5018	-1438.06	8.82	-20.57
1081	SLU 62	-60	10	5141	-1470.64	9.05	-21.08
1081	SLU 63	-59	20	5090	-1457.79	8.95	-20.75
1081	SLU 64	-60	9	5042	-1441.24	8.86	-20.98
1081	SLU 65	-58	25	4957	-1419.81	8.7	-20.43
1081	SLU 66	-61	9	5148	-1470.57	9.06	-21.33
1081	SLU 67	-60	19	5097	-1457.71	8.97	-21.01
1081	SLU 68	-59	25	5028	-1439.54	8.84	-20.61
1081	SLU 69	-62	9	5220	-1490.3	9.2	-21.51
1081	SLU 70	-61	19	5169	-1477.44	9.1	-21.18
1081	SLU 71	-61	9	5185	-1480.7	9.13	-21.33
1081	SLU 72	-60	19	5134	-1467.84	9.04	-21
1081	SLU 73	-63	27	5411	-1548.39	9.56	-22.05
1081	SLU 74	-66	10	5602	-1599.15	9.92	-22.95
1081	SLU 75	-65	20	5551	-1586.29	9.82	-22.63
1081	SLU 76	-64	26	5482	-1568.12	9.69	-22.23
1081	SLU 77	-66	10	5674	-1618.88	10.05	-23.13
1081	SLU 78	-65	20	5623	-1606.02	9.95	-22.8
1081	SLU 79	-66	10	5639	-1609.28	9.99	-22.95
1081	SLU 80	-65	20	5588	-1596.43	9.89	-22.62
1081	SLU 81	-67	10	5691	-1624.93	10.08	-23.29
1081	SLU 82	-66	20	5639	-1612.07	9.99	-22.97
1081	SLU 83	-67	10	5762	-1644.66	10.22	-23.47
1081	SLU 84	-66	20	5711	-1631.8	10.12	-23.14
1081	SLE RA 1	-45	7	3742	-1070.4	6.56	-15.61
1081	SLE RA 2	-44	18	3685	-1056.11	6.45	-15.25
1081	SLE RA 3	-45	7	3813	-1089.95	6.69	-15.85
1081	SLE RA 4	-45	13	3779	-1081.38	6.63	-15.63
1081	SLE RA 5	-44	18	3733	-1069.27	6.54	-15.37
1081	SLE RA 6	-46	7	3861	-1103.11	6.78	-15.96
1081	SLE RA 7	-45	13	3826	-1094.53	6.72	-15.75
1081	SLE RA 8	-45	7	3838	-1096.71	6.74	-15.84
1081	SLE RA 9	-45	13	3803	-1088.14	6.68	-15.63
1081	SLE RA 10	-47	18	3988	-1141.84	7.02	-16.33
1081	SLE RA 11	-48	7	4115	-1175.67	7.26	-16.93
1081	SLE RA 12	-48	14	4081	-1167.1	7.2	-16.71
1081	SLE RA 13	-47	18	4036	-1154.99	7.11	-16.45
1081	SLE RA 14	-49	7	4163	-1188.83	7.35	-17.04
1081	SLE RA 15	-48	14	4129	-1180.25	7.29	-16.83
1081	SLE RA 16	-48	7	4140	-1182.43	7.31	-16.92
1081	SLE RA 17	-48	14	4106	-1173.86	7.25	-16.71
1081	SLE RA 18	-49	8	4174	-1192.86	7.37	-17.16
1081	SLE RA 19	-48	14	4140	-1184.29	7.31	-16.94
1081	SLE RA 20	-49	8	4222	-1206.02	7.46	-17.27
1081	SLE RA 21	-49	14	4188	-1197.44	7.4	-17.05
1081	SLE FR 1	-45	7	3742	-1070.4	6.56	-15.61
1081	SLE FR 2	-44	9	3731	-1067.54	6.54	-15.54
1081	SLE FR 3	-45	7	3761	-1075.66	6.6	-15.66
1081	SLE FR 4	-46	9	3860	-1104.28	6.78	-16
1081	SLE FR 5	-46	7	3891	-1112.4	6.84	-16.12
1081	SLE FR 6	-47	7	3958	-1131.63	6.97	-16.38
1081	SLE QP 1	-45	7	3742	-1070.4	6.56	-15.61
1081	SLE QP 2	-46	7	3872	-1107.14	6.81	-16.08
1081	SLD 1	368	116	3688	-1075.63	7.13	128.67
1081	SLD 2	295	72	3746	-1090.69	7.33	103.24
1081	SLD 3	347	-93	4974	-1400.1	9.51	121.6
1081	SLD 4	275	-137	5032	-1415.16	9.71	96.17
1081	SLD 5	122	365	1856	-602.96	3.26	42.49
1081	SLD 6	75	336	1894	-612.71	3.39	26.04
1081	SLD 7	54	-333	6143	-1684.52	11.19	18.91

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1081	SLD 8	7	-361	6181	-1694.27	11.32	2.46
1081	SLD 9	-98	375	1563	-520.01	2.29	-34.61
1081	SLD 10	-146	347	1601	-529.76	2.42	-51.06
1081	SLD 11	-167	-322	5850	-1601.57	10.22	-58.19
1081	SLD 12	-214	-351	5888	-1611.32	10.35	-74.64
1081	SLD 13	-366	151	2711	-799.12	3.9	-128.32
1081	SLD 14	-439	107	2770	-814.18	4.1	-153.75
1081	SLD 15	-387	-58	3997	-1123.59	6.28	-135.39
1081	SLD 16	-460	-102	4056	-1138.65	6.48	-160.82
1081	SLV 1	603	191	3500	-1036.82	7.15	211.03
1081	SLV 2	489	122	3593	-1060.54	7.47	170.99
1081	SLV 3	569	-162	5674	-1585.08	11.17	199.09
1081	SLV 4	454	-232	5766	-1608.8	11.49	159.05
1081	SLV 5	223	612	447	-250.09	0.75	77.64
1081	SLV 6	145	565	509	-266.06	0.97	50.68
1081	SLV 7	108	-567	7691	-2077.63	14.15	37.84
1081	SLV 8	30	-614	7754	-2093.6	14.37	10.88
1081	SLV 9	-122	628	-10	-120.68	-0.76	-43.03
1081	SLV 10	-200	581	52	-136.65	-0.54	-69.99
1081	SLV 11	-237	-551	7234	-1948.22	12.64	-82.83
1081	SLV 12	-315	-598	7297	-1964.19	12.86	-109.79
1081	SLV 13	-546	246	1977	-605.48	2.12	-191.2
1081	SLV 14	-661	176	2070	-629.2	2.44	-231.24
1081	SLV 15	-581	-108	4151	-1153.74	6.14	-203.14
1081	SLV 16	-695	-177	4243	-1177.46	6.46	-243.18
1081	SLV FO 1	668	210	3463	-1029.79	7.19	233.74
1081	SLV FO 2	542	133	3565	-1055.88	7.54	189.7
1081	SLV FO 3	630	-179	5854	-1632.88	11.61	220.61
1081	SLV FO 4	504	-256	5956	-1658.97	11.96	176.57
1081	SLV FO 5	249	672	104	-164.38	0.15	87.01
1081	SLV FO 6	164	621	173	-181.95	0.38	57.35
1081	SLV FO 7	123	-625	8073	-2174.67	14.89	43.23
1081	SLV FO 8	38	-676	8142	-2192.24	15.12	13.58
1081	SLV FO 9	-130	690	-398	-22.04	-1.51	-45.73
1081	SLV FO 10	-215	639	-330	-39.6	-1.28	-75.38
1081	SLV FO 11	-256	-607	7571	-2032.33	13.23	-89.5
1081	SLV FO 12	-341	-658	7639	-2049.9	13.46	-119.16
1081	SLV FO 13	-596	270	1788	-555.31	1.65	-208.72
1081	SLV FO 14	-722	193	1890	-581.4	2	-252.76
1081	SLV FO 15	-634	-119	4179	-1158.4	6.07	-221.85
1081	SLV FO 16	-760	-196	4280	-1184.49	6.42	-265.89
1081	CRTFP Ux+	0	0	0	0	0	0
1081	CRTFP Ux-	0	0	0	0	0	0
1081	CRTFP Uy+	0	0	0	0	0	0
1081	CRTFP Uy-	0	0	0	0	0	0
1082	SLU 1	-41	7	3363	-878.01	5.4	-14.39
1082	SLU 2	-40	24	3283	-860	5.27	-13.87
1082	SLU 3	-42	7	3463	-902.83	5.57	-14.73
1082	SLU 4	-41	17	3415	-892.03	5.49	-14.41
1082	SLU 5	-40	24	3350	-876.7	5.38	-14.03
1082	SLU 6	-43	7	3530	-919.53	5.69	-14.89
1082	SLU 7	-42	17	3482	-908.73	5.61	-14.58
1082	SLU 8	-42	7	3498	-911.41	5.64	-14.72
1082	SLU 9	-41	17	3450	-900.6	5.55	-14.4
1082	SLU 10	-44	25	3710	-969.07	6.01	-15.44
1082	SLU 11	-47	9	3890	-1011.9	6.31	-16.3
1082	SLU 12	-46	19	3841	-1001.1	6.23	-15.99
1082	SLU 13	-45	25	3777	-985.77	6.12	-15.6
1082	SLU 14	-47	9	3957	-1028.6	6.43	-16.47
1082	SLU 15	-46	19	3909	-1017.8	6.35	-16.15
1082	SLU 16	-47	9	3924	-1020.48	6.37	-16.29
1082	SLU 17	-46	19	3876	-1009.67	6.29	-15.98
1082	SLU 18	-48	9	3972	-1033.82	6.46	-16.64
1082	SLU 19	-47	19	3924	-1023.02	6.37	-16.32
1082	SLU 20	-48	9	4040	-1050.52	6.57	-16.8
1082	SLU 21	-47	19	3992	-1039.71	6.49	-16.49
1082	SLU 22	-48	8	3947	-1025.45	6.41	-16.71
1082	SLU 23	-46	25	3866	-1007.44	6.28	-16.18
1082	SLU 24	-49	8	4047	-1050.27	6.58	-17.04
1082	SLU 25	-48	18	3998	-1039.47	6.5	-16.73
1082	SLU 26	-47	25	3934	-1024.14	6.39	-16.35
1082	SLU 27	-49	8	4114	-1066.97	6.7	-17.21
1082	SLU 28	-48	18	4066	-1056.17	6.62	-16.89
1082	SLU 29	-49	8	4081	-1058.85	6.64	-17.03
1082	SLU 30	-48	18	4033	-1048.04	6.56	-16.72
1082	SLU 31	-51	26	4293	-1116.51	7.01	-17.76
1082	SLU 32	-53	10	4473	-1159.34	7.32	-18.62
1082	SLU 33	-52	20	4425	-1148.54	7.24	-18.3
1082	SLU 34	-51	26	4360	-1133.21	7.13	-17.92
1082	SLU 35	-54	10	4540	-1176.04	7.44	-18.78
1082	SLU 36	-53	20	4492	-1165.24	7.36	-18.47
1082	SLU 37	-53	10	4508	-1167.92	7.38	-18.61
1082	SLU 38	-52	20	4459	-1157.11	7.3	-18.29
1082	SLU 39	-54	11	4556	-1181.26	7.47	-18.95
1082	SLU 40	-53	20	4508	-1170.46	7.38	-18.64
1082	SLU 41	-55	11	4623	-1197.96	7.58	-19.12
1082	SLU 42	-54	20	4575	-1187.16	7.5	-18.8
1082	SLU 43	-51	9	4173	-1090.86	6.68	-17.91

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1082	SLU 44	-50	25	4092	-1072.85	6.54	-17.39
1082	SLU 45	-52	9	4272	-1115.69	6.85	-18.25
1082	SLU 46	-51	19	4224	-1104.88	6.77	-17.94
1082	SLU 47	-50	25	4160	-1089.55	6.66	-17.55
1082	SLU 48	-53	9	4340	-1132.39	6.97	-18.41
1082	SLU 49	-52	19	4291	-1121.58	6.88	-18.1
1082	SLU 50	-52	9	4307	-1124.26	6.91	-18.24
1082	SLU 51	-51	19	4259	-1113.45	6.83	-17.92
1082	SLU 52	-54	27	4519	-1181.92	7.28	-18.96
1082	SLU 53	-57	11	4699	-1224.76	7.59	-19.82
1082	SLU 54	-56	21	4650	-1213.95	7.51	-19.51
1082	SLU 55	-55	27	4586	-1198.62	7.4	-19.13
1082	SLU 56	-57	11	4766	-1241.46	7.7	-19.99
1082	SLU 57	-56	21	4718	-1230.65	7.62	-19.67
1082	SLU 58	-57	11	4733	-1233.33	7.65	-19.81
1082	SLU 59	-56	20	4685	-1222.52	7.57	-19.5
1082	SLU 60	-58	11	4782	-1246.67	7.73	-20.16
1082	SLU 61	-57	21	4733	-1235.87	7.65	-19.85
1082	SLU 62	-58	11	4849	-1263.37	7.85	-20.32
1082	SLU 63	-57	21	4801	-1252.57	7.77	-20.01
1082	SLU 64	-58	10	4756	-1238.3	7.69	-20.23
1082	SLU 65	-56	27	4676	-1220.29	7.55	-19.7
1082	SLU 66	-59	10	4856	-1263.13	7.86	-20.57
1082	SLU 67	-58	20	4807	-1252.32	7.78	-20.25
1082	SLU 68	-57	27	4743	-1236.99	7.67	-19.87
1082	SLU 69	-59	10	4923	-1279.83	7.97	-20.73
1082	SLU 70	-59	20	4875	-1269.02	7.89	-20.42
1082	SLU 71	-59	10	4890	-1271.7	7.92	-20.56
1082	SLU 72	-58	20	4842	-1260.89	7.84	-20.24
1082	SLU 73	-61	28	5102	-1329.36	8.29	-21.28
1082	SLU 74	-63	12	5282	-1372.2	8.6	-22.14
1082	SLU 75	-63	22	5234	-1361.39	8.51	-21.83
1082	SLU 76	-61	28	5169	-1346.06	8.41	-21.44
1082	SLU 77	-64	12	5349	-1388.9	8.71	-22.3
1082	SLU 78	-63	22	5301	-1378.09	8.63	-21.99
1082	SLU 79	-63	12	5317	-1380.77	8.66	-22.13
1082	SLU 80	-63	21	5268	-1369.96	8.58	-21.82
1082	SLU 81	-64	12	5365	-1394.11	8.74	-22.48
1082	SLU 82	-64	22	5317	-1383.31	8.66	-22.16
1082	SLU 83	-65	12	5432	-1410.81	8.86	-22.64
1082	SLU 84	-64	22	5384	-1400.01	8.78	-22.33
1082	SLE RA 1	-43	8	3530	-920.13	5.69	-15.05
1082	SLE RA 2	-42	18	3477	-908.13	5.6	-14.7
1082	SLE RA 3	-44	8	3597	-936.68	5.81	-15.28
1082	SLE RA 4	-43	14	3565	-929.48	5.75	-15.07
1082	SLE RA 5	-42	18	3521	-919.26	5.68	-14.81
1082	SLE RA 6	-44	8	3641	-947.82	5.88	-15.39
1082	SLE RA 7	-43	14	3609	-940.61	5.83	-15.18
1082	SLE RA 8	-44	8	3620	-942.4	5.85	-15.27
1082	SLE RA 9	-43	14	3588	-935.19	5.79	-15.06
1082	SLE RA 10	-45	20	3761	-980.84	6.09	-15.75
1082	SLE RA 11	-47	9	3881	-1009.4	6.3	-16.33
1082	SLE RA 12	-46	15	3849	-1002.19	6.24	-16.12
1082	SLE RA 13	-45	20	3806	-991.97	6.17	-15.86
1082	SLE RA 14	-47	9	3926	-1020.53	6.37	-16.43
1082	SLE RA 15	-47	15	3894	-1013.33	6.32	-16.23
1082	SLE RA 16	-47	9	3904	-1015.11	6.34	-16.32
1082	SLE RA 17	-46	15	3872	-1007.91	6.28	-16.11
1082	SLE RA 18	-47	9	3936	-1024.01	6.39	-16.55
1082	SLE RA 19	-47	16	3904	-1016.8	6.34	-16.34
1082	SLE RA 20	-48	9	3981	-1035.14	6.47	-16.66
1082	SLE RA 21	-47	16	3949	-1027.94	6.42	-16.45
1082	SLE FR 1	-43	8	3530	-920.13	5.69	-15.05
1082	SLE FR 2	-43	10	3519	-917.73	5.67	-14.98
1082	SLE FR 3	-43	8	3548	-924.58	5.72	-15.09
1082	SLE FR 4	-44	10	3641	-948.89	5.88	-15.43
1082	SLE FR 5	-45	8	3670	-955.75	5.93	-15.54
1082	SLE FR 6	-45	8	3733	-972.07	6.04	-15.8
1082	SLE QP 1	-43	8	3530	-920.13	5.69	-15.05
1082	SLE QP 2	-44	8	3652	-951.29	5.9	-15.5
1082	SLD 1	370	115	3456	-921.66	6.29	129.56
1082	SLD 2	297	74	3508	-933.54	6.47	104.12
1082	SLD 3	351	-91	4666	-1194.8	8.3	122.77
1082	SLD 4	278	-132	4718	-1206.68	8.48	97.34
1082	SLD 5	122	360	1748	-526.08	2.94	42.73
1082	SLD 6	75	334	1782	-533.77	3.06	26.27
1082	SLD 7	57	-328	5783	-1436.54	9.64	20.1
1082	SLD 8	10	-354	5816	-1444.23	9.76	3.64
1082	SLD 9	-99	370	1488	-458.36	2.05	-34.64
1082	SLD 10	-146	344	1521	-466.05	2.17	-51.1
1082	SLD 11	-164	-318	5522	-1368.82	8.75	-57.27
1082	SLD 12	-211	-344	5555	-1376.5	8.87	-73.73
1082	SLD 13	-367	148	2586	-695.91	3.32	-128.34
1082	SLD 14	-439	107	2638	-707.79	3.5	-153.77
1082	SLD 15	-386	-58	3796	-969.05	5.33	-135.12
1082	SLD 16	-459	-99	3848	-980.93	5.52	-160.56
1082	SLV 1	606	189	3267	-887.26	6.37	212.08
1082	SLV 2	491	124	3349	-905.97	6.66	172.02

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1082	SLV 3	573	-160	5312	-1348.78	9.77	200.62
1082	SLV 4	458	-225	5394	-1367.49	10.06	160.57
1082	SLV 5	222	603	419	-228.62	0.84	77.62
1082	SLV 6	145	560	474	-241.21	1.03	50.65
1082	SLV 7	112	-560	7236	-1767.02	12.16	39.44
1082	SLV 8	35	-603	7291	-1779.62	12.35	12.48
1082	SLV 9	-124	619	12	-122.97	-0.55	-43.48
1082	SLV 10	-201	576	68	-135.57	-0.36	-70.44
1082	SLV 11	-234	-544	6829	-1661.37	10.77	-81.65
1082	SLV 12	-311	-587	6885	-1673.97	10.97	-108.62
1082	SLV 13	-547	241	1910	-535.1	1.74	-191.57
1082	SLV 14	-662	176	1992	-553.81	2.03	-231.62
1082	SLV 15	-580	-108	3955	-996.62	5.14	-203.02
1082	SLV 16	-695	-173	4037	-1015.33	5.43	-243.08
1082	SLV FO 1	671	207	3228	-880.86	6.42	234.83
1082	SLV FO 2	545	136	3318	-901.44	6.74	190.78
1082	SLV FO 3	635	-177	5478	-1388.53	10.16	222.24
1082	SLV FO 4	508	-248	5568	-1409.11	10.48	178.18
1082	SLV FO 5	249	663	96	-156.35	0.33	86.93
1082	SLV FO 6	164	615	157	-170.21	0.55	57.27
1082	SLV FO 7	128	-616	7595	-1848.59	12.79	44.94
1082	SLV FO 8	43	-664	7655	-1862.45	13	15.27
1082	SLV FO 9	-132	680	-352	-40.14	-1.2	-46.27
1082	SLV FO 10	-217	632	-291	-53.99	-0.98	-75.94
1082	SLV FO 11	-253	-599	7147	-1732.38	11.26	-88.27
1082	SLV FO 12	-338	-647	7208	-1746.24	11.47	-117.93
1082	SLV FO 13	-597	264	1736	-493.48	1.33	-209.18
1082	SLV FO 14	-724	193	1826	-514.06	1.65	-253.24
1082	SLV FO 15	-634	-120	3986	-1001.15	5.06	-221.78
1082	SLV FO 16	-760	-191	4076	-1021.73	5.38	-265.83
1082	CRTFP Ux+	0	0	0	0	0	0
1082	CRTFP Ux-	0	0	0	0	0	0
1082	CRTFP Uy+	0	0	0	0	0	0
1082	CRTFP Uy-	0	0	0	0	0	0
1083	SLU 1	-40	9	3197	-762.74	4.25	-13.86
1083	SLU 2	-38	26	3120	-747.4	4.15	-13.36
1083	SLU 3	-41	9	3291	-783.96	4.39	-14.18
1083	SLU 4	-40	19	3245	-774.76	4.33	-13.88
1083	SLU 5	-39	26	3184	-761.67	4.24	-13.51
1083	SLU 6	-41	9	3355	-798.22	4.48	-14.33
1083	SLU 7	-40	19	3309	-789.02	4.42	-14.03
1083	SLU 8	-41	9	3324	-791.27	4.43	-14.16
1083	SLU 9	-40	19	3278	-782.07	4.37	-13.86
1083	SLU 10	-43	27	3524	-840.78	4.72	-14.88
1083	SLU 11	-45	11	3695	-877.33	4.96	-15.71
1083	SLU 12	-44	21	3649	-868.13	4.9	-15.41
1083	SLU 13	-43	27	3588	-855.04	4.81	-15.04
1083	SLU 14	-46	11	3758	-891.6	5.05	-15.86
1083	SLU 15	-45	21	3713	-882.4	4.99	-15.56
1083	SLU 16	-45	11	3728	-884.64	5.01	-15.69
1083	SLU 17	-44	21	3682	-875.44	4.95	-15.39
1083	SLU 18	-46	12	3773	-896.13	5.07	-16.04
1083	SLU 19	-45	22	3728	-886.93	5.01	-15.74
1083	SLU 20	-47	12	3837	-910.39	5.16	-16.19
1083	SLU 21	-46	22	3791	-901.19	5.1	-15.89
1083	SLU 22	-46	11	3749	-888.82	5.04	-16.1
1083	SLU 23	-45	27	3673	-873.49	4.94	-15.6
1083	SLU 24	-47	11	3843	-910.04	5.17	-16.42
1083	SLU 25	-46	21	3798	-900.84	5.11	-16.12
1083	SLU 26	-45	27	3736	-887.75	5.03	-15.75
1083	SLU 27	-48	11	3907	-924.31	5.27	-16.57
1083	SLU 28	-47	21	3861	-915.11	5.2	-16.27
1083	SLU 29	-47	11	3876	-917.35	5.22	-16.4
1083	SLU 30	-46	21	3830	-908.15	5.16	-16.1
1083	SLU 31	-49	29	4076	-966.86	5.51	-17.12
1083	SLU 32	-52	13	4247	-1003.41	5.75	-17.95
1083	SLU 33	-51	23	4201	-994.21	5.69	-17.65
1083	SLU 34	-50	29	4140	-981.13	5.6	-17.28
1083	SLU 35	-52	13	4311	-1017.68	5.84	-18.1
1083	SLU 36	-51	23	4265	-1008.48	5.78	-17.8
1083	SLU 37	-52	13	4280	-1010.73	5.8	-17.93
1083	SLU 38	-51	22	4234	-1001.53	5.73	-17.63
1083	SLU 39	-53	14	4326	-1022.21	5.86	-18.28
1083	SLU 40	-52	23	4280	-1013.01	5.8	-17.98
1083	SLU 41	-53	14	4389	-1036.48	5.95	-18.43
1083	SLU 42	-52	23	4344	-1027.28	5.89	-18.13
1083	SLU 43	-50	12	3966	-948.33	5.26	-17.25
1083	SLU 44	-48	28	3890	-933	5.16	-16.75
1083	SLU 45	-50	12	4061	-969.55	5.39	-17.57
1083	SLU 46	-50	21	4015	-960.35	5.33	-17.27
1083	SLU 47	-49	28	3954	-947.26	5.25	-16.9
1083	SLU 48	-51	12	4124	-983.82	5.48	-17.72
1083	SLU 49	-50	21	4079	-974.62	5.42	-17.42
1083	SLU 50	-50	12	4094	-976.86	5.44	-17.55
1083	SLU 51	-50	21	4048	-967.66	5.38	-17.25
1083	SLU 52	-52	30	4294	-1026.37	5.73	-18.27
1083	SLU 53	-55	14	4464	-1062.92	5.97	-19.1
1083	SLU 54	-54	23	4419	-1053.72	5.9	-18.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1083	SLU 55	-53	30	4357	-1040.64	5.82	-18.43
1083	SLU 56	-55	14	4528	-1077.19	6.06	-19.25
1083	SLU 57	-54	23	4482	-1067.99	6	-18.95
1083	SLU 58	-55	13	4497	-1070.24	6.01	-19.08
1083	SLU 59	-54	23	4452	-1061.04	5.95	-18.78
1083	SLU 60	-56	14	4543	-1081.72	6.08	-19.43
1083	SLU 61	-55	24	4497	-1072.52	6.02	-19.13
1083	SLU 62	-56	14	4607	-1095.99	6.17	-19.58
1083	SLU 63	-55	24	4561	-1086.79	6.11	-19.28
1083	SLU 64	-56	13	4518	-1074.41	6.05	-19.49
1083	SLU 65	-55	29	4442	-1059.08	5.94	-18.99
1083	SLU 66	-57	13	4613	-1095.63	6.18	-19.81
1083	SLU 67	-56	23	4567	-1086.43	6.12	-19.51
1083	SLU 68	-55	29	4506	-1073.35	6.03	-19.14
1083	SLU 69	-57	13	4677	-1109.9	6.27	-19.96
1083	SLU 70	-56	23	4631	-1100.7	6.21	-19.66
1083	SLU 71	-57	13	4646	-1102.95	6.23	-19.79
1083	SLU 72	-56	23	4600	-1093.75	6.17	-19.49
1083	SLU 73	-59	31	4846	-1152.45	6.52	-20.51
1083	SLU 74	-61	15	5017	-1189.01	6.75	-21.34
1083	SLU 75	-60	25	4971	-1179.8	6.69	-21.04
1083	SLU 76	-59	31	4910	-1166.72	6.61	-20.67
1083	SLU 77	-62	15	5080	-1203.27	6.84	-21.49
1083	SLU 78	-61	25	5035	-1194.07	6.78	-21.19
1083	SLU 79	-61	15	5049	-1196.32	6.8	-21.32
1083	SLU 80	-60	25	5004	-1187.12	6.74	-21.02
1083	SLU 81	-62	16	5095	-1207.8	6.87	-21.67
1083	SLU 82	-61	26	5049	-1198.6	6.8	-21.37
1083	SLU 83	-63	16	5159	-1222.07	6.96	-21.82
1083	SLU 84	-62	26	5113	-1212.87	6.89	-21.52
1083	SLE RA 1	-42	10	3354	-798.76	4.48	-14.5
1083	SLE RA 2	-41	21	3304	-788.54	4.41	-14.16
1083	SLE RA 3	-42	10	3417	-812.91	4.57	-14.71
1083	SLE RA 4	-42	16	3387	-806.77	4.53	-14.51
1083	SLE RA 5	-41	21	3346	-798.05	4.47	-14.27
1083	SLE RA 6	-43	10	3460	-822.42	4.63	-14.82
1083	SLE RA 7	-42	16	3429	-816.28	4.59	-14.61
1083	SLE RA 8	-42	10	3439	-817.78	4.6	-14.7
1083	SLE RA 9	-42	16	3409	-811.65	4.56	-14.5
1083	SLE RA 10	-44	22	3573	-850.79	4.79	-15.18
1083	SLE RA 11	-45	11	3687	-875.16	4.95	-15.73
1083	SLE RA 12	-45	18	3656	-869.02	4.91	-15.53
1083	SLE RA 13	-44	22	3615	-860.3	4.85	-15.28
1083	SLE RA 14	-45	11	3729	-884.67	5.01	-15.83
1083	SLE RA 15	-45	18	3699	-878.53	4.97	-15.63
1083	SLE RA 16	-45	11	3708	-880.03	4.98	-15.72
1083	SLE RA 17	-45	17	3678	-873.9	4.94	-15.52
1083	SLE RA 18	-46	12	3739	-887.69	5.02	-15.95
1083	SLE RA 19	-45	18	3708	-881.55	4.98	-15.75
1083	SLE RA 20	-46	12	3781	-897.2	5.08	-16.05
1083	SLE RA 21	-46	18	3751	-891.07	5.04	-15.85
1083	SLE FR 1	-42	10	3354	-798.76	4.48	-14.5
1083	SLE FR 2	-41	12	3344	-796.72	4.46	-14.43
1083	SLE FR 3	-42	10	3371	-802.57	4.5	-14.54
1083	SLE FR 4	-43	12	3460	-823.39	4.63	-14.87
1083	SLE FR 5	-43	10	3487	-829.24	4.67	-14.97
1083	SLE FR 6	-44	11	3547	-843.22	4.75	-15.22
1083	SLE QP 1	-42	10	3354	-798.76	4.48	-14.5
1083	SLE QP 2	-43	10	3470	-825.44	4.64	-14.93
1083	SLD 1	372	116	3259	-795.41	5.11	130.38
1083	SLD 2	299	78	3305	-804.65	5.27	104.94
1083	SLD 3	354	-88	4408	-1028.34	6.64	123.88
1083	SLD 4	281	-126	4454	-1037.58	6.8	98.44
1083	SLD 5	123	358	1656	-461.55	2.42	42.94
1083	SLD 6	76	334	1686	-467.53	2.53	26.48
1083	SLD 7	60	-322	5486	-1237.98	7.54	21.26
1083	SLD 8	13	-347	5516	-1243.96	7.65	4.8
1083	SLD 9	-99	367	1424	-406.92	1.64	-34.67
1083	SLD 10	-146	343	1454	-412.9	1.74	-51.13
1083	SLD 11	-161	-313	5254	-1183.35	6.76	-56.35
1083	SLD 12	-209	-338	5284	-1189.33	6.86	-72.81
1083	SLD 13	-366	147	2486	-613.3	2.48	-128.31
1083	SLD 14	-439	108	2532	-622.54	2.64	-153.75
1083	SLD 15	-385	-58	3635	-846.23	4.01	-134.81
1083	SLD 16	-458	-96	3681	-855.47	4.18	-160.25
1083	SLV 1	609	189	3066	-763.42	5.27	213.02
1083	SLV 2	494	129	3138	-777.96	5.52	172.97
1083	SLV 3	577	-156	5007	-1156.99	7.86	202.05
1083	SLV 4	462	-216	5080	-1171.54	8.12	161.99
1083	SLV 5	222	598	390	-207.19	0.85	77.57
1083	SLV 6	145	558	439	-216.99	1.02	50.61
1083	SLV 7	116	-551	6862	-1519.11	9.5	40.99
1083	SLV 8	39	-592	6911	-1528.91	9.67	14.02
1083	SLV 9	-125	612	28	-121.97	-0.38	-43.89
1083	SLV 10	-202	572	77	-131.77	-0.21	-70.86
1083	SLV 11	-230	-537	6500	-1433.89	8.27	-80.47
1083	SLV 12	-308	-577	6549	-1443.68	8.44	-107.44
1083	SLV 13	-548	236	1860	-479.34	1.17	-191.86

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1083	SLV 14	-663	177	1932	-493.89	1.42	-231.91
1083	SLV 15	-580	-108	3801	-872.91	3.76	-202.83
1083	SLV 16	-694	-168	3874	-887.46	4.02	-242.89
1083	SLV FO 1	674	207	3025	-757.21	5.33	235.82
1083	SLV FO 2	547	141	3105	-773.22	5.61	191.76
1083	SLV FO 3	639	-173	5161	-1190.15	8.18	223.74
1083	SLV FO 4	513	-239	5241	-1206.15	8.46	179.68
1083	SLV FO 5	248	657	82	-145.37	0.47	86.82
1083	SLV FO 6	163	612	136	-156.14	0.66	57.16
1083	SLV FO 7	132	-608	7201	-1588.48	9.98	46.58
1083	SLV FO 8	47	-652	7255	-1599.25	10.17	16.92
1083	SLV FO 9	-133	672	-316	-51.62	-0.89	-46.79
1083	SLV FO 10	-218	628	-262	-62.4	-0.7	-76.45
1083	SLV FO 11	-249	-592	6804	-1494.73	8.63	-87.03
1083	SLV FO 12	-334	-636	6857	-1505.51	8.82	-116.69
1083	SLV FO 13	-598	259	1699	-444.73	0.82	-209.55
1083	SLV FO 14	-725	193	1779	-460.73	1.1	-253.61
1083	SLV FO 15	-633	-120	3834	-877.66	3.67	-221.62
1083	SLV FO 16	-759	-186	3914	-893.66	3.95	-265.68
1083	CRTFP Ux+	0	0	0	0	0	0
1083	CRTFP Ux-	0	0	0	0	0	0
1083	CRTFP Uy+	0	0	0	0	0	0
1083	CRTFP Uy-	0	0	0	0	0	0
1084	SLU 1	-38	12	3073	-680.48	2.94	-13.33
1084	SLU 2	-37	28	2999	-666.97	2.87	-12.85
1084	SLU 3	-39	12	3163	-699.14	3.03	-13.63
1084	SLU 4	-38	22	3119	-691.03	2.99	-13.35
1084	SLU 5	-37	28	3060	-679.51	2.93	-12.99
1084	SLU 6	-40	12	3224	-711.68	3.09	-13.78
1084	SLU 7	-39	22	3180	-703.57	3.05	-13.49
1084	SLU 8	-39	12	3195	-705.56	3.06	-13.61
1084	SLU 9	-38	22	3151	-697.46	3.02	-13.33
1084	SLU 10	-41	30	3386	-749.23	3.26	-14.33
1084	SLU 11	-43	15	3550	-781.4	3.42	-15.12
1084	SLU 12	-43	24	3506	-773.29	3.38	-14.83
1084	SLU 13	-42	31	3447	-761.77	3.32	-14.47
1084	SLU 14	-44	15	3611	-793.94	3.48	-15.26
1084	SLU 15	-43	24	3567	-785.83	3.44	-14.97
1084	SLU 16	-43	15	3582	-787.82	3.45	-15.09
1084	SLU 17	-43	24	3538	-779.71	3.41	-14.81
1084	SLU 18	-44	15	3626	-797.99	3.49	-15.44
1084	SLU 19	-44	25	3582	-789.89	3.45	-15.15
1084	SLU 20	-45	15	3687	-810.53	3.55	-15.59
1084	SLU 21	-44	25	3643	-802.43	3.51	-15.3
1084	SLU 22	-45	14	3602	-791.44	3.47	-15.49
1084	SLU 23	-43	30	3529	-777.93	3.4	-15.01
1084	SLU 24	-45	15	3693	-810.1	3.56	-15.8
1084	SLU 25	-45	24	3649	-801.99	3.52	-15.51
1084	SLU 26	-44	31	3590	-790.47	3.47	-15.15
1084	SLU 27	-46	15	3754	-822.64	3.63	-15.94
1084	SLU 28	-45	24	3710	-814.53	3.59	-15.65
1084	SLU 29	-45	14	3724	-816.52	3.6	-15.78
1084	SLU 30	-45	24	3680	-808.41	3.56	-15.49
1084	SLU 31	-47	33	3916	-860.19	3.79	-16.49
1084	SLU 32	-50	17	4080	-892.36	3.95	-17.28
1084	SLU 33	-49	26	4036	-884.25	3.91	-16.99
1084	SLU 34	-48	33	3977	-872.73	3.85	-16.63
1084	SLU 35	-50	17	4141	-904.9	4.01	-17.42
1084	SLU 36	-49	26	4097	-896.79	3.97	-17.13
1084	SLU 37	-50	17	4111	-898.78	3.98	-17.26
1084	SLU 38	-49	26	4067	-890.67	3.94	-16.97
1084	SLU 39	-51	17	4155	-908.95	4.02	-17.61
1084	SLU 40	-50	27	4111	-900.84	3.98	-17.32
1084	SLU 41	-51	18	4216	-921.49	4.09	-17.75
1084	SLU 42	-50	27	4172	-913.38	4.05	-17.46
1084	SLU 43	-48	15	3813	-846.58	3.64	-16.58
1084	SLU 44	-46	31	3740	-833.07	3.57	-16.1
1084	SLU 45	-49	15	3903	-865.24	3.73	-16.89
1084	SLU 46	-48	25	3859	-857.14	3.69	-16.6
1084	SLU 47	-47	31	3801	-845.61	3.63	-16.25
1084	SLU 48	-49	15	3964	-877.78	3.79	-17.03
1084	SLU 49	-48	25	3921	-869.68	3.75	-16.75
1084	SLU 50	-49	15	3935	-871.66	3.76	-16.87
1084	SLU 51	-48	25	3891	-863.56	3.72	-16.58
1084	SLU 52	-51	33	4127	-915.33	3.95	-17.58
1084	SLU 53	-53	18	4291	-947.5	4.11	-18.37
1084	SLU 54	-52	27	4247	-939.39	4.07	-18.08
1084	SLU 55	-51	33	4188	-927.87	4.02	-17.73
1084	SLU 56	-53	18	4352	-960.04	4.18	-18.52
1084	SLU 57	-52	27	4308	-951.93	4.14	-18.23
1084	SLU 58	-53	17	4322	-953.92	4.15	-18.35
1084	SLU 59	-52	27	4278	-945.82	4.11	-18.06
1084	SLU 60	-54	18	4366	-964.09	4.19	-18.7
1084	SLU 61	-53	28	4322	-955.99	4.15	-18.41
1084	SLU 62	-54	18	4427	-976.63	4.25	-18.84
1084	SLU 63	-53	28	4383	-968.53	4.21	-18.55
1084	SLU 64	-54	17	4342	-957.54	4.17	-18.75
1084	SLU 65	-53	33	4269	-944.03	4.1	-18.27

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1084	SLU 66	-55	17	4433	-976.2	4.26	-19.05
1084	SLU 67	-54	27	4389	-968.09	4.22	-18.77
1084	SLU 68	-53	33	4330	-956.57	4.17	-18.41
1084	SLU 69	-55	18	4494	-988.74	4.32	-19.2
1084	SLU 70	-54	27	4450	-980.63	4.28	-18.91
1084	SLU 71	-55	17	4464	-982.62	4.3	-19.03
1084	SLU 72	-54	27	4420	-974.52	4.26	-18.75
1084	SLU 73	-57	36	4656	-1026.29	4.49	-19.75
1084	SLU 74	-59	20	4820	-1058.46	4.65	-20.54
1084	SLU 75	-58	29	4776	-1050.35	4.61	-20.25
1084	SLU 76	-57	36	4717	-1038.83	4.55	-19.89
1084	SLU 77	-60	20	4881	-1071	4.71	-20.68
1084	SLU 78	-59	29	4837	-1062.89	4.67	-20.39
1084	SLU 79	-59	20	4851	-1064.88	4.68	-20.51
1084	SLU 80	-58	29	4807	-1056.77	4.64	-20.23
1084	SLU 81	-60	20	4895	-1075.05	4.72	-20.86
1084	SLU 82	-59	30	4851	-1066.95	4.68	-20.57
1084	SLU 83	-60	20	4956	-1087.59	4.78	-21.01
1084	SLU 84	-60	30	4912	-1079.49	4.74	-20.72
1084	SLE RA 1	-40	13	3224	-712.18	3.09	-13.94
1084	SLE RA 2	-39	24	3175	-703.18	3.05	-13.62
1084	SLE RA 3	-41	13	3284	-724.62	3.15	-14.15
1084	SLE RA 4	-40	19	3255	-719.22	3.12	-13.96
1084	SLE RA 5	-39	24	3216	-711.54	3.09	-13.72
1084	SLE RA 6	-41	13	3325	-732.98	3.19	-14.25
1084	SLE RA 7	-40	19	3296	-727.58	3.17	-14.05
1084	SLE RA 8	-41	13	3305	-728.9	3.17	-14.14
1084	SLE RA 9	-40	19	3276	-723.5	3.15	-13.94
1084	SLE RA 10	-42	25	3433	-758.02	3.3	-14.61
1084	SLE RA 11	-44	14	3542	-779.46	3.41	-15.14
1084	SLE RA 12	-43	21	3513	-774.06	3.38	-14.95
1084	SLE RA 13	-42	25	3474	-766.38	3.34	-14.71
1084	SLE RA 14	-44	14	3583	-787.82	3.45	-15.23
1084	SLE RA 15	-43	21	3554	-782.42	3.42	-15.04
1084	SLE RA 16	-44	14	3563	-783.74	3.43	-15.12
1084	SLE RA 17	-43	21	3534	-778.34	3.4	-14.93
1084	SLE RA 18	-44	15	3593	-790.52	3.46	-15.36
1084	SLE RA 19	-44	21	3563	-785.12	3.43	-15.16
1084	SLE RA 20	-44	15	3633	-798.88	3.5	-15.45
1084	SLE RA 21	-44	21	3604	-793.48	3.47	-15.26
1084	SLE FR 1	-40	13	3224	-712.18	3.09	-13.94
1084	SLE FR 2	-40	15	3214	-710.38	3.08	-13.88
1084	SLE FR 3	-40	13	3240	-715.53	3.11	-13.98
1084	SLE FR 4	-41	16	3325	-733.88	3.19	-14.3
1084	SLE FR 5	-41	13	3351	-739.03	3.22	-14.41
1084	SLE FR 6	-42	14	3408	-751.35	3.27	-14.65
1084	SLE QP 1	-40	13	3224	-712.18	3.09	-13.94
1084	SLE QP 2	-41	13	3334	-735.69	3.2	-14.37
1084	SLD 1	374	119	3106	-702.5	3.76	131.14
1084	SLD 2	301	84	3147	-709.74	3.89	105.71
1084	SLD 3	356	-83	4211	-907.86	4.77	124.92
1084	SLD 4	284	-119	4252	-915.09	4.91	99.48
1084	SLD 5	123	358	1583	-413.02	1.81	43.13
1084	SLD 6	76	335	1609	-417.7	1.9	26.68
1084	SLD 7	64	-316	5266	-1097.54	5.18	22.39
1084	SLD 8	16	-339	5293	-1102.22	5.27	5.94
1084	SLD 9	-99	366	1376	-369.15	1.13	-34.68
1084	SLD 10	-146	343	1403	-373.83	1.22	-51.13
1084	SLD 11	-159	-308	5060	-1053.67	4.51	-55.41
1084	SLD 12	-206	-331	5086	-1058.35	4.59	-71.87
1084	SLD 13	-366	146	2417	-556.28	1.5	-128.22
1084	SLD 14	-439	110	2458	-563.51	1.63	-153.65
1084	SLD 15	-384	-57	3522	-761.63	2.51	-134.44
1084	SLD 16	-457	-92	3563	-768.87	2.65	-159.87
1084	SLV 1	611	192	2906	-670.56	4	213.86
1084	SLV 2	496	136	2970	-681.94	4.22	173.82
1084	SLV 3	581	-150	4773	-1017.54	5.71	203.36
1084	SLV 4	466	-206	4838	-1028.93	5.93	163.32
1084	SLV 5	221	596	362	-187.76	0.81	77.49
1084	SLV 6	144	558	405	-195.43	0.95	50.53
1084	SLV 7	121	-544	6586	-1344.38	6.51	42.51
1084	SLV 8	44	-582	6630	-1352.05	6.65	15.55
1084	SLV 9	-126	609	39	-119.32	-0.25	-44.28
1084	SLV 10	-204	571	83	-126.99	-0.11	-71.24
1084	SLV 11	-227	-532	6264	-1275.95	5.45	-79.27
1084	SLV 12	-304	-569	6307	-1283.61	5.6	-106.23
1084	SLV 13	-548	233	1831	-442.44	0.48	-192.06
1084	SLV 14	-663	177	1896	-453.83	0.69	-232.1
1084	SLV 15	-579	-109	3699	-789.43	2.19	-202.55
1084	SLV 16	-693	-165	3763	-800.82	2.4	-242.6
1084	SLV FO 1	676	209	2863	-664.04	4.08	236.68
1084	SLV FO 2	550	148	2934	-676.57	4.32	192.63
1084	SLV FO 3	643	-167	4917	-1045.73	5.96	225.14
1084	SLV FO 4	517	-228	4988	-1058.25	6.2	181.09
1084	SLV FO 5	248	654	64	-132.97	0.57	86.68
1084	SLV FO 6	163	613	112	-141.4	0.73	57.02
1084	SLV FO 7	137	-600	6911	-1405.25	6.84	48.19
1084	SLV FO 8	52	-641	6959	-1413.68	7	18.54

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1084	SLV FO 9	-135	668	-290	-57.69	-0.6	-47.27
1084	SLV FO 10	-220	627	-243	-66.12	-0.44	-76.93
1084	SLV FO 11	-245	-586	6557	-1329.97	5.67	-85.76
1084	SLV FO 12	-330	-627	6605	-1338.41	5.83	-115.41
1084	SLV FO 13	-599	255	1681	-413.12	0.2	-209.83
1084	SLV FO 14	-725	194	1752	-425.64	0.44	-253.87
1084	SLV FO 15	-632	-121	3735	-794.8	2.08	-221.37
1084	SLV FO 16	-759	-183	3806	-807.33	2.32	-265.42
1084	CRTFP Ux+	0	0	0	0	0	0
1084	CRTFP Ux-	0	0	0	0	0	0
1084	CRTFP Uy+	0	0	0	0	0	0
1084	CRTFP Uy-	0	0	0	0	0	0
1085	SLU 1	-37	16	2995	-633.01	1.59	-12.79
1085	SLU 2	-36	32	2923	-620.45	1.56	-12.33
1085	SLU 3	-38	16	3083	-650.2	1.64	-13.08
1085	SLU 4	-37	26	3040	-642.67	1.62	-12.81
1085	SLU 5	-36	32	2983	-632	1.59	-12.47
1085	SLU 6	-38	16	3142	-661.75	1.67	-13.22
1085	SLU 7	-37	26	3099	-654.22	1.65	-12.94
1085	SLU 8	-38	16	3113	-656.11	1.66	-13.06
1085	SLU 9	-37	26	3070	-648.57	1.64	-12.78
1085	SLU 10	-40	34	3300	-696.42	1.75	-13.77
1085	SLU 11	-42	18	3460	-726.17	1.83	-14.52
1085	SLU 12	-41	28	3417	-718.64	1.81	-14.24
1085	SLU 13	-40	34	3360	-707.97	1.79	-13.9
1085	SLU 14	-42	19	3519	-737.72	1.87	-14.65
1085	SLU 15	-41	28	3476	-730.19	1.85	-14.37
1085	SLU 16	-42	18	3490	-732.08	1.85	-14.49
1085	SLU 17	-41	28	3448	-724.54	1.83	-14.22
1085	SLU 18	-43	19	3533	-741.53	1.87	-14.84
1085	SLU 19	-42	29	3491	-734	1.85	-14.56
1085	SLU 20	-43	19	3593	-753.08	1.9	-14.97
1085	SLU 21	-42	29	3550	-745.55	1.88	-14.7
1085	SLU 22	-43	18	3510	-735.39	1.86	-14.87
1085	SLU 23	-42	35	3439	-722.83	1.83	-14.42
1085	SLU 24	-44	19	3598	-752.58	1.91	-15.17
1085	SLU 25	-43	28	3555	-745.05	1.89	-14.89
1085	SLU 26	-42	35	3498	-734.38	1.87	-14.55
1085	SLU 27	-44	19	3658	-764.13	1.95	-15.3
1085	SLU 28	-43	29	3615	-756.6	1.93	-15.03
1085	SLU 29	-44	19	3629	-758.49	1.93	-15.14
1085	SLU 30	-43	28	3586	-750.96	1.91	-14.87
1085	SLU 31	-46	37	3816	-798.81	2.03	-15.85
1085	SLU 32	-48	21	3975	-828.55	2.11	-16.6
1085	SLU 33	-47	31	3933	-821.02	2.09	-16.33
1085	SLU 34	-46	37	3875	-810.35	2.06	-15.98
1085	SLU 35	-48	21	4035	-840.1	2.14	-16.73
1085	SLU 36	-47	31	3992	-832.57	2.12	-16.46
1085	SLU 37	-48	21	4006	-834.46	2.13	-16.57
1085	SLU 38	-47	31	3963	-826.93	2.11	-16.3
1085	SLU 39	-49	22	4049	-843.92	2.14	-16.92
1085	SLU 40	-48	32	4006	-836.38	2.12	-16.65
1085	SLU 41	-49	22	4108	-855.47	2.18	-17.06
1085	SLU 42	-48	32	4065	-847.93	2.16	-16.78
1085	SLU 43	-46	19	3716	-787.81	1.97	-15.91
1085	SLU 44	-45	36	3645	-775.25	1.94	-15.46
1085	SLU 45	-47	20	3804	-805	2.02	-16.21
1085	SLU 46	-46	29	3762	-797.47	2	-15.93
1085	SLU 47	-45	36	3704	-786.8	1.97	-15.59
1085	SLU 48	-47	20	3864	-816.55	2.05	-16.34
1085	SLU 49	-46	30	3821	-809.02	2.04	-16.06
1085	SLU 50	-47	20	3835	-810.9	2.04	-16.18
1085	SLU 51	-46	29	3792	-803.37	2.02	-15.9
1085	SLU 52	-49	38	4022	-851.22	2.14	-16.89
1085	SLU 53	-51	22	4182	-880.97	2.22	-17.64
1085	SLU 54	-50	32	4139	-873.44	2.2	-17.36
1085	SLU 55	-49	38	4081	-862.77	2.17	-17.02
1085	SLU 56	-51	22	4241	-892.52	2.25	-17.77
1085	SLU 57	-50	32	4198	-884.99	2.23	-17.5
1085	SLU 58	-51	22	4212	-886.87	2.23	-17.61
1085	SLU 59	-50	32	4169	-879.34	2.22	-17.34
1085	SLU 60	-52	23	4255	-896.33	2.25	-17.96
1085	SLU 61	-51	33	4212	-888.8	2.23	-17.69
1085	SLU 62	-52	23	4314	-907.88	2.28	-18.09
1085	SLU 63	-51	33	4272	-900.35	2.27	-17.82
1085	SLU 64	-52	22	4232	-890.19	2.25	-18
1085	SLU 65	-51	38	4160	-877.63	2.22	-17.54
1085	SLU 66	-53	23	4320	-907.38	2.3	-18.29
1085	SLU 67	-52	32	4277	-899.85	2.28	-18.01
1085	SLU 68	-51	38	4220	-889.18	2.25	-17.67
1085	SLU 69	-53	23	4379	-918.93	2.33	-18.42
1085	SLU 70	-52	32	4336	-911.4	2.31	-18.15
1085	SLU 71	-53	22	4350	-913.29	2.31	-18.26
1085	SLU 72	-52	32	4308	-905.75	2.3	-17.99
1085	SLU 73	-55	41	4537	-953.6	2.41	-18.97
1085	SLU 74	-57	25	4697	-983.35	2.49	-19.72
1085	SLU 75	-56	35	4654	-975.82	2.47	-19.45
1085	SLU 76	-55	41	4597	-965.15	2.44	-19.11

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1085	SLU 77	-57	25	4756	-994.9	2.52	-19.86
1085	SLU 78	-56	35	4714	-987.37	2.51	-19.58
1085	SLU 79	-57	25	4728	-989.26	2.51	-19.7
1085	SLU 80	-56	35	4685	-981.72	2.49	-19.42
1085	SLU 81	-58	26	4771	-998.72	2.53	-20.05
1085	SLU 82	-57	35	4728	-991.18	2.51	-19.77
1085	SLU 83	-58	26	4830	-1010.27	2.56	-20.18
1085	SLU 84	-57	36	4787	-1002.73	2.54	-19.9
1085	SLE RA 1	-39	16	3142	-662.26	1.67	-13.39
1085	SLE RA 2	-38	27	3094	-653.89	1.65	-13.08
1085	SLE RA 3	-39	17	3201	-673.72	1.7	-13.58
1085	SLE RA 4	-39	23	3172	-668.7	1.69	-13.4
1085	SLE RA 5	-38	27	3134	-661.59	1.67	-13.17
1085	SLE RA 6	-39	17	3240	-681.42	1.72	-13.67
1085	SLE RA 7	-39	23	3212	-676.4	1.71	-13.49
1085	SLE RA 8	-39	17	3221	-677.66	1.71	-13.56
1085	SLE RA 9	-39	23	3192	-672.64	1.7	-13.38
1085	SLE RA 10	-40	29	3346	-704.54	1.78	-14.04
1085	SLE RA 11	-42	18	3452	-724.37	1.83	-14.54
1085	SLE RA 12	-41	25	3424	-719.35	1.82	-14.35
1085	SLE RA 13	-41	29	3385	-712.24	1.8	-14.13
1085	SLE RA 14	-42	18	3492	-732.07	1.85	-14.63
1085	SLE RA 15	-42	25	3463	-727.05	1.84	-14.44
1085	SLE RA 16	-42	18	3472	-728.3	1.84	-14.52
1085	SLE RA 17	-41	25	3444	-723.28	1.83	-14.34
1085	SLE RA 18	-42	19	3501	-734.61	1.85	-14.75
1085	SLE RA 19	-42	25	3473	-729.59	1.84	-14.57
1085	SLE RA 20	-43	19	3541	-742.31	1.88	-14.84
1085	SLE RA 21	-42	25	3512	-737.29	1.86	-14.66
1085	SLE FR 1	-39	16	3142	-662.26	1.67	-13.39
1085	SLE FR 2	-38	19	3132	-660.58	1.66	-13.32
1085	SLE FR 3	-39	17	3158	-665.34	1.68	-13.42
1085	SLE FR 4	-40	19	3240	-682.29	1.72	-13.73
1085	SLE FR 5	-40	17	3266	-687.04	1.73	-13.83
1085	SLE FR 6	-41	18	3322	-698.43	1.76	-14.07
1085	SLE QP 1	-39	16	3142	-662.26	1.67	-13.39
1085	SLE QP 2	-40	17	3250	-683.96	1.72	-13.8
1085	SLD 1	376	123	3000	-644.79	2.37	131.82
1085	SLD 2	303	90	3037	-650.65	2.49	106.41
1085	SLD 3	359	-78	4080	-835.55	2.86	125.89
1085	SLD 4	286	-112	4116	-841.42	2.97	100.47
1085	SLD 5	123	361	1532	-381.87	1.16	43.3
1085	SLD 6	76	339	1555	-385.66	1.23	26.85
1085	SLD 7	67	-312	5129	-1017.75	2.78	23.52
1085	SLD 8	20	-333	5153	-1021.54	2.86	7.08
1085	SLD 9	-99	368	1346	-346.39	0.59	-34.67
1085	SLD 10	-146	346	1370	-350.18	0.67	-51.11
1085	SLD 11	-156	-305	4944	-982.26	2.21	-54.44
1085	SLD 12	-203	-327	4968	-986.06	2.29	-70.89
1085	SLD 13	-366	146	2383	-526.51	0.48	-128.06
1085	SLD 14	-439	113	2420	-532.37	0.59	-153.48
1085	SLD 15	-383	-56	3462	-717.27	0.96	-134
1085	SLD 16	-456	-89	3499	-723.14	1.08	-159.41
1085	SLV 1	613	196	2790	-610.44	2.7	214.58
1085	SLV 2	498	144	2848	-619.67	2.88	174.57
1085	SLV 3	584	-145	4614	-932.77	3.53	204.58
1085	SLV 4	469	-197	4672	-942	3.7	164.56
1085	SLV 5	221	598	335	-171.32	0.74	77.36
1085	SLV 6	144	563	374	-177.53	0.86	50.42
1085	SLV 7	125	-539	6415	-1245.75	3.48	44.01
1085	SLV 8	48	-574	6453	-1251.97	3.6	17.07
1085	SLV 9	-128	609	46	-115.96	-0.15	-44.66
1085	SLV 10	-205	573	85	-122.18	-0.03	-71.6
1085	SLV 11	-223	-528	6126	-1190.4	2.59	-78.01
1085	SLV 12	-300	-563	6164	-1196.61	2.71	-104.95
1085	SLV 13	-549	232	1827	-425.92	-0.26	-192.15
1085	SLV 14	-663	179	1885	-435.15	-0.08	-232.17
1085	SLV 15	-577	-109	3651	-748.25	0.56	-202.16
1085	SLV 16	-692	-162	3709	-757.48	0.74	-242.18
1085	SLV FO 1	678	214	2745	-603.09	2.8	237.42
1085	SLV FO 2	552	156	2808	-613.24	3	193.4
1085	SLV FO 3	646	-161	4751	-957.65	3.71	226.42
1085	SLV FO 4	520	-219	4814	-967.81	3.9	182.4
1085	SLV FO 5	247	656	43	-120.05	0.64	86.48
1085	SLV FO 6	162	617	86	-126.89	0.77	56.84
1085	SLV FO 7	142	-595	6731	-1301.93	3.65	49.79
1085	SLV FO 8	57	-633	6774	-1308.77	3.78	20.15
1085	SLV FO 9	-137	668	-274	-59.16	-0.34	-47.74
1085	SLV FO 10	-221	629	-232	-66	-0.2	-77.38
1085	SLV FO 11	-241	-583	6413	-1241.04	2.67	-84.43
1085	SLV FO 12	-326	-622	6456	-1247.87	2.81	-114.07
1085	SLV FO 13	-600	253	1685	-400.12	-0.45	-209.99
1085	SLV FO 14	-726	196	1749	-410.27	-0.26	-254.01
1085	SLV FO 15	-631	-122	3691	-754.68	0.45	-221
1085	SLV FO 16	-757	-180	3755	-764.84	0.65	-265.01
1085	CRTFP Ux+	0	0	0	0	0	0
1085	CRTFP Ux-	0	0	0	0	0	0
1085	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1085	CRTFP Uy-	0	0	0	0	0	0
1086	SLU 1	-35	20	2962	-619.14	0.32	-12.25
1086	SLU 2	-34	36	2891	-606.72	0.32	-11.81
1086	SLU 3	-36	20	3049	-635.92	0.33	-12.53
1086	SLU 4	-35	30	3007	-628.47	0.33	-12.26
1086	SLU 5	-34	36	2950	-617.99	0.33	-11.94
1086	SLU 6	-36	20	3108	-647.19	0.34	-12.65
1086	SLU 7	-36	30	3065	-639.74	0.34	-12.39
1086	SLU 8	-36	20	3079	-641.68	0.33	-12.49
1086	SLU 9	-35	30	3037	-634.22	0.33	-12.23
1086	SLU 10	-38	38	3265	-681.07	0.34	-13.2
1086	SLU 11	-40	23	3423	-710.27	0.34	-13.91
1086	SLU 12	-39	32	3380	-702.82	0.34	-13.65
1086	SLU 13	-38	39	3323	-692.34	0.34	-13.32
1086	SLU 14	-40	23	3481	-721.54	0.35	-14.03
1086	SLU 15	-40	33	3439	-714.09	0.35	-13.77
1086	SLU 16	-40	23	3453	-716.02	0.35	-13.88
1086	SLU 17	-39	32	3410	-708.57	0.35	-13.62
1086	SLU 18	-41	23	3496	-725.35	0.34	-14.23
1086	SLU 19	-40	33	3453	-717.9	0.34	-13.97
1086	SLU 20	-41	24	3554	-736.62	0.35	-14.35
1086	SLU 21	-41	33	3512	-729.17	0.35	-14.09
1086	SLU 22	-41	23	3472	-719.26	0.35	-14.25
1086	SLU 23	-40	39	3401	-706.84	0.35	-13.82
1086	SLU 24	-42	23	3560	-736.05	0.36	-14.53
1086	SLU 25	-41	33	3517	-728.59	0.36	-14.27
1086	SLU 26	-40	39	3460	-718.11	0.36	-13.94
1086	SLU 27	-42	23	3618	-747.31	0.37	-14.65
1086	SLU 28	-42	33	3576	-739.86	0.37	-14.39
1086	SLU 29	-42	23	3590	-741.8	0.37	-14.5
1086	SLU 30	-41	33	3547	-734.35	0.37	-14.24
1086	SLU 31	-44	42	3775	-781.19	0.37	-15.2
1086	SLU 32	-46	26	3933	-810.4	0.38	-15.92
1086	SLU 33	-45	36	3891	-802.94	0.38	-15.66
1086	SLU 34	-44	42	3834	-792.46	0.37	-15.33
1086	SLU 35	-46	26	3992	-821.66	0.38	-16.04
1086	SLU 36	-45	36	3949	-814.21	0.38	-15.78
1086	SLU 37	-46	26	3963	-816.15	0.38	-15.88
1086	SLU 38	-45	36	3921	-808.7	0.38	-15.62
1086	SLU 39	-47	27	4006	-825.48	0.37	-16.23
1086	SLU 40	-46	36	3963	-818.03	0.37	-15.97
1086	SLU 41	-47	27	4065	-836.75	0.38	-16.36
1086	SLU 42	-46	37	4022	-829.29	0.38	-16.1
1086	SLU 43	-44	24	3676	-770.55	0.41	-15.23
1086	SLU 44	-43	40	3605	-758.13	0.41	-14.8
1086	SLU 45	-45	25	3763	-787.34	0.41	-15.51
1086	SLU 46	-44	34	3720	-779.88	0.41	-15.25
1086	SLU 47	-43	41	3663	-769.4	0.41	-14.92
1086	SLU 48	-45	25	3822	-798.6	0.42	-15.63
1086	SLU 49	-44	34	3779	-791.15	0.42	-15.37
1086	SLU 50	-45	25	3793	-793.09	0.42	-15.48
1086	SLU 51	-44	34	3750	-785.64	0.42	-15.22
1086	SLU 52	-47	43	3978	-832.48	0.42	-16.19
1086	SLU 53	-49	27	4136	-861.68	0.43	-16.9
1086	SLU 54	-48	37	4094	-854.23	0.43	-16.64
1086	SLU 55	-47	43	4037	-843.75	0.43	-16.31
1086	SLU 56	-49	28	4195	-872.95	0.44	-17.02
1086	SLU 57	-48	37	4153	-865.5	0.44	-16.76
1086	SLU 58	-49	27	4167	-867.44	0.43	-16.87
1086	SLU 59	-48	37	4124	-859.99	0.43	-16.6
1086	SLU 60	-50	28	4209	-876.77	0.43	-17.21
1086	SLU 61	-49	38	4167	-869.31	0.43	-16.95
1086	SLU 62	-50	28	4268	-888.03	0.43	-17.34
1086	SLU 63	-49	38	4225	-880.58	0.43	-17.08
1086	SLU 64	-50	28	4186	-870.68	0.44	-17.24
1086	SLU 65	-48	44	4115	-858.26	0.44	-16.81
1086	SLU 66	-51	28	4273	-887.46	0.45	-17.52
1086	SLU 67	-50	38	4231	-880.01	0.45	-17.26
1086	SLU 68	-49	44	4174	-869.53	0.45	-16.93
1086	SLU 69	-51	28	4332	-898.73	0.45	-17.64
1086	SLU 70	-50	38	4289	-891.28	0.45	-17.38
1086	SLU 71	-50	28	4303	-893.21	0.45	-17.49
1086	SLU 72	-50	38	4261	-885.76	0.45	-17.22
1086	SLU 73	-52	46	4489	-932.61	0.45	-18.19
1086	SLU 74	-54	31	4647	-961.81	0.46	-18.9
1086	SLU 75	-54	40	4604	-954.36	0.46	-18.64
1086	SLU 76	-53	47	4547	-943.87	0.46	-18.31
1086	SLU 77	-55	31	4705	-973.08	0.47	-19.03
1086	SLU 78	-54	41	4663	-965.63	0.47	-18.77
1086	SLU 79	-54	31	4677	-967.56	0.47	-18.87
1086	SLU 80	-54	40	4634	-960.11	0.47	-18.61
1086	SLU 81	-55	32	4720	-976.89	0.46	-19.22
1086	SLU 82	-55	41	4677	-969.44	0.46	-18.96
1086	SLU 83	-56	32	4778	-988.16	0.47	-19.34
1086	SLU 84	-55	41	4736	-980.71	0.47	-19.08
1086	SLE RA 1	-37	20	3108	-647.75	0.33	-12.82
1086	SLE RA 2	-36	31	3061	-639.47	0.33	-12.53
1086	SLE RA 3	-38	21	3166	-658.93	0.34	-13.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1086	SLE RA 4	-37	27	3138	-653.97	0.34	-12.83
1086	SLE RA 5	-36	31	3100	-646.98	0.33	-12.61
1086	SLE RA 6	-38	21	3205	-666.45	0.34	-13.09
1086	SLE RA 7	-37	27	3177	-661.48	0.34	-12.91
1086	SLE RA 8	-37	21	3186	-662.77	0.34	-12.98
1086	SLE RA 9	-37	27	3158	-657.8	0.34	-12.81
1086	SLE RA 10	-39	33	3310	-689.03	0.34	-13.46
1086	SLE RA 11	-40	23	3415	-708.5	0.35	-13.93
1086	SLE RA 12	-40	29	3387	-703.53	0.35	-13.76
1086	SLE RA 13	-39	33	3349	-696.54	0.34	-13.54
1086	SLE RA 14	-40	23	3454	-716.01	0.35	-14.01
1086	SLE RA 15	-40	29	3426	-711.04	0.35	-13.84
1086	SLE RA 16	-40	23	3435	-712.34	0.35	-13.91
1086	SLE RA 17	-40	29	3407	-707.37	0.35	-13.73
1086	SLE RA 18	-41	23	3464	-718.56	0.34	-14.14
1086	SLE RA 19	-40	30	3435	-713.59	0.34	-13.97
1086	SLE RA 20	-41	23	3503	-726.07	0.35	-14.22
1086	SLE RA 21	-41	30	3474	-721.1	0.35	-14.05
1086	SLE FR 1	-37	20	3108	-647.75	0.33	-12.82
1086	SLE FR 2	-37	23	3098	-646.09	0.33	-12.76
1086	SLE FR 3	-37	21	3123	-650.75	0.33	-12.85
1086	SLE FR 4	-38	23	3205	-667.33	0.33	-13.16
1086	SLE FR 5	-38	21	3230	-671.99	0.34	-13.25
1086	SLE FR 6	-39	22	3286	-683.15	0.34	-13.48
1086	SLE QP 1	-37	20	3108	-647.75	0.33	-12.82
1086	SLE QP 2	-38	21	3215	-668.99	0.33	-13.22
1086	SLD 1	378	148	2941	-621.33	1.06	132.43
1086	SLD 2	305	117	2975	-626.39	1.15	107.04
1086	SLD 3	362	-55	4013	-809.84	1.09	126.79
1086	SLD 4	289	-86	4046	-814.9	1.18	101.41
1086	SLD 5	124	372	1502	-367.91	0.5	43.42
1086	SLD 6	77	351	1524	-371.18	0.56	27
1086	SLD 7	70	-303	5073	-996.28	0.58	24.65
1086	SLD 8	23	-323	5094	-999.55	0.64	8.22
1086	SLD 9	-99	366	1335	-338.43	0.03	-34.66
1086	SLD 10	-146	346	1356	-341.7	0.09	-51.08
1086	SLD 11	-153	-309	4905	-966.8	0.11	-53.43
1086	SLD 12	-200	-329	4927	-970.07	0.17	-69.86
1086	SLD 13	-365	128	2383	-523.08	-0.51	-127.84
1086	SLD 14	-438	97	2417	-528.13	-0.42	-153.23
1086	SLD 15	-381	-74	3455	-711.59	-0.48	-133.47
1086	SLD 16	-454	-105	3488	-716.64	-0.39	-158.86
1086	SLV 1	614	232	2719	-582.39	1.47	215.18
1086	SLV 2	500	183	2771	-590.34	1.61	175.21
1086	SLV 3	587	-110	4529	-900.92	1.51	205.68
1086	SLV 4	473	-159	4581	-908.87	1.65	165.71
1086	SLV 5	220	612	311	-158.42	0.58	77.17
1086	SLV 6	143	579	346	-163.77	0.68	50.26
1086	SLV 7	130	-527	6344	-1220.19	0.72	45.5
1086	SLV 8	53	-560	6380	-1225.55	0.82	18.59
1086	SLV 9	-129	603	50	-112.43	-0.15	-45.03
1086	SLV 10	-206	570	85	-117.79	-0.06	-71.94
1086	SLV 11	-219	-537	6083	-1174.2	-0.01	-76.7
1086	SLV 12	-296	-570	6118	-1179.56	0.09	-103.61
1086	SLV 13	-549	201	1848	-429.1	-0.98	-192.15
1086	SLV 14	-663	152	1900	-437.06	-0.84	-232.12
1086	SLV 15	-576	-141	3658	-747.64	-0.94	-201.65
1086	SLV 16	-690	-190	3710	-755.59	-0.8	-241.62
1086	SLV FO 1	679	253	2669	-573.73	1.58	238.02
1086	SLV FO 2	554	199	2726	-582.48	1.74	194.06
1086	SLV FO 3	650	-123	4660	-924.11	1.63	227.57
1086	SLV FO 4	524	-177	4718	-932.86	1.78	183.61
1086	SLV FO 5	246	671	20	-107.36	0.61	86.21
1086	SLV FO 6	161	635	59	-113.25	0.71	56.61
1086	SLV FO 7	147	-582	6657	-1275.31	0.76	51.38
1086	SLV FO 8	62	-619	6696	-1281.2	0.87	21.77
1086	SLV FO 9	-138	661	-267	-56.78	-0.2	-48.21
1086	SLV FO 10	-223	625	-228	-62.67	-0.1	-77.81
1086	SLV FO 11	-237	-592	6370	-1224.73	-0.04	-83.04
1086	SLV FO 12	-322	-629	6409	-1230.62	0.06	-112.65
1086	SLV FO 13	-600	219	1712	-405.11	-1.12	-210.04
1086	SLV FO 14	-726	165	1769	-413.87	-0.96	-254.01
1086	SLV FO 15	-630	-157	3703	-755.5	-1.07	-220.49
1086	SLV FO 16	-756	-211	3760	-764.25	-0.91	-264.46
1086	CRTFP Ux+	0	0	0	0	0	0
1086	CRTFP Ux-	0	0	0	0	0	0
1086	CRTFP Uy+	0	0	0	0	0	0
1086	CRTFP Uy-	0	0	0	0	0	0
1087	SLU 1	-34	24	2970	-635.56	-0.76	-11.7
1087	SLU 2	-33	40	2899	-622.55	-0.74	-11.29
1087	SLU 3	-35	24	3058	-652.88	-0.79	-11.97
1087	SLU 4	-34	34	3015	-645.07	-0.77	-11.72
1087	SLU 5	-33	40	2958	-634.17	-0.75	-11.4
1087	SLU 6	-35	24	3117	-664.51	-0.81	-12.08
1087	SLU 7	-34	34	3074	-656.7	-0.79	-11.83
1087	SLU 8	-34	24	3088	-658.81	-0.8	-11.93
1087	SLU 9	-34	34	3045	-651	-0.78	-11.68
1087	SLU 10	-36	43	3275	-699.48	-0.87	-12.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1087	SLU 11	-38	27	3434	-729.82	-0.93	-13.31
1087	SLU 12	-38	37	3391	-722.01	-0.91	-13.06
1087	SLU 13	-37	43	3333	-711.11	-0.89	-12.74
1087	SLU 14	-39	27	3492	-741.45	-0.95	-13.42
1087	SLU 15	-38	37	3450	-733.64	-0.93	-13.17
1087	SLU 16	-38	27	3464	-735.75	-0.94	-13.27
1087	SLU 17	-38	37	3421	-727.94	-0.92	-13.02
1087	SLU 18	-39	28	3507	-745.48	-0.96	-13.62
1087	SLU 19	-39	37	3464	-737.66	-0.95	-13.37
1087	SLU 20	-40	28	3566	-757.1	-0.98	-13.73
1087	SLU 21	-39	38	3523	-749.29	-0.96	-13.48
1087	SLU 22	-39	27	3483	-739.13	-0.94	-13.63
1087	SLU 23	-38	44	3412	-726.11	-0.91	-13.22
1087	SLU 24	-40	28	3571	-756.45	-0.97	-13.89
1087	SLU 25	-39	38	3528	-748.63	-0.95	-13.65
1087	SLU 26	-38	44	3470	-737.73	-0.93	-13.33
1087	SLU 27	-40	28	3629	-768.07	-0.98	-14.01
1087	SLU 28	-40	38	3587	-760.26	-0.97	-13.76
1087	SLU 29	-40	28	3601	-762.37	-0.97	-13.86
1087	SLU 30	-39	37	3558	-754.56	-0.96	-13.61
1087	SLU 31	-42	47	3787	-803.05	-1.05	-14.56
1087	SLU 32	-44	31	3946	-833.38	-1.1	-15.23
1087	SLU 33	-43	41	3904	-825.57	-1.09	-14.99
1087	SLU 34	-42	47	3846	-814.67	-1.07	-14.67
1087	SLU 35	-44	31	4005	-845.01	-1.12	-15.35
1087	SLU 36	-44	41	3962	-837.2	-1.1	-15.1
1087	SLU 37	-44	31	3977	-839.31	-1.11	-15.2
1087	SLU 38	-43	40	3934	-831.5	-1.1	-14.95
1087	SLU 39	-45	32	4020	-849.04	-1.14	-15.55
1087	SLU 40	-44	41	3977	-841.23	-1.12	-15.3
1087	SLU 41	-45	32	4079	-860.66	-1.16	-15.66
1087	SLU 42	-44	41	4036	-852.85	-1.14	-15.41
1087	SLU 43	-42	29	3685	-790.73	-0.93	-14.55
1087	SLU 44	-41	46	3614	-777.71	-0.9	-14.14
1087	SLU 45	-43	30	3773	-808.05	-0.96	-14.82
1087	SLU 46	-42	40	3730	-800.24	-0.94	-14.57
1087	SLU 47	-41	46	3673	-789.33	-0.92	-14.26
1087	SLU 48	-43	30	3832	-819.67	-0.98	-14.93
1087	SLU 49	-42	40	3789	-811.86	-0.96	-14.68
1087	SLU 50	-43	30	3803	-813.97	-0.97	-14.78
1087	SLU 51	-42	39	3760	-806.16	-0.95	-14.53
1087	SLU 52	-45	49	3990	-854.65	-1.04	-15.48
1087	SLU 53	-47	33	4149	-884.98	-1.1	-16.16
1087	SLU 54	-46	42	4106	-877.17	-1.08	-15.91
1087	SLU 55	-45	49	4049	-866.27	-1.06	-15.59
1087	SLU 56	-47	33	4208	-896.61	-1.11	-16.27
1087	SLU 57	-46	43	4165	-888.8	-1.1	-16.02
1087	SLU 58	-46	33	4179	-890.91	-1.11	-16.12
1087	SLU 59	-46	42	4136	-883.1	-1.09	-15.87
1087	SLU 60	-47	33	4222	-900.64	-1.13	-16.47
1087	SLU 61	-47	43	4179	-892.83	-1.11	-16.22
1087	SLU 62	-48	34	4281	-912.26	-1.15	-16.58
1087	SLU 63	-47	43	4238	-904.45	-1.13	-16.33
1087	SLU 64	-48	33	4198	-894.29	-1.11	-16.48
1087	SLU 65	-46	49	4127	-881.27	-1.08	-16.07
1087	SLU 66	-48	34	4286	-911.61	-1.13	-16.74
1087	SLU 67	-48	43	4243	-903.8	-1.12	-16.5
1087	SLU 68	-47	50	4186	-892.89	-1.1	-16.18
1087	SLU 69	-49	34	4345	-923.23	-1.15	-16.86
1087	SLU 70	-48	43	4302	-915.42	-1.13	-16.61
1087	SLU 71	-48	33	4316	-917.54	-1.14	-16.71
1087	SLU 72	-47	43	4273	-909.72	-1.13	-16.46
1087	SLU 73	-50	52	4503	-958.21	-1.22	-17.41
1087	SLU 74	-52	36	4662	-988.55	-1.27	-18.08
1087	SLU 75	-51	46	4619	-980.74	-1.26	-17.84
1087	SLU 76	-51	52	4561	-969.83	-1.24	-17.52
1087	SLU 77	-52	37	4721	-1000.17	-1.29	-18.2
1087	SLU 78	-52	46	4678	-992.36	-1.27	-17.95
1087	SLU 79	-52	36	4692	-994.47	-1.28	-18.05
1087	SLU 80	-51	46	4649	-986.66	-1.26	-17.8
1087	SLU 81	-53	37	4735	-1004.2	-1.31	-18.4
1087	SLU 82	-52	47	4692	-996.39	-1.29	-18.15
1087	SLU 83	-53	37	4794	-1015.82	-1.32	-18.51
1087	SLU 84	-53	47	4751	-1008.01	-1.31	-18.26
1087	SLE RA 1	-35	25	3117	-665.15	-0.81	-12.25
1087	SLE RA 2	-35	35	3069	-656.48	-0.8	-11.98
1087	SLE RA 3	-36	25	3175	-676.7	-0.83	-12.43
1087	SLE RA 4	-35	31	3147	-671.49	-0.82	-12.27
1087	SLE RA 5	-35	36	3108	-664.22	-0.81	-12.06
1087	SLE RA 6	-36	25	3214	-684.45	-0.84	-12.5
1087	SLE RA 7	-36	32	3186	-679.24	-0.83	-12.34
1087	SLE RA 8	-36	25	3195	-680.65	-0.84	-12.4
1087	SLE RA 9	-35	31	3167	-675.44	-0.83	-12.24
1087	SLE RA 10	-37	37	3320	-707.77	-0.89	-12.87
1087	SLE RA 11	-38	27	3426	-727.99	-0.92	-13.32
1087	SLE RA 12	-38	33	3397	-722.78	-0.91	-13.16
1087	SLE RA 13	-37	38	3359	-715.52	-0.9	-12.95
1087	SLE RA 14	-39	27	3465	-735.74	-0.94	-13.4

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1087	SLE RA 15	-38	34	3436	-730.53	-0.92	-13.23
1087	SLE RA 16	-38	27	3446	-731.94	-0.93	-13.3
1087	SLE RA 17	-38	33	3417	-726.74	-0.92	-13.13
1087	SLE RA 18	-39	27	3475	-738.43	-0.95	-13.53
1087	SLE RA 19	-39	34	3446	-733.22	-0.94	-13.37
1087	SLE RA 20	-39	28	3514	-746.18	-0.96	-13.61
1087	SLE RA 21	-39	34	3485	-740.97	-0.95	-13.44
1087	SLE FR 1	-35	25	3117	-665.15	-0.81	-12.25
1087	SLE FR 2	-35	27	3107	-663.42	-0.81	-12.2
1087	SLE FR 3	-35	25	3132	-668.25	-0.82	-12.28
1087	SLE FR 4	-36	28	3215	-685.4	-0.85	-12.58
1087	SLE FR 5	-37	25	3240	-690.24	-0.86	-12.67
1087	SLE FR 6	-37	26	3296	-701.79	-0.88	-12.89
1087	SLE QP 1	-35	25	3117	-665.15	-0.81	-12.25
1087	SLE QP 2	-36	25	3224	-687.14	-0.85	-12.64
1087	SLD 1	379	151	2924	-629.15	-0.03	132.95
1087	SLD 2	307	122	2955	-633.83	0.04	107.6
1087	SLD 3	364	-53	4003	-826.36	-0.45	127.62
1087	SLD 4	292	-82	4033	-831.04	-0.38	102.28
1087	SLD 5	124	377	1493	-369.83	0.01	43.5
1087	SLD 6	77	358	1513	-372.86	0.06	27.11
1087	SLD 7	74	-302	5088	-1027.19	-1.38	25.77
1087	SLD 8	27	-321	5108	-1030.22	-1.33	9.37
1087	SLD 9	-99	372	1340	-344.05	-0.37	-34.65
1087	SLD 10	-146	353	1360	-347.08	-0.33	-51.04
1087	SLD 11	-150	-308	4936	-1001.41	-1.77	-52.38
1087	SLD 12	-197	-326	4955	-1004.44	-1.72	-68.78
1087	SLD 13	-365	133	2415	-543.23	-1.33	-127.56
1087	SLD 14	-437	104	2446	-547.91	-1.26	-152.9
1087	SLD 15	-380	-71	3494	-740.44	-1.75	-132.88
1087	SLD 16	-452	-100	3524	-745.12	-1.68	-158.22
1087	SLV 1	615	235	2686	-583.86	0.45	215.65
1087	SLV 2	501	189	2734	-591.23	0.57	175.74
1087	SLV 3	590	-110	4509	-917.1	-0.25	206.67
1087	SLV 4	476	-156	4556	-924.47	-0.14	166.77
1087	SLV 5	219	619	289	-149.37	0.59	76.91
1087	SLV 6	142	588	321	-154.33	0.67	50.04
1087	SLV 7	134	-529	6365	-1260.16	-1.77	46.99
1087	SLV 8	57	-560	6397	-1265.12	-1.69	20.13
1087	SLV 9	-130	611	51	-109.15	-0.02	-45.4
1087	SLV 10	-207	580	83	-114.11	0.06	-72.27
1087	SLV 11	-215	-537	6127	-1219.94	-2.38	-75.32
1087	SLV 12	-292	-568	6159	-1224.9	-2.3	-102.18
1087	SLV 13	-549	207	1892	-449.81	-1.57	-192.05
1087	SLV 14	-663	161	1940	-457.17	-1.45	-231.95
1087	SLV 15	-574	-138	3715	-783.04	-2.28	-201.02
1087	SLV 16	-688	-184	3762	-790.41	-2.16	-240.92
1087	SLV FO 1	681	256	2632	-573.53	0.59	238.48
1087	SLV FO 2	555	205	2685	-581.64	0.71	194.58
1087	SLV FO 3	653	-123	4637	-940.09	-0.19	228.6
1087	SLV FO 4	527	-174	4690	-948.2	-0.07	184.71
1087	SLV FO 5	244	679	-4	-95.59	0.74	85.86
1087	SLV FO 6	160	644	31	-101.05	0.82	56.31
1087	SLV FO 7	151	-584	6679	-1317.46	-1.86	52.95
1087	SLV FO 8	67	-618	6715	-1322.92	-1.78	23.4
1087	SLV FO 9	-140	669	-266	-51.35	0.07	-48.68
1087	SLV FO 10	-224	635	-231	-56.81	0.15	-78.23
1087	SLV FO 11	-233	-594	6417	-1273.22	-2.53	-81.58
1087	SLV FO 12	-317	-628	6453	-1278.68	-2.44	-111.14
1087	SLV FO 13	-600	225	1759	-426.07	-1.64	-209.99
1087	SLV FO 14	-726	174	1811	-434.18	-1.51	-253.88
1087	SLV FO 15	-628	-154	3764	-792.63	-2.42	-219.86
1087	SLV FO 16	-754	-205	3816	-800.74	-2.29	-263.75
1087	CRTFP Ux+	0	0	0	0	0	0
1087	CRTFP Ux-	0	0	0	0	0	0
1087	CRTFP Uy+	0	0	0	0	0	0
1087	CRTFP Uy-	0	0	0	0	0	0
1088	SLU 1	-32	27	3011	-676.97	-1.55	-11.16
1088	SLU 2	-31	44	2938	-662.77	-1.51	-10.77
1088	SLU 3	-33	28	3100	-695.61	-1.6	-11.41
1088	SLU 4	-32	38	3056	-687.09	-1.58	-11.18
1088	SLU 5	-31	44	2998	-675.27	-1.54	-10.88
1088	SLU 6	-33	28	3160	-708.11	-1.64	-11.51
1088	SLU 7	-33	38	3116	-699.59	-1.61	-11.28
1088	SLU 8	-33	28	3130	-701.98	-1.62	-11.36
1088	SLU 9	-32	38	3087	-693.46	-1.59	-11.13
1088	SLU 10	-35	47	3321	-745.76	-1.76	-12.07
1088	SLU 11	-37	31	3482	-778.6	-1.86	-12.7
1088	SLU 12	-36	41	3439	-770.08	-1.83	-12.47
1088	SLU 13	-35	47	3381	-758.26	-1.79	-12.17
1088	SLU 14	-37	31	3542	-791.1	-1.89	-12.8
1088	SLU 15	-36	41	3499	-782.58	-1.86	-12.57
1088	SLU 16	-37	31	3513	-784.96	-1.87	-12.66
1088	SLU 17	-36	41	3469	-776.45	-1.84	-12.43
1088	SLU 18	-38	32	3558	-795.52	-1.91	-13.01
1088	SLU 19	-37	42	3514	-787.01	-1.88	-12.78
1088	SLU 20	-38	32	3617	-808.03	-1.94	-13.11
1088	SLU 21	-37	42	3574	-799.51	-1.92	-12.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1088	SLU 22	-38	32	3533	-788.65	-1.88	-13.01
1088	SLU 23	-36	48	3460	-774.45	-1.83	-12.63
1088	SLU 24	-38	32	3622	-807.28	-1.93	-13.26
1088	SLU 25	-38	42	3578	-798.76	-1.9	-13.03
1088	SLU 26	-37	48	3520	-786.95	-1.87	-12.73
1088	SLU 27	-39	32	3681	-819.79	-1.96	-13.36
1088	SLU 28	-38	42	3638	-811.27	-1.94	-13.13
1088	SLU 29	-38	32	3652	-813.65	-1.95	-13.22
1088	SLU 30	-37	42	3608	-805.13	-1.92	-12.99
1088	SLU 31	-40	51	3842	-857.44	-2.08	-13.92
1088	SLU 32	-42	35	4004	-890.27	-2.18	-14.56
1088	SLU 33	-41	45	3960	-881.75	-2.15	-14.32
1088	SLU 34	-40	52	3902	-869.94	-2.12	-14.03
1088	SLU 35	-42	36	4064	-902.78	-2.21	-14.66
1088	SLU 36	-42	45	4020	-894.26	-2.19	-14.43
1088	SLU 37	-42	35	4035	-896.64	-2.2	-14.51
1088	SLU 38	-41	45	3991	-888.12	-2.17	-14.28
1088	SLU 39	-43	36	4079	-907.2	-2.24	-14.86
1088	SLU 40	-42	46	4036	-898.68	-2.21	-14.63
1088	SLU 41	-43	36	4139	-919.7	-2.27	-14.97
1088	SLU 42	-42	46	4095	-911.19	-2.24	-14.74
1088	SLU 43	-40	34	3735	-841.77	-1.91	-13.87
1088	SLU 44	-39	51	3663	-827.57	-1.86	-13.49
1088	SLU 45	-41	35	3824	-860.41	-1.96	-14.12
1088	SLU 46	-40	45	3781	-851.89	-1.93	-13.89
1088	SLU 47	-39	51	3722	-840.08	-1.89	-13.59
1088	SLU 48	-41	35	3884	-872.91	-1.99	-14.22
1088	SLU 49	-40	45	3840	-864.39	-1.96	-13.99
1088	SLU 50	-41	35	3855	-866.78	-1.97	-14.08
1088	SLU 51	-40	45	3811	-858.26	-1.95	-13.85
1088	SLU 52	-43	54	4045	-910.56	-2.11	-14.78
1088	SLU 53	-44	38	4207	-943.4	-2.21	-15.42
1088	SLU 54	-44	48	4163	-934.88	-2.18	-15.18
1088	SLU 55	-43	54	4105	-923.06	-2.14	-14.88
1088	SLU 56	-45	38	4267	-955.9	-2.24	-15.52
1088	SLU 57	-44	48	4223	-947.38	-2.21	-15.29
1088	SLU 58	-44	38	4237	-949.77	-2.23	-15.37
1088	SLU 59	-44	48	4194	-941.25	-2.2	-15.14
1088	SLU 60	-45	39	4282	-960.33	-2.27	-15.72
1088	SLU 61	-45	49	4238	-951.81	-2.24	-15.49
1088	SLU 62	-46	39	4342	-972.83	-2.3	-15.83
1088	SLU 63	-45	49	4298	-964.31	-2.27	-15.59
1088	SLU 64	-45	38	4257	-953.45	-2.23	-15.73
1088	SLU 65	-44	55	4184	-939.25	-2.19	-15.34
1088	SLU 66	-46	39	4346	-972.09	-2.29	-15.97
1088	SLU 67	-45	49	4302	-963.57	-2.26	-15.74
1088	SLU 68	-45	55	4244	-951.75	-2.22	-15.44
1088	SLU 69	-46	39	4406	-984.59	-2.32	-16.08
1088	SLU 70	-46	49	4362	-976.07	-2.29	-15.84
1088	SLU 71	-46	39	4377	-978.45	-2.3	-15.93
1088	SLU 72	-45	49	4333	-969.93	-2.27	-15.7
1088	SLU 73	-48	58	4567	-1022.24	-2.44	-16.64
1088	SLU 74	-50	42	4729	-1055.07	-2.54	-17.27
1088	SLU 75	-49	52	4685	-1046.56	-2.51	-17.04
1088	SLU 76	-48	58	4627	-1034.74	-2.47	-16.74
1088	SLU 77	-50	42	4788	-1067.58	-2.57	-17.37
1088	SLU 78	-49	52	4745	-1059.06	-2.54	-17.14
1088	SLU 79	-50	42	4759	-1061.44	-2.55	-17.23
1088	SLU 80	-49	52	4715	-1052.92	-2.52	-16.99
1088	SLU 81	-51	43	4804	-1072	-2.59	-17.58
1088	SLU 82	-50	53	4760	-1063.48	-2.56	-17.35
1088	SLU 83	-51	43	4863	-1084.51	-2.63	-17.68
1088	SLU 84	-50	53	4820	-1075.99	-2.6	-17.45
1088	SLE RA 1	-34	29	3160	-708.88	-1.65	-11.69
1088	SLE RA 2	-33	40	3111	-699.41	-1.62	-11.43
1088	SLE RA 3	-34	29	3219	-721.3	-1.68	-11.85
1088	SLE RA 4	-34	36	3190	-715.62	-1.66	-11.7
1088	SLE RA 5	-33	40	3151	-707.75	-1.64	-11.5
1088	SLE RA 6	-34	29	3259	-729.64	-1.7	-11.92
1088	SLE RA 7	-34	36	3230	-723.96	-1.68	-11.77
1088	SLE RA 8	-34	29	3240	-725.55	-1.69	-11.83
1088	SLE RA 9	-34	36	3211	-719.87	-1.67	-11.67
1088	SLE RA 10	-35	42	3367	-754.74	-1.78	-12.3
1088	SLE RA 11	-37	31	3474	-776.63	-1.85	-12.72
1088	SLE RA 12	-36	38	3445	-770.95	-1.83	-12.56
1088	SLE RA 13	-36	42	3406	-763.07	-1.8	-12.36
1088	SLE RA 14	-37	31	3514	-784.96	-1.87	-12.79
1088	SLE RA 15	-36	38	3485	-779.28	-1.85	-12.63
1088	SLE RA 16	-37	31	3495	-780.87	-1.86	-12.69
1088	SLE RA 17	-36	38	3466	-775.19	-1.84	-12.54
1088	SLE RA 18	-37	32	3524	-787.91	-1.89	-12.92
1088	SLE RA 19	-37	38	3495	-782.23	-1.87	-12.77
1088	SLE RA 20	-37	32	3564	-796.25	-1.91	-12.99
1088	SLE RA 21	-37	38	3535	-790.57	-1.89	-12.84
1088	SLE FR 1	-34	29	3160	-708.88	-1.65	-11.69
1088	SLE FR 2	-34	31	3150	-706.98	-1.64	-11.64
1088	SLE FR 3	-34	29	3176	-712.21	-1.66	-11.72
1088	SLE FR 4	-35	32	3260	-730.69	-1.71	-12.01

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1088	SLE FR 5	-35	30	3285	-735.92	-1.73	-12.09
1088	SLE FR 6	-36	30	3342	-748.4	-1.77	-12.31
1088	SLE QP 1	-34	29	3160	-708.88	-1.65	-11.69
1088	SLE QP 2	-35	30	3269	-732.59	-1.72	-12.06
1088	SLD 1	381	155	2940	-663.25	-0.85	133.38
1088	SLD 2	308	128	2968	-667.85	-0.79	108.09
1088	SLD 3	366	-51	4039	-877.96	-1.56	128.38
1088	SLD 4	294	-78	4067	-882.57	-1.5	103.09
1088	SLD 5	124	384	1500	-385.34	-0.38	43.53
1088	SLD 6	77	367	1518	-388.32	-0.35	27.17
1088	SLD 7	77	-302	5161	-1101.05	-2.76	26.88
1088	SLD 8	30	-320	5179	-1104.03	-2.73	10.52
1088	SLD 9	-100	379	1359	-361.15	-0.71	-34.64
1088	SLD 10	-146	361	1378	-364.13	-0.67	-51
1088	SLD 11	-146	-308	5021	-1076.85	-3.09	-51.3
1088	SLD 12	-193	-325	5039	-1079.83	-3.05	-67.66
1088	SLD 13	-364	138	2472	-582.61	-1.93	-127.22
1088	SLD 14	-436	110	2500	-587.22	-1.88	-152.5
1088	SLD 15	-378	-68	3570	-797.32	-2.65	-132.21
1088	SLD 16	-450	-96	3598	-801.93	-2.59	-157.5
1088	SLV 1	616	239	2684	-610.46	-0.31	215.97
1088	SLV 2	502	196	2729	-617.71	-0.22	176.16
1088	SLV 3	593	-109	4541	-973.29	-1.52	207.55
1088	SLV 4	479	-152	4585	-980.54	-1.43	167.73
1088	SLV 5	218	628	270	-144.31	0.52	76.56
1088	SLV 6	141	599	300	-149.19	0.58	49.75
1088	SLV 7	139	-532	6458	-1353.73	-3.51	48.48
1088	SLV 8	62	-561	6488	-1358.61	-3.45	21.67
1088	SLV 9	-132	620	51	-106.56	0.01	-45.79
1088	SLV 10	-208	591	81	-111.45	0.07	-72.6
1088	SLV 11	-211	-540	6239	-1315.98	-4.02	-73.87
1088	SLV 12	-287	-569	6269	-1320.87	-3.96	-100.68
1088	SLV 13	-548	211	1954	-484.64	-2.01	-191.86
1088	SLV 14	-662	168	1998	-491.89	-1.92	-231.67
1088	SLV 15	-572	-137	3810	-847.46	-3.22	-200.28
1088	SLV 16	-686	-180	3854	-854.72	-3.13	-240.09
1088	SLV FO 1	682	260	2626	-598.25	-0.17	238.78
1088	SLV FO 2	556	213	2675	-606.22	-0.07	194.98
1088	SLV FO 3	655	-123	4668	-997.35	-1.5	229.51
1088	SLV FO 4	530	-170	4717	-1005.33	-1.4	185.71
1088	SLV FO 5	243	688	-30	-85.48	0.74	85.42
1088	SLV FO 6	159	656	3	-90.85	0.81	55.93
1088	SLV FO 7	156	-588	6777	-1415.84	-3.68	54.53
1088	SLV FO 8	72	-620	6810	-1421.22	-3.62	25.05
1088	SLV FO 9	-141	679	-271	-43.96	0.18	-49.17
1088	SLV FO 10	-226	647	-238	-49.33	0.25	-78.65
1088	SLV FO 11	-228	-597	6536	-1374.32	-4.25	-80.05
1088	SLV FO 12	-313	-629	6568	-1379.69	-4.18	-109.54
1088	SLV FO 13	-600	229	1822	-459.84	-2.04	-209.84
1088	SLV FO 14	-725	182	1871	-467.82	-1.94	-253.63
1088	SLV FO 15	-626	-153	3864	-858.95	-3.37	-219.1
1088	SLV FO 16	-751	-201	3913	-866.93	-3.27	-262.9
1088	CRTFP Ux+	0	0	0	0	0	0
1088	CRTFP Ux-	0	0	0	0	0	0
1088	CRTFP Uy+	0	0	0	0	0	0
1088	CRTFP Uy-	0	0	0	0	0	0
1089	SLU 1	-31	31	3072	-736.23	-1.92	-10.62
1089	SLU 2	-30	48	2997	-720.46	-1.87	-10.26
1089	SLU 3	-31	32	3163	-756.74	-1.98	-10.85
1089	SLU 4	-31	42	3118	-747.28	-1.95	-10.63
1089	SLU 5	-30	48	3058	-734.22	-1.91	-10.35
1089	SLU 6	-32	32	3224	-770.5	-2.03	-10.94
1089	SLU 7	-31	42	3179	-761.04	-1.99	-10.72
1089	SLU 8	-31	32	3194	-763.74	-2	-10.8
1089	SLU 9	-31	42	3149	-754.28	-1.97	-10.58
1089	SLU 10	-33	51	3390	-811.96	-2.17	-11.51
1089	SLU 11	-35	35	3555	-848.24	-2.29	-12.1
1089	SLU 12	-34	45	3510	-838.78	-2.25	-11.89
1089	SLU 13	-33	51	3451	-825.71	-2.21	-11.6
1089	SLU 14	-35	35	3616	-862	-2.33	-12.19
1089	SLU 15	-35	45	3571	-852.53	-2.29	-11.98
1089	SLU 16	-35	35	3586	-855.24	-2.31	-12.05
1089	SLU 17	-34	45	3542	-845.78	-2.27	-11.84
1089	SLU 18	-36	36	3632	-866.94	-2.35	-12.41
1089	SLU 19	-35	46	3588	-857.48	-2.32	-12.19
1089	SLU 20	-36	36	3693	-880.7	-2.39	-12.5
1089	SLU 21	-35	46	3649	-871.23	-2.36	-12.28
1089	SLU 22	-36	36	3606	-859.34	-2.32	-12.4
1089	SLU 23	-35	53	3532	-843.57	-2.26	-12.04
1089	SLU 24	-36	37	3697	-879.85	-2.38	-12.63
1089	SLU 25	-36	47	3652	-870.39	-2.35	-12.41
1089	SLU 26	-35	53	3593	-857.33	-2.3	-12.13
1089	SLU 27	-37	37	3758	-893.61	-2.42	-12.72
1089	SLU 28	-36	47	3713	-884.15	-2.39	-12.51
1089	SLU 29	-36	36	3728	-886.85	-2.4	-12.58
1089	SLU 30	-36	46	3684	-877.39	-2.36	-12.37
1089	SLU 31	-38	56	3924	-935.07	-2.56	-13.29
1089	SLU 32	-40	40	4089	-971.35	-2.68	-13.88

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1089	SLU 33	-39	50	4045	-961.89	-2.65	-13.67
1089	SLU 34	-39	56	3985	-948.82	-2.6	-13.38
1089	SLU 35	-40	40	4150	-985.11	-2.72	-13.97
1089	SLU 36	-40	50	4106	-975.65	-2.69	-13.76
1089	SLU 37	-40	40	4121	-978.35	-2.7	-13.83
1089	SLU 38	-39	50	4076	-968.89	-2.67	-13.62
1089	SLU 39	-41	41	4167	-990.05	-2.75	-14.19
1089	SLU 40	-40	51	4122	-980.59	-2.71	-13.97
1089	SLU 41	-41	41	4228	-1003.81	-2.79	-14.28
1089	SLU 42	-41	51	4183	-994.34	-2.75	-14.06
1089	SLU 43	-38	39	3810	-914.89	-2.36	-13.19
1089	SLU 44	-37	56	3736	-899.12	-2.31	-12.83
1089	SLU 45	-39	40	3901	-935.4	-2.43	-13.42
1089	SLU 46	-38	50	3856	-925.94	-2.39	-13.21
1089	SLU 47	-37	56	3797	-912.87	-2.35	-12.92
1089	SLU 48	-39	40	3962	-949.16	-2.47	-13.51
1089	SLU 49	-38	50	3918	-939.7	-2.43	-13.3
1089	SLU 50	-39	40	3932	-942.4	-2.45	-13.37
1089	SLU 51	-38	50	3888	-932.94	-2.41	-13.16
1089	SLU 52	-41	59	4128	-990.61	-2.61	-14.08
1089	SLU 53	-42	43	4294	-1026.9	-2.73	-14.68
1089	SLU 54	-42	53	4249	-1017.44	-2.69	-14.46
1089	SLU 55	-41	59	4189	-1004.37	-2.65	-14.18
1089	SLU 56	-43	43	4355	-1040.66	-2.77	-14.77
1089	SLU 57	-42	53	4310	-1031.19	-2.73	-14.55
1089	SLU 58	-42	43	4325	-1033.9	-2.75	-14.63
1089	SLU 59	-42	53	4280	-1024.44	-2.71	-14.41
1089	SLU 60	-43	44	4371	-1045.6	-2.79	-14.98
1089	SLU 61	-43	54	4326	-1036.14	-2.76	-14.77
1089	SLU 62	-43	44	4432	-1059.35	-2.83	-15.07
1089	SLU 63	-43	54	4387	-1049.89	-2.8	-14.86
1089	SLU 64	-43	44	4345	-1038	-2.76	-14.97
1089	SLU 65	-42	60	4270	-1022.23	-2.7	-14.61
1089	SLU 66	-44	44	4436	-1058.51	-2.82	-15.2
1089	SLU 67	-43	54	4391	-1049.05	-2.79	-14.99
1089	SLU 68	-42	61	4331	-1035.99	-2.74	-14.7
1089	SLU 69	-44	45	4497	-1072.27	-2.86	-15.3
1089	SLU 70	-44	55	4452	-1062.81	-2.83	-15.08
1089	SLU 71	-44	44	4467	-1065.51	-2.84	-15.15
1089	SLU 72	-43	54	4422	-1056.05	-2.81	-14.94
1089	SLU 73	-46	64	4662	-1113.73	-3	-15.87
1089	SLU 74	-47	48	4828	-1150.01	-3.12	-16.46
1089	SLU 75	-47	58	4783	-1140.55	-3.09	-16.24
1089	SLU 76	-46	64	4723	-1127.48	-3.04	-15.96
1089	SLU 77	-48	48	4889	-1163.77	-3.16	-16.55
1089	SLU 78	-47	58	4844	-1154.3	-3.13	-16.33
1089	SLU 79	-47	47	4859	-1157.01	-3.14	-16.41
1089	SLU 80	-47	57	4814	-1147.55	-3.11	-16.19
1089	SLU 81	-48	48	4905	-1168.71	-3.19	-16.76
1089	SLU 82	-48	58	4860	-1159.25	-3.15	-16.55
1089	SLU 83	-49	49	4966	-1182.47	-3.23	-16.85
1089	SLU 84	-48	59	4921	-1173	-3.2	-16.64
1089	SLE RA 1	-32	33	3225	-771.4	-2.04	-11.12
1089	SLE RA 2	-31	44	3175	-760.89	-2	-10.89
1089	SLE RA 3	-33	33	3285	-785.08	-2.08	-11.28
1089	SLE RA 4	-32	40	3255	-778.77	-2.05	-11.14
1089	SLE RA 5	-32	44	3216	-770.06	-2.02	-10.95
1089	SLE RA 6	-33	33	3326	-794.25	-2.1	-11.34
1089	SLE RA 7	-32	40	3296	-787.94	-2.08	-11.2
1089	SLE RA 8	-32	33	3306	-789.75	-2.09	-11.25
1089	SLE RA 9	-32	40	3276	-783.44	-2.07	-11.1
1089	SLE RA 10	-34	46	3436	-821.89	-2.2	-11.72
1089	SLE RA 11	-35	35	3547	-846.08	-2.28	-12.12
1089	SLE RA 12	-35	42	3517	-839.77	-2.25	-11.97
1089	SLE RA 13	-34	46	3477	-831.06	-2.23	-11.78
1089	SLE RA 14	-35	35	3587	-855.25	-2.3	-12.18
1089	SLE RA 15	-35	42	3558	-848.94	-2.28	-12.03
1089	SLE RA 16	-35	35	3568	-850.74	-2.29	-12.08
1089	SLE RA 17	-34	42	3538	-844.44	-2.27	-11.94
1089	SLE RA 18	-36	36	3598	-858.54	-2.32	-12.32
1089	SLE RA 19	-35	42	3568	-852.23	-2.3	-12.17
1089	SLE RA 20	-36	36	3639	-867.71	-2.35	-12.38
1089	SLE RA 21	-35	43	3609	-861.41	-2.33	-12.24
1089	SLE FR 1	-32	33	3225	-771.4	-2.04	-11.12
1089	SLE FR 2	-32	35	3215	-769.3	-2.03	-11.08
1089	SLE FR 3	-32	33	3241	-775.07	-2.05	-11.15
1089	SLE FR 4	-33	36	3327	-795.44	-2.11	-11.44
1089	SLE FR 5	-33	34	3353	-801.21	-2.13	-11.51
1089	SLE FR 6	-34	34	3411	-814.97	-2.18	-11.72
1089	SLE QP 1	-32	33	3225	-771.4	-2.04	-11.12
1089	SLE QP 2	-33	34	3337	-797.55	-2.12	-11.48
1089	SLD 1	382	159	2977	-716.7	-1.24	133.73
1089	SLD 2	309	134	3004	-721.41	-1.2	108.51
1089	SLD 3	369	-49	4103	-954.88	-2.08	129.07
1089	SLD 4	296	-74	4130	-959.59	-2.04	103.86
1089	SLD 5	124	392	1517	-411.24	-0.59	43.51
1089	SLD 6	77	375	1534	-414.28	-0.56	27.19
1089	SLD 7	80	-303	5269	-1205.17	-3.4	28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1089	SLD 8	33	-319	5286	-1208.21	-3.37	11.69
1089	SLD 9	-100	386	1387	-386.88	-0.87	-34.65
1089	SLD 10	-146	370	1404	-389.92	-0.85	-50.97
1089	SLD 11	-143	-308	5139	-1180.81	-3.69	-50.16
1089	SLD 12	-190	-325	5156	-1183.85	-3.66	-66.48
1089	SLD 13	-363	142	2544	-635.5	-2.2	-126.82
1089	SLD 14	-435	116	2570	-640.21	-2.16	-152.04
1089	SLD 15	-376	-67	3670	-873.68	-3.05	-131.47
1089	SLD 16	-448	-92	3696	-878.39	-3	-156.69
1089	SLV 1	617	244	2703	-655.94	-0.69	216.17
1089	SLV 2	503	204	2745	-663.35	-0.62	176.46
1089	SLV 3	595	-108	4605	-1058.44	-2.12	208.33
1089	SLV 4	481	-148	4647	-1065.85	-2.05	168.62
1089	SLV 5	217	638	254	-143.23	0.46	76.12
1089	SLV 6	140	611	282	-148.22	0.5	49.38
1089	SLV 7	143	-535	6595	-1484.88	-4.3	49.98
1089	SLV 8	66	-562	6623	-1489.87	-4.25	23.25
1089	SLV 9	-133	629	51	-105.22	0.01	-46.21
1089	SLV 10	-209	602	79	-110.21	0.05	-72.94
1089	SLV 11	-206	-544	6392	-1446.87	-4.75	-72.35
1089	SLV 12	-283	-571	6420	-1451.86	-4.7	-99.08
1089	SLV 13	-548	215	2027	-529.24	-2.19	-191.59
1089	SLV 14	-661	175	2068	-536.65	-2.12	-231.29
1089	SLV 15	-570	-137	3929	-931.74	-3.62	-199.43
1089	SLV 16	-683	-177	3971	-939.15	-3.55	-239.13
1089	SLV FO 1	682	265	2639	-641.78	-0.55	238.93
1089	SLV FO 2	557	221	2685	-649.93	-0.47	195.26
1089	SLV FO 3	658	-122	4732	-1084.53	-2.12	230.31
1089	SLV FO 4	533	-166	4778	-1092.68	-2.04	186.63
1089	SLV FO 5	242	698	-55	-77.8	0.71	84.88
1089	SLV FO 6	157	669	-24	-83.29	0.77	55.47
1089	SLV FO 7	161	-592	6921	-1553.61	-4.51	56.12
1089	SLV FO 8	76	-622	6951	-1559.1	-4.46	26.72
1089	SLV FO 9	-143	689	-278	-35.99	0.22	-49.68
1089	SLV FO 10	-227	659	-247	-41.48	0.27	-79.09
1089	SLV FO 11	-224	-602	6697	-1511.8	-5.01	-78.44
1089	SLV FO 12	-308	-631	6728	-1517.29	-4.96	-107.84
1089	SLV FO 13	-599	234	1896	-502.41	-2.2	-209.6
1089	SLV FO 14	-724	189	1941	-510.56	-2.12	-253.27
1089	SLV FO 15	-623	-154	3988	-945.16	-3.77	-218.22
1089	SLV FO 16	-748	-198	4034	-953.31	-3.69	-261.9
1089	CRTFP Ux+	0	0	0	0	0	0
1089	CRTFP Ux-	0	0	0	0	0	0
1089	CRTFP Uy+	0	0	0	0	0	0
1089	CRTFP Uy-	0	0	0	0	0	0
1090	SLU 1	-29	35	3136	-804.27	-1.72	-10.05
1090	SLU 2	-28	52	3060	-786.78	-1.67	-9.72
1090	SLU 3	-30	36	3229	-826.93	-1.77	-10.27
1090	SLU 4	-29	46	3183	-816.44	-1.74	-10.07
1090	SLU 5	-28	52	3122	-801.97	-1.7	-9.8
1090	SLU 6	-30	36	3292	-842.12	-1.81	-10.35
1090	SLU 7	-29	46	3246	-831.63	-1.78	-10.15
1090	SLU 8	-29	35	3261	-834.65	-1.79	-10.22
1090	SLU 9	-29	46	3215	-824.16	-1.76	-10.02
1090	SLU 10	-32	55	3462	-887.95	-1.94	-10.93
1090	SLU 11	-33	39	3631	-928.1	-2.04	-11.48
1090	SLU 12	-33	49	3586	-917.6	-2.01	-11.28
1090	SLU 13	-32	55	3524	-903.14	-1.97	-11.02
1090	SLU 14	-33	39	3694	-943.29	-2.08	-11.56
1090	SLU 15	-33	49	3648	-932.8	-2.05	-11.36
1090	SLU 16	-33	39	3663	-935.82	-2.06	-11.43
1090	SLU 17	-32	49	3617	-925.33	-2.03	-11.23
1090	SLU 18	-34	40	3711	-948.79	-2.1	-11.78
1090	SLU 19	-33	50	3665	-938.3	-2.07	-11.58
1090	SLU 20	-34	40	3773	-963.99	-2.14	-11.86
1090	SLU 21	-34	50	3727	-953.49	-2.11	-11.67
1090	SLU 22	-34	40	3684	-940.39	-2.07	-11.76
1090	SLU 23	-33	57	3607	-922.9	-2.02	-11.43
1090	SLU 24	-35	40	3777	-963.05	-2.13	-11.98
1090	SLU 25	-34	51	3731	-952.56	-2.1	-11.78
1090	SLU 26	-33	57	3670	-938.09	-2.06	-11.51
1090	SLU 27	-35	41	3839	-978.24	-2.16	-12.06
1090	SLU 28	-34	51	3793	-967.75	-2.13	-11.86
1090	SLU 29	-34	40	3808	-970.77	-2.14	-11.92
1090	SLU 30	-34	50	3763	-960.28	-2.11	-11.73
1090	SLU 31	-36	60	4009	-1024.07	-2.29	-12.64
1090	SLU 32	-38	44	4179	-1064.22	-2.39	-13.19
1090	SLU 33	-37	54	4133	-1053.72	-2.36	-12.99
1090	SLU 34	-37	60	4072	-1039.26	-2.33	-12.72
1090	SLU 35	-38	44	4241	-1079.41	-2.43	-13.27
1090	SLU 36	-38	54	4195	-1068.92	-2.4	-13.07
1090	SLU 37	-38	44	4211	-1071.94	-2.41	-13.13
1090	SLU 38	-37	54	4165	-1061.45	-2.38	-12.94
1090	SLU 39	-39	45	4258	-1084.91	-2.45	-13.49
1090	SLU 40	-38	55	4212	-1074.42	-2.42	-13.29
1090	SLU 41	-39	45	4321	-1100.11	-2.49	-13.57
1090	SLU 42	-39	55	4275	-1089.61	-2.46	-13.37
1090	SLU 43	-36	44	3889	-998.88	-2.11	-12.48

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1090	SLU 44	-35	60	3813	-981.39	-2.06	-12.15
1090	SLU 45	-37	44	3982	-1021.54	-2.17	-12.7
1090	SLU 46	-36	54	3936	-1011.05	-2.14	-12.5
1090	SLU 47	-35	61	3875	-996.58	-2.1	-12.23
1090	SLU 48	-37	45	4045	-1036.73	-2.2	-12.78
1090	SLU 49	-36	55	3999	-1026.24	-2.17	-12.58
1090	SLU 50	-36	44	4014	-1029.26	-2.19	-12.65
1090	SLU 51	-36	54	3968	-1018.77	-2.15	-12.45
1090	SLU 52	-39	64	4215	-1082.56	-2.33	-13.36
1090	SLU 53	-40	48	4385	-1122.71	-2.44	-13.91
1090	SLU 54	-40	58	4339	-1112.22	-2.41	-13.71
1090	SLU 55	-39	64	4278	-1097.75	-2.37	-13.45
1090	SLU 56	-40	48	4447	-1137.9	-2.47	-13.99
1090	SLU 57	-40	58	4401	-1127.41	-2.44	-13.79
1090	SLU 58	-40	47	4416	-1130.43	-2.45	-13.86
1090	SLU 59	-39	58	4371	-1119.94	-2.42	-13.66
1090	SLU 60	-41	48	4464	-1143.41	-2.5	-14.21
1090	SLU 61	-40	58	4418	-1132.91	-2.47	-14.01
1090	SLU 62	-41	49	4527	-1158.6	-2.53	-14.29
1090	SLU 63	-41	59	4481	-1148.1	-2.5	-14.1
1090	SLU 64	-41	48	4437	-1135	-2.47	-14.19
1090	SLU 65	-40	65	4360	-1117.51	-2.42	-13.86
1090	SLU 66	-42	49	4530	-1157.66	-2.52	-14.41
1090	SLU 67	-41	59	4484	-1147.17	-2.49	-14.21
1090	SLU 68	-40	66	4423	-1132.7	-2.45	-13.94
1090	SLU 69	-42	50	4592	-1172.85	-2.56	-14.49
1090	SLU 70	-41	60	4546	-1162.36	-2.53	-14.29
1090	SLU 71	-41	49	4562	-1165.38	-2.54	-14.35
1090	SLU 72	-41	59	4516	-1154.89	-2.51	-14.16
1090	SLU 73	-43	69	4763	-1218.68	-2.68	-15.07
1090	SLU 74	-45	53	4932	-1258.83	-2.79	-15.62
1090	SLU 75	-44	63	4886	-1248.33	-2.76	-15.42
1090	SLU 76	-44	69	4825	-1233.87	-2.72	-15.15
1090	SLU 77	-45	53	4994	-1274.02	-2.82	-15.7
1090	SLU 78	-45	63	4949	-1263.53	-2.79	-15.5
1090	SLU 79	-45	52	4964	-1266.55	-2.81	-15.56
1090	SLU 80	-44	63	4918	-1256.06	-2.78	-15.37
1090	SLU 81	-46	53	5012	-1279.53	-2.85	-15.92
1090	SLU 82	-45	63	4966	-1269.03	-2.82	-15.72
1090	SLU 83	-46	54	5074	-1294.72	-2.89	-16
1090	SLU 84	-46	64	5028	-1284.22	-2.86	-15.8
1090	SLE RA 1	-30	36	3293	-843.16	-1.82	-10.54
1090	SLE RA 2	-30	47	3242	-831.5	-1.79	-10.32
1090	SLE RA 3	-31	37	3355	-858.27	-1.86	-10.69
1090	SLE RA 4	-30	43	3324	-851.27	-1.84	-10.55
1090	SLE RA 5	-30	48	3283	-841.63	-1.81	-10.38
1090	SLE RA 6	-31	37	3396	-868.4	-1.88	-10.74
1090	SLE RA 7	-31	44	3366	-861.4	-1.86	-10.61
1090	SLE RA 8	-31	37	3376	-863.42	-1.87	-10.65
1090	SLE RA 9	-30	43	3345	-856.42	-1.85	-10.52
1090	SLE RA 10	-32	50	3510	-898.95	-1.96	-11.13
1090	SLE RA 11	-33	39	3623	-925.71	-2.03	-11.49
1090	SLE RA 12	-33	46	3592	-918.72	-2.01	-11.36
1090	SLE RA 13	-32	50	3551	-909.07	-1.99	-11.18
1090	SLE RA 14	-33	39	3664	-935.84	-2.06	-11.55
1090	SLE RA 15	-33	46	3634	-928.85	-2.04	-11.42
1090	SLE RA 16	-33	39	3644	-930.86	-2.05	-11.46
1090	SLE RA 17	-33	46	3613	-923.87	-2.03	-11.32
1090	SLE RA 18	-34	39	3676	-939.51	-2.08	-11.69
1090	SLE RA 19	-33	46	3645	-932.51	-2.06	-11.56
1090	SLE RA 20	-34	40	3717	-949.64	-2.1	-11.75
1090	SLE RA 21	-33	46	3687	-942.64	-2.08	-11.62
1090	SLE FR 1	-30	36	3293	-843.16	-1.82	-10.54
1090	SLE FR 2	-30	38	3282	-840.83	-1.81	-10.5
1090	SLE FR 3	-30	36	3309	-847.21	-1.83	-10.56
1090	SLE FR 4	-31	39	3397	-869.73	-1.89	-10.84
1090	SLE FR 5	-31	37	3424	-876.12	-1.91	-10.91
1090	SLE FR 6	-32	38	3484	-891.34	-1.95	-11.12
1090	SLE QP 1	-30	36	3293	-843.16	-1.82	-10.54
1090	SLE QP 2	-31	37	3408	-872.07	-1.9	-10.89
1090	SLD 1	383	163	3019	-780.42	-1.08	134.01
1090	SLD 2	311	139	3044	-785.3	-1.04	108.88
1090	SLD 3	371	-47	4173	-1044.44	-1.83	129.73
1090	SLD 4	299	-71	4198	-1049.33	-1.79	104.6
1090	SLD 5	124	398	1537	-443.29	-0.52	43.44
1090	SLD 6	77	382	1553	-446.45	-0.5	27.18
1090	SLD 7	83	-303	5382	-1323.36	-3.02	29.16
1090	SLD 8	37	-318	5399	-1326.52	-2.99	12.9
1090	SLD 9	-99	392	1417	-417.61	-0.8	-34.68
1090	SLD 10	-146	377	1433	-420.77	-0.78	-50.94
1090	SLD 11	-140	-308	5262	-1297.68	-3.29	-48.95
1090	SLD 12	-186	-323	5278	-1300.84	-3.27	-65.21
1090	SLD 13	-361	145	2618	-694.81	-2.01	-126.37
1090	SLD 14	-433	121	2643	-699.69	-1.97	-151.5
1090	SLD 15	-373	-65	3771	-958.83	-2.75	-130.65
1090	SLD 16	-445	-89	3796	-963.71	-2.71	-155.79
1090	SLV 1	618	248	2726	-711.93	-0.57	216.26
1090	SLV 2	504	211	2766	-719.62	-0.51	176.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1090	SLV 3	597	-107	4676	-1158.11	-1.84	209.04
1090	SLV 4	484	-144	4715	-1165.8	-1.77	169.46
1090	SLV 5	215	646	239	-145.89	0.41	75.59
1090	SLV 6	139	621	265	-151.06	0.45	48.94
1090	SLV 7	147	-538	6738	-1633.15	-3.81	51.53
1090	SLV 8	71	-563	6764	-1638.32	-3.76	24.89
1090	SLV 9	-134	637	51	-105.81	-0.03	-46.66
1090	SLV 10	-210	612	77	-110.98	0.01	-73.31
1090	SLV 11	-202	-546	6550	-1593.07	-4.24	-70.71
1090	SLV 12	-278	-571	6576	-1598.24	-4.2	-97.36
1090	SLV 13	-547	219	2100	-578.34	-2.02	-191.24
1090	SLV 14	-660	182	2139	-586.02	-1.96	-230.81
1090	SLV 15	-567	-136	4050	-1024.51	-3.28	-198.45
1090	SLV 16	-680	-173	4089	-1032.2	-3.22	-238.03
1090	SLV FO 1	683	269	2658	-695.92	-0.44	238.97
1090	SLV FO 2	558	228	2701	-704.37	-0.37	195.44
1090	SLV FO 3	660	-122	4803	-1186.72	-1.83	231.03
1090	SLV FO 4	535	-163	4846	-1195.17	-1.76	187.5
1090	SLV FO 5	240	706	-78	-73.27	0.64	84.23
1090	SLV FO 6	156	679	-49	-78.96	0.68	54.92
1090	SLV FO 7	165	-595	7071	-1709.26	-4	57.77
1090	SLV FO 8	81	-623	7100	-1714.95	-3.95	28.47
1090	SLV FO 9	-144	697	-285	-29.18	0.16	-50.24
1090	SLV FO 10	-228	670	-256	-34.87	0.2	-79.55
1090	SLV FO 11	-219	-605	6864	-1665.17	-4.47	-76.7
1090	SLV FO 12	-303	-632	6893	-1670.86	-4.43	-106.01
1090	SLV FO 13	-598	237	1969	-548.96	-2.03	-209.27
1090	SLV FO 14	-723	196	2012	-557.42	-1.96	-252.81
1090	SLV FO 15	-621	-154	4114	-1039.76	-3.42	-217.21
1090	SLV FO 16	-745	-194	4157	-1048.21	-3.35	-260.74
1090	CRTFP Ux+	0	0	0	0	0	0
1090	CRTFP Ux-	0	0	0	0	0	0
1090	CRTFP Uy+	0	0	0	0	0	0
1090	CRTFP Uy-	0	0	0	0	0	0
1091	SLU 1	-24	33	2846	-780.82	52.35	-9.1
1091	SLU 2	-24	49	2776	-763.71	51.07	-9.12
1091	SLU 3	-25	34	2930	-803.02	53.9	-9.29
1091	SLU 4	-24	43	2888	-792.75	53.13	-9.3
1091	SLU 5	-24	49	2833	-778.59	52.11	-9.18
1091	SLU 6	-25	34	2987	-817.9	54.94	-9.36
1091	SLU 7	-25	44	2945	-807.63	54.17	-9.37
1091	SLU 8	-25	34	2959	-810.57	54.43	-9.24
1091	SLU 9	-24	43	2917	-800.31	53.67	-9.25
1091	SLU 10	-27	52	3142	-862.84	57.78	-10.21
1091	SLU 11	-28	37	3296	-902.15	60.61	-10.39
1091	SLU 12	-27	46	3254	-891.89	59.85	-10.4
1091	SLU 13	-27	52	3199	-877.72	58.83	-10.28
1091	SLU 14	-28	37	3353	-917.03	61.66	-10.46
1091	SLU 15	-28	47	3311	-906.76	60.89	-10.47
1091	SLU 16	-28	37	3325	-909.7	61.15	-10.34
1091	SLU 17	-27	46	3283	-899.44	60.38	-10.35
1091	SLU 18	-29	38	3369	-922.43	61.94	-10.67
1091	SLU 19	-28	47	3327	-912.17	61.17	-10.68
1091	SLU 20	-29	38	3425	-937.31	62.98	-10.74
1091	SLU 21	-28	47	3384	-927.05	62.22	-10.75
1091	SLU 22	-29	38	3344	-914.19	61.49	-10.65
1091	SLU 23	-28	53	3274	-897.08	60.21	-10.66
1091	SLU 24	-29	39	3428	-936.39	63.04	-10.84
1091	SLU 25	-29	48	3386	-926.13	62.27	-10.85
1091	SLU 26	-28	54	3330	-911.96	61.25	-10.73
1091	SLU 27	-29	39	3485	-951.27	64.08	-10.91
1091	SLU 28	-29	48	3443	-941	63.31	-10.92
1091	SLU 29	-29	39	3457	-943.94	63.57	-10.79
1091	SLU 30	-28	48	3415	-933.68	62.8	-10.8
1091	SLU 31	-31	56	3640	-996.21	66.92	-11.76
1091	SLU 32	-32	42	3794	-1035.52	69.75	-11.94
1091	SLU 33	-32	51	3752	-1025.26	68.99	-11.95
1091	SLU 34	-31	57	3697	-1011.09	67.97	-11.83
1091	SLU 35	-32	42	3851	-1050.4	70.79	-12.01
1091	SLU 36	-32	51	3809	-1040.14	70.03	-12.02
1091	SLU 37	-32	42	3823	-1043.08	70.28	-11.89
1091	SLU 38	-31	51	3781	-1032.81	69.52	-11.9
1091	SLU 39	-33	42	3867	-1055.8	71.08	-12.22
1091	SLU 40	-32	52	3825	-1045.54	70.31	-12.23
1091	SLU 41	-33	43	3923	-1070.68	72.12	-12.29
1091	SLU 42	-33	52	3882	-1060.42	71.35	-12.3
1091	SLU 43	-30	42	3528	-969.33	64.92	-11.3
1091	SLU 44	-29	57	3459	-952.23	63.64	-11.31
1091	SLU 45	-31	43	3613	-991.53	66.47	-11.49
1091	SLU 46	-30	52	3571	-981.27	65.7	-11.5
1091	SLU 47	-30	57	3515	-967.11	64.68	-11.38
1091	SLU 48	-31	43	3669	-1006.41	67.51	-11.56
1091	SLU 49	-30	52	3628	-996.15	66.75	-11.57
1091	SLU 50	-31	42	3642	-999.09	67	-11.44
1091	SLU 51	-30	52	3600	-988.83	66.24	-11.45
1091	SLU 52	-32	60	3825	-1051.36	70.36	-12.41
1091	SLU 53	-34	46	3979	-1090.67	73.19	-12.59
1091	SLU 54	-33	55	3937	-1080.4	72.42	-12.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1091	SLU 55	-33	60	3882	-1066.24	71.4	-12.48
1091	SLU 56	-34	46	4036	-1105.54	74.23	-12.66
1091	SLU 57	-33	55	3994	-1095.28	73.46	-12.67
1091	SLU 58	-34	45	4008	-1098.22	73.72	-12.54
1091	SLU 59	-33	55	3966	-1087.96	72.95	-12.55
1091	SLU 60	-34	46	4052	-1110.95	74.51	-12.87
1091	SLU 61	-34	55	4010	-1100.69	73.74	-12.88
1091	SLU 62	-35	46	4108	-1125.83	75.55	-12.94
1091	SLU 63	-34	56	4066	-1115.56	74.79	-12.95
1091	SLU 64	-34	47	4026	-1102.71	74.06	-12.85
1091	SLU 65	-34	62	3957	-1085.6	72.78	-12.86
1091	SLU 66	-35	47	4111	-1124.91	75.61	-13.04
1091	SLU 67	-34	56	4069	-1114.64	74.84	-13.05
1091	SLU 68	-34	62	4013	-1100.48	73.82	-12.93
1091	SLU 69	-35	48	4167	-1139.78	76.65	-13.11
1091	SLU 70	-35	57	4126	-1129.52	75.88	-13.12
1091	SLU 71	-35	47	4140	-1132.46	76.14	-12.99
1091	SLU 72	-34	56	4098	-1122.2	75.37	-13
1091	SLU 73	-37	65	4323	-1184.73	79.49	-13.96
1091	SLU 74	-38	50	4477	-1224.04	82.32	-14.14
1091	SLU 75	-37	59	4435	-1213.77	81.56	-14.15
1091	SLU 76	-37	65	4380	-1199.61	80.54	-14.03
1091	SLU 77	-38	51	4534	-1238.92	83.37	-14.21
1091	SLU 78	-38	60	4492	-1228.65	82.6	-14.22
1091	SLU 79	-38	50	4506	-1231.59	82.86	-14.09
1091	SLU 80	-37	59	4464	-1221.33	82.09	-14.1
1091	SLU 81	-39	51	4550	-1244.32	83.65	-14.42
1091	SLU 82	-38	60	4508	-1234.06	82.88	-14.43
1091	SLU 83	-39	51	4606	-1259.2	84.69	-14.49
1091	SLU 84	-38	60	4564	-1248.94	83.92	-14.5
1091	SLE RA 1	-26	35	2988	-818.92	54.96	-9.54
1091	SLE RA 2	-25	45	2941	-807.52	54.11	-9.55
1091	SLE RA 3	-26	35	3044	-833.72	55.99	-9.67
1091	SLE RA 4	-26	41	3016	-826.88	55.48	-9.68
1091	SLE RA 5	-25	45	2979	-817.44	54.8	-9.6
1091	SLE RA 6	-26	35	3082	-843.64	56.69	-9.72
1091	SLE RA 7	-26	42	3054	-836.8	56.18	-9.72
1091	SLE RA 8	-26	35	3063	-838.76	56.35	-9.64
1091	SLE RA 9	-25	41	3035	-831.92	55.84	-9.64
1091	SLE RA 10	-27	47	3186	-873.61	58.58	-10.29
1091	SLE RA 11	-28	37	3288	-899.81	60.47	-10.41
1091	SLE RA 12	-28	43	3260	-892.97	59.96	-10.41
1091	SLE RA 13	-27	47	3223	-883.53	59.28	-10.33
1091	SLE RA 14	-28	37	3326	-909.73	61.16	-10.45
1091	SLE RA 15	-28	44	3298	-902.89	60.65	-10.46
1091	SLE RA 16	-28	37	3307	-904.85	60.82	-10.37
1091	SLE RA 17	-27	43	3280	-898.01	60.31	-10.37
1091	SLE RA 18	-28	38	3337	-913.33	61.35	-10.59
1091	SLE RA 19	-28	44	3309	-906.49	60.84	-10.6
1091	SLE RA 20	-29	38	3374	-923.25	62.05	-10.64
1091	SLE RA 21	-28	44	3346	-916.41	61.54	-10.64
1091	SLE FR 1	-26	35	2988	-818.92	54.96	-9.54
1091	SLE FR 2	-25	37	2979	-816.64	54.79	-9.55
1091	SLE FR 3	-26	35	3003	-822.89	55.24	-9.56
1091	SLE FR 4	-26	38	3083	-844.96	56.71	-9.86
1091	SLE FR 5	-26	36	3108	-851.21	57.16	-9.88
1091	SLE FR 6	-27	36	3162	-866.13	58.16	-10.07
1091	SLE QP 1	-26	35	2988	-818.92	54.96	-9.54
1091	SLE QP 2	-26	36	3092	-847.25	56.88	-9.86
1091	SLD 1	343	147	2723	-757.07	50.48	116.77
1091	SLD 2	279	128	2744	-761.61	50.9	94.69
1091	SLD 3	333	-42	3772	-1015.37	69.73	118.22
1091	SLD 4	269	-61	3794	-1019.91	70.15	96.15
1091	SLD 5	111	358	1386	-427.66	25.68	29.75
1091	SLD 6	69	346	1400	-430.59	25.96	15.47
1091	SLD 7	78	-270	4885	-1288.64	89.86	34.6
1091	SLD 8	36	-283	4898	-1291.58	90.14	20.32
1091	SLD 9	-89	354	1287	-402.91	23.62	-40.04
1091	SLD 10	-130	342	1300	-405.85	23.89	-54.32
1091	SLD 11	-122	-275	4785	-1263.9	87.8	-35.18
1091	SLD 12	-164	-287	4799	-1266.84	88.07	-49.47
1091	SLD 13	-322	132	2391	-674.58	43.6	-115.86
1091	SLD 14	-386	113	2412	-679.12	44.02	-137.94
1091	SLD 15	-332	-57	3441	-932.88	62.85	-114.41
1091	SLD 16	-396	-76	3462	-937.42	63.28	-136.48
1091	SLV 1	553	222	2448	-689.77	45.64	188.34
1091	SLV 2	452	192	2481	-696.92	46.31	153.58
1091	SLV 3	536	-97	4221	-1126.28	78.18	190.75
1091	SLV 4	435	-127	4255	-1133.44	78.85	156
1091	SLV 5	192	580	203	-136.62	4.03	52.42
1091	SLV 6	124	560	225	-141.44	4.48	29.02
1091	SLV 7	136	-482	6115	-1591.67	112.49	60.48
1091	SLV 8	68	-502	6138	-1596.48	112.94	37.08
1091	SLV 9	-120	573	47	-98.01	0.81	-56.79
1091	SLV 10	-189	553	70	-102.82	1.26	-80.19
1091	SLV 11	-177	-489	5960	-1553.05	109.27	-48.74
1091	SLV 12	-245	-509	5982	-1557.87	109.72	-72.14
1091	SLV 13	-488	198	1930	-561.06	34.91	-175.71

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1091	SLV 14	-589	168	1963	-568.21	35.58	-210.47
1091	SLV 15	-505	-121	3704	-997.57	67.45	-173.3
1091	SLV 16	-606	-151	3737	-1004.72	68.12	-208.05
1091	SLV FO 1	611	240	2383	-674.02	44.51	208.16
1091	SLV FO 2	500	208	2420	-681.89	45.25	169.92
1091	SLV FO 3	593	-110	4334	-1154.19	80.31	210.81
1091	SLV FO 4	481	-143	4371	-1162.05	81.04	172.58
1091	SLV FO 5	214	635	-86	-65.56	-1.25	58.65
1091	SLV FO 6	139	613	-62	-70.86	-0.76	32.91
1091	SLV FO 7	152	-533	6417	-1666.11	118.05	67.51
1091	SLV FO 8	77	-556	6442	-1671.41	118.55	41.77
1091	SLV FO 9	-130	627	-257	-23.08	-4.79	-61.49
1091	SLV FO 10	-205	605	-233	-28.38	-4.3	-87.23
1091	SLV FO 11	-192	-541	6247	-1623.63	114.51	-52.62
1091	SLV FO 12	-266	-563	6271	-1628.93	115.01	-78.36
1091	SLV FO 13	-534	214	1814	-532.44	32.71	-192.3
1091	SLV FO 14	-645	181	1851	-540.3	33.45	-230.53
1091	SLV FO 15	-553	-136	3765	-1012.6	68.5	-189.64
1091	SLV FO 16	-664	-169	3802	-1020.47	69.24	-227.87
1091	CRTFP Ux+	0	0	0	0	0	0
1091	CRTFP Ux-	0	0	0	0	0	0
1091	CRTFP Uy+	0	0	0	0	0	0
1091	CRTFP Uy-	0	0	0	0	0	0
1093	SLU 1	-101	158	13365	-4393.96	-957.17	-23.3
1093	SLU 2	-98	229	13038	-4292.34	-934.99	-16.87
1093	SLU 3	-103	162	13761	-4521.92	-985.02	-23.75
1093	SLU 4	-101	204	13565	-4460.95	-971.7	-19.89
1093	SLU 5	-98	230	13304	-4378.08	-953.61	-16.97
1093	SLU 6	-104	163	14027	-4607.67	-1003.64	-23.85
1093	SLU 7	-102	205	13831	-4546.7	-990.33	-19.99
1093	SLU 8	-102	161	13897	-4565.46	-994.42	-23.5
1093	SLU 9	-100	204	13700	-4504.48	-981.11	-19.64
1093	SLU 10	-110	242	14762	-4857.54	-1058.97	-20.4
1093	SLU 11	-116	175	15485	-5087.13	-1108.99	-27.28
1093	SLU 12	-114	217	15289	-5026.15	-1095.68	-23.42
1093	SLU 13	-111	244	15027	-4943.29	-1077.59	-20.5
1093	SLU 14	-116	177	15751	-5172.87	-1127.62	-27.38
1093	SLU 15	-114	219	15554	-5111.9	-1114.31	-23.52
1093	SLU 16	-115	175	15620	-5130.66	-1118.4	-27.03
1093	SLU 17	-113	217	15424	-5069.68	-1105.09	-23.17
1093	SLU 18	-119	178	15828	-5201.39	-1134.28	-28.34
1093	SLU 19	-117	220	15632	-5140.42	-1120.97	-24.48
1093	SLU 20	-120	179	16094	-5287.14	-1152.91	-28.44
1093	SLU 21	-118	221	15897	-5226.16	-1139.6	-24.58
1093	SLU 22	-119	180	15707	-5157.5	-1124.21	-27.85
1093	SLU 23	-115	251	15380	-5055.88	-1102.03	-21.42
1093	SLU 24	-121	184	16103	-5285.47	-1152.06	-28.3
1093	SLU 25	-119	226	15907	-5224.49	-1138.75	-24.44
1093	SLU 26	-116	252	15646	-5141.63	-1120.65	-21.52
1093	SLU 27	-121	185	16369	-5371.22	-1170.68	-28.4
1093	SLU 28	-119	227	16173	-5310.24	-1157.37	-24.54
1093	SLU 29	-120	183	16239	-5329	-1161.46	-28.05
1093	SLU 30	-118	225	16042	-5268.03	-1148.15	-24.19
1093	SLU 31	-128	264	17104	-5621.08	-1226.01	-24.95
1093	SLU 32	-133	197	17827	-5850.67	-1276.03	-31.83
1093	SLU 33	-131	239	17631	-5789.69	-1262.72	-27.97
1093	SLU 34	-129	266	17369	-5706.83	-1244.63	-25.05
1093	SLU 35	-134	198	18093	-5936.42	-1294.66	-31.93
1093	SLU 36	-132	241	17897	-5875.44	-1281.35	-28.07
1093	SLU 37	-133	196	17963	-5894.2	-1285.44	-31.58
1093	SLU 38	-131	239	17766	-5833.23	-1272.13	-27.72
1093	SLU 39	-137	199	18170	-5964.94	-1301.32	-32.89
1093	SLU 40	-135	242	17974	-5903.96	-1288.01	-29.03
1093	SLU 41	-137	201	18436	-6050.68	-1319.95	-32.99
1093	SLU 42	-135	243	18239	-5989.71	-1306.64	-29.13
1093	SLU 43	-125	198	16572	-5450.36	-1187.05	-28.72
1093	SLU 44	-122	269	16245	-5348.74	-1164.87	-22.29
1093	SLU 45	-127	202	16968	-5578.33	-1214.9	-29.18
1093	SLU 46	-125	244	16772	-5517.35	-1201.59	-25.32
1093	SLU 47	-123	270	16510	-5434.49	-1183.49	-22.39
1093	SLU 48	-128	203	17234	-5664.07	-1233.52	-29.28
1093	SLU 49	-126	246	17037	-5603.1	-1220.21	-25.42
1093	SLU 50	-127	201	17103	-5621.86	-1224.3	-28.93
1093	SLU 51	-125	244	16907	-5560.88	-1210.99	-25.07
1093	SLU 52	-135	282	17968	-5913.94	-1288.85	-25.82
1093	SLU 53	-140	215	18692	-6143.53	-1338.87	-32.71
1093	SLU 54	-138	258	18495	-6082.55	-1325.56	-28.85
1093	SLU 55	-135	284	18234	-5999.69	-1307.47	-25.92
1093	SLU 56	-141	217	18958	-6229.28	-1357.5	-32.81
1093	SLU 57	-139	259	18761	-6168.3	-1344.19	-28.95
1093	SLU 58	-139	215	18827	-6187.06	-1348.28	-32.46
1093	SLU 59	-137	257	18631	-6126.09	-1334.97	-28.6
1093	SLU 60	-143	218	19035	-6257.79	-1364.16	-33.77
1093	SLU 61	-141	260	18838	-6196.82	-1350.85	-29.91
1093	SLU 62	-144	219	19300	-6343.54	-1382.79	-33.87
1093	SLU 63	-142	261	19104	-6282.57	-1369.48	-30.01
1093	SLU 64	-143	220	18914	-6213.91	-1354.09	-33.28
1093	SLU 65	-140	291	18587	-6112.28	-1331.91	-26.85

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLU 66	-145	224	19310	-6341.87	-1381.94	-33.73
1093	SLU 67	-143	266	19114	-6280.89	-1368.63	-29.87
1093	SLU 68	-140	292	18852	-6198.03	-1350.53	-26.95
1093	SLU 69	-146	225	19576	-6427.62	-1400.56	-33.83
1093	SLU 70	-144	267	19379	-6366.64	-1387.25	-29.97
1093	SLU 71	-144	223	19445	-6385.4	-1391.35	-33.48
1093	SLU 72	-142	265	19249	-6324.43	-1378.03	-29.62
1093	SLU 73	-152	304	20311	-6677.48	-1455.89	-30.38
1093	SLU 74	-158	237	21034	-6907.07	-1505.92	-37.26
1093	SLU 75	-156	279	20838	-6846.1	-1492.6	-33.4
1093	SLU 76	-153	306	20576	-6763.23	-1474.51	-30.48
1093	SLU 77	-158	238	21300	-6992.82	-1524.54	-37.36
1093	SLU 78	-156	281	21103	-6931.84	-1511.23	-33.5
1093	SLU 79	-157	237	21169	-6950.6	-1515.32	-37.01
1093	SLU 80	-155	279	20973	-6889.63	-1502.01	-33.15
1093	SLU 81	-161	239	21377	-7021.34	-1531.2	-38.32
1093	SLU 82	-159	282	21180	-6960.36	-1517.89	-34.46
1093	SLU 83	-162	241	21642	-7107.09	-1549.83	-38.42
1093	SLU 84	-160	283	21446	-7046.11	-1536.52	-34.56
1093	SLE RA 1	-106	165	14035	-4612.12	-1004.9	-24.6
1093	SLE RA 2	-104	212	13816	-4544.37	-990.11	-20.31
1093	SLE RA 3	-107	167	14299	-4697.42	-1023.46	-24.9
1093	SLE RA 4	-106	195	14168	-4656.77	-1014.59	-22.33
1093	SLE RA 5	-104	213	13993	-4601.53	-1002.53	-20.38
1093	SLE RA 6	-108	168	14476	-4754.59	-1035.88	-24.97
1093	SLE RA 7	-107	196	14345	-4713.94	-1027	-22.39
1093	SLE RA 8	-107	167	14389	-4726.45	-1029.73	-24.73
1093	SLE RA 9	-106	195	14258	-4685.8	-1020.86	-22.16
1093	SLE RA 10	-112	221	14966	-4921.17	-1072.76	-22.66
1093	SLE RA 11	-116	176	15448	-5074.23	-1106.11	-27.25
1093	SLE RA 12	-115	204	15317	-5033.58	-1097.24	-24.68
1093	SLE RA 13	-113	222	15143	-4978.33	-1085.18	-22.73
1093	SLE RA 14	-116	177	15625	-5131.39	-1118.53	-27.32
1093	SLE RA 15	-115	205	15494	-5090.74	-1109.66	-24.75
1093	SLE RA 16	-115	175	15538	-5103.25	-1112.38	-27.09
1093	SLE RA 17	-114	204	15407	-5062.6	-1103.51	-24.51
1093	SLE RA 18	-118	177	15676	-5150.4	-1122.97	-27.96
1093	SLE RA 19	-117	206	15545	-5109.75	-1114.1	-25.39
1093	SLE RA 20	-119	178	15853	-5207.57	-1135.39	-28.03
1093	SLE RA 21	-117	207	15722	-5166.92	-1126.52	-25.45
1093	SLE FR 1	-106	165	14035	-4612.12	-1004.9	-24.6
1093	SLE FR 2	-106	174	13991	-4598.57	-1001.94	-23.74
1093	SLE FR 3	-106	165	14105	-4634.98	-1009.87	-24.62
1093	SLE FR 4	-109	178	14483	-4760.05	-1037.36	-24.75
1093	SLE FR 5	-110	169	14598	-4796.47	-1045.29	-25.63
1093	SLE FR 6	-112	171	14855	-4881.26	-1063.94	-26.28
1093	SLE QP 1	-106	165	14035	-4612.12	-1004.9	-24.6
1093	SLE QP 2	-110	168	14527	-4773.6	-1040.32	-25.61
1093	SLD 1	1610	671	12699	-4216.26	-900.75	614.66
1093	SLD 2	1313	598	12790	-4242.62	-904.88	507.29
1093	SLD 3	1567	-207	17634	-5750.59	-1235.81	535.08
1093	SLD 4	1269	-279	17725	-5776.95	-1239.95	427.71
1093	SLD 5	524	1663	6477	-2274.77	-489.55	305.79
1093	SLD 6	332	1616	6536	-2291.82	-492.23	236.33
1093	SLD 7	379	-1263	22929	-7389.18	-1606.43	40.53
1093	SLD 8	186	-1310	22988	-7406.24	-1609.1	-28.93
1093	SLD 9	-406	1647	6066	-2140.97	-471.54	-22.28
1093	SLD 10	-598	1600	6125	-2158.02	-474.21	-91.75
1093	SLD 11	-551	-1279	22518	-7255.38	-1588.41	-287.54
1093	SLD 12	-744	-1326	22577	-7272.44	-1591.09	-357.01
1093	SLD 13	-1489	616	11329	-3770.26	-840.7	-478.93
1093	SLD 14	-1786	544	11420	-3796.62	-844.83	-586.29
1093	SLD 15	-1532	-262	16264	-5304.58	-1175.76	-558.5
1093	SLD 16	-1830	-334	16355	-5330.94	-1179.9	-665.87
1093	SLV 1	2586	1011	11354	-3804.33	-800.85	981.85
1093	SLV 2	2118	897	11497	-3845.84	-807.36	812.8
1093	SLV 3	2513	-472	19695	-6397.37	-1367.12	847.42
1093	SLV 4	2044	-586	19838	-6438.88	-1373.63	678.37
1093	SLV 5	898	2692	898	-542.29	-108.41	512.07
1093	SLV 6	583	2615	994	-570.24	-112.8	398.25
1093	SLV 7	653	-2251	28702	-9185.77	-1996	63.96
1093	SLV 8	338	-2328	28798	-9213.72	-2000.38	-49.85
1093	SLV 9	-557	2665	256	-333.49	-80.26	-1.36
1093	SLV 10	-872	2588	353	-361.43	-84.65	-115.17
1093	SLV 11	-802	-2278	28060	-8976.97	-1967.84	-449.47
1093	SLV 12	-1117	-2355	28157	-9004.91	-1972.23	-563.28
1093	SLV 13	-2264	923	9216	-3108.32	-707.01	-729.58
1093	SLV 14	-2732	809	9359	-3149.83	-713.52	-898.63
1093	SLV 15	-2337	-560	17557	-5701.37	-1273.28	-864.01
1093	SLV 16	-2806	-674	17700	-5742.88	-1279.8	-1033.06
1093	SLV FO 1	2856	1096	11037	-3707.4	-776.9	1082.59
1093	SLV FO 2	2341	970	11194	-3753.06	-784.06	896.64
1093	SLV FO 3	2775	-536	20212	-6559.75	-1399.8	934.72
1093	SLV FO 4	2260	-661	20369	-6605.41	-1406.96	748.76
1093	SLV FO 5	999	2944	-465	-119.16	-15.22	565.84
1093	SLV FO 6	652	2860	-359	-149.9	-20.04	440.64
1093	SLV FO 7	729	-2493	30119	-9626.99	-2091.56	72.92
1093	SLV FO 8	382	-2578	30225	-9657.73	-2096.39	-52.28

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1093	SLV FO 9	-602	2915	-1171	110.52	15.75	1.07
1093	SLV FO 10	-949	2830	-1065	79.78	10.92	-124.13
1093	SLV FO 11	-871	-2523	29413	-9397.3	-2060.6	-491.85
1093	SLV FO 12	-1218	-2607	29519	-9428.05	-2065.42	-617.05
1093	SLV FO 13	-2479	998	8685	-2941.79	-673.68	-799.97
1093	SLV FO 14	-2994	873	8842	-2987.45	-680.84	-985.93
1093	SLV FO 15	-2560	-633	17860	-5794.14	-1296.58	-947.85
1093	SLV FO 16	-3075	-759	18018	-5839.8	-1303.74	-1133.81
1093	CRTFP Ux+	0	0	0	0	0	0
1093	CRTFP Ux-	0	0	0	0	0	0
1093	CRTFP Uy+	0	0	0	-0.02	0	0
1093	CRTFP Uy-	0	0	0	0.02	0	0
1095	SLU 1	-24	38	3239	-870.98	-58.12	-7.65
1095	SLU 2	-23	55	3160	-851.74	-56.7	-7.09
1095	SLU 3	-24	39	3335	-895.69	-59.83	-7.8
1095	SLU 4	-24	49	3287	-884.14	-58.98	-7.47
1095	SLU 5	-23	55	3224	-868.29	-57.85	-7.13
1095	SLU 6	-24	39	3399	-912.24	-60.98	-7.84
1095	SLU 7	-24	49	3351	-900.69	-60.13	-7.51
1095	SLU 8	-24	38	3367	-904.08	-60.41	-7.73
1095	SLU 9	-23	49	3320	-892.54	-59.56	-7.39
1095	SLU 10	-26	58	3577	-961.91	-64.17	-8.13
1095	SLU 11	-27	41	3752	-1005.86	-67.31	-8.84
1095	SLU 12	-27	52	3705	-994.31	-66.45	-8.51
1095	SLU 13	-26	58	3641	-978.46	-65.32	-8.17
1095	SLU 14	-27	42	3816	-1022.41	-68.45	-8.88
1095	SLU 15	-27	52	3769	-1010.86	-67.6	-8.55
1095	SLU 16	-27	41	3785	-1014.25	-67.89	-8.77
1095	SLU 17	-27	52	3737	-1002.71	-67.03	-8.43
1095	SLU 18	-28	42	3835	-1028.37	-68.8	-9.13
1095	SLU 19	-28	52	3788	-1016.82	-67.95	-8.8
1095	SLU 20	-28	42	3899	-1044.92	-69.94	-9.17
1095	SLU 21	-28	53	3852	-1033.37	-69.09	-8.84
1095	SLU 22	-28	43	3806	-1019.32	-68.26	-9.06
1095	SLU 23	-27	60	3726	-1000.08	-66.84	-8.5
1095	SLU 24	-28	44	3902	-1044.03	-69.97	-9.21
1095	SLU 25	-28	54	3854	-1032.48	-69.12	-8.88
1095	SLU 26	-27	60	3791	-1016.63	-67.99	-8.54
1095	SLU 27	-29	44	3966	-1060.58	-71.12	-9.25
1095	SLU 28	-28	54	3918	-1049.03	-70.27	-8.92
1095	SLU 29	-28	43	3934	-1052.42	-70.55	-9.14
1095	SLU 30	-28	54	3887	-1040.88	-69.7	-8.8
1095	SLU 31	-30	63	4144	-1110.25	-74.32	-9.54
1095	SLU 32	-31	46	4319	-1154.2	-77.45	-10.25
1095	SLU 33	-31	57	4271	-1142.65	-76.6	-9.92
1095	SLU 34	-30	63	4208	-1126.8	-75.46	-9.58
1095	SLU 35	-32	47	4383	-1170.75	-78.59	-10.29
1095	SLU 36	-31	57	4336	-1159.2	-77.74	-9.96
1095	SLU 37	-31	46	4352	-1162.59	-78.03	-10.18
1095	SLU 38	-31	57	4304	-1151.05	-77.18	-9.84
1095	SLU 39	-32	47	4402	-1176.71	-78.94	-10.54
1095	SLU 40	-32	57	4355	-1165.16	-78.09	-10.21
1095	SLU 41	-32	47	4466	-1193.26	-80.09	-10.58
1095	SLU 42	-32	58	4419	-1181.71	-79.23	-10.25
1095	SLU 43	-29	47	4016	-1081.42	-72.08	-9.46
1095	SLU 44	-29	64	3937	-1062.17	-70.66	-8.9
1095	SLU 45	-30	48	4112	-1106.12	-73.79	-9.61
1095	SLU 46	-29	58	4064	-1094.58	-72.94	-9.28
1095	SLU 47	-29	65	4001	-1078.72	-71.8	-8.94
1095	SLU 48	-30	48	4176	-1122.67	-74.94	-9.65
1095	SLU 49	-29	59	4129	-1111.13	-74.08	-9.32
1095	SLU 50	-30	48	4145	-1114.52	-74.37	-9.54
1095	SLU 51	-29	58	4097	-1102.97	-73.52	-9.2
1095	SLU 52	-32	67	4354	-1172.34	-78.13	-9.94
1095	SLU 53	-33	51	4529	-1216.29	-81.27	-10.65
1095	SLU 54	-32	61	4482	-1204.74	-80.41	-10.32
1095	SLU 55	-32	68	4418	-1188.89	-79.28	-9.98
1095	SLU 56	-33	51	4594	-1232.84	-82.41	-10.69
1095	SLU 57	-33	62	4546	-1221.29	-81.56	-10.36
1095	SLU 58	-33	51	4562	-1224.69	-81.85	-10.58
1095	SLU 59	-32	61	4514	-1213.14	-80.99	-10.24
1095	SLU 60	-34	52	4613	-1238.8	-82.76	-10.94
1095	SLU 61	-33	62	4565	-1227.26	-81.9	-10.61
1095	SLU 62	-34	52	4677	-1255.35	-83.9	-10.98
1095	SLU 63	-33	62	4629	-1243.81	-83.05	-10.65
1095	SLU 64	-34	52	4583	-1229.76	-82.22	-10.87
1095	SLU 65	-33	69	4504	-1210.52	-80.8	-10.31
1095	SLU 66	-34	53	4679	-1254.46	-83.93	-11.02
1095	SLU 67	-34	63	4631	-1242.92	-83.08	-10.69
1095	SLU 68	-33	70	4568	-1227.07	-81.95	-10.35
1095	SLU 69	-34	53	4743	-1271.01	-85.08	-11.06
1095	SLU 70	-34	64	4695	-1259.47	-84.23	-10.73
1095	SLU 71	-34	53	4712	-1262.86	-84.51	-10.95
1095	SLU 72	-33	63	4664	-1251.31	-83.66	-10.61
1095	SLU 73	-36	72	4921	-1320.68	-88.27	-11.35
1095	SLU 74	-37	56	5096	-1364.63	-91.41	-12.06
1095	SLU 75	-37	66	5049	-1353.09	-90.55	-11.73
1095	SLU 76	-36	73	4985	-1337.23	-89.42	-11.39

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1095	SLU 77	-37	56	5161	-1381.18	-92.55	-12.1
1095	SLU 78	-37	67	5113	-1369.64	-91.7	-11.77
1095	SLU 79	-37	56	5129	-1373.03	-91.99	-11.99
1095	SLU 80	-36	66	5081	-1361.48	-91.13	-11.65
1095	SLU 81	-38	57	5179	-1387.14	-92.9	-12.35
1095	SLU 82	-38	67	5132	-1375.6	-92.05	-12.02
1095	SLU 83	-38	57	5244	-1403.69	-94.04	-12.39
1095	SLU 84	-38	67	5196	-1392.15	-93.19	-12.06
1095	SLE RA 1	-25	39	3401	-913.37	-61.02	-8.05
1095	SLE RA 2	-24	51	3348	-900.54	-60.07	-7.68
1095	SLE RA 3	-25	40	3465	-929.84	-62.16	-8.15
1095	SLE RA 4	-25	47	3433	-922.14	-61.59	-7.93
1095	SLE RA 5	-24	51	3391	-911.57	-60.84	-7.7
1095	SLE RA 6	-25	40	3508	-940.87	-62.92	-8.18
1095	SLE RA 7	-25	47	3476	-933.17	-62.36	-7.96
1095	SLE RA 8	-25	40	3486	-935.43	-62.55	-8.1
1095	SLE RA 9	-25	46	3455	-927.74	-61.98	-7.88
1095	SLE RA 10	-26	53	3626	-973.98	-65.05	-8.37
1095	SLE RA 11	-27	42	3743	-1003.28	-67.14	-8.85
1095	SLE RA 12	-27	49	3711	-995.58	-66.57	-8.62
1095	SLE RA 13	-27	53	3669	-985.02	-65.82	-8.4
1095	SLE RA 14	-27	42	3786	-1014.31	-67.91	-8.87
1095	SLE RA 15	-27	49	3754	-1006.62	-67.34	-8.65
1095	SLE RA 16	-27	42	3765	-1008.88	-67.53	-8.8
1095	SLE RA 17	-27	48	3733	-1001.18	-66.96	-8.57
1095	SLE RA 18	-28	42	3798	-1018.29	-68.14	-9.04
1095	SLE RA 19	-28	49	3767	-1010.59	-67.57	-8.82
1095	SLE RA 20	-28	42	3841	-1029.32	-68.9	-9.07
1095	SLE RA 21	-28	49	3809	-1021.62	-68.33	-8.84
1095	SLE FR 1	-25	39	3401	-913.37	-61.02	-8.05
1095	SLE FR 2	-25	41	3390	-910.8	-60.83	-7.98
1095	SLE FR 3	-25	39	3418	-917.78	-61.32	-8.06
1095	SLE FR 4	-26	42	3510	-942.28	-62.97	-8.27
1095	SLE FR 5	-26	40	3537	-949.26	-63.46	-8.36
1095	SLE FR 6	-26	41	3600	-965.83	-64.58	-8.55
1095	SLE QP 1	-25	39	3401	-913.37	-61.02	-8.05
1095	SLE QP 2	-26	40	3520	-944.84	-63.15	-8.35
1095	SLD 1	401	160	3058	-841.99	-54.28	142.75
1095	SLD 2	327	145	3078	-846.69	-54.59	116.65
1095	SLD 3	391	-53	4255	-1132.3	-75.73	135.82
1095	SLD 4	317	-68	4275	-1137	-76.04	109.72
1095	SLD 5	129	402	1563	-472.86	-27.91	52.02
1095	SLD 6	81	393	1576	-475.9	-28.12	35.14
1095	SLD 7	98	-309	5552	-1440.57	-99.4	28.91
1095	SLD 8	50	-319	5565	-1443.61	-99.6	12.03
1095	SLD 9	-101	399	1475	-446.07	-26.71	-28.73
1095	SLD 10	-149	389	1488	-449.11	-26.91	-45.61
1095	SLD 11	-133	-313	5464	-1413.78	-98.19	-51.83
1095	SLD 12	-181	-322	5477	-1416.82	-98.4	-68.72
1095	SLD 13	-369	148	2765	-752.69	-50.27	-126.41
1095	SLD 14	-443	133	2786	-757.38	-50.58	-152.51
1095	SLD 15	-378	-65	3962	-1043	-71.72	-133.35
1095	SLD 16	-452	-80	3982	-1047.69	-72.03	-159.44
1095	SLV 1	642	242	2721	-765.51	-47.92	228.66
1095	SLV 2	526	218	2753	-772.9	-48.41	187.57
1095	SLV 3	627	-119	4744	-1256.13	-84.16	216.96
1095	SLV 4	510	-142	4776	-1263.52	-84.65	175.87
1095	SLV 5	220	652	207	-145.56	-3.52	88.17
1095	SLV 6	142	636	229	-150.54	-3.85	60.5
1095	SLV 7	168	-550	6949	-1780.95	-124.33	49.17
1095	SLV 8	89	-566	6970	-1785.93	-124.67	21.5
1095	SLV 9	-141	646	70	-103.76	-1.64	-38.2
1095	SLV 10	-219	630	92	-108.73	-1.97	-65.86
1095	SLV 11	-193	-556	6812	-1739.15	-122.46	-77.2
1095	SLV 12	-272	-572	6833	-1744.13	-122.79	-104.86
1095	SLV 13	-562	222	2264	-626.17	-41.65	-192.57
1095	SLV 14	-678	199	2296	-633.56	-42.15	-233.65
1095	SLV 15	-577	-138	4287	-1116.78	-77.9	-204.27
1095	SLV 16	-694	-162	4319	-1124.18	-78.39	-245.35
1095	SLV FO 1	709	262	2641	-747.58	-46.4	252.36
1095	SLV FO 2	581	236	2677	-755.71	-46.94	207.16
1095	SLV FO 3	692	-135	4866	-1287.26	-86.26	239.49
1095	SLV FO 4	564	-161	4902	-1295.39	-86.8	194.29
1095	SLV FO 5	245	713	-124	-65.63	2.44	97.82
1095	SLV FO 6	159	696	-100	-71.11	2.08	67.39
1095	SLV FO 7	187	-609	7291	-1864.56	-130.45	54.92
1095	SLV FO 8	101	-627	7315	-1870.04	-130.82	24.49
1095	SLV FO 9	-152	707	-275	-19.65	4.51	-41.18
1095	SLV FO 10	-239	689	-251	-25.12	4.14	-71.61
1095	SLV FO 11	-210	-616	7141	-1818.58	-128.39	-84.09
1095	SLV FO 12	-297	-633	7164	-1824.05	-128.75	-114.52
1095	SLV FO 13	-615	241	2139	-594.3	-39.5	-210.99
1095	SLV FO 14	-743	215	2174	-602.43	-40.04	-256.19
1095	SLV FO 15	-633	-156	4363	-1133.98	-79.37	-223.86
1095	SLV FO 16	-761	-182	4399	-1142.11	-79.91	-269.06
1095	CRTFP Ux+	0	0	0	0	0	0
1095	CRTFP Ux-	0	0	0	0	0	0
1095	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1095	CRTFP Uy-	0	0	0	0	0	0
1096	SLU 1	-24	39	3467	-855.74	3.98	-8.44
1096	SLU 2	-23	57	3382	-836.83	3.88	-8.21
1096	SLU 3	-24	39	3569	-879.72	4.12	-8.61
1096	SLU 4	-24	51	3518	-868.38	4.05	-8.47
1096	SLU 5	-23	57	3451	-852.9	3.97	-8.25
1096	SLU 6	-24	40	3637	-895.78	4.21	-8.64
1096	SLU 7	-24	51	3587	-884.44	4.14	-8.51
1096	SLU 8	-24	39	3604	-887.87	4.16	-8.51
1096	SLU 9	-24	50	3553	-876.52	4.1	-8.38
1096	SLU 10	-26	60	3828	-943.61	4.44	-9.38
1096	SLU 11	-28	42	4015	-986.49	4.67	-9.78
1096	SLU 12	-27	53	3964	-975.15	4.61	-9.64
1096	SLU 13	-27	60	3896	-959.67	4.53	-9.42
1096	SLU 14	-28	42	4083	-1002.56	4.76	-9.81
1096	SLU 15	-27	53	4032	-991.21	4.7	-9.68
1096	SLU 16	-27	42	4050	-994.64	4.72	-9.68
1096	SLU 17	-27	53	3999	-983.3	4.66	-9.55
1096	SLU 18	-29	42	4104	-1008.28	4.78	-10.11
1096	SLU 19	-28	54	4053	-996.93	4.72	-9.97
1096	SLU 20	-29	43	4172	-1024.34	4.87	-10.15
1096	SLU 21	-28	54	4121	-1012.99	4.81	-10.01
1096	SLU 22	-28	44	4072	-999.63	4.75	-10.02
1096	SLU 23	-28	62	3987	-980.72	4.64	-9.79
1096	SLU 24	-29	44	4174	-1023.61	4.88	-10.18
1096	SLU 25	-28	55	4123	-1012.26	4.82	-10.05
1096	SLU 26	-28	62	4056	-996.78	4.73	-9.83
1096	SLU 27	-29	45	4243	-1039.67	4.97	-10.22
1096	SLU 28	-28	56	4192	-1028.32	4.91	-10.08
1096	SLU 29	-28	44	4209	-1031.75	4.93	-10.09
1096	SLU 30	-28	55	4158	-1020.41	4.87	-9.95
1096	SLU 31	-31	65	4433	-1087.49	5.2	-10.96
1096	SLU 32	-32	47	4620	-1130.38	5.44	-11.35
1096	SLU 33	-32	58	4569	-1119.04	5.37	-11.21
1096	SLU 34	-31	65	4502	-1103.56	5.29	-10.99
1096	SLU 35	-32	47	4688	-1146.44	5.53	-11.39
1096	SLU 36	-32	58	4638	-1135.1	5.47	-11.25
1096	SLU 37	-32	47	4655	-1138.53	5.49	-11.26
1096	SLU 38	-31	58	4604	-1127.18	5.42	-11.12
1096	SLU 39	-33	47	4709	-1152.16	5.54	-11.69
1096	SLU 40	-33	58	4658	-1140.82	5.48	-11.55
1096	SLU 41	-33	48	4777	-1168.22	5.63	-11.72
1096	SLU 42	-33	59	4726	-1156.88	5.57	-11.59
1096	SLU 43	-29	49	4299	-1063.13	4.92	-10.43
1096	SLU 44	-29	67	4215	-1044.23	4.81	-10.21
1096	SLU 45	-30	49	4402	-1087.11	5.05	-10.6
1096	SLU 46	-30	60	4351	-1075.77	4.99	-10.46
1096	SLU 47	-29	67	4283	-1060.29	4.9	-10.24
1096	SLU 48	-30	50	4470	-1103.17	5.14	-10.64
1096	SLU 49	-30	61	4419	-1091.83	5.08	-10.5
1096	SLU 50	-30	49	4436	-1095.26	5.1	-10.51
1096	SLU 51	-29	60	4385	-1083.91	5.03	-10.37
1096	SLU 52	-32	70	4660	-1151	5.37	-11.37
1096	SLU 53	-33	52	4847	-1193.88	5.61	-11.77
1096	SLU 54	-33	63	4797	-1182.54	5.54	-11.63
1096	SLU 55	-32	70	4729	-1167.06	5.46	-11.41
1096	SLU 56	-33	52	4916	-1209.95	5.7	-11.8
1096	SLU 57	-33	63	4865	-1198.6	5.63	-11.67
1096	SLU 58	-33	52	4882	-1202.03	5.65	-11.67
1096	SLU 59	-33	63	4831	-1190.69	5.59	-11.54
1096	SLU 60	-34	52	4936	-1215.67	5.71	-12.1
1096	SLU 61	-34	63	4885	-1204.32	5.65	-11.97
1096	SLU 62	-34	53	5005	-1231.73	5.8	-12.14
1096	SLU 63	-34	64	4954	-1220.38	5.74	-12
1096	SLU 64	-34	53	4905	-1207.02	5.68	-12.01
1096	SLU 65	-33	72	4820	-1188.11	5.58	-11.78
1096	SLU 66	-34	54	5007	-1231	5.81	-12.18
1096	SLU 67	-34	65	4956	-1219.65	5.75	-12.04
1096	SLU 68	-33	72	4888	-1204.17	5.67	-11.82
1096	SLU 69	-34	55	5075	-1247.06	5.9	-12.21
1096	SLU 70	-34	66	5024	-1235.71	5.84	-12.08
1096	SLU 71	-34	54	5041	-1239.14	5.86	-12.08
1096	SLU 72	-34	65	4991	-1227.8	5.8	-11.95
1096	SLU 73	-36	75	5266	-1294.88	6.13	-12.95
1096	SLU 74	-38	57	5453	-1337.77	6.37	-13.34
1096	SLU 75	-37	68	5402	-1326.43	6.31	-13.21
1096	SLU 76	-37	75	5334	-1310.95	6.22	-12.99
1096	SLU 77	-38	57	5521	-1353.83	6.46	-13.38
1096	SLU 78	-37	68	5470	-1342.49	6.4	-13.24
1096	SLU 79	-37	57	5487	-1345.92	6.42	-13.25
1096	SLU 80	-37	68	5436	-1334.57	6.36	-13.11
1096	SLU 81	-39	57	5541	-1359.55	6.48	-13.68
1096	SLU 82	-38	68	5491	-1348.21	6.41	-13.54
1096	SLU 83	-39	58	5610	-1375.61	6.57	-13.71
1096	SLU 84	-38	69	5559	-1364.27	6.5	-13.58
1096	SLE RA 1	-25	40	3640	-896.85	4.2	-8.89
1096	SLE RA 2	-25	52	3583	-884.25	4.13	-8.74
1096	SLE RA 3	-25	41	3708	-912.84	4.29	-9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1096	SLE RA 4	-25	48	3674	-905.28	4.25	-8.91
1096	SLE RA 5	-25	53	3629	-894.96	4.19	-8.76
1096	SLE RA 6	-25	41	3754	-923.55	4.35	-9.03
1096	SLE RA 7	-25	48	3720	-915.98	4.31	-8.94
1096	SLE RA 8	-25	40	3731	-918.27	4.32	-8.94
1096	SLE RA 9	-25	48	3697	-910.71	4.28	-8.85
1096	SLE RA 10	-27	54	3880	-955.43	4.5	-9.52
1096	SLE RA 11	-28	42	4005	-984.02	4.66	-9.78
1096	SLE RA 12	-27	50	3971	-976.46	4.62	-9.69
1096	SLE RA 13	-27	54	3926	-966.14	4.56	-9.54
1096	SLE RA 14	-28	43	4051	-994.73	4.72	-9.81
1096	SLE RA 15	-27	50	4017	-987.17	4.68	-9.71
1096	SLE RA 16	-27	42	4028	-989.45	4.69	-9.72
1096	SLE RA 17	-27	50	3994	-981.89	4.65	-9.63
1096	SLE RA 18	-28	43	4064	-998.54	4.73	-10
1096	SLE RA 19	-28	50	4030	-990.98	4.69	-9.91
1096	SLE RA 20	-28	43	4110	-1009.25	4.79	-10.03
1096	SLE RA 21	-28	50	4076	-1001.69	4.75	-9.94
1096	SLE FR 1	-25	40	3640	-896.85	4.2	-8.89
1096	SLE FR 2	-25	43	3628	-894.33	4.19	-8.86
1096	SLE FR 3	-25	40	3658	-901.14	4.23	-8.9
1096	SLE FR 4	-26	43	3756	-924.84	4.35	-9.2
1096	SLE FR 5	-26	41	3785	-931.64	4.39	-9.24
1096	SLE FR 6	-27	41	3852	-947.7	4.47	-9.45
1096	SLE QP 1	-25	40	3640	-896.85	4.2	-8.89
1096	SLE QP 2	-26	41	3767	-927.36	4.36	-9.23
1096	SLD 1	444	169	3250	-825.23	4.6	155.05
1096	SLD 2	362	155	3270	-829.5	4.7	126.61
1096	SLD 3	434	-62	4529	-1110.15	6.15	151.98
1096	SLD 4	353	-75	4549	-1114.42	6.25	123.53
1096	SLD 5	143	431	1669	-463.85	2.06	49.66
1096	SLD 6	90	422	1681	-466.62	2.13	31.26
1096	SLD 7	112	-337	5932	-1413.58	7.23	39.4
1096	SLD 8	59	-346	5945	-1416.35	7.3	21
1096	SLD 9	-112	427	1589	-438.37	1.42	-39.45
1096	SLD 10	-164	419	1602	-441.14	1.49	-57.86
1096	SLD 11	-142	-341	5853	-1388.1	6.6	-49.71
1096	SLD 12	-195	-349	5866	-1390.87	6.66	-68.11
1096	SLD 13	-405	157	2986	-740.3	2.47	-141.98
1096	SLD 14	-487	143	3005	-744.57	2.57	-170.43
1096	SLD 15	-414	-74	4265	-1025.22	4.03	-145.06
1096	SLD 16	-496	-87	4284	-1029.49	4.13	-173.51
1096	SLV 1	710	256	2877	-749.51	4.63	248.17
1096	SLV 2	582	235	2908	-756.23	4.79	203.38
1096	SLV 3	695	-134	5039	-1230.99	7.25	243.01
1096	SLV 4	566	-154	5070	-1237.72	7.41	198.22
1096	SLV 5	242	700	216	-142.49	0.44	84.18
1096	SLV 6	156	686	237	-147.02	0.54	54.03
1096	SLV 7	191	-598	7422	-1747.45	9.17	66.97
1096	SLV 8	104	-612	7442	-1751.98	9.28	36.82
1096	SLV 9	-156	694	92	-102.74	-0.56	-55.27
1096	SLV 10	-243	680	113	-107.27	-0.45	-85.42
1096	SLV 11	-208	-604	7298	-1707.7	8.18	-72.48
1096	SLV 12	-294	-618	7319	-1712.23	8.29	-102.63
1096	SLV 13	-618	236	2464	-617	1.32	-216.67
1096	SLV 14	-747	215	2496	-623.73	1.47	-261.46
1096	SLV 15	-634	-153	4626	-1098.49	3.94	-221.83
1096	SLV 16	-762	-174	4657	-1105.21	4.1	-266.62
1096	SLV FO 1	784	277	2788	-731.72	4.65	273.91
1096	SLV FO 2	642	254	2822	-739.12	4.83	224.64
1096	SLV FO 3	767	-151	5166	-1261.36	7.54	268.23
1096	SLV FO 4	625	-174	5200	-1268.76	7.71	218.96
1096	SLV FO 5	269	765	-139	-64	0.04	93.52
1096	SLV FO 6	174	750	-116	-68.99	0.16	60.35
1096	SLV FO 7	212	-662	7787	-1829.46	9.65	74.59
1096	SLV FO 8	117	-677	7810	-1834.44	9.77	41.42
1096	SLV FO 9	-169	759	-276	-20.28	-1.05	-59.87
1096	SLV FO 10	-264	744	-253	-25.26	-0.93	-93.04
1096	SLV FO 11	-226	-668	7651	-1785.73	8.56	-78.8
1096	SLV FO 12	-321	-684	7674	-1790.71	8.68	-111.98
1096	SLV FO 13	-677	256	2334	-585.96	1.01	-237.41
1096	SLV FO 14	-819	233	2368	-593.36	1.19	-286.68
1096	SLV FO 15	-694	-173	4712	-1115.6	3.89	-243.09
1096	SLV FO 16	-836	-196	4746	-1123	4.07	-292.36
1096	CRTFP Ux+	0	0	0	0	0	0
1096	CRTFP Ux-	0	0	0	0	0	0
1096	CRTFP Uy+	0	0	0	0	0	0
1096	CRTFP Uy-	0	0	0	0	0	0
1097	SLU 1	-22	36	3343	-754.18	4.1	-7.69
1097	SLU 2	-21	54	3261	-737.63	3.99	-7.5
1097	SLU 3	-22	37	3441	-774.97	4.24	-7.84
1097	SLU 4	-22	48	3392	-765.04	4.17	-7.72
1097	SLU 5	-21	54	3327	-751.55	4.08	-7.52
1097	SLU 6	-22	37	3506	-788.89	4.33	-7.86
1097	SLU 7	-22	48	3458	-778.96	4.26	-7.74
1097	SLU 8	-22	37	3474	-782.02	4.29	-7.73
1097	SLU 9	-22	47	3425	-772.09	4.22	-7.62
1097	SLU 10	-24	56	3690	-830.07	4.57	-8.63

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1097	SLU 11	-25	39	3869	-867.42	4.81	-8.97
1097	SLU 12	-25	50	3820	-857.49	4.75	-8.85
1097	SLU 13	-24	56	3755	-843.99	4.66	-8.65
1097	SLU 14	-25	39	3935	-881.34	4.91	-8.99
1097	SLU 15	-25	50	3886	-871.41	4.84	-8.87
1097	SLU 16	-25	39	3902	-874.47	4.86	-8.87
1097	SLU 17	-25	49	3854	-864.54	4.8	-8.75
1097	SLU 18	-26	39	3955	-886.25	4.92	-9.31
1097	SLU 19	-26	50	3906	-876.32	4.86	-9.19
1097	SLU 20	-26	39	4020	-900.17	5.02	-9.33
1097	SLU 21	-26	50	3972	-890.24	4.95	-9.21
1097	SLU 22	-26	40	3924	-878.84	4.89	-9.19
1097	SLU 23	-25	58	3843	-862.28	4.78	-8.99
1097	SLU 24	-26	41	4022	-899.63	5.03	-9.33
1097	SLU 25	-26	52	3973	-889.69	4.96	-9.22
1097	SLU 26	-25	59	3908	-876.2	4.88	-9.02
1097	SLU 27	-26	41	4088	-913.55	5.12	-9.36
1097	SLU 28	-26	52	4039	-903.61	5.06	-9.24
1097	SLU 29	-26	41	4055	-906.68	5.08	-9.23
1097	SLU 30	-26	52	4006	-896.74	5.01	-9.12
1097	SLU 31	-29	60	4271	-954.73	5.36	-10.13
1097	SLU 32	-30	43	4451	-992.07	5.6	-10.47
1097	SLU 33	-29	54	4402	-982.14	5.54	-10.35
1097	SLU 34	-29	61	4337	-968.65	5.45	-10.15
1097	SLU 35	-30	43	4516	-1005.99	5.7	-10.49
1097	SLU 36	-29	54	4467	-996.06	5.63	-10.37
1097	SLU 37	-29	43	4484	-999.12	5.65	-10.36
1097	SLU 38	-29	54	4435	-989.19	5.59	-10.25
1097	SLU 39	-31	43	4536	-1010.9	5.71	-10.81
1097	SLU 40	-30	54	4487	-1000.97	5.65	-10.69
1097	SLU 41	-31	44	4602	-1024.82	5.81	-10.83
1097	SLU 42	-30	54	4553	-1014.89	5.74	-10.71
1097	SLU 43	-27	45	4146	-937.7	5.06	-9.48
1097	SLU 44	-26	63	4065	-921.14	4.95	-9.29
1097	SLU 45	-27	46	4244	-958.49	5.19	-9.63
1097	SLU 46	-27	57	4195	-948.56	5.13	-9.51
1097	SLU 47	-26	64	4130	-935.06	5.04	-9.31
1097	SLU 48	-27	46	4310	-972.41	5.29	-9.65
1097	SLU 49	-27	57	4261	-962.48	5.22	-9.53
1097	SLU 50	-27	46	4278	-965.54	5.24	-9.53
1097	SLU 51	-27	57	4229	-955.61	5.18	-9.41
1097	SLU 52	-29	66	4493	-1013.59	5.53	-10.42
1097	SLU 53	-30	48	4673	-1050.94	5.77	-10.76
1097	SLU 54	-30	59	4624	-1041	5.71	-10.64
1097	SLU 55	-30	66	4559	-1027.51	5.62	-10.44
1097	SLU 56	-31	49	4738	-1064.86	5.86	-10.78
1097	SLU 57	-30	59	4690	-1054.92	5.8	-10.67
1097	SLU 58	-30	48	4706	-1057.99	5.82	-10.66
1097	SLU 59	-30	59	4657	-1048.05	5.76	-10.54
1097	SLU 60	-31	48	4758	-1069.77	5.88	-11.1
1097	SLU 61	-31	59	4709	-1059.83	5.82	-10.98
1097	SLU 62	-31	49	4824	-1083.69	5.97	-11.12
1097	SLU 63	-31	60	4775	-1073.75	5.91	-11.01
1097	SLU 64	-31	50	4728	-1062.35	5.85	-10.98
1097	SLU 65	-30	68	4646	-1045.8	5.74	-10.79
1097	SLU 66	-31	50	4826	-1083.14	5.98	-11.13
1097	SLU 67	-31	61	4777	-1073.21	5.92	-11.01
1097	SLU 68	-31	68	4712	-1059.72	5.83	-10.81
1097	SLU 69	-32	51	4891	-1097.06	6.08	-11.15
1097	SLU 70	-31	62	4842	-1087.13	6.01	-11.03
1097	SLU 71	-31	50	4859	-1090.19	6.03	-11.03
1097	SLU 72	-31	61	4810	-1080.26	5.97	-10.91
1097	SLU 73	-34	70	5075	-1138.24	6.32	-11.92
1097	SLU 74	-35	53	5254	-1175.59	6.56	-12.26
1097	SLU 75	-34	63	5205	-1165.66	6.5	-12.14
1097	SLU 76	-34	70	5140	-1152.16	6.41	-11.94
1097	SLU 77	-35	53	5320	-1189.51	6.65	-12.28
1097	SLU 78	-34	64	5271	-1179.58	6.59	-12.16
1097	SLU 79	-34	52	5287	-1182.64	6.61	-12.16
1097	SLU 80	-34	63	5238	-1172.71	6.55	-12.04
1097	SLU 81	-36	53	5340	-1194.42	6.67	-12.6
1097	SLU 82	-35	64	5291	-1184.49	6.61	-12.48
1097	SLU 83	-36	53	5405	-1208.34	6.77	-12.62
1097	SLU 84	-35	64	5356	-1198.41	6.7	-12.5
1097	SLE RA 1	-23	37	3509	-789.8	4.32	-8.12
1097	SLE RA 2	-23	49	3455	-778.76	4.25	-7.99
1097	SLE RA 3	-23	38	3574	-803.66	4.42	-8.21
1097	SLE RA 4	-23	45	3542	-797.04	4.37	-8.14
1097	SLE RA 5	-23	49	3498	-788.04	4.32	-8
1097	SLE RA 6	-23	38	3618	-812.94	4.48	-8.23
1097	SLE RA 7	-23	45	3585	-806.32	4.44	-8.15
1097	SLE RA 8	-23	38	3596	-808.36	4.45	-8.15
1097	SLE RA 9	-23	45	3564	-801.74	4.41	-8.07
1097	SLE RA 10	-25	51	3740	-840.39	4.64	-8.74
1097	SLE RA 11	-25	39	3860	-865.29	4.8	-8.97
1097	SLE RA 12	-25	46	3827	-858.67	4.76	-8.89
1097	SLE RA 13	-25	51	3784	-849.67	4.7	-8.76
1097	SLE RA 14	-25	39	3904	-874.57	4.86	-8.98

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1097	SLE RA 15	-25	47	3871	-867.95	4.82	-8.91
1097	SLE RA 16	-25	39	3882	-869.99	4.83	-8.9
1097	SLE RA 17	-25	46	3849	-863.37	4.79	-8.82
1097	SLE RA 18	-26	39	3917	-877.84	4.87	-9.2
1097	SLE RA 19	-26	47	3884	-871.22	4.83	-9.12
1097	SLE RA 20	-26	39	3961	-887.12	4.94	-9.21
1097	SLE RA 21	-26	47	3928	-880.5	4.89	-9.13
1097	SLE FR 1	-23	37	3509	-789.8	4.32	-8.12
1097	SLE FR 2	-23	40	3498	-787.59	4.31	-8.09
1097	SLE FR 3	-23	37	3526	-793.51	4.35	-8.12
1097	SLE FR 4	-24	40	3620	-814	4.48	-8.42
1097	SLE FR 5	-24	38	3649	-819.92	4.51	-8.45
1097	SLE FR 6	-25	38	3713	-833.82	4.6	-8.66
1097	SLE QP 1	-23	37	3509	-789.8	4.32	-8.12
1097	SLE QP 2	-24	38	3631	-816.21	4.49	-8.44
1097	SLD 1	446	161	3107	-724.35	4.74	155.84
1097	SLD 2	364	150	3124	-727.6	4.85	127.38
1097	SLD 3	438	-64	4338	-973.73	6.33	153.14
1097	SLD 4	356	-74	4355	-976.97	6.44	124.68
1097	SLD 5	144	417	1604	-409.88	2.14	49.87
1097	SLD 6	91	411	1615	-411.97	2.21	31.46
1097	SLD 7	116	-332	5707	-1241.12	7.43	40.88
1097	SLD 8	64	-338	5718	-1243.21	7.5	22.47
1097	SLD 9	-111	414	1545	-389.21	1.48	-39.35
1097	SLD 10	-164	407	1555	-391.3	1.55	-57.76
1097	SLD 11	-139	-335	5648	-1220.45	6.77	-48.34
1097	SLD 12	-191	-341	5658	-1222.54	6.84	-66.75
1097	SLD 13	-404	150	2908	-655.46	2.54	-141.56
1097	SLD 14	-485	140	2924	-658.7	2.65	-170.02
1097	SLD 15	-412	-75	4139	-904.83	4.13	-144.26
1097	SLD 16	-494	-85	4155	-908.07	4.23	-172.72
1097	SLV 1	712	245	2734	-656.71	4.78	248.92
1097	SLV 2	584	228	2760	-661.81	4.95	204.11
1097	SLV 3	698	-135	4814	-1078.11	7.47	244.41
1097	SLV 4	570	-151	4840	-1083.21	7.63	199.6
1097	SLV 5	242	679	202	-128.29	0.48	83.98
1097	SLV 6	155	668	220	-131.72	0.59	53.81
1097	SLV 7	196	-587	7136	-1532.95	9.42	68.93
1097	SLV 8	110	-598	7154	-1536.39	9.53	38.76
1097	SLV 9	-157	673	109	-96.04	-0.55	-55.65
1097	SLV 10	-244	662	126	-99.47	-0.44	-85.81
1097	SLV 11	-203	-592	7043	-1500.7	8.39	-70.69
1097	SLV 12	-289	-603	7060	-1504.14	8.5	-100.86
1097	SLV 13	-618	227	2422	-549.21	1.35	-216.48
1097	SLV 14	-746	211	2448	-554.31	1.51	-261.29
1097	SLV 15	-631	-152	4502	-970.61	4.03	-221
1097	SLV 16	-760	-169	4529	-975.71	4.2	-265.81
1097	SLV FO 1	785	265	2644	-640.76	4.81	274.66
1097	SLV FO 2	644	247	2673	-646.37	5	225.37
1097	SLV FO 3	770	-152	4933	-1104.3	7.76	269.69
1097	SLV FO 4	629	-170	4961	-1109.91	7.95	220.4
1097	SLV FO 5	268	743	-141	-59.49	0.08	93.22
1097	SLV FO 6	173	731	-121	-63.27	0.2	60.03
1097	SLV FO 7	218	-649	7487	-1604.63	9.91	76.67
1097	SLV FO 8	123	-661	7506	-1608.4	10.04	43.48
1097	SLV FO 9	-171	737	-244	-24.02	-1.06	-60.37
1097	SLV FO 10	-266	725	-224	-27.8	-0.93	-93.55
1097	SLV FO 11	-221	-655	7384	-1569.15	8.78	-76.92
1097	SLV FO 12	-316	-667	7403	-1572.93	8.9	-110.1
1097	SLV FO 13	-677	246	2301	-522.51	1.03	-237.29
1097	SLV FO 14	-818	228	2330	-528.12	1.22	-286.58
1097	SLV FO 15	-692	-171	4590	-986.05	3.98	-242.25
1097	SLV FO 16	-833	-189	4618	-991.66	4.17	-291.54
1097	CRTFP Ux+	0	0	0	0	0	0
1097	CRTFP Ux-	0	0	0	0	0	0
1097	CRTFP Uy+	0	0	0	0	0	0
1097	CRTFP Uy-	0	0	0	0	0	0
1098	SLU 1	-20	34	3227	-667.59	3.48	-6.94
1098	SLU 2	-19	52	3149	-653.07	3.39	-6.78
1098	SLU 3	-20	35	3321	-685.65	3.6	-7.06
1098	SLU 4	-20	46	3274	-676.93	3.54	-6.96
1098	SLU 5	-19	52	3211	-665.15	3.47	-6.78
1098	SLU 6	-20	35	3384	-697.73	3.68	-7.07
1098	SLU 7	-20	46	3337	-689.01	3.62	-6.97
1098	SLU 8	-20	35	3353	-691.75	3.64	-6.95
1098	SLU 9	-19	45	3306	-683.04	3.59	-6.85
1098	SLU 10	-22	54	3561	-733.31	3.88	-7.87
1098	SLU 11	-23	37	3733	-765.89	4.09	-8.16
1098	SLU 12	-23	47	3686	-757.17	4.03	-8.06
1098	SLU 13	-22	54	3624	-745.39	3.96	-7.88
1098	SLU 14	-23	37	3796	-777.96	4.17	-8.17
1098	SLU 15	-23	48	3749	-769.25	4.11	-8.07
1098	SLU 16	-23	37	3765	-771.99	4.13	-8.05
1098	SLU 17	-23	47	3718	-763.28	4.08	-7.95
1098	SLU 18	-24	37	3816	-782.22	4.18	-8.51
1098	SLU 19	-24	47	3769	-773.51	4.13	-8.41
1098	SLU 20	-24	37	3879	-794.3	4.26	-8.51
1098	SLU 21	-24	48	3832	-785.58	4.21	-8.42

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1098	SLU 22	-24	38	3786	-775.82	4.15	-8.36
1098	SLU 23	-23	56	3707	-761.29	4.06	-8.2
1098	SLU 24	-24	39	3880	-793.87	4.27	-8.48
1098	SLU 25	-24	50	3833	-785.16	4.22	-8.38
1098	SLU 26	-23	56	3770	-773.37	4.14	-8.2
1098	SLU 27	-24	39	3943	-805.95	4.35	-8.49
1098	SLU 28	-24	50	3896	-797.24	4.3	-8.39
1098	SLU 29	-24	39	3912	-799.97	4.31	-8.37
1098	SLU 30	-23	49	3865	-791.26	4.26	-8.27
1098	SLU 31	-26	58	4120	-841.53	4.55	-9.29
1098	SLU 32	-27	41	4292	-874.11	4.76	-9.58
1098	SLU 33	-27	51	4245	-865.39	4.71	-9.48
1098	SLU 34	-26	58	4183	-853.61	4.63	-9.3
1098	SLU 35	-27	41	4355	-886.19	4.84	-9.59
1098	SLU 36	-27	51	4308	-877.47	4.79	-9.49
1098	SLU 37	-27	40	4324	-880.21	4.8	-9.47
1098	SLU 38	-27	51	4277	-871.5	4.75	-9.37
1098	SLU 39	-28	41	4375	-890.44	4.85	-9.93
1098	SLU 40	-28	51	4328	-881.73	4.8	-9.83
1098	SLU 41	-28	41	4438	-902.52	4.93	-9.93
1098	SLU 42	-28	52	4391	-893.81	4.88	-9.84
1098	SLU 43	-24	44	4004	-830.77	4.29	-8.53
1098	SLU 44	-24	61	3925	-816.24	4.2	-8.37
1098	SLU 45	-25	44	4098	-848.82	4.41	-8.66
1098	SLU 46	-24	55	4051	-840.11	4.36	-8.56
1098	SLU 47	-24	61	3988	-828.32	4.28	-8.38
1098	SLU 48	-25	44	4161	-860.9	4.49	-8.66
1098	SLU 49	-24	55	4114	-852.19	4.44	-8.57
1098	SLU 50	-24	44	4129	-854.93	4.45	-8.55
1098	SLU 51	-24	54	4082	-846.21	4.4	-8.45
1098	SLU 52	-27	63	4337	-896.48	4.69	-9.47
1098	SLU 53	-28	46	4510	-929.06	4.9	-9.76
1098	SLU 54	-27	56	4463	-920.35	4.85	-9.66
1098	SLU 55	-27	63	4400	-908.56	4.77	-9.48
1098	SLU 56	-28	46	4573	-941.14	4.98	-9.76
1098	SLU 57	-27	57	4526	-932.42	4.93	-9.66
1098	SLU 58	-27	46	4542	-935.16	4.94	-9.65
1098	SLU 59	-27	56	4494	-926.45	4.89	-9.55
1098	SLU 60	-29	46	4592	-945.39	4.99	-10.1
1098	SLU 61	-28	56	4545	-936.68	4.94	-10
1098	SLU 62	-29	46	4655	-957.47	5.07	-10.11
1098	SLU 63	-28	57	4608	-948.76	5.02	-10.01
1098	SLU 64	-28	47	4562	-938.99	4.96	-9.95
1098	SLU 65	-28	65	4484	-924.47	4.88	-9.79
1098	SLU 66	-29	48	4657	-957.04	5.08	-10.08
1098	SLU 67	-28	59	4610	-948.33	5.03	-9.98
1098	SLU 68	-28	65	4547	-936.55	4.96	-9.8
1098	SLU 69	-29	48	4720	-969.12	5.16	-10.08
1098	SLU 70	-28	59	4672	-960.41	5.11	-9.99
1098	SLU 71	-28	48	4688	-963.15	5.13	-9.97
1098	SLU 72	-28	58	4641	-954.43	5.07	-9.87
1098	SLU 73	-31	67	4896	-1004.7	5.37	-10.89
1098	SLU 74	-32	50	5069	-1037.28	5.57	-11.18
1098	SLU 75	-31	60	5022	-1028.57	5.52	-11.08
1098	SLU 76	-31	67	4959	-1016.78	5.45	-10.9
1098	SLU 77	-32	50	5132	-1049.36	5.65	-11.18
1098	SLU 78	-31	61	5085	-1040.65	5.6	-11.08
1098	SLU 79	-31	50	5100	-1043.39	5.62	-11.07
1098	SLU 80	-31	60	5053	-1034.67	5.56	-10.97
1098	SLU 81	-33	50	5151	-1053.61	5.67	-11.52
1098	SLU 82	-32	60	5104	-1044.9	5.61	-11.42
1098	SLU 83	-33	50	5214	-1065.69	5.75	-11.53
1098	SLU 84	-32	61	5167	-1056.98	5.69	-11.43
1098	SLE RA 1	-21	36	3387	-698.51	3.67	-7.35
1098	SLE RA 2	-21	47	3334	-688.83	3.61	-7.24
1098	SLE RA 3	-21	36	3450	-710.55	3.75	-7.43
1098	SLE RA 4	-21	43	3418	-704.74	3.71	-7.36
1098	SLE RA 5	-21	47	3376	-696.89	3.67	-7.24
1098	SLE RA 6	-21	36	3491	-718.6	3.8	-7.43
1098	SLE RA 7	-21	43	3460	-712.79	3.77	-7.37
1098	SLE RA 8	-21	36	3471	-714.62	3.78	-7.35
1098	SLE RA 9	-21	43	3439	-708.81	3.74	-7.29
1098	SLE RA 10	-23	48	3609	-742.32	3.94	-7.97
1098	SLE RA 11	-23	37	3724	-764.04	4.08	-8.16
1098	SLE RA 12	-23	44	3693	-758.23	4.04	-8.09
1098	SLE RA 13	-23	49	3651	-750.38	3.99	-7.97
1098	SLE RA 14	-23	37	3766	-772.1	4.13	-8.16
1098	SLE RA 15	-23	44	3735	-766.29	4.09	-8.1
1098	SLE RA 16	-23	37	3745	-768.11	4.11	-8.09
1098	SLE RA 17	-23	44	3714	-762.3	4.07	-8.02
1098	SLE RA 18	-24	37	3779	-774.93	4.14	-8.39
1098	SLE RA 19	-24	44	3748	-769.12	4.1	-8.33
1098	SLE RA 20	-24	37	3821	-782.98	4.19	-8.4
1098	SLE RA 21	-24	44	3790	-777.17	4.16	-8.33
1098	SLE FR 1	-21	36	3387	-698.51	3.67	-7.35
1098	SLE FR 2	-21	38	3376	-696.58	3.66	-7.32
1098	SLE FR 3	-21	36	3404	-701.74	3.69	-7.35
1098	SLE FR 4	-22	38	3494	-719.5	3.8	-7.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1098	SLE FR 5	-22	36	3521	-724.66	3.83	-7.66
1098	SLE FR 6	-22	36	3583	-736.72	3.9	-7.87
1098	SLE QP 1	-21	36	3387	-698.51	3.67	-7.35
1098	SLE QP 2	-22	36	3504	-721.44	3.81	-7.66
1098	SLD 1	448	154	2972	-636.41	4.21	156.54
1098	SLD 2	366	146	2985	-638.64	4.32	128.09
1098	SLD 3	440	-65	4158	-855.18	5.53	154.18
1098	SLD 4	359	-73	4172	-857.41	5.63	125.72
1098	SLD 5	144	405	1543	-363.74	1.92	50.12
1098	SLD 6	91	400	1551	-365.19	1.99	31.71
1098	SLD 7	120	-325	5498	-1092.98	6.3	42.25
1098	SLD 8	68	-330	5506	-1094.42	6.37	23.84
1098	SLD 9	-111	403	1503	-348.46	1.25	-39.15
1098	SLD 10	-164	397	1511	-349.9	1.32	-57.57
1098	SLD 11	-135	-328	5458	-1077.69	5.64	-47.03
1098	SLD 12	-187	-333	5466	-1079.14	5.7	-65.44
1098	SLD 13	-402	145	2837	-585.46	1.99	-141.04
1098	SLD 14	-484	137	2851	-587.7	2.1	-169.5
1098	SLD 15	-410	-74	4024	-804.24	3.3	-143.4
1098	SLD 16	-491	-82	4037	-806.47	3.41	-171.86
1098	SLV 1	713	235	2597	-574.59	4.35	249.56
1098	SLV 2	585	223	2618	-578.11	4.52	204.76
1098	SLV 3	702	-135	4602	-944.27	6.57	245.62
1098	SLV 4	573	-148	4623	-947.78	6.74	200.81
1098	SLV 5	241	660	187	-116.06	0.57	83.85
1098	SLV 6	154	651	201	-118.43	0.68	53.68
1098	SLV 7	201	-575	6871	-1348.3	7.98	70.71
1098	SLV 8	115	-583	6885	-1350.67	8.09	40.54
1098	SLV 9	-158	655	124	-92.21	-0.47	-55.86
1098	SLV 10	-245	647	138	-94.58	-0.35	-86.02
1098	SLV 11	-198	-579	6808	-1324.45	6.94	-69
1098	SLV 12	-284	-588	6822	-1326.82	7.05	-99.17
1098	SLV 13	-617	220	2386	-495.1	0.88	-216.13
1098	SLV 14	-745	207	2407	-498.61	1.05	-260.94
1098	SLV 15	-629	-150	4391	-864.77	3.1	-220.07
1098	SLV 16	-757	-163	4412	-868.29	3.27	-264.88
1098	SLV FO 1	787	255	2506	-559.91	4.4	275.28
1098	SLV FO 2	646	241	2529	-563.78	4.59	226
1098	SLV FO 3	774	-152	4712	-966.55	6.85	270.95
1098	SLV FO 4	633	-166	4735	-970.42	7.03	221.66
1098	SLV FO 5	267	722	-145	-55.52	0.25	93
1098	SLV FO 6	172	713	-129	-58.12	0.37	59.82
1098	SLV FO 7	223	-636	7208	-1410.99	8.39	78.54
1098	SLV FO 8	128	-645	7223	-1413.59	8.52	45.36
1098	SLV FO 9	-172	717	-214	-29.29	-0.9	-60.68
1098	SLV FO 10	-267	708	-199	-31.89	-0.77	-93.86
1098	SLV FO 11	-215	-641	7138	-1384.75	7.25	-75.14
1098	SLV FO 12	-311	-650	7154	-1387.36	7.38	-108.32
1098	SLV FO 13	-676	238	2274	-472.46	0.59	-236.98
1098	SLV FO 14	-817	224	2297	-476.33	0.78	-286.26
1098	SLV FO 15	-689	-169	4480	-879.1	3.03	-241.32
1098	SLV FO 16	-830	-183	4503	-882.97	3.22	-290.6
1098	CRTFP Ux+	0	0	0	0	0	0
1098	CRTFP Ux-	0	0	0	0	0	0
1098	CRTFP Uy+	0	0	0	0	0	0
1098	CRTFP Uy-	0	0	0	0	0	0
1099	SLU 1	-18	34	3138	-604.57	2.39	-6.17
1099	SLU 2	-17	51	3061	-591.5	2.33	-6.03
1099	SLU 3	-18	34	3229	-620.61	2.47	-6.27
1099	SLU 4	-18	45	3183	-612.77	2.44	-6.19
1099	SLU 5	-17	51	3122	-602.22	2.39	-6.02
1099	SLU 6	-18	35	3290	-631.33	2.53	-6.26
1099	SLU 7	-18	45	3244	-623.49	2.5	-6.18
1099	SLU 8	-18	34	3259	-626.01	2.51	-6.15
1099	SLU 9	-17	45	3214	-618.17	2.47	-6.07
1099	SLU 10	-20	52	3461	-662.89	2.67	-7.1
1099	SLU 11	-21	36	3628	-691.99	2.81	-7.33
1099	SLU 12	-21	46	3582	-684.15	2.78	-7.25
1099	SLU 13	-20	53	3522	-673.61	2.73	-7.08
1099	SLU 14	-21	36	3689	-702.71	2.87	-7.32
1099	SLU 15	-21	46	3643	-694.87	2.83	-7.24
1099	SLU 16	-21	36	3659	-697.39	2.84	-7.21
1099	SLU 17	-20	46	3613	-689.55	2.81	-7.13
1099	SLU 18	-22	36	3708	-706.55	2.87	-7.68
1099	SLU 19	-22	46	3662	-698.71	2.84	-7.6
1099	SLU 20	-22	36	3769	-717.27	2.93	-7.67
1099	SLU 21	-22	46	3723	-709.43	2.9	-7.59
1099	SLU 22	-21	37	3679	-700.84	2.86	-7.51
1099	SLU 23	-21	55	3603	-687.77	2.8	-7.37
1099	SLU 24	-22	38	3770	-716.88	2.94	-7.61
1099	SLU 25	-21	48	3724	-709.04	2.9	-7.53
1099	SLU 26	-21	55	3664	-698.49	2.86	-7.36
1099	SLU 27	-22	38	3831	-727.6	3	-7.6
1099	SLU 28	-21	48	3785	-719.76	2.96	-7.51
1099	SLU 29	-21	38	3801	-722.28	2.97	-7.49
1099	SLU 30	-21	48	3755	-714.44	2.94	-7.4
1099	SLU 31	-24	56	4002	-759.16	3.13	-8.43
1099	SLU 32	-25	39	4170	-788.26	3.28	-8.67

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1099	SLU 33	-24	50	4124	-780.42	3.24	-8.59
1099	SLU 34	-24	56	4063	-769.88	3.19	-8.42
1099	SLU 35	-25	40	4231	-798.98	3.33	-8.66
1099	SLU 36	-24	50	4185	-791.14	3.3	-8.58
1099	SLU 37	-24	39	4200	-793.66	3.31	-8.55
1099	SLU 38	-24	49	4155	-785.82	3.27	-8.47
1099	SLU 39	-26	39	4250	-802.81	3.34	-9.02
1099	SLU 40	-25	50	4204	-794.98	3.3	-8.94
1099	SLU 41	-26	40	4311	-813.53	3.39	-9.01
1099	SLU 42	-25	50	4265	-805.7	3.36	-8.93
1099	SLU 43	-22	43	3893	-752.93	2.95	-7.56
1099	SLU 44	-21	60	3817	-739.87	2.89	-7.43
1099	SLU 45	-22	43	3984	-768.97	3.03	-7.66
1099	SLU 46	-22	54	3938	-761.13	3	-7.58
1099	SLU 47	-21	60	3878	-750.59	2.95	-7.42
1099	SLU 48	-22	44	4045	-779.69	3.09	-7.65
1099	SLU 49	-22	54	3999	-771.85	3.05	-7.57
1099	SLU 50	-22	43	4015	-774.37	3.06	-7.54
1099	SLU 51	-21	53	3969	-766.53	3.03	-7.46
1099	SLU 52	-24	61	4216	-811.25	3.23	-8.49
1099	SLU 53	-25	45	4384	-840.36	3.37	-8.72
1099	SLU 54	-25	55	4338	-832.52	3.33	-8.64
1099	SLU 55	-24	62	4277	-821.97	3.29	-8.48
1099	SLU 56	-25	45	4445	-851.08	3.43	-8.71
1099	SLU 57	-25	55	4399	-843.24	3.39	-8.63
1099	SLU 58	-25	45	4414	-845.76	3.4	-8.6
1099	SLU 59	-24	55	4369	-837.92	3.37	-8.52
1099	SLU 60	-26	45	4464	-854.91	3.43	-9.08
1099	SLU 61	-26	55	4418	-847.07	3.4	-9
1099	SLU 62	-26	45	4525	-865.63	3.49	-9.07
1099	SLU 63	-26	55	4479	-857.79	3.45	-8.99
1099	SLU 64	-25	46	4435	-849.2	3.41	-8.9
1099	SLU 65	-25	63	4358	-836.14	3.36	-8.76
1099	SLU 66	-26	47	4526	-865.24	3.5	-9
1099	SLU 67	-25	57	4480	-857.4	3.46	-8.92
1099	SLU 68	-25	64	4419	-846.86	3.41	-8.75
1099	SLU 69	-26	47	4587	-875.96	3.55	-8.99
1099	SLU 70	-25	57	4541	-868.12	3.52	-8.91
1099	SLU 71	-25	47	4556	-870.64	3.53	-8.88
1099	SLU 72	-25	57	4511	-862.8	3.49	-8.8
1099	SLU 73	-28	65	4758	-907.52	3.69	-9.82
1099	SLU 74	-29	48	4925	-936.63	3.83	-10.06
1099	SLU 75	-28	59	4880	-928.79	3.8	-9.98
1099	SLU 76	-28	65	4819	-918.24	3.75	-9.81
1099	SLU 77	-29	49	4986	-947.35	3.89	-10.05
1099	SLU 78	-28	59	4940	-939.51	3.86	-9.97
1099	SLU 79	-28	48	4956	-942.03	3.86	-9.94
1099	SLU 80	-28	58	4910	-934.19	3.83	-9.86
1099	SLU 81	-30	48	5005	-951.18	3.89	-10.41
1099	SLU 82	-29	59	4960	-943.34	3.86	-10.33
1099	SLU 83	-30	49	5066	-961.9	3.95	-10.4
1099	SLU 84	-29	59	5021	-954.06	3.92	-10.32
1099	SLE RA 1	-19	35	3292	-632.07	2.52	-6.55
1099	SLE RA 2	-18	46	3241	-623.36	2.49	-6.46
1099	SLE RA 3	-19	35	3353	-642.77	2.58	-6.62
1099	SLE RA 4	-19	42	3323	-637.54	2.56	-6.56
1099	SLE RA 5	-18	46	3282	-630.51	2.52	-6.45
1099	SLE RA 6	-19	35	3394	-649.91	2.62	-6.61
1099	SLE RA 7	-19	42	3363	-644.69	2.59	-6.56
1099	SLE RA 8	-19	35	3373	-646.37	2.6	-6.54
1099	SLE RA 9	-18	42	3343	-641.14	2.58	-6.48
1099	SLE RA 10	-20	47	3508	-670.95	2.71	-7.17
1099	SLE RA 11	-21	36	3619	-690.36	2.8	-7.32
1099	SLE RA 12	-21	43	3589	-685.13	2.78	-7.27
1099	SLE RA 13	-20	47	3548	-678.1	2.75	-7.16
1099	SLE RA 14	-21	36	3660	-697.5	2.84	-7.32
1099	SLE RA 15	-21	43	3629	-692.28	2.82	-7.26
1099	SLE RA 16	-21	36	3640	-693.96	2.82	-7.24
1099	SLE RA 17	-20	43	3609	-688.73	2.8	-7.19
1099	SLE RA 18	-22	36	3673	-700.06	2.84	-7.56
1099	SLE RA 19	-21	43	3642	-694.83	2.82	-7.51
1099	SLE RA 20	-22	36	3713	-707.21	2.88	-7.55
1099	SLE RA 21	-21	43	3683	-701.98	2.86	-7.5
1099	SLE FR 1	-19	35	3292	-632.07	2.52	-6.55
1099	SLE FR 2	-19	37	3282	-630.33	2.52	-6.53
1099	SLE FR 3	-19	35	3309	-634.93	2.54	-6.55
1099	SLE FR 4	-19	38	3396	-650.73	2.61	-6.84
1099	SLE FR 5	-20	35	3423	-655.33	2.64	-6.85
1099	SLE FR 6	-20	36	3483	-666.07	2.68	-7.06
1099	SLE QP 1	-19	35	3292	-632.07	2.52	-6.55
1099	SLE QP 2	-20	35	3406	-652.47	2.62	-6.85
1099	SLD 1	449	150	2861	-568.87	3.26	157.19
1099	SLD 2	368	144	2871	-570.21	3.36	128.75
1099	SLD 3	443	-65	4014	-765.76	4.1	155.12
1099	SLD 4	362	-71	4024	-767.1	4.21	126.68
1099	SLD 5	145	397	1491	-328.55	1.51	50.43
1099	SLD 6	92	393	1498	-329.42	1.58	32.03
1099	SLD 7	124	-320	5337	-984.83	4.33	43.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1099	SLD 8	71	-324	5343	-985.7	4.4	25.13
1099	SLD 9	-110	394	1470	-319.24	0.84	-38.84
1099	SLD 10	-163	390	1476	-320.11	0.91	-57.24
1099	SLD 11	-131	-322	5315	-975.52	3.66	-45.74
1099	SLD 12	-184	-326	5322	-976.39	3.73	-64.14
1099	SLD 13	-401	141	2789	-537.84	1.03	-140.39
1099	SLD 14	-482	136	2799	-539.18	1.14	-168.83
1099	SLD 15	-407	-74	3942	-734.73	1.88	-142.46
1099	SLD 16	-488	-79	3952	-736.06	1.98	-170.9
1099	SLV 1	715	229	2481	-509.3	3.55	250.09
1099	SLV 2	586	219	2497	-511.41	3.72	205.31
1099	SLV 3	705	-135	4431	-841.98	4.98	246.65
1099	SLV 4	576	-144	4446	-844.09	5.15	201.87
1099	SLV 5	240	646	169	-104.57	0.7	83.81
1099	SLV 6	154	640	180	-105.98	0.82	53.66
1099	SLV 7	206	-565	6668	-1213.49	5.46	72.34
1099	SLV 8	120	-571	6678	-1214.91	5.58	42.19
1099	SLV 9	-159	641	135	-90.03	-0.34	-55.9
1099	SLV 10	-245	635	145	-91.45	-0.22	-86.04
1099	SLV 11	-193	-569	6633	-1198.95	4.42	-67.37
1099	SLV 12	-279	-575	6644	-1200.37	4.54	-97.51
1099	SLV 13	-615	214	2366	-460.85	0.09	-215.58
1099	SLV 14	-744	205	2382	-462.96	0.26	-260.36
1099	SLV 15	-626	-149	4316	-793.53	1.52	-219.02
1099	SLV 16	-754	-158	4332	-795.64	1.69	-263.8
1099	SLV FO 1	788	248	2388	-494.98	3.65	275.79
1099	SLV FO 2	647	238	2406	-497.3	3.83	226.53
1099	SLV FO 3	777	-152	4533	-860.93	5.22	272
1099	SLV FO 4	636	-162	4550	-863.25	5.4	222.75
1099	SLV FO 5	266	707	-155	-49.77	0.51	92.87
1099	SLV FO 6	171	700	-143	-51.33	0.64	59.71
1099	SLV FO 7	229	-625	6994	-1269.59	5.75	80.25
1099	SLV FO 8	134	-632	7006	-1271.15	5.87	47.09
1099	SLV FO 9	-173	702	-193	-33.79	-0.63	-60.8
1099	SLV FO 10	-268	695	-181	-35.35	-0.51	-93.96
1099	SLV FO 11	-210	-630	6956	-1253.6	4.6	-73.42
1099	SLV FO 12	-305	-636	6968	-1255.16	4.73	-106.58
1099	SLV FO 13	-675	232	2262	-441.69	-0.16	-236.45
1099	SLV FO 14	-816	222	2280	-444.01	0.02	-285.71
1099	SLV FO 15	-686	-167	4407	-807.64	1.41	-240.24
1099	SLV FO 16	-827	-178	4425	-809.95	1.59	-289.5
1099	CRTFP Ux+	0	0	0	0	0	0
1099	CRTFP Ux-	0	0	0	0	0	0
1099	CRTFP Uy+	0	0	0	0	0	0
1099	CRTFP Uy-	0	0	0	0	0	0
1100	SLU 1	-15	34	3085	-570.71	1.04	-5.37
1100	SLU 2	-15	51	3010	-558.36	1.02	-5.26
1100	SLU 3	-16	34	3175	-585.63	1.08	-5.45
1100	SLU 4	-15	45	3129	-578.22	1.07	-5.38
1100	SLU 5	-15	51	3070	-568.32	1.05	-5.24
1100	SLU 6	-16	35	3234	-595.59	1.11	-5.42
1100	SLU 7	-15	45	3189	-588.18	1.1	-5.35
1100	SLU 8	-15	34	3204	-590.63	1.1	-5.32
1100	SLU 9	-15	44	3159	-583.22	1.09	-5.25
1100	SLU 10	-18	52	3402	-625.04	1.17	-6.28
1100	SLU 11	-18	36	3567	-652.31	1.23	-6.47
1100	SLU 12	-18	46	3522	-644.9	1.22	-6.4
1100	SLU 13	-18	52	3462	-635	1.2	-6.26
1100	SLU 14	-18	36	3626	-662.27	1.26	-6.44
1100	SLU 15	-18	46	3581	-654.86	1.25	-6.37
1100	SLU 16	-18	35	3597	-657.31	1.24	-6.33
1100	SLU 17	-18	46	3551	-649.9	1.23	-6.27
1100	SLU 18	-20	36	3645	-665.97	1.25	-6.83
1100	SLU 19	-19	46	3600	-658.56	1.24	-6.76
1100	SLU 20	-19	36	3705	-675.93	1.28	-6.8
1100	SLU 21	-19	46	3660	-668.52	1.27	-6.74
1100	SLU 22	-19	37	3617	-660.58	1.25	-6.62
1100	SLU 23	-19	54	3542	-648.23	1.23	-6.51
1100	SLU 24	-19	38	3706	-675.5	1.29	-6.69
1100	SLU 25	-19	48	3661	-668.09	1.28	-6.63
1100	SLU 26	-19	54	3601	-658.19	1.26	-6.48
1100	SLU 27	-19	38	3766	-685.46	1.32	-6.66
1100	SLU 28	-19	48	3720	-678.05	1.3	-6.6
1100	SLU 29	-19	37	3736	-680.5	1.3	-6.56
1100	SLU 30	-19	48	3691	-673.09	1.29	-6.5
1100	SLU 31	-22	55	3934	-714.91	1.37	-7.53
1100	SLU 32	-22	39	4098	-742.18	1.43	-7.71
1100	SLU 33	-22	49	4053	-734.77	1.42	-7.65
1100	SLU 34	-21	56	3993	-724.87	1.4	-7.5
1100	SLU 35	-22	39	4158	-752.14	1.46	-7.68
1100	SLU 36	-22	49	4113	-744.73	1.45	-7.62
1100	SLU 37	-22	39	4128	-747.18	1.45	-7.58
1100	SLU 38	-21	49	4083	-739.77	1.44	-7.52
1100	SLU 39	-23	39	4177	-755.84	1.45	-8.07
1100	SLU 40	-23	49	4132	-748.43	1.44	-8.01
1100	SLU 41	-23	39	4236	-765.8	1.48	-8.05
1100	SLU 42	-23	49	4191	-758.39	1.47	-7.98
1100	SLU 43	-19	43	3829	-711.1	1.29	-6.55

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1100	SLU 44	-18	60	3754	-698.75	1.27	-6.45
1100	SLU 45	-19	44	3918	-726.03	1.33	-6.63
1100	SLU 46	-19	54	3873	-718.62	1.31	-6.57
1100	SLU 47	-18	60	3813	-708.71	1.3	-6.42
1100	SLU 48	-19	44	3977	-735.99	1.35	-6.6
1100	SLU 49	-19	54	3932	-728.58	1.34	-6.54
1100	SLU 50	-19	43	3948	-731.02	1.34	-6.5
1100	SLU 51	-18	53	3903	-723.61	1.33	-6.44
1100	SLU 52	-21	61	4146	-765.44	1.41	-7.47
1100	SLU 53	-22	45	4310	-792.71	1.47	-7.65
1100	SLU 54	-22	55	4265	-785.3	1.46	-7.59
1100	SLU 55	-21	61	4205	-775.4	1.44	-7.44
1100	SLU 56	-22	45	4370	-802.67	1.5	-7.62
1100	SLU 57	-22	55	4325	-795.26	1.49	-7.56
1100	SLU 58	-22	45	4340	-797.71	1.49	-7.52
1100	SLU 59	-21	55	4295	-790.3	1.48	-7.45
1100	SLU 60	-23	45	4389	-806.37	1.49	-8.01
1100	SLU 61	-23	55	4344	-798.96	1.48	-7.95
1100	SLU 62	-23	45	4448	-816.33	1.52	-7.98
1100	SLU 63	-23	55	4403	-808.92	1.51	-7.92
1100	SLU 64	-22	46	4360	-800.98	1.49	-7.8
1100	SLU 65	-22	63	4285	-788.63	1.47	-7.69
1100	SLU 66	-23	47	4449	-815.9	1.53	-7.88
1100	SLU 67	-22	57	4404	-808.49	1.52	-7.81
1100	SLU 68	-22	63	4345	-798.59	1.5	-7.67
1100	SLU 69	-22	47	4509	-825.86	1.56	-7.85
1100	SLU 70	-22	57	4464	-818.45	1.55	-7.78
1100	SLU 71	-22	46	4479	-820.9	1.55	-7.75
1100	SLU 72	-22	57	4434	-813.49	1.54	-7.68
1100	SLU 73	-25	64	4677	-855.31	1.62	-8.71
1100	SLU 74	-25	48	4841	-882.58	1.68	-8.9
1100	SLU 75	-25	58	4796	-875.17	1.66	-8.83
1100	SLU 76	-25	65	4737	-865.27	1.65	-8.69
1100	SLU 77	-25	48	4901	-892.54	1.7	-8.87
1100	SLU 78	-25	58	4856	-885.13	1.69	-8.8
1100	SLU 79	-25	48	4871	-887.58	1.69	-8.76
1100	SLU 80	-25	58	4826	-880.17	1.68	-8.7
1100	SLU 81	-26	48	4920	-896.24	1.7	-9.26
1100	SLU 82	-26	58	4875	-888.83	1.69	-9.19
1100	SLU 83	-26	48	4980	-906.2	1.73	-9.23
1100	SLU 84	-26	58	4935	-898.79	1.71	-9.17
1100	SLE RA 1	-16	35	3237	-596.38	1.1	-5.73
1100	SLE RA 2	-16	46	3187	-588.15	1.09	-5.66
1100	SLE RA 3	-17	35	3297	-606.33	1.13	-5.78
1100	SLE RA 4	-16	42	3267	-601.39	1.12	-5.73
1100	SLE RA 5	-16	46	3227	-594.79	1.11	-5.64
1100	SLE RA 6	-16	35	3336	-612.97	1.15	-5.76
1100	SLE RA 7	-16	42	3306	-608.03	1.14	-5.72
1100	SLE RA 8	-16	35	3317	-609.66	1.14	-5.69
1100	SLE RA 9	-16	42	3286	-604.72	1.13	-5.65
1100	SLE RA 10	-18	47	3448	-632.61	1.19	-6.34
1100	SLE RA 11	-18	36	3558	-650.79	1.22	-6.46
1100	SLE RA 12	-18	43	3528	-645.85	1.22	-6.41
1100	SLE RA 13	-18	47	3488	-639.25	1.2	-6.32
1100	SLE RA 14	-18	36	3598	-657.43	1.24	-6.44
1100	SLE RA 15	-18	43	3568	-652.49	1.24	-6.4
1100	SLE RA 16	-18	36	3578	-654.12	1.24	-6.37
1100	SLE RA 17	-18	43	3548	-649.18	1.23	-6.33
1100	SLE RA 18	-19	36	3611	-659.89	1.24	-6.7
1100	SLE RA 19	-19	43	3581	-654.95	1.23	-6.66
1100	SLE RA 20	-19	36	3650	-666.53	1.26	-6.68
1100	SLE RA 21	-19	43	3620	-661.59	1.25	-6.64
1100	SLE FR 1	-16	35	3237	-596.38	1.1	-5.73
1100	SLE FR 2	-16	37	3227	-594.74	1.1	-5.71
1100	SLE FR 3	-16	35	3253	-599.04	1.11	-5.72
1100	SLE FR 4	-17	37	3339	-613.79	1.14	-6
1100	SLE FR 5	-17	35	3365	-618.09	1.15	-6.01
1100	SLE FR 6	-18	35	3424	-628.14	1.17	-6.21
1100	SLE QP 1	-16	35	3237	-596.38	1.1	-5.73
1100	SLE QP 2	-17	35	3349	-615.44	1.14	-6.02
1100	SLD 1	451	148	2759	-526.96	2.07	157.77
1100	SLD 2	369	144	2766	-527.54	2.18	129.37
1100	SLD 3	445	-65	3896	-713.13	2.34	155.95
1100	SLD 4	364	-68	3902	-713.71	2.44	127.54
1100	SLD 5	145	392	1447	-306.43	1	50.81
1100	SLD 6	93	390	1451	-306.81	1.07	32.43
1100	SLD 7	128	-317	5236	-927.01	1.89	44.74
1100	SLD 8	75	-319	5240	-927.38	1.96	26.36
1100	SLD 9	-110	389	1458	-303.49	0.33	-38.4
1100	SLD 10	-162	387	1463	-303.87	0.4	-56.77
1100	SLD 11	-127	-319	5247	-924.07	1.22	-44.47
1100	SLD 12	-180	-322	5251	-924.44	1.29	-62.85
1100	SLD 13	-399	139	2796	-517.16	-0.16	-139.58
1100	SLD 14	-480	135	2803	-517.74	-0.06	-167.99
1100	SLD 15	-404	-74	3933	-703.34	0.11	-141.4
1100	SLD 16	-485	-78	3939	-703.91	0.21	-169.81
1100	SLV 1	716	225	2352	-465.4	2.58	250.52
1100	SLV 2	588	220	2363	-466.31	2.74	205.79

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1100	SLV 3	707	-134	4273	-779.96	3.03	247.5
1100	SLV 4	579	-140	4284	-780.87	3.19	202.78
1100	SLV 5	240	638	135	-93.16	0.86	83.86
1100	SLV 6	154	634	142	-93.78	0.97	53.75
1100	SLV 7	211	-559	6538	-1141.72	2.36	73.81
1100	SLV 8	124	-563	6545	-1142.33	2.47	43.7
1100	SLV 9	-159	634	153	-88.54	-0.19	-55.74
1100	SLV 10	-245	630	160	-89.16	-0.08	-85.85
1100	SLV 11	-188	-564	6556	-1137.1	1.32	-65.78
1100	SLV 12	-274	-568	6564	-1137.71	1.43	-95.9
1100	SLV 13	-613	210	2414	-450	-0.91	-214.81
1100	SLV 14	-741	204	2425	-450.91	-0.74	-259.54
1100	SLV 15	-622	-149	4335	-764.57	-0.46	-217.83
1100	SLV 16	-750	-155	4346	-765.47	-0.29	-262.55
1100	SLV FO 1	789	244	2253	-450.39	2.72	276.17
1100	SLV FO 2	648	238	2265	-451.39	2.9	226.97
1100	SLV FO 3	779	-151	4366	-796.42	3.22	272.85
1100	SLV FO 4	639	-157	4378	-797.42	3.4	223.66
1100	SLV FO 5	266	699	-187	-40.94	0.83	92.85
1100	SLV FO 6	171	694	-179	-41.61	0.95	59.72
1100	SLV FO 7	234	-619	6857	-1194.34	2.48	81.8
1100	SLV FO 8	139	-623	6865	-1195.02	2.61	48.67
1100	SLV FO 9	-173	693	-166	-35.85	-0.32	-60.71
1100	SLV FO 10	-268	689	-158	-36.53	-0.2	-93.83
1100	SLV FO 11	-205	-624	6877	-1189.26	1.33	-71.76
1100	SLV FO 12	-300	-628	6885	-1189.94	1.46	-104.89
1100	SLV FO 13	-673	227	2321	-433.46	-1.11	-235.69
1100	SLV FO 14	-814	221	2333	-434.46	-0.93	-284.89
1100	SLV FO 15	-683	-168	4434	-779.48	-0.62	-239.01
1100	SLV FO 16	-823	-174	4446	-780.48	-0.43	-288.21
1100	CRTFP Ux+	0	0	0	0	0	0
1100	CRTFP Ux-	0	0	0	0	0	0
1100	CRTFP Uy+	0	0	0	0	0	0
1100	CRTFP Uy-	0	0	0	0	0	0
1101	SLU 1	-13	34	3076	-568.86	-0.4	-4.55
1101	SLU 2	-13	51	3000	-556.4	-0.38	-4.47
1101	SLU 3	-13	35	3164	-583.65	-0.41	-4.6
1101	SLU 4	-13	45	3119	-576.17	-0.4	-4.55
1101	SLU 5	-13	51	3060	-566.26	-0.38	-4.43
1101	SLU 6	-13	35	3223	-593.51	-0.41	-4.55
1101	SLU 7	-13	45	3178	-586.03	-0.4	-4.51
1101	SLU 8	-13	35	3194	-588.58	-0.41	-4.46
1101	SLU 9	-13	45	3149	-581.1	-0.39	-4.41
1101	SLU 10	-16	53	3391	-622.94	-0.44	-5.45
1101	SLU 11	-16	36	3555	-650.19	-0.47	-5.57
1101	SLU 12	-16	46	3510	-642.71	-0.46	-5.53
1101	SLU 13	-16	53	3450	-632.8	-0.44	-5.4
1101	SLU 14	-16	36	3614	-660.05	-0.47	-5.53
1101	SLU 15	-16	47	3569	-652.57	-0.46	-5.48
1101	SLU 16	-16	36	3585	-655.12	-0.47	-5.43
1101	SLU 17	-15	46	3540	-647.64	-0.45	-5.39
1101	SLU 18	-17	36	3634	-663.91	-0.49	-5.94
1101	SLU 19	-17	46	3589	-656.44	-0.47	-5.9
1101	SLU 20	-17	36	3693	-673.77	-0.49	-5.9
1101	SLU 21	-17	47	3648	-666.3	-0.48	-5.85
1101	SLU 22	-16	38	3605	-658.43	-0.48	-5.7
1101	SLU 23	-16	54	3530	-645.97	-0.45	-5.62
1101	SLU 24	-16	38	3694	-673.22	-0.48	-5.75
1101	SLU 25	-16	48	3649	-665.75	-0.47	-5.7
1101	SLU 26	-16	55	3589	-655.83	-0.46	-5.58
1101	SLU 27	-16	38	3753	-683.08	-0.49	-5.7
1101	SLU 28	-16	48	3708	-675.6	-0.47	-5.66
1101	SLU 29	-16	38	3723	-678.15	-0.48	-5.61
1101	SLU 30	-16	48	3678	-670.68	-0.47	-5.56
1101	SLU 31	-19	56	3921	-712.51	-0.51	-6.6
1101	SLU 32	-19	39	4085	-739.76	-0.54	-6.73
1101	SLU 33	-19	50	4039	-732.28	-0.53	-6.68
1101	SLU 34	-19	56	3980	-722.37	-0.52	-6.55
1101	SLU 35	-19	39	4144	-749.62	-0.54	-6.68
1101	SLU 36	-19	50	4099	-742.14	-0.53	-6.63
1101	SLU 37	-19	39	4114	-744.69	-0.54	-6.58
1101	SLU 38	-19	49	4069	-737.21	-0.53	-6.54
1101	SLU 39	-20	39	4163	-753.49	-0.56	-7.09
1101	SLU 40	-20	49	4118	-746.01	-0.55	-7.05
1101	SLU 41	-20	39	4223	-763.35	-0.56	-7.05
1101	SLU 42	-20	50	4177	-755.87	-0.55	-7
1101	SLU 43	-16	44	3817	-708.81	-0.5	-5.52
1101	SLU 44	-16	61	3742	-696.35	-0.48	-5.44
1101	SLU 45	-16	44	3905	-723.6	-0.5	-5.57
1101	SLU 46	-16	54	3860	-716.12	-0.49	-5.52
1101	SLU 47	-16	61	3801	-706.21	-0.48	-5.4
1101	SLU 48	-16	44	3965	-733.46	-0.51	-5.52
1101	SLU 49	-16	55	3920	-725.98	-0.49	-5.48
1101	SLU 50	-16	44	3935	-728.53	-0.5	-5.43
1101	SLU 51	-15	54	3890	-721.05	-0.49	-5.38
1101	SLU 52	-18	62	4132	-762.89	-0.54	-6.42
1101	SLU 53	-19	46	4296	-790.14	-0.56	-6.55
1101	SLU 54	-19	56	4251	-782.66	-0.55	-6.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1101	SLU 55	-18	62	4192	-772.75	-0.54	-6.37
1101	SLU 56	-19	46	4355	-799.99	-0.57	-6.5
1101	SLU 57	-19	56	4310	-792.52	-0.55	-6.45
1101	SLU 58	-18	45	4326	-795.07	-0.56	-6.4
1101	SLU 59	-18	55	4281	-787.59	-0.55	-6.36
1101	SLU 60	-20	45	4375	-803.86	-0.58	-6.91
1101	SLU 61	-20	56	4330	-796.39	-0.57	-6.87
1101	SLU 62	-20	46	4434	-813.72	-0.59	-6.87
1101	SLU 63	-20	56	4389	-806.25	-0.57	-6.82
1101	SLU 64	-19	47	4346	-798.38	-0.57	-6.67
1101	SLU 65	-19	64	4271	-785.92	-0.55	-6.59
1101	SLU 66	-19	47	4435	-813.17	-0.58	-6.72
1101	SLU 67	-19	58	4390	-805.69	-0.56	-6.67
1101	SLU 68	-19	64	4330	-795.78	-0.55	-6.55
1101	SLU 69	-19	47	4494	-823.03	-0.58	-6.68
1101	SLU 70	-19	58	4449	-815.55	-0.57	-6.63
1101	SLU 71	-19	47	4465	-818.1	-0.58	-6.58
1101	SLU 72	-19	57	4419	-810.62	-0.56	-6.53
1101	SLU 73	-22	65	4662	-852.46	-0.61	-7.57
1101	SLU 74	-22	49	4826	-879.71	-0.64	-7.7
1101	SLU 75	-22	59	4781	-872.23	-0.62	-7.65
1101	SLU 76	-22	65	4721	-862.32	-0.61	-7.52
1101	SLU 77	-22	49	4885	-889.57	-0.64	-7.65
1101	SLU 78	-22	59	4840	-882.09	-0.63	-7.6
1101	SLU 79	-22	48	4855	-884.64	-0.64	-7.55
1101	SLU 80	-22	58	4810	-877.16	-0.62	-7.51
1101	SLU 81	-23	49	4905	-893.43	-0.66	-8.06
1101	SLU 82	-23	59	4859	-885.96	-0.64	-8.02
1101	SLU 83	-23	49	4964	-903.29	-0.66	-8.02
1101	SLU 84	-23	59	4919	-895.82	-0.65	-7.97
1101	SLE RA 1	-14	35	3227	-594.45	-0.42	-4.88
1101	SLE RA 2	-14	47	3177	-586.15	-0.41	-4.83
1101	SLE RA 3	-14	36	3286	-604.31	-0.43	-4.91
1101	SLE RA 4	-14	42	3256	-599.33	-0.42	-4.88
1101	SLE RA 5	-14	47	3216	-592.72	-0.41	-4.8
1101	SLE RA 6	-14	36	3325	-610.89	-0.43	-4.88
1101	SLE RA 7	-14	43	3295	-605.9	-0.42	-4.85
1101	SLE RA 8	-14	35	3306	-607.6	-0.43	-4.82
1101	SLE RA 9	-14	42	3276	-602.62	-0.42	-4.79
1101	SLE RA 10	-16	47	3437	-630.5	-0.45	-5.48
1101	SLE RA 11	-16	37	3547	-648.67	-0.47	-5.56
1101	SLE RA 12	-16	43	3516	-643.69	-0.46	-5.53
1101	SLE RA 13	-16	48	3477	-637.08	-0.45	-5.45
1101	SLE RA 14	-16	37	3586	-655.24	-0.47	-5.53
1101	SLE RA 15	-16	43	3556	-650.26	-0.46	-5.5
1101	SLE RA 16	-16	36	3566	-651.96	-0.47	-5.47
1101	SLE RA 17	-16	43	3536	-646.97	-0.46	-5.44
1101	SLE RA 18	-17	37	3599	-657.82	-0.48	-5.81
1101	SLE RA 19	-17	43	3569	-652.84	-0.47	-5.78
1101	SLE RA 20	-17	37	3639	-664.4	-0.48	-5.78
1101	SLE RA 21	-16	43	3608	-659.41	-0.47	-5.75
1101	SLE FR 1	-14	35	3227	-594.45	-0.42	-4.88
1101	SLE FR 2	-14	38	3217	-592.79	-0.42	-4.87
1101	SLE FR 3	-14	35	3243	-597.08	-0.42	-4.87
1101	SLE FR 4	-15	38	3328	-611.8	-0.44	-5.15
1101	SLE FR 5	-15	36	3354	-616.09	-0.44	-5.15
1101	SLE FR 6	-15	36	3413	-626.14	-0.45	-5.34
1101	SLE QP 1	-14	35	3227	-594.45	-0.42	-4.88
1101	SLE QP 2	-15	36	3339	-613.47	-0.44	-5.16
1101	SLD 1	452	148	2727	-512.08	0.82	158.29
1101	SLD 2	371	147	2730	-512	0.92	129.94
1101	SLD 3	448	-64	3865	-699.95	0.47	156.66
1101	SLD 4	366	-66	3868	-699.86	0.57	128.3
1101	SLD 5	146	392	1429	-298.14	0.45	51.27
1101	SLD 6	94	391	1431	-298.08	0.51	32.93
1101	SLD 7	131	-317	5221	-924.35	-0.71	45.83
1101	SLD 8	78	-318	5224	-924.3	-0.65	27.49
1101	SLD 9	-108	389	1453	-302.63	-0.23	-37.8
1101	SLD 10	-161	388	1456	-302.58	-0.17	-56.15
1101	SLD 11	-123	-320	5246	-928.85	-1.4	-43.24
1101	SLD 12	-176	-321	5249	-928.79	-1.33	-61.59
1101	SLD 13	-396	137	2809	-527.07	-1.45	-138.62
1101	SLD 14	-477	136	2813	-526.98	-1.35	-166.97
1101	SLD 15	-401	-75	3947	-714.93	-1.8	-140.25
1101	SLD 16	-482	-77	3950	-714.85	-1.7	-168.61
1101	SLV 1	717	225	2309	-443.1	1.55	250.82
1101	SLV 2	589	223	2315	-442.97	1.71	206.18
1101	SLV 3	709	-134	4232	-760.52	0.96	248.14
1101	SLV 4	581	-136	4238	-760.39	1.12	203.49
1101	SLV 5	240	638	112	-80.96	1.02	84.04
1101	SLV 6	154	636	116	-80.87	1.13	53.98
1101	SLV 7	215	-559	6522	-1139.03	-0.94	75.09
1101	SLV 8	129	-561	6526	-1138.94	-0.84	45.03
1101	SLV 9	-158	632	151	-87.99	-0.05	-55.35
1101	SLV 10	-244	631	155	-87.9	0.06	-85.41
1101	SLV 11	-184	-565	6561	-1146.06	-2.01	-64.3
1101	SLV 12	-270	-566	6565	-1145.97	-1.9	-94.36
1101	SLV 13	-611	208	2439	-466.54	-2	-213.81

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1101	SLV 14	-739	205	2445	-466.41	-1.84	-258.45
1101	SLV 15	-618	-152	4362	-783.96	-2.59	-216.5
1101	SLV 16	-746	-154	4368	-783.83	-2.43	-261.14
1101	SLV FO 1	790	244	2206	-426.06	1.75	276.42
1101	SLV FO 2	649	242	2213	-425.92	1.92	227.31
1101	SLV FO 3	781	-151	4321	-775.22	1.1	273.47
1101	SLV FO 4	641	-154	4328	-775.08	1.27	224.36
1101	SLV FO 5	265	698	-211	-27.71	1.16	92.96
1101	SLV FO 6	171	696	-206	-27.61	1.28	59.9
1101	SLV FO 7	238	-619	6841	-1191.58	-0.99	83.12
1101	SLV FO 8	143	-621	6845	-1191.49	-0.88	50.05
1101	SLV FO 9	-172	692	-168	-35.44	-0.01	-60.37
1101	SLV FO 10	-267	690	-163	-35.35	0.11	-93.43
1101	SLV FO 11	-200	-625	6883	-1199.32	-2.16	-70.21
1101	SLV FO 12	-295	-627	6888	-1199.22	-2.05	-103.28
1101	SLV FO 13	-670	225	2349	-451.85	-2.15	-234.67
1101	SLV FO 14	-811	222	2356	-451.71	-1.98	-283.78
1101	SLV FO 15	-679	-170	4464	-801.01	-2.8	-237.63
1101	SLV FO 16	-819	-173	4471	-800.87	-2.63	-286.74
1101	CRTFP Ux+	0	0	0	0	0	0
1101	CRTFP Ux-	0	0	0	0	0	0
1101	CRTFP Uy+	0	0	0	0	0	0
1101	CRTFP Uy-	0	0	0	0	0	0
1102	SLU 1	-11	36	3109	-599.33	-1.79	-3.71
1102	SLU 2	-11	53	3033	-585.93	-1.73	-3.66
1102	SLU 3	-11	36	3199	-614.98	-1.84	-3.74
1102	SLU 4	-11	46	3153	-606.94	-1.8	-3.71
1102	SLU 5	-10	53	3092	-596.35	-1.76	-3.6
1102	SLU 6	-11	36	3258	-625.4	-1.87	-3.67
1102	SLU 7	-11	46	3212	-617.36	-1.84	-3.64
1102	SLU 8	-10	36	3228	-620.17	-1.85	-3.58
1102	SLU 9	-10	46	3183	-612.13	-1.82	-3.55
1102	SLU 10	-13	54	3428	-656.9	-1.98	-4.59
1102	SLU 11	-13	37	3594	-685.95	-2.1	-4.66
1102	SLU 12	-13	48	3548	-677.91	-2.06	-4.63
1102	SLU 13	-13	54	3488	-667.32	-2.02	-4.52
1102	SLU 14	-13	37	3654	-696.37	-2.13	-4.6
1102	SLU 15	-13	48	3608	-688.33	-2.09	-4.57
1102	SLU 16	-13	37	3624	-691.14	-2.11	-4.51
1102	SLU 17	-13	47	3578	-683.1	-2.07	-4.48
1102	SLU 18	-15	37	3674	-700.72	-2.16	-5.04
1102	SLU 19	-14	48	3628	-692.68	-2.12	-5.01
1102	SLU 20	-14	37	3734	-711.14	-2.19	-4.97
1102	SLU 21	-14	48	3688	-703.1	-2.15	-4.94
1102	SLU 22	-14	39	3645	-694.74	-2.13	-4.77
1102	SLU 23	-14	56	3568	-681.34	-2.07	-4.72
1102	SLU 24	-14	39	3734	-710.39	-2.18	-4.79
1102	SLU 25	-14	49	3688	-702.35	-2.14	-4.76
1102	SLU 26	-13	56	3628	-691.76	-2.1	-4.65
1102	SLU 27	-14	39	3794	-720.81	-2.21	-4.72
1102	SLU 28	-14	49	3748	-712.77	-2.18	-4.69
1102	SLU 29	-13	39	3764	-715.58	-2.19	-4.63
1102	SLU 30	-13	49	3718	-707.54	-2.16	-4.6
1102	SLU 31	-16	57	3964	-752.31	-2.32	-5.64
1102	SLU 32	-16	40	4130	-781.36	-2.44	-5.71
1102	SLU 33	-16	51	4084	-773.32	-2.4	-5.68
1102	SLU 34	-16	57	4024	-762.73	-2.36	-5.58
1102	SLU 35	-16	40	4190	-791.78	-2.47	-5.65
1102	SLU 36	-16	51	4144	-783.74	-2.43	-5.62
1102	SLU 37	-16	40	4160	-786.55	-2.45	-5.56
1102	SLU 38	-16	50	4114	-778.51	-2.41	-5.53
1102	SLU 39	-18	40	4210	-796.13	-2.49	-6.09
1102	SLU 40	-17	51	4164	-788.09	-2.46	-6.06
1102	SLU 41	-17	40	4270	-806.55	-2.53	-6.02
1102	SLU 42	-17	51	4224	-798.51	-2.49	-5.99
1102	SLU 43	-13	45	3858	-746.42	-2.21	-4.47
1102	SLU 44	-13	62	3782	-733.02	-2.15	-4.42
1102	SLU 45	-13	46	3948	-762.06	-2.26	-4.49
1102	SLU 46	-13	56	3902	-754.02	-2.22	-4.46
1102	SLU 47	-13	62	3841	-743.44	-2.18	-4.35
1102	SLU 48	-13	46	4007	-772.48	-2.29	-4.42
1102	SLU 49	-13	56	3961	-764.44	-2.26	-4.39
1102	SLU 50	-13	45	3977	-767.26	-2.27	-4.34
1102	SLU 51	-12	56	3932	-759.22	-2.24	-4.31
1102	SLU 52	-15	64	4177	-803.99	-2.4	-5.34
1102	SLU 53	-16	47	4343	-833.03	-2.52	-5.42
1102	SLU 54	-16	57	4297	-824.99	-2.48	-5.39
1102	SLU 55	-15	64	4237	-814.41	-2.44	-5.28
1102	SLU 56	-15	47	4403	-843.45	-2.55	-5.35
1102	SLU 57	-15	57	4357	-835.41	-2.51	-5.32
1102	SLU 58	-15	47	4373	-838.23	-2.53	-5.26
1102	SLU 59	-15	57	4327	-830.19	-2.49	-5.23
1102	SLU 60	-17	47	4423	-847.8	-2.58	-5.79
1102	SLU 61	-17	57	4377	-839.76	-2.54	-5.76
1102	SLU 62	-17	47	4483	-858.22	-2.61	-5.73
1102	SLU 63	-16	57	4437	-850.18	-2.57	-5.7
1102	SLU 64	-16	48	4394	-841.83	-2.55	-5.52
1102	SLU 65	-16	65	4317	-828.43	-2.49	-5.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1102	SLU 66	-16	49	4483	-857.47	-2.6	-5.54
1102	SLU 67	-16	59	4438	-849.43	-2.56	-5.51
1102	SLU 68	-16	65	4377	-838.85	-2.52	-5.4
1102	SLU 69	-16	49	4543	-867.89	-2.63	-5.48
1102	SLU 70	-16	59	4497	-859.86	-2.6	-5.45
1102	SLU 71	-16	48	4513	-862.67	-2.61	-5.39
1102	SLU 72	-15	59	4467	-854.63	-2.58	-5.36
1102	SLU 73	-18	67	4713	-899.4	-2.74	-6.4
1102	SLU 74	-19	50	4879	-928.44	-2.86	-6.47
1102	SLU 75	-19	60	4833	-920.4	-2.82	-6.44
1102	SLU 76	-18	67	4773	-909.82	-2.78	-6.33
1102	SLU 77	-18	50	4939	-938.87	-2.89	-6.4
1102	SLU 78	-18	60	4893	-930.83	-2.85	-6.37
1102	SLU 79	-18	50	4909	-933.64	-2.87	-6.31
1102	SLU 80	-18	60	4863	-925.6	-2.83	-6.28
1102	SLU 81	-20	50	4959	-943.21	-2.92	-6.84
1102	SLU 82	-20	60	4913	-935.17	-2.88	-6.81
1102	SLU 83	-20	50	5019	-953.64	-2.95	-6.78
1102	SLU 84	-19	60	4973	-945.6	-2.91	-6.75
1102	SLE RA 1	-12	36	3262	-626.59	-1.89	-4.01
1102	SLE RA 2	-12	48	3211	-617.66	-1.85	-3.98
1102	SLE RA 3	-12	37	3322	-637.02	-1.92	-4.03
1102	SLE RA 4	-12	44	3291	-631.66	-1.9	-4.01
1102	SLE RA 5	-11	48	3251	-624.6	-1.87	-3.94
1102	SLE RA 6	-12	37	3362	-643.97	-1.94	-3.99
1102	SLE RA 7	-11	44	3331	-638.61	-1.92	-3.97
1102	SLE RA 8	-11	36	3342	-640.48	-1.93	-3.93
1102	SLE RA 9	-11	43	3311	-635.12	-1.91	-3.91
1102	SLE RA 10	-13	49	3475	-664.97	-2.02	-4.6
1102	SLE RA 11	-13	38	3586	-684.33	-2.09	-4.65
1102	SLE RA 12	-13	44	3555	-678.97	-2.07	-4.63
1102	SLE RA 13	-13	49	3515	-671.92	-2.04	-4.55
1102	SLE RA 14	-13	38	3625	-691.28	-2.11	-4.6
1102	SLE RA 15	-13	44	3595	-685.92	-2.09	-4.58
1102	SLE RA 16	-13	37	3605	-687.8	-2.1	-4.54
1102	SLE RA 17	-13	44	3575	-682.44	-2.08	-4.52
1102	SLE RA 18	-14	38	3639	-694.18	-2.13	-4.9
1102	SLE RA 19	-14	44	3608	-688.82	-2.11	-4.88
1102	SLE RA 20	-14	38	3679	-701.13	-2.15	-4.85
1102	SLE RA 21	-14	45	3648	-695.77	-2.13	-4.83
1102	SLE FR 1	-12	36	3262	-626.59	-1.89	-4.01
1102	SLE FR 2	-12	39	3252	-624.8	-1.88	-4.01
1102	SLE FR 3	-12	36	3278	-629.37	-1.9	-4
1102	SLE FR 4	-12	39	3365	-645.08	-1.95	-4.27
1102	SLE FR 5	-12	37	3391	-649.65	-1.97	-4.26
1102	SLE FR 6	-13	37	3450	-660.39	-2.01	-4.46
1102	SLE QP 1	-12	36	3262	-626.59	-1.89	-4.01
1102	SLE QP 2	-12	37	3375	-646.87	-1.96	-4.28
1102	SLD 1	449	150	2722	-527.07	-0.37	158.75
1102	SLD 2	368	151	2723	-526.36	-0.28	130.46
1102	SLD 3	453	-65	3879	-729.04	-1.3	157.22
1102	SLD 4	372	-64	3880	-728.33	-1.2	128.94
1102	SLD 5	134	396	1424	-304.73	-0.1	51.84
1102	SLD 6	81	397	1424	-304.28	-0.04	33.54
1102	SLD 7	148	-319	5281	-977.96	-3.18	46.77
1102	SLD 8	96	-319	5282	-977.5	-3.12	28.47
1102	SLD 9	-120	393	1468	-316.23	-0.8	-37.03
1102	SLD 10	-173	393	1469	-315.78	-0.74	-55.33
1102	SLD 11	-106	-323	5326	-989.46	-3.88	-42.1
1102	SLD 12	-158	-323	5326	-989	-3.82	-60.4
1102	SLD 13	-397	138	2870	-565.4	-2.72	-137.5
1102	SLD 14	-478	138	2871	-564.7	-2.62	-165.78
1102	SLD 15	-393	-77	4027	-767.37	-3.64	-139.02
1102	SLD 16	-474	-76	4028	-766.67	-3.55	-167.3
1102	SLV 1	710	227	2281	-446.88	0.58	251.03
1102	SLV 2	582	229	2282	-445.77	0.73	206.49
1102	SLV 3	717	-135	4237	-788.14	-0.99	248.54
1102	SLV 4	590	-134	4238	-787.03	-0.84	204
1102	SLV 5	217	644	80	-69.51	1.14	84.4
1102	SLV 6	132	645	81	-68.76	1.25	54.42
1102	SLV 7	241	-565	6600	-1207.02	-4.07	76.1
1102	SLV 8	155	-564	6601	-1206.28	-3.97	46.11
1102	SLV 9	-180	638	150	-87.46	0.05	-54.67
1102	SLV 10	-266	639	151	-86.71	0.15	-84.66
1102	SLV 11	-156	-571	6669	-1224.97	-5.16	-62.98
1102	SLV 12	-242	-570	6670	-1224.22	-5.06	-92.96
1102	SLV 13	-614	208	2512	-506.71	-3.08	-212.56
1102	SLV 14	-742	209	2514	-505.6	-2.93	-257.1
1102	SLV 15	-607	-155	4468	-847.96	-4.65	-215.05
1102	SLV 16	-735	-154	4470	-846.85	-4.5	-259.59
1102	SLV FO 1	782	246	2171	-426.88	0.83	276.56
1102	SLV FO 2	642	248	2173	-425.66	1	227.57
1102	SLV FO 3	790	-152	4323	-802.26	-0.89	273.82
1102	SLV FO 4	650	-151	4324	-801.04	-0.72	224.83
1102	SLV FO 5	240	705	-249	-11.78	1.45	93.27
1102	SLV FO 6	146	705	-248	-10.95	1.57	60.29
1102	SLV FO 7	266	-625	6922	-1263.04	-4.28	84.14
1102	SLV FO 8	172	-624	6923	-1262.22	-4.17	51.15

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1102	SLV FO 9	-197	698	-173	-31.52	0.25	-59.71
1102	SLV FO 10	-291	699	-172	-30.7	0.36	-92.69
1102	SLV FO 11	-171	-632	6999	-1282.78	-5.49	-68.85
1102	SLV FO 12	-265	-631	7000	-1281.96	-5.37	-101.83
1102	SLV FO 13	-674	225	2426	-492.69	-3.2	-233.39
1102	SLV FO 14	-815	226	2428	-491.47	-3.03	-282.38
1102	SLV FO 15	-667	-174	4578	-868.07	-4.91	-236.13
1102	SLV FO 16	-807	-173	4579	-866.85	-4.75	-285.12
1102	CRTFP Ux+	0	0	0	0	0	0
1102	CRTFP Ux-	0	0	0	0	0	0
1102	CRTFP Uy+	0	0	0	0	0	0
1102	CRTFP Uy-	0	0	0	0	0	0
1103	SLU 1	-8	37	3181	-660.3	-2.96	-2.87
1103	SLU 2	-8	55	3103	-645.2	-2.87	-2.84
1103	SLU 3	-8	38	3273	-677.74	-3.05	-2.86
1103	SLU 4	-8	48	3226	-668.69	-2.99	-2.85
1103	SLU 5	-8	55	3164	-656.82	-2.92	-2.76
1103	SLU 6	-8	38	3334	-689.36	-3.1	-2.78
1103	SLU 7	-8	48	3287	-680.3	-3.05	-2.76
1103	SLU 8	-8	37	3304	-683.52	-3.07	-2.7
1103	SLU 9	-8	48	3256	-674.47	-3.02	-2.68
1103	SLU 10	-11	56	3509	-724.93	-3.29	-3.72
1103	SLU 11	-11	39	3679	-757.47	-3.47	-3.74
1103	SLU 12	-11	50	3632	-748.41	-3.41	-3.73
1103	SLU 13	-11	56	3570	-736.54	-3.34	-3.64
1103	SLU 14	-11	39	3740	-769.08	-3.52	-3.65
1103	SLU 15	-11	50	3693	-760.02	-3.47	-3.64
1103	SLU 16	-10	39	3710	-763.24	-3.49	-3.57
1103	SLU 17	-10	49	3662	-754.19	-3.44	-3.56
1103	SLU 18	-12	39	3761	-774.19	-3.56	-4.12
1103	SLU 19	-12	50	3714	-765.13	-3.5	-4.11
1103	SLU 20	-12	40	3822	-785.8	-3.61	-4.03
1103	SLU 21	-12	50	3775	-776.74	-3.56	-4.02
1103	SLU 22	-11	40	3731	-767.33	-3.52	-3.82
1103	SLU 23	-11	58	3652	-752.23	-3.43	-3.8
1103	SLU 24	-11	41	3823	-784.77	-3.61	-3.81
1103	SLU 25	-11	51	3775	-775.72	-3.55	-3.8
1103	SLU 26	-11	58	3713	-763.85	-3.49	-3.71
1103	SLU 27	-11	41	3884	-796.39	-3.67	-3.73
1103	SLU 28	-11	51	3836	-787.33	-3.61	-3.71
1103	SLU 29	-11	40	3853	-790.55	-3.63	-3.65
1103	SLU 30	-11	51	3806	-781.5	-3.58	-3.63
1103	SLU 31	-14	59	4058	-831.96	-3.85	-4.67
1103	SLU 32	-14	42	4229	-864.5	-4.03	-4.69
1103	SLU 33	-14	53	4181	-855.44	-3.97	-4.68
1103	SLU 34	-13	59	4119	-843.57	-3.9	-4.59
1103	SLU 35	-13	42	4290	-876.11	-4.08	-4.6
1103	SLU 36	-13	53	4242	-867.05	-4.03	-4.59
1103	SLU 37	-13	42	4259	-870.27	-4.05	-4.52
1103	SLU 38	-13	52	4212	-861.22	-4	-4.51
1103	SLU 39	-15	43	4311	-881.22	-4.12	-5.07
1103	SLU 40	-15	53	4264	-872.16	-4.06	-5.06
1103	SLU 41	-14	43	4372	-892.83	-4.18	-4.98
1103	SLU 42	-14	53	4325	-883.77	-4.12	-4.97
1103	SLU 43	-10	48	3948	-821.69	-3.65	-3.4
1103	SLU 44	-10	65	3869	-806.6	-3.56	-3.38
1103	SLU 45	-10	48	4039	-839.14	-3.74	-3.39
1103	SLU 46	-10	58	3992	-830.08	-3.69	-3.38
1103	SLU 47	-10	65	3930	-818.21	-3.62	-3.29
1103	SLU 48	-10	48	4100	-850.75	-3.8	-3.31
1103	SLU 49	-10	58	4053	-841.69	-3.74	-3.3
1103	SLU 50	-9	48	4070	-844.91	-3.77	-3.23
1103	SLU 51	-9	58	4022	-835.86	-3.71	-3.22
1103	SLU 52	-12	66	4275	-886.32	-3.98	-4.26
1103	SLU 53	-12	49	4445	-918.86	-4.16	-4.27
1103	SLU 54	-12	60	4398	-909.81	-4.11	-4.26
1103	SLU 55	-12	66	4336	-897.93	-4.04	-4.17
1103	SLU 56	-12	49	4506	-930.47	-4.22	-4.19
1103	SLU 57	-12	60	4459	-921.42	-4.16	-4.17
1103	SLU 58	-12	49	4476	-924.64	-4.19	-4.11
1103	SLU 59	-12	59	4428	-915.58	-4.13	-4.09
1103	SLU 60	-14	50	4527	-935.58	-4.25	-4.65
1103	SLU 61	-14	60	4480	-926.53	-4.2	-4.64
1103	SLU 62	-13	50	4588	-947.19	-4.31	-4.57
1103	SLU 63	-13	60	4541	-938.14	-4.25	-4.56
1103	SLU 64	-13	51	4497	-928.72	-4.22	-4.35
1103	SLU 65	-13	68	4418	-913.63	-4.12	-4.33
1103	SLU 66	-13	51	4589	-946.17	-4.3	-4.34
1103	SLU 67	-13	61	4541	-937.11	-4.25	-4.33
1103	SLU 68	-12	68	4479	-925.24	-4.18	-4.24
1103	SLU 69	-12	51	4650	-957.78	-4.36	-4.26
1103	SLU 70	-12	61	4602	-948.72	-4.31	-4.25
1103	SLU 71	-12	51	4619	-951.94	-4.33	-4.18
1103	SLU 72	-12	61	4572	-942.89	-4.27	-4.17
1103	SLU 73	-15	69	4824	-993.35	-4.54	-5.21
1103	SLU 74	-15	52	4995	-1025.89	-4.72	-5.22
1103	SLU 75	-15	63	4947	-1016.84	-4.67	-5.21
1103	SLU 76	-15	69	4885	-1004.96	-4.6	-5.12

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1103	SLU 77	-15	53	5056	-1037.5	-4.78	-5.14
1103	SLU 78	-15	63	5008	-1028.45	-4.72	-5.13
1103	SLU 79	-15	52	5025	-1031.67	-4.75	-5.06
1103	SLU 80	-15	62	4978	-1022.61	-4.69	-5.04
1103	SLU 81	-16	53	5077	-1042.61	-4.81	-5.6
1103	SLU 82	-16	63	5030	-1033.56	-4.76	-5.59
1103	SLU 83	-16	53	5138	-1054.22	-4.87	-5.52
1103	SLU 84	-16	63	5091	-1045.17	-4.82	-5.51
1103	SLE RA 1	-9	38	3338	-690.88	-3.12	-3.14
1103	SLE RA 2	-9	50	3286	-680.82	-3.06	-3.12
1103	SLE RA 3	-9	39	3400	-702.51	-3.18	-3.13
1103	SLE RA 4	-9	45	3368	-696.47	-3.14	-3.13
1103	SLE RA 5	-9	50	3327	-688.56	-3.1	-3.07
1103	SLE RA 6	-9	39	3440	-710.25	-3.22	-3.08
1103	SLE RA 7	-9	45	3409	-704.21	-3.18	-3.07
1103	SLE RA 8	-9	38	3420	-706.36	-3.2	-3.02
1103	SLE RA 9	-9	45	3388	-700.32	-3.16	-3.02
1103	SLE RA 10	-11	51	3557	-733.96	-3.34	-3.71
1103	SLE RA 11	-11	40	3670	-755.66	-3.46	-3.72
1103	SLE RA 12	-11	46	3639	-749.62	-3.42	-3.71
1103	SLE RA 13	-11	51	3597	-741.71	-3.38	-3.65
1103	SLE RA 14	-11	40	3711	-763.4	-3.5	-3.66
1103	SLE RA 15	-11	46	3679	-757.36	-3.46	-3.65
1103	SLE RA 16	-11	39	3691	-759.51	-3.48	-3.61
1103	SLE RA 17	-11	46	3659	-753.47	-3.44	-3.6
1103	SLE RA 18	-12	40	3725	-766.8	-3.52	-3.97
1103	SLE RA 19	-12	47	3694	-760.77	-3.48	-3.97
1103	SLE RA 20	-11	40	3766	-774.54	-3.56	-3.92
1103	SLE RA 21	-11	47	3734	-768.51	-3.52	-3.91
1103	SLE FR 1	-9	38	3338	-690.88	-3.12	-3.14
1103	SLE FR 2	-9	41	3328	-688.86	-3.11	-3.13
1103	SLE FR 3	-9	38	3355	-693.97	-3.13	-3.11
1103	SLE FR 4	-10	41	3444	-711.64	-3.23	-3.39
1103	SLE FR 5	-10	39	3471	-716.75	-3.25	-3.37
1103	SLE FR 6	-10	39	3532	-728.84	-3.32	-3.56
1103	SLE QP 1	-9	38	3338	-690.88	-3.12	-3.14
1103	SLE QP 2	-10	39	3454	-713.65	-3.24	-3.39
1103	SLD 1	450	153	2750	-569.67	-1.37	157.64
1103	SLD 2	369	156	2748	-568.34	-1.28	129.44
1103	SLD 3	455	-66	3942	-797.09	-2.76	159.15
1103	SLD 4	374	-63	3940	-795.77	-2.67	130.95
1103	SLD 5	135	404	1435	-325.76	-0.58	47.52
1103	SLD 6	83	406	1433	-324.91	-0.53	29.27
1103	SLD 7	150	-325	5410	-1083.84	-5.22	52.56
1103	SLD 8	98	-323	5409	-1082.98	-5.16	34.32
1103	SLD 9	-118	400	1500	-344.32	-1.31	-41.09
1103	SLD 10	-170	402	1499	-343.47	-1.26	-59.34
1103	SLD 11	-103	-329	5476	-1102.4	-5.95	-36.05
1103	SLD 12	-155	-326	5474	-1101.55	-5.89	-54.29
1103	SLD 13	-394	140	2968	-631.54	-3.8	-137.73
1103	SLD 14	-474	143	2966	-630.22	-3.72	-165.93
1103	SLD 15	-389	-79	4161	-858.96	-5.2	-136.21
1103	SLD 16	-470	-75	4159	-857.64	-5.11	-164.41
1103	SLV 1	710	231	2277	-474.3	-0.24	248.68
1103	SLV 2	583	236	2274	-472.21	-0.1	204.28
1103	SLV 3	718	-138	4293	-858.57	-2.59	251.16
1103	SLV 4	590	-133	4290	-856.49	-2.45	206.76
1103	SLV 5	219	655	45	-59.42	1.2	76.77
1103	SLV 6	133	659	43	-58.02	1.3	46.88
1103	SLV 7	243	-575	6763	-1340.33	-6.64	85.01
1103	SLV 8	157	-572	6761	-1338.93	-6.54	55.12
1103	SLV 9	-177	649	148	-88.38	0.06	-61.9
1103	SLV 10	-263	653	145	-86.98	0.16	-91.79
1103	SLV 11	-153	-582	6866	-1369.29	-7.77	-53.65
1103	SLV 12	-239	-578	6864	-1367.88	-7.68	-83.54
1103	SLV 13	-610	210	2619	-570.82	-4.03	-213.53
1103	SLV 14	-737	215	2616	-568.74	-3.89	-257.93
1103	SLV 15	-603	-159	4635	-955.09	-6.38	-211.06
1103	SLV 16	-730	-154	4632	-953.01	-6.24	-255.46
1103	SLV FO 1	783	250	2160	-450.36	0.06	273.89
1103	SLV FO 2	643	256	2156	-448.07	0.22	225.05
1103	SLV FO 3	790	-156	4377	-873.06	-2.52	276.61
1103	SLV FO 4	650	-150	4373	-870.77	-2.37	227.77
1103	SLV FO 5	242	717	-296	6	1.65	84.78
1103	SLV FO 6	148	721	-298	7.54	1.75	51.9
1103	SLV FO 7	268	-637	7094	-1403	-6.98	93.85
1103	SLV FO 8	174	-633	7092	-1401.46	-6.87	60.97
1103	SLV FO 9	-194	710	-183	-25.85	0.39	-67.75
1103	SLV FO 10	-288	714	-185	-24.31	0.5	-100.63
1103	SLV FO 11	-167	-644	7207	-1434.85	-8.23	-58.68
1103	SLV FO 12	-262	-640	7205	-1433.31	-8.12	-91.56
1103	SLV FO 13	-670	227	2536	-556.54	-4.11	-234.55
1103	SLV FO 14	-810	233	2532	-554.24	-3.96	-283.39
1103	SLV FO 15	-662	-179	4753	-979.24	-6.7	-231.83
1103	SLV FO 16	-802	-173	4749	-976.94	-6.54	-280.67
1103	CRTFP Ux+	0	0	0	0	0	0
1103	CRTFP Ux-	0	0	0	0	0	0
1103	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1103	CRTFP Uy-	0	0	0	0	0	0
1104	SLU 1	-6	40	3283	-747.13	-3.71	-2
1104	SLU 2	-6	58	3201	-729.76	-3.6	-2.01
1104	SLU 3	-6	40	3378	-767.18	-3.82	-1.96
1104	SLU 4	-6	51	3329	-756.76	-3.75	-1.97
1104	SLU 5	-6	58	3264	-743.1	-3.67	-1.9
1104	SLU 6	-6	40	3441	-780.52	-3.89	-1.86
1104	SLU 7	-6	51	3392	-770.1	-3.83	-1.87
1104	SLU 8	-5	40	3409	-773.8	-3.85	-1.79
1104	SLU 9	-5	51	3360	-763.38	-3.79	-1.79
1104	SLU 10	-8	60	3622	-821.88	-4.12	-2.83
1104	SLU 11	-8	42	3798	-859.29	-4.34	-2.79
1104	SLU 12	-8	53	3749	-848.87	-4.27	-2.8
1104	SLU 13	-8	60	3685	-835.21	-4.19	-2.73
1104	SLU 14	-8	42	3861	-872.63	-4.41	-2.68
1104	SLU 15	-8	53	3812	-862.21	-4.35	-2.69
1104	SLU 16	-8	42	3830	-865.91	-4.37	-2.61
1104	SLU 17	-8	52	3781	-855.49	-4.31	-2.62
1104	SLU 18	-9	43	3884	-878.72	-4.45	-3.18
1104	SLU 19	-9	53	3835	-868.3	-4.38	-3.18
1104	SLU 20	-9	43	3947	-892.05	-4.52	-3.07
1104	SLU 21	-9	53	3898	-881.63	-4.46	-3.08
1104	SLU 22	-8	43	3852	-870.64	-4.41	-2.84
1104	SLU 23	-9	61	3770	-853.27	-4.3	-2.85
1104	SLU 24	-8	44	3947	-890.69	-4.52	-2.81
1104	SLU 25	-8	54	3898	-880.27	-4.45	-2.82
1104	SLU 26	-8	61	3833	-866.61	-4.37	-2.75
1104	SLU 27	-8	44	4010	-904.02	-4.59	-2.7
1104	SLU 28	-8	54	3961	-893.6	-4.52	-2.71
1104	SLU 29	-8	43	3978	-897.31	-4.55	-2.63
1104	SLU 30	-8	54	3929	-886.89	-4.49	-2.64
1104	SLU 31	-11	63	4191	-945.38	-4.82	-3.68
1104	SLU 32	-11	46	4367	-982.8	-5.04	-3.63
1104	SLU 33	-11	56	4318	-972.38	-4.97	-3.64
1104	SLU 34	-11	63	4254	-958.72	-4.89	-3.57
1104	SLU 35	-10	46	4430	-996.13	-5.11	-3.53
1104	SLU 36	-10	56	4381	-985.71	-5.04	-3.54
1104	SLU 37	-10	45	4399	-989.42	-5.07	-3.46
1104	SLU 38	-10	56	4349	-979	-5.01	-3.46
1104	SLU 39	-12	46	4453	-1002.22	-5.15	-4.02
1104	SLU 40	-12	57	4403	-991.8	-5.08	-4.03
1104	SLU 41	-12	46	4516	-1015.56	-5.22	-3.92
1104	SLU 42	-12	57	4466	-1005.14	-5.16	-3.92
1104	SLU 43	-7	51	4073	-928.92	-4.58	-2.31
1104	SLU 44	-7	69	3991	-911.56	-4.47	-2.32
1104	SLU 45	-7	51	4168	-948.97	-4.69	-2.27
1104	SLU 46	-7	62	4119	-938.55	-4.62	-2.28
1104	SLU 47	-7	69	4054	-924.9	-4.54	-2.21
1104	SLU 48	-7	51	4231	-962.31	-4.76	-2.17
1104	SLU 49	-7	62	4182	-951.89	-4.7	-2.18
1104	SLU 50	-6	51	4199	-955.6	-4.73	-2.1
1104	SLU 51	-6	62	4150	-945.18	-4.66	-2.1
1104	SLU 52	-9	70	4412	-1003.67	-4.99	-3.14
1104	SLU 53	-9	53	4588	-1041.09	-5.21	-3.1
1104	SLU 54	-9	64	4539	-1030.67	-5.14	-3.11
1104	SLU 55	-9	70	4475	-1017.01	-5.06	-3.04
1104	SLU 56	-9	53	4651	-1054.42	-5.28	-2.99
1104	SLU 57	-9	64	4602	-1044	-5.22	-3
1104	SLU 58	-9	53	4620	-1047.71	-5.25	-2.92
1104	SLU 59	-9	63	4571	-1037.29	-5.18	-2.93
1104	SLU 60	-10	54	4674	-1060.51	-5.32	-3.49
1104	SLU 61	-10	64	4625	-1050.09	-5.26	-3.49
1104	SLU 62	-10	54	4737	-1073.85	-5.39	-3.38
1104	SLU 63	-10	64	4688	-1063.43	-5.33	-3.39
1104	SLU 64	-9	54	4642	-1052.43	-5.28	-3.15
1104	SLU 65	-9	72	4560	-1035.06	-5.17	-3.16
1104	SLU 66	-9	55	4737	-1072.48	-5.39	-3.12
1104	SLU 67	-9	65	4688	-1062.06	-5.32	-3.13
1104	SLU 68	-9	72	4623	-1048.4	-5.24	-3.06
1104	SLU 69	-9	55	4800	-1085.82	-5.46	-3.01
1104	SLU 70	-9	65	4751	-1075.4	-5.4	-3.02
1104	SLU 71	-9	54	4768	-1079.1	-5.42	-2.94
1104	SLU 72	-9	65	4719	-1068.68	-5.36	-2.95
1104	SLU 73	-12	74	4980	-1127.18	-5.69	-3.99
1104	SLU 74	-12	56	5157	-1164.59	-5.91	-3.94
1104	SLU 75	-12	67	5108	-1154.17	-5.84	-3.95
1104	SLU 76	-12	74	5044	-1140.51	-5.76	-3.88
1104	SLU 77	-11	56	5220	-1177.93	-5.98	-3.84
1104	SLU 78	-11	67	5171	-1167.51	-5.92	-3.84
1104	SLU 79	-11	56	5189	-1171.21	-5.94	-3.77
1104	SLU 80	-11	67	5139	-1160.79	-5.88	-3.77
1104	SLU 81	-13	57	5243	-1184.02	-6.02	-4.33
1104	SLU 82	-13	67	5193	-1173.6	-5.95	-4.34
1104	SLU 83	-13	57	5306	-1197.35	-6.09	-4.23
1104	SLU 84	-13	67	5256	-1186.93	-6.03	-4.23
1104	SLE RA 1	-7	41	3446	-782.42	-3.91	-2.24
1104	SLE RA 2	-7	53	3391	-770.84	-3.83	-2.25
1104	SLE RA 3	-7	41	3509	-795.78	-3.98	-2.22

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1104	SLE RA 4	-7	48	3476	-788.84	-3.94	-2.22
1104	SLE RA 5	-7	53	3433	-779.73	-3.88	-2.18
1104	SLE RA 6	-6	41	3551	-804.67	-4.03	-2.15
1104	SLE RA 7	-6	48	3518	-797.73	-3.99	-2.15
1104	SLE RA 8	-6	41	3530	-800.2	-4	-2.1
1104	SLE RA 9	-6	48	3497	-793.25	-3.96	-2.1
1104	SLE RA 10	-8	54	3671	-832.25	-4.18	-2.8
1104	SLE RA 11	-8	42	3789	-857.19	-4.33	-2.77
1104	SLE RA 12	-8	50	3756	-850.25	-4.28	-2.77
1104	SLE RA 13	-8	54	3713	-841.14	-4.23	-2.73
1104	SLE RA 14	-8	42	3831	-866.08	-4.38	-2.7
1104	SLE RA 15	-8	50	3799	-859.14	-4.33	-2.7
1104	SLE RA 16	-8	42	3810	-861.61	-4.35	-2.65
1104	SLE RA 17	-8	49	3777	-854.66	-4.31	-2.65
1104	SLE RA 18	-9	43	3846	-870.14	-4.4	-3.02
1104	SLE RA 19	-9	50	3813	-863.2	-4.36	-3.03
1104	SLE RA 20	-9	43	3888	-879.03	-4.45	-2.95
1104	SLE RA 21	-9	50	3855	-872.09	-4.41	-2.96
1104	SLE FR 1	-7	41	3446	-782.42	-3.91	-2.24
1104	SLE FR 2	-7	43	3435	-780.1	-3.89	-2.24
1104	SLE FR 3	-7	41	3463	-785.97	-3.93	-2.21
1104	SLE FR 4	-7	44	3555	-806.42	-4.04	-2.48
1104	SLE FR 5	-7	41	3583	-812.29	-4.07	-2.45
1104	SLE FR 6	-8	42	3646	-826.28	-4.15	-2.63
1104	SLE QP 1	-7	41	3446	-782.42	-3.91	-2.24
1104	SLE QP 2	-7	41	3566	-808.74	-4.05	-2.47
1104	SLD 1	451	156	2802	-636.21	-2.02	157.91
1104	SLD 2	370	163	2798	-634.29	-1.94	129.81
1104	SLD 3	456	-67	4041	-897.96	-3.67	159.53
1104	SLD 4	375	-61	4037	-896.04	-3.59	131.43
1104	SLD 5	137	414	1458	-360.32	-0.95	48.06
1104	SLD 6	85	418	1455	-359.08	-0.9	29.88
1104	SLD 7	153	-331	5589	-1232.82	-6.46	53.46
1104	SLD 8	101	-327	5586	-1231.58	-6.41	35.28
1104	SLD 9	-116	410	1546	-385.89	-1.7	-40.23
1104	SLD 10	-168	414	1543	-384.65	-1.65	-58.41
1104	SLD 11	-99	-335	5677	-1258.39	-7.21	-34.83
1104	SLD 12	-152	-331	5674	-1257.15	-7.16	-53
1104	SLD 13	-390	144	3095	-721.43	-4.52	-136.38
1104	SLD 14	-471	150	3090	-719.51	-4.44	-164.48
1104	SLD 15	-385	-80	4334	-983.18	-6.17	-134.76
1104	SLD 16	-466	-73	4330	-981.26	-6.09	-162.86
1104	SLV 1	710	235	2294	-522.63	-0.77	248.58
1104	SLV 2	583	245	2287	-519.6	-0.64	204.34
1104	SLV 3	718	-142	4388	-964.92	-3.56	251.24
1104	SLV 4	591	-132	4381	-961.89	-3.43	207
1104	SLV 5	219	670	10	-52.66	1.14	77.07
1104	SLV 6	134	677	5	-50.63	1.23	47.28
1104	SLV 7	246	-588	6990	-1526.96	-8.16	85.93
1104	SLV 8	161	-581	6985	-1524.92	-8.08	56.14
1104	SLV 9	-175	664	147	-92.55	-0.03	-61.09
1104	SLV 10	-261	671	142	-90.51	0.05	-90.88
1104	SLV 11	-149	-594	7127	-1566.84	-9.34	-52.23
1104	SLV 12	-234	-587	7122	-1564.81	-9.25	-82.02
1104	SLV 13	-606	215	2751	-655.58	-4.68	-211.95
1104	SLV 14	-733	225	2744	-652.55	-4.55	-256.19
1104	SLV 15	-598	-162	4845	-1097.87	-7.47	-209.29
1104	SLV 16	-725	-152	4838	-1094.84	-7.34	-253.53
1104	SLV FO 1	782	255	2167	-494.02	-0.44	273.69
1104	SLV FO 2	642	266	2159	-490.69	-0.3	225.02
1104	SLV FO 3	791	-161	4470	-980.53	-3.51	276.61
1104	SLV FO 4	651	-149	4462	-977.21	-3.37	227.95
1104	SLV FO 5	242	733	-346	22.95	1.66	85.02
1104	SLV FO 6	148	741	-351	25.19	1.76	52.26
1104	SLV FO 7	271	-651	7333	-1598.78	-8.57	94.77
1104	SLV FO 8	177	-643	7327	-1596.54	-8.48	62
1104	SLV FO 9	-192	726	-195	-20.93	0.37	-66.95
1104	SLV FO 10	-286	734	-201	-18.69	0.46	-99.72
1104	SLV FO 11	-163	-658	7483	-1642.66	-9.86	-57.21
1104	SLV FO 12	-257	-650	7478	-1640.42	-9.77	-89.97
1104	SLV FO 13	-666	232	2669	-640.26	-4.74	-232.9
1104	SLV FO 14	-806	244	2662	-636.94	-4.6	-281.56
1104	SLV FO 15	-657	-183	4973	-1126.78	-7.81	-229.97
1104	SLV FO 16	-797	-172	4965	-1123.45	-7.67	-278.64
1104	CRTFP Ux+	0	0	0	0	0	0
1104	CRTFP Ux-	0	0	0	0	0	0
1104	CRTFP Uy+	0	0	0	0	0	0
1104	CRTFP Uy-	0	0	0	0	0	0
1105	SLU 1	-3	44	3398	-852.6	-3.78	-1.09
1105	SLU 2	-4	62	3313	-832.64	-3.67	-1.13
1105	SLU 3	-3	44	3496	-875.84	-3.89	-1.03
1105	SLU 4	-3	55	3445	-863.86	-3.83	-1.05
1105	SLU 5	-3	62	3378	-848.09	-3.75	-1.01
1105	SLU 6	-3	44	3562	-891.29	-3.97	-0.9
1105	SLU 7	-3	55	3511	-879.31	-3.9	-0.93
1105	SLU 8	-3	44	3529	-883.5	-3.93	-0.83
1105	SLU 9	-3	54	3478	-871.52	-3.86	-0.86
1105	SLU 10	-6	64	3749	-939.69	-4.19	-1.9

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1105	SLU 11	-6	46	3933	-982.9	-4.41	-1.79
1105	SLU 12	-6	57	3882	-970.92	-4.35	-1.82
1105	SLU 13	-6	64	3815	-955.14	-4.27	-1.77
1105	SLU 14	-5	46	3998	-998.35	-4.49	-1.66
1105	SLU 15	-5	57	3947	-986.37	-4.42	-1.69
1105	SLU 16	-5	46	3965	-990.56	-4.45	-1.6
1105	SLU 17	-5	57	3914	-978.58	-4.38	-1.63
1105	SLU 18	-7	47	4021	-1005.54	-4.52	-2.18
1105	SLU 19	-7	58	3970	-993.56	-4.46	-2.21
1105	SLU 20	-6	47	4087	-1020.99	-4.6	-2.05
1105	SLU 21	-6	58	4036	-1009.01	-4.53	-2.08
1105	SLU 22	-6	47	3989	-996	-4.48	-1.82
1105	SLU 23	-6	65	3903	-976.03	-4.37	-1.86
1105	SLU 24	-5	48	4087	-1019.24	-4.59	-1.76
1105	SLU 25	-6	59	4036	-1007.26	-4.53	-1.78
1105	SLU 26	-5	65	3969	-991.48	-4.45	-1.74
1105	SLU 27	-5	48	4152	-1034.69	-4.67	-1.63
1105	SLU 28	-5	59	4101	-1022.71	-4.6	-1.66
1105	SLU 29	-5	47	4119	-1026.9	-4.63	-1.56
1105	SLU 30	-5	58	4068	-1014.92	-4.57	-1.59
1105	SLU 31	-8	68	4340	-1083.09	-4.89	-2.63
1105	SLU 32	-8	50	4523	-1126.29	-5.11	-2.52
1105	SLU 33	-8	61	4472	-1114.31	-5.05	-2.55
1105	SLU 34	-8	68	4405	-1098.54	-4.97	-2.5
1105	SLU 35	-7	50	4588	-1141.74	-5.19	-2.39
1105	SLU 36	-7	61	4537	-1129.76	-5.13	-2.42
1105	SLU 37	-7	50	4556	-1133.95	-5.15	-2.33
1105	SLU 38	-7	61	4504	-1121.97	-5.09	-2.36
1105	SLU 39	-9	51	4612	-1148.93	-5.22	-2.91
1105	SLU 40	-9	62	4561	-1136.95	-5.16	-2.94
1105	SLU 41	-8	51	4677	-1164.38	-5.3	-2.78
1105	SLU 42	-9	62	4626	-1152.4	-5.23	-2.81
1105	SLU 43	-4	55	4215	-1059.22	-4.67	-1.16
1105	SLU 44	-4	73	4130	-1039.26	-4.56	-1.21
1105	SLU 45	-4	56	4314	-1082.46	-4.78	-1.1
1105	SLU 46	-4	67	4262	-1070.48	-4.72	-1.13
1105	SLU 47	-4	73	4195	-1054.71	-4.64	-1.08
1105	SLU 48	-3	56	4379	-1097.91	-4.86	-0.97
1105	SLU 49	-3	67	4328	-1085.93	-4.79	-1
1105	SLU 50	-3	55	4346	-1090.12	-4.82	-0.91
1105	SLU 51	-3	66	4295	-1078.14	-4.76	-0.94
1105	SLU 52	-6	76	4566	-1146.31	-5.08	-1.97
1105	SLU 53	-6	58	4750	-1189.52	-5.3	-1.87
1105	SLU 54	-6	69	4699	-1177.54	-5.24	-1.89
1105	SLU 55	-6	76	4632	-1161.76	-5.16	-1.85
1105	SLU 56	-5	58	4815	-1204.96	-5.38	-1.74
1105	SLU 57	-6	69	4764	-1192.99	-5.32	-1.77
1105	SLU 58	-5	58	4782	-1197.17	-5.34	-1.68
1105	SLU 59	-5	69	4731	-1185.2	-5.28	-1.7
1105	SLU 60	-7	59	4839	-1212.16	-5.41	-2.26
1105	SLU 61	-7	70	4787	-1200.18	-5.35	-2.28
1105	SLU 62	-7	59	4904	-1227.61	-5.49	-2.13
1105	SLU 63	-7	70	4853	-1215.63	-5.42	-2.16
1105	SLU 64	-6	59	4806	-1202.61	-5.37	-1.89
1105	SLU 65	-6	77	4720	-1182.65	-5.26	-1.94
1105	SLU 66	-6	60	4904	-1225.85	-5.49	-1.83
1105	SLU 67	-6	70	4853	-1213.88	-5.42	-1.86
1105	SLU 68	-6	77	4786	-1198.1	-5.34	-1.81
1105	SLU 69	-5	60	4969	-1241.3	-5.56	-1.7
1105	SLU 70	-5	70	4918	-1229.33	-5.5	-1.73
1105	SLU 71	-5	59	4936	-1233.51	-5.52	-1.64
1105	SLU 72	-5	70	4885	-1221.53	-5.46	-1.67
1105	SLU 73	-8	80	5157	-1289.7	-5.79	-2.7
1105	SLU 74	-8	62	5340	-1332.91	-6.01	-2.6
1105	SLU 75	-8	73	5289	-1320.93	-5.94	-2.62
1105	SLU 76	-8	80	5222	-1305.15	-5.86	-2.58
1105	SLU 77	-8	62	5405	-1348.36	-6.08	-2.47
1105	SLU 78	-8	73	5354	-1336.38	-6.02	-2.5
1105	SLU 79	-7	62	5373	-1340.57	-6.04	-2.41
1105	SLU 80	-8	72	5321	-1328.59	-5.98	-2.43
1105	SLU 81	-9	63	5429	-1355.55	-6.11	-2.99
1105	SLU 82	-9	73	5378	-1343.57	-6.05	-3.01
1105	SLU 83	-9	63	5494	-1371	-6.19	-2.86
1105	SLU 84	-9	73	5443	-1359.02	-6.13	-2.89
1105	SLE RA 1	-4	45	3567	-893.57	-3.98	-1.3
1105	SLE RA 2	-4	57	3510	-880.26	-3.91	-1.33
1105	SLE RA 3	-4	45	3632	-909.07	-4.05	-1.25
1105	SLE RA 4	-4	52	3598	-901.08	-4.01	-1.27
1105	SLE RA 5	-4	57	3554	-890.56	-3.96	-1.24
1105	SLE RA 6	-4	45	3676	-919.37	-4.1	-1.17
1105	SLE RA 7	-4	52	3642	-911.38	-4.06	-1.19
1105	SLE RA 8	-4	45	3654	-914.17	-4.08	-1.13
1105	SLE RA 9	-4	52	3620	-906.19	-4.03	-1.15
1105	SLE RA 10	-6	58	3801	-951.63	-4.25	-1.84
1105	SLE RA 11	-5	47	3923	-980.44	-4.4	-1.77
1105	SLE RA 12	-6	54	3889	-972.45	-4.36	-1.78
1105	SLE RA 13	-5	58	3844	-961.93	-4.3	-1.75
1105	SLE RA 14	-5	47	3967	-990.74	-4.45	-1.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1105	SLE RA 15	-5	54	3933	-982.75	-4.41	-1.7
1105	SLE RA 16	-5	46	3945	-985.54	-4.42	-1.64
1105	SLE RA 17	-5	53	3911	-977.56	-4.38	-1.66
1105	SLE RA 18	-6	47	3982	-995.53	-4.47	-2.03
1105	SLE RA 19	-6	54	3948	-987.54	-4.43	-2.04
1105	SLE RA 20	-6	47	4026	-1005.83	-4.52	-1.94
1105	SLE RA 21	-6	54	3992	-997.84	-4.48	-1.96
1105	SLE FR 1	-4	45	3567	-893.57	-3.98	-1.3
1105	SLE FR 2	-4	47	3556	-890.91	-3.96	-1.3
1105	SLE FR 3	-4	45	3584	-897.69	-4	-1.26
1105	SLE FR 4	-5	48	3680	-921.5	-4.11	-1.52
1105	SLE FR 5	-5	45	3709	-928.28	-4.15	-1.48
1105	SLE FR 6	-5	46	3775	-944.55	-4.22	-1.66
1105	SLE QP 1	-4	45	3567	-893.57	-3.98	-1.3
1105	SLE QP 2	-5	45	3692	-924.16	-4.13	-1.52
1105	SLD 1	452	160	2866	-720.49	-2.1	158.07
1105	SLD 2	371	170	2859	-718.1	-2.03	130.08
1105	SLD 3	457	-68	4155	-1021.64	-3.69	159.92
1105	SLD 4	377	-58	4148	-1019.25	-3.63	131.94
1105	SLD 5	138	424	1490	-406.72	-1.12	48.41
1105	SLD 6	86	431	1486	-405.17	-1.07	30.3
1105	SLD 7	156	-337	5787	-1410.57	-6.42	54.58
1105	SLD 8	104	-330	5782	-1409.02	-6.38	36.47
1105	SLD 9	-114	421	1601	-439.3	-1.87	-39.5
1105	SLD 10	-166	428	1596	-437.75	-1.83	-57.61
1105	SLD 11	-95	-340	5897	-1443.15	-7.18	-33.33
1105	SLD 12	-147	-334	5893	-1441.6	-7.13	-51.44
1105	SLD 13	-386	149	3235	-829.07	-4.63	-134.97
1105	SLD 14	-467	159	3228	-826.68	-4.56	-162.95
1105	SLD 15	-381	-80	4524	-1130.22	-6.22	-133.11
1105	SLD 16	-461	-69	4517	-1127.83	-6.15	-161.1
1105	SLV 1	710	239	2320	-586.91	-0.87	248.27
1105	SLV 2	583	255	2309	-583.14	-0.76	204.21
1105	SLV 3	719	-146	4499	-1095.8	-3.56	251.32
1105	SLV 4	592	-130	4488	-1092.03	-3.45	207.26
1105	SLV 5	219	686	-22	-51.87	0.91	77.01
1105	SLV 6	134	696	-29	-49.34	0.98	47.35
1105	SLV 7	250	-600	7240	-1748.17	-8.05	87.19
1105	SLV 8	165	-589	7232	-1745.63	-7.98	57.53
1105	SLV 9	-174	680	151	-102.69	-0.27	-60.56
1105	SLV 10	-259	691	144	-100.15	-0.2	-90.22
1105	SLV 11	-144	-606	7412	-1798.98	-9.23	-50.38
1105	SLV 12	-229	-595	7405	-1796.45	-9.16	-80.04
1105	SLV 13	-602	221	2895	-756.29	-4.8	-210.29
1105	SLV 14	-728	237	2885	-752.52	-4.7	-254.35
1105	SLV 15	-592	-165	5074	-1265.18	-7.49	-207.24
1105	SLV 16	-719	-149	5063	-1261.41	-7.38	-251.3
1105	SLV FO 1	781	259	2183	-553.19	-0.54	273.25
1105	SLV FO 2	642	276	2171	-549.04	-0.42	224.79
1105	SLV FO 3	791	-166	4579	-1112.97	-3.5	276.61
1105	SLV FO 4	652	-148	4567	-1108.82	-3.38	228.14
1105	SLV FO 5	242	750	-393	35.36	1.41	84.87
1105	SLV FO 6	148	762	-401	38.15	1.49	52.24
1105	SLV FO 7	275	-665	7594	-1830.57	-8.45	96.06
1105	SLV FO 8	182	-653	7586	-1827.78	-8.37	63.43
1105	SLV FO 9	-191	744	-203	-20.54	0.12	-66.46
1105	SLV FO 10	-285	755	-211	-17.75	0.19	-99.09
1105	SLV FO 11	-157	-671	7784	-1886.47	-9.74	-55.27
1105	SLV FO 12	-251	-659	7776	-1883.68	-9.67	-87.9
1105	SLV FO 13	-661	239	2816	-739.5	-4.87	-231.17
1105	SLV FO 14	-801	256	2804	-735.35	-4.75	-279.64
1105	SLV FO 15	-651	-186	5212	-1299.28	-7.83	-227.82
1105	SLV FO 16	-790	-168	5200	-1295.13	-7.71	-276.28
1105	CRTFP Ux+	0	0	0	0	0	0
1105	CRTFP Ux-	0	0	0	0	0	0
1105	CRTFP Uy+	0	0	0	0	0	0
1105	CRTFP Uy-	0	0	0	0	0	0
1106	SLU 1	-1	44	3283	-906.76	38.35	-0.66
1106	SLU 2	-1	62	3200	-885.63	37.38	-0.95
1106	SLU 3	0	45	3378	-931.82	39.46	-0.57
1106	SLU 4	0	55	3328	-919.14	38.88	-0.75
1106	SLU 5	0	62	3263	-902.28	38.12	-0.81
1106	SLU 6	0	45	3441	-948.47	40.19	-0.43
1106	SLU 7	0	55	3392	-935.79	39.61	-0.61
1106	SLU 8	0	44	3409	-940.06	39.82	-0.38
1106	SLU 9	0	55	3360	-927.38	39.24	-0.55
1106	SLU 10	-3	65	3622	-1001.04	42.31	-1.64
1106	SLU 11	-2	48	3800	-1047.23	44.38	-1.26
1106	SLU 12	-2	58	3750	-1034.55	43.8	-1.44
1106	SLU 13	-2	65	3686	-1017.69	43.04	-1.5
1106	SLU 14	-2	48	3863	-1063.88	45.12	-1.12
1106	SLU 15	-2	58	3814	-1051.2	44.54	-1.3
1106	SLU 16	-2	47	3831	-1055.47	44.75	-1.07
1106	SLU 17	-2	58	3782	-1042.79	44.17	-1.24
1106	SLU 18	-3	49	3886	-1071.64	45.38	-1.64
1106	SLU 19	-3	59	3836	-1058.95	44.8	-1.82
1106	SLU 20	-3	49	3949	-1088.28	46.12	-1.5
1106	SLU 21	-3	59	3900	-1075.6	45.54	-1.68

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1106	SLU 22	-2	49	3854	-1061.22	45.01	-1.27
1106	SLU 23	-3	66	3771	-1040.09	44.05	-1.57
1106	SLU 24	-2	49	3949	-1086.28	46.12	-1.19
1106	SLU 25	-2	59	3900	-1073.6	45.54	-1.37
1106	SLU 26	-2	66	3835	-1056.74	44.78	-1.43
1106	SLU 27	-2	49	4012	-1102.93	46.85	-1.05
1106	SLU 28	-2	59	3963	-1090.25	46.28	-1.23
1106	SLU 29	-1	49	3980	-1094.52	46.48	-0.99
1106	SLU 30	-2	59	3931	-1081.84	45.91	-1.17
1106	SLU 31	-4	69	4194	-1155.5	48.97	-2.26
1106	SLU 32	-4	52	4371	-1201.69	51.04	-1.88
1106	SLU 33	-4	62	4322	-1189.01	50.46	-2.06
1106	SLU 34	-4	69	4257	-1172.15	49.71	-2.12
1106	SLU 35	-4	52	4434	-1218.34	51.78	-1.74
1106	SLU 36	-4	62	4385	-1205.66	51.2	-1.92
1106	SLU 37	-3	52	4403	-1209.93	51.41	-1.68
1106	SLU 38	-4	62	4353	-1197.25	50.83	-1.86
1106	SLU 39	-5	53	4457	-1226.09	52.04	-2.26
1106	SLU 40	-5	63	4408	-1213.41	51.46	-2.43
1106	SLU 41	-5	53	4520	-1242.74	52.78	-2.12
1106	SLU 42	-5	63	4471	-1230.06	52.2	-2.29
1106	SLU 43	0	56	4072	-1125.84	47.57	-0.64
1106	SLU 44	0	73	3989	-1104.7	46.61	-0.94
1106	SLU 45	0	57	4167	-1150.9	48.68	-0.56
1106	SLU 46	0	67	4117	-1138.21	48.1	-0.74
1106	SLU 47	0	73	4052	-1121.35	47.34	-0.79
1106	SLU 48	0	57	4230	-1167.54	49.41	-0.42
1106	SLU 49	0	67	4181	-1154.86	48.84	-0.6
1106	SLU 50	1	56	4198	-1159.13	49.04	-0.36
1106	SLU 51	0	67	4149	-1146.45	48.47	-0.54
1106	SLU 52	-2	76	4411	-1220.11	51.53	-1.62
1106	SLU 53	-2	60	4589	-1266.31	53.6	-1.25
1106	SLU 54	-2	70	4540	-1253.62	53.02	-1.42
1106	SLU 55	-2	76	4475	-1236.76	52.27	-1.48
1106	SLU 56	-1	60	4652	-1282.95	54.34	-1.11
1106	SLU 57	-2	70	4603	-1270.27	53.76	-1.28
1106	SLU 58	-1	59	4620	-1274.54	53.97	-1.05
1106	SLU 59	-1	70	4571	-1261.86	53.39	-1.23
1106	SLU 60	-3	60	4675	-1290.71	54.6	-1.63
1106	SLU 61	-3	71	4625	-1278.03	54.02	-1.8
1106	SLU 62	-3	60	4738	-1307.35	55.34	-1.49
1106	SLU 63	-3	71	4689	-1294.67	54.76	-1.66
1106	SLU 64	-2	60	4643	-1280.29	54.23	-1.26
1106	SLU 65	-2	78	4560	-1259.16	53.27	-1.55
1106	SLU 66	-2	61	4738	-1305.35	55.34	-1.18
1106	SLU 67	-2	71	4689	-1292.67	54.76	-1.35
1106	SLU 68	-2	78	4624	-1275.81	54	-1.41
1106	SLU 69	-1	61	4801	-1322	56.08	-1.04
1106	SLU 70	-1	71	4752	-1309.32	55.5	-1.21
1106	SLU 71	-1	60	4769	-1313.59	55.7	-0.98
1106	SLU 72	-1	71	4720	-1300.91	55.13	-1.16
1106	SLU 73	-4	81	4983	-1374.57	58.19	-2.24
1106	SLU 74	-4	64	5160	-1420.76	60.26	-1.87
1106	SLU 75	-4	74	5111	-1408.08	59.68	-2.04
1106	SLU 76	-4	81	5046	-1391.22	58.93	-2.1
1106	SLU 77	-3	64	5223	-1437.41	61	-1.73
1106	SLU 78	-3	74	5174	-1424.73	60.42	-1.9
1106	SLU 79	-3	63	5192	-1429	60.63	-1.67
1106	SLU 80	-3	74	5142	-1416.32	60.05	-1.84
1106	SLU 81	-5	65	5246	-1445.17	61.26	-2.24
1106	SLU 82	-5	75	5197	-1432.49	60.69	-2.42
1106	SLU 83	-4	65	5309	-1461.81	62	-2.1
1106	SLU 84	-4	75	5260	-1449.13	61.42	-2.28
1106	SLE RA 1	-1	46	3446	-950.89	40.25	-0.83
1106	SLE RA 2	-1	57	3391	-936.81	39.61	-1.03
1106	SLE RA 3	-1	46	3509	-967.6	40.99	-0.78
1106	SLE RA 4	-1	53	3476	-959.15	40.6	-0.9
1106	SLE RA 5	-1	57	3433	-947.9	40.1	-0.94
1106	SLE RA 6	-1	46	3551	-978.7	41.48	-0.69
1106	SLE RA 7	-1	53	3518	-970.25	41.1	-0.8
1106	SLE RA 8	-1	46	3530	-973.09	41.23	-0.65
1106	SLE RA 9	-1	52	3497	-964.64	40.85	-0.76
1106	SLE RA 10	-3	59	3672	-1013.75	42.89	-1.49
1106	SLE RA 11	-2	48	3791	-1044.54	44.27	-1.24
1106	SLE RA 12	-2	55	3758	-1036.09	43.89	-1.35
1106	SLE RA 13	-2	59	3715	-1024.84	43.38	-1.39
1106	SLE RA 14	-2	48	3833	-1055.64	44.76	-1.14
1106	SLE RA 15	-2	55	3800	-1047.19	44.38	-1.26
1106	SLE RA 16	-2	48	3812	-1050.03	44.52	-1.11
1106	SLE RA 17	-2	54	3779	-1041.58	44.13	-1.22
1106	SLE RA 18	-3	48	3848	-1060.81	44.94	-1.49
1106	SLE RA 19	-3	55	3815	-1052.36	44.56	-1.61
1106	SLE RA 20	-3	48	3890	-1071.91	45.43	-1.4
1106	SLE RA 21	-3	55	3857	-1063.45	45.05	-1.51
1106	SLE FR 1	-1	46	3446	-950.89	40.25	-0.83
1106	SLE FR 2	-1	48	3435	-948.08	40.12	-0.87
1106	SLE FR 3	-1	46	3463	-955.33	40.45	-0.8
1106	SLE FR 4	-2	49	3556	-981.05	41.53	-1.07

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1106	SLE FR 5	-2	46	3583	-988.31	41.86	-0.99
1106	SLE FR 6	-2	47	3647	-1005.85	42.6	-1.16
1106	SLE QP 1	-1	46	3446	-950.89	40.25	-0.83
1106	SLE QP 2	-2	46	3567	-983.87	41.66	-1.03
1106	SLD 1	424	142	2740	-763.59	32.83	146.8
1106	SLD 2	349	156	2732	-761.17	32.77	120.46
1106	SLD 3	431	-76	3987	-1082.91	47.41	151.29
1106	SLD 4	355	-62	3979	-1080.49	47.35	124.95
1106	SLD 5	130	403	1428	-433.9	16.91	41.08
1106	SLD 6	81	412	1423	-432.34	16.87	24.04
1106	SLD 7	150	-323	5586	-1498.3	65.51	56.04
1106	SLD 8	102	-314	5581	-1496.74	65.47	39
1106	SLD 9	-105	407	1552	-471	17.85	-41.07
1106	SLD 10	-154	416	1547	-469.44	17.81	-58.1
1106	SLD 11	-85	-319	5710	-1535.4	66.45	-26.1
1106	SLD 12	-133	-310	5705	-1533.84	66.41	-43.14
1106	SLD 13	-359	155	3154	-887.25	35.96	-127.01
1106	SLD 14	-434	168	3146	-884.83	35.91	-153.35
1106	SLD 15	-352	-63	4401	-1206.57	50.54	-122.52
1106	SLD 16	-428	-49	4393	-1204.15	50.49	-148.86
1106	SLV 1	665	209	2196	-619.52	26.94	230.17
1106	SLV 2	547	231	2183	-615.72	26.84	188.71
1106	SLV 3	675	-159	4304	-1159.13	51.58	237.71
1106	SLV 4	557	-137	4292	-1155.32	51.49	196.25
1106	SLV 5	205	649	-40	-56.88	-0.12	64.63
1106	SLV 6	125	664	-48	-54.31	-0.18	36.71
1106	SLV 7	239	-577	6988	-1855.56	82.03	89.77
1106	SLV 8	159	-563	6979	-1852.99	81.96	61.86
1106	SLV 9	-162	656	154	-114.74	1.35	-63.92
1106	SLV 10	-242	670	146	-112.18	1.29	-91.83
1106	SLV 11	-129	-571	7181	-1913.42	83.49	-38.77
1106	SLV 12	-208	-557	7173	-1910.86	83.43	-66.69
1106	SLV 13	-560	230	2842	-812.42	31.83	-198.31
1106	SLV 14	-679	251	2829	-808.61	31.74	-239.77
1106	SLV 15	-550	-138	4950	-1352.02	56.47	-190.77
1106	SLV 16	-668	-117	4937	-1348.21	56.38	-232.23
1106	SLV FO 1	732	226	2059	-583.09	25.46	253.29
1106	SLV FO 2	602	250	2045	-578.9	25.36	207.68
1106	SLV FO 3	743	-179	4378	-1176.65	52.57	261.59
1106	SLV FO 4	613	-155	4364	-1172.47	52.47	215.98
1106	SLV FO 5	226	710	-400	35.82	-4.29	71.19
1106	SLV FO 6	138	726	-410	38.64	-4.36	40.48
1106	SLV FO 7	263	-640	7330	-1942.72	86.06	98.85
1106	SLV FO 8	175	-624	7320	-1939.91	86	68.15
1106	SLV FO 9	-179	716	-187	-27.83	-2.68	-70.21
1106	SLV FO 10	-266	732	-197	-25.01	-2.75	-100.91
1106	SLV FO 11	-141	-633	7543	-2006.38	87.68	-42.55
1106	SLV FO 12	-229	-617	7534	-2003.56	87.61	-73.25
1106	SLV FO 13	-616	248	2769	-795.27	30.85	-218.04
1106	SLV FO 14	-746	272	2755	-791.08	30.75	-263.65
1106	SLV FO 15	-605	-157	5088	-1388.83	57.95	-209.74
1106	SLV FO 16	-735	-133	5074	-1384.65	57.85	-255.35
1106	CRTFP Ux+	0	0	0	0	0	0
1106	CRTFP Ux-	0	0	0	0	0	0
1106	CRTFP Uy+	0	0	0	0	0	0
1106	CRTFP Uy-	0	0	0	0	0	0
1108	SLU 1	7	129	9534	-2213.36	-18.61	2.05
1108	SLU 2	6	178	9290	-2159.95	-18.5	1.82
1108	SLU 3	8	131	9812	-2276.53	-19.13	2.3
1108	SLU 4	7	160	9666	-2244.48	-19.07	2.16
1108	SLU 5	7	178	9475	-2201.9	-18.83	2.15
1108	SLU 6	9	131	9996	-2318.48	-19.46	2.63
1108	SLU 7	9	160	9850	-2286.43	-19.4	2.5
1108	SLU 8	10	129	9903	-2297.26	-19.26	2.72
1108	SLU 9	9	158	9757	-2265.21	-19.2	2.58
1108	SLU 10	1	187	10515	-2444.4	-20.22	0.78
1108	SLU 11	3	140	11036	-2560.98	-20.85	1.26
1108	SLU 12	2	170	10890	-2528.93	-20.79	1.12
1108	SLU 13	2	188	10699	-2486.35	-20.55	1.11
1108	SLU 14	4	141	11221	-2602.93	-21.18	1.59
1108	SLU 15	4	170	11075	-2570.88	-21.12	1.45
1108	SLU 16	5	139	11127	-2581.71	-20.98	1.67
1108	SLU 17	4	168	10981	-2549.67	-20.92	1.54
1108	SLU 18	0	143	11283	-2619.72	-21.07	0.56
1108	SLU 19	-1	172	11137	-2587.67	-21	0.42
1108	SLU 20	1	143	11467	-2661.67	-21.39	0.89
1108	SLU 21	1	172	11321	-2629.62	-21.33	0.76
1108	SLU 22	3	142	11194	-2596.31	-21.04	1.29
1108	SLU 23	2	191	10951	-2542.9	-20.93	1.06
1108	SLU 24	4	144	11472	-2659.47	-21.57	1.54
1108	SLU 25	4	173	11327	-2627.43	-21.5	1.4
1108	SLU 26	4	191	11136	-2584.85	-21.26	1.4
1108	SLU 27	6	144	11657	-2701.42	-21.89	1.88
1108	SLU 28	5	173	11511	-2669.38	-21.83	1.74
1108	SLU 29	6	143	11564	-2680.21	-21.7	1.96
1108	SLU 30	5	172	11418	-2648.16	-21.63	1.82
1108	SLU 31	-3	201	12176	-2827.35	-22.65	0.02
1108	SLU 32	-1	154	12697	-2943.93	-23.29	0.5

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1108	SLU 33	-1	183	12551	-2911.88	-23.22	0.36
1108	SLU 34	-1	201	12360	-2869.3	-22.98	0.35
1108	SLU 35	1	154	12881	-2985.88	-23.62	0.83
1108	SLU 36	0	183	12736	-2953.83	-23.55	0.7
1108	SLU 37	1	153	12788	-2964.66	-23.42	0.91
1108	SLU 38	0	182	12642	-2932.61	-23.35	0.78
1108	SLU 39	-4	157	12943	-3002.67	-23.5	-0.2
1108	SLU 40	-4	186	12798	-2970.62	-23.43	-0.34
1108	SLU 41	-2	157	13128	-3044.62	-23.83	0.13
1108	SLU 42	-3	186	12982	-3012.57	-23.76	0
1108	SLU 43	10	163	11824	-2746.07	-23.35	2.92
1108	SLU 44	9	212	11581	-2692.66	-23.25	2.7
1108	SLU 45	11	165	12102	-2809.24	-23.88	3.18
1108	SLU 46	11	194	11956	-2777.19	-23.82	3.04
1108	SLU 47	11	212	11766	-2734.61	-23.58	3.03
1108	SLU 48	13	165	12287	-2851.19	-24.21	3.51
1108	SLU 49	12	194	12141	-2819.14	-24.15	3.37
1108	SLU 50	13	163	12194	-2829.97	-24.01	3.59
1108	SLU 51	12	193	12048	-2797.93	-23.95	3.46
1108	SLU 52	4	222	12805	-2977.11	-24.97	1.65
1108	SLU 53	6	175	13327	-3093.69	-25.6	2.13
1108	SLU 54	6	204	13181	-3061.65	-25.54	2
1108	SLU 55	6	222	12990	-3019.06	-25.3	1.99
1108	SLU 56	8	175	13511	-3135.64	-25.93	2.47
1108	SLU 57	7	204	13365	-3103.6	-25.87	2.33
1108	SLU 58	8	173	13418	-3114.42	-25.73	2.55
1108	SLU 59	7	202	13272	-3082.38	-25.67	2.41
1108	SLU 60	3	177	13573	-3152.43	-25.81	1.43
1108	SLU 61	3	207	13427	-3120.39	-25.75	1.3
1108	SLU 62	5	178	13758	-3194.38	-26.14	1.77
1108	SLU 63	4	207	13612	-3162.34	-26.08	1.63
1108	SLU 64	7	177	13485	-3129.02	-25.79	2.17
1108	SLU 65	6	225	13242	-3075.61	-25.68	1.94
1108	SLU 66	8	178	13763	-3192.19	-26.31	2.42
1108	SLU 67	7	207	13617	-3160.14	-26.25	2.28
1108	SLU 68	7	225	13427	-3117.56	-26.01	2.27
1108	SLU 69	9	178	13948	-3234.14	-26.64	2.75
1108	SLU 70	8	207	13802	-3202.09	-26.58	2.61
1108	SLU 71	9	177	13855	-3212.92	-26.44	2.83
1108	SLU 72	9	206	13709	-3180.87	-26.38	2.7
1108	SLU 73	1	235	14466	-3360.06	-27.4	0.89
1108	SLU 74	3	188	14987	-3476.64	-28.04	1.37
1108	SLU 75	2	217	14841	-3444.59	-27.97	1.24
1108	SLU 76	2	235	14651	-3402.01	-27.73	1.23
1108	SLU 77	4	188	15172	-3518.59	-28.36	1.71
1108	SLU 78	3	217	15026	-3486.54	-28.3	1.57
1108	SLU 79	4	187	15079	-3497.37	-28.17	1.79
1108	SLU 80	4	216	14933	-3465.33	-28.1	1.65
1108	SLU 81	0	191	15234	-3535.38	-28.25	0.67
1108	SLU 82	-1	220	15088	-3503.33	-28.18	0.54
1108	SLU 83	1	191	15419	-3577.33	-28.57	1.01
1108	SLU 84	0	220	15273	-3545.28	-28.51	0.87
1108	SLE RA 1	6	133	10008	-2322.77	-19.3	1.83
1108	SLE RA 2	5	165	9846	-2287.17	-19.23	1.68
1108	SLE RA 3	7	134	10193	-2364.89	-19.65	2
1108	SLE RA 4	6	153	10096	-2343.52	-19.61	1.91
1108	SLE RA 5	6	165	9969	-2315.13	-19.45	1.9
1108	SLE RA 6	7	134	10317	-2392.85	-19.87	2.22
1108	SLE RA 7	7	153	10219	-2371.49	-19.83	2.13
1108	SLE RA 8	8	133	10254	-2378.71	-19.74	2.28
1108	SLE RA 9	7	152	10157	-2357.34	-19.7	2.19
1108	SLE RA 10	2	172	10662	-2476.8	-20.38	0.98
1108	SLE RA 11	3	140	11010	-2554.52	-20.8	1.3
1108	SLE RA 12	3	160	10912	-2533.16	-20.76	1.21
1108	SLE RA 13	3	172	10785	-2504.77	-20.6	1.21
1108	SLE RA 14	4	141	11133	-2582.49	-21.02	1.53
1108	SLE RA 15	4	160	11036	-2561.12	-20.98	1.44
1108	SLE RA 16	4	140	11071	-2568.34	-20.89	1.58
1108	SLE RA 17	4	159	10973	-2546.98	-20.84	1.49
1108	SLE RA 18	1	142	11174	-2593.68	-20.94	0.84
1108	SLE RA 19	1	162	11077	-2572.32	-20.9	0.75
1108	SLE RA 20	2	142	11297	-2621.65	-21.16	1.06
1108	SLE RA 21	2	162	11200	-2600.28	-21.12	0.97
1108	SLE FR 1	6	133	10008	-2322.77	-19.3	1.83
1108	SLE FR 2	6	139	9976	-2315.65	-19.29	1.8
1108	SLE FR 3	6	133	10057	-2333.96	-19.39	1.92
1108	SLE FR 4	4	142	10326	-2396.92	-19.78	1.5
1108	SLE FR 5	5	136	10407	-2415.23	-19.88	1.62
1108	SLE FR 6	4	138	10591	-2458.23	-20.12	1.34
1108	SLE QP 1	6	133	10008	-2322.77	-19.3	1.83
1108	SLE QP 2	5	136	10358	-2404.05	-19.79	1.53
1108	SLD 1	1193	384	7848	-1842.61	2.3	296.96
1108	SLD 2	980	437	7820	-1837.12	2.78	245.59
1108	SLD 3	1213	-229	11524	-2650.65	0.29	301.86
1108	SLD 4	1001	-176	11496	-2645.17	0.77	250.49
1108	SLD 5	366	1131	4034	-1011.03	-10.2	91.65
1108	SLD 6	229	1165	4017	-1007.49	-9.89	58.42
1108	SLD 7	436	-913	16288	-3704.51	-16.9	107.97

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1108	SLD 8	298	-879	16270	-3700.96	-16.59	74.73
1108	SLD 9	-289	1150	4446	-1107.13	-22.99	-71.66
1108	SLD 10	-426	1184	4428	-1103.58	-22.69	-104.9
1108	SLD 11	-220	-894	16699	-3800.61	-29.7	-55.35
1108	SLD 12	-357	-859	16682	-3797.06	-29.39	-88.58
1108	SLD 13	-992	447	9220	-2162.92	-40.35	-247.42
1108	SLD 14	-1204	501	9192	-2157.44	-39.88	-298.79
1108	SLD 15	-971	-166	12896	-2970.97	-42.37	-242.52
1108	SLD 16	-1183	-112	12868	-2965.49	-41.89	-293.89
1108	SLV 1	1864	562	6202	-1475.69	14.8	463.85
1108	SLV 2	1529	645	6159	-1467.06	15.55	382.96
1108	SLV 3	1898	-474	12415	-2841.28	11.4	472.01
1108	SLV 4	1563	-390	12372	-2832.65	12.15	391.12
1108	SLV 5	572	1819	-303	-56.01	-4.4	142.95
1108	SLV 6	347	1875	-332	-50.2	-3.9	88.49
1108	SLV 7	688	-1634	20406	-4607.96	-15.73	170.14
1108	SLV 8	462	-1578	20377	-4602.15	-15.22	115.69
1108	SLV 9	-453	1849	339	-205.94	-24.36	-112.62
1108	SLV 10	-679	1905	310	-200.13	-23.86	-167.08
1108	SLV 11	-338	-1604	21048	-4757.89	-35.69	-85.43
1108	SLV 12	-563	-1547	21019	-4752.08	-35.18	-139.88
1108	SLV 13	-1554	662	8344	-1975.44	-51.74	-388.05
1108	SLV 14	-1889	746	8301	-1966.81	-50.99	-468.94
1108	SLV 15	-1520	-374	14556	-3341.03	-55.14	-379.9
1108	SLV 16	-1855	-290	14513	-3332.4	-54.39	-460.78
1108	SLV FO 1	2050	604	5787	-1382.86	18.26	510.08
1108	SLV FO 2	1681	696	5740	-1373.37	19.08	421.11
1108	SLV FO 3	2088	-535	12621	-2885	14.52	519.05
1108	SLV FO 4	1719	-443	12574	-2875.51	15.35	430.08
1108	SLV FO 5	629	1987	-1369	178.79	-2.86	157.09
1108	SLV FO 6	381	2049	-1401	185.18	-2.31	97.19
1108	SLV FO 7	756	-1811	21410	-4828.36	-15.32	187
1108	SLV FO 8	508	-1749	21379	-4821.97	-14.77	127.1
1108	SLV FO 9	-499	2020	-663	13.87	-24.82	-124.03
1108	SLV FO 10	-747	2082	-694	20.26	-24.26	-183.94
1108	SLV FO 11	-372	-1778	22117	-4993.27	-37.28	-94.12
1108	SLV FO 12	-620	-1716	22085	-4986.88	-36.72	-154.02
1108	SLV FO 13	-1710	715	8142	-1932.58	-54.93	-427.01
1108	SLV FO 14	-2079	807	8095	-1923.09	-54.11	-515.98
1108	SLV FO 15	-1672	-425	14976	-3434.73	-58.67	-418.04
1108	SLV FO 16	-2040	-333	14929	-3425.23	-57.84	-507.01
1108	CRTFP Ux+	0	0	0	0	0	0
1108	CRTFP Ux-	0	0	0	0	0	0
1108	CRTFP Uy+	0	0	0	-0.01	0	0
1108	CRTFP Uy-	0	0	0	0.01	0	0
1110	SLU 1	6	45	3329	-940.75	-39.91	2.44
1110	SLU 2	5	62	3246	-919.43	-38.93	2.5
1110	SLU 3	6	45	3425	-966.84	-41.05	2.59
1110	SLU 4	6	56	3376	-954.05	-40.47	2.63
1110	SLU 5	6	62	3310	-936.74	-39.69	2.69
1110	SLU 6	7	45	3489	-984.15	-41.82	2.78
1110	SLU 7	6	56	3440	-971.36	-41.23	2.82
1110	SLU 8	7	45	3457	-975.37	-41.43	2.81
1110	SLU 9	7	55	3407	-962.58	-40.84	2.85
1110	SLU 10	4	66	3672	-1039.22	-43.97	2.06
1110	SLU 11	5	49	3851	-1086.63	-46.1	2.16
1110	SLU 12	5	59	3802	-1073.84	-45.51	2.2
1110	SLU 13	4	66	3736	-1056.53	-44.73	2.25
1110	SLU 14	5	49	3915	-1103.94	-46.86	2.34
1110	SLU 15	5	59	3866	-1091.15	-46.27	2.38
1110	SLU 16	5	48	3883	-1095.16	-46.47	2.37
1110	SLU 17	5	59	3833	-1082.37	-45.89	2.41
1110	SLU 18	4	50	3938	-1111.88	-47.11	1.82
1110	SLU 19	3	60	3888	-1099.09	-46.52	1.85
1110	SLU 20	4	50	4002	-1129.19	-47.87	2
1110	SLU 21	4	61	3952	-1116.4	-47.29	2.04
1110	SLU 22	5	49	3906	-1100.91	-46.75	2.21
1110	SLU 23	4	67	3823	-1079.58	-45.77	2.27
1110	SLU 24	5	50	4002	-1126.99	-47.9	2.37
1110	SLU 25	5	60	3953	-1114.2	-47.31	2.4
1110	SLU 26	5	67	3887	-1096.89	-46.53	2.46
1110	SLU 27	6	50	4066	-1144.3	-48.66	2.55
1110	SLU 28	6	60	4017	-1131.51	-48.07	2.59
1110	SLU 29	6	50	4034	-1135.53	-48.27	2.58
1110	SLU 30	6	60	3984	-1122.73	-47.68	2.62
1110	SLU 31	3	71	4249	-1199.37	-50.81	1.84
1110	SLU 32	4	54	4428	-1246.78	-52.94	1.93
1110	SLU 33	4	64	4379	-1233.99	-52.35	1.97
1110	SLU 34	4	71	4313	-1216.68	-51.57	2.02
1110	SLU 35	5	54	4492	-1264.09	-53.7	2.12
1110	SLU 36	4	64	4443	-1251.3	-53.11	2.15
1110	SLU 37	5	53	4460	-1255.32	-53.32	2.15
1110	SLU 38	4	64	4410	-1242.52	-52.73	2.18
1110	SLU 39	3	55	4515	-1272.04	-53.95	1.59
1110	SLU 40	3	65	4465	-1259.24	-53.36	1.62
1110	SLU 41	3	55	4579	-1289.35	-54.71	1.77
1110	SLU 42	3	65	4529	-1276.55	-54.13	1.81
1110	SLU 43	8	56	4130	-1168.07	-49.53	3.25

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1110	SLU 44	7	74	4047	-1146.75	-48.55	3.31
1110	SLU 45	8	57	4226	-1194.16	-50.68	3.4
1110	SLU 46	8	67	4177	-1181.36	-50.09	3.44
1110	SLU 47	8	74	4111	-1164.06	-49.32	3.5
1110	SLU 48	9	57	4290	-1211.47	-51.44	3.59
1110	SLU 49	8	67	4241	-1198.67	-50.86	3.63
1110	SLU 50	9	56	4258	-1202.69	-51.06	3.62
1110	SLU 51	9	67	4208	-1189.9	-50.47	3.66
1110	SLU 52	6	78	4473	-1266.54	-53.6	2.87
1110	SLU 53	7	61	4652	-1313.95	-55.72	2.97
1110	SLU 54	7	71	4603	-1301.15	-55.14	3.01
1110	SLU 55	6	78	4537	-1283.85	-54.36	3.06
1110	SLU 56	7	61	4716	-1331.26	-56.49	3.15
1110	SLU 57	7	71	4667	-1318.46	-55.9	3.19
1110	SLU 58	7	60	4684	-1322.48	-56.1	3.18
1110	SLU 59	7	71	4634	-1309.69	-55.51	3.22
1110	SLU 60	6	62	4739	-1339.2	-56.74	2.63
1110	SLU 61	5	72	4689	-1326.41	-56.15	2.66
1110	SLU 62	6	62	4803	-1356.51	-57.5	2.81
1110	SLU 63	6	72	4753	-1343.72	-56.91	2.85
1110	SLU 64	7	61	4707	-1328.22	-56.37	3.02
1110	SLU 65	6	79	4624	-1306.9	-55.39	3.08
1110	SLU 66	7	62	4803	-1354.31	-57.52	3.18
1110	SLU 67	7	72	4753	-1341.52	-56.93	3.21
1110	SLU 68	7	79	4688	-1324.21	-56.16	3.27
1110	SLU 69	8	62	4867	-1371.62	-58.28	3.36
1110	SLU 70	8	72	4817	-1358.83	-57.7	3.4
1110	SLU 71	8	61	4835	-1362.84	-57.9	3.39
1110	SLU 72	8	72	4785	-1350.05	-57.31	3.43
1110	SLU 73	5	82	5050	-1426.69	-60.44	2.65
1110	SLU 74	6	65	5229	-1474.1	-62.56	2.74
1110	SLU 75	6	76	5180	-1461.31	-61.98	2.78
1110	SLU 76	6	82	5114	-1444	-61.2	2.83
1110	SLU 77	7	66	5293	-1491.41	-63.33	2.93
1110	SLU 78	6	76	5244	-1478.62	-62.74	2.96
1110	SLU 79	7	65	5261	-1482.63	-62.94	2.96
1110	SLU 80	6	75	5211	-1469.84	-62.35	2.99
1110	SLU 81	5	67	5316	-1499.35	-63.58	2.4
1110	SLU 82	5	77	5266	-1486.56	-62.99	2.43
1110	SLU 83	5	67	5380	-1516.66	-64.34	2.58
1110	SLU 84	5	77	5330	-1503.87	-63.75	2.62
1110	SLE RA 1	5	46	3494	-986.51	-41.86	2.37
1110	SLE RA 2	5	58	3439	-972.3	-41.21	2.41
1110	SLE RA 3	6	46	3558	-1003.9	-42.63	2.48
1110	SLE RA 4	6	53	3525	-995.37	-42.23	2.5
1110	SLE RA 5	6	58	3481	-983.84	-41.72	2.54
1110	SLE RA 6	6	46	3601	-1015.44	-43.13	2.6
1110	SLE RA 7	6	53	3568	-1006.91	-42.74	2.63
1110	SLE RA 8	6	46	3579	-1009.59	-42.88	2.62
1110	SLE RA 9	6	53	3546	-1001.06	-42.49	2.65
1110	SLE RA 10	4	60	3723	-1052.16	-44.57	2.12
1110	SLE RA 11	5	49	3842	-1083.76	-45.99	2.19
1110	SLE RA 12	5	56	3809	-1075.23	-45.6	2.21
1110	SLE RA 13	5	60	3765	-1063.7	-45.08	2.25
1110	SLE RA 14	5	49	3885	-1095.3	-46.5	2.31
1110	SLE RA 15	5	56	3852	-1086.77	-46.11	2.34
1110	SLE RA 16	5	49	3863	-1089.45	-46.24	2.33
1110	SLE RA 17	5	56	3830	-1080.92	-45.85	2.35
1110	SLE RA 18	4	50	3900	-1100.6	-46.66	1.96
1110	SLE RA 19	4	57	3867	-1092.07	-46.27	1.98
1110	SLE RA 20	5	50	3942	-1112.14	-47.17	2.08
1110	SLE RA 21	4	57	3909	-1103.61	-46.78	2.11
1110	SLE FR 1	5	46	3494	-986.51	-41.86	2.37
1110	SLE FR 2	5	48	3483	-983.67	-41.73	2.38
1110	SLE FR 3	6	46	3511	-991.13	-42.06	2.42
1110	SLE FR 4	5	49	3605	-1017.9	-43.17	2.26
1110	SLE FR 5	5	47	3633	-1025.35	-43.5	2.3
1110	SLE FR 6	5	48	3697	-1043.56	-44.26	2.17
1110	SLE QP 1	5	46	3494	-986.51	-41.86	2.37
1110	SLE QP 2	5	47	3616	-1020.74	-43.3	2.25
1110	SLD 1	428	128	2724	-789.73	-31.92	150.62
1110	SLD 2	353	152	2714	-787.85	-31.77	124.76
1110	SLD 3	437	-92	3978	-1112.68	-46.74	151.97
1110	SLD 4	361	-68	3968	-1110.8	-46.58	126.11
1110	SLD 5	132	401	1449	-461.95	-17.44	49.2
1110	SLD 6	84	417	1442	-460.74	-17.34	32.47
1110	SLD 7	160	-333	5627	-1538.45	-66.83	53.7
1110	SLD 8	112	-317	5621	-1537.24	-66.73	36.97
1110	SLD 9	-101	411	1610	-504.24	-19.87	-32.47
1110	SLD 10	-150	427	1604	-503.02	-19.77	-49.2
1110	SLD 11	-74	-323	5789	-1580.74	-69.26	-27.97
1110	SLD 12	-122	-307	5783	-1579.52	-69.16	-44.71
1110	SLD 13	-351	162	3263	-930.68	-40.02	-121.61
1110	SLD 14	-426	186	3253	-928.8	-39.86	-147.47
1110	SLD 15	-343	-58	4517	-1253.62	-54.83	-120.27
1110	SLD 16	-418	-34	4507	-1251.75	-54.68	-146.13
1110	SLV 1	667	188	2144	-639.42	-24.59	234.52
1110	SLV 2	549	226	2128	-636.47	-24.34	193.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1110	SLV 3	681	-184	4262	-1185.16	-49.63	236.72
1110	SLV 4	563	-146	4247	-1182.2	-49.38	196.01
1110	SLV 5	205	646	-36	-79.19	0.24	76.19
1110	SLV 6	125	672	-47	-77.2	0.41	48.77
1110	SLV 7	251	-594	7026	-1898.32	-83.22	83.53
1110	SLV 8	172	-568	7015	-1896.33	-83.06	56.12
1110	SLV 9	-161	662	216	-145.15	-3.54	-51.62
1110	SLV 10	-241	688	205	-143.16	-3.38	-79.03
1110	SLV 11	-115	-578	7278	-1964.28	-87.01	-44.28
1110	SLV 12	-194	-552	7268	-1962.29	-86.85	-71.69
1110	SLV 13	-553	240	2985	-859.27	-37.22	-191.51
1110	SLV 14	-671	279	2969	-856.32	-36.98	-232.23
1110	SLV 15	-539	-132	5103	-1405.01	-62.26	-189.31
1110	SLV 16	-657	-93	5088	-1402.06	-62.01	-230.02
1110	SLV FO 1	733	202	1996	-601.29	-22.72	257.75
1110	SLV FO 2	603	244	1979	-598.04	-22.45	212.96
1110	SLV FO 3	749	-208	4327	-1201.6	-50.26	260.17
1110	SLV FO 4	619	-166	4310	-1198.35	-49.99	215.38
1110	SLV FO 5	225	706	-402	14.96	4.6	83.58
1110	SLV FO 6	137	735	-413	17.15	4.78	53.43
1110	SLV FO 7	276	-658	7367	-1986.08	-87.21	91.66
1110	SLV FO 8	188	-630	7355	-1983.89	-87.03	61.5
1110	SLV FO 9	-178	724	-124	-57.59	0.43	-57.01
1110	SLV FO 10	-266	752	-136	-55.4	0.61	-87.16
1110	SLV FO 11	-127	-640	7645	-2058.63	-91.38	-48.93
1110	SLV FO 12	-214	-612	7633	-2056.44	-91.2	-79.09
1110	SLV FO 13	-608	260	2922	-843.13	-36.61	-210.88
1110	SLV FO 14	-739	302	2904	-839.87	-36.34	-255.67
1110	SLV FO 15	-593	-149	5252	-1443.44	-64.15	-208.46
1110	SLV FO 16	-723	-107	5235	-1440.19	-63.89	-253.25
1110	CRTFP Ux+	0	0	0	0	0	0
1110	CRTFP Ux-	0	0	0	0	0	0
1110	CRTFP Uy+	0	0	0	0	0	0
1110	CRTFP Uy-	0	0	0	0	0	0
1111	SLU 1	9	42	3476	-912.09	2.96	2.89
1111	SLU 2	8	61	3390	-891.7	2.87	2.69
1111	SLU 3	9	43	3576	-937.12	3.05	3.07
1111	SLU 4	9	54	3525	-924.89	3	2.95
1111	SLU 5	9	61	3457	-908.31	2.93	2.9
1111	SLU 6	10	43	3643	-953.73	3.12	3.29
1111	SLU 7	10	54	3591	-941.5	3.06	3.17
1111	SLU 8	10	42	3609	-945.31	3.08	3.32
1111	SLU 9	10	53	3558	-933.08	3.03	3.2
1111	SLU 10	7	65	3832	-1006.48	3.35	2.24
1111	SLU 11	8	47	4019	-1051.9	3.53	2.63
1111	SLU 12	8	58	3967	-1039.66	3.48	2.51
1111	SLU 13	8	65	3899	-1023.09	3.41	2.46
1111	SLU 14	9	47	4085	-1068.51	3.59	2.84
1111	SLU 15	8	58	4034	-1056.28	3.54	2.72
1111	SLU 16	9	46	4052	-1060.09	3.56	2.88
1111	SLU 17	9	57	4000	-1047.86	3.51	2.76
1111	SLU 18	7	48	4108	-1076.06	3.64	2.25
1111	SLU 19	7	59	4056	-1063.82	3.59	2.13
1111	SLU 20	8	48	4175	-1092.67	3.7	2.47
1111	SLU 21	7	59	4123	-1080.44	3.65	2.35
1111	SLU 22	8	47	4075	-1065.53	3.58	2.7
1111	SLU 23	8	65	3989	-1045.14	3.49	2.5
1111	SLU 24	9	47	4176	-1090.57	3.68	2.88
1111	SLU 25	9	58	4124	-1078.33	3.62	2.76
1111	SLU 26	8	65	4056	-1061.75	3.56	2.71
1111	SLU 27	10	47	4242	-1107.18	3.74	3.1
1111	SLU 28	9	58	4191	-1094.94	3.69	2.98
1111	SLU 29	10	47	4209	-1098.76	3.71	3.13
1111	SLU 30	9	58	4157	-1086.52	3.66	3.01
1111	SLU 31	7	69	4432	-1159.92	3.97	2.05
1111	SLU 32	8	51	4618	-1205.34	4.16	2.44
1111	SLU 33	7	62	4566	-1193.11	4.1	2.32
1111	SLU 34	7	69	4498	-1176.53	4.04	2.27
1111	SLU 35	8	51	4685	-1221.96	4.22	2.65
1111	SLU 36	8	62	4633	-1209.72	4.17	2.53
1111	SLU 37	8	51	4651	-1213.54	4.19	2.69
1111	SLU 38	8	62	4599	-1201.3	4.13	2.57
1111	SLU 39	7	53	4707	-1229.5	4.27	2.06
1111	SLU 40	6	64	4656	-1217.27	4.21	1.94
1111	SLU 41	7	53	4774	-1246.12	4.33	2.28
1111	SLU 42	7	64	4722	-1233.88	4.28	2.16
1111	SLU 43	12	53	4313	-1133.11	3.63	3.82
1111	SLU 44	11	72	4227	-1112.71	3.54	3.62
1111	SLU 45	12	54	4414	-1158.14	3.73	4
1111	SLU 46	12	65	4362	-1145.9	3.67	3.88
1111	SLU 47	12	72	4294	-1129.33	3.6	3.84
1111	SLU 48	13	54	4480	-1174.75	3.79	4.22
1111	SLU 49	12	65	4429	-1162.51	3.73	4.1
1111	SLU 50	13	53	4447	-1166.33	3.76	4.25
1111	SLU 51	13	64	4395	-1154.1	3.7	4.13
1111	SLU 52	10	76	4670	-1227.49	4.02	3.17
1111	SLU 53	11	58	4856	-1272.92	4.2	3.56
1111	SLU 54	11	69	4804	-1260.68	4.15	3.44

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1111	SLU 55	10	76	4736	-1244.11	4.08	3.39
1111	SLU 56	12	58	4923	-1289.53	4.27	3.78
1111	SLU 57	11	69	4871	-1277.29	4.21	3.66
1111	SLU 58	12	57	4889	-1281.11	4.23	3.81
1111	SLU 59	11	68	4837	-1268.87	4.18	3.69
1111	SLU 60	10	59	4945	-1297.08	4.31	3.18
1111	SLU 61	10	70	4894	-1284.84	4.26	3.06
1111	SLU 62	10	59	5012	-1313.69	4.38	3.4
1111	SLU 63	10	70	4960	-1301.45	4.32	3.28
1111	SLU 64	11	58	4913	-1286.55	4.26	3.63
1111	SLU 65	11	77	4827	-1266.16	4.17	3.43
1111	SLU 66	12	59	5013	-1311.58	4.35	3.81
1111	SLU 67	11	70	4962	-1299.35	4.3	3.69
1111	SLU 68	11	76	4893	-1282.77	4.23	3.65
1111	SLU 69	12	59	5080	-1328.2	4.41	4.03
1111	SLU 70	12	70	5028	-1315.96	4.36	3.91
1111	SLU 71	12	58	5046	-1319.78	4.38	4.06
1111	SLU 72	12	69	4994	-1307.54	4.33	3.94
1111	SLU 73	9	80	5269	-1380.94	4.65	2.98
1111	SLU 74	10	62	5455	-1426.36	4.83	3.37
1111	SLU 75	10	73	5404	-1414.13	4.78	3.25
1111	SLU 76	10	80	5336	-1397.55	4.71	3.2
1111	SLU 77	11	62	5522	-1442.97	4.89	3.59
1111	SLU 78	11	73	5470	-1430.74	4.84	3.47
1111	SLU 79	11	62	5488	-1434.55	4.86	3.62
1111	SLU 80	11	73	5437	-1422.32	4.81	3.5
1111	SLU 81	9	64	5545	-1450.52	4.94	2.99
1111	SLU 82	9	75	5493	-1438.29	4.89	2.87
1111	SLU 83	10	64	5611	-1467.13	5	3.21
1111	SLU 84	10	75	5560	-1454.9	4.95	3.09
1111	SLE RA 1	9	44	3647	-955.93	3.14	2.83
1111	SLE RA 2	8	56	3590	-942.34	3.08	2.7
1111	SLE RA 3	9	44	3714	-972.62	3.2	2.96
1111	SLE RA 4	9	51	3680	-964.46	3.16	2.88
1111	SLE RA 5	9	56	3634	-953.41	3.12	2.84
1111	SLE RA 6	9	44	3759	-983.69	3.24	3.1
1111	SLE RA 7	9	51	3724	-975.54	3.21	3.02
1111	SLE RA 8	10	44	3736	-978.08	3.22	3.12
1111	SLE RA 9	9	51	3702	-969.92	3.18	3.04
1111	SLE RA 10	7	59	3885	-1018.86	3.4	2.4
1111	SLE RA 11	8	47	4009	-1049.14	3.52	2.66
1111	SLE RA 12	8	54	3975	-1040.98	3.48	2.58
1111	SLE RA 13	8	59	3929	-1029.93	3.44	2.55
1111	SLE RA 14	9	47	4054	-1060.21	3.56	2.8
1111	SLE RA 15	8	54	4019	-1052.06	3.52	2.72
1111	SLE RA 16	9	46	4031	-1054.6	3.54	2.83
1111	SLE RA 17	8	54	3997	-1046.44	3.5	2.75
1111	SLE RA 18	8	47	4069	-1065.24	3.59	2.41
1111	SLE RA 19	7	55	4034	-1057.09	3.56	2.33
1111	SLE RA 20	8	47	4113	-1076.32	3.63	2.55
1111	SLE RA 21	8	55	4079	-1068.16	3.6	2.47
1111	SLE FR 1	9	44	3647	-955.93	3.14	2.83
1111	SLE FR 2	9	46	3636	-953.21	3.12	2.81
1111	SLE FR 3	9	44	3665	-960.36	3.15	2.89
1111	SLE FR 4	8	47	3762	-986.01	3.26	2.68
1111	SLE FR 5	9	45	3792	-993.15	3.29	2.76
1111	SLE FR 6	8	46	3858	-1010.59	3.36	2.62
1111	SLE QP 1	9	44	3647	-955.93	3.14	2.83
1111	SLE QP 2	8	45	3774	-988.72	3.27	2.7
1111	SLD 1	458	127	2819	-766	3.31	160.13
1111	SLD 2	378	157	2807	-763.88	3.36	132.18
1111	SLD 3	468	-107	4121	-1074.9	4.65	163.69
1111	SLD 4	388	-77	4109	-1072.78	4.71	135.73
1111	SLD 5	142	419	1515	-453.78	1.23	49.39
1111	SLD 6	90	438	1507	-452.41	1.27	31.3
1111	SLD 7	175	-360	5854	-1483.44	5.72	61.24
1111	SLD 8	124	-341	5847	-1482.07	5.76	43.15
1111	SLD 9	-107	430	1701	-495.38	0.79	-37.74
1111	SLD 10	-159	450	1693	-494.01	0.83	-55.83
1111	SLD 11	-73	-348	6040	-1525.04	5.28	-25.89
1111	SLD 12	-125	-329	6033	-1523.67	5.32	-43.98
1111	SLD 13	-371	166	3439	-904.67	1.84	-130.32
1111	SLD 14	-452	196	3427	-902.55	1.89	-158.28
1111	SLD 15	-361	-67	4741	-1213.57	3.19	-126.77
1111	SLD 16	-442	-37	4729	-1211.45	3.24	-154.72
1111	SLV 1	712	188	2199	-621.25	3.24	249.01
1111	SLV 2	586	235	2181	-617.92	3.32	204.99
1111	SLV 3	729	-207	4400	-1143.24	5.51	254.96
1111	SLV 4	603	-160	4381	-1139.91	5.6	210.94
1111	SLV 5	218	677	-32	-87.43	-0.2	75.78
1111	SLV 6	133	709	-45	-85.19	-0.15	46.14
1111	SLV 7	274	-638	7302	-1827.37	7.38	95.63
1111	SLV 8	189	-606	7289	-1825.13	7.44	65.99
1111	SLV 9	-172	696	258	-152.32	-0.89	-60.58
1111	SLV 10	-257	727	246	-150.08	-0.83	-90.22
1111	SLV 11	-116	-619	7592	-1892.26	6.7	-40.73
1111	SLV 12	-201	-588	7579	-1890.02	6.75	-70.37
1111	SLV 13	-586	250	3167	-837.54	0.95	-205.53

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1111	SLV 14	-713	296	3148	-834.21	1.03	-249.55
1111	SLV 15	-569	-145	5367	-1359.53	3.23	-199.58
1111	SLV 16	-696	-98	5348	-1356.2	3.31	-243.6
1111	SLV FO 1	783	202	2042	-584.51	3.23	273.64
1111	SLV FO 2	644	254	2021	-580.84	3.32	225.21
1111	SLV FO 3	801	-232	4462	-1158.69	5.74	280.19
1111	SLV FO 4	662	-180	4441	-1155.02	5.83	231.76
1111	SLV FO 5	239	741	-413	2.7	-0.55	83.09
1111	SLV FO 6	145	775	-427	5.16	-0.49	50.48
1111	SLV FO 7	300	-706	7655	-1911.24	7.79	104.92
1111	SLV FO 8	207	-671	7641	-1908.77	7.85	72.32
1111	SLV FO 9	-190	761	-93	-68.68	-1.31	-66.91
1111	SLV FO 10	-283	796	-107	-66.21	-1.25	-99.51
1111	SLV FO 11	-128	-686	7974	-1982.61	7.04	-45.08
1111	SLV FO 12	-222	-651	7960	-1980.15	7.1	-77.68
1111	SLV FO 13	-646	270	3106	-822.42	0.72	-226.36
1111	SLV FO 14	-785	321	3085	-818.76	0.81	-274.78
1111	SLV FO 15	-627	-164	5526	-1396.61	3.22	-219.8
1111	SLV FO 16	-766	-113	5506	-1392.94	3.31	-268.23
1111	CRTFP Ux+	0	0	0	0	0	0
1111	CRTFP Ux-	0	0	0	0	0	0
1111	CRTFP Uy+	0	0	0	0	0	0
1111	CRTFP Uy-	0	0	0	0	0	0
1112	SLU 1	11	36	3385	-825.36	2.95	3.76
1112	SLU 2	11	54	3301	-807.2	2.86	3.53
1112	SLU 3	12	36	3482	-847.77	3.04	3.98
1112	SLU 4	12	47	3432	-836.87	2.99	3.84
1112	SLU 5	11	54	3366	-822.08	2.92	3.77
1112	SLU 6	13	36	3547	-862.65	3.1	4.21
1112	SLU 7	12	47	3497	-851.75	3.05	4.07
1112	SLU 8	13	36	3514	-855.13	3.07	4.24
1112	SLU 9	12	47	3464	-844.23	3.02	4.1
1112	SLU 10	10	58	3729	-909.54	3.34	3.15
1112	SLU 11	11	40	3909	-950.1	3.52	3.6
1112	SLU 12	11	51	3859	-939.21	3.47	3.46
1112	SLU 13	10	58	3793	-924.42	3.4	3.39
1112	SLU 14	12	40	3974	-964.98	3.58	3.84
1112	SLU 15	11	51	3924	-954.09	3.53	3.7
1112	SLU 16	12	39	3941	-957.46	3.55	3.86
1112	SLU 17	11	50	3891	-946.56	3.5	3.72
1112	SLU 18	10	41	3995	-971.56	3.63	3.22
1112	SLU 19	9	52	3945	-960.66	3.58	3.08
1112	SLU 20	11	41	4060	-986.44	3.7	3.46
1112	SLU 21	10	52	4010	-975.54	3.64	3.32
1112	SLU 22	11	40	3965	-962.25	3.57	3.69
1112	SLU 23	11	58	3881	-944.08	3.49	3.46
1112	SLU 24	12	40	4062	-984.65	3.67	3.9
1112	SLU 25	11	51	4012	-973.75	3.62	3.76
1112	SLU 26	11	58	3946	-958.96	3.55	3.69
1112	SLU 27	13	40	4127	-999.53	3.73	4.14
1112	SLU 28	12	51	4077	-988.63	3.68	4
1112	SLU 29	13	40	4094	-992.01	3.7	4.17
1112	SLU 30	12	51	4044	-981.11	3.65	4.03
1112	SLU 31	10	62	4309	-1046.42	3.97	3.08
1112	SLU 32	11	44	4489	-1086.99	4.15	3.52
1112	SLU 33	10	55	4439	-1076.09	4.1	3.38
1112	SLU 34	10	62	4373	-1061.3	4.03	3.32
1112	SLU 35	11	44	4554	-1101.87	4.21	3.76
1112	SLU 36	11	55	4504	-1090.97	4.16	3.62
1112	SLU 37	12	43	4521	-1094.34	4.18	3.79
1112	SLU 38	11	54	4471	-1083.44	4.13	3.65
1112	SLU 39	10	45	4575	-1108.44	4.26	3.15
1112	SLU 40	9	56	4525	-1097.54	4.21	3.01
1112	SLU 41	10	45	4640	-1123.32	4.32	3.39
1112	SLU 42	10	56	4590	-1112.42	4.27	3.25
1112	SLU 43	15	45	4201	-1026.04	3.62	4.92
1112	SLU 44	14	63	4118	-1007.88	3.53	4.69
1112	SLU 45	15	45	4298	-1048.45	3.71	5.13
1112	SLU 46	15	56	4248	-1037.55	3.66	4.99
1112	SLU 47	15	63	4182	-1022.76	3.6	4.92
1112	SLU 48	16	45	4363	-1063.33	3.78	5.37
1112	SLU 49	16	56	4313	-1052.43	3.72	5.23
1112	SLU 50	16	45	4330	-1055.8	3.74	5.39
1112	SLU 51	16	56	4280	-1044.91	3.69	5.25
1112	SLU 52	13	67	4545	-1110.22	4.01	4.31
1112	SLU 53	14	49	4726	-1150.78	4.19	4.75
1112	SLU 54	14	60	4676	-1139.89	4.14	4.61
1112	SLU 55	14	67	4610	-1125.1	4.08	4.54
1112	SLU 56	15	49	4791	-1165.66	4.26	4.99
1112	SLU 57	15	60	4741	-1154.77	4.2	4.85
1112	SLU 58	15	49	4758	-1158.14	4.22	5.02
1112	SLU 59	15	60	4708	-1147.24	4.17	4.88
1112	SLU 60	13	50	4812	-1172.23	4.31	4.38
1112	SLU 61	13	61	4762	-1161.34	4.25	4.24
1112	SLU 62	14	50	4876	-1187.12	4.37	4.62
1112	SLU 63	14	61	4826	-1176.22	4.32	4.48
1112	SLU 64	15	49	4781	-1162.93	4.24	4.84
1112	SLU 65	14	67	4698	-1144.76	4.16	4.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1112	SLU 66	15	50	4878	-1185.33	4.34	5.06
1112	SLU 67	15	60	4828	-1174.43	4.29	4.92
1112	SLU 68	15	67	4762	-1159.64	4.22	4.85
1112	SLU 69	16	49	4943	-1200.21	4.4	5.29
1112	SLU 70	16	60	4893	-1189.31	4.35	5.16
1112	SLU 71	16	49	4910	-1192.69	4.37	5.32
1112	SLU 72	16	60	4860	-1181.79	4.32	5.18
1112	SLU 73	13	71	5125	-1247.1	4.64	4.23
1112	SLU 74	14	53	5306	-1287.66	4.82	4.68
1112	SLU 75	14	64	5256	-1276.77	4.77	4.54
1112	SLU 76	14	71	5190	-1261.98	4.7	4.47
1112	SLU 77	15	53	5371	-1302.54	4.88	4.92
1112	SLU 78	15	64	5321	-1291.65	4.83	4.78
1112	SLU 79	15	53	5338	-1295.02	4.85	4.94
1112	SLU 80	15	64	5288	-1284.12	4.8	4.8
1112	SLU 81	13	54	5392	-1309.12	4.93	4.3
1112	SLU 82	13	65	5342	-1298.22	4.88	4.16
1112	SLU 83	14	54	5456	-1324	4.99	4.54
1112	SLU 84	13	65	5406	-1313.1	4.94	4.4
1112	SLE RA 1	11	37	3550	-864.47	3.13	3.74
1112	SLE RA 2	11	49	3495	-852.37	3.07	3.59
1112	SLE RA 3	12	37	3615	-879.41	3.19	3.88
1112	SLE RA 4	12	44	3582	-872.15	3.16	3.79
1112	SLE RA 5	11	49	3538	-862.29	3.11	3.75
1112	SLE RA 6	12	37	3658	-889.33	3.23	4.04
1112	SLE RA 7	12	44	3625	-882.07	3.2	3.95
1112	SLE RA 8	12	37	3637	-884.31	3.21	4.06
1112	SLE RA 9	12	44	3603	-877.05	3.18	3.97
1112	SLE RA 10	10	51	3780	-920.59	3.39	3.34
1112	SLE RA 11	11	40	3900	-947.63	3.51	3.63
1112	SLE RA 12	11	47	3867	-940.37	3.48	3.54
1112	SLE RA 13	11	51	3823	-930.51	3.43	3.49
1112	SLE RA 14	12	40	3943	-957.55	3.55	3.79
1112	SLE RA 15	11	47	3910	-950.29	3.52	3.7
1112	SLE RA 16	12	39	3921	-952.54	3.53	3.81
1112	SLE RA 17	11	47	3888	-945.27	3.5	3.71
1112	SLE RA 18	10	40	3957	-961.93	3.58	3.38
1112	SLE RA 19	10	48	3924	-954.67	3.55	3.29
1112	SLE RA 20	11	40	4000	-971.85	3.63	3.54
1112	SLE RA 21	11	48	3967	-964.59	3.59	3.45
1112	SLE FR 1	11	37	3550	-864.47	3.13	3.74
1112	SLE FR 2	11	39	3539	-862.05	3.12	3.71
1112	SLE FR 3	12	37	3567	-868.44	3.14	3.81
1112	SLE FR 4	11	40	3661	-891.29	3.25	3.6
1112	SLE FR 5	11	38	3690	-897.68	3.28	3.7
1112	SLE FR 6	11	39	3754	-913.2	3.36	3.56
1112	SLE QP 1	11	37	3550	-864.47	3.13	3.74
1112	SLE QP 2	11	38	3672	-893.71	3.26	3.63
1112	SLD 1	460	119	2717	-693.52	3.32	160.82
1112	SLD 2	380	152	2703	-690.84	3.4	132.78
1112	SLD 3	471	-113	3978	-968.76	4.61	164.79
1112	SLD 4	391	-80	3964	-966.09	4.69	136.74
1112	SLD 5	143	408	1476	-416.67	1.3	49.64
1112	SLD 6	91	429	1467	-414.94	1.35	31.5
1112	SLD 7	180	-364	5679	-1334.14	5.62	62.86
1112	SLD 8	128	-343	5670	-1332.41	5.67	44.72
1112	SLD 9	-106	419	1675	-455.01	0.86	-37.45
1112	SLD 10	-158	440	1666	-453.28	0.91	-55.59
1112	SLD 11	-69	-353	5878	-1372.49	5.17	-24.23
1112	SLD 12	-121	-332	5869	-1370.76	5.22	-42.37
1112	SLD 13	-369	156	3381	-821.34	1.84	-129.48
1112	SLD 14	-449	189	3367	-818.66	1.92	-157.52
1112	SLD 15	-358	-76	4642	-1096.58	3.13	-125.51
1112	SLD 16	-438	-43	4628	-1093.9	3.21	-153.55
1112	SLV 1	714	179	2100	-563.59	3.27	249.54
1112	SLV 2	587	230	2078	-559.37	3.39	205.38
1112	SLV 3	732	-212	4231	-1028.69	5.45	256.19
1112	SLV 4	606	-161	4209	-1024.47	5.57	212.03
1112	SLV 5	217	664	-28	-90.07	-0.07	75.56
1112	SLV 6	132	699	-42	-87.23	0.01	45.83
1112	SLV 7	279	-640	7076	-1640.39	7.21	97.73
1112	SLV 8	194	-606	7062	-1637.55	7.3	68
1112	SLV 9	-172	682	283	-149.87	-0.77	-60.73
1112	SLV 10	-257	716	268	-147.04	-0.69	-90.46
1112	SLV 11	-110	-623	7387	-1700.2	6.52	-38.56
1112	SLV 12	-195	-588	7372	-1697.36	6.6	-68.29
1112	SLV 13	-584	237	3136	-762.95	0.95	-204.76
1112	SLV 14	-710	288	3114	-758.74	1.08	-248.92
1112	SLV 15	-565	-154	5267	-1228.05	3.14	-198.11
1112	SLV 16	-691	-103	5245	-1223.84	3.26	-242.27
1112	SLV FO 1	784	193	1943	-530.58	3.27	274.13
1112	SLV FO 2	645	250	1919	-525.94	3.4	225.55
1112	SLV FO 3	804	-237	4287	-1042.18	5.67	281.44
1112	SLV FO 4	665	-181	4263	-1037.55	5.81	232.87
1112	SLV FO 5	238	727	-398	-9.7	-0.41	82.75
1112	SLV FO 6	144	765	-414	-6.58	-0.32	50.05
1112	SLV FO 7	306	-708	7417	-1715.06	7.61	107.14
1112	SLV FO 8	212	-670	7401	-1711.93	7.7	74.43

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1112	SLV FO 9	-190	746	-56	-75.49	-1.17	-67.17
1112	SLV FO 10	-284	784	-72	-72.37	-1.08	-99.87
1112	SLV FO 11	-122	-689	7759	-1780.85	6.85	-42.78
1112	SLV FO 12	-216	-651	7742	-1777.72	6.94	-75.48
1112	SLV FO 13	-643	257	3082	-749.88	0.72	-225.6
1112	SLV FO 14	-782	313	3058	-745.24	0.86	-274.17
1112	SLV FO 15	-622	-174	5426	-1261.48	3.13	-218.29
1112	SLV FO 16	-762	-117	5402	-1256.85	3.26	-266.86
1112	CRTFP Ux+	0	0	0	0	0	0
1112	CRTFP Ux-	0	0	0	0	0	0
1112	CRTFP Uy+	0	0	0	0	0	0
1112	CRTFP Uy-	0	0	0	0	0	0
1113	SLU 1	14	29	3308	-758.08	1.98	4.65
1113	SLU 2	13	47	3227	-741.62	1.92	4.39
1113	SLU 3	15	29	3403	-778.49	2.04	4.89
1113	SLU 4	14	40	3355	-768.61	2	4.73
1113	SLU 5	14	47	3290	-755.19	1.96	4.64
1113	SLU 6	15	29	3467	-792.06	2.08	5.15
1113	SLU 7	15	40	3418	-782.18	2.04	4.99
1113	SLU 8	15	29	3435	-785.23	2.06	5.17
1113	SLU 9	15	40	3386	-775.36	2.02	5.01
1113	SLU 10	12	50	3642	-834.19	2.26	4.08
1113	SLU 11	14	33	3818	-871.06	2.38	4.59
1113	SLU 12	13	43	3770	-861.18	2.35	4.43
1113	SLU 13	13	50	3705	-847.76	2.3	4.34
1113	SLU 14	14	33	3881	-884.63	2.42	4.84
1113	SLU 15	14	43	3833	-874.75	2.39	4.69
1113	SLU 16	15	32	3850	-877.8	2.4	4.86
1113	SLU 17	14	43	3801	-867.93	2.36	4.7
1113	SLU 18	13	34	3901	-890.33	2.47	4.22
1113	SLU 19	12	45	3852	-880.45	2.43	4.06
1113	SLU 20	13	34	3964	-903.9	2.51	4.47
1113	SLU 21	13	45	3915	-894.02	2.47	4.32
1113	SLU 22	14	33	3872	-882.07	2.41	4.7
1113	SLU 23	13	51	3791	-865.61	2.36	4.44
1113	SLU 24	15	33	3967	-902.47	2.48	4.94
1113	SLU 25	14	44	3918	-892.6	2.44	4.78
1113	SLU 26	14	51	3854	-879.18	2.4	4.69
1113	SLU 27	16	33	4030	-916.05	2.52	5.2
1113	SLU 28	15	44	3982	-906.17	2.48	5.04
1113	SLU 29	16	32	3998	-909.22	2.49	5.22
1113	SLU 30	15	43	3950	-899.34	2.46	5.06
1113	SLU 31	13	54	4206	-958.18	2.7	4.13
1113	SLU 32	14	36	4382	-995.04	2.82	4.64
1113	SLU 33	14	47	4333	-985.17	2.78	4.48
1113	SLU 34	13	54	4269	-971.75	2.74	4.39
1113	SLU 35	15	36	4445	-1008.62	2.86	4.89
1113	SLU 36	14	47	4396	-998.74	2.82	4.74
1113	SLU 37	15	36	4413	-1001.79	2.84	4.91
1113	SLU 38	14	46	4364	-991.91	2.8	4.75
1113	SLU 39	13	37	4465	-1014.31	2.9	4.27
1113	SLU 40	12	48	4416	-1004.43	2.87	4.11
1113	SLU 41	14	37	4528	-1027.89	2.94	4.52
1113	SLU 42	13	48	4479	-1018.01	2.91	4.36
1113	SLU 43	18	37	4108	-943	2.42	6.03
1113	SLU 44	17	55	4027	-926.53	2.36	5.76
1113	SLU 45	19	37	4203	-963.4	2.48	6.27
1113	SLU 46	18	48	4154	-953.52	2.45	6.11
1113	SLU 47	18	55	4090	-940.11	2.4	6.02
1113	SLU 48	19	37	4266	-976.98	2.52	6.53
1113	SLU 49	19	48	4217	-967.1	2.49	6.37
1113	SLU 50	19	37	4234	-970.15	2.5	6.54
1113	SLU 51	19	47	4185	-960.27	2.46	6.39
1113	SLU 52	16	58	4441	-1019.1	2.7	5.46
1113	SLU 53	18	40	4618	-1055.97	2.82	5.96
1113	SLU 54	17	51	4569	-1046.09	2.79	5.81
1113	SLU 55	17	58	4505	-1032.68	2.74	5.72
1113	SLU 56	19	40	4681	-1069.55	2.86	6.22
1113	SLU 57	18	51	4632	-1059.67	2.83	6.06
1113	SLU 58	19	40	4649	-1062.72	2.84	6.24
1113	SLU 59	18	51	4600	-1052.84	2.81	6.08
1113	SLU 60	17	41	4700	-1075.24	2.91	5.59
1113	SLU 61	16	52	4652	-1065.36	2.87	5.44
1113	SLU 62	18	41	4763	-1088.82	2.95	5.85
1113	SLU 63	17	52	4715	-1078.94	2.91	5.69
1113	SLU 64	18	40	4671	-1066.98	2.86	6.08
1113	SLU 65	17	58	4590	-1050.52	2.8	5.81
1113	SLU 66	19	40	4766	-1087.39	2.92	6.32
1113	SLU 67	18	51	4718	-1077.51	2.88	6.16
1113	SLU 68	18	58	4653	-1064.1	2.84	6.07
1113	SLU 69	20	40	4830	-1100.97	2.96	6.58
1113	SLU 70	19	51	4781	-1091.09	2.92	6.42
1113	SLU 71	20	40	4798	-1094.14	2.94	6.59
1113	SLU 72	19	51	4749	-1084.26	2.9	6.44
1113	SLU 73	17	61	5005	-1143.09	3.14	5.51
1113	SLU 74	18	44	5181	-1179.96	3.26	6.01
1113	SLU 75	18	54	5133	-1170.08	3.23	5.86
1113	SLU 76	17	61	5068	-1156.67	3.18	5.77

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1113	SLU 77	19	44	5244	-1193.54	3.3	6.27
1113	SLU 78	18	54	5196	-1183.66	3.27	6.11
1113	SLU 79	19	43	5212	-1186.71	3.28	6.29
1113	SLU 80	18	54	5164	-1176.83	3.24	6.13
1113	SLU 81	17	45	5264	-1199.23	3.35	5.64
1113	SLU 82	17	56	5215	-1189.35	3.31	5.49
1113	SLU 83	18	45	5327	-1212.8	3.39	5.9
1113	SLU 84	17	56	5278	-1202.92	3.35	5.74
1113	SLE RA 1	14	30	3470	-793.51	2.1	4.66
1113	SLE RA 2	13	42	3415	-782.53	2.06	4.49
1113	SLE RA 3	14	30	3533	-807.11	2.14	4.82
1113	SLE RA 4	14	37	3500	-800.52	2.12	4.72
1113	SLE RA 5	14	42	3458	-791.58	2.09	4.66
1113	SLE RA 6	15	30	3575	-816.16	2.17	5
1113	SLE RA 7	15	37	3542	-809.57	2.15	4.89
1113	SLE RA 8	15	30	3554	-811.61	2.15	5.01
1113	SLE RA 9	15	37	3521	-805.02	2.13	4.9
1113	SLE RA 10	13	44	3692	-844.24	2.29	4.29
1113	SLE RA 11	14	32	3809	-868.82	2.37	4.62
1113	SLE RA 12	14	40	3777	-862.24	2.35	4.52
1113	SLE RA 13	13	44	3734	-853.29	2.32	4.46
1113	SLE RA 14	14	32	3851	-877.87	2.4	4.79
1113	SLE RA 15	14	40	3819	-871.29	2.38	4.69
1113	SLE RA 16	14	32	3830	-873.32	2.38	4.81
1113	SLE RA 17	14	39	3798	-866.74	2.36	4.7
1113	SLE RA 18	13	33	3865	-881.67	2.43	4.37
1113	SLE RA 19	13	40	3832	-875.08	2.4	4.27
1113	SLE RA 20	14	33	3907	-890.72	2.45	4.55
1113	SLE RA 21	13	40	3874	-884.13	2.43	4.44
1113	SLE FR 1	14	30	3470	-793.51	2.1	4.66
1113	SLE FR 2	14	33	3459	-791.31	2.09	4.63
1113	SLE FR 3	14	30	3486	-797.13	2.11	4.73
1113	SLE FR 4	14	33	3577	-817.76	2.19	4.54
1113	SLE FR 5	14	31	3605	-823.58	2.21	4.65
1113	SLE FR 6	14	32	3667	-837.59	2.26	4.52
1113	SLE QP 1	14	30	3470	-793.51	2.1	4.66
1113	SLE QP 2	14	31	3588	-819.96	2.2	4.58
1113	SLD 1	462	113	2627	-636.28	2.56	161.43
1113	SLD 2	381	148	2610	-632.52	2.67	133.32
1113	SLD 3	474	-117	3855	-885.89	3.42	165.8
1113	SLD 4	393	-82	3838	-882.13	3.53	137.68
1113	SLD 5	143	398	1440	-386.93	0.99	49.89
1113	SLD 6	91	421	1430	-384.5	1.06	31.7
1113	SLD 7	184	-368	5533	-1218.96	3.85	64.44
1113	SLD 8	132	-345	5522	-1216.53	3.92	46.25
1113	SLD 9	-105	407	1654	-423.38	0.48	-37.1
1113	SLD 10	-157	430	1643	-420.95	0.55	-55.28
1113	SLD 11	-64	-359	5747	-1255.41	3.34	-22.55
1113	SLD 12	-116	-336	5736	-1252.98	3.41	-40.74
1113	SLD 13	-366	144	3338	-757.78	0.87	-128.53
1113	SLD 14	-446	179	3321	-754.02	0.98	-156.64
1113	SLD 15	-354	-86	4566	-1007.39	1.73	-124.17
1113	SLD 16	-434	-51	4549	-1003.63	1.84	-152.28
1113	SLV 1	714	173	2009	-517.27	2.71	249.93
1113	SLV 2	587	229	1982	-511.35	2.88	205.67
1113	SLV 3	735	-215	4084	-939.05	4.16	257.26
1113	SLV 4	608	-160	4058	-933.12	4.33	213
1113	SLV 5	216	652	-28	-90.57	0.12	75.33
1113	SLV 6	131	689	-46	-86.58	0.24	45.53
1113	SLV 7	285	-642	6889	-1496.48	4.95	99.76
1113	SLV 8	200	-605	6871	-1492.49	5.07	69.96
1113	SLV 9	-172	667	305	-147.42	-0.67	-60.8
1113	SLV 10	-258	704	287	-143.43	-0.56	-90.6
1113	SLV 11	-103	-627	7222	-1553.33	4.16	-36.38
1113	SLV 12	-189	-590	7204	-1549.34	4.28	-66.18
1113	SLV 13	-581	222	3118	-706.79	0.06	-203.84
1113	SLV 14	-708	277	3092	-700.87	0.24	-248.1
1113	SLV 15	-560	-166	5194	-1128.57	1.51	-196.52
1113	SLV 16	-687	-111	5167	-1122.64	1.69	-240.78
1113	SLV FO 1	784	188	1851	-487.01	2.76	274.47
1113	SLV FO 2	645	248	1822	-480.49	2.95	225.78
1113	SLV FO 3	807	-239	4133	-950.96	4.35	282.53
1113	SLV FO 4	668	-179	4105	-944.44	4.55	233.84
1113	SLV FO 5	236	714	-390	-17.63	-0.09	82.41
1113	SLV FO 6	143	755	-409	-13.24	0.04	49.63
1113	SLV FO 7	312	-709	7219	-1564.13	5.23	109.27
1113	SLV FO 8	218	-668	7200	-1559.74	5.36	76.49
1113	SLV FO 9	-191	730	-24	-80.17	-0.96	-67.34
1113	SLV FO 10	-285	771	-43	-75.78	-0.83	-100.12
1113	SLV FO 11	-115	-693	7585	-1626.67	4.35	-40.47
1113	SLV FO 12	-209	-652	7566	-1622.28	4.48	-73.25
1113	SLV FO 13	-640	241	3072	-695.48	-0.15	-224.68
1113	SLV FO 14	-780	302	3043	-688.96	0.04	-273.37
1113	SLV FO 15	-617	-186	5354	-1159.43	1.45	-216.62
1113	SLV FO 16	-757	-125	5325	-1152.91	1.64	-265.31
1113	CRTFP Ux+	0	0	0	0	0	0
1113	CRTFP Ux-	0	0	0	0	0	0
1113	CRTFP Uy+	0	0	0	0	0	0

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1113	CRTFP Uy-	0	0	0	0	0	0
1114	SLU 1	16	23	3272	-723.32	0.35	5.57
1114	SLU 2	16	41	3192	-707.67	0.34	5.28
1114	SLU 3	17	23	3366	-742.75	0.36	5.84
1114	SLU 4	17	34	3318	-733.36	0.35	5.67
1114	SLU 5	16	41	3255	-720.64	0.34	5.56
1114	SLU 6	18	23	3429	-755.72	0.36	6.12
1114	SLU 7	18	34	3381	-746.33	0.36	5.94
1114	SLU 8	18	23	3397	-749.26	0.36	6.13
1114	SLU 9	18	33	3349	-739.87	0.35	5.95
1114	SLU 10	15	44	3600	-795.01	0.45	5.06
1114	SLU 11	17	26	3774	-830.09	0.47	5.62
1114	SLU 12	16	37	3726	-820.7	0.47	5.44
1114	SLU 13	16	44	3662	-807.98	0.46	5.34
1114	SLU 14	17	26	3836	-843.05	0.48	5.9
1114	SLU 15	17	37	3788	-833.66	0.47	5.72
1114	SLU 16	17	26	3805	-836.59	0.47	5.91
1114	SLU 17	17	36	3757	-827.2	0.46	5.73
1114	SLU 18	16	27	3855	-848.08	0.51	5.26
1114	SLU 19	15	38	3807	-838.69	0.5	5.08
1114	SLU 20	16	27	3917	-861.05	0.51	5.54
1114	SLU 21	16	38	3869	-851.66	0.51	5.36
1114	SLU 22	17	26	3827	-840.56	0.47	5.76
1114	SLU 23	16	44	3747	-824.91	0.46	5.46
1114	SLU 24	18	26	3921	-859.99	0.48	6.03
1114	SLU 25	17	37	3873	-850.6	0.48	5.85
1114	SLU 26	17	44	3810	-837.88	0.47	5.74
1114	SLU 27	19	26	3983	-872.96	0.49	6.3
1114	SLU 28	18	36	3935	-863.57	0.48	6.13
1114	SLU 29	19	25	3952	-866.49	0.48	6.31
1114	SLU 30	18	36	3904	-857.11	0.48	6.14
1114	SLU 31	16	47	4155	-912.24	0.58	5.24
1114	SLU 32	17	29	4329	-947.32	0.6	5.81
1114	SLU 33	17	40	4281	-937.93	0.59	5.63
1114	SLU 34	16	46	4217	-925.21	0.58	5.52
1114	SLU 35	18	29	4391	-960.29	0.6	6.08
1114	SLU 36	18	39	4343	-950.9	0.6	5.91
1114	SLU 37	18	28	4360	-953.83	0.6	6.09
1114	SLU 38	18	39	4312	-944.44	0.59	5.92
1114	SLU 39	16	30	4410	-965.32	0.63	5.44
1114	SLU 40	16	41	4362	-955.93	0.63	5.27
1114	SLU 41	17	30	4472	-978.29	0.64	5.72
1114	SLU 42	17	41	4424	-968.9	0.63	5.54
1114	SLU 43	21	29	4064	-900.13	0.41	7.18
1114	SLU 44	20	47	3984	-884.48	0.4	6.89
1114	SLU 45	22	29	4158	-919.55	0.42	7.45
1114	SLU 46	22	40	4109	-910.17	0.41	7.27
1114	SLU 47	21	47	4046	-897.44	0.4	7.17
1114	SLU 48	23	29	4220	-932.52	0.42	7.73
1114	SLU 49	22	40	4172	-923.13	0.42	7.55
1114	SLU 50	23	29	4189	-926.06	0.42	7.74
1114	SLU 51	22	39	4141	-916.67	0.41	7.56
1114	SLU 52	20	50	4391	-971.81	0.51	6.67
1114	SLU 53	21	32	4565	-1006.89	0.53	7.23
1114	SLU 54	21	43	4517	-997.5	0.53	7.05
1114	SLU 55	21	50	4454	-984.78	0.52	6.95
1114	SLU 56	22	32	4628	-1019.85	0.54	7.51
1114	SLU 57	22	43	4580	-1010.47	0.53	7.33
1114	SLU 58	22	32	4596	-1013.39	0.53	7.52
1114	SLU 59	22	42	4548	-1004	0.52	7.34
1114	SLU 60	20	33	4646	-1024.89	0.57	6.87
1114	SLU 61	20	44	4598	-1015.5	0.56	6.69
1114	SLU 62	21	33	4709	-1037.85	0.57	7.14
1114	SLU 63	21	44	4661	-1028.46	0.57	6.97
1114	SLU 64	22	32	4619	-1017.36	0.53	7.37
1114	SLU 65	21	50	4539	-1001.71	0.52	7.07
1114	SLU 66	23	32	4712	-1036.79	0.55	7.63
1114	SLU 67	22	42	4664	-1027.4	0.54	7.46
1114	SLU 68	22	49	4601	-1014.68	0.53	7.35
1114	SLU 69	23	32	4775	-1049.76	0.55	7.91
1114	SLU 70	23	42	4727	-1040.37	0.54	7.74
1114	SLU 71	23	31	4744	-1043.3	0.54	7.92
1114	SLU 72	23	42	4695	-1033.91	0.54	7.75
1114	SLU 73	20	52	4946	-1089.04	0.64	6.85
1114	SLU 74	22	35	5120	-1124.12	0.66	7.41
1114	SLU 75	21	45	5072	-1114.73	0.65	7.24
1114	SLU 76	21	52	5009	-1102.01	0.64	7.13
1114	SLU 77	23	35	5183	-1137.09	0.66	7.69
1114	SLU 78	22	45	5135	-1127.7	0.66	7.52
1114	SLU 79	23	34	5151	-1130.63	0.66	7.7
1114	SLU 80	22	45	5103	-1121.24	0.65	7.53
1114	SLU 81	21	36	5201	-1142.12	0.7	7.05
1114	SLU 82	20	47	5153	-1132.73	0.69	6.87
1114	SLU 83	22	36	5264	-1155.09	0.7	7.33
1114	SLU 84	21	46	5216	-1145.7	0.69	7.15
1114	SLE RA 1	17	24	3431	-756.82	0.38	5.63
1114	SLE RA 2	16	36	3377	-746.39	0.38	5.43
1114	SLE RA 3	17	24	3493	-769.77	0.39	5.8

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1114	SLE RA 4	17	31	3461	-763.51	0.39	5.69
1114	SLE RA 5	17	36	3419	-755.03	0.38	5.62
1114	SLE RA 6	18	24	3535	-778.42	0.39	5.99
1114	SLE RA 7	17	31	3503	-772.16	0.39	5.87
1114	SLE RA 8	18	24	3514	-774.11	0.39	6
1114	SLE RA 9	17	31	3482	-767.85	0.39	5.88
1114	SLE RA 10	16	38	3649	-804.61	0.45	5.28
1114	SLE RA 11	17	26	3765	-827.99	0.47	5.66
1114	SLE RA 12	16	33	3733	-821.73	0.46	5.54
1114	SLE RA 13	16	38	3691	-813.25	0.46	5.47
1114	SLE RA 14	17	26	3807	-836.64	0.47	5.84
1114	SLE RA 15	17	33	3775	-830.38	0.47	5.73
1114	SLE RA 16	17	26	3786	-832.33	0.46	5.85
1114	SLE RA 17	17	33	3754	-826.07	0.46	5.73
1114	SLE RA 18	16	26	3819	-839.99	0.49	5.42
1114	SLE RA 19	16	34	3787	-833.73	0.49	5.3
1114	SLE RA 20	17	26	3861	-848.64	0.49	5.6
1114	SLE RA 21	16	34	3829	-842.38	0.49	5.48
1114	SLE FR 1	17	24	3431	-756.82	0.38	5.63
1114	SLE FR 2	17	26	3420	-754.73	0.38	5.59
1114	SLE FR 3	17	24	3447	-760.28	0.38	5.7
1114	SLE FR 4	16	27	3537	-779.68	0.41	5.52
1114	SLE FR 5	17	24	3564	-785.23	0.42	5.64
1114	SLE FR 6	16	25	3625	-798.41	0.44	5.52
1114	SLE QP 1	17	24	3431	-756.82	0.38	5.63
1114	SLE QP 2	16	25	3547	-781.77	0.42	5.56
1114	SLD 1	463	108	2568	-604.58	1.28	161.97
1114	SLD 2	382	145	2547	-599.06	1.43	133.81
1114	SLD 3	476	-120	3780	-841.74	1.45	166.74
1114	SLD 4	396	-83	3759	-836.22	1.6	138.58
1114	SLD 5	144	390	1419	-369.87	0.4	50.14
1114	SLD 6	92	414	1405	-366.3	0.5	31.92
1114	SLD 7	189	-372	5459	-1160.42	0.95	66.04
1114	SLD 8	137	-348	5446	-1156.85	1.04	47.82
1114	SLD 9	-104	397	1649	-406.7	-0.21	-36.69
1114	SLD 10	-156	421	1636	-403.13	-0.12	-54.91
1114	SLD 11	-59	-365	5689	-1197.24	0.33	-20.79
1114	SLD 12	-111	-341	5676	-1193.67	0.43	-39.01
1114	SLD 13	-363	132	3335	-727.32	-0.77	-127.46
1114	SLD 14	-444	170	3315	-721.8	-0.62	-155.62
1114	SLD 15	-349	-96	4547	-964.48	-0.6	-122.69
1114	SLD 16	-430	-59	4527	-958.97	-0.45	-150.85
1114	SLV 1	715	169	1941	-490	1.76	250.2
1114	SLV 2	588	228	1908	-481.31	2	205.86
1114	SLV 3	738	-217	3989	-890.74	2.03	258.22
1114	SLV 4	611	-159	3957	-882.05	2.27	213.88
1114	SLV 5	215	643	-36	-88.08	0.36	75.08
1114	SLV 6	130	683	-57	-82.23	0.52	45.22
1114	SLV 7	291	-645	6793	-1423.87	1.27	101.79
1114	SLV 8	206	-606	6771	-1418.02	1.43	71.94
1114	SLV 9	-173	655	324	-145.52	-0.6	-60.81
1114	SLV 10	-258	694	302	-139.67	-0.44	-90.66
1114	SLV 11	-97	-633	7152	-1481.32	0.31	-34.1
1114	SLV 12	-182	-594	7130	-1475.47	0.47	-63.95
1114	SLV 13	-578	208	3138	-681.49	-1.44	-202.75
1114	SLV 14	-705	266	3106	-672.8	-1.2	-247.09
1114	SLV 15	-555	-179	5187	-1082.23	-1.17	-194.74
1114	SLV 16	-682	-120	5154	-1073.54	-0.93	-239.08
1114	SLV FO 1	785	184	1780	-460.83	1.89	274.67
1114	SLV FO 2	645	248	1744	-451.27	2.16	225.89
1114	SLV FO 3	810	-241	4033	-901.64	2.2	283.48
1114	SLV FO 4	670	-177	3998	-892.08	2.46	234.71
1114	SLV FO 5	235	705	-394	-18.71	0.35	82.03
1114	SLV FO 6	141	748	-418	-12.27	0.53	49.19
1114	SLV FO 7	319	-712	7117	-1488.08	1.36	111.41
1114	SLV FO 8	225	-669	7093	-1481.64	1.54	78.57
1114	SLV FO 9	-192	718	1	-81.9	-0.71	-67.45
1114	SLV FO 10	-286	761	-23	-75.46	-0.53	-100.29
1114	SLV FO 11	-108	-699	7513	-1551.27	0.3	-38.06
1114	SLV FO 12	-202	-656	7489	-1544.84	0.48	-70.9
1114	SLV FO 13	-637	226	3097	-671.46	-1.63	-223.58
1114	SLV FO 14	-777	290	3061	-661.9	-1.36	-272.36
1114	SLV FO 15	-612	-199	5350	-1112.27	-1.32	-214.77
1114	SLV FO 16	-752	-135	5315	-1102.72	-1.06	-263.54
1114	CRTFP Ux+	0	0	0	0	0	0
1114	CRTFP Ux-	0	0	0	0	0	0
1114	CRTFP Uy+	0	0	0	0	0	0
1114	CRTFP Uy-	0	0	0	0	0	0
1115	SLU 1	19	17	3292	-730.6	-1.7	6.53
1115	SLU 2	18	35	3211	-714.64	-1.65	6.21
1115	SLU 3	20	18	3387	-750.37	-1.75	6.83
1115	SLU 4	19	28	3338	-740.8	-1.73	6.64
1115	SLU 5	19	35	3274	-727.89	-1.69	6.51
1115	SLU 6	21	17	3450	-763.63	-1.79	7.13
1115	SLU 7	20	28	3401	-754.05	-1.77	6.94
1115	SLU 8	21	17	3418	-757.11	-1.78	7.13
1115	SLU 9	20	28	3370	-747.53	-1.75	6.94
1115	SLU 10	18	38	3620	-802.58	-1.83	6.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1115	SLU 11	20	20	3795	-838.31	-1.93	6.7
1115	SLU 12	19	31	3747	-828.74	-1.9	6.51
1115	SLU 13	19	38	3683	-815.83	-1.87	6.38
1115	SLU 14	20	20	3858	-851.57	-1.97	7
1115	SLU 15	20	31	3810	-841.99	-1.94	6.81
1115	SLU 16	20	20	3827	-845.05	-1.96	7
1115	SLU 17	20	31	3778	-835.47	-1.93	6.81
1115	SLU 18	19	21	3876	-856.23	-1.95	6.35
1115	SLU 19	18	32	3827	-846.65	-1.92	6.15
1115	SLU 20	19	21	3939	-869.49	-1.99	6.65
1115	SLU 21	19	32	3890	-859.91	-1.96	6.45
1115	SLU 22	20	20	3849	-849	-1.97	6.86
1115	SLU 23	19	38	3768	-833.04	-1.92	6.54
1115	SLU 24	21	20	3944	-868.78	-2.02	7.16
1115	SLU 25	20	30	3895	-859.2	-1.99	6.97
1115	SLU 26	20	37	3831	-846.29	-1.96	6.84
1115	SLU 27	22	20	4006	-882.03	-2.06	7.46
1115	SLU 28	21	30	3958	-872.45	-2.03	7.27
1115	SLU 29	22	19	3975	-875.51	-2.05	7.46
1115	SLU 30	21	30	3927	-865.93	-2.02	7.27
1115	SLU 31	19	40	4177	-920.98	-2.1	6.41
1115	SLU 32	21	22	4352	-956.72	-2.2	7.03
1115	SLU 33	20	33	4304	-947.14	-2.17	6.84
1115	SLU 34	20	40	4240	-934.23	-2.14	6.71
1115	SLU 35	21	22	4415	-969.97	-2.24	7.33
1115	SLU 36	21	33	4367	-960.39	-2.21	7.14
1115	SLU 37	21	22	4384	-963.45	-2.22	7.33
1115	SLU 38	21	33	4335	-953.87	-2.19	7.14
1115	SLU 39	20	23	4433	-974.63	-2.22	6.68
1115	SLU 40	19	34	4384	-965.05	-2.19	6.49
1115	SLU 41	20	23	4496	-987.89	-2.26	6.98
1115	SLU 42	20	34	4447	-978.31	-2.23	6.79
1115	SLU 43	25	22	4089	-909.19	-2.12	8.38
1115	SLU 44	24	40	4008	-893.22	-2.07	8.05
1115	SLU 45	25	22	4183	-928.96	-2.17	8.68
1115	SLU 46	25	33	4135	-919.38	-2.14	8.48
1115	SLU 47	24	40	4071	-906.48	-2.11	8.35
1115	SLU 48	26	22	4246	-942.21	-2.21	8.98
1115	SLU 49	26	33	4198	-932.64	-2.18	8.78
1115	SLU 50	26	22	4215	-935.7	-2.2	8.98
1115	SLU 51	26	33	4166	-926.12	-2.17	8.78
1115	SLU 52	23	42	4417	-981.16	-2.25	7.92
1115	SLU 53	25	25	4592	-1016.9	-2.35	8.55
1115	SLU 54	24	35	4543	-1007.32	-2.32	8.35
1115	SLU 55	24	42	4480	-994.42	-2.29	8.22
1115	SLU 56	26	25	4655	-1030.16	-2.39	8.85
1115	SLU 57	25	35	4606	-1020.58	-2.36	8.65
1115	SLU 58	26	24	4623	-1023.64	-2.38	8.85
1115	SLU 59	25	35	4575	-1014.06	-2.35	8.65
1115	SLU 60	24	26	4673	-1034.82	-2.37	8.19
1115	SLU 61	23	36	4624	-1025.24	-2.34	8
1115	SLU 62	25	26	4735	-1048.07	-2.41	8.49
1115	SLU 63	24	36	4687	-1038.49	-2.38	8.3
1115	SLU 64	26	24	4646	-1027.59	-2.39	8.71
1115	SLU 65	25	42	4565	-1011.62	-2.34	8.38
1115	SLU 66	26	24	4740	-1047.36	-2.44	9.01
1115	SLU 67	26	35	4692	-1037.78	-2.41	8.81
1115	SLU 68	25	42	4628	-1024.88	-2.38	8.68
1115	SLU 69	27	24	4803	-1060.62	-2.48	9.31
1115	SLU 70	27	35	4755	-1051.04	-2.45	9.11
1115	SLU 71	27	24	4772	-1054.1	-2.47	9.31
1115	SLU 72	27	35	4723	-1044.52	-2.44	9.11
1115	SLU 73	24	45	4974	-1099.56	-2.51	8.26
1115	SLU 74	26	27	5149	-1135.3	-2.62	8.88
1115	SLU 75	25	38	5100	-1125.72	-2.59	8.68
1115	SLU 76	25	45	5037	-1112.82	-2.55	8.56
1115	SLU 77	27	27	5212	-1148.56	-2.66	9.18
1115	SLU 78	26	37	5163	-1138.98	-2.63	8.98
1115	SLU 79	27	27	5180	-1142.04	-2.64	9.18
1115	SLU 80	26	37	5132	-1132.46	-2.61	8.99
1115	SLU 81	25	28	5229	-1153.22	-2.64	8.53
1115	SLU 82	24	39	5181	-1143.64	-2.61	8.33
1115	SLU 83	26	28	5292	-1166.47	-2.68	8.83
1115	SLU 84	25	39	5244	-1156.89	-2.65	8.63
1115	SLE RA 1	19	18	3451	-764.43	-1.78	6.63
1115	SLE RA 2	19	30	3397	-753.79	-1.74	6.41
1115	SLE RA 3	20	18	3514	-777.61	-1.81	6.83
1115	SLE RA 4	20	25	3482	-771.23	-1.79	6.7
1115	SLE RA 5	19	30	3439	-762.62	-1.77	6.61
1115	SLE RA 6	21	18	3556	-786.45	-1.84	7.03
1115	SLE RA 7	20	25	3524	-780.06	-1.82	6.9
1115	SLE RA 8	21	18	3535	-782.1	-1.83	7.03
1115	SLE RA 9	20	25	3503	-775.72	-1.81	6.9
1115	SLE RA 10	19	32	3670	-812.41	-1.86	6.32
1115	SLE RA 11	20	20	3787	-836.24	-1.93	6.74
1115	SLE RA 12	19	27	3754	-829.85	-1.91	6.61
1115	SLE RA 13	19	32	3712	-821.25	-1.89	6.52
1115	SLE RA 14	20	20	3829	-845.08	-1.96	6.94

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1115	SLE RA 15	20	27	3796	-838.69	-1.94	6.81
1115	SLE RA 16	20	20	3808	-840.73	-1.95	6.94
1115	SLE RA 17	20	27	3775	-834.34	-1.93	6.81
1115	SLE RA 18	19	21	3840	-848.18	-1.95	6.5
1115	SLE RA 19	19	28	3808	-841.8	-1.93	6.37
1115	SLE RA 20	20	21	3882	-857.02	-1.97	6.7
1115	SLE RA 21	19	28	3850	-850.63	-1.95	6.57
1115	SLE FR 1	19	18	3451	-764.43	-1.78	6.63
1115	SLE FR 2	19	20	3440	-762.3	-1.77	6.58
1115	SLE FR 3	20	18	3468	-767.96	-1.79	6.71
1115	SLE FR 4	19	21	3557	-787.43	-1.82	6.55
1115	SLE FR 5	20	19	3585	-793.09	-1.84	6.67
1115	SLE FR 6	19	19	3646	-806.31	-1.86	6.57
1115	SLE QP 1	19	18	3451	-764.43	-1.78	6.63
1115	SLE QP 2	19	19	3568	-789.56	-1.83	6.59
1115	SLD 1	464	103	2553	-606.23	-0.32	162.44
1115	SLD 2	383	142	2527	-598.09	-0.12	134.25
1115	SLD 3	479	-126	3773	-847.91	-1.03	167.63
1115	SLD 4	398	-87	3747	-839.76	-0.83	139.44
1115	SLD 5	144	384	1417	-369.44	-0.33	50.37
1115	SLD 6	92	410	1401	-364.16	-0.21	32.13
1115	SLD 7	194	-378	5485	-1175.01	-2.7	67.67
1115	SLD 8	142	-353	5468	-1169.74	-2.57	49.43
1115	SLD 9	-103	391	1668	-409.37	-1.09	-36.25
1115	SLD 10	-155	416	1651	-404.1	-0.96	-54.49
1115	SLD 11	-53	-372	5735	-1214.95	-3.45	-18.95
1115	SLD 12	-106	-347	5718	-1209.68	-3.32	-37.19
1115	SLD 13	-360	125	3389	-739.35	-2.82	-126.26
1115	SLD 14	-440	164	3363	-731.2	-2.62	-154.45
1115	SLD 15	-345	-104	4609	-981.02	-3.53	-121.07
1115	SLD 16	-425	-65	4583	-972.88	-3.33	-149.26
1115	SLV 1	715	164	1905	-487.93	0.57	250.33
1115	SLV 2	588	226	1864	-475.11	0.88	205.94
1115	SLV 3	740	-223	3967	-896.29	-0.63	259.06
1115	SLV 4	613	-161	3927	-883.47	-0.32	214.67
1115	SLV 5	214	637	-51	-82.12	0.65	74.76
1115	SLV 6	128	679	-78	-73.49	0.86	44.88
1115	SLV 7	297	-651	6823	-1443.31	-3.35	103.85
1115	SLV 8	212	-610	6796	-1434.68	-3.13	73.96
1115	SLV 9	-173	648	340	-144.43	-0.52	-60.78
1115	SLV 10	-259	689	313	-135.8	-0.31	-90.67
1115	SLV 11	-89	-641	7214	-1505.63	-4.52	-31.7
1115	SLV 12	-175	-600	7187	-1496.99	-4.31	-61.58
1115	SLV 13	-574	199	3209	-695.65	-3.34	-201.49
1115	SLV 14	-701	260	3169	-682.82	-3.02	-245.88
1115	SLV 15	-549	-188	5272	-1104	-4.54	-192.76
1115	SLV 16	-676	-126	5231	-1091.18	-4.22	-237.15
1115	SLV FO 1	784	179	1739	-457.77	0.81	274.71
1115	SLV FO 2	645	246	1694	-443.66	1.15	225.88
1115	SLV FO 3	812	-247	4007	-906.97	-0.51	284.31
1115	SLV FO 4	672	-179	3962	-892.86	-0.17	235.48
1115	SLV FO 5	233	699	-413	-11.38	0.9	81.58
1115	SLV FO 6	139	745	-443	-1.88	1.13	48.71
1115	SLV FO 7	325	-719	7149	-1508.69	-3.5	113.58
1115	SLV FO 8	231	-673	7118	-1499.19	-3.26	80.7
1115	SLV FO 9	-192	711	18	-79.92	-0.39	-67.52
1115	SLV FO 10	-286	756	-13	-70.42	-0.16	-100.4
1115	SLV FO 11	-100	-707	7579	-1577.23	-4.79	-35.52
1115	SLV FO 12	-195	-662	7549	-1567.73	-4.55	-68.4
1115	SLV FO 13	-634	217	3174	-686.26	-3.49	-222.3
1115	SLV FO 14	-773	284	3129	-672.15	-3.14	-271.13
1115	SLV FO 15	-606	-209	5442	-1135.45	-4.81	-212.7
1115	SLV FO 16	-746	-141	5397	-1121.34	-4.46	-261.53
1115	CRTFP Ux+	0	0	0	0	0	0
1115	CRTFP Ux-	0	0	0	0	0	0
1115	CRTFP Uy+	0	0	0	0	0	0
1115	CRTFP Uy-	0	0	0	0	0	0
1116	SLU 1	22	13	3377	-786.27	-3.96	7.53
1116	SLU 2	21	31	3294	-768.69	-3.85	7.17
1116	SLU 3	23	13	3475	-807.9	-4.09	7.86
1116	SLU 4	22	24	3425	-797.35	-4.02	7.64
1116	SLU 5	22	31	3359	-783.26	-3.94	7.49
1116	SLU 6	24	13	3540	-822.47	-4.18	8.18
1116	SLU 7	23	24	3490	-811.93	-4.11	7.96
1116	SLU 8	24	13	3507	-815.41	-4.14	8.17
1116	SLU 9	23	24	3457	-804.86	-4.07	7.95
1116	SLU 10	21	34	3713	-863.95	-4.35	7.14
1116	SLU 11	23	16	3893	-903.16	-4.58	7.83
1116	SLU 12	22	27	3844	-892.61	-4.52	7.61
1116	SLU 13	22	34	3778	-878.52	-4.43	7.46
1116	SLU 14	24	16	3958	-917.73	-4.67	8.15
1116	SLU 15	23	26	3908	-907.18	-4.61	7.94
1116	SLU 16	24	16	3926	-910.67	-4.64	8.14
1116	SLU 17	23	26	3876	-900.12	-4.57	7.93
1116	SLU 18	22	17	3976	-922.35	-4.67	7.49
1116	SLU 19	21	28	3926	-911.8	-4.6	7.27
1116	SLU 20	23	17	4041	-936.92	-4.76	7.81
1116	SLU 21	22	27	3991	-926.37	-4.69	7.59

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1116	SLU 22	23	15	3949	-914.92	-4.66	8.01
1116	SLU 23	22	33	3866	-897.35	-4.55	7.66
1116	SLU 24	24	15	4046	-936.56	-4.79	8.34
1116	SLU 25	24	26	3996	-926.01	-4.72	8.13
1116	SLU 26	23	33	3931	-911.92	-4.64	7.98
1116	SLU 27	25	15	4111	-951.13	-4.88	8.67
1116	SLU 28	24	26	4061	-940.58	-4.81	8.45
1116	SLU 29	25	15	4079	-944.07	-4.84	8.66
1116	SLU 30	24	26	4029	-933.52	-4.77	8.44
1116	SLU 31	22	35	4285	-992.6	-5.04	7.63
1116	SLU 32	24	17	4465	-1031.81	-5.28	8.32
1116	SLU 33	24	28	4415	-1021.27	-5.22	8.1
1116	SLU 34	23	35	4350	-1007.17	-5.13	7.95
1116	SLU 35	25	17	4530	-1046.38	-5.37	8.64
1116	SLU 36	24	28	4480	-1035.84	-5.3	8.42
1116	SLU 37	25	17	4497	-1039.32	-5.33	8.63
1116	SLU 38	24	28	4448	-1028.78	-5.27	8.41
1116	SLU 39	23	18	4547	-1051	-5.37	7.97
1116	SLU 40	23	29	4497	-1040.46	-5.3	7.76
1116	SLU 41	24	18	4612	-1065.57	-5.46	8.3
1116	SLU 42	23	29	4562	-1055.03	-5.39	8.08
1116	SLU 43	28	17	4195	-978.04	-4.91	9.62
1116	SLU 44	27	35	4112	-960.46	-4.8	9.26
1116	SLU 45	29	17	4292	-999.67	-5.04	9.95
1116	SLU 46	28	28	4242	-989.12	-4.97	9.73
1116	SLU 47	28	35	4177	-975.03	-4.89	9.58
1116	SLU 48	30	17	4357	-1014.24	-5.12	10.27
1116	SLU 49	29	28	4307	-1003.7	-5.06	10.05
1116	SLU 50	30	17	4325	-1007.18	-5.09	10.26
1116	SLU 51	29	27	4275	-996.63	-5.02	10.04
1116	SLU 52	27	37	4530	-1055.71	-5.29	9.23
1116	SLU 53	29	19	4711	-1094.93	-5.53	9.92
1116	SLU 54	28	30	4661	-1084.38	-5.46	9.7
1116	SLU 55	28	37	4595	-1070.29	-5.38	9.55
1116	SLU 56	30	19	4776	-1109.5	-5.62	10.24
1116	SLU 57	29	30	4726	-1098.95	-5.55	10.03
1116	SLU 58	30	19	4743	-1102.44	-5.58	10.23
1116	SLU 59	29	30	4693	-1091.89	-5.52	10.02
1116	SLU 60	28	20	4793	-1114.12	-5.62	9.58
1116	SLU 61	27	31	4743	-1103.57	-5.55	9.36
1116	SLU 62	29	20	4858	-1128.69	-5.71	9.9
1116	SLU 63	28	31	4808	-1118.14	-5.64	9.68
1116	SLU 64	29	19	4766	-1106.69	-5.61	10.1
1116	SLU 65	28	37	4683	-1089.12	-5.5	9.75
1116	SLU 66	30	19	4863	-1128.33	-5.74	10.43
1116	SLU 67	30	29	4814	-1117.78	-5.67	10.22
1116	SLU 68	29	36	4748	-1103.69	-5.59	10.07
1116	SLU 69	31	18	4928	-1142.9	-5.82	10.76
1116	SLU 70	31	29	4878	-1132.35	-5.76	10.54
1116	SLU 71	31	18	4896	-1135.84	-5.79	10.75
1116	SLU 72	30	29	4846	-1125.29	-5.72	10.53
1116	SLU 73	28	39	5102	-1184.37	-5.99	9.72
1116	SLU 74	30	21	5282	-1223.58	-6.23	10.41
1116	SLU 75	30	32	5232	-1213.04	-6.16	10.19
1116	SLU 76	29	39	5167	-1198.94	-6.08	10.04
1116	SLU 77	31	21	5347	-1238.15	-6.32	10.73
1116	SLU 78	30	32	5297	-1227.61	-6.25	10.51
1116	SLU 79	31	21	5315	-1231.09	-6.28	10.72
1116	SLU 80	30	32	5265	-1220.55	-6.22	10.5
1116	SLU 81	29	22	5364	-1242.77	-6.32	10.06
1116	SLU 82	29	33	5315	-1232.23	-6.25	9.85
1116	SLU 83	30	22	5429	-1257.34	-6.41	10.39
1116	SLU 84	30	33	5380	-1246.8	-6.34	10.17
1116	SLE RA 1	22	14	3541	-823.03	-4.16	7.67
1116	SLE RA 2	22	26	3485	-811.31	-4.09	7.43
1116	SLE RA 3	23	14	3606	-837.45	-4.24	7.89
1116	SLE RA 4	22	21	3572	-830.42	-4.2	7.74
1116	SLE RA 5	22	26	3529	-821.02	-4.15	7.64
1116	SLE RA 6	23	14	3649	-847.16	-4.3	8.1
1116	SLE RA 7	23	21	3616	-840.13	-4.26	7.96
1116	SLE RA 8	23	14	3627	-842.46	-4.28	8.09
1116	SLE RA 9	23	21	3594	-835.43	-4.23	7.95
1116	SLE RA 10	21	27	3765	-874.81	-4.42	7.41
1116	SLE RA 11	23	15	3885	-900.95	-4.58	7.87
1116	SLE RA 12	22	23	3851	-893.92	-4.53	7.72
1116	SLE RA 13	22	27	3808	-884.53	-4.48	7.62
1116	SLE RA 14	23	15	3928	-910.67	-4.64	8.08
1116	SLE RA 15	23	23	3895	-903.64	-4.59	7.94
1116	SLE RA 16	23	15	3906	-905.96	-4.61	8.08
1116	SLE RA 17	23	23	3873	-898.93	-4.57	7.93
1116	SLE RA 18	22	16	3940	-913.75	-4.63	7.64
1116	SLE RA 19	22	23	3906	-906.71	-4.59	7.5
1116	SLE RA 20	23	16	3983	-923.46	-4.69	7.85
1116	SLE RA 21	22	23	3950	-916.43	-4.65	7.71
1116	SLE FR 1	22	14	3541	-823.03	-4.16	7.67
1116	SLE FR 2	22	16	3530	-820.68	-4.15	7.62
1116	SLE FR 3	22	14	3558	-826.91	-4.18	7.75
1116	SLE FR 4	22	17	3649	-847.9	-4.29	7.61

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1116	SLE FR 5	22	15	3678	-854.13	-4.33	7.74
1116	SLE FR 6	22	15	3740	-868.39	-4.4	7.65
1116	SLE QP 1	22	14	3541	-823.03	-4.16	7.67
1116	SLE QP 2	22	15	3660	-850.24	-4.3	7.66
1116	SLD 1	465	122	2589	-646.62	-2.09	162.84
1116	SLD 2	384	164	2557	-634.8	-1.84	134.63
1116	SLD 3	481	-108	3845	-912.19	-3.75	168.48
1116	SLD 4	400	-67	3812	-900.37	-3.5	140.26
1116	SLD 5	144	389	1440	-388.43	-1.16	50.56
1116	SLD 6	92	416	1419	-380.78	-1	32.31
1116	SLD 7	199	-379	5626	-1273.65	-6.7	69.34
1116	SLD 8	146	-352	5605	-1266	-6.54	51.09
1116	SLD 9	-102	381	1716	-434.48	-2.07	-35.78
1116	SLD 10	-154	408	1695	-426.83	-1.9	-54.03
1116	SLD 11	-48	-387	5902	-1319.7	-7.61	-16.99
1116	SLD 12	-100	-360	5881	-1312.05	-7.44	-35.25
1116	SLD 13	-356	96	3508	-800.12	-5.1	-124.95
1116	SLD 14	-437	137	3476	-788.3	-4.85	-153.16
1116	SLD 15	-340	-134	4764	-1065.69	-6.77	-119.31
1116	SLD 16	-421	-93	4731	-1053.86	-6.51	-147.53
1116	SLV 1	715	198	1908	-515.4	-0.75	250.32
1116	SLV 2	587	262	1856	-496.78	-0.35	205.9
1116	SLV 3	742	-192	4030	-964.13	-3.56	259.8
1116	SLV 4	615	-127	3979	-945.52	-3.16	215.38
1116	SLV 5	212	648	-75	-72.68	0.95	74.37
1116	SLV 6	126	691	-110	-60.15	1.22	44.46
1116	SLV 7	303	-650	7000	-1568.46	-8.41	105.97
1116	SLV 8	218	-606	6966	-1555.93	-8.14	76.06
1116	SLV 9	-173	635	355	-144.56	-0.46	-60.75
1116	SLV 10	-259	679	321	-132.02	-0.19	-90.65
1116	SLV 11	-82	-662	7430	-1640.34	-9.82	-29.15
1116	SLV 12	-168	-618	7396	-1627.8	-9.55	-59.05
1116	SLV 13	-570	156	3342	-754.97	-5.45	-200.07
1116	SLV 14	-698	221	3290	-736.35	-5.05	-244.49
1116	SLV 15	-543	-233	5464	-1203.7	-8.26	-190.59
1116	SLV 16	-670	-168	5413	-1185.09	-7.86	-235.01
1116	SLV FO 1	784	216	1733	-481.91	-0.39	274.59
1116	SLV FO 2	644	287	1676	-461.44	0.05	225.73
1116	SLV FO 3	814	-212	4068	-975.52	-3.48	285.02
1116	SLV FO 4	674	-141	4011	-955.04	-3.04	236.16
1116	SLV FO 5	231	711	-448	5.07	1.47	81.04
1116	SLV FO 6	137	759	-487	18.86	1.77	48.14
1116	SLV FO 7	332	-716	7334	-1640.29	-8.82	115.8
1116	SLV FO 8	237	-668	7296	-1626.5	-8.53	82.9
1116	SLV FO 9	-193	697	25	-73.99	-0.08	-67.59
1116	SLV FO 10	-287	745	-13	-60.2	0.22	-100.49
1116	SLV FO 11	-92	-730	7807	-1719.35	-10.37	-32.83
1116	SLV FO 12	-187	-682	7769	-1705.56	-10.08	-65.73
1116	SLV FO 13	-630	170	3310	-745.44	-5.56	-220.84
1116	SLV FO 14	-770	241	3253	-724.97	-5.12	-269.7
1116	SLV FO 15	-600	-258	5645	-1239.05	-8.65	-210.41
1116	SLV FO 16	-739	-187	5588	-1218.57	-8.21	-259.28
1116	CRTFP Ux+	0	0	0	0	0	0
1116	CRTFP Ux-	0	0	0	0	0	0
1116	CRTFP Uy+	0	0	0	0	0	0
1116	CRTFP Uy-	0	0	0	0	0	0
1117	SLU 1	24	11	3532	-892.96	-6.23	8.55
1117	SLU 2	23	30	3444	-872.41	-6.05	8.16
1117	SLU 3	26	11	3634	-918.05	-6.43	8.91
1117	SLU 4	25	22	3581	-905.72	-6.32	8.68
1117	SLU 5	24	29	3513	-889.38	-6.19	8.5
1117	SLU 6	27	11	3702	-935.02	-6.57	9.25
1117	SLU 7	26	22	3650	-922.69	-6.46	9.02
1117	SLU 8	26	11	3668	-926.91	-6.51	9.24
1117	SLU 9	26	22	3616	-914.58	-6.4	9
1117	SLU 10	24	32	3883	-982.02	-6.87	8.24
1117	SLU 11	26	14	4072	-1027.66	-7.24	8.99
1117	SLU 12	25	24	4020	-1015.33	-7.14	8.76
1117	SLU 13	25	32	3951	-998.99	-7.01	8.58
1117	SLU 14	27	14	4141	-1044.63	-7.38	9.33
1117	SLU 15	26	24	4088	-1032.3	-7.28	9.1
1117	SLU 16	27	13	4107	-1036.51	-7.32	9.32
1117	SLU 17	26	24	4055	-1024.19	-7.22	9.08
1117	SLU 18	25	14	4158	-1049.55	-7.4	8.66
1117	SLU 19	24	25	4106	-1037.22	-7.29	8.43
1117	SLU 20	26	14	4227	-1066.52	-7.53	9.01
1117	SLU 21	25	25	4174	-1054.19	-7.43	8.77
1117	SLU 22	26	13	4131	-1041.42	-7.36	9.2
1117	SLU 23	25	31	4043	-1020.87	-7.19	8.81
1117	SLU 24	27	13	4233	-1066.51	-7.56	9.56
1117	SLU 25	27	24	4181	-1054.18	-7.45	9.33
1117	SLU 26	26	31	4112	-1037.84	-7.32	9.15
1117	SLU 27	28	13	4301	-1083.48	-7.7	9.91
1117	SLU 28	28	24	4249	-1071.15	-7.59	9.67
1117	SLU 29	28	13	4268	-1075.36	-7.64	9.89
1117	SLU 30	28	24	4215	-1063.04	-7.53	9.65
1117	SLU 31	25	33	4482	-1130.48	-8	8.89
1117	SLU 32	28	15	4672	-1176.12	-8.38	9.64

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1117	SLU 33	27	26	4619	-1163.79	-8.27	9.41
1117	SLU 34	26	33	4550	-1147.45	-8.14	9.23
1117	SLU 35	29	15	4740	-1193.09	-8.52	9.99
1117	SLU 36	28	26	4688	-1180.76	-8.41	9.75
1117	SLU 37	29	15	4706	-1184.97	-8.46	9.97
1117	SLU 38	28	26	4654	-1172.64	-8.35	9.73
1117	SLU 39	27	16	4758	-1198	-8.53	9.31
1117	SLU 40	26	27	4705	-1185.68	-8.42	9.08
1117	SLU 41	28	16	4826	-1214.98	-8.67	9.66
1117	SLU 42	27	27	4773	-1202.65	-8.56	9.42
1117	SLU 43	31	14	4386	-1109.95	-7.71	10.89
1117	SLU 44	30	32	4298	-1089.4	-7.53	10.5
1117	SLU 45	32	14	4488	-1135.04	-7.91	11.25
1117	SLU 46	32	25	4435	-1122.71	-7.8	11.02
1117	SLU 47	31	32	4367	-1106.37	-7.67	10.84
1117	SLU 48	33	14	4556	-1152.01	-8.05	11.6
1117	SLU 49	33	25	4504	-1139.68	-7.94	11.36
1117	SLU 50	33	14	4522	-1143.89	-7.99	11.58
1117	SLU 51	32	25	4470	-1131.56	-7.88	11.34
1117	SLU 52	30	35	4737	-1199.01	-8.35	10.58
1117	SLU 53	32	16	4926	-1244.65	-8.72	11.33
1117	SLU 54	32	27	4874	-1232.32	-8.62	11.1
1117	SLU 55	31	35	4805	-1215.98	-8.49	10.92
1117	SLU 56	33	16	4995	-1261.62	-8.86	11.67
1117	SLU 57	33	27	4942	-1249.29	-8.76	11.44
1117	SLU 58	33	16	4961	-1253.5	-8.8	11.66
1117	SLU 59	33	27	4909	-1241.17	-8.7	11.42
1117	SLU 60	32	17	5012	-1266.53	-8.88	11
1117	SLU 61	31	28	4960	-1254.2	-8.77	10.77
1117	SLU 62	33	17	5081	-1283.51	-9.01	11.35
1117	SLU 63	32	28	5028	-1271.18	-8.91	11.11
1117	SLU 64	33	16	4985	-1258.41	-8.84	11.54
1117	SLU 65	32	34	4898	-1237.86	-8.67	11.15
1117	SLU 66	34	16	5087	-1283.5	-9.04	11.9
1117	SLU 67	33	27	5035	-1271.17	-8.93	11.67
1117	SLU 68	33	34	4966	-1254.83	-8.8	11.49
1117	SLU 69	35	16	5155	-1300.47	-9.18	12.25
1117	SLU 70	34	27	5103	-1288.14	-9.07	12.01
1117	SLU 71	35	16	5122	-1292.35	-9.12	12.23
1117	SLU 72	34	26	5069	-1280.02	-9.01	11.99
1117	SLU 73	32	36	5336	-1347.47	-9.48	11.23
1117	SLU 74	34	18	5526	-1393.1	-9.86	11.98
1117	SLU 75	34	29	5473	-1380.78	-9.75	11.75
1117	SLU 76	33	36	5405	-1364.44	-9.62	11.57
1117	SLU 77	35	18	5594	-1410.08	-10	12.33
1117	SLU 78	35	29	5542	-1397.75	-9.89	12.09
1117	SLU 79	35	18	5560	-1401.96	-9.94	12.31
1117	SLU 80	35	29	5508	-1389.63	-9.83	12.07
1117	SLU 81	33	19	5612	-1414.99	-10.01	11.66
1117	SLU 82	33	30	5559	-1402.66	-9.9	11.42
1117	SLU 83	34	19	5680	-1431.96	-10.15	12
1117	SLU 84	34	30	5627	-1419.64	-10.04	11.76
1117	SLE RA 1	25	12	3703	-935.38	-6.55	8.73
1117	SLE RA 2	24	24	3645	-921.68	-6.43	8.47
1117	SLE RA 3	26	12	3771	-952.1	-6.68	8.98
1117	SLE RA 4	25	19	3736	-943.88	-6.61	8.82
1117	SLE RA 5	25	24	3690	-932.99	-6.53	8.7
1117	SLE RA 6	26	12	3817	-963.42	-6.78	9.21
1117	SLE RA 7	26	19	3782	-955.2	-6.71	9.05
1117	SLE RA 8	26	12	3794	-958.01	-6.74	9.19
1117	SLE RA 9	26	19	3759	-949.79	-6.67	9.04
1117	SLE RA 10	24	25	3937	-994.75	-6.98	8.53
1117	SLE RA 11	26	13	4063	-1025.18	-7.23	9.03
1117	SLE RA 12	25	20	4028	-1016.96	-7.16	8.87
1117	SLE RA 13	25	25	3983	-1006.07	-7.07	8.76
1117	SLE RA 14	27	13	4109	-1036.49	-7.32	9.26
1117	SLE RA 15	26	20	4074	-1028.27	-7.25	9.1
1117	SLE RA 16	26	13	4086	-1031.08	-7.28	9.25
1117	SLE RA 17	26	20	4051	-1022.86	-7.21	9.09
1117	SLE RA 18	25	14	4121	-1039.77	-7.33	8.81
1117	SLE RA 19	25	21	4086	-1031.55	-7.26	8.65
1117	SLE RA 20	26	14	4166	-1051.08	-7.42	9.04
1117	SLE RA 21	25	21	4131	-1042.86	-7.35	8.88
1117	SLE FR 1	25	12	3703	-935.38	-6.55	8.73
1117	SLE FR 2	25	14	3691	-932.64	-6.53	8.68
1117	SLE FR 3	25	12	3721	-939.9	-6.59	8.83
1117	SLE FR 4	25	15	3817	-963.95	-6.76	8.71
1117	SLE FR 5	25	12	3846	-971.22	-6.82	8.85
1117	SLE FR 6	25	13	3912	-987.57	-6.94	8.77
1117	SLE QP 1	25	12	3703	-935.38	-6.55	8.73
1117	SLE QP 2	25	12	3828	-966.69	-6.79	8.76
1117	SLD 1	466	124	2680	-727.89	-3.87	163.16
1117	SLD 2	385	168	2639	-711.26	-3.56	134.94
1117	SLD 3	484	-109	4000	-1037.63	-6.48	169.27
1117	SLD 4	403	-65	3959	-1021	-6.18	141.05
1117	SLD 5	144	392	1488	-428.15	-2	50.7
1117	SLD 6	92	420	1461	-417.39	-1.8	32.45
1117	SLD 7	204	-385	5890	-1460.65	-10.72	71.08

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1117	SLD 8	151	-356	5863	-1449.88	-10.52	52.82
1117	SLD 9	-101	381	1793	-483.5	-3.05	-35.31
1117	SLD 10	-153	409	1767	-472.74	-2.85	-53.56
1117	SLD 11	-42	-395	6195	-1515.99	-11.78	-14.93
1117	SLD 12	-94	-367	6168	-1505.23	-11.58	-33.19
1117	SLD 13	-352	90	3697	-912.39	-7.4	-123.54
1117	SLD 14	-433	133	3656	-895.75	-7.09	-151.76
1117	SLD 15	-335	-143	5018	-1222.13	-10.01	-117.43
1117	SLD 16	-416	-99	4977	-1205.5	-9.7	-145.64
1117	SLV 1	714	202	1951	-574.08	-2.06	250.17
1117	SLV 2	587	270	1886	-547.89	-1.58	205.75
1117	SLV 3	744	-192	4183	-1097.47	-6.49	260.46
1117	SLV 4	617	-123	4118	-1071.29	-6	216.03
1117	SLV 5	210	653	-108	-59.98	1.25	73.87
1117	SLV 6	125	699	-152	-42.35	1.57	43.96
1117	SLV 7	310	-658	7332	-1804.63	-13.49	108.16
1117	SLV 8	224	-612	7288	-1787	-13.17	78.25
1117	SLV 9	-174	637	368	-146.39	-0.4	-60.74
1117	SLV 10	-260	683	325	-128.75	-0.08	-90.65
1117	SLV 11	-74	-675	7808	-1891.04	-15.15	-26.44
1117	SLV 12	-160	-628	7765	-1873.41	-14.82	-56.36
1117	SLV 13	-566	148	3539	-862.1	-7.57	-198.52
1117	SLV 14	-694	216	3474	-835.91	-7.09	-242.95
1117	SLV 15	-537	-246	5771	-1385.5	-11.99	-188.23
1117	SLV 16	-664	-177	5706	-1359.31	-11.51	-232.66
1117	SLV FO 1	783	221	1763	-534.82	-1.59	274.32
1117	SLV FO 2	643	296	1691	-506.01	-1.06	225.44
1117	SLV FO 3	816	-212	4218	-1110.55	-6.46	285.63
1117	SLV FO 4	676	-137	4147	-1081.75	-5.92	236.76
1117	SLV FO 5	229	717	-502	30.69	2.05	80.38
1117	SLV FO 6	135	768	-550	50.09	2.41	47.48
1117	SLV FO 7	338	-726	7682	-1888.43	-14.16	118.11
1117	SLV FO 8	244	-675	7634	-1869.03	-13.81	85.2
1117	SLV FO 9	-194	699	22	-64.35	0.23	-67.69
1117	SLV FO 10	-288	750	-26	-44.96	0.59	-100.59
1117	SLV FO 11	-84	-743	8206	-1983.48	-15.98	-29.96
1117	SLV FO 12	-179	-693	8158	-1964.08	-15.62	-62.87
1117	SLV FO 13	-626	161	3510	-851.64	-7.65	-219.25
1117	SLV FO 14	-766	237	3438	-822.84	-7.12	-268.12
1117	SLV FO 15	-593	-271	5965	-1427.38	-12.51	-207.93
1117	SLV FO 16	-733	-196	5894	-1398.57	-11.98	-256.8
1117	CRTFP Ux+	0	0	0	0	0	0
1117	CRTFP Ux-	0	0	0	0	0	0
1117	CRTFP Uy+	0	0	0	0	0	0
1117	CRTFP Uy-	0	0	0	0	0	0
1118	SLU 1	27	12	3751	-1049.51	-8.25	9.6
1118	SLU 2	26	30	3658	-1024.7	-8.01	9.17
1118	SLU 3	28	12	3860	-1079.61	-8.51	10
1118	SLU 4	28	23	3804	-1064.72	-8.37	9.74
1118	SLU 5	27	31	3731	-1045.12	-8.2	9.54
1118	SLU 6	29	12	3934	-1100.02	-8.69	10.36
1118	SLU 7	29	23	3877	-1085.14	-8.55	10.11
1118	SLU 8	29	12	3898	-1090.35	-8.61	10.33
1118	SLU 9	29	23	3841	-1075.46	-8.47	10.08
1118	SLU 10	26	33	4125	-1155.49	-9.12	9.36
1118	SLU 11	29	14	4328	-1210.39	-9.61	10.19
1118	SLU 12	28	25	4272	-1195.5	-9.47	9.93
1118	SLU 13	28	33	4199	-1175.91	-9.3	9.73
1118	SLU 14	30	14	4401	-1230.81	-9.8	10.56
1118	SLU 15	29	25	4345	-1215.92	-9.65	10.3
1118	SLU 16	30	14	4365	-1221.14	-9.71	10.53
1118	SLU 17	29	25	4309	-1206.25	-9.57	10.27
1118	SLU 18	28	15	4420	-1236.35	-9.82	9.88
1118	SLU 19	27	26	4363	-1221.46	-9.68	9.62
1118	SLU 20	29	15	4493	-1256.77	-10	10.24
1118	SLU 21	28	26	4437	-1241.88	-9.86	9.98
1118	SLU 22	30	14	4391	-1227.03	-9.77	10.43
1118	SLU 23	28	32	4297	-1202.22	-9.53	10
1118	SLU 24	31	14	4500	-1257.12	-10.03	10.82
1118	SLU 25	30	25	4444	-1242.24	-9.89	10.56
1118	SLU 26	29	32	4370	-1222.64	-9.72	10.36
1118	SLU 27	32	14	4573	-1277.54	-10.21	11.19
1118	SLU 28	31	25	4517	-1262.66	-10.07	10.93
1118	SLU 29	32	14	4537	-1267.87	-10.13	11.16
1118	SLU 30	31	25	4481	-1252.98	-9.99	10.9
1118	SLU 31	29	34	4765	-1333.01	-10.63	10.19
1118	SLU 32	31	16	4968	-1387.91	-11.13	11.01
1118	SLU 33	30	27	4911	-1373.02	-10.99	10.76
1118	SLU 34	30	34	4838	-1353.42	-10.82	10.55
1118	SLU 35	32	16	5041	-1408.33	-11.31	11.38
1118	SLU 36	31	27	4985	-1393.44	-11.17	11.12
1118	SLU 37	32	16	5005	-1398.65	-11.23	11.35
1118	SLU 38	31	27	4949	-1383.77	-11.09	11.09
1118	SLU 39	30	17	5059	-1413.87	-11.34	10.7
1118	SLU 40	30	28	5003	-1398.98	-11.2	10.44
1118	SLU 41	31	17	5132	-1434.29	-11.52	11.07
1118	SLU 42	31	28	5076	-1419.4	-11.38	10.81
1118	SLU 43	35	15	4657	-1303.5	-10.2	12.2

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1118	SLU 44	33	34	4564	-1278.69	-9.97	11.77
1118	SLU 45	36	15	4767	-1333.6	-10.47	12.59
1118	SLU 46	35	26	4710	-1318.71	-10.32	12.34
1118	SLU 47	34	34	4637	-1299.11	-10.15	12.13
1118	SLU 48	37	15	4840	-1354.02	-10.65	12.96
1118	SLU 49	36	26	4784	-1339.13	-10.51	12.7
1118	SLU 50	37	15	4804	-1344.34	-10.57	12.93
1118	SLU 51	36	26	4748	-1329.46	-10.43	12.67
1118	SLU 52	34	36	5032	-1409.48	-11.07	11.96
1118	SLU 53	36	18	5234	-1464.38	-11.57	12.79
1118	SLU 54	35	29	5178	-1449.5	-11.43	12.53
1118	SLU 55	35	36	5105	-1429.9	-11.25	12.33
1118	SLU 56	37	18	5308	-1484.8	-11.75	13.15
1118	SLU 57	37	29	5251	-1469.91	-11.61	12.9
1118	SLU 58	37	18	5272	-1475.13	-11.67	13.12
1118	SLU 59	36	29	5215	-1460.24	-11.53	12.86
1118	SLU 60	35	18	5326	-1490.34	-11.78	12.47
1118	SLU 61	35	29	5270	-1475.46	-11.64	12.21
1118	SLU 62	36	18	5399	-1510.76	-11.96	12.84
1118	SLU 63	36	29	5343	-1495.87	-11.82	12.58
1118	SLU 64	37	17	5297	-1481.02	-11.72	13.02
1118	SLU 65	36	35	5203	-1456.21	-11.49	12.59
1118	SLU 66	38	17	5406	-1511.11	-11.98	13.42
1118	SLU 67	37	28	5350	-1496.23	-11.84	13.16
1118	SLU 68	37	35	5276	-1476.63	-11.67	12.96
1118	SLU 69	39	17	5479	-1531.53	-12.17	13.79
1118	SLU 70	38	28	5423	-1516.65	-12.03	13.53
1118	SLU 71	39	17	5443	-1521.86	-12.09	13.76
1118	SLU 72	38	28	5387	-1506.97	-11.95	13.5
1118	SLU 73	36	37	5671	-1587	-12.59	12.79
1118	SLU 74	39	19	5874	-1641.9	-13.09	13.61
1118	SLU 75	38	30	5818	-1627.01	-12.94	13.35
1118	SLU 76	37	37	5744	-1607.42	-12.77	13.15
1118	SLU 77	40	19	5947	-1662.32	-13.27	13.98
1118	SLU 78	39	30	5891	-1647.43	-13.13	13.72
1118	SLU 79	39	19	5911	-1652.65	-13.19	13.95
1118	SLU 80	39	30	5855	-1637.76	-13.05	13.69
1118	SLU 81	38	20	5965	-1667.86	-13.29	13.3
1118	SLU 82	37	31	5909	-1652.97	-13.15	13.04
1118	SLU 83	39	20	6038	-1688.28	-13.48	13.66
1118	SLU 84	38	31	5982	-1673.39	-13.34	13.41
1118	SLE RA 1	28	13	3934	-1100.23	-8.68	9.84
1118	SLE RA 2	27	25	3872	-1083.69	-8.53	9.55
1118	SLE RA 3	29	13	4007	-1120.29	-8.86	10.1
1118	SLE RA 4	28	20	3969	-1110.37	-8.76	9.93
1118	SLE RA 5	28	25	3920	-1097.31	-8.65	9.79
1118	SLE RA 6	29	13	4056	-1133.91	-8.98	10.34
1118	SLE RA 7	29	20	4018	-1123.98	-8.89	10.17
1118	SLE RA 8	29	13	4032	-1127.46	-8.93	10.32
1118	SLE RA 9	29	20	3994	-1117.53	-8.83	10.15
1118	SLE RA 10	27	26	4183	-1170.88	-9.26	9.68
1118	SLE RA 11	29	14	4319	-1207.48	-9.59	10.23
1118	SLE RA 12	28	21	4281	-1197.56	-9.5	10.06
1118	SLE RA 13	28	26	4232	-1184.5	-9.38	9.92
1118	SLE RA 14	30	14	4367	-1221.1	-9.71	10.47
1118	SLE RA 15	29	21	4330	-1211.17	-9.62	10.3
1118	SLE RA 16	30	14	4343	-1214.65	-9.66	10.45
1118	SLE RA 17	29	21	4306	-1204.72	-9.57	10.28
1118	SLE RA 18	28	15	4380	-1224.79	-9.73	10.02
1118	SLE RA 19	28	22	4342	-1214.87	-9.64	9.85
1118	SLE RA 20	29	15	4428	-1238.4	-9.85	10.26
1118	SLE RA 21	29	22	4391	-1228.48	-9.76	10.09
1118	SLE FR 1	28	13	3934	-1100.23	-8.68	9.84
1118	SLE FR 2	28	15	3922	-1096.92	-8.65	9.78
1118	SLE FR 3	28	13	3954	-1105.68	-8.73	9.93
1118	SLE FR 4	28	16	4055	-1134.29	-8.97	9.83
1118	SLE FR 5	28	13	4087	-1143.05	-9.05	9.99
1118	SLE FR 6	28	14	4157	-1162.51	-9.21	9.93
1118	SLE QP 1	28	13	3934	-1100.23	-8.68	9.84
1118	SLE QP 2	28	13	4068	-1137.6	-9	9.89
1118	SLD 1	466	128	2821	-848.16	-5.44	163.41
1118	SLD 2	386	175	2770	-825.79	-5.08	135.2
1118	SLD 3	486	-108	4234	-1221.46	-8.91	170.05
1118	SLD 4	405	-61	4183	-1199.09	-8.55	141.83
1118	SLD 5	144	397	1560	-488.48	-2.73	50.78
1118	SLD 6	92	427	1527	-474.01	-2.5	32.53
1118	SLD 7	209	-389	6269	-1732.81	-14.29	72.89
1118	SLD 8	156	-359	6236	-1718.34	-14.06	54.64
1118	SLD 9	-100	385	1899	-556.86	-3.93	-34.86
1118	SLD 10	-152	415	1866	-542.39	-3.7	-53.11
1118	SLD 11	-36	-401	6609	-1801.19	-15.49	-12.74
1118	SLD 12	-88	-371	6576	-1786.72	-15.26	-31
1118	SLD 13	-349	88	3953	-1076.11	-9.44	-122.05
1118	SLD 14	-430	134	3901	-1053.74	-9.08	-150.26
1118	SLD 15	-330	-148	5366	-1449.41	-12.91	-115.41
1118	SLD 16	-410	-102	5314	-1427.04	-12.55	-143.63
1118	SLV 1	713	208	2031	-661.85	-3.23	249.9
1118	SLV 2	586	281	1950	-626.64	-2.66	205.47

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1118	SLV 3	746	-191	4419	-1292.65	-9.09	261.07
1118	SLV 4	618	-118	4338	-1257.44	-8.52	216.64
1118	SLV 5	208	663	-150	-44.73	1.52	73.24
1118	SLV 6	123	712	-204	-21.03	1.9	43.33
1118	SLV 7	316	-666	7810	-2147.4	-18.02	110.48
1118	SLV 8	230	-617	7756	-2123.69	-17.64	80.57
1118	SLV 9	-174	643	380	-151.51	-0.36	-60.78
1118	SLV 10	-260	693	325	-127.8	0.02	-90.7
1118	SLV 11	-67	-685	8340	-2254.17	-19.89	-23.55
1118	SLV 12	-152	-636	8285	-2230.47	-19.51	-53.46
1118	SLV 13	-562	144	3797	-1017.76	-9.47	-196.86
1118	SLV 14	-690	217	3716	-982.55	-8.91	-241.29
1118	SLV 15	-530	-255	6185	-1648.56	-15.33	-185.69
1118	SLV 16	-657	-182	6104	-1613.35	-14.77	-230.12
1118	SLV FO 1	782	228	1828	-614.28	-2.65	273.9
1118	SLV FO 2	642	308	1739	-575.54	-2.03	225.03
1118	SLV FO 3	818	-211	4454	-1308.16	-9.1	286.19
1118	SLV FO 4	677	-131	4365	-1269.42	-8.47	237.32
1118	SLV FO 5	226	728	-572	64.55	2.57	79.58
1118	SLV FO 6	132	782	-632	90.63	2.99	46.68
1118	SLV FO 7	345	-734	8184	-2248.38	-18.92	120.54
1118	SLV FO 8	251	-680	8124	-2222.3	-18.5	87.63
1118	SLV FO 9	-195	706	11	-52.9	0.51	-67.85
1118	SLV FO 10	-289	760	-49	-26.82	0.92	-100.75
1118	SLV FO 11	-76	-755	8767	-2365.83	-20.98	-26.89
1118	SLV FO 12	-170	-701	8707	-2339.75	-20.56	-59.8
1118	SLV FO 13	-621	157	3770	-1005.78	-9.52	-217.53
1118	SLV FO 14	-762	237	3681	-967.04	-8.9	-266.4
1118	SLV FO 15	-586	-281	6397	-1699.66	-15.97	-205.25
1118	SLV FO 16	-726	-201	6308	-1660.92	-15.34	-254.12
1118	CRTFP Ux+	0	0	0	0	0	0
1118	CRTFP Ux-	0	0	0	0	0	0
1118	CRTFP Uy+	0	0	0	0	0	0
1118	CRTFP Uy-	0	0	0	0	0	0
1119	SLU 1	26	14	3513	-1086.74	80.68	8.92
1119	SLU 2	25	30	3424	-1060.6	78.67	8.11
1119	SLU 3	27	14	3616	-1118.38	83.02	9.29
1119	SLU 4	26	24	3563	-1102.69	81.81	8.8
1119	SLU 5	26	31	3494	-1082.09	80.24	8.44
1119	SLU 6	28	14	3685	-1139.87	84.59	9.63
1119	SLU 7	27	24	3632	-1124.18	83.39	9.14
1119	SLU 8	28	14	3651	-1129.72	83.82	9.6
1119	SLU 9	27	24	3598	-1114.04	82.61	9.11
1119	SLU 10	26	33	3865	-1197.75	88.71	8.31
1119	SLU 11	28	17	4056	-1255.54	93.07	9.5
1119	SLU 12	27	26	4003	-1239.85	91.86	9.01
1119	SLU 13	27	33	3934	-1219.25	90.29	8.65
1119	SLU 14	29	17	4125	-1277.03	94.64	9.84
1119	SLU 15	28	26	4072	-1261.34	93.43	9.35
1119	SLU 16	29	17	4091	-1266.88	93.87	9.8
1119	SLU 17	28	26	4038	-1251.2	92.66	9.31
1119	SLU 18	27	17	4142	-1282.68	95.03	9.22
1119	SLU 19	26	27	4089	-1266.99	93.83	8.73
1119	SLU 20	28	17	4211	-1304.17	96.6	9.56
1119	SLU 21	27	27	4158	-1288.49	95.4	9.07
1119	SLU 22	29	16	4115	-1273.14	94.42	9.75
1119	SLU 23	27	32	4026	-1246.99	92.4	8.93
1119	SLU 24	30	16	4218	-1304.78	96.76	10.12
1119	SLU 25	29	26	4165	-1289.09	95.55	9.63
1119	SLU 26	28	32	4096	-1268.49	93.98	9.27
1119	SLU 27	31	16	4287	-1326.27	98.33	10.45
1119	SLU 28	30	26	4234	-1310.58	97.12	9.96
1119	SLU 29	30	16	4253	-1316.12	97.56	10.42
1119	SLU 30	30	26	4200	-1300.43	96.35	9.93
1119	SLU 31	28	34	4467	-1384.15	102.45	9.14
1119	SLU 32	30	18	4658	-1441.93	106.81	10.33
1119	SLU 33	30	28	4605	-1426.25	105.6	9.84
1119	SLU 34	29	34	4536	-1405.64	104.02	9.47
1119	SLU 35	31	18	4727	-1463.43	108.38	10.66
1119	SLU 36	31	28	4674	-1447.74	107.17	10.17
1119	SLU 37	31	18	4693	-1453.28	107.61	10.63
1119	SLU 38	30	28	4640	-1437.59	106.4	10.14
1119	SLU 39	30	19	4744	-1469.08	108.77	10.04
1119	SLU 40	29	29	4691	-1453.39	107.56	9.55
1119	SLU 41	31	19	4813	-1490.57	110.34	10.38
1119	SLU 42	30	29	4760	-1474.88	109.13	9.89
1119	SLU 43	33	18	4360	-1348.85	100.17	11.32
1119	SLU 44	32	34	4272	-1322.71	98.16	10.5
1119	SLU 45	34	18	4463	-1380.49	102.52	11.69
1119	SLU 46	33	28	4410	-1364.81	101.31	11.2
1119	SLU 47	33	34	4341	-1344.2	99.73	10.84
1119	SLU 48	35	18	4532	-1401.98	104.09	12.02
1119	SLU 49	34	28	4479	-1386.3	102.88	11.53
1119	SLU 50	35	18	4499	-1391.84	103.32	11.99
1119	SLU 51	34	28	4446	-1376.15	102.11	11.5
1119	SLU 52	33	36	4712	-1459.87	108.21	10.71
1119	SLU 53	35	20	4903	-1517.65	112.56	11.9
1119	SLU 54	34	30	4850	-1501.96	111.36	11.41

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1119	SLU 55	34	36	4781	-1481.36	109.78	11.04
1119	SLU 56	36	20	4972	-1539.14	114.14	12.23
1119	SLU 57	35	30	4919	-1523.46	112.93	11.74
1119	SLU 58	36	20	4939	-1529	113.36	12.2
1119	SLU 59	35	30	4886	-1513.31	112.16	11.71
1119	SLU 60	34	21	4989	-1544.79	114.53	11.61
1119	SLU 61	33	31	4936	-1529.11	113.32	11.12
1119	SLU 62	35	21	5058	-1566.29	116.1	11.95
1119	SLU 63	34	31	5005	-1550.6	114.89	11.46
1119	SLU 64	36	19	4962	-1535.25	113.91	12.14
1119	SLU 65	34	36	4874	-1509.11	111.9	11.33
1119	SLU 66	37	20	5065	-1566.89	116.25	12.51
1119	SLU 67	36	29	5012	-1551.2	115.05	12.02
1119	SLU 68	35	36	4943	-1530.6	113.47	11.66
1119	SLU 69	38	20	5134	-1588.38	117.82	12.85
1119	SLU 70	37	30	5081	-1572.7	116.62	12.36
1119	SLU 71	37	20	5101	-1578.24	117.05	12.81
1119	SLU 72	37	30	5048	-1562.55	115.85	12.32
1119	SLU 73	35	38	5314	-1646.27	121.95	11.53
1119	SLU 74	37	22	5505	-1704.05	126.3	12.72
1119	SLU 75	37	32	5452	-1688.36	125.09	12.23
1119	SLU 76	36	38	5383	-1667.76	123.52	11.87
1119	SLU 77	38	22	5574	-1725.54	127.87	13.06
1119	SLU 78	38	32	5521	-1709.85	126.67	12.57
1119	SLU 79	38	22	5541	-1715.39	127.1	13.02
1119	SLU 80	37	32	5488	-1699.71	125.89	12.53
1119	SLU 81	37	23	5591	-1731.19	128.26	12.44
1119	SLU 82	36	32	5538	-1715.51	127.06	11.95
1119	SLU 83	38	23	5660	-1752.68	129.84	12.77
1119	SLU 84	37	33	5607	-1737	128.63	12.28
1119	SLE RA 1	27	15	3685	-1140	84.6	9.16
1119	SLE RA 2	26	25	3626	-1122.57	83.26	8.61
1119	SLE RA 3	27	15	3753	-1161.09	86.17	9.41
1119	SLE RA 4	27	21	3718	-1150.63	85.36	9.08
1119	SLE RA 5	27	26	3672	-1136.9	84.31	8.84
1119	SLE RA 6	28	15	3800	-1175.42	87.21	9.63
1119	SLE RA 7	28	21	3764	-1164.96	86.41	9.3
1119	SLE RA 8	28	15	3777	-1168.65	86.7	9.61
1119	SLE RA 9	28	21	3742	-1158.19	85.89	9.28
1119	SLE RA 10	26	27	3919	-1214.01	89.96	8.75
1119	SLE RA 11	28	16	4047	-1252.53	92.86	9.54
1119	SLE RA 12	27	23	4011	-1242.07	92.06	9.22
1119	SLE RA 13	27	27	3965	-1228.33	91.01	8.98
1119	SLE RA 14	29	16	4093	-1266.86	93.91	9.77
1119	SLE RA 15	28	23	4058	-1256.4	93.11	9.44
1119	SLE RA 16	29	16	4071	-1260.09	93.4	9.75
1119	SLE RA 17	28	23	4035	-1249.63	92.59	9.42
1119	SLE RA 18	27	17	4104	-1270.62	94.17	9.36
1119	SLE RA 19	27	23	4069	-1260.17	93.37	9.03
1119	SLE RA 20	28	17	4150	-1284.95	95.22	9.58
1119	SLE RA 21	28	23	4115	-1274.49	94.42	9.25
1119	SLE FR 1	27	15	3685	-1140	84.6	9.16
1119	SLE FR 2	27	17	3673	-1136.51	84.33	9.05
1119	SLE FR 3	27	15	3703	-1145.73	85.02	9.25
1119	SLE FR 4	27	17	3799	-1175.7	87.21	9.11
1119	SLE FR 5	27	15	3829	-1184.92	87.89	9.31
1119	SLE FR 6	27	16	3895	-1205.31	89.39	9.26
1119	SLE QP 1	27	15	3685	-1140	84.6	9.16
1119	SLE QP 2	27	15	3811	-1179.18	87.47	9.22
1119	SLD 1	410	117	2623	-869.81	60.71	140.71
1119	SLD 2	339	160	2569	-845.34	59.63	114.87
1119	SLD 3	428	-92	3956	-1262.75	91.06	152.13
1119	SLD 4	357	-49	3902	-1238.28	89.97	126.29
1119	SLD 5	127	355	1442	-494.65	33.61	35.83
1119	SLD 6	81	383	1407	-478.83	32.91	19.11
1119	SLD 7	187	-342	5885	-1804.46	134.76	73.89
1119	SLD 8	141	-314	5850	-1788.63	134.06	57.18
1119	SLD 9	-87	344	1771	-569.74	40.89	-38.74
1119	SLD 10	-133	372	1736	-553.91	40.19	-55.46
1119	SLD 11	-27	-353	6214	-1879.54	142.04	-0.68
1119	SLD 12	-73	-325	6179	-1863.71	141.34	-17.39
1119	SLD 13	-303	79	3720	-1120.09	84.98	-107.85
1119	SLD 14	-374	123	3665	-1095.62	83.89	-133.69
1119	SLD 15	-285	-130	5052	-1513.03	115.32	-96.43
1119	SLD 16	-356	-86	4998	-1488.56	114.24	-122.27
1119	SLV 1	625	187	1872	-671.05	43.75	214.43
1119	SLV 2	513	255	1786	-632.53	42.04	173.75
1119	SLV 3	656	-166	4125	-1335.06	95.04	233.7
1119	SLV 4	544	-98	4039	-1296.54	93.33	193.02
1119	SLV 5	181	590	-172	-26.85	-3.11	49.16
1119	SLV 6	106	636	-229	-0.91	-4.26	21.77
1119	SLV 7	283	-588	7337	-2240.22	167.84	113.37
1119	SLV 8	207	-542	7280	-2214.29	166.69	85.98
1119	SLV 9	-153	572	342	-144.08	8.25	-67.55
1119	SLV 10	-229	618	284	-118.14	7.1	-94.94
1119	SLV 11	-52	-605	7851	-2357.46	179.21	-3.33
1119	SLV 12	-127	-559	7793	-2331.52	178.05	-30.72
1119	SLV 13	-490	128	3582	-1061.82	81.62	-174.58

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1119	SLV 14	-602	197	3497	-1023.31	79.91	-215.26
1119	SLV 15	-459	-225	5835	-1725.84	132.91	-155.31
1119	SLV 16	-571	-157	5750	-1687.32	131.2	-196
1119	SLV FO 1	685	204	1678	-620.24	39.38	234.96
1119	SLV FO 2	562	279	1584	-577.87	37.5	190.2
1119	SLV FO 3	718	-184	4156	-1350.65	95.79	256.15
1119	SLV FO 4	595	-109	4062	-1308.28	93.91	211.4
1119	SLV FO 5	196	647	-570	88.39	-12.16	53.15
1119	SLV FO 6	114	698	-633	116.91	-13.43	23.02
1119	SLV FO 7	308	-648	7690	-2346.33	175.88	123.79
1119	SLV FO 8	226	-597	7627	-2317.8	174.62	93.66
1119	SLV FO 9	-172	628	-5	-40.57	0.33	-75.22
1119	SLV FO 10	-254	678	-69	-12.04	-0.93	-105.35
1119	SLV FO 11	-60	-667	8255	-2475.28	188.38	-4.58
1119	SLV FO 12	-142	-617	8191	-2446.76	187.11	-34.71
1119	SLV FO 13	-541	140	3560	-1050.09	81.04	-192.96
1119	SLV FO 14	-664	215	3465	-1007.72	79.16	-237.71
1119	SLV FO 15	-508	-249	6038	-1780.5	137.45	-171.77
1119	SLV FO 16	-631	-174	5943	-1738.13	135.57	-216.52
1119	CRTFP Ux+	0	0	0	0	0	0
1119	CRTFP Ux-	0	0	0	0	0	0
1119	CRTFP Uy+	0	0	0	-0.01	0	0
1119	CRTFP Uy-	0	0	0	0.01	0	0
1121	SLU 1	29	22	4200	-915.08	494.16	4.03
1121	SLU 2	27	40	4092	-892.38	481.83	1.32
1121	SLU 3	30	22	4324	-941.93	508.5	4.25
1121	SLU 4	29	33	4259	-928.31	501.1	2.63
1121	SLU 5	28	40	4175	-910.51	491.43	1.53
1121	SLU 6	31	22	4407	-960.06	518.1	4.46
1121	SLU 7	30	33	4342	-946.44	510.7	2.84
1121	SLU 8	31	22	4366	-951.34	513.37	4.45
1121	SLU 9	30	33	4301	-937.72	505.96	2.83
1121	SLU 10	28	43	4618	-1007.93	543.21	1.14
1121	SLU 11	31	25	4850	-1057.48	569.88	4.07
1121	SLU 12	30	36	4785	-1043.86	562.48	2.45
1121	SLU 13	29	43	4701	-1026.06	552.81	1.35
1121	SLU 14	32	25	4933	-1075.61	579.48	4.28
1121	SLU 15	31	36	4868	-1061.99	572.08	2.66
1121	SLU 16	32	25	4893	-1066.88	574.74	4.27
1121	SLU 17	31	36	4828	-1053.27	567.34	2.65
1121	SLU 18	30	26	4952	-1080.14	581.85	3.77
1121	SLU 19	29	37	4887	-1066.53	574.44	2.15
1121	SLU 20	31	26	5035	-1098.27	591.45	3.98
1121	SLU 21	30	37	4970	-1084.66	584.05	2.36
1121	SLU 22	31	24	4922	-1072.73	578.14	4.34
1121	SLU 23	30	43	4814	-1050.03	565.8	1.64
1121	SLU 24	33	25	5046	-1099.58	592.48	4.56
1121	SLU 25	32	36	4981	-1085.96	585.08	2.94
1121	SLU 26	31	43	4897	-1068.16	575.41	1.85
1121	SLU 27	34	25	5129	-1117.71	602.08	4.77
1121	SLU 28	33	36	5064	-1104.09	594.68	3.15
1121	SLU 29	34	25	5088	-1108.99	597.34	4.76
1121	SLU 30	33	36	5023	-1095.37	589.94	3.14
1121	SLU 31	31	46	5340	-1165.58	627.18	1.46
1121	SLU 32	33	28	5572	-1215.13	653.86	4.38
1121	SLU 33	33	39	5507	-1201.51	646.46	2.76
1121	SLU 34	32	46	5423	-1183.71	636.79	1.67
1121	SLU 35	34	28	5655	-1233.26	663.46	4.59
1121	SLU 36	34	39	5590	-1219.64	656.06	2.97
1121	SLU 37	34	28	5615	-1224.54	658.72	4.58
1121	SLU 38	34	39	5550	-1210.92	651.32	2.96
1121	SLU 39	33	29	5674	-1237.8	665.82	4.08
1121	SLU 40	32	40	5609	-1224.18	658.42	2.46
1121	SLU 41	34	29	5757	-1255.93	675.43	4.29
1121	SLU 42	33	40	5692	-1242.31	668.02	2.67
1121	SLU 43	36	27	5212	-1135.55	613.62	5.13
1121	SLU 44	35	46	5104	-1112.85	601.28	2.42
1121	SLU 45	38	28	5336	-1162.4	627.96	5.35
1121	SLU 46	37	39	5271	-1148.78	620.56	3.73
1121	SLU 47	36	46	5187	-1130.98	610.88	2.63
1121	SLU 48	39	28	5419	-1180.53	637.56	5.56
1121	SLU 49	38	39	5354	-1166.91	630.16	3.94
1121	SLU 50	39	28	5379	-1171.81	632.82	5.55
1121	SLU 51	38	39	5314	-1158.19	625.42	3.93
1121	SLU 52	36	49	5631	-1228.4	662.66	2.24
1121	SLU 53	38	31	5863	-1277.95	689.34	5.17
1121	SLU 54	38	42	5798	-1264.33	681.94	3.55
1121	SLU 55	37	49	5714	-1246.53	672.26	2.46
1121	SLU 56	39	31	5946	-1296.08	698.94	5.38
1121	SLU 57	39	42	5881	-1282.46	691.54	3.76
1121	SLU 58	39	31	5905	-1287.35	694.2	5.37
1121	SLU 59	39	42	5840	-1273.74	686.8	3.75
1121	SLU 60	38	32	5965	-1300.62	701.3	4.87
1121	SLU 61	37	43	5900	-1287	693.9	3.25
1121	SLU 62	39	32	6048	-1318.75	710.9	5.08
1121	SLU 63	38	43	5983	-1305.13	703.5	3.46
1121	SLU 64	39	30	5934	-1293.2	697.59	5.44
1121	SLU 65	38	48	5826	-1270.5	685.26	2.74

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1121	SLU 66	40	30	6058	-1320.05	711.93	5.66
1121	SLU 67	39	41	5993	-1306.43	704.53	4.04
1121	SLU 68	39	49	5909	-1288.63	694.86	2.95
1121	SLU 69	41	31	6141	-1338.18	721.54	5.87
1121	SLU 70	41	42	6076	-1324.56	714.14	4.25
1121	SLU 71	41	30	6101	-1329.46	716.8	5.86
1121	SLU 72	40	42	6036	-1315.84	709.4	4.24
1121	SLU 73	38	51	6353	-1386.05	746.64	2.56
1121	SLU 74	41	33	6585	-1435.6	773.31	5.48
1121	SLU 75	40	44	6520	-1421.98	765.91	3.86
1121	SLU 76	40	52	6436	-1404.18	756.24	2.77
1121	SLU 77	42	34	6668	-1453.73	782.92	5.69
1121	SLU 78	41	45	6603	-1440.11	775.52	4.07
1121	SLU 79	42	33	6627	-1445.01	778.18	5.68
1121	SLU 80	41	45	6562	-1431.39	770.78	4.06
1121	SLU 81	40	34	6687	-1458.27	785.28	5.18
1121	SLU 82	39	45	6622	-1444.65	777.88	3.56
1121	SLU 83	41	34	6770	-1476.4	794.88	5.39
1121	SLU 84	40	46	6705	-1462.78	787.48	3.77
1121	SLE RA 1	30	22	4406	-960.12	518.15	4.11
1121	SLE RA 2	29	35	4334	-944.99	509.93	2.31
1121	SLE RA 3	30	23	4489	-978.02	527.71	4.26
1121	SLE RA 4	30	30	4445	-968.94	522.78	3.18
1121	SLE RA 5	29	35	4389	-957.08	516.33	2.45
1121	SLE RA 6	31	23	4544	-990.11	534.12	4.4
1121	SLE RA 7	30	30	4501	-981.03	529.18	3.32
1121	SLE RA 8	31	23	4517	-984.29	530.96	4.4
1121	SLE RA 9	30	30	4474	-975.21	526.02	3.31
1121	SLE RA 10	29	37	4685	-1022.02	550.85	2.19
1121	SLE RA 11	31	25	4840	-1055.05	568.63	4.14
1121	SLE RA 12	30	32	4796	-1045.97	563.7	3.06
1121	SLE RA 13	30	37	4741	-1034.11	557.25	2.33
1121	SLE RA 14	32	25	4895	-1067.14	575.04	4.28
1121	SLE RA 15	31	32	4852	-1058.06	570.1	3.2
1121	SLE RA 16	31	25	4868	-1061.32	571.88	4.28
1121	SLE RA 17	31	32	4825	-1052.25	566.94	3.19
1121	SLE RA 18	30	25	4908	-1070.17	576.61	3.94
1121	SLE RA 19	30	33	4864	-1061.09	571.68	2.86
1121	SLE RA 20	31	25	4963	-1082.25	583.01	4.08
1121	SLE RA 21	30	33	4920	-1073.17	578.08	3
1121	SLE FR 1	30	22	4406	-960.12	518.15	4.11
1121	SLE FR 2	29	25	4392	-957.09	516.51	3.75
1121	SLE FR 3	30	22	4428	-964.95	520.72	4.17
1121	SLE FR 4	30	26	4542	-990.11	534.05	3.7
1121	SLE FR 5	30	23	4579	-997.97	538.25	4.12
1121	SLE FR 6	30	24	4657	-1015.14	547.38	4.03
1121	SLE QP 1	30	22	4406	-960.12	518.15	4.11
1121	SLE QP 2	30	23	4557	-993.13	535.69	4.06
1121	SLD 1	461	136	3071	-696.73	363.39	86.89
1121	SLD 2	380	188	3004	-679.77	357.33	62.19
1121	SLD 3	483	-101	4701	-1038.15	549.65	122.22
1121	SLD 4	402	-49	4635	-1021.19	543.59	97.52
1121	SLD 5	140	407	1649	-389.33	202.56	-20.39
1121	SLD 6	88	441	1606	-378.36	198.64	-36.36
1121	SLD 7	213	-382	7085	-1527.4	823.43	97.38
1121	SLD 8	160	-349	7042	-1516.43	819.5	81.4
1121	SLD 9	-101	395	2072	-469.84	251.88	-73.27
1121	SLD 10	-153	429	2029	-458.86	247.96	-89.25
1121	SLD 11	-28	-394	7507	-1607.91	872.75	44.49
1121	SLD 12	-81	-361	7464	-1596.93	868.82	28.51
1121	SLD 13	-342	96	4479	-965.08	527.8	-89.39
1121	SLD 14	-423	147	4412	-948.11	521.73	-114.09
1121	SLD 15	-320	-141	6109	-1306.5	714.06	-54.07
1121	SLD 16	-402	-90	6043	-1289.54	707.99	-78.76
1121	SLV 1	704	215	2132	-508.57	254.78	131.61
1121	SLV 2	576	296	2028	-481.86	245.23	92.72
1121	SLV 3	741	-186	4888	-1085.59	569.6	191.29
1121	SLV 4	613	-104	4784	-1058.88	560.05	152.4
1121	SLV 5	200	672	-331	22.4	-24.27	-40.93
1121	SLV 6	114	727	-401	40.38	-30.7	-67.11
1121	SLV 7	323	-661	8856	-1901	1025.12	158
1121	SLV 8	237	-607	8785	-1883.02	1018.69	131.82
1121	SLV 9	-177	653	328	-103.25	52.69	-123.7
1121	SLV 10	-263	708	258	-85.26	46.26	-149.88
1121	SLV 11	-54	-681	9515	-2026.65	1102.09	75.24
1121	SLV 12	-140	-626	9444	-2008.67	1095.66	49.06
1121	SLV 13	-553	151	4330	-927.39	511.33	-144.28
1121	SLV 14	-681	232	4225	-900.68	501.78	-183.16
1121	SLV 15	-516	-249	7086	-1504.41	826.15	-84.6
1121	SLV 16	-644	-168	6981	-1477.7	816.6	-123.48
1121	SLV FO 1	771	234	1890	-460.11	226.69	144.36
1121	SLV FO 2	631	323	1775	-430.73	216.19	101.59
1121	SLV FO 3	812	-206	4922	-1094.84	572.99	210.01
1121	SLV FO 4	671	-117	4806	-1065.46	562.49	167.24
1121	SLV FO 5	217	737	-820	123.95	-80.27	-45.43
1121	SLV FO 6	122	797	-897	143.73	-87.34	-74.23
1121	SLV FO 7	352	-730	9286	-1991.79	1074.06	173.4
1121	SLV FO 8	257	-670	9208	-1972.01	1066.99	144.6

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1121	SLV FO 9	-198	716	-95	-14.26	4.39	-136.47
1121	SLV FO 10	-293	776	-172	5.52	-2.68	-165.27
1121	SLV FO 11	-63	-751	10011	-2130	1158.73	82.36
1121	SLV FO 12	-158	-691	9933	-2110.22	1151.65	53.56
1121	SLV FO 13	-612	164	4307	-920.81	508.89	-159.11
1121	SLV FO 14	-752	253	4192	-891.43	498.39	-201.88
1121	SLV FO 15	-571	-276	7339	-1555.53	855.2	-93.46
1121	SLV FO 16	-712	-187	7223	-1526.15	844.69	-136.23
1121	CRTFP Ux+	0	0	0	0	0	0
1121	CRTFP Ux-	0	0	0	0	0	0
1121	CRTFP Uy+	0	0	0	0	0	0
1121	CRTFP Uy-	0	0	0	0	0	0

1.3 Pressioni massime sul terreno

Nodo: *Nodo che interagisce col terreno.*
Ind.: *indice del nodo.*
Pressione minima: *situazione in cui si verifica la pressione minima nel nodo.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce la pressione minima.*
uz: *spostamento massimo verticale del nodo. [m]*
Valore: *pressione minima sul terreno del nodo. [daN/m²]*
Pressione massima: *situazione in cui si verifica la pressione massima nel nodo.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce la pressione massima.*
uz: *spostamento minimo verticale del nodo. [m]*
Valore: *pressione massima sul terreno del nodo. [daN/m²]*

Compressione estrema massima -23320.6 al nodo di indice 149, di coordinate x = -13.76, y = -4.78, z = -1.95, nel contesto SLV fondazioni 5.
Spostamento estremo minimo -0.0077735 al nodo di indice 149, di coordinate x = -13.76, y = -4.78, z = -1.95, nel contesto SLV fondazioni 5.
Spostamento estremo massimo 0.0011667 al nodo di indice 159, di coordinate x = -7.72, y = -4.78, z = -1.95, nel contesto SLV fondazioni 7.

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
11	SLU 84	-0.0041593	-12477.9	SLV FO 11	-0.001721	-5162.9
12	SLU 84	-0.0042293	-12687.8	SLV FO 11	-0.0017948	-5384.3
13	SLU 84	-0.0042676	-12802.7	SLV FO 7	-0.001832	-5496.1
14	SLU 84	-0.0043016	-12904.9	SLV FO 7	-0.0018552	-5565.5
15	SLU 84	-0.0043328	-12998.5	SLV FO 7	-0.001875	-5625.1
16	SLU 84	-0.0043606	-13081.7	SLV FO 7	-0.0018926	-5677.7
17	SLU 84	-0.0043825	-13147.4	SLV FO 7	-0.0019057	-5717.2
18	SLU 84	-0.0044057	-13217	SLV FO 7	-0.0019175	-5752.4
19	SLU 84	-0.0041421	-12426.4	SLV FO 11	-0.001914	-5742
20	SLU 84	-0.004212	-12636	SLV FO 11	-0.0019857	-5957.2
21	SLU 84	-0.0042464	-12739.1	SLV FO 7	-0.0020212	-6063.5
22	SLU 84	-0.0042773	-12831.9	SLV FO 7	-0.0020409	-6122.7
23	SLU 84	-0.0043076	-12922.7	SLV FO 7	-0.0020577	-6173
24	SLU 84	-0.0043369	-13010.8	SLV FO 7	-0.0020736	-6220.7
25	SLU 84	-0.0043617	-13085.2	SLV FO 7	-0.0020862	-6258.6
26	SLU 84	-0.0043832	-13149.7	SLV FO 7	-0.0020944	-6283.3
27	SLU 84	-0.0041834	-12550.3	SLV FO 11	-0.0021866	-6559.9
28	SLU 84	-0.0043278	-12983.4	SLV FO 7	-0.0022701	-6810.2
29	SLU 84	-0.0041199	-12359.7	SLV FO 11	-0.0021219	-6365.8
30	SLU 84	-0.004211	-12633.1	SLV FO 7	-0.0022197	-6659.1
31	SLU 84	-0.0042372	-12711.7	SLV FO 7	-0.0022341	-6702.3
32	SLU 84	-0.0042664	-12799.3	SLV FO 7	-0.0022464	-6739.3
33	SLU 84	-0.0042983	-12894.9	SLV FO 7	-0.0022601	-6780.2
34	SLU 84	-0.0043531	-13059.3	SLV FO 7	-0.0022778	-6833.4
35	SLU 84	-0.0041522	-12456.5	SLV FO 11	-0.0023878	-7163.4
36	SLU 84	-0.0042901	-12870.2	SLV FO 7	-0.0024504	-7351.1
37	SLU 84	-0.0040939	-12281.6	SLV FO 11	-0.0023308	-6992.3
38	SLU 84	-0.0041749	-12524.7	SLV FO 7	-0.0024184	-7255.2
39	SLU 84	-0.0041975	-12592.5	SLV FO 7	-0.0024279	-7283.8
40	SLU 84	-0.0042254	-12676.3	SLV FO 7	-0.0024352	-7305.6
41	SLU 84	-0.0042583	-12775	SLV FO 7	-0.0024451	-7335.3
42	SLU 84	-0.004317	-12951.1	SLV FO 7	-0.0024553	-7365.8
44	SLU 84	-0.0041244	-12373.2	SLU 1	-0.0025707	-7712
45	SLU 84	-0.0042552	-12765.7	SLV FO 7	-0.0026316	-7894.8
46	SLU 84	-0.004068	-12204.1	SLU 1	-0.002532	-7596.1
47	SLU 84	-0.0041462	-12438.5	SLU 1	-0.0025864	-7759.2
48	SLU 84	-0.0041678	-12503.5	SLU 1	-0.0026021	-7806.4
49	SLU 84	-0.0041943	-12582.8	SLU 1	-0.0026208	-7862.5
50	SLU 84	-0.0042252	-12675.5	SLV FO 7	-0.0026335	-7900.5
51	SLU 84	-0.0042807	-12842	SLV FO 3	-0.0025995	-7798.4
52	SLU 83	-0.0041038	-12311.4	SLU 2	-0.0025504	-7651.3
53	SLU 83	-0.0042268	-12680.5	SLU 2	-0.0026391	-7917.4
54	SLU 83	-0.0040466	-12139.7	SLU 2	-0.0025107	-7532.1
55	SLU 83	-0.004128	-12384.1	SLU 2	-0.0025675	-7702.4
56	SLU 83	-0.004151	-12453	SLU 2	-0.0025841	-7752.3
57	SLU 83	-0.0041757	-12527.2	SLU 2	-0.0026019	-7805.7
58	SLU 83	-0.004202	-12605.9	SLU 2	-0.0026207	-7862.1
59	SLU 83	-0.0042483	-12745	SLV FO 1	-0.0026379	-7913.8
66	SLU 83	-0.0040861	-12258.3	SLV FO 9	-0.0024486	-7345.9
67	SLU 83	-0.0042027	-12608	SLV FO 5	-0.0025678	-7703.5
68	SLU 83	-0.0040276	-12082.7	SLV FO 9	-0.0023638	-7091.3

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
69	SLU 83	-0.0041117	-12335	SLV FO 9	-0.0024775	-7432.4
70	SLU 83	-0.0041356	-12406.7	SLV FO 5	-0.0025092	-7527.5
71	SLU 83	-0.0041588	-12476.3	SLV FO 5	-0.0025273	-7581.8
72	SLU 83	-0.0041813	-12543.8	SLV FO 5	-0.0025435	-7630.4
73	SLU 83	-0.004221	-12663	SLV FO 5	-0.0025642	-7692.5
140	SLV FO 5	-0.007704	-23112	SLV FO 12	0.0011102	3330.6
141	SLV FO 5	-0.0076223	-22866.8	SLV FO 12	0.0010839	3251.7
142	SLV FO 5	-0.0075635	-22690.5	SLV FO 12	0.0010566	3169.7
143	SLV FO 5	-0.007531	-22592.9	SLV FO 12	0.0010316	3094.8
144	SLV FO 5	-0.0075251	-22575.4	SLV FO 12	0.0010105	3031.4
145	SLV FO 5	-0.0075453	-22635.9	SLV FO 12	0.0009933	2979.9
146	SLV FO 5	-0.0075889	-22766.8	SLV FO 12	0.00098	2940.1
147	SLV FO 5	-0.0076512	-22953.6	SLV FO 12	0.0009706	2911.8
148	SLV FO 5	-0.0077252	-23175.6	SLV FO 12	0.0009645	2893.6
149	SLV FO 5	-0.0077735	-23320.6	SLV FO 12	0.000959	2877.1
150	SLV FO 10	-0.0075996	-22798.7	SLV FO 7	0.0010082	3024.5
151	SLV FO 10	-0.0075933	-22780	SLV FO 7	0.0010222	3066.6
152	SLV FO 10	-0.0075684	-22705.3	SLV FO 7	0.0010324	3097.3
153	SLV FO 10	-0.0075407	-22622.2	SLV FO 7	0.0010428	3128.4
154	SLV FO 10	-0.0075203	-22560.9	SLV FO 7	0.0010551	3165.3
155	SLV FO 10	-0.0075146	-22543.7	SLV FO 7	0.0010705	3211.6
156	SLV FO 10	-0.0075284	-22585.3	SLV FO 7	0.0010899	3269.8
157	SLV FO 10	-0.0075644	-22693.3	SLV FO 7	0.0011135	3340.4
158	SLV FO 10	-0.007623	-22868.9	SLV FO 7	0.0011401	3420.3
159	SLV FO 10	-0.0077008	-23102.4	SLV FO 7	0.0011667	3500.1
193	SLV FO 10	-0.0071839	-21551.7	SLV FO 7	0.0007661	2298.3
195	SLV FO 5	-0.0072411	-21723.3	SLV FO 12	0.0008431	2529.3
196	SLV FO 5	-0.00715	-21449.9	SLV FO 12	0.0008188	2456.5
197	SLV FO 5	-0.007073	-21219.1	SLV FO 12	0.0007951	2385.2
198	SLV FO 5	-0.0070215	-21064.4	SLV FO 12	0.0007737	2321.2
199	SLV FO 5	-0.0070028	-21008.3	SLV FO 12	0.0007555	2266.5
200	SLV FO 5	-0.0070209	-21062.7	SLV FO 12	0.0007401	2220.4
201	SLV FO 5	-0.0070752	-21225.6	SLV FO 12	0.0007273	2181.8
202	SLV FO 5	-0.0071595	-21478.5	SLV FO 12	0.0007167	2150.1
203	SLV FO 5	-0.007258	-21774	SLV FO 12	0.0007082	2124.6
204	SLV FO 5	-0.0073433	-22030	SLV FO 12	0.0007006	2101.9
207	SLV FO 10	-0.0070312	-21093.6	SLV FO 7	0.0006973	2092
208	SLV FO 10	-0.0070094	-21028.3	SLV FO 7	0.0007092	2127.5
209	SLV FO 10	-0.0069693	-20908	SLV FO 7	0.0007183	2154.8
210	SLV FO 10	-0.0069299	-20789.8	SLV FO 7	0.0007271	2181.4
211	SLV FO 10	-0.0069057	-20717.1	SLV FO 7	0.0007374	2212.3
212	SLV FO 10	-0.0069063	-20718.9	SLV FO 7	0.0007504	2251.1
213	SLV FO 10	-0.0069359	-20807.8	SLV FO 7	0.0007669	2300.6
214	SLV FO 10	-0.006993	-20979.1	SLV FO 7	0.0007872	2361.5
215	SLV FO 10	-0.0070709	-21212.6	SLV FO 7	0.0008105	2431.6
216	SLV FO 10	-0.0071591	-21477.2	SLV FO 7	0.0008351	2505.2
217	SLV FO 5	-0.0070656	-21196.7	SLV FO 12	0.0005904	1771.1
218	SLV FO 5	-0.0070085	-21025.5	SLV FO 12	0.0005805	1741.5
219	SLV FO 5	-0.0069457	-20837.2	SLV FO 12	0.0005731	1719.4
220	SLV FO 10	-0.0069043	-20712.8	SLV FO 7	0.0005751	1725.3
221	SLV FO 10	-0.0068991	-20697.2	SLV FO 7	0.0005923	1777
222	SLV FO 10	-0.0069196	-20758.9	SLV FO 7	0.0006151	1845.4
223	SLV FO 10	-0.0069517	-20855.2	SLV FO 7	0.0006392	1917.5
224	SLV FO 10	-0.0069724	-20917.1	SLV FO 7	0.0006604	1981.1
225	SLV FO 10	-0.0069549	-20864.7	SLV FO 7	0.0006386	1915.9
228	SLV FO 5	-0.0067868	-20360.4	SLV FO 12	0.000577	1730.9
229	SLV FO 5	-0.0066815	-20044.4	SLV FO 12	0.0005555	1666.5
230	SLV FO 5	-0.0065853	-19756	SLV FO 12	0.0005353	1605.9
231	SLV FO 5	-0.0065132	-19539.6	SLV FO 12	0.0005177	1553.1
232	SLV FO 5	-0.0064794	-19438.3	SLV FO 12	0.0005028	1508.4
233	SLV FO 5	-0.0064933	-19480	SLV FO 12	0.0004898	1469.5
234	SLV FO 5	-0.0065573	-19671.8	SLV FO 12	0.0004778	1433.4
235	SLV FO 5	-0.0066657	-19997.1	SLV FO 12	0.0004663	1398.9
236	SLV FO 5	-0.0068037	-20411.2	SLV FO 12	0.0004556	1366.7
237	SLV FO 5	-0.0069545	-20863.6	SLV FO 12	0.0004458	1337.3
241	SLV FO 10	-0.006437	-19311.1	SLV FO 7	0.0004004	1201.3
242	SLV FO 10	-0.0063778	-19133.3	SLV FO 7	0.000408	1224.1
243	SLV FO 10	-0.0063241	-18972.3	SLV FO 7	0.0004151	1245.3
244	SLV FO 10	-0.0062951	-18885.2	SLV FO 7	0.0004231	1269.2
245	SLV FO 10	-0.0063024	-18907.2	SLV FO 7	0.0004333	1299.9
246	SLV FO 10	-0.0063491	-19047.2	SLV FO 7	0.0004468	1340.5
247	SLV FO 10	-0.0064282	-19284.7	SLV FO 7	0.0004642	1392.6
248	SLV FO 10	-0.0065253	-19576	SLV FO 7	0.0004847	1454
249	SLV FO 10	-0.0066276	-19882.8	SLV FO 7	0.0005068	1520.4
250	SLV FO 10	-0.0064473	-19342	SLV FO 7	0.0003529	1058.7
251	SLV FO 10	-0.0064248	-19274.4	SLV FO 7	0.0003614	1084.1
253	SLV FO 5	-0.006335	-19005	SLV FO 12	0.0003163	948.8
254	SLV FO 5	-0.0062157	-18647.2	SLV FO 12	0.0002971	891.3
255	SLV FO 5	-0.0061011	-18303.2	SLV FO 12	0.00028	840.1
256	SLV FO 5	-0.0060073	-18021.9	SLV FO 12	0.0002661	798.2
257	SLV FO 5	-0.0059565	-17869.5	SLV FO 12	0.0002549	764.7
258	SLV FO 5	-0.0059636	-17890.9	SLV FO 12	0.0002452	735.5
259	SLV FO 5	-0.0060345	-18103.6	SLV FO 12	0.0002351	705.2
260	SLV FO 5	-0.0061669	-18500.7	SLV FO 12	0.0002233	669.8
261	SLV FO 5	-0.0063498	-19049.3	SLV FO 12	0.0002104	631.1
263	SLV FO 5	-0.0065245	-19573.6	SLV FO 12	0.0001735	520.6
264	SLV FO 10	-0.0058793	-17638	SLV FO 7	0.0000997	299.1
265	SLV FO 10	-0.0057978	-17393.3	SLV FO 7	0.000105	315

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
266	SLV FO 10	-0.0057273	-17181.9	SLV FO 7	0.0001095	328.6
267	SLV FO 10	-0.0056923	-17076.9	SLV FO 7	0.0001149	344.8
268	SLV FO 10	-0.0057055	-17116.6	SLV FO 7	0.0001226	367.9
269	SLV FO 10	-0.005769	-17307.1	SLV FO 7	0.0001338	401.3
270	SLV FO 10	-0.0058711	-17613.2	SLV FO 7	0.0001492	447.5
271	SLV FO 10	-0.0059817	-17945.2	SLV FO 7	0.000168	504
272	SLV FO 10	-0.0060925	-18277.6	SLV FO 7	0.0001897	569
273	SLV FO 10	-0.0059516	-17854.8	SLV FO 7	0.0000754	226.1
274	SLV FO 10	-0.0059164	-17749.2	SLV FO 7	0.0000794	238.2
277	SLV FO 5	-0.0058711	-17613.4	SLV FO 12	0.0000662	198.6
278	SLV FO 5	-0.0057451	-17235.3	SLV FO 12	0.0000472	141.5
279	SLV FO 5	-0.0056184	-16855.2	SLV FO 12	0.0000319	95.6
280	SLV FO 5	-0.0055017	-16505	SLV FO 12	0.0000208	62.4
281	SLV FO 5	-0.0054326	-16297.8	SLV FO 12	0.0000133	39.8
282	SLV FO 5	-0.0054307	-16292	SLV FO 12	0.0000074	22.3
283	SLV FO 5	-0.0055035	-16510.5	SLV FO 12	0.0000011	3.2
284	SLV FO 5	-0.005652	-16956.1	SLV FO 12	-0.0000088	-26.4
285	SLV FO 5	-0.0058708	-17612.4	SLV FO 12	-0.0000231	-69.4
287	SLV FO 5	-0.0061263	-18379	SLV FO 12	-0.0000493	-147.9
289	SLV FO 5	-0.0071289	-21386.8	SLV FO 12	0.0006258	1877.3
305	SLV FO 5	-0.0055202	-16560.7	SLV FO 12	0.0000643	192.8
307	SLV FO 5	-0.0055558	-16667.5	SLV FO 12	-0.0000168	-50.4
311	SLV FO 5	-0.0053711	-16113.2	SLV FO 12	-0.0001679	-503.8
313	SLV FO 5	-0.0052542	-15762.7	SLV FO 12	-0.00019	-570
314	SLV FO 5	-0.0051384	-15415.1	SLV FO 12	-0.0002054	-616.3
315	SLV FO 5	-0.0049939	-14981.8	SLV FO 12	-0.0002173	-651.9
316	SLV FO 5	-0.0049068	-14720.4	SLV FO 12	-0.0002225	-667.6
317	SLV FO 5	-0.0048939	-14681.8	SLV FO 12	-0.0002241	-672.3
318	SLV FO 5	-0.0049628	-14888.3	SLV FO 12	-0.0002249	-674.8
319	SLV FO 5	-0.005112	-15335.9	SLV FO 12	-0.0002283	-684.9
320	SLV FO 5	-0.0053341	-16002.4	SLV FO 12	-0.000239	-717
321	SLV FO 5	-0.0054047	-16214	SLV FO 12	-0.0002405	-721.5
322	SLV FO 5	-0.0056666	-16999.7	SLV FO 12	-0.0002531	-759.2
323	SLV FO 10	-0.0054544	-16363.1	SLV FO 7	-0.000193	-579
324	SLV FO 10	-0.005405	-16214.9	SLV FO 7	-0.0001954	-586.1
326	SLV FO 10	-0.0053256	-15976.7	SLV FO 7	-0.0001916	-574.8
327	SLV FO 10	-0.0053169	-15950.7	SLV FO 7	-0.000152	-455.9
328	SLV FO 10	-0.0054184	-16255.3	SLV FO 7	-0.0001331	-399.4
330	SLV FO 10	-0.005521	-16563	SLV FO 7	-0.0001084	-325.1
334	SLV FO 10	-0.0056576	-16972.9	SLV FO 7	0.0000557	167.1
336	SLV FO 10	-0.0056124	-16837.3	SLV FO 7	0.0001375	412.4
351	SLV FO 10	-0.0065854	-19756.2	SLV FO 7	0.0006146	1843.9
355	SLV FO 10	-0.0052217	-15665	SLV FO 7	-0.0001907	-572.2
356	SLV FO 10	-0.0051362	-15408.7	SLV FO 7	-0.0001894	-568.3
357	SLV FO 10	-0.0050951	-15285.4	SLV FO 7	-0.0001866	-559.7
358	SLV FO 10	-0.0051124	-15337.1	SLV FO 7	-0.0001806	-541.8
359	SLV FO 10	-0.0051896	-15568.8	SLV FO 7	-0.0001697	-509.2
361	SLV FO 5	-0.0068392	-20517.7	SLV FO 12	0.000394	1182.1
362	SLV FO 5	-0.006198	-18594	SLV FO 12	0.0003317	995.1
363	SLV FO 5	-0.00562	-16860	SLV FO 12	0.0002722	816.5
364	SLV FO 5	-0.0051243	-15373	SLV FO 12	0.0002173	651.9
365	SLV FO 5	-0.0047184	-14155.1	SLV FO 12	0.0001681	504.4
366	SLV FO 5	-0.0044044	-13213.2	SLV FO 12	0.0001251	375.4
367	SLV FO 5	-0.0041804	-12541.3	SLV FO 12	0.0000883	264.9
368	SLV FO 5	-0.0040419	-12125.7	SLV FO 12	0.0000573	171.8
369	SLV FO 5	-0.0039836	-11950.7	SLV FO 12	0.0000313	93.9
370	SLV FO 5	-0.0039998	-11999.3	SLV FO 12	0.0000094	28.1
371	SLV FO 5	-0.0040837	-12251	SLV FO 12	-0.00001	-29.9
372	SLV FO 5	-0.0042258	-12677.5	SLV FO 12	-0.0000286	-85.8
373	SLV FO 5	-0.0044132	-13239.5	SLV FO 12	-0.0000488	-146.4
374	SLV FO 5	-0.0046269	-13880.6	SLV FO 12	-0.0000732	-219.7
375	SLV FO 5	-0.0048388	-14516.5	SLV FO 12	-0.0001051	-315.2
376	SLV FO 5	-0.005008	-15023.9	SLV FO 12	-0.0001478	-443.3
377	SLV FO 5	-0.00508	-15240	SLV FO 12	-0.0002048	-614.3
378	SLV FO 5	-0.0050771	-15231.4	SLV FO 12	-0.000264	-792.1
379	SLV FO 5	-0.0050058	-15017.4	SLV FO 12	-0.0003277	-983.2
380	SLV FO 5	-0.0048922	-14676.6	SLV FO 12	-0.0003868	-1160.4
381	SLV FO 5	-0.0047532	-14259.7	SLV FO 12	-0.0004321	-1296.3
382	SLV FO 5	-0.0046415	-13924.6	SLV FO 12	-0.000461	-1383.1
383	SLV FO 5	-0.0045267	-13580.1	SLV FO 12	-0.0004796	-1438.7
384	SLV FO 5	-0.0043796	-13138.9	SLV FO 12	-0.0004926	-1477.7
385	SLV FO 5	-0.0042858	-12857.4	SLV FO 12	-0.0004949	-1484.6
386	SLV FO 5	-0.0042686	-12805.9	SLV FO 12	-0.0004911	-1473.2
387	SLV FO 5	-0.0043372	-13011.7	SLV FO 12	-0.0004846	-1453.8
388	SLV FO 5	-0.0044884	-13465.2	SLV FO 12	-0.0004787	-1436.1
389	SLV FO 5	-0.0047072	-14121.5	SLV FO 12	-0.0004773	-1432
390	SLV FO 9	-0.0050433	-15130	SLV FO 8	-0.0004867	-1460.2
391	SLV FO 10	-0.0049145	-14743.5	SLV FO 7	-0.0004567	-1370.1
392	SLV FO 10	-0.0048132	-14439.6	SLV FO 7	-0.0004607	-1382.1
393	SLV FO 10	-0.004694	-14081.9	SLV FO 7	-0.0004637	-1391
394	SLV FO 10	-0.0045929	-13778.6	SLV FO 7	-0.0004656	-1396.9
395	SLV FO 10	-0.0045415	-13624.5	SLV FO 7	-0.0004654	-1396.1
396	SLV FO 10	-0.0045545	-13663.6	SLV FO 7	-0.0004611	-1383.3
397	SLV FO 10	-0.0046318	-13895.3	SLV FO 7	-0.0004506	-1351.7
398	SLV FO 10	-0.0047573	-14271.8	SLV FO 7	-0.0004305	-1291.5
399	SLV FO 10	-0.0048572	-14571.6	SLV FO 7	-0.0004088	-1226.3
400	SLV FO 10	-0.004956	-14868	SLV FO 7	-0.0003785	-1135.4
401	SLV FO 10	-0.0050353	-15106	SLV FO 7	-0.0003469	-1040.7

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
402	SLV FO 10	-0.0051544	-15463.3	SLV FO 7	-0.000275	-825
403	SLV FO 10	-0.0052133	-15640	SLV FO 7	-0.000199	-597.1
404	SLV FO 10	-0.0052089	-15626.6	SLV FO 7	-0.0001717	-515.2
405	SLV FO 10	-0.0051637	-15491	SLV FO 7	-0.00009	-270
406	SLV FO 10	-0.0051388	-15416.3	SLV FO 7	-0.0000675	-202.5
407	SLV FO 10	-0.004982	-14946.1	SLV FO 7	-0.000022	-65.9
408	SLV FO 10	-0.0047529	-14258.6	SLV FO 7	0.0000069	20.8
409	SLV FO 10	-0.0045072	-13521.6	SLV FO 7	0.000025	75.1
410	SLV FO 10	-0.0042832	-12849.7	SLV FO 7	0.0000373	111.9
411	SLV FO 10	-0.0041061	-12318.3	SLV FO 7	0.0000478	143.4
412	SLV FO 10	-0.003992	-11976.1	SLV FO 7	0.0000596	178.8
413	SLV FO 10	-0.0039519	-11855.8	SLV FO 7	0.0000751	225.4
414	SLV FO 10	-0.0039939	-11981.6	SLV FO 7	0.0000961	288.2
415	SLV FO 10	-0.004125	-12375	SLV FO 7	0.0001236	370.7
416	SLV FO 10	-0.0043523	-13057	SLV FO 7	0.0001583	475
417	SLV FO 10	-0.0046822	-14046.6	SLV FO 7	0.0002005	601.5
418	SLV FO 10	-0.005119	-15356.9	SLV FO 7	0.0002496	748.9
419	SLV FO 10	-0.0056621	-16986.2	SLV FO 7	0.0003046	913.9
420	SLV FO 10	-0.0063019	-18905.6	SLV FO 7	0.0003634	1090.3
421	SLV FO 10	-0.0066047	-19814	SLV FO 7	0.0003894	1168.3
424	SLV FO 5	-0.0063405	-19021.6	SLV FO 12	0.0003137	941.2
425	SLV FO 5	-0.0050233	-15069.8	SLV FO 12	-0.0001967	-590.1
427	SLV FO 5	-0.0050557	-15167	SLV FO 12	-0.0002779	-833.7
428	SLV FO 10	-0.0051665	-15499.4	SLV FO 7	-0.0002036	-610.8
430	SLV FO 10	-0.0051255	-15376.6	SLV FO 7	-0.0001215	-364.4
431	SLV FO 10	-0.0059108	-17732.4	SLV FO 7	0.0002964	889.3
433	SLV FO 10	-0.0049093	-14727.9	SLV FO 7	-0.0004906	-1471.8
438	SLV FO 5	-0.0056796	-17038.8	SLV FO 12	0.000005	15.1
439	SLV FO 5	-0.0046144	-13843.2	SLV FO 12	-0.0004536	-1360.9
441	SLV FO 5	-0.0046383	-13915	SLV FO 12	-0.0005354	-1606.2
442	SLV FO 10	-0.0047535	-14260.5	SLV FO 7	-0.0004575	-1372.4
444	SLV FO 10	-0.0047238	-14171.5	SLV FO 7	-0.0003741	-1122.3
445	SLV FO 10	-0.0053249	-15974.7	SLV FO 7	-0.0000192	-57.6
447	SLV FO 10	-0.0044587	-13376.1	SLV FO 7	-0.0007722	-2316.6
452	SLV FO 5	-0.005152	-15455.9	SLV FO 12	-0.0003034	-910.3
453	SLV FO 5	-0.0042679	-12803.6	SLV FO 12	-0.0007101	-2130.2
455	SLV FO 5	-0.0042833	-12850	SLV FO 12	-0.0007925	-2377.5
456	SLV FO 10	-0.0043996	-13198.7	SLV FO 7	-0.0007094	-2128.2
458	SLV FO 10	-0.0043812	-13143.5	SLV FO 7	-0.0006247	-1874
459	SLV FO 10	-0.0048416	-14524.9	SLV FO 7	-0.0003349	-1004.7
461	SLV FO 6	-0.004107	-12320.9	SLV FO 11	-0.0010469	-3140.6
464	SLU 84	-0.0029578	-8873.4	SLV FO 8	-0.0010305	-3091.5
467	SLV FO 5	-0.0047493	-14247.9	SLV FO 12	-0.0006157	-1847.2
468	SLV FO 5	-0.0039646	-11893.9	SLV FO 12	-0.0009689	-2906.6
470	SLV FO 5	-0.0039716	-11914.8	SLV FO 12	-0.0010521	-3156.2
471	SLV FO 10	-0.0040856	-12256.9	SLV FO 7	-0.0009625	-2887.5
473	SLV FO 10	-0.0040785	-12235.4	SLV FO 7	-0.0008763	-2628.9
474	SLV FO 10	-0.0044637	-13391.1	SLV FO 7	-0.0006542	-1962.6
476	SLV FO 6	-0.0038421	-11526.4	SLV FO 11	-0.0013226	-3967.9
481	SLV FO 5	-0.0044574	-13372.3	SLV FO 12	-0.0009353	-2805.8
482	SLV FO 5	-0.0036928	-11078.4	SLV FO 12	-0.001232	-3696.1
484	SLU 84	-0.0037195	-11158.4	SLV FO 12	-0.0013161	-3948.3
485	SLV FO 10	-0.0037993	-11397.8	SLV FO 7	-0.0012193	-3657.8
487	SLV FO 10	-0.0038033	-11410	SLV FO 7	-0.0011315	-3394.5
488	SLV FO 10	-0.0041861	-12558.3	SLV FO 7	-0.0009801	-2940.4
490	SLU 84	-0.0038905	-11671.6	SLV FO 11	-0.0016017	-4805
495	SLV FO 1	-0.0044263	-13278.8	SLV FO 16	-0.001096	-3288.1
496	SLU 84	-0.0036732	-11019.6	SLV FO 12	-0.0015002	-4500.7
498	SLU 84	-0.0037298	-11189.5	SLV FO 12	-0.0015853	-4755.8
499	SLU 84	-0.0037138	-11141.3	SLV FO 7	-0.0014817	-4445.1
501	SLU 84	-0.0036597	-10979.2	SLV FO 7	-0.0013922	-4176.7
502	SLV FO 14	-0.0041487	-12446.2	SLV FO 3	-0.0011632	-3489.5
504	SLU 84	-0.0039715	-11914.6	SLV FO 11	-0.00188	-5640
521	SLV FO 1	-0.004506	-13517.9	SLV FO 16	-0.0012247	-3674
522	SLU 84	-0.003709	-11126.9	SLV FO 12	-0.0017717	-5315.2
524	SLU 84	-0.0037599	-11279.7	SLV FO 12	-0.0018578	-5573.3
525	SLU 84	-0.0037277	-11183	SLV FO 7	-0.0017515	-5254.4
527	SLU 84	-0.0036809	-11042.8	SLV FO 7	-0.0016603	-4980.8
528	SLV FO 14	-0.0042331	-12699.4	SLV FO 3	-0.0013033	-3909.8
531	SLU 83	-0.0028483	-8544.8	SLU 2	-0.0017721	-5316.2
532	SLU 84	-0.0040728	-12218.3	SLV FO 11	-0.0022643	-6793
534	SLU 84	-0.0047989	-14396.8	SLV FO 8	-0.0025984	-7795.3
535	SLU 84	-0.004512	-13536	SLV FO 8	-0.0024878	-7463.3
536	SLU 84	-0.0042741	-12822.3	SLV FO 8	-0.0023849	-7154.6
537	SLU 84	-0.0041528	-12458.5	SLV FO 11	-0.002279	-6837
539	SLV FO 1	-0.0046269	-13880.8	SLV FO 16	-0.0013567	-4070
540	SLU 84	-0.0037605	-11281.6	SLV FO 16	-0.0019536	-5860.8
542	SLU 84	-0.0038058	-11417.4	SLV FO 16	-0.0020337	-6101
543	SLU 84	-0.0037585	-11275.5	SLV FO 7	-0.0020301	-6090.3
545	SLU 84	-0.003719	-11157	SLV FO 7	-0.0019371	-5811.4
546	SLV FO 14	-0.0043621	-13086.3	SLV FO 3	-0.0014472	-4341.6
549	SLU 84	-0.0040975	-12292.4	SLV FO 11	-0.002476	-7428.1
555	SLV FO 1	-0.0047491	-14247.3	SLV FO 16	-0.0014805	-4441.6
556	SLU 84	-0.003821	-11462.9	SLV FO 16	-0.0020499	-6149.6
558	SLU 84	-0.0038606	-11581.8	SLV FO 16	-0.0021275	-6382.6
559	SLU 84	-0.0038066	-11419.7	SLV FO 3	-0.0021472	-6441.6
561	SLU 84	-0.0037743	-11322.8	SLV FO 3	-0.0020871	-6261.4
562	SLV FO 14	-0.0045002	-13500.6	SLV FO 3	-0.0015835	-4750.6

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
565	SLU 83	-0.0040988	-12296.5	SLU 2	-0.002551	-7653.1
571	SLV FO 1	-0.0048142	-14442.5	SLV FO 16	-0.001578	-4733.9
572	SLU 83	-0.0038795	-11638.4	SLV FO 14	-0.002099	-6296.9
574	SLU 83	-0.0039143	-11743	SLV FO 13	-0.00214	-6420.1
575	SLU 83	-0.0038752	-11625.6	SLV FO 2	-0.0021795	-6538.5
577	SLU 83	-0.0038488	-11546.3	SLV FO 2	-0.0021717	-6515
578	SLU 84	-0.0046427	-13928.2	SLV FO 3	-0.0016942	-5082.5
581	SLU 83	-0.0040774	-12232.2	SLU 2	-0.0025297	-7589.1
586	SLV FO 2	-0.0049278	-14783.5	SLV FO 15	-0.0015705	-4711.5
587	SLV FO 1	-0.0048077	-14423.1	SLV FO 16	-0.0016026	-4807.9
588	SLV FO 1	-0.0047537	-14261.2	SLV FO 16	-0.0016262	-4878.6
589	SLU 84	-0.0046797	-14039	SLV FO 16	-0.0016942	-5082.5
590	SLU 84	-0.0046517	-13955.1	SLV FO 16	-0.0017665	-5299.5
591	SLU 84	-0.0046286	-13885.7	SLV FO 16	-0.0018386	-5515.9
592	SLU 84	-0.0046034	-13810.2	SLV FO 16	-0.0019083	-5724.9
593	SLU 84	-0.0045725	-13717.6	SLV FO 16	-0.001974	-5922.1
594	SLU 84	-0.0045332	-13599.6	SLV FO 16	-0.0020345	-6103.5
595	SLU 84	-0.0044823	-13446.9	SLV FO 16	-0.0020877	-6263
596	SLU 84	-0.004416	-13248.1	SLV FO 16	-0.0021303	-6391
597	SLU 84	-0.0043305	-12991.4	SLV FO 16	-0.0021584	-6475.2
598	SLU 84	-0.0042238	-12671.5	SLV FO 16	-0.002168	-6504.1
599	SLU 84	-0.0041025	-12307.5	SLV FO 16	-0.00216	-6479.9
600	SLU 84	-0.004033	-12098.9	SLV FO 16	-0.0021496	-6448.7
601	SLU 83	-0.0039682	-11904.7	SLV FO 16	-0.0021399	-6419.7
602	SLU 83	-0.0039052	-11715.6	SLV FO 14	-0.0020983	-6294.9
603	SLU 83	-0.0039052	-11715.6	SLV FO 13	-0.0020969	-6290.8
604	SLU 83	-0.0039158	-11747.3	SLV FO 13	-0.0021086	-6325.7
605	SLU 83	-0.0039494	-11848.2	SLV FO 13	-0.0021516	-6454.9
606	SLU 83	-0.003993	-11979.1	SLV FO 13	-0.0022251	-6675.3
607	SLU 83	-0.0040307	-12092	SLV FO 13	-0.0023117	-6935
608	SLU 83	-0.0040519	-12155.8	SLV FO 13	-0.0023972	-7191.6
609	SLU 83	-0.0040494	-12148.3	SLV FO 13	-0.0024706	-7411.8
610	SLU 83	-0.0040187	-12056	SLU 2	-0.0024762	-7428.6
611	SLU 83	-0.0039611	-11883.4	SLU 2	-0.0024409	-7322.6
612	SLU 83	-0.0038946	-11683.8	SLU 2	-0.0023994	-7198.2
613	SLU 83	-0.0038322	-11496.6	SLU 2	-0.0023603	-7080.8
614	SLU 83	-0.0036316	-10894.8	SLV FO 6	-0.0020712	-6213.7
615	SLU 83	-0.0042998	-12899.5	SLU 2	-0.0026762	-8028.6
616	SLU 83	-0.0043087	-12926	SLV FO 1	-0.002646	-7937.9
617	SLU 83	-0.0043114	-12934.3	SLV FO 1	-0.0025848	-7754.4
618	SLU 83	-0.0043024	-12907.2	SLV FO 1	-0.0025201	-7560.4
619	SLU 83	-0.0042777	-12833.1	SLV FO 1	-0.0024532	-7359.6
620	SLU 83	-0.0042363	-12708.9	SLV FO 2	-0.0023877	-7163.2
621	SLU 83	-0.0041824	-12547.3	SLV FO 2	-0.0023302	-6990.7
622	SLU 83	-0.0040872	-12261.7	SLV FO 2	-0.0022655	-6796.4
623	SLU 83	-0.0038813	-11643.8	SLV FO 2	-0.0021587	-6476.2
624	SLU 83	-0.0039513	-11854	SLV FO 3	-0.0022124	-6637.2
625	SLU 84	-0.0040454	-12136.3	SLV FO 3	-0.0022278	-6683.4
626	SLU 84	-0.0041456	-12436.8	SLV FO 3	-0.0022306	-6691.9
627	SLU 84	-0.0042392	-12717.5	SLV FO 3	-0.0022175	-6652.5
628	SLU 84	-0.0043196	-12958.9	SLV FO 3	-0.0021897	-6569.2
629	SLU 84	-0.0043859	-13157.8	SLV FO 3	-0.0021503	-6451
630	SLU 84	-0.0044392	-13317.6	SLV FO 3	-0.0021019	-6305.6
631	SLU 84	-0.0044813	-13443.8	SLV FO 3	-0.0020464	-6139.1
632	SLU 84	-0.0045144	-13543.2	SLV FO 3	-0.0019853	-5955.8
633	SLU 84	-0.0045421	-13626.4	SLV FO 3	-0.0019201	-5760.4
634	SLU 84	-0.004571	-13713.1	SLV FO 3	-0.0018535	-5560.4
635	SLU 84	-0.004614	-13842	SLV FO 3	-0.0017902	-5370.6
636	SLU 84	-0.0046945	-14083.4	SLV FO 3	-0.0017392	-5217.6
637	SLV FO 14	-0.0048553	-14565.9	SLV FO 3	-0.0017145	-5143.6
644	SLV FO 2	-0.004781	-14343	SLV FO 15	-0.0016336	-4900.9
656	SLU 84	-0.0040879	-12263.6	SLV FO 16	-0.0021811	-6543.4
659	SLU 83	-0.0039154	-11746.3	SLV FO 13	-0.0020682	-6204.7
662	SLU 83	-0.0039482	-11844.7	SLV FO 13	-0.0021058	-6317.5
671	SLU 83	-0.0038729	-11618.6	SLU 2	-0.0023848	-7154.4
673	SLU 83	-0.0037887	-11366.2	SLV FO 6	-0.0023089	-6926.7
675	SLU 83	-0.0037006	-11101.7	SLV FO 6	-0.0021534	-6460.2
682	SLU 83	-0.0040208	-12062.4	SLV FO 9	-0.0023572	-7071.5
688	SLU 83	-0.0040662	-12198.5	SLU 2	-0.0025265	-7579.6
691	SLU 83	-0.0041311	-12393.2	SLU 2	-0.0025684	-7705.3
699	SLU 83	-0.0039629	-11888.8	SLV FO 2	-0.0021389	-6416.8
701	SLU 83	-0.0039391	-11817.4	SLV FO 2	-0.0021346	-6403.8
703	SLU 83	-0.0039881	-11964.2	SLV FO 1	-0.002209	-6627
716	SLU 83	-0.0046814	-14044.3	SLV FO 4	-0.0017492	-5247.5
718	SLV FO 4	-0.0048862	-14658.5	SLV FO 13	-0.0016208	-4862.3
719	SLU 83	-0.0047305	-14191.4	SLV FO 13	-0.0016815	-5044.4
720	SLU 83	-0.0046816	-14044.8	SLV FO 15	-0.0017524	-5257.1
721	SLU 83	-0.0046505	-13951.4	SLV FO 15	-0.0018259	-5477.8
722	SLU 83	-0.0046241	-13872.4	SLV FO 16	-0.0018965	-5689.6
723	SLU 83	-0.0045958	-13787.5	SLV FO 16	-0.0019642	-5892.6
724	SLU 83	-0.0045618	-13685.4	SLV FO 16	-0.0020279	-6083.7
725	SLU 84	-0.0045193	-13557.9	SLV FO 16	-0.0020863	-6259
726	SLU 84	-0.0044654	-13396.1	SLV FO 16	-0.0021375	-6412.4
727	SLU 84	-0.0043961	-13188.2	SLV FO 16	-0.0021782	-6534.5
728	SLU 84	-0.0043074	-12922.2	SLV FO 16	-0.0022042	-6612.6
729	SLU 84	-0.0041977	-12593	SLV FO 16	-0.0022116	-6634.8
730	SLU 83	-0.0040737	-12221	SLV FO 14	-0.0021926	-6577.7
731	SLU 83	-0.0039879	-11963.7	SLV FO 14	-0.0021171	-6351.3

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
732	SLU 83	-0.0039366	-11809.8	SLV FO 13	-0.0020565	-6169.4
733	SLU 83	-0.0039372	-11811.5	SLV FO 13	-0.0020538	-6161.3
734	SLU 83	-0.0039479	-11843.6	SLV FO 13	-0.0020654	-6196.2
735	SLU 83	-0.0039774	-11932.1	SLV FO 13	-0.0021072	-6321.7
736	SLU 83	-0.0040131	-12039.4	SLV FO 13	-0.0021783	-6534.9
737	SLU 83	-0.0040429	-12128.6	SLV FO 13	-0.0022624	-6787.2
738	SLU 83	-0.0040563	-12168.8	SLV FO 9	-0.0023241	-6972.2
739	SLU 83	-0.0040459	-12137.6	SLV FO 9	-0.0023687	-7106.2
740	SLU 83	-0.0040072	-12021.7	SLV FO 9	-0.0023935	-7180.4
741	SLU 83	-0.0039418	-11825.3	SLV FO 10	-0.002389	-7166.9
742	SLU 83	-0.0038555	-11566.4	SLV FO 10	-0.0023492	-7047.6
743	SLU 83	-0.0037713	-11314	SLV FO 10	-0.0022777	-6833
744	SLU 83	-0.0038136	-11440.7	SLV FO 6	-0.0022002	-6600.5
745	SLU 83	-0.003839	-11516.9	SLV FO 6	-0.0021754	-6526.2
746	SLU 83	-0.0038466	-11539.8	SLV FO 6	-0.0021431	-6429.2
747	SLU 83	-0.0038344	-11503.2	SLV FO 9	-0.002086	-6257.9
748	SLU 83	-0.0038509	-11552.6	SLV FO 9	-0.0020878	-6263.3
749	SLU 83	-0.0039944	-11983.3	SLV FO 9	-0.0022824	-6847.3
750	SLU 83	-0.0039971	-11991.4	SLV FO 9	-0.0023469	-7040.6
751	SLU 83	-0.0039596	-11878.7	SLV FO 5	-0.0023943	-7183
752	SLU 83	-0.0038999	-11699.7	SLV FO 5	-0.0024171	-7251.4
753	SLU 83	-0.0039614	-11884.1	SLV FO 5	-0.0024402	-7320.6
754	SLU 83	-0.0039701	-11910.3	SLV FO 1	-0.0023962	-7188.5
755	SLU 83	-0.0039742	-11922.6	SLV FO 1	-0.0023366	-7009.7
756	SLU 83	-0.0039662	-11898.5	SLV FO 1	-0.0022732	-6819.7
757	SLU 83	-0.0039422	-11826.5	SLV FO 1	-0.0022074	-6622.3
758	SLU 83	-0.0039011	-11703.3	SLV FO 1	-0.0021433	-6429.9
759	SLU 83	-0.0038472	-11541.7	SLV FO 1	-0.002088	-6264.1
760	SLU 83	-0.0037447	-11234.2	SLV FO 2	-0.0020302	-6090.5
761	SLU 83	-0.0038758	-11627.3	SLV FO 2	-0.0021232	-6369.5
762	SLU 83	-0.0039854	-11956.1	SLV FO 2	-0.0021783	-6534.9
763	SLU 83	-0.0040342	-12102.6	SLV FO 1	-0.0021975	-6592.4
764	SLU 83	-0.0041348	-12404.5	SLV FO 1	-0.0022147	-6644.1
765	SLU 83	-0.004229	-12687.1	SLV FO 1	-0.0022088	-6626.4
766	SLU 83	-0.0043102	-12930.6	SLV FO 2	-0.0021838	-6551.4
767	SLU 83	-0.0043772	-13131.7	SLV FO 2	-0.0021448	-6434.4
768	SLU 83	-0.0044312	-13293.7	SLV FO 2	-0.0020958	-6287.5
769	SLU 83	-0.0044741	-13422.2	SLV FO 2	-0.0020395	-6118.6
770	SLU 83	-0.0045079	-13523.8	SLV FO 2	-0.0019777	-5933
771	SLU 83	-0.0045363	-13609	SLV FO 2	-0.0019119	-5735.7
772	SLU 83	-0.0045659	-13697.8	SLV FO 2	-0.0018448	-5534.4
773	SLU 83	-0.0046095	-13828.6	SLV FO 2	-0.0017812	-5343.5
774	SLU 83	-0.0046907	-14072	SLV FO 2	-0.0017298	-5189.4
775	SLV FO 15	-0.0048599	-14579.7	SLV FO 2	-0.0017041	-5112.2
776	SLU 83	-0.0046345	-13903.4	SLV FO 2	-0.0016803	-5040.9
779	SLV FO 4	-0.0047337	-14201	SLV FO 13	-0.0016229	-4868.7
780	SLV FO 15	-0.0044947	-13484.1	SLV FO 2	-0.0015623	-4686.9
782	SLU 83	-0.004013	-12038.9	SLV FO 14	-0.0021003	-6300.9
784	SLU 83	-0.0039996	-11998.7	SLV FO 14	-0.0020599	-6179.7
785	SLU 83	-0.0036914	-11074.1	SLV FO 10	-0.002195	-6584.9
787	SLU 83	-0.0035707	-10712.1	SLV FO 10	-0.0021069	-6320.8
788	SLU 83	-0.0034059	-10217.7	SLV FO 5	-0.0020245	-6073.5
790	SLU 83	-0.003477	-10431.1	SLV FO 5	-0.0020499	-6149.7
791	SLU 83	-0.0039028	-11708.5	SLV FO 2	-0.0020423	-6127
793	SLU 83	-0.0039363	-11808.9	SLV FO 2	-0.0020658	-6197.4
795	SLV FO 4	-0.0045052	-13515.5	SLV FO 13	-0.0014115	-4234.5
796	SLV FO 15	-0.0043496	-13048.7	SLV FO 2	-0.0014224	-4267.2
798	SLU 83	-0.0035979	-10793.8	SLV FO 10	-0.0020883	-6264.9
800	SLU 83	-0.0039329	-11798.8	SLV FO 6	-0.0018938	-5681.3
802	SLU 83	-0.0039544	-11863.2	SLV FO 6	-0.0019707	-5912
803	SLU 83	-0.0040006	-12001.7	SLV FO 13	-0.0020441	-6132.4
805	SLU 83	-0.0039923	-11976.9	SLV FO 9	-0.0019836	-5950.9
806	SLU 83	-0.0031634	-9490.3	SLV FO 5	-0.0017828	-5348.3
808	SLU 83	-0.0032366	-9709.7	SLV FO 5	-0.0018077	-5423
809	SLU 83	-0.0035165	-10549.5	SLV FO 10	-0.0019638	-5891.3
812	SLV FO 4	-0.0043944	-13183.2	SLV FO 13	-0.0012944	-3883.3
813	SLV FO 15	-0.0042171	-12651.2	SLV FO 2	-0.0012788	-3836.5
815	SLU 83	-0.0039733	-11920	SLV FO 6	-0.001685	-5055
817	SLU 83	-0.0039828	-11948.4	SLV FO 6	-0.0017571	-5271.3
818	SLU 83	-0.003988	-11964	SLV FO 9	-0.0018698	-5609.3
820	SLU 83	-0.0039849	-11954.6	SLV FO 9	-0.001757	-5271
821	SLU 83	-0.0029897	-8969.1	SLV FO 5	-0.0015386	-4615.7
823	SLU 83	-0.003065	-9194.9	SLV FO 5	-0.001563	-4689.1
824	SLU 83	-0.003436	-10308	SLV FO 10	-0.0018203	-5461
826	SLU 83	-0.0033014	-9904.1	SLV FO 10	-0.0017236	-5170.9
827	SLU 83	-0.0031026	-9307.9	SLV FO 10	-0.0016086	-4825.7
828	SLU 83	-0.0027303	-8190.8	SLV FO 10	-0.0013968	-4190.3
829	SLU 83	-0.0026155	-7846.6	SLV FO 10	-0.0013319	-3995.8
830	SLU 83	-0.0025516	-7654.7	SLV FO 10	-0.0012989	-3896.7
831	SLU 83	-0.0025307	-7592	SLV FO 10	-0.0012922	-3876.7
832	SLU 83	-0.0025447	-7634.2	SLV FO 10	-0.0013059	-3917.6
833	SLU 83	-0.0025866	-7759.7	SLV FO 9	-0.0013338	-4001.4
834	SLU 83	-0.00265	-7950.1	SLV FO 5	-0.0013618	-4085.4
835	SLU 83	-0.0027287	-8186.2	SLV FO 5	-0.0013803	-4141
836	SLU 83	-0.0028152	-8445.6	SLV FO 5	-0.0014036	-4210.7
837	SLU 83	-0.0028997	-8699.1	SLV FO 5	-0.0014296	-4288.8
838	SLU 83	-0.0029703	-8910.9	SLV FO 5	-0.001453	-4358.9
840	SLV FO 4	-0.0043258	-12977.5	SLV FO 13	-0.0011788	-3536.3

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
841	SLV FO 15	-0.0041352	-12405.7	SLV FO 2	-0.001143	-3429
843	SLU 83	-0.0040174	-12052.2	SLV FO 6	-0.0014471	-4341.3
845	SLU 83	-0.0040149	-12044.7	SLV FO 6	-0.0015145	-4543.5
846	SLU 83	-0.0039726	-11917.8	SLV FO 9	-0.0016072	-4821.5
848	SLU 83	-0.0039746	-11923.8	SLV FO 9	-0.0014986	-4495.8
849	SLU 83	-0.0033409	-10022.7	SLV FO 10	-0.0016567	-4970
851	SLU 83	-0.0030921	-9276.2	SLV FO 10	-0.001514	-4542.1
863	SLU 83	-0.0028862	-8658.5	SLV FO 5	-0.0013	-3899.9
865	SLU 83	-0.002963	-8889	SLV FO 5	-0.0013242	-3972.5
867	SLV FO 4	-0.0043156	-12946.9	SLV FO 13	-0.0010695	-3208.5
868	SLU 83	-0.0031342	-9402.6	SLV FO 10	-0.0014479	-4343.7
869	SLU 83	-0.0029319	-8795.8	SLV FO 10	-0.0013324	-3997.3
870	SLU 83	-0.002599	-7796.9	SLV FO 10	-0.0011313	-3394
871	SLU 83	-0.0024892	-7467.5	SLV FO 10	-0.0010673	-3201.8
872	SLU 83	-0.0024299	-7289.8	SLV FO 10	-0.0010346	-3103.8
873	SLU 83	-0.0024136	-7240.7	SLV FO 10	-0.0010279	-3083.6
874	SLU 83	-0.0024319	-7295.8	SLV FO 10	-0.001041	-3123
875	SLU 83	-0.002478	-7433.9	SLV FO 9	-0.0010683	-3204.8
876	SLU 83	-0.0025454	-7636.2	SLV FO 5	-0.0010915	-3274.5
877	SLU 83	-0.0026279	-7883.8	SLV FO 5	-0.0011072	-3321.6
878	SLU 83	-0.002718	-8154.1	SLV FO 5	-0.0011276	-3382.7
879	SLU 83	-0.002806	-8418.1	SLV FO 5	-0.0011503	-3450.8
880	SLU 83	-0.0028789	-8636.7	SLV FO 5	-0.0011711	-3513.4
881	SLV FO 11	-0.0042712	-12813.5	SLV FO 6	-0.0011896	-3568.9
883	SLV FO 11	-0.0041908	-12572.5	SLV FO 6	-0.0012524	-3757.2
884	SLV FO 11	-0.0041952	-12585.7	SLV FO 6	-0.0009564	-2869.3
886	SLV FO 8	-0.0039847	-11954	SLV FO 9	-0.0013272	-3981.7
888	SLV FO 8	-0.0040953	-12285.9	SLV FO 9	-0.0012228	-3668.3
889	SLU 83	-0.0032157	-9647.1	SLV FO 10	-0.0014373	-4311.9
891	SLU 83	-0.0028412	-8523.7	SLV FO 5	-0.0010877	-3263.1
893	SLU 83	-0.0029146	-8743.9	SLV FO 5	-0.0011103	-3330.9
895	SLV FO 8	-0.0044657	-13397.1	SLV FO 9	-0.0008799	-2639.7
896	SLV FO 11	-0.0045954	-13786.2	SLV FO 6	-0.0009217	-2765.2
898	SLV FO 11	-0.0045037	-13511.1	SLV FO 6	-0.0009799	-2939.7
899	SLV FO 11	-0.0044994	-13498.1	SLV FO 6	-0.0006382	-1914.6
901	SLV FO 8	-0.0042446	-12733.7	SLV FO 9	-0.0010449	-3134.6
903	SLV FO 8	-0.0043581	-13074.4	SLV FO 9	-0.0009444	-2833.1
904	SLU 83	-0.00311	-9330.1	SLV FO 10	-0.0011992	-3597.6
906	SLV FO 12	-0.0029467	-8840.1	SLV FO 5	-0.0008781	-2634.4
908	SLV FO 12	-0.0030199	-9059.6	SLV FO 5	-0.0008983	-2694.9
910	SLV FO 8	-0.0048079	-14423.6	SLV FO 9	-0.0005902	-1770.5
911	SLV FO 11	-0.004921	-14762.9	SLV FO 6	-0.0006513	-1953.9
913	SLV FO 11	-0.0048178	-14453.4	SLV FO 6	-0.0007049	-2114.8
914	SLV FO 11	-0.0049224	-14767.3	SLV FO 6	-0.0003267	-980.1
916	SLV FO 8	-0.0045085	-13525.4	SLV FO 9	-0.000774	-2321.9
918	SLV FO 8	-0.0046251	-13875.3	SLV FO 9	-0.0006773	-2031.9
919	SLV FO 8	-0.0031433	-9429.8	SLV FO 9	-0.0009517	-2855
921	SLV FO 12	-0.0032167	-9650.2	SLV FO 5	-0.0006709	-2012.8
923	SLV FO 12	-0.0032855	-9856.4	SLV FO 5	-0.0006887	-2066.1
925	SLV FO 8	-0.0052475	-15742.6	SLV FO 9	-0.0003053	-915.8
926	SLV FO 11	-0.0052426	-15727.7	SLV FO 6	-0.0003856	-1156.7
928	SLV FO 11	-0.0051278	-15383.3	SLV FO 6	-0.0004347	-1304.2
929	SLV FO 8	-0.0033882	-10164.5	SLV FO 9	-0.0007004	-2101.3
931	SLV FO 11	-0.003531	-10592.9	SLV FO 6	-0.0004656	-1396.7
933	SLV FO 11	-0.0035955	-10786.4	SLV FO 6	-0.0004809	-1442.6
934	SLV FO 8	-0.0047886	-14365.8	SLV FO 9	-0.0005246	-1573.7
936	SLV FO 8	-0.0049084	-14725.3	SLV FO 9	-0.0004316	-1294.8
937	SLV FO 11	-0.0054751	-16425.4	SLV FO 6	-0.0000175	-52.4
939	SLV FO 8	-0.0031632	-9489.7	SLV FO 9	-0.0005567	-1670.2
941	SLV FO 8	-0.0057962	-17388.5	SLV FO 9	-0.0000221	-66.4
942	SLV FO 11	-0.0055575	-16672.4	SLV FO 6	-0.0001317	-395
944	SLV FO 11	-0.0054309	-16292.6	SLV FO 6	-0.0001764	-529.3
945	SLV FO 8	-0.0037298	-11189.3	SLV FO 9	-0.0004501	-1350.3
947	SLV FO 11	-0.0038917	-11675.2	SLV FO 6	-0.0002601	-780.2
949	SLV FO 11	-0.0039521	-11856.4	SLV FO 6	-0.0002728	-818.5
950	SLV FO 11	-0.0061612	-18483.6	SLV FO 6	0.0002948	884.5
953	SLV FO 8	-0.0064613	-19383.8	SLV FO 9	0.0002622	786.6
954	SLV FO 8	-0.0069075	-20722.5	SLV FO 9	0.0003323	996.9
955	SLV FO 8	-0.0062702	-18810.6	SLV FO 9	0.0002626	787.9
956	SLV FO 8	-0.0057136	-17140.9	SLV FO 9	0.0001945	583.6
957	SLV FO 8	-0.0052635	-15790.6	SLV FO 9	0.0001297	389.2
958	SLV FO 8	-0.0049303	-14790.9	SLV FO 9	0.0000692	207.7
959	SLV FO 8	-0.0047149	-14144.6	SLV FO 9	0.0000138	41.4
960	SLV FO 8	-0.0046121	-13836.3	SLV FO 9	-0.0000358	-107.4
961	SLV FO 8	-0.0046129	-13838.8	SLV FO 9	-0.0000786	-235.8
962	SLV FO 8	-0.0047039	-14111.8	SLV FO 9	-0.0001129	-338.8
963	SLV FO 8	-0.0048658	-14597.4	SLV FO 9	-0.0001363	-409
964	SLV FO 8	-0.0050705	-15211.5	SLV FO 9	-0.0001452	-435.5
965	SLV FO 8	-0.005277	-15830.9	SLV FO 9	-0.0001345	-403.4
966	SLV FO 8	-0.0054338	-16301.4	SLV FO 9	-0.0000998	-299.5
967	SLV FO 11	-0.0058638	-17591.3	SLV FO 6	0.0001065	319.6
969	SLV FO 11	-0.005733	-17198.9	SLV FO 6	0.0000633	189.8
970	SLV FO 11	-0.0056474	-16942.1	SLV FO 6	0.000042	126
971	SLV FO 11	-0.0054719	-16415.7	SLV FO 6	0.0000277	83.1
972	SLV FO 11	-0.005274	-15822.1	SLV FO 6	0.0000287	86.2
973	SLV FO 11	-0.005096	-15287.9	SLV FO 6	0.0000429	128.6
974	SLV FO 11	-0.0049679	-14903.8	SLV FO 6	0.0000682	204.6
975	SLV FO 11	-0.0049112	-14733.7	SLV FO 6	0.0001035	310.4

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
976	SLV FO 11	-0.0049408	-14822.5	SLV FO 6	0.0001478	443.3
977	SLV FO 11	-0.0050672	-15201.6	SLV FO 6	0.0002005	601.5
978	SLV FO 11	-0.0052972	-15891.5	SLV FO 6	0.0002611	783.4
979	SLV FO 11	-0.0056336	-16900.8	SLV FO 6	0.0003291	987.3
980	SLV FO 11	-0.0060743	-18222.9	SLV FO 6	0.0004035	1210.5
981	SLV FO 11	-0.0066092	-19827.7	SLV FO 6	0.0004826	1447.8
982	SLV FO 11	-0.0066364	-19909.3	SLV FO 6	0.0004881	1464.4
983	SLV FO 11	-0.0072165	-21649.5	SLV FO 6	0.0005637	1691.1
984	SLV FO 8	-0.0041836	-12550.9	SLV FO 9	-0.0002019	-605.6
986	SLV FO 11	-0.004306	-12918	SLV FO 6	-0.0000553	-166
988	SLV FO 11	-0.0043624	-13087.2	SLV FO 6	-0.0000656	-196.8
991	SLV FO 11	-0.0060813	-18243.8	SLV FO 6	0.0002794	838.2
994	SLV FO 8	-0.0072391	-21717.4	SLV FO 9	0.0005497	1649
1006	SLV FO 8	-0.0057613	-17283.8	SLV FO 9	0.0000726	217.7
1009	SLV FO 8	-0.0059231	-17769.4	SLV FO 9	0.000123	368.9
1024	SLV FO 8	-0.0047646	-14293.8	SLV FO 9	0.0000439	131.6
1026	SLV FO 11	-0.0047891	-14367.4	SLV FO 6	0.0001495	448.4
1028	SLV FO 11	-0.0048416	-14524.9	SLV FO 6	0.0001417	425
1030	SLV FO 11	-0.0062651	-18795.4	SLV FO 6	0.0004417	1325
1035	SLV FO 8	-0.0061898	-18569.3	SLV FO 9	0.000261	782.9
1036	SLV FO 8	-0.0066422	-19926.6	SLV FO 9	0.0003769	1130.6
1037	SLV FO 8	-0.0062442	-18732.7	SLV FO 9	0.0003275	982.6
1038	SLV FO 8	-0.0058537	-17561	SLV FO 9	0.0002861	858.2
1039	SLV FO 8	-0.0055029	-16508.8	SLV FO 9	0.0002525	757.6
1040	SLV FO 8	-0.0052146	-15643.9	SLV FO 9	0.0002268	680.4
1041	SLV FO 8	-0.0050016	-15004.7	SLV FO 9	0.0002085	625.6
1042	SLV FO 8	-0.0048683	-14604.9	SLV FO 9	0.0001971	591.4
1043	SLV FO 8	-0.0048128	-14438.3	SLV FO 9	0.0001918	575.3
1044	SLV FO 8	-0.0048267	-14480	SLV FO 9	0.0001914	574.2
1045	SLV FO 8	-0.0048958	-14687.3	SLV FO 9	0.0001947	584.1
1046	SLV FO 8	-0.004999	-14997.1	SLV FO 9	0.0001999	599.7
1047	SLV FO 8	-0.0051074	-15322.1	SLV FO 9	0.0002049	614.7
1048	SLV FO 8	-0.0051825	-15547.4	SLV FO 9	0.000207	620.9
1049	SLV FO 8	-0.0051795	-15538.4	SLV FO 9	0.0002031	609.2
1050	SLV FO 8	-0.0050969	-15290.8	SLV FO 9	0.0001922	576.6
1051	SLV FO 8	-0.0049316	-14794.8	SLV FO 9	0.0001741	522.3
1052	SLV FO 8	-0.0047383	-14214.8	SLV FO 9	0.0001538	461.3
1053	SLV FO 8	-0.0045585	-13675.6	SLV FO 9	0.0001352	405.6
1054	SLV FO 8	-0.0044203	-13261	SLV FO 9	0.0001214	364.1
1055	SLV FO 12	-0.0043441	-13032.3	SLV FO 5	0.0001178	353.3
1056	SLV FO 12	-0.0043457	-13037.2	SLV FO 5	0.0001329	398.6
1057	SLV FO 12	-0.0044165	-13249.6	SLV FO 5	0.0001572	471.6
1058	SLV FO 11	-0.0045482	-13644.7	SLV FO 6	0.0001882	564.6
1059	SLV FO 11	-0.0047237	-14171	SLV FO 6	0.0002219	665.8
1060	SLV FO 11	-0.0049152	-14745.5	SLV FO 6	0.0002535	760.5
1061	SLV FO 11	-0.0050813	-15244	SLV FO 6	0.0002767	830
1062	SLV FO 11	-0.0051651	-15495.4	SLV FO 6	0.0002833	850
1063	SLV FO 11	-0.0051456	-15436.9	SLV FO 6	0.0002783	834.9
1064	SLV FO 11	-0.0050324	-15097.3	SLV FO 6	0.0002691	807.2
1065	SLV FO 11	-0.0048944	-14683.3	SLV FO 6	0.0002609	782.8
1066	SLV FO 11	-0.0047837	-14351.1	SLV FO 6	0.000258	774
1067	SLV FO 11	-0.0047368	-14210.3	SLV FO 6	0.0002633	789.9
1068	SLV FO 11	-0.004778	-14334.1	SLV FO 6	0.000279	837.1
1069	SLV FO 11	-0.004922	-14766	SLV FO 6	0.0003066	919.7
1070	SLV FO 11	-0.0051739	-15521.6	SLV FO 6	0.0003464	1039.3
1071	SLV FO 11	-0.0055283	-16585	SLV FO 6	0.0003981	1194.2
1072	SLV FO 11	-0.0059663	-17899	SLV FO 6	0.0004594	1378.2
1073	SLV FO 11	-0.0063299	-18989.6	SLV FO 6	0.0005095	1528.6
1075	SLV FO 8	-0.006461	-19382.9	SLV FO 9	0.0004091	1227.2
1079	SLV FO 8	-0.0067585	-20275.5	SLV FO 9	0.0005629	1688.6
1092	SLV FO 8	-0.0059783	-17934.8	SLV FO 9	0.0004295	1288.4
1094	SLV FO 8	-0.0059265	-17779.6	SLV FO 9	0.0004205	1261.5
1107	SLV FO 11	-0.0057484	-17245.3	SLV FO 6	0.0004802	1440.6
1109	SLV FO 11	-0.0057926	-17377.7	SLV FO 6	0.0004778	1433.4
1120	SLV FO 11	-0.0065889	-19766.8	SLV FO 6	0.0006981	2094.4

1.4 Cedimenti fondazioni superficiali

Nodo: *nodo che interagisce col terreno.*
Ind.: *indice del nodo.*
spostamento nodale massimo: *situazione in cui si verifica lo spostamento massimo verticale nel nodo calcolato dal solutore ad elementi finiti. Lo spostamento massimo con segno è quello con valore massimo lungo l'asse Z, dove valori positivi rappresentano spostamenti verso l'alto.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.*
uz: *spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]*
Press.: *pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]*
spostamento nodale minimo: *situazione in cui si verifica lo spostamento minimo verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento minimo con segno è quello con valore minimo lungo l'asse Z, dove valori negativi rappresentano spostamenti verso il basso.*
Cont.: *nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.*
uz: *spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]*
Press.: *pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]*
Cedimento elastico: *cedimento teorico elastico massimo.*
Cont.: *nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico elastico massimo.*

v.: valore del cedimento teorico elastico massimo. [m]

***Cedimento edometrico**: cedimento teorico edometrico massimo.*

Cont.: nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico edometrico massimo.

v.: valore del cedimento teorico edometrico massimo. [m]

***Cedimento di consolidazione**: cedimento teorico di consolidazione massimo.*

Cont.: nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico di consolidazione massimo.

v.: valore del cedimento teorico di consolidazione massimo. [m]

Spostamento estremo minimo -0.0057575 al nodo di indice 149, di coordinate x = -13.76, y = -4.78, z = -1.95, nel contesto SLD 5.
Spostamento estremo massimo -0.0008395 al nodo di indice 414, di coordinate x = -2.68, y = -2.93, z = -1.95, nel contesto SLD 7.
Cedimento elastico estremo massimo 0.0019094 al nodo di indice 615, di coordinate x = -9.56, y = 0.89, z = -1.95, nel contesto SLE rara 21.

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
11	SLD 11	-2.2E-03	-6660.9	SLD 6	-3.4E-03	-10168.7	SLE RA 21	1.11E-03				
12	SLD 11	-2.3E-03	-6852.4	SLD 6	-3.4E-03	-10278.3	SLE RA 21	1.14E-03				
13	SLD 7	-2.3E-03	-6951.7	SLD 10	-3.4E-03	-10346	SLE RA 21	1.15E-03				
14	SLD 7	-2.3E-03	-7022.2	SLD 10	-3.5E-03	-10426.1	SLE RA 21	1.14E-03				
15	SLD 7	-2.4E-03	-7084.6	SLD 10	-3.5E-03	-10503	SLE RA 21	1.13E-03				
16	SLD 7	-0.00238	-7140.1	SLD 10	-3.5E-03	-10573	SLE RA 21	1.07E-03				
17	SLD 7	-2.4E-03	-7182.9	SLD 10	-3.5E-03	-10631.8	SLE RA 21	1.00E-03				
18	SLD 7	-2.4E-03	-7225.2	SLD 10	-3.6E-03	-10703.5	SLE RA 21	8.64E-04				
19	SLD 11	-2.3E-03	-6954.9	SLD 6	-3.3E-03	-9798.7	SLE RA 21	0.001227				
20	SLD 11	-2.4E-03	-7142.8	SLD 6	-3.3E-03	-9910.8	SLE RA 21	1.28E-03				
21	SLD 7	-2.4E-03	-7235.7	SLD 10	-3.3E-03	-9968.7	SLE RA 21	0.001295				
22	SLD 7	-2.4E-03	-7297.7	SLD 10	-3.3E-03	-10044.2	SLE RA 21	1.29E-03				
23	SLD 7	-2.5E-03	-7354.2	SLD 10	-3.4E-03	-10122.9	SLE RA 21	1.26E-03				
24	SLD 7	-2.5E-03	-7408.4	SLD 10	-3.4E-03	-10200.2	SLE RA 21	1.21E-03				
25	SLD 7	-2.5E-03	-7453	SLD 10	-3.4E-03	-10268.5	SLE RA 21	1.15E-03				
26	SLD 7	-2.5E-03	-7488	SLD 10	-3.4E-03	-10340.1	SLE RA 21	1.01E-03				
27	SLD 11	-2.5E-03	-7438.7	SLD 6	-3.2E-03	-9492.4	SLE RA 21	1.40E-03				
28	SLD 7	-2.6E-03	-7716.1	SLD 10	-3.3E-03	-9857.8	SLE RA 21	1.27E-03				
29	SLD 11	-2.4E-03	-7268.2	SLD 6	-3.1E-03	-9389.2	SLE RA 21	1.34E-03				
30	SLD 7	-2.5E-03	-7521.6	SLD 10	-3.2E-03	-9532.5	SLE RA 21	0.001417				
31	SLD 7	-2.5E-03	-7570.6	SLD 10	-3.2E-03	-9601.3	SLE RA 21	1.41E-03				
32	SLD 7	-2.5E-03	-7618.8	SLD 10	-3.2E-03	-9683.2	SLE RA 21	1.39E-03				
33	SLD 7	-2.6E-03	-7671.4	SLD 10	-3.3E-03	-9771.2	SLE RA 21	1.34E-03				
34	SLD 7	-2.6E-03	-7753.5	SLD 10	-3.3E-03	-9941.2	SLE RA 21	0.001145				
35	SLD 11	-2.6E-03	-7732.7	SLE RA 21	-3.1E-03	-9163.7	SLE RA 21	1.47E-03				
36	SLD 7	-2.7E-03	-7969.6	SLE RA 21	-3.2E-03	-9474.7	SLE RA 21	1.36E-03				
37	SLD 11	-2.5E-03	-7579.6	SLE RA 21	-3.0E-03	-9033.1	SLE RA 21	1.41E-03				
38	SLD 7	-2.6E-03	-7807.2	SLE RA 21	-3.1E-03	-9215.2	SLE RA 21	1.49E-03				
39	SLD 7	-2.6E-03	-7844.9	SLE RA 21	-3.1E-03	-9266.4	SLE RA 21	1.49E-03				
40	SLD 7	-2.6E-03	-7883.4	SLE RA 21	-3.1E-03	-9329.3	SLE RA 21	1.47E-03				
41	SLD 7	-2.6E-03	-7930.7	SLE RA 21	-3.1E-03	-9403.3	SLE RA 21	1.42E-03				
42	SLD 7	-2.7E-03	-8003.8	SLE RA 21	-3.2E-03	-9536.3	SLE RA 21	1.23E-03				
44	SLD 11	-2.7E-03	-8029.9	SLE RA 21	-3.0E-03	-9098.7	SLE RA 21	1.36E-03				
45	SLD 7	-2.7E-03	-8227.1	SLE RA 21	-3.1E-03	-9393.3	SLE RA 21	1.39E-03				
46	SLD 11	-2.6E-03	-7889	SLE RA 21	-3.0E-03	-8972.4	SLE RA 21	1.43E-03				
47	SLE RA 1	-2.7E-03	-8095	SLE RA 21	-3.0E-03	-9147.8	SLE RA 21	0.001372				
48	SLD 7	-2.7E-03	-8136.5	SLE RA 21	-3.1E-03	-9196.8	SLE RA 21	1.37E-03				
49	SLD 7	-2.7E-03	-8165.3	SLE RA 21	-3.1E-03	-9256.2	SLE RA 21	1.50E-03				
50	SLD 7	-2.7E-03	-8201.6	SLE RA 21	-3.1E-03	-9325.6	SLE RA 21	1.45E-03				
51	SLD 3	-2.7E-03	-8177.6	SLE RA 21	-3.2E-03	-9451.4	SLE RA 21	1.27E-03				
52	SLE RA 2	-2.7E-03	-7991.9	SLE RA 20	-3.0E-03	-9048.9	SLE RA 21	0.001473				
53	SLE RA 2	-2.8E-03	-8264.3	SLE RA 20	-3.1E-03	-9325.8	SLE RA 21	1.38E-03				
54	SLE RA 2	-2.6E-03	-7869.5	SLE RA 20	-3.0E-03	-8920.8	SLE RA 21	1.41E-03				
55	SLE RA 2	-2.7E-03	-8044.7	SLE RA 20	-3.0E-03	-9103.2	SLE RA 21	1.36E-03				
56	SLE RA 2	-2.7E-03	-8095.8	SLE RA 20	-3.1E-03	-9155	SLE RA 21	1.49E-03				
57	SLE RA 2	-2.7E-03	-8150.4	SLE RA 20	-3.1E-03	-9210.6	SLE RA 21	1.47E-03				
58	SLE RA 2	-2.7E-03	-8208.2	SLE RA 20	-3.1E-03	-9269.6	SLE RA 21	0.001434				
59	SLD 1	-2.7E-03	-8206.8	SLE RA 20	-3.1E-03	-9375.2	SLE RA 21	0.00126				
66	SLD 9	-2.6E-03	-7758.5	SLE RA 20	-3.0E-03	-9005.3	SLE RA 20	1.40E-03				
67	SLD 5	-2.7E-03	-8066.6	SLE RA 20	-3.1E-03	-9267.4	SLE RA 20	1.32E-03				
68	SLD 9	-2.5E-03	-7560.4	SLE RA 20	-3.0E-03	-8874.4	SLE RA 20	1.35E-03				
69	SLD 9	-2.6E-03	-7832.4	SLE RA 20	-3.0E-03	-9062.4	SLE RA 20	1.42E-03				
70	SLD 5	-2.6E-03	-7908.3	SLE RA 20	-3.0E-03	-9116	SLE RA 20	1.42E-03				
71	SLD 5	-2.7E-03	-7959.2	SLE RA 20	-3.1E-03	-9168.1	SLE RA 20	1.40E-03				
72	SLD 5	-2.7E-03	-8006.6	SLE RA 20	-3.1E-03	-9218.8	SLE RA 20	1.37E-03				
73	SLD 1	-2.7E-03	-8058.7	SLE RA 20	-3.1E-03	-9309.6	SLE RA 20	1.21E-03				
140	SLD 12	-9.2E-04	-2757	SLD 5	-5.7E-03	-17024.4						
141	SLD 12	-9.2E-04	-2763	SLD 5	-5.6E-03	-16852						
142	SLD 12	-9.3E-04	-2787.4	SLD 5	-5.6E-03	-16733.4						
143	SLD 12	-9.4E-04	-2824.4	SLD 5	-5.6E-03	-16673.6						
144	SLD 12	-9.6E-04	-2871.2	SLD 5	-5.6E-03	-16672.8	SLE RA 21	1.52E-06				
145	SLD 12	-9.8E-04	-2926.7	SLD 5	-5.6E-03	-16729.3	SLE RA 21	3.77E-06				
146	SLD 12	-1.0E-03	-2989.4	SLD 5	-5.6E-03	-16837.3	SLE RA 21	6.41E-06				
147	SLD 12	-1.0E-03	-3056.1	SLD 5	-5.7E-03	-16985.7	SLE RA 21	1.03E-05				
148	SLD 12	-1.0E-03	-3123.1	SLD 5	-5.7E-03	-17158.8	SLE RA 21	1.64E-05				
149	SLD 12	-1.1E-03	-3171	SLD 5	-5.8E-03	-17272.5	SLE RA 21	2.43E-05				
150	SLD 7	-9.8E-04	-2933.4	SLD 10	-5.6E-03	-16840.8	SLE RA 21	1.48E-04				
151	SLD 7	-9.7E-04	-2895.3	SLD 10	-5.6E-03	-16818.2	SLE RA 21	0.000096				
152	SLD 7	-9.5E-04	-2852.8	SLD 10	-5.6E-03	-16755.2	SLE RA 21	4.78E-05				
153	SLD 7	-9.4E-04	-2808	SLD 10	-5.6E-03	-16685.7	SLE RA 21	7.54E-06				
154	SLD 7	-9.2E-04	-2763.7	SLD 10	-5.5E-03	-16631.9	SLE RA 21	3.81E-06				
155	SLD 7	-9.1E-04	-2722.3	SLD 10	-5.5E-03	-16609.8	SLE RA 21	1.35E-06				
156	SLD 7	-9.0E-04	-2685.3	SLD 10	-5.5E-03	-16630.3						
157	SLD 7	-8.8E-04	-2653.9	SLD 10	-5.6E-03	-16699						
158	SLD 7	-8.8E-04	-2631	SLD 10	-5.6E-03	-16817.6						

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
159	SLD 7	-8.7E-04	-2621.7	SLD 10	-5.7E-03	-16980.7						
193	SLD 7	-1.1E-03	-3205.9	SLD 10	-5.3E-03	-16047.5	SLE RA 21	2.72E-04				
195	SLD 12	-1.0E-03	-3053.8	SLD 5	-5.4E-03	-16140.2						
196	SLD 12	-1.0E-03	-3048.6	SLD 5	-5.3E-03	-15944.9	SLE RA 21	1.01E-05				
197	SLD 12	-1.0E-03	-3052	SLD 5	-5.3E-03	-15781.9	SLE RA 21	2.81E-05				
198	SLD 12	-1.0E-03	-3067.4	SLD 5	-5.2E-03	-15675.7	SLE RA 21	3.58E-05				
199	SLD 12	-1.0E-03	-3098.4	SLD 5	-5.2E-03	-15643.4	SLE RA 21	5.86E-05				
200	SLD 12	-1.0E-03	-3148.3	SLD 5	-5.2E-03	-15694	SLE RA 21	8.64E-05				
201	SLD 12	-1.1E-03	-3217.4	SLD 5	-5.3E-03	-15826.4	SLE RA 21	1.10E-04				
202	SLD 12	-1.1E-03	-3302	SLD 5	-5.3E-03	-16026.5	SLE RA 21	0.000131				
203	SLD 12	-1.1E-03	-3391.4	SLD 5	-5.4E-03	-16258	SLE RA 21	1.50E-04				
204	SLD 12	-1.2E-03	-3469.6	SLD 5	-5.5E-03	-16458.5	SLE RA 21	0.000171				
207	SLD 7	-1.1E-03	-3257.8	SLD 10	-5.2E-03	-15743.7	SLE RA 21	3.14E-04				
208	SLD 7	-1.1E-03	-3214.1	SLD 10	-5.2E-03	-15686.7	SLE RA 21	3.06E-04				
209	SLD 7	-1.1E-03	-3163.8	SLD 10	-5.2E-03	-15589.4	SLE RA 21	2.27E-04				
210	SLD 7	-1.0E-03	-3114.5	SLD 10	-5.2E-03	-15493.9	SLE RA 21	1.74E-04				
211	SLD 7	-1.0E-03	-3072.3	SLD 10	-5.1E-03	-15432.6	SLE RA 21	1.33E-04				
212	SLD 7	-1.0E-03	-3041.1	SLD 10	-5.1E-03	-15426.7	SLE RA 21	9.51E-05				
213	SLD 7	-1.0E-03	-3021.7	SLD 10	-5.2E-03	-15485.4	SLE RA 21	5.46E-05				
214	SLD 7	-1.0E-03	-3012.6	SLD 10	-5.2E-03	-15605	SLE RA 21	0.000034				
215	SLD 7	-1.0E-03	-3010.7	SLD 10	-5.3E-03	-15770.3	SLE RA 21	1.49E-05				
216	SLD 7	-1.0E-03	-3013.4	SLD 10	-5.3E-03	-15958.6						
217	SLD 12	-1.2E-03	-3531.2	SLD 5	-5.3E-03	-15894.3	SLE RA 21	2.17E-04				
218	SLD 12	-1.2E-03	-3516.1	SLD 5	-5.3E-03	-15768	SLE RA 21	2.31E-04				
219	SLD 12	-1.2E-03	-3491.1	SLD 5	-5.2E-03	-15626.7	SLE RA 21	2.00E-04				
220	SLD 7	-1.2E-03	-3458.3	SLD 10	-5.2E-03	-15529.2	SLE RA 21	2.30E-04				
221	SLD 7	-1.1E-03	-3413.3	SLD 10	-5.2E-03	-15506.8	SLE RA 21	2.73E-04				
222	SLD 7	-1.1E-03	-3373.3	SLD 10	-5.2E-03	-15540.2	SLE RA 21	3.18E-04				
223	SLD 7	-1.1E-03	-3338.5	SLD 10	-5.2E-03	-15599.2	SLE RA 21	3.45E-04				
224	SLD 7	-1.1E-03	-3302.4	SLD 10	-5.2E-03	-15633.6	SLE RA 21	0.000339				
225	SLD 7	-1.1E-03	-3341.8	SLD 10	-5.2E-03	-15607	SLE RA 21	3.49E-04				
228	SLD 12	-1.1E-03	-3354.3	SLD 5	-5.1E-03	-15275.2						
229	SLD 12	-1.1E-03	-3332.7	SLD 5	-5.0E-03	-15045.2	SLE RA 21	3.31E-05				
230	SLD 12	-1.1E-03	-3314.5	SLD 5	-4.9E-03	-14835.6	SLE RA 21	8.96E-05				
231	SLD 12	-1.1E-03	-3307	SLD 5	-4.9E-03	-14679.5	SLE RA 21	1.32E-04				
232	SLD 12	-1.1E-03	-3319.8	SLD 5	-0.00487	-14610.1	SLE RA 21	1.67E-04				
233	SLD 12	-1.1E-03	-3361.1	SLD 5	-4.9E-03	-14649.4	SLE RA 21	1.97E-04				
234	SLD 12	-1.1E-03	-3434.9	SLD 5	-4.9E-03	-14803.5	SLE RA 21	2.24E-04				
235	SLD 12	-1.2E-03	-3538.2	SLD 5	-0.00502	-15060	SLE RA 21	2.50E-04				
236	SLD 12	-1.2E-03	-3660.3	SLD 5	-5.1E-03	-15384.2	SLE RA 21	2.71E-04				
237	SLD 12	-1.3E-03	-3789	SLD 5	-5.2E-03	-15737.3	SLE RA 21	2.79E-04				
241	SLD 7	-1.2E-03	-3531	SLD 10	-4.9E-03	-14578.8	SLE RA 21	4.41E-04				
242	SLD 7	-1.2E-03	-3471	SLD 10	-4.8E-03	-14438.2	SLE RA 21	4.10E-04				
243	SLD 7	-1.1E-03	-3416	SLD 10	-4.8E-03	-14311	SLE RA 21	3.43E-04				
244	SLD 7	-1.1E-03	-3376	SLD 10	-4.7E-03	-14240	SLE RA 21	2.81E-04				
245	SLD 7	-1.1E-03	-3355.8	SLD 10	-4.8E-03	-14251.6	SLE RA 21	2.20E-04				
246	SLD 7	-1.1E-03	-3355.1	SLD 10	-4.8E-03	-14351.5	SLE RA 21	1.73E-04				
247	SLD 7	-1.1E-03	-3368.1	SLD 10	-4.8E-03	-14524	SLE RA 21	1.26E-04				
248	SLD 7	-1.1E-03	-3386.5	SLD 10	-4.9E-03	-14735.6	SLE RA 21	6.59E-05				
249	SLD 7	-1.1E-03	-3404.5	SLD 10	-5.0E-03	-14957.9	SLE RA 21	3.91E-06				
250	SLD 7	-1.2E-03	-3650.5	SLD 10	-4.9E-03	-14632.9	SLE RA 21	0.000483				
251	SLD 7	-1.2E-03	-3614.2	SLD 10	-4.9E-03	-14576.2	SLE RA 21	4.86E-04				
253	SLD 12	-1.2E-03	-3644.1	SLD 5	-4.8E-03	-14412.2	SLE RA 21	0.000066				
254	SLD 12	-1.2E-03	-3607.4	SLD 5	-4.7E-03	-14148.6	SLE RA 21	1.24E-04				
255	SLD 12	-1.2E-03	-3569	SLD 5	-4.6E-03	-13894.1	SLE RA 21	1.73E-04				
256	SLD 12	-1.2E-03	-3538	SLD 5	-4.6E-03	-13685.7	SLE RA 21	2.12E-04				
257	SLD 12	-1.2E-03	-3530.3	SLD 5	-4.5E-03	-13574.4	SLE RA 21	2.56E-04				
258	SLD 12	-1.2E-03	-3559.5	SLD 5	-4.5E-03	-13595.9	SLE RA 21	0.000301				
259	SLD 12	-1.2E-03	-3633.5	SLD 5	-4.6E-03	-13764.9	SLE RA 21	3.43E-04				
260	SLD 12	-1.3E-03	-3754.1	SLD 5	-4.7E-03	-14076.9	SLE RA 21	3.41E-04				
261	SLD 12	-1.3E-03	-3912.1	SLD 5	-4.8E-03	-14506	SLE RA 21	3.49E-04				
263	SLD 12	-1.4E-03	-4120	SLD 5	-5.0E-03	-14933.1	SLE RA 21	3.65E-04				
264	SLD 7	-1.3E-03	-3839.6	SLD 10	-4.5E-03	-13499.3	SLE RA 21	5.76E-04				
265	SLD 7	-1.3E-03	-3769.5	SLD 10	-4.4E-03	-13308.8	SLE RA 21	0.000519				
266	SLD 7	-1.2E-03	-3708.9	SLD 10	-4.4E-03	-13144.4	SLE RA 21	4.50E-04				
267	SLD 7	-1.2E-03	-3670.7	SLD 10	-4.4E-03	-13061.4	SLE RA 21	3.79E-04				
268	SLD 7	-1.2E-03	-3660.5	SLD 10	-4.4E-03	-13088.2	SLE RA 21	3.46E-04				
269	SLD 7	-1.2E-03	-3677.2	SLD 10	-4.4E-03	-13228.7	SLE RA 21	2.88E-04				
270	SLD 7	-1.2E-03	-3710.6	SLD 10	-4.5E-03	-13455.1	SLE RA 21	2.26E-04				
271	SLD 7	-1.2E-03	-3742.2	SLD 10	-4.6E-03	-13699	SLE RA 21	1.67E-04				
272	SLD 7	-1.3E-03	-3767.4	SLD 10	-4.6E-03	-13941.2	SLE RA 21	1.14E-04				
273	SLD 7	-1.3E-03	-3948.3	SLD 10	-4.6E-03	-13680.3	SLE RA 21	5.97E-04				
274	SLD 7	-1.3E-03	-3913.6	SLD 10	-4.5E-03	-13597.5	SLE RA 21	6.11E-04				
277	SLD 12	-1.3E-03	-3900.8	SLD 5	-4.5E-03	-13513.9	SLE RA 21	0.000166				
278	SLD 12	-1.3E-03	-3859.1	SLD 5	-4.4E-03	-13234.8	SLE RA 21	2.12E-04				
279	SLD 12	-1.3E-03	-3808.1	SLD 5	-4.3E-03	-12951.5	SLE RA 21	2.57E-04				
280	SLD 12	-1.3E-03	-3754.6	SLD 5	-4.2E-03	-12688	SLE RA 21	2.74E-04				
281	SLD 12	-1.2E-03	-3725.8	SLD 5	-4.2E-03	-12532.2	SLE RA 21	0.000315				
282	SLD 12	-1.2E-03	-3739.5	SLD 5	-4.2E-03	-12530.1	SLE RA 21	3.56E-04				
283	SLD 12	-1.3E-03	-3806.2	SLD 5	-4.2E-03	-12701	SLE RA 21	3.92E-04				
284	SLD 12	-1.3E-03	-3933.5	SLD 5	-4.3E-03	-13049.1	SLE RA 21	4.15E-04				
285	SLD 12	-1.4E-03	-4119.6	SLD 5	-4.5E-03	-13562.2	SLE RA 21	4.18E-04				
287	SLD 12	-1.5E-03	-4358.8	SLD 5	-4.7E-03	-14168.1	SLE RA 21	4.32E-04				
289	SLD 12	-1.1E-03	-3431.5	SLD 5	-5.4E-03	-16078	SLE RA 21	7.23E-05				
305	SLD 12	-1.2E-03	-3656.6	SLD 5	-4.2E-03	-12711.3	SLE RA 21	1.90E-04				
307	SLD 12	-1.3E-03	-3869.8	SLD 5	-4.3E-03	-12848.1	SLE RA 21	2.38E-04				
311	SLD 12	-1.4E-03	-4095.8	SLD 5	-4.2E-03	-12521.2	SLE RA 21	2.99E-04				
313	SLD 12	-1.4E-03	-4067.2	SLD 5	-4.1E-03	-12265.5	SLE RA 21	2.82E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
314	SLD 12	-1.3E-03	-4023.8	SLD 5	-4.0E-03	-12007.5	SLE RA 21	2.96E-04				
315	SLD 12	-1.3E-03	-3953.1	SLD 5	-3.9E-03	-11680.7	SLE RA 21	3.22E-04				
316	SLD 12	-1.3E-03	-3906.5	SLD 5	-3.8E-03	-11481.6	SLE RA 21	3.56E-04				
317	SLD 12	-1.3E-03	-3902.7	SLD 5	-3.8E-03	-11451.4	SLE RA 21	3.94E-04				
318	SLD 12	-1.3E-03	-3953.8	SLD 5	-3.9E-03	-11609.3	SLE RA 21	4.38E-04				
319	SLD 12	-1.4E-03	-4066.4	SLD 5	-4.0E-03	-11954.5	SLE RA 21	4.70E-04				
320	SLD 12	-1.4E-03	-4246.4	SLD 5	-4.2E-03	-12473	SLE RA 21	4.80E-04				
321	SLD 12	-1.4E-03	-4299.1	SLD 5	-4.2E-03	-12636.4	SLE RA 21	4.77E-04				
322	SLD 12	-1.5E-03	-4510.9	SLD 5	-4.4E-03	-13248	SLE RA 21	4.60E-04				
323	SLD 7	-1.4E-03	-4224	SLD 10	-4.2E-03	-12718.2	SLE RA 21	0.000669				
324	SLD 7	-1.4E-03	-4194.1	SLD 10	-4.2E-03	-12606.8	SLE RA 21	6.92E-04				
326	SLD 7	-1.4E-03	-4129	SLD 10	-4.1E-03	-12422.5	SLE RA 21	6.68E-04				
327	SLD 7	-1.3E-03	-4022.8	SLD 10	-4.1E-03	-12383.8	SLE RA 21	2.85E-04				
328	SLD 7	-1.3E-03	-4048.4	SLD 10	-4.2E-03	-12606.4	SLE RA 21	2.58E-04				
330	SLD 7	-1.4E-03	-4060.9	SLD 10	-4.3E-03	-12827.2	SLE RA 21	2.61E-04				
334	SLD 7	-1.3E-03	-3772.1	SLD 10	-4.3E-03	-13033.6	SLE RA 21	1.70E-04				
336	SLD 7	-1.2E-03	-3551	SLD 10	-4.3E-03	-12873.9	SLE RA 21	1.24E-04				
351	SLD 7	-1.0E-03	-3087	SLD 10	-4.9E-03	-14825.4	SLE RA 21	8.32E-05				
355	SLD 7	-1.4E-03	-4053.9	SLD 10	-4.1E-03	-12183.4	SLE RA 21	0.000615				
356	SLD 7	-1.3E-03	-3990.4	SLD 10	-4.0E-03	-11986.6	SLE RA 21	5.47E-04				
357	SLD 7	-1.3E-03	-3954	SLD 10	-4.0E-03	-11891.1	SLE RA 21	4.75E-04				
358	SLD 7	-1.3E-03	-3950.6	SLD 10	-4.0E-03	-11928.2	SLE RA 21	4.05E-04				
359	SLD 7	-1.3E-03	-3977.4	SLD 10	-4.0E-03	-12100.5	SLE RA 21	3.38E-04				
361	SLD 12	-1.3E-03	-3764.9	SLD 5	-5.2E-03	-15570.7	SLE RA 21	9.45E-05				
362	SLD 12	-1.2E-03	-3472	SLD 5	-4.7E-03	-14126.9	SLE RA 21	3.54E-05				
363	SLD 12	-1.1E-03	-3215.8	SLD 5	-4.3E-03	-12827.7	SLE RA 21	2.84E-05				
364	SLD 12	-1.0E-03	-3005.1	SLD 5	-3.9E-03	-11716	SLE RA 21	2.07E-05				
365	SLD 12	-9.5E-04	-2842.5	SLD 5	-3.6E-03	-10808.2	SLE RA 21	1.33E-05				
366	SLD 12	-9.1E-04	-2728.6	SLD 5	-3.4E-03	-10109.2	SLE RA 21	7.30E-06				
367	SLD 12	-8.9E-04	-2662.1	SLD 5	-3.2E-03	-9614.3	SLE RA 21	3.10E-06				
368	SLD 12	-8.8E-04	-2640.6	SLD 5	-3.1E-03	-9313.3	SLE RA 21	8.94E-07				
369	SLD 12	-8.9E-04	-2662.4	SLD 5	-3.1E-03	-9194.4	SLE RA 21	7.27E-07				
370	SLD 12	-9.1E-04	-2726	SLD 5	-3.1E-03	-9245.2	SLE RA 21	2.63E-06				
371	SLD 12	-9.4E-04	-2830.1	SLD 5	-3.2E-03	-9450.8	SLE RA 21	6.63E-06				
372	SLD 12	-9.9E-04	-2972.5	SLD 5	-3.3E-03	-9790.7	SLE RA 21	1.28E-05				
373	SLD 12	-1.0E-03	-3149.6	SLD 5	-3.4E-03	-10236.3	SLE RA 21	0.000021				
374	SLD 12	-1.1E-03	-3354.6	SLD 5	-3.6E-03	-10745.7	SLE RA 21	7.81E-05				
375	SLD 12	-1.2E-03	-3575.4	SLD 5	-3.8E-03	-11256.3	SLE RA 21	0.000177				
376	SLD 12	-1.3E-03	-3791.7	SLD 5	-3.9E-03	-11675.5	SLE RA 21	2.70E-04				
377	SLD 12	-1.3E-03	-3974.1	SLD 5	-4.0E-03	-11880.2	SLE RA 21	3.50E-04				
378	SLD 12	-0.00137	-4110	SLD 5	-4.0E-03	-11913.4	SLE RA 21	3.81E-04				
379	SLD 12	-1.4E-03	-4209.2	SLD 5	-3.9E-03	-11791.4	SLE RA 21	0.000378				
380	SLD 12	-1.4E-03	-4268.6	SLD 5	-3.9E-03	-11568.4	SLE RA 21	3.59E-04				
381	SLD 12	-1.4E-03	-4278.6	SLD 5	-3.8E-03	-11277.4	SLE RA 21	3.38E-04				
382	SLD 12	-1.4E-03	-4269.4	SLD 5	-3.7E-03	-11038.3	SLE RA 21	3.29E-04				
383	SLD 12	-1.4E-03	-4234	SLD 5	-3.6E-03	-10784.9	SLE RA 21	3.27E-04				
384	SLD 12	-1.4E-03	-4163.9	SLD 5	-3.5E-03	-10452.8	SLE RA 21	3.46E-04				
385	SLD 12	-1.4E-03	-4105.8	SLD 5	-3.4E-03	-10236.3	SLE RA 21	3.79E-04				
386	SLD 12	-1.4E-03	-4086.5	SLD 5	-3.4E-03	-10192.5	SLE RA 21	4.22E-04				
387	SLD 12	-1.4E-03	-4120.6	SLD 5	-3.4E-03	-10345	SLE RA 21	4.67E-04				
388	SLD 12	-1.4E-03	-4212.9	SLD 5	-3.6E-03	-10688.3	SLE RA 21	5.00E-04				
389	SLD 12	-1.5E-03	-4362.7	SLD 5	-3.7E-03	-11190.8	SLE RA 21	5.10E-04				
390	SLD 8	-1.5E-03	-4618.1	SLD 9	-4.0E-03	-11972	SLE RA 21	4.88E-04				
391	SLD 7	-1.5E-03	-4458.2	SLD 10	-3.9E-03	-11655.4	SLE RA 21	7.53E-04				
392	SLD 7	-1.5E-03	-4396	SLD 10	-3.8E-03	-11425.7	SLE RA 21	7.27E-04				
393	SLD 7	-1.4E-03	-4319.2	SLD 10	-3.7E-03	-11153.7	SLE RA 21	6.66E-04				
394	SLD 7	-1.4E-03	-4252.6	SLD 10	-3.6E-03	-10923	SLE RA 21	5.98E-04				
395	SLD 7	-1.4E-03	-4215.1	SLD 10	-3.6E-03	-10805.5	SLE RA 21	0.000525				
396	SLD 7	-1.4E-03	-4212.9	SLD 10	-3.6E-03	-10834	SLE RA 21	4.56E-04				
397	SLD 7	-1.4E-03	-4240.5	SLD 10	-3.7E-03	-11006.5	SLE RA 21	0.000396				
398	SLD 7	-1.4E-03	-4279.4	SLD 10	-3.8E-03	-11283.9	SLE RA 21	3.47E-04				
399	SLD 7	-1.4E-03	-4297.2	SLD 10	-3.8E-03	-11500.7	SLE RA 21	0.000321				
400	SLD 7	-1.4E-03	-4294.3	SLD 10	-3.9E-03	-11709.1	SLE RA 21	3.01E-04				
401	SLD 7	-1.4E-03	-4275.3	SLD 10	-4.0E-03	-11871.4	SLE RA 21	2.97E-04				
402	SLD 7	-1.4E-03	-4189.9	SLD 10	-4.0E-03	-12098.4	SLE RA 21	2.98E-04				
403	SLD 7	-1.4E-03	-4053.8	SLD 10	-4.1E-03	-12183.3	SLE RA 21	2.90E-04				
404	SLD 7	-1.3E-03	-3987.3	SLD 10	-4.1E-03	-12154.5	SLE RA 21	2.79E-04				
405	SLD 7	-1.3E-03	-3766.2	SLD 10	-4.0E-03	-11994.8	SLE RA 21	2.17E-04				
406	SLD 7	-1.2E-03	-3696.8	SLD 10	-4.0E-03	-11922.1	SLE RA 21	1.94E-04				
407	SLD 7	-1.2E-03	-3482.6	SLD 10	-3.8E-03	-11529.4	SLE RA 21	1.16E-04				
408	SLD 7	-1.1E-03	-3256.8	SLD 10	-3.7E-03	-10981	SLE RA 21	0.000028				
409	SLD 7	-1.0E-03	-3044.5	SLD 10	-3.5E-03	-10402	SLE RA 21	1.85E-05				
410	SLD 7	-9.5E-04	-2860.5	SLD 10	-3.3E-03	-9877.3	SLE RA 21	1.06E-05				
411	SLD 7	-9.0E-04	-2712.8	SLD 10	-3.2E-03	-9462.1	SLE RA 21	4.55E-06				
412	SLD 7	-8.7E-04	-2605.3	SLD 10	-3.1E-03	-9192	SLE RA 21	6.63E-07				
413	SLD 7	-8.5E-04	-2540.1	SLD 10	-3.0E-03	-9090.3						
414	SLD 7	-8.4E-04	-2518.6	SLD 10	-3.1E-03	-9174.8						
415	SLD 7	-8.5E-04	-2543.1	SLD 10	-3.2E-03	-9461.2	SLE RA 21	2.22E-06				
416	SLD 7	-8.7E-04	-2616.7	SLD 10	-3.3E-03	-9965.3	SLE RA 21	7.17E-06				
417	SLD 7	-9.1E-04	-2743.4	SLD 10	-3.6E-03	-10701.7	SLE RA 21	0.000014				
418	SLD 7	-9.8E-04	-2927.1	SLD 10	-3.9E-03	-11681	SLE RA 21	2.18E-05				
419	SLD 7	-1.1E-03	-3169.9	SLD 10	-4.3E-03	-12902.4	SLE RA 21	2.94E-05				
420	SLD 7	-1.2E-03	-3469.9	SLD 10	-4.8E-03	-14345.4	SLE RA 21	3.56E-05				
421	SLD 7	-1.2E-03	-3616.1	SLD 10	-5.0E-03	-15029.5	SLE RA 21	8.68E-05				
424	SLD 12	-1.2E-03	-3610	SLD 5	-4.8E-03	-14470.4	SLE RA 21	3.74E-05				
425	SLD 12	-1.3E-03	-3915.4	SLD 5	-3.9E-03	-11744.4	SLE RA 21	3.22E-04				
427	SLD 12	-1.4E-03	-4126.7	SLD 5	-4.0E-03	-11874	SLE RA 21	3.93E-04				
428	SLD 7	-1.3E-03	-4031.5	SLD 10	-4.0E-03	-12078.7	SLE RA 21	2.96E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
430	SLD 7	-1.3E-03	-3812.4	SLD 10	-4.0E-03	-11928.5	SLE RA 21	2.28E-04				
431	SLD 7	-1.1E-03	-3357.7	SLD 10	-4.5E-03	-13485.4	SLE RA 21	3.27E-05				
433	SLD 7	-1.5E-03	-4533.9	SLD 10	-3.9E-03	-11665.8	SLE RA 21	7.40E-04				
438	SLD 12	-1.3E-03	-3868	SLD 5	-4.4E-03	-13155.7	SLE RA 21	0.000034				
439	SLD 12	-1.4E-03	-4225.6	SLD 5	-3.7E-03	-10978.4	SLE RA 21	4.21E-04				
441	SLD 12	-1.5E-03	-4432.3	SLD 5	-3.7E-03	-11088.8	SLE RA 21	4.82E-04				
442	SLD 7	-1.4E-03	-4332.1	SLD 10	-3.8E-03	-11300.8	SLE RA 21	3.91E-04				
444	SLD 7	-1.4E-03	-4118	SLD 10	-3.7E-03	-11175.7	SLE RA 21	3.28E-04				
445	SLD 7	-1.2E-03	-3683	SLD 10	-4.1E-03	-12349.2	SLE RA 21	3.11E-05				
447	SLD 7	-1.6E-03	-4871.5	SLD 10	-3.6E-03	-10821.2	SLE RA 21	8.44E-04				
452	SLD 12	-1.4E-03	-4216.5	SLD 5	-4.0E-03	-12149.8	SLE RA 21	7.47E-05				
453	SLD 12	-1.5E-03	-4577.5	SLD 5	-3.5E-03	-10356.3	SLE RA 21	4.73E-04				
455	SLD 12	-1.6E-03	-4779.9	SLD 5	-3.5E-03	-10447.6	SLE RA 21	5.44E-04				
456	SLD 7	-1.6E-03	-4668.8	SLD 10	-3.6E-03	-10658.1	SLE RA 21	4.64E-04				
458	SLD 7	-1.5E-03	-4459.5	SLD 10	-3.5E-03	-10558	SLE RA 21	3.83E-04				
459	SLD 7	-1.4E-03	-4078.8	SLD 10	-3.8E-03	-11450.8	SLE RA 21	2.93E-05				
461	SLD 11	-1.8E-03	-5261.1	SLD 6	-3.4E-03	-10200.4	SLE RA 21	9.87E-04				
464	SLD 8	-1.5E-03	-4421.7	SLD 9	-2.5E-03	-7523.9	SLE RA 21	5.84E-04				
467	SLD 12	-1.6E-03	-4659.1	SLD 5	-3.8E-03	-11436	SLE RA 21	0.000058				
468	SLD 12	-1.7E-03	-4964.6	SLD 5	-3.3E-03	-9835.8	SLE RA 21	5.30E-04				
470	SLD 12	-1.7E-03	-5163	SLD 5	-3.3E-03	-9908.1	SLE RA 21	5.91E-04				
471	SLD 7	-1.7E-03	-5035.7	SLD 10	-3.4E-03	-10108.7	SLE RA 21	5.23E-04				
473	SLD 7	-1.6E-03	-4830.9	SLD 10	-3.3E-03	-10033.4	SLE RA 21	4.52E-04				
474	SLD 7	-1.5E-03	-4554.6	SLD 10	-3.6E-03	-10799.1	SLE RA 21	2.88E-05				
476	SLD 11	-1.9E-03	-5713.4	SLD 6	-3.3E-03	-9780.9	SLE RA 21	0.001216				
481	SLD 16	-1.7E-03	-5139.4	SLD 1	-3.7E-03	-11038.7	SLE RA 21	5.43E-05				
482	SLD 12	-1.8E-03	-5383.5	SLD 5	-3.1E-03	-9391.1	SLE RA 21	0.000597				
484	SLD 12	-1.9E-03	-5577.8	SLD 5	-3.1E-03	-9444.2	SLE RA 21	6.47E-04				
485	SLD 7	-0.00181	-5430	SLD 10	-3.2E-03	-9625.6	SLE RA 21	5.87E-04				
487	SLD 7	-1.7E-03	-5229.4	SLD 10	-3.2E-03	-9575.1	SLE RA 21	5.24E-04				
488	SLD 3	-1.7E-03	-5090.7	SLD 14	-3.5E-03	-10408	SLE RA 21	3.07E-05				
490	SLD 11	-2.1E-03	-6218.1	SLD 6	-3.2E-03	-9512.5	SLE RA 21	1.46E-03				
495	SLD 16	-1.8E-03	-5416.8	SLD 1	-3.7E-03	-11150	SLE RA 21	5.73E-05				
496	SLD 12	-1.9E-03	-5831	SLD 5	-3.0E-03	-9007.6	SLE RA 21	6.92E-04				
498	SLD 12	-2.0E-03	-6021.6	SLD 5	-3.0E-03	-9041.6	SLE RA 21	7.33E-04				
499	SLD 7	-2.0E-03	-5851.1	SLD 10	-3.1E-03	-9192.6	SLE RA 21	6.92E-04				
501	SLD 7	-1.9E-03	-5654.5	SLD 10	-3.1E-03	-9167	SLE RA 21	6.17E-04				
502	SLD 3	-1.8E-03	-5397.6	SLD 14	-3.5E-03	-10538.1	SLE RA 21	3.57E-05				
504	SLD 11	-2.2E-03	-6743.1	SLD 6	-3.1E-03	-9315.9	SLE RA 21	1.67E-03				
521	SLD 16	-1.9E-03	-5762.3	SLD 1	-3.8E-03	-11429.6	SLE RA 21	6.63E-05				
522	SLD 12	-2.1E-03	-6301.8	SLD 5	-2.9E-03	-8678.7	SLE RA 21	8.24E-04				
524	SLD 12	-2.2E-03	-6488.7	SLD 5	-2.9E-03	-8693.3	SLE RA 21	8.79E-04				
525	SLD 7	-0.0021	-6300	SLD 10	-2.9E-03	-8801.1	SLE RA 21	8.29E-04				
527	SLD 7	-2.0E-03	-6107.1	SLD 10	-2.9E-03	-8800.3	SLE RA 21	0.000749				
528	SLD 3	-1.9E-03	-5773.4	SLD 14	-3.6E-03	-10835.8	SLE RA 21	9.23E-05				
531	SLE RA 2	-1.8E-03	-5547.3	SLE RA 20	-2.1E-03	-6282.9	SLE RA 21	6.64E-04				
532	SLD 11	-2.5E-03	-7457.2	SLD 6	-3.0E-03	-9009	SLE RA 21	1.66E-03				
534	SLD 8	-2.9E-03	-8641.6	SLD 9	-3.5E-03	-10623.1	SLE RA 21	1.17E-03				
535	SLD 8	-2.7E-03	-8203.1	SLE RA 21	-3.3E-03	-9946.1	SLE RA 21	0.001283				
536	SLD 8	-2.6E-03	-7825.1	SLE RA 21	-3.1E-03	-9426.8	SLE RA 21	1.47E-03				
537	SLD 11	-2.5E-03	-7557.9	SLD 6	-3.1E-03	-9243.8	SLE RA 21	1.71E-03				
539	SLD 16	-2.0E-03	-6142.6	SLD 1	-3.9E-03	-11808.2	SLE RA 21	1.31E-04				
540	SLD 16	-2.2E-03	-6597.4	SLD 1	-2.9E-03	-8587.1	SLE RA 21	8.72E-04				
542	SLD 16	-2.3E-03	-6772.7	SLD 1	-2.9E-03	-8590.3	SLE RA 21	9.30E-04				
543	SLD 3	-2.3E-03	-6759.7	SLD 14	-2.8E-03	-8465.9	SLE RA 21	9.76E-04				
545	SLD 7	-2.2E-03	-6589.4	SLD 10	-2.8E-03	-8471	SLE RA 21	9.08E-04				
546	SLD 3	-2.1E-03	-6187.2	SLD 14	-3.7E-03	-11240.7	SLE RA 21	1.86E-04				
549	SLD 11	-2.6E-03	-7820.8	SLE RA 21	-3.0E-03	-9040.6	SLE RA 21	1.71E-03				
555	SLD 16	-2.2E-03	-6505.1	SLD 1	-4.1E-03	-12183.8	SLE RA 21	1.84E-04				
556	SLD 16	-2.3E-03	-6806.7	SLD 1	-2.9E-03	-8616.6	SLE RA 21	9.70E-04				
558	SLD 16	-2.3E-03	-6972.9	SLD 1	-2.9E-03	-8605.9	SLE RA 21	1.02E-03				
559	SLD 3	-2.3E-03	-6976.2	SLD 14	-2.8E-03	-8442.6	SLE RA 21	9.86E-04				
561	SLD 3	-2.3E-03	-6845.2	SLD 14	-2.8E-03	-8436.7	SLE RA 21	9.10E-04				
562	SLD 3	-2.2E-03	-6589.5	SLD 14	-3.9E-03	-11661.7	SLE RA 21	2.87E-04				
565	SLE RA 2	-2.7E-03	-7987.5	SLE RA 20	-3.0E-03	-9040.4	SLE RA 21	1.72E-03				
571	SLD 16	-2.3E-03	-6769.9	SLD 1	-4.1E-03	-12406.5	SLE RA 21	0.000255				
572	SLD 14	-2.3E-03	-6936.5	SLD 3	-2.9E-03	-8712.2	SLE RA 21	1.04E-03				
574	SLD 13	-2.3E-03	-7038.2	SLD 4	-2.9E-03	-8743.3	SLE RA 21	1.08E-03				
575	SLD 2	-2.4E-03	-7087.4	SLD 15	-2.9E-03	-8595.3	SLE RA 21	1.03E-03				
577	SLD 2	-2.3E-03	-7048.2	SLD 15	-2.8E-03	-8525.8	SLE RA 21	9.72E-04				
578	SLD 3	-2.3E-03	-6905.1	SLD 14	-4.0E-03	-11966.1	SLE RA 21	0.00037				
581	SLE RA 2	-2.6E-03	-7930	SLE RA 20	-3.0E-03	-8989.5	SLE RA 21	1.70E-03				
586	SLD 15	-2.3E-03	-6820.6	SLD 2	-4.2E-03	-12674.3	SLE RA 21	1.92E-04				
587	SLD 16	-2.3E-03	-6821.9	SLD 1	-4.1E-03	-12409.1	SLE RA 21	2.71E-04				
588	SLD 16	-2.3E-03	-6844.2	SLD 1	-4.1E-03	-12295.6	SLE RA 21	3.08E-04				
589	SLD 16	-2.3E-03	-6922.1	SLD 1	-4.0E-03	-12020.4	SLE RA 21	0.000371				
590	SLD 16	-2.3E-03	-7022.5	SLD 1	-3.9E-03	-11794.2	SLE RA 21	4.19E-04				
591	SLD 16	-2.4E-03	-7126.8	SLD 1	-3.9E-03	-11584.1	SLE RA 21	0.000435				
592	SLD 16	-2.4E-03	-7225.2	SLD 1	-3.8E-03	-11372.7	SLE RA 21	4.41E-04				
593	SLD 16	-2.4E-03	-7312.2	SLD 1	-3.7E-03	-11150.9	SLE RA 21	4.54E-04				
594	SLD 16	-2.5E-03	-7383.1	SLD 1	-3.6E-03	-10912.3	SLE RA 21	4.88E-04				
595	SLD 16	-2.5E-03	-7431.8	SLD 1	-3.6E-03	-10651	SLE RA 21	0.00056				
596	SLD 16	-2.5E-03	-7449.5	SLD 1	-3.5E-03	-10360.7	SLE RA 21	0.000654				
597	SLD 16	-2.5E-03	-7425.4	SLD 1	-3.3E-03	-10036.5	SLE RA 21	7.68E-04				
598	SLD 16	-2.5E-03	-7351.4	SLD 1	-3.2E-03	-9680	SLE RA 21	8.94E-04				
599	SLD 16	-2.4E-03	-7233.7	SLD 1	-3.1E-03	-9310.4	SLE RA 20	0.00102				
600	SLD 16	-2.4E-03	-7155.7	SLD 1	-3.0E-03	-9110	SLE RA 21	0.00092				
601	SLD 16	-2.4E-03	-7082.2	SLD 1	-3.0E-03	-8924.8	SLE RA 21	0.000966				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
602	SLD 14	-2.3E-03	-6957.6	SLD 3	-2.9E-03	-8791.6	SLE RA 20	1.04E-03				
603	SLD 13	-2.3E-03	-6956	SLD 4	-2.9E-03	-8790.6	SLE RA 20	1.06E-03				
604	SLD 13	-2.3E-03	-6985.6	SLD 4	-2.9E-03	-8800.6	SLE RA 20	1.07E-03				
605	SLD 13	-2.4E-03	-7089.3	SLD 4	-2.9E-03	-8825.4	SLE RA 20	1.09E-03				
606	SLD 13	-2.4E-03	-7253.3	SLD 4	-2.9E-03	-8828.8	SLE RA 20	1.10E-03				
607	SLD 13	-2.5E-03	-7434.7	SLE RA 20	-3.0E-03	-8872.4	SLE RA 20	1.18E-03				
608	SLD 13	-2.5E-03	-7600.3	SLE RA 20	-3.0E-03	-8918.5	SLE RA 20	1.14E-03				
609	SLD 13	-2.6E-03	-7724.9	SLE RA 20	-3.0E-03	-8912.6	SLE RA 20	1.14E-03				
610	SLD 10	-2.6E-03	-7764.9	SLE RA 20	-2.9E-03	-8844.8	SLE RA 20	1.18E-03				
611	SLE RA 2	-2.6E-03	-7667.6	SLE RA 20	-2.9E-03	-8718.5	SLE RA 20	1.24E-03				
612	SLE RA 2	-2.5E-03	-7537	SLE RA 20	-2.9E-03	-8572.5	SLE RA 20	1.21E-03				
613	SLD 6	-2.5E-03	-7378.1	SLE RA 20	-2.8E-03	-8435.7	SLE RA 20	1.24E-03				
614	SLD 6	-2.2E-03	-6714.7	SLE RA 20	-2.7E-03	-7997.4	SLE RA 20	1.32E-03				
615	SLD 1	-2.8E-03	-8363.6	SLE RA 20	-3.2E-03	-9482.4	SLE RA 21	1.91E-03				
616	SLD 1	-2.8E-03	-8267.5	SLE RA 20	-3.2E-03	-9500.2	SLE RA 21	1.78E-03				
617	SLD 1	-2.7E-03	-8161.9	SLE RA 20	-3.2E-03	-9504.8	SLE RA 21	0.001718				
618	SLD 1	-2.7E-03	-8040.6	SLE RA 20	-3.2E-03	-9483.8	SLE RA 21	1.47E-03				
619	SLD 1	-2.6E-03	-7902.8	SLE RA 20	-3.1E-03	-9428.7	SLE RA 21	1.31E-03				
620	SLD 2	-2.6E-03	-7753.9	SLD 15	-3.1E-03	-9370.5	SLE RA 21	1.22E-03				
621	SLD 2	-2.5E-03	-7608.9	SLD 15	-3.1E-03	-9299.8	SLE RA 21	0.001183				
622	SLD 2	-2.5E-03	-7418.2	SLD 15	-3.0E-03	-9112.3	SLE RA 20	0.001198				
623	SLD 2	-2.4E-03	-7055.4	SLD 15	-2.9E-03	-8643.6	SLE RA 20	9.86E-04				
624	SLD 3	-2.4E-03	-7202.3	SLD 14	-2.9E-03	-8775.9	SLE RA 20	9.84E-04				
625	SLD 3	-2.4E-03	-7310	SLD 14	-3.0E-03	-9048.3	SLE RA 20	8.89E-04				
626	SLD 3	-2.5E-03	-7400.3	SLD 14	-3.1E-03	-9362.6	SLE RA 20	7.84E-04				
627	SLD 3	-2.5E-03	-7457.2	SLD 14	-3.2E-03	-9686.3	SLE RA 20	6.83E-04				
628	SLD 3	-2.5E-03	-7477.6	SLD 14	-3.3E-03	-9995.8	SLE RA 20	5.97E-04				
629	SLD 3	-2.5E-03	-7466	SLD 14	-3.4E-03	-10282.1	SLE RA 20	0.000532				
630	SLD 3	-2.5E-03	-7427.9	SLD 14	-3.5E-03	-10544	SLE RA 20	4.91E-04				
631	SLD 3	-2.5E-03	-7368.4	SLD 14	-3.6E-03	-10783.6	SLE RA 21	0.000485				
632	SLD 3	-2.4E-03	-7291.9	SLD 14	-3.7E-03	-11005.6	SLE RA 21	5.02E-04				
633	SLD 3	-2.4E-03	-7203.9	SLD 14	-3.7E-03	-11218.1	SLE RA 21	5.25E-04				
634	SLD 3	-2.4E-03	-7114.6	SLD 14	-3.8E-03	-11437.8	SLE RA 21	5.34E-04				
635	SLD 3	-2.3E-03	-7043.1	SLD 14	-3.9E-03	-11697	SLE RA 21	5.00E-04				
636	SLD 3	-2.3E-03	-7024.7	SLD 14	-4.0E-03	-12054.6	SLE RA 21	3.98E-04				
637	SLD 3	-2.4E-03	-7113	SLD 14	-4.2E-03	-12596.5	SLE RA 21	2.73E-04				
644	SLD 15	-2.3E-03	-6874.9	SLD 2	-4.1E-03	-12369.1	SLE RA 21	2.82E-04				
656	SLD 16	-2.4E-03	-7255.7	SLD 1	-3.1E-03	-9231	SLE RA 20	9.08E-04				
659	SLD 13	-2.3E-03	-6916.6	SLD 4	-3.0E-03	-8866.8	SLE RA 20	1.06E-03				
662	SLD 13	-2.3E-03	-7010.6	SLD 4	-3.0E-03	-8897	SLE RA 20	1.09E-03				
671	SLD 10	-2.5E-03	-7454	SLE RA 20	-2.8E-03	-8523.8	SLE RA 20	1.23E-03				
673	SLD 6	-2.4E-03	-7245.3	SLE RA 20	-2.8E-03	-8339.7	SLE RA 20	0.001268				
675	SLD 6	-2.3E-03	-6911.4	SLE RA 20	-2.7E-03	-8147.3	SLE RA 20	1.31E-03				
682	SLD 9	-2.5E-03	-7547.4	SLE RA 20	-3.0E-03	-8861	SLE RA 20	1.81E-03				
688	SLE RA 2	-2.6E-03	-7922	SLE RA 20	-3.0E-03	-8964.6	SLE RA 20	1.66E-03				
691	SLD 1	-2.7E-03	-7991.2	SLE RA 20	-3.0E-03	-9108.3	SLE RA 20	1.81E-03				
699	SLD 2	-2.4E-03	-7097.6	SLD 15	-3.0E-03	-8923.4	SLE RA 20	1.05E-03				
701	SLD 2	-2.4E-03	-7066.5	SLD 15	-3.0E-03	-8856.2	SLE RA 20	9.98E-04				
703	SLD 1	-2.4E-03	-7228.1	SLD 16	-3.0E-03	-8895.3	SLE RA 20	8.41E-04				
716	SLD 4	-2.3E-03	-7028.4	SLD 13	-4.0E-03	-11999.4	SLE RA 20	4.02E-04				
718	SLD 13	-2.3E-03	-6906.6	SLD 4	-4.2E-03	-12614.2	SLE RA 20	1.91E-04				
719	SLD 13	-2.3E-03	-6937.6	SLD 4	-4.1E-03	-12223.6	SLE RA 20	3.07E-04				
720	SLD 15	-2.3E-03	-7017.9	SLD 2	-4.0E-03	-11933.7	SLE RA 20	3.73E-04				
721	SLD 15	-2.4E-03	-7118.2	SLD 2	-3.9E-03	-11695.5	SLE RA 20	4.24E-04				
722	SLD 16	-2.4E-03	-7217.5	SLD 1	-3.8E-03	-11478.2	SLE RA 20	4.42E-04				
723	SLD 16	-2.4E-03	-7310.1	SLD 1	-3.8E-03	-11260.4	SLE RA 20	4.53E-04				
724	SLD 16	-2.5E-03	-7391.2	SLD 1	-3.7E-03	-11032.3	SLE RA 20	4.71E-04				
725	SLD 16	-2.5E-03	-7456.2	SLD 1	-3.6E-03	-10787.4	SLE RA 20	0.00052				
726	SLD 16	-2.5E-03	-7498.9	SLD 1	-3.5E-03	-10519.7	SLE RA 20	6.04E-04				
727	SLD 16	-2.5E-03	-7510.6	SLD 1	-3.4E-03	-10222.9	SLE RA 20	7.11E-04				
728	SLD 16	-2.5E-03	-7480.6	SLD 1	-3.3E-03	-9892.2	SLE RA 20	0.000837				
729	SLD 16	-2.5E-03	-7400.3	SLD 1	-3.2E-03	-9529.4	SLE RA 20	0.000969				
730	SLD 14	-2.4E-03	-7261.9	SLD 3	-3.1E-03	-9167.6	SLE RA 20	9.12E-04				
731	SLD 14	-2.4E-03	-7060.7	SLD 3	-3.0E-03	-9017.1	SLE RA 20	9.86E-04				
732	SLD 13	-2.3E-03	-6915.2	SLD 4	-3.0E-03	-8949.8	SLE RA 20	1.04E-03				
733	SLD 13	-2.3E-03	-6911.7	SLD 4	-3.0E-03	-8952.9	SLE RA 20	1.06E-03				
734	SLD 13	-2.3E-03	-6941.4	SLD 4	-3.0E-03	-8963.4	SLE RA 20	1.07E-03				
735	SLD 13	-2.3E-03	-7039.3	SLD 4	-3.0E-03	-8977.8	SLE RA 20	1.08E-03				
736	SLD 13	-2.4E-03	-7192.2	SLD 4	-3.0E-03	-8961.6	SLE RA 20	0.001176				
737	SLD 13	-2.5E-03	-7362.3	SLD 4	-3.0E-03	-8904.5	SLE RA 20	1.14E-03				
738	SLD 9	-2.5E-03	-7508.2	SLE RA 20	-3.0E-03	-8925.5	SLE RA 20	1.13E-03				
739	SLD 9	-2.5E-03	-7572.7	SLE RA 20	-3.0E-03	-8902.4	SLE RA 20	1.16E-03				
740	SLD 9	-2.5E-03	-7579.1	SLE RA 20	-2.9E-03	-8817.5	SLE RA 20	1.22E-03				
741	SLD 10	-2.5E-03	-7513.5	SLE RA 20	-2.9E-03	-8673.9	SLE RA 20	0.001191				
742	SLD 10	-2.5E-03	-7371.3	SLE RA 20	-2.8E-03	-8484.8	SLE RA 20	0.00123				
743	SLD 10	-2.4E-03	-7179.5	SLE RA 20	-2.8E-03	-8300.7	SLE RA 20	1.27E-03				
744	SLD 6	-2.4E-03	-7090.8	SLE RA 20	-2.8E-03	-8394.4	SLE RA 20	1.32E-03				
745	SLD 6	-2.4E-03	-7073.9	SLE RA 20	-2.8E-03	-8450.7	SLE RA 20	1.34E-03				
746	SLD 6	-2.3E-03	-7029	SLE RA 20	-2.8E-03	-8468	SLE RA 20	1.42E-03				
747	SLD 9	-2.3E-03	-6930.6	SLD 8	-2.8E-03	-8499.6	SLE RA 20	1.40E-03				
748	SLD 9	-2.3E-03	-6949.4	SLD 8	-2.9E-03	-8555.7	SLE RA 20	1.47E-03				
749	SLD 9	-2.5E-03	-7403.4	SLE RA 20	-2.9E-03	-8801.3	SLE RA 20	1.80E-03				
750	SLD 9	-2.5E-03	-7513.1	SLE RA 20	-2.9E-03	-8808.1	SLE RA 20	1.62E-03				
751	SLD 5	-2.5E-03	-7556.8	SLE RA 20	-2.9E-03	-8726.3	SLE RA 20	1.60E-03				
752	SLD 5	-2.5E-03	-7537.3	SLE RA 20	-2.9E-03	-8596	SLE RA 20	1.56E-03				
753	SLD 1	-2.5E-03	-7627.7	SLE RA 20	-2.9E-03	-8732.2	SLE RA 20	1.69E-03				
754	SLD 1	-2.5E-03	-7543.1	SLE RA 20	-2.9E-03	-8749.9	SLE RA 20	1.60E-03				
755	SLD 1	-2.5E-03	-7441.4	SLE RA 20	-2.9E-03	-8757.5	SLE RA 20	1.47E-03				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
756	SLD 1	-2.4E-03	-7323.4	SLE RA 20	-2.9E-03	-8738.8	SLE RA 20	1.37E-03				
757	SLD 1	-2.4E-03	-7188.1	SLD 16	-0.00291	-8730.1	SLE RA 20	1.23E-03				
758	SLD 1	-2.3E-03	-7041.8	SLD 16	-2.9E-03	-8711	SLE RA 20	1.14E-03				
759	SLD 1	-2.3E-03	-6900.7	SLD 16	-2.9E-03	-8636.7	SLE RA 20	1.10E-03				
760	SLD 2	-2.2E-03	-6715.9	SLD 15	-2.8E-03	-8415.6	SLE RA 20	9.88E-04				
761	SLD 2	-2.3E-03	-6987.8	SLD 15	-2.9E-03	-8678.4	SLE RA 20	9.02E-04				
762	SLD 2	-2.4E-03	-7174.5	SLD 15	-3.0E-03	-8934.6	SLE RA 20	8.45E-04				
763	SLD 1	-2.4E-03	-7248.5	SLD 16	-3.0E-03	-9058	SLE RA 20	9.60E-04				
764	SLD 1	-2.5E-03	-7363	SLD 16	-3.1E-03	-9351.5	SLE RA 20	8.55E-04				
765	SLD 1	-2.5E-03	-7432.4	SLD 16	-3.2E-03	-9665.9	SLE RA 20	7.44E-04				
766	SLD 2	-2.5E-03	-7458.1	SLD 15	-3.3E-03	-9973.3	SLE RA 20	6.46E-04				
767	SLD 2	-2.5E-03	-7447.9	SLD 15	-3.4E-03	-10261.3	SLE RA 20	5.69E-04				
768	SLD 2	-2.5E-03	-7409.7	SLD 15	-3.5E-03	-10526.3	SLE RA 20	5.18E-04				
769	SLD 2	-2.4E-03	-7349.6	SLD 15	-3.6E-03	-10769.5	SLE RA 20	5.00E-04				
770	SLD 2	-2.4E-03	-7272.5	SLD 15	-3.7E-03	-10994.9	SLE RA 20	5.12E-04				
771	SLD 2	-2.4E-03	-7184.3	SLD 15	-3.7E-03	-11210.6	SLE RA 20	5.32E-04				
772	SLD 2	-2.4E-03	-7094.9	SLD 15	-3.8E-03	-11433.2	SLE RA 20	5.39E-04				
773	SLD 2	-2.3E-03	-7023.5	SLD 15	-3.9E-03	-11695.1	SLE RA 20	5.03E-04				
774	SLD 2	-2.3E-03	-7005.3	SLD 15	-4.0E-03	-12055.4	SLE RA 20	3.98E-04				
775	SLD 2	-2.4E-03	-7092.1	SLD 15	-4.2E-03	-12599.8	SLE RA 20	2.72E-04				
776	SLD 2	-2.3E-03	-6874.2	SLD 15	-4.0E-03	-11959.9	SLE RA 20	3.68E-04				
779	SLD 13	-2.3E-03	-6818.9	SLD 4	-4.1E-03	-12250.9	SLE RA 20	2.49E-04				
780	SLD 2	-2.2E-03	-6536.8	SLD 15	-3.9E-03	-11634.2	SLE RA 20	0.000282				
782	SLD 14	-2.4E-03	-7058.1	SLD 3	-3.0E-03	-9123.3	SLE RA 20	9.68E-04				
784	SLD 14	-2.3E-03	-6978.4	SLD 3	-3.0E-03	-9139	SLE RA 20	1.04E-03				
785	SLD 10	-2.3E-03	-6969.4	SLE RA 20	-2.7E-03	-8123.2	SLE RA 20	1.14E-03				
787	SLD 10	-2.2E-03	-6716.1	SLE RA 20	-2.6E-03	-7858.4	SLE RA 20	1.17E-03				
788	SLD 5	-2.1E-03	-6436.7	SLE RA 20	-2.5E-03	-7502.6	SLE RA 20	1.22E-03				
790	SLD 5	-2.2E-03	-6542.8	SLE RA 20	-2.6E-03	-7660.1	SLE RA 20	1.19E-03				
791	SLD 2	-2.3E-03	-6877.1	SLD 15	-3.0E-03	-8888.3	SLE RA 20	9.39E-04				
793	SLD 2	-2.3E-03	-6944.7	SLD 15	-3.0E-03	-8959.6	SLE RA 20	8.92E-04				
795	SLD 13	-2.1E-03	-6188.6	SLD 4	-3.9E-03	-11561.4	SLE RA 20	0.000124				
796	SLD 2	-2.0E-03	-6121.7	SLD 15	-3.7E-03	-11194.3	SLE RA 20	1.76E-04				
798	SLD 10	-2.2E-03	-6710.6	SLE RA 20	-2.6E-03	-7917.5	SLE RA 20	1.06E-03				
800	SLD 6	-2.2E-03	-6706.8	SLD 11	-3.1E-03	-9174.3	SLE RA 20	8.09E-04				
802	SLD 6	-2.3E-03	-6851.3	SLD 11	-3.0E-03	-9120.6	SLE RA 20	7.77E-04				
803	SLD 13	-2.3E-03	-6956.2	SLD 4	-3.1E-03	-9172.5	SLE RA 20	0.000842				
805	SLD 13	-2.3E-03	-6883	SLD 4	-3.1E-03	-9202.4	SLE RA 20	8.93E-04				
806	SLD 5	-1.9E-03	-5817.4	SLE RA 20	-2.3E-03	-6965.9	SLE RA 20	1.02E-03				
808	SLD 5	-2.0E-03	-5924.5	SLD 12	-2.4E-03	-7132.3	SLE RA 20	0.000989				
809	SLD 10	-2.1E-03	-6434.4	SLE RA 20	-2.6E-03	-7738.3	SLE RA 20	9.74E-04				
812	SLD 13	-1.9E-03	-5849.6	SLD 4	-3.7E-03	-11216.9	SLE RA 20	7.28E-05				
813	SLD 2	-1.9E-03	-5706.5	SLD 15	-3.6E-03	-10781.2	SLE RA 20	0.000081				
815	SLD 6	-2.1E-03	-6405.6	SLD 11	-3.2E-03	-9632.2	SLE RA 20	0.000683				
817	SLD 6	-2.2E-03	-6531.3	SLD 11	-3.2E-03	-9549.4	SLE RA 20	6.57E-04				
818	SLD 9	-2.2E-03	-6710.5	SLD 8	-3.1E-03	-9364.7	SLE RA 20	7.14E-04				
820	SLD 9	-2.2E-03	-6523.3	SLD 8	-3.2E-03	-9529.2	SLE RA 20	7.54E-04				
821	SLD 5	-1.8E-03	-5259	SLD 12	-2.3E-03	-6790.8	SLE RA 20	8.27E-04				
823	SLD 5	-1.8E-03	-5367.5	SLD 12	-2.3E-03	-6991	SLE RA 20	8.08E-04				
824	SLD 10	-2.0E-03	-6128.8	SLD 7	-2.6E-03	-7709	SLE RA 20	8.75E-04				
826	SLD 10	-1.9E-03	-5847.1	SLD 7	-2.5E-03	-7448.3	SLE RA 20	8.66E-04				
827	SLD 10	-1.8E-03	-5475.6	SLD 7	-2.3E-03	-7017.5	SLE RA 20	7.43E-04				
828	SLD 10	-1.6E-03	-4785	SLD 7	-2.1E-03	-6203.6	SLE RA 20	4.70E-04				
829	SLD 10	-1.5E-03	-4573.1	SLD 7	-2.0E-03	-5950.3	SLE RA 20	4.28E-04				
830	SLD 10	-1.5E-03	-4460.6	SLD 7	-1.9E-03	-5802.9	SLE RA 20	4.09E-04				
831	SLD 10	-1.5E-03	-4431.7	SLD 7	-1.9E-03	-5747	SLE RA 20	4.09E-04				
832	SLD 10	-1.5E-03	-4468.8	SLD 7	-1.9E-03	-5767.2	SLE RA 20	4.24E-04				
833	SLD 9	-1.5E-03	-4555.4	SLD 8	-2.0E-03	-5851.2	SLE RA 20	4.50E-04				
834	SLD 5	-1.6E-03	-4660.9	SLD 12	-2.0E-03	-6004.3	SLE RA 20	4.83E-04				
835	SLD 5	-1.6E-03	-4762.5	SLD 12	-2.1E-03	-6223.4	SLE RA 20	5.20E-04				
836	SLD 5	-1.6E-03	-4879.3	SLD 12	-2.2E-03	-6459.1	SLE RA 20	5.54E-04				
837	SLD 5	-1.7E-03	-4998.9	SLD 12	-2.2E-03	-6684.5	SLE RA 20	7.56E-04				
838	SLD 5	-1.7E-03	-5101.4	SLD 12	-2.3E-03	-6870.8	SLE RA 20	7.51E-04				
840	SLD 13	-1.8E-03	-5541.3	SLD 4	-3.7E-03	-10972.6	SLE RA 20	5.91E-05				
841	SLD 2	-1.8E-03	-5342.5	SLD 15	-3.5E-03	-10492.2	SLE RA 20	3.42E-05				
843	SLD 6	-2.0E-03	-6060.8	SLD 11	-3.4E-03	-10148.7	SLE RA 20	0.00057				
845	SLD 6	-2.1E-03	-6167.9	SLD 11	-3.3E-03	-10036.6	SLE RA 20	5.49E-04				
846	SLD 9	-2.1E-03	-6271.6	SLD 8	-3.2E-03	-9738.8	SLE RA 20	6.04E-04				
848	SLD 9	-2.0E-03	-6095.9	SLD 8	-3.3E-03	-9912.4	SLE RA 20	6.35E-04				
849	SLD 10	-1.9E-03	-5776.9	SLD 7	-2.6E-03	-7682.4	SLE RA 20	7.66E-04				
851	SLD 10	-1.8E-03	-5314.2	SLD 7	-2.4E-03	-7140.8	SLE RA 20	7.76E-04				
863	SLD 5	-1.6E-03	-4776.2	SLD 12	-2.3E-03	-6853.4	SLE RA 20	6.64E-04				
865	SLD 5	-1.6E-03	-4885.7	SLD 12	-2.4E-03	-7058.6	SLE RA 20	6.49E-04				
867	SLD 13	-1.8E-03	-5285.6	SLD 4	-3.6E-03	-10869.9	SLE RA 20	5.29E-05				
868	SLD 10	-1.7E-03	-5247.7	SLD 7	-2.5E-03	-7381.5	SLE RA 20	6.82E-04				
869	SLD 10	-1.6E-03	-4872.3	SLD 7	-2.3E-03	-6940.4	SLE RA 20	5.68E-04				
870	SLD 10	-1.4E-03	-4235	SLD 7	-2.1E-03	-6227.6	SLE RA 20	3.15E-04				
871	SLD 10	-1.3E-03	-4028.9	SLD 7	-2.0E-03	-5987.8	SLE RA 20	2.73E-04				
872	SLD 10	-1.3E-03	-3921.3	SLD 7	-2.0E-03	-5854	SLE RA 20	0.000253				
873	SLD 10	-1.3E-03	-3896.4	SLD 7	-1.9E-03	-5811.8	SLE RA 20	5.06E-05				
874	SLD 10	-1.3E-03	-3936.7	SLD 7	-1.9E-03	-5845.8	SLE RA 20	2.66E-04				
875	SLD 9	-1.3E-03	-4026	SLD 8	-2.0E-03	-5943.2	SLE RA 20	2.92E-04				
876	SLD 5	-1.4E-03	-4126.8	SLD 12	-2.0E-03	-6116.6	SLE RA 20	0.000325				
877	SLD 5	-1.4E-03	-4227.3	SLD 12	-2.1E-03	-6351.6	SLE RA 20	3.62E-04				
878	SLD 5	-1.4E-03	-4342.6	SLD 12	-2.2E-03	-6602.9	SLE RA 20	3.98E-04				
879	SLD 5	-1.5E-03	-4460	SLD 12	-2.3E-03	-6844.1	SLE RA 20	5.68E-04				
880	SLD 5	-1.5E-03	-4560.4	SLD 12	-2.3E-03	-7041.2	SLE RA 20	5.66E-04				
881	SLD 6	-1.9E-03	-5684.7	SLD 11	-3.6E-03	-10697.7	SLE RA 20	0.000476				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
883	SLD 6	-1.9E-03	-5773.4	SLD 11	-3.5E-03	-10556.3	SLE RA 20	4.61E-04				
884	SLD 2	-1.7E-03	-5061.6	SLD 15	-3.5E-03	-10393.4	SLE RA 20	2.95E-05				
886	SLD 9	-1.9E-03	-5802.2	SLD 8	-3.4E-03	-10133.5	SLE RA 20	0.000519				
888	SLD 9	-1.9E-03	-5638	SLD 8	-3.4E-03	-10316.3	SLE RA 20	5.42E-04				
889	SLD 10	-1.8E-03	-5307.3	SLD 7	-2.6E-03	-7653.1	SLE RA 20	6.23E-04				
891	SLD 5	-1.5E-03	-4391.2	SLD 12	-2.4E-03	-7056.2	SLE RA 20	5.30E-04				
893	SLD 5	-1.5E-03	-4494.9	SLD 12	-2.4E-03	-7253.3	SLE RA 20	5.72E-04				
895	SLD 9	-1.7E-03	-5072.3	SLD 8	-3.7E-03	-10964.5	SLE RA 20	5.28E-05				
896	SLD 6	-1.8E-03	-5290.8	SLD 11	-3.8E-03	-11260.6	SLE RA 20	4.00E-04				
898	SLD 6	-1.8E-03	-5361.1	SLD 11	-3.7E-03	-11089.6	SLE RA 20	3.91E-04				
899	SLD 6	-1.5E-03	-4543.8	SLD 11	-3.6E-03	-10868.9	SLE RA 20	0.000028				
901	SLD 9	-1.8E-03	-5330.5	SLD 8	-3.5E-03	-10537.8	SLE RA 20	4.58E-04				
903	SLD 9	-1.7E-03	-5177.4	SLD 8	-3.6E-03	-10730	SLE RA 20	4.75E-04				
904	SLD 10	-1.6E-03	-4825.6	SLD 7	-2.6E-03	-7713.8	SLE RA 20	4.83E-04				
906	SLD 5	-1.4E-03	-4059	SLD 12	-2.5E-03	-7415.5	SLE RA 20	4.78E-04				
908	SLD 5	-1.4E-03	-4154.1	SLD 12	-2.5E-03	-7600.4	SLE RA 20	4.34E-04				
910	SLD 9	-1.5E-03	-4640.1	SLD 8	-3.9E-03	-11554.1	SLE RA 20	5.95E-05				
911	SLD 6	-1.6E-03	-4891.9	SLD 11	-3.9E-03	-11824.9	SLE RA 20	3.53E-04				
913	SLD 6	-1.6E-03	-4943.9	SLD 11	-3.9E-03	-11624.2	SLE RA 20	3.59E-04				
914	SLD 6	-1.4E-03	-4117.1	SLD 11	-3.9E-03	-11630.3	SLE RA 20	2.95E-05				
916	SLD 9	-1.6E-03	-4887.8	SLD 8	-3.7E-03	-10959.6	SLE RA 20	4.26E-04				
918	SLD 9	-1.6E-03	-4745.8	SLD 8	-3.7E-03	-11161.5	SLE RA 20	4.23E-04				
919	SLD 9	-1.5E-03	-4367.2	SLD 8	-2.6E-03	-7917.6	SLE RA 20	4.39E-04				
921	SLD 5	-1.3E-03	-3768.1	SLD 12	-2.6E-03	-7894.9	SLE RA 20	3.74E-04				
923	SLD 5	-1.3E-03	-3854.6	SLD 12	-2.7E-03	-8067.9	SLE RA 20	4.04E-04				
925	SLD 9	-1.4E-03	-4285.4	SLD 8	-4.1E-03	-12373	SLE RA 20	7.97E-05				
926	SLD 6	-1.5E-03	-4500.9	SLD 11	-4.1E-03	-12383.6	SLE RA 20	3.19E-04				
928	SLD 6	-1.5E-03	-4534.7	SLD 11	-4.1E-03	-12152.8	SLE RA 20	3.27E-04				
929	SLD 9	-1.3E-03	-3957	SLD 8	-2.8E-03	-8308.8	SLE RA 20	3.55E-04				
931	SLD 6	-1.2E-03	-3512.1	SLD 11	-2.8E-03	-8477.6	SLE RA 20	2.96E-04				
933	SLD 6	-1.2E-03	-3590	SLD 11	-2.9E-03	-8639	SLE RA 20	3.27E-04				
934	SLD 9	-1.5E-03	-4505.6	SLD 8	-3.8E-03	-11433.9	SLE RA 20	0.000409				
936	SLD 9	-1.5E-03	-4374.4	SLD 8	-3.9E-03	-11645.7	SLE RA 20	4.04E-04				
937	SLD 6	-1.3E-03	-3784	SLD 11	-4.2E-03	-12693.7	SLE RA 20	0.000033				
939	SLD 9	-1.2E-03	-3470.3	SLD 8	-2.6E-03	-7689.6	SLE RA 20	0.000251				
941	SLD 9	-1.3E-03	-4009.2	SLD 8	-4.5E-03	-13445.7	SLE RA 20	3.69E-05				
942	SLD 6	-1.4E-03	-4132.1	SLD 11	-4.3E-03	-12935.3	SLE RA 20	2.73E-04				
944	SLD 6	-1.4E-03	-4147.7	SLD 11	-4.2E-03	-12674.3	SLE RA 20	2.76E-04				
945	SLD 9	-1.2E-03	-3615.9	SLD 8	-3.0E-03	-8923.7	SLE RA 20	2.97E-04				
947	SLD 6	-1.1E-03	-3287.8	SLD 11	-3.1E-03	-9167.5	SLE RA 20	3.09E-04				
949	SLD 6	-1.1E-03	-3357.1	SLD 11	-3.1E-03	-9317.7	SLE RA 20	2.83E-04				
950	SLD 6	-1.2E-03	-3535.2	SLD 11	-4.7E-03	-14064	SLE RA 20	3.71E-05				
953	SLD 9	-1.3E-03	-3809.7	SLD 8	-4.9E-03	-14787.4	SLE RA 20	4.09E-05				
954	SLD 9	-1.3E-03	-3951.7	SLD 8	-5.3E-03	-15773.8	SLE RA 20	0.000099				
955	SLD 9	-1.2E-03	-3679.3	SLD 8	-4.8E-03	-14343.4	SLE RA 20	3.89E-05				
956	SLD 9	-1.2E-03	-3458.3	SLD 8	-4.4E-03	-13098.9	SLE RA 20	3.28E-05				
957	SLD 9	-1.1E-03	-3302.6	SLD 8	-4.0E-03	-12098.8	SLE RA 20	2.64E-05				
958	SLD 9	-1.1E-03	-3216.7	SLD 8	-3.8E-03	-11366.5	SLE RA 20	2.13E-05				
959	SLD 9	-1.1E-03	-3199.7	SLD 8	-3.6E-03	-10903.5	SLE RA 20	1.85E-05				
960	SLD 9	-1.1E-03	-3246.3	SLD 8	-3.6E-03	-10697.4	SLE RA 20	1.86E-05				
961	SLD 9	-1.1E-03	-3348.1	SLD 8	-3.6E-03	-10726.5	SLE RA 20	2.18E-05				
962	SLD 9	-1.2E-03	-3492.2	SLD 8	-3.7E-03	-10958.4	SLE RA 20	2.81E-05				
963	SLD 9	-1.2E-03	-3659.5	SLD 8	-3.8E-03	-11347	SLE RA 20	1.09E-04				
964	SLD 9	-1.3E-03	-3822.4	SLD 8	-3.9E-03	-11824.6	SLE RA 20	2.10E-04				
965	SLD 9	-1.3E-03	-3941.2	SLD 8	-4.1E-03	-12293.1	SLE RA 20	2.95E-04				
966	SLD 9	-1.3E-03	-3970.5	SLD 8	-4.2E-03	-12630.4	SLE RA 20	3.43E-04				
967	SLD 6	-1.3E-03	-3793.1	SLD 11	-4.5E-03	-13478.7	SLE RA 20	0.00023				
969	SLD 6	-1.3E-03	-3802.3	SLD 11	-4.4E-03	-13206.8	SLE RA 20	2.27E-04				
970	SLD 6	-1.3E-03	-3792	SLD 11	-4.3E-03	-13024	SLE RA 20	1.96E-04				
971	SLD 6	-1.2E-03	-3703.4	SLD 11	-4.2E-03	-12629.2	SLE RA 20	1.31E-04				
972	SLD 6	-1.2E-03	-3563.6	SLD 11	-4.1E-03	-12172.3	SLE RA 20	5.84E-05				
973	SLD 6	-1.1E-03	-3406.9	SLD 11	-3.9E-03	-11752.4	SLE RA 20	0.00003				
974	SLD 6	-1.1E-03	-3258.4	SLD 11	-3.8E-03	-11440.7	SLE RA 20	2.44E-05				
975	SLD 6	-1.0E-03	-3135.9	SLD 11	-3.8E-03	-11287.3	SLE RA 20	0.000021				
976	SLD 6	-1.0E-03	-3051.6	SLD 11	-3.8E-03	-11327.5	SLE RA 20	1.99E-05				
977	SLD 6	-1.0E-03	-3014.3	SLD 11	-3.9E-03	-11585.9	SLE RA 20	2.11E-05				
978	SLD 6	-1.0E-03	-3029.5	SLD 11	-4.0E-03	-12078.6	SLE RA 20	2.43E-05				
979	SLD 6	-1.0E-03	-3100.7	SLD 11	-4.3E-03	-12812.7	SLE RA 20	2.91E-05				
980	SLD 6	-1.1E-03	-3228.6	SLD 11	-4.6E-03	-13783.9	SLE RA 20	3.44E-05				
981	SLD 6	-1.1E-03	-3410	SLD 11	-0.00499	-14970	SLE RA 20	3.92E-05				
982	SLD 6	-1.1E-03	-3415.7	SLD 11	-5.0E-03	-15029.3	SLE RA 20	3.93E-05				
983	SLD 6	-1.2E-03	-3636.2	SLD 11	-5.4E-03	-16322.2	SLE RA 20	6.51E-05				
984	SLD 9	-1.1E-03	-3357.3	SLD 8	-3.3E-03	-9799.2	SLE RA 20	2.56E-04				
986	SLD 6	-1.0E-03	-3102.5	SLD 11	-3.3E-03	-9981.5	SLE RA 20	0.000262				
988	SLD 6	-1.1E-03	-3163.3	SLD 11	-3.4E-03	-10120.7	SLE RA 20	2.46E-04				
991	SLD 6	-1.2E-03	-3543.4	SLD 11	-4.6E-03	-13862.2	SLE RA 20	1.82E-04				
994	SLD 9	-1.2E-03	-3680.1	SLD 8	-5.5E-03	-16388.3	SLE RA 20	7.65E-05				
1006	SLD 9	-1.3E-03	-3797.5	SLD 8	-4.4E-03	-13268.6	SLE RA 20	2.59E-04				
1009	SLD 9	-1.3E-03	-3794	SLD 8	-4.5E-03	-13606.5	SLE RA 20	2.77E-04				
1024	SLD 9	-1.1E-03	-3192.4	SLD 8	-3.7E-03	-10969.8	SLE RA 20	2.09E-04				
1026	SLD 6	-9.9E-04	-2964.6	SLD 11	-3.7E-03	-10954.4	SLE RA 20	2.10E-04				
1028	SLD 6	-1.0E-03	-3017	SLD 11	-3.7E-03	-11082.9	SLE RA 20	2.07E-04				
1030	SLD 6	-1.1E-03	-3294.2	SLD 11	-4.7E-03	-14176.2	SLE RA 20	1.14E-04				
1035	SLD 9	-1.2E-03	-3659.2	SLD 8	-4.7E-03	-14127.2	SLE RA 20	2.27E-04				
1036	SLD 9	-1.2E-03	-3702.1	SLD 8	-5.0E-03	-15093.8	SLE RA 20	1.88E-04				
1037	SLD 9	-1.2E-03	-3543.2	SLD 8	-4.7E-03	-14206.9	SLE RA 20	0.000193				
1038	SLD 9	-1.1E-03	-3371.3	SLD 8	-4.4E-03	-13331.5	SLE RA 20	1.63E-04				
1039	SLD 9	-1.1E-03	-3208.5	SLD 8	-4.2E-03	-12542.7	SLE RA 20	1.09E-04				

Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
1040	SLD 9	-1.0E-03	-3070.6	SLD 8	-4.0E-03	-11892.9	SLE RA 20	5.07E-05				
1041	SLD 9	-9.9E-04	-2967.3	SLD 8	-3.8E-03	-11411.7	SLE RA 20	2.67E-05				
1042	SLD 9	-9.7E-04	-2903.2	SLD 8	-3.7E-03	-11110.3	SLE RA 20	2.29E-05				
1043	SLD 9	-9.6E-04	-2878.7	SLD 8	-3.7E-03	-10984.3	SLE RA 20	2.17E-05				
1044	SLD 9	-9.6E-04	-2890.5	SLD 8	-3.7E-03	-11015.3	SLE RA 20	2.29E-05				
1045	SLD 9	-9.8E-04	-2931.9	SLD 8	-3.7E-03	-11171.3	SLE RA 20	2.63E-05				
1046	SLD 9	-1.0E-03	-2992.4	SLD 8	-3.8E-03	-11404.9	SLE RA 20	6.74E-05				
1047	SLD 9	-1.0E-03	-3056.8	SLD 8	-3.9E-03	-11650.6	SLE RA 20	1.22E-04				
1048	SLD 9	-1.0E-03	-3104.9	SLD 8	-3.9E-03	-11821.5	SLE RA 20	1.65E-04				
1049	SLD 9	-1.0E-03	-3112.9	SLD 8	-3.9E-03	-11816.4	SLE RA 20	0.00018				
1050	SLD 9	-1.0E-03	-3082	SLD 8	-3.9E-03	-11632.2	SLE RA 20	1.57E-04				
1051	SLD 9	-1.0E-03	-3010.6	SLD 8	-3.8E-03	-11261.9	SLE RA 20	1.00E-04				
1052	SLD 9	-9.8E-04	-2925	SLD 8	-3.6E-03	-10828.5	SLE RA 20	3.25E-05				
1053	SLD 9	-9.5E-04	-2844.9	SLD 8	-3.5E-03	-10425.2	SLE RA 20	1.92E-05				
1054	SLD 9	-9.3E-04	-2782.6	SLD 8	-3.4E-03	-10114.3	SLE RA 20	1.45E-05				
1055	SLD 5	-9.1E-04	-2739.3	SLD 12	-3.3E-03	-9939.8	SLE RA 20	1.19E-05				
1056	SLD 5	-9.0E-04	-2704.3	SLD 12	-3.3E-03	-9934.3	SLE RA 20	1.16E-05				
1057	SLD 5	-9.0E-04	-2695.6	SLD 12	-3.4E-03	-10082.3	SLE RA 20	1.37E-05				
1058	SLD 6	-9.0E-04	-2713.7	SLD 11	-3.5E-03	-10366.3	SLE RA 20	1.81E-05				
1059	SLD 6	-9.2E-04	-2755.8	SLD 11	-3.6E-03	-10749.3	SLE RA 20	2.95E-05				
1060	SLD 6	-9.4E-04	-2814	SLD 11	-3.7E-03	-11171	SLE RA 20	9.74E-05				
1061	SLD 6	-9.6E-04	-2874	SLD 11	-3.8E-03	-11540	SLE RA 20	0.000153				
1062	SLD 6	-9.7E-04	-2915.2	SLD 11	-3.9E-03	-11730.2	SLE RA 20	1.74E-04				
1063	SLD 6	-9.7E-04	-2911.9	SLD 11	-3.9E-03	-11690	SLE RA 20	1.50E-04				
1064	SLD 6	-9.5E-04	-2853.8	SLD 11	-3.8E-03	-11436.3	SLE RA 20	9.17E-05				
1065	SLD 6	-9.3E-04	-2776	SLD 11	-3.7E-03	-11124.5	SLE RA 20	2.58E-05				
1066	SLD 6	-9.0E-04	-2705	SLD 11	-3.6E-03	-10872.1	SLE RA 20	2.03E-05				
1067	SLD 6	-8.9E-04	-2659	SLD 11	-3.6E-03	-10761.4	SLE RA 20	1.72E-05				
1068	SLD 6	-8.8E-04	-2649.7	SLD 11	-3.6E-03	-10847.3	SLE RA 20	0.000017				
1069	SLD 6	-8.9E-04	-2684.1	SLD 11	-3.7E-03	-11162.2	SLE RA 20	0.00002				
1070	SLD 6	-9.2E-04	-2764.4	SLD 11	-3.9E-03	-11717.9	SLE RA 20	2.57E-05				
1071	SLD 6	-9.6E-04	-2888.3	SLD 11	-4.2E-03	-12502.5	SLE RA 20	3.34E-05				
1072	SLD 6	-1.0E-03	-3047.4	SLD 11	-4.5E-03	-13473.3	SLE RA 20	6.57E-05				
1073	SLD 6	-1.1E-03	-3181.4	SLD 11	-4.8E-03	-14279.7	SLE RA 20	7.81E-05				
1075	SLD 9	-1.2E-03	-3504.3	SLD 8	-4.9E-03	-14651.4	SLE RA 20	1.59E-04				
1079	SLD 9	-1.1E-03	-3354.4	SLD 8	-5.1E-03	-15232.5	SLE RA 20	7.71E-05				
1092	SLD 9	-1.0E-03	-3142.6	SLD 8	-4.5E-03	-13503.8	SLE RA 20	9.31E-05				
1094	SLD 9	-1.0E-03	-3128.9	SLD 8	-4.5E-03	-13389.2	SLE RA 20	9.09E-05				
1107	SLD 6	-9.6E-04	-2865.6	SLD 11	-4.3E-03	-12939.1	SLE RA 20	7.46E-05				
1109	SLD 6	-9.7E-04	-2899.9	SLD 11	-4.3E-03	-13044.4	SLE RA 20	7.44E-05				
1120	SLD 6	-9.7E-04	-2921.9	SLD 11	-4.9E-03	-14750.6	SLE RA 20	5.24E-05				

1.5 Baricentri delle rigidezze

Quota: *quota alla quale è stato valutato il baricentro delle rigidezze. esprimibile come livello, falda, piano orizzontale alla Z specificata. [m]*
Posizione: *posizione in pianta del baricentro delle rigidezze.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*
Baricentro masse: *posizione in pianta del baricentro delle masse.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*
Distanza: *distanza in pianta tra il baricentro delle rigidezze e il baricentro delle masse.*
X: *coordinata X. [m]*
Y: *coordinata Y. [m]*

Quota	Posizione		Baricentro masse		Distanza	
	X	Y	X	Y	X	Y
Terra	-12.523	-4.112	-12.981	-3.407	0.458	-0.704
Rialzato	-12.234	1.138	-12.301	1.343	0.067	-0.205
Primo	-12.279	1.4	-12.361	1.406	0.082	-0.005
Secondo	-12.341	1.437	-12.364	1.406	0.024	0.03
Terzo	-12.42	1.272	-12.385	1.427	-0.035	-0.155
Sottotetto	-12.498	1.17	-12.18	2.134	-0.319	-0.964

1.6 Risposta modale

Modo: *identificativo del modo di vibrare.*
Periodo: *periodo. [s]*
Massa X: *massa partecipante in direzione globale X. Il valore è adimensionale.*
Massa Y: *massa partecipante in direzione globale Y. Il valore è adimensionale.*
Massa Z: *massa partecipante in direzione globale Z. Il valore è adimensionale.*
Massa rot. X: *massa rotazionale partecipante attorno la direzione globale X. Il valore è adimensionale.*
Massa rot. Y: *massa rotazionale partecipante attorno la direzione globale Y. Il valore è adimensionale.*
Massa rot. Z: *massa rotazionale partecipante attorno la direzione globale Z. Il valore è adimensionale.*
Massa sX: *massa partecipante in direzione Sisma X. Il valore è adimensionale.*
Massa sY: *massa partecipante in direzione Sisma Y. Il valore è adimensionale.*

Totale masse partecipanti:

Traslazione X: 0.996894
Traslazione Y: 0.997666
Traslazione Z: 0
Rotazione X: 0.965725
Rotazione Y: 0.97276
Rotazione Z: 0.713806

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	1.362205521	0.000052161	0.000000001	0	0	0.000141394	0.000005967	0.000052161	0.000000001
2	1.054037309	0.000040731	0.000000003	0	0	0.000342109	0.000002284	0.000040731	0.000000003
3	0.933923177	0.000096006	0.00000082	0	0.000001151	0.000238578	0.000005666	0.000096006	0.00000082
4	0.925074522	0.000003959	0.000000039	0	0.000000016	0.000027938	0.000000783	0.000003959	0.000000039
5	0.905313004	0.000013032	0	0	0.000000087	0.000007723	0.000002465	0.000013032	0
6	0.874484894	0.00016933	0.000000003	0	0.000000002	0.001184649	0.00001486	0.00016933	0.000000003
7	0.862206339	0.000001235	0.000000105	0	0.000000002	0.000023232	0.000000215	0.000001235	0.000000105
8	0.841327192	0.00097902	0.000000013	0	0.000000071	0.002558917	0.000114443	0.00097902	0.000000013
9	0.791481822	0.000150025	0.000000003	0	0.000000036	0.000172324	0.000009534	0.000150025	0.000000003
10	0.785708736	0.000131969	0.00000051	0	0.000000599	0.000142311	0.000012151	0.000131969	0.00000051
11	0.773505366	0.005510117	0.000000823	0	0.000000746	0.004479819	0.000491229	0.005510117	0.000000823
12	0.773181044	0.000560737	0.000002042	0	0.000002452	0.000368616	0.000071266	0.000560737	0.000002042
13	0.768038139	0.000007549	0.000003769	0	0.000003156	0.000040731	0.00000163	0.000007549	0.000003769
14	0.720963772	0.000264098	0.000019213	0	0.000024912	0.000795428	0.000064522	0.000264098	0.000019213
15	0.720835868	0.001424384	0.000000412	0	0.000000975	0.000179227	0.00010817	0.001424384	0.000000412
16	0.694578409	0.001059756	0.000015417	0	0.000016941	0.005379501	0.000032217	0.001059756	0.000015417
17	0.692494313	0.000188305	0.000054619	0	0.000082124	0.001447762	0.000104024	0.000188305	0.000054619
18	0.682141251	0.000010281	0.000880797	0	0.001619982	0.00011208	0.000564024	0.000010281	0.000880797
19	0.681291622	0.00013895	0.000080442	0	0.000124298	0.001831707	0.00005829	0.00013895	0.000080442
20	0.642133244	0.000458949	0.000164041	0	0.000301379	0.000510813	0.000261305	0.000458949	0.000164041
21	0.638643748	0.018940295	0.000000025	0	0.000001043	0.013605483	0.000869279	0.018940295	0.000000025
22	0.626926492	0.008972774	0.000086198	0	0.00008823	0.009689433	0.000092416	0.008972774	0.000086198
23	0.594953348	0.000054035	0.000388424	0	0.00056865	0.00000019	0.000130033	0.000054035	0.000388424
24	0.578516846	0.012020305	0.000439647	0	0.000470139	0.012956872	0.000096426	0.012020305	0.000439647
25	0.568039768	0.000319462	0.000843452	0	0.00151939	0.000454161	0.000718561	0.000319462	0.000843452
26	0.53313406	0.006157459	0.000721079	0	0.001194946	0.005363582	0.001763758	0.006157459	0.000721079
27	0.52469135	0.000233726	0.003623925	0	0.006547463	0.000052711	0.002028672	0.000233726	0.003623925
28	0.509055566	0.005452739	0.000773786	0	0.000683942	0.002916783	0.002589947	0.005452739	0.000773786
29	0.499436553	0.000093918	0.052422042	0	0.08478921	0.000011149	0.036918056	0.000093918	0.052422042
30	0.474448629	0.000043954	0.622367185	0	0.747622114	0.000067458	0.42971868	0.000043954	0.622367185
31	0.466392507	0.004734456	0.00613933	0	0.007335836	0.001989535	0.004026807	0.004734456	0.00613933
32	0.435668553	0.009079856	0.000005007	0	0.000031344	0.004861323	0.000106661	0.009079856	0.000005007
33	0.426751867	0.000202313	0.011654583	0	0.018257655	0.00010229	0.00692526	0.000202313	0.011654583
34	0.378154297	0.012383177	0.002617268	0	0.001694151	0.00565015	0.000468287	0.012383177	0.002617268
35	0.374211786	0.000540445	0.04658017	0	0.026751424	0.000157002	0.035926968	0.000540445	0.04658017
36	0.345175367	0.000039703	0.029404163	0	0.013681565	0.000000685	0.024131903	0.000039703	0.029404163
37	0.330433648	0.293377327	0.000022468	0	0.000026783	0.304899662	0.000119499	0.293377327	0.000022468
38	0.307408068	0.090180188	0.000014437	0	0.000022156	0.113444465	0.001481467	0.090180188	0.000014437
39	0.288926149	0.000560861	0.024815488	0	0.018062797	0.000699587	0.017837528	0.000560861	0.024815488
40	0.249957346	0.000128142	0.024473143	0	0.017263073	0.000179567	0.013158318	0.000128142	0.024473143
41	0.245640363	0.303983567	0.000001952	0	0.000001693	0.346519307	0.001476717	0.303983567	0.000001952
42	0.227487215	0.090900766	0.00001169	0	0.000046663	0.096734341	0.003145347	0.090900766	0.00001169
43	0.203327231	0.000060874	0.011062181	0	0.002403082	0.000044412	0.009162047	0.000060874	0.011062181
44	0.150803058	0.005269816	0.000171698	0	0.000000768	0.00038195	0.000670378	0.005269816	0.000171698
45	0.144123632	0.000063675	0.009953065	0	0.000521532	0.000007414	0.007949119	0.000063675	0.009953065
46	0.089478184	0.000163612	0.121212645	0	0.010065046	0.000005004	0.082794542	0.000163612	0.121212645
47	0.084855295	0.068123202	0.000332623	0	0.000088386	0.020889693	0.000201366	0.068123202	0.000332623
48	0.061324806	0.053260519	0.000441641	0	0.000045069	0.011035968	0.000861771	0.053260519	0.000441641
49	0.057324241	0.000288706	0.025851592	0	0.003607967	0.000032828	0.017653914	0.000288706	0.025851592
50	0.004553361	0.000003618	0.000011744	0	0.000154257	0.000022038	0.008857527	0.000003618	0.000011744

1.7 Equilibrio globale forze

***Contributo**: Nome attribuito al sistema risultante.*
***Fx**: Componente X di forza del sistema risultante. [daN]*
***Fy**: Componente Y di forza del sistema risultante. [daN]*
***Fz**: Componente Z di forza del sistema risultante. [daN]*
***Mx**: Componente di momento attorno l'asse X del sistema risultante. [daN*m]*
***My**: Componente di momento attorno l'asse Y del sistema risultante. [daN*m]*
***Mz**: Componente di momento attorno l'asse Z del sistema risultante. [daN*m]*

Bilancio in condizione di carico: Pesi strutturali

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	-32.175	-33.981	-1406503.399	-1516641	-17333362.7	261.39
Reazioni	32.175	33.981	1406503.399	1516756.45	17333273.26	-261.39
P-Delta	0	0	0	0	0	0
Totale	0	0	0	115.45	-89.44	0

Bilancio in condizione di carico: Permanenti portati

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-382084.487	-530235.36	-4738536.53	0
Reazioni	0	0	382084.487	530245.13	4738508.3	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	9.77	-28.23	0

Bilancio in condizione di carico: Variabile A

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-212949.503	-234383.81	-2637259.66	0
Reazioni	0	0	212949.503	234367.61	2637256.45	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-16.2	-3.21	0

Bilancio in condizione di carico: Neve

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-33087.729	-62368.11	-417563.1	0
Reazioni	0	0	33087.729	62473.44	417495.5	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	105.33	-67.6	0

Bilancio in condizione di carico: Variabile H

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-25702.778	-45315.05	-321713.85	0
Reazioni	0	0	25702.778	45356.67	321684.86	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	41.62	-28.99	0

Bilancio in condizione di carico: Vento

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	-5912.981	0	45274.4	0	73454.93
Reazioni	0	5912.981	0	-45274.59	-0.37	-73454.93
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-0.19	-0.37	0

Bilancio in condizione di carico: Sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	380967.71	0	0	0	3950623.46	-465317.54
Reazioni	-380967.71	0	0	-277.78	-3950622.47	465317.54
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-277.78	1	0

Bilancio in condizione di carico: Sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	380967.71	0	-3950623.46	0	-4716887.26
Reazioni	0	-380967.71	0	3950653.65	98.57	4716887.26
P-Delta	0	0	0	0	0	0
Totale	0	0	0	30.18	98.57	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-180486.05
Reazioni	0	0	0	-20.84	-3.32	180486.05
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-20.84	-3.32	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	84420.89
Reazioni	0	0	0	9.75	1.55	-84420.89
P-Delta	0	0	0	0	0	0
Totale	0	0	0	9.75	1.55	0

Bilancio in condizione di carico: Sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	244348.301	0	0	0	2533884.39	-298449.31
Reazioni	-244348.301	0	0	-178.17	-2533883.75	298449.31
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-178.17	0.64	0

Bilancio in condizione di carico: Sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	224917.449	0	-2332387.05	0	-2784777.35
Reazioni	0	-224917.449	0	2332404.87	58.19	2784777.35
P-Delta	0	0	0	0	0	0
Totale	0	0	0	17.82	58.19	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-115761.67
Reazioni	0	0	0	-13.37	-2.13	115761.67
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-13.37	-2.13	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	49840.79
Reazioni	0	0	0	5.76	0.92	-49840.79
P-Delta	0	0	0	0	0	0
Totale	0	0	0	5.76	0.92	0

Bilancio in condizione di carico: Rig Ux

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	1	0	0	0	14.6	-2.13
Reazioni	-1	0	0	0	-14.6	2.13
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Uy

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	1	0	-14.6	0	-12.18
Reazioni	0	-1	0	14.6	0	12.18
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Rz

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	0.01
Reazioni	0	0	0	0	0	-0.01
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

1.8 Risposta di spettro

Spettro: condizione elementare corrispondente allo spettro.
N.b.: nome breve della condizione elementare.
Fx: componente della forza lungo l'asse X. [daN]
Fy: componente della forza lungo l'asse Y. [daN]
Fz: componente della forza lungo l'asse Z. [daN]
*Mx: componente della coppia attorno all'asse X. [daN*m]*
*My: componente della coppia attorno all'asse Y. [daN*m]*
*Mz: componente della coppia attorno all'asse Z. [daN*m]*
Max X: massima reazione lungo l'asse X.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]
Max Y: massima reazione lungo l'asse Y.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]
Max Z: massima reazione lungo l'asse Z.
Valore: valore massimo della reazione. [daN]
Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Spettro	Fx	Fy	Fz	Mx	My	Mz	Max X		Max Y		Max Z	
N.b.							Valore	Angolo	Valore	Angolo	Valore	Angolo
SLV X	251114.14	3406.8	0	2.681E04	2.259E06	2.781E05	251114.14	0	316496.05	90	0	0
SLV Y	3406.8	316496.05	0	2.976E06	2.853E04	3.912E06	251114.14	0	316496.05	90	0	0
X SLD	160470.53	2007.61	0	1.607E04	1.448E06	1.766E05	160470.53	0	187280.7	90	0	0
Y SLD	2007.61	187280.7	0	1.761E06	1.717E04	2.315E06	160470.53	0	187280.7	90	0	0

1.9 Annotazioni solutore

Informazioni: informazioni fornite dal solutore al termine del calcolo del modello.

Informazioni

1.10 Statistiche soluzione

Tipo di equazioni	Lineari
Tecnica di soluzione	Intel MKL PARDISO
Numero equazioni	108813
Elemento min. diagonale	666.2908339
Elemento max diagonale	132210944295489
Rapporto max/min	198428280217.592
Elementi non nulli	4871712

SIDEL
INGEGNERIA

TABULATI DI CALCOLO – VERIFICHE
CIVICO 53
STATO DI PROGETTO

Sommario

1 Verifiche

1.1 Verifica regolarità strutturale

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

Livello:
Descr: *descrizione livello.*
Quota: *quota livello. [m]*
Q: *quota livello. [m]*
Qinf: *quota livello precedente. [m]*
Comb: *combinazione.*
A1: *a1 (Distribuzione masse).*
A1n: *a1 numeratore (distanza tra centro massa vs. centro rigidezza [se presente] o centro dell'ingombro del piano). [m]*
A1d: *a1 denominatore (ingombro del piano nella medesima direzione [x o y globale]). [m]*
A1r: *a1 rapporto (distanza centro massa/rigidezza su ingombro del piano).*
A2: *a2 (Distribuzione rigidezze).*
A2n: *a2 numeratore (rigidezza max [x o y globale]).*
A2d: *a2 denominatore (rigidezza min [x o y globale]).*
A2r: *a2 rapporto (rigidezza max/min).*
A3: *a3 (Forma compatta).*
A3n: *a3 numeratore (area convessa). [m²]*
A3d: *a3 denominatore (area piano). [m²]*
A3r: *a3 rapporto (area convessa/area piano).*
B: *b (Rapporto lati).*
Bn: *b numeratore (lato max [x o y globale]). [m]*
Bd: *b denominatore (lato min [x o y globale]). [m]*
Br: *b rapporto (lato max/min).*
C: *c (Rapporto rigidezze piano).*
Cn: *c numeratore (rigidezza elementi verticali).*
Cd: *c denominatore (rigidezza piano).*
Cr: *c rapporto (rigidezza elementi verticali/rigidezza piano).*
E1: *e1 (Variazione masse).*
E1n: *e1 numeratore (massa max). [daN]*
E1d: *e1 denominatore (massa min). [daN]*
E1r: *e1 rapporto (massa max/min).*
E2: *e2 (Riduzione rigidezze).*
E2n: *e2 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]*
E2d: *e2 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]*
E2r: *e2 rapporto (variazione massima in decremento Kmax/Kmin).*
E3: *e3 (Incremento rigidezze).*
E3n: *e3 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]*
E3d: *e3 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]*
E3r: *e3 rapporto (variazione massima in incremento Kmax/Kmin).*
F: *f (Rapporto Capacità/Domanda).*
Fn: *f numeratore (rapporto capacità/domanda massimo [c/d max]). [daN]*
Fd: *f denominatore (rapporto capacità/domanda minimo [c/d min]). [daN]*
Fr: *f rapporto (variazione massima [rapporto (c/d max)/(c/d min)]).*
G1: *g1 (Rastremazione di piano).*
G1n: *g1 numeratore (L1). [m]*
G1d: *g1 denominatore (L2). [m]*
G1r: *g1 rapporto (L1/L2).*
G2: *g2 (Rastremazione totale).*
G2n: *g2 numeratore (L0). [m]*
G2d: *g2 denominatore (Li). [m]*
G2r: *g2 rapporto (L0/Li).*
Capacità/Domanda in X:
VrdX: *taglio resistente complessivo in direzione X. [daN]*
VedX: *taglio agente complessivo in direzione X). [daN]*
|Rd/Ed|: *|Rd/Ed| (rapporto capacità/domanda in termini di resistenza a taglio).*
Capacità/Domanda in Y:
VrdY: *taglio resistente complessivo in direzione Y. [daN]*
VedY: *taglio agente complessivo in direzione Y). [daN]*

Verifica regolarità strutturale

Controllo regolarità edificio secondo D.M. 17-01-18 (N.T.C.) §7.2.1 - §C7.2.1

Avvertenze

La seguente procedura valuta la regolarità della costruzione secondo quanto indicato nelle NTC 2018 §7.2.1.
Tali valutazioni sono a carattere puramente informativo e vengono condotte sulla base del modello e delle verifiche presenti alla sua generazione, con le limitazioni indicate nella manualistica.
In ogni caso l'impostazione di regolarità della costruzione, in pianta ed elevazione, va indicata nelle preferenze di analisi dall'utente utilizzatore del software.

Sintesi dei risultati

Orizzontamenti considerati nella valutazione
Livelli di fondazione o di struttura scatolare non dissipativa: Fondazione ascensore(L1), Fondazione(L2),
Livelli di elevazione considerati: Rialzato(L4), Primo(L5), Secondo(L6), Terzo(L7), Sottotetto(L8), Colmo maggiore(L10),

Regolarità in pianta - NO
L'edificio risulta NON regolare in pianta, in base alle condizioni indicate in NTC 2018 §7.2.1
N.V. - Criterio A1 (Distribuzione masse) non valutabile al livello Colmo maggiore
N.V. - Criterio A2 (Distribuzione rigidezze) non valutabile al livello Rialzato
No - Criterio A3 (Forma compatta) NON rispettato, con rapporto massimo 2730641/2505979.8=1.1 (limite=1,05) al livello Terzo
Ok - Criterio B (Rapporto lati) rispettato, con rapporto massimo 2,13 (limite=4) al livello Secondo
No - Criterio C (Rapporto rigidezze piano) NON rispettato, con rapporto massimo > 999 (limite=0) al livello Colmo maggiore

Regolarità in altezza - NO
L'edificio risulta NON regolare in altezza, in base alle condizioni indicate in NTC 2018 §7.2.1
Ok - Criterio D (Altezza elementi sismoresistenti) rispettato, con rapporto massimo 1 (limite=1,01)
No - Criterio E1 (Variazione masse) NON rispettato, con rapporto massimo 159211.8/71212.8=2.2 (limite=1,25) tra il livello Colmo maggiore ed il precedente
N.V. - Criterio E2 (Riduzione rigidezze) non valutabile tra il livello Primo ed il precedente
N.V. - Criterio E3 (Incremento rigidezze) non valutabile tra il livello Primo ed il precedente
N.V. - Criterio F (Rapporto Capacità/Domanda) non valutabile tra il livello Colmo maggiore ed il precedente
Ok - Criterio G1 (Rastremazione di piano) rispettato, con rapporto massimo 0 (limite=0,1) tra il livello Primo ed il precedente
Ok - Criterio G2 (Rastremazione totale) rispettato, con rapporto massimo 0 (limite=0,3) tra il livello Primo ed il precedente

Valori per piano

Verifiche di regolarità in pianta

Livello		A1			A2			A3			B			C		
Descr	Quota	A1n	A1d	A1r	A2n	A2d	A2r	A3n	A3d	A3r	Bn	Bd	Br	Cn	Cd	Cr
Rialzato	0.67	0.2	11.73	0.02				278.1299	259.0858	1.07	24.93	11.73	2.12	0	+∞	0
Primo	4.35	0.08	24.77	0				273.0641	253.6333	1.08	24.77	11.64	2.13	0	+∞	0
Secondo	7.9	0.03	11.64	0				273.0641	259.6595	1.05	24.77	11.64	2.13	0	+∞	0
Terzo	11.45	0.15	11.64	0.01				273.0641	250.598	1.09	24.77	11.64	2.13	0	+∞	0
Sottotetto	14.6	0.96	11.66	0.08				274.4263	257.8952	1.06	24.82	11.66	2.13	0	+∞	0
Colmo maggiore	17.11							274.4217	257.623	1.07	24.82	11.66	2.13	9999	1	9999

Verifiche di regolarità in elevazione

Rapporto di regolarità per la condizione D (Altezza elementi sismoresistenti): 19.06/19.02=0.01.

Livello			E1			E2			E3			F			G1			G2		
Descr	Q	Qinf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	4.35	0.67	185259	142539	1.3							15.2	13.7	1.11	0.09	24.93	0	0.09	24.93	0
Secondo	7.9	4.35	142596	142539	1							18.7	14.5	1.29	0	11.64	0	0.09	24.93	0
Terzo	11.45	7.9	142596	140167	1.02							27.4	17.3	1.58	0	11.64	0	0.09	24.93	0
Sottotetto	14.6	11.45	159212	140167	1.14							127.7	43.1	2.96	0	24.77	0	0.04	24.93	0
Colmo maggiore	17.11	14.6	159212	71213	2.24										0	11.66	0	0	0.01	0

Dettaglio delle resistenze di piano a taglio (per valutazione punto F)

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Rialzato	0.67	SLD 1	1151408	-157616	7.3	900451	-56117	16
Rialzato	0.67	SLD 2	1151375	-157616	7.3	900302	-56121	16
Rialzato	0.67	SLD 3	1157883	-157053	7.4	894025	54933	16.3
Rialzato	0.67	SLD 4	1158021	-157053	7.4	893876	54929	16.3
Rialzato	0.67	SLD 5	1149989	-48102	23.9	909410	-185317	4.9
Rialzato	0.67	SLD 6	1150029	-48102	23.9	909293	-185319	4.9
Rialzato	0.67	SLD 7	1168252	-46224	25.3	888759	184850	4.8
Rialzato	0.67	SLD 8	1168253	-46224	25.3	888536	184848	4.8
Rialzato	0.67	SLD 9	1150108	46331	24.8	897836	-185008	4.9
Rialzato	0.67	SLD 10	1150146	46331	24.8	914640	-185011	4.9
Rialzato	0.67	SLD 11	1168594	48209	24.2	890389	185159	4.8
Rialzato	0.67	SLD 12	1168618	48209	24.2	890145	185156	4.8
Rialzato	0.67	SLD 13	1151489	157159	7.3	912976	-55090	16.6
Rialzato	0.67	SLD 14	1151554	157159	7.3	912636	-55094	16.6
Rialzato	0.67	SLD 15	1158832	157723	7.3	904553	55961	16.2
Rialzato	0.67	SLD 16	1158785	157723	7.3	904212	55957	16.2
Rialzato	0.67	SLV 1	1149400	-246409	4.7	900026	-94743	9.5
Rialzato	0.67	SLV 2	1149613	-246408	4.7	899792	-94750	9.5
Rialzato	0.67	SLV 3	1159863	-245446	4.7	889163	92891	9.6
Rialzato	0.67	SLV 4	1160081	-245446	4.7	888929	92885	9.6
Rialzato	0.67	SLV 5	1114435	-75345	14.8	898549	-313057	2.9
Rialzato	0.67	SLV 6	1117386	-75345	14.8	898356	-313061	2.9
Rialzato	0.67	SLV 7	1155324	-72137	16	870252	312391	2.8
Rialzato	0.67	SLV 8	1156605	-72137	16	869872	312387	2.8
Rialzato	0.67	SLV 9	1119292	72244	15.5	906906	-312547	2.9

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Rialzato	0.67	SLV 10	1119516	72244	15.5	906714	-312552	2.9
Rialzato	0.67	SLV 11	1146311	75451	15.2	842178	312900	2.7
Rialzato	0.67	SLV 12	1146604	75451	15.2	848394	312896	2.7
Rialzato	0.67	SLV 13	1150695	245553	4.7	902657	-93045	9.7
Rialzato	0.67	SLV 14	1150803	245553	4.7	902121	-93052	9.7
Rialzato	0.67	SLV 15	1161537	246515	4.7	905337	94589	9.6
Rialzato	0.67	SLV 16	1161466	246515	4.7	904801	94583	9.6
Primo	4.35	SLD 1	886736	-130850	6.8	757895	-47981	15.8
Primo	4.35	SLD 2	885178	-130850	6.8	759944	-47981	15.8
Primo	4.35	SLD 3	886736	-130306	6.8	757314	47859	15.8
Primo	4.35	SLD 4	885178	-130306	6.8	757215	47859	15.8
Primo	4.35	SLD 5	883351	-40080	22	762745	-159747	4.8
Primo	4.35	SLD 6	883378	-40080	22	762689	-159747	4.8
Primo	4.35	SLD 7	886736	-38266	23.2	755203	159720	4.7
Primo	4.35	SLD 8	886736	-38266	23.2	755147	159720	4.7
Primo	4.35	SLD 9	883497	38267	23.1	763242	-159707	4.8
Primo	4.35	SLD 10	883523	38267	23.1	763186	-159707	4.8
Primo	4.35	SLD 11	886736	40081	22.1	755699	159761	4.7
Primo	4.35	SLD 12	886736	40081	22.1	755644	159761	4.7
Primo	4.35	SLD 13	886736	130307	6.8	762592	-47845	15.9
Primo	4.35	SLD 14	886736	130307	6.8	762506	-47845	15.9
Primo	4.35	SLD 15	886736	130851	6.8	759685	47995	15.8
Primo	4.35	SLD 16	886736	130851	6.8	759599	47995	15.8
Primo	4.35	SLV 1	878452	-204499	4.3	757128	-81347	9.3
Primo	4.35	SLV 2	880865	-204499	4.3	756972	-81347	9.3
Primo	4.35	SLV 3	871610	-203481	4.3	754661	80943	9.3
Primo	4.35	SLV 4	871323	-203481	4.3	754505	80943	9.3
Primo	4.35	SLV 5	860637	-62894	13.7	750855	-270540	2.8
Primo	4.35	SLV 6	860658	-62894	13.7	750750	-270540	2.8
Primo	4.35	SLV 7	862504	-59499	14.5	740860	270428	2.7
Primo	4.35	SLV 8	864198	-59499	14.5	740744	270428	2.7
Primo	4.35	SLV 9	866134	59500	14.6	751769	-270414	2.8
Primo	4.35	SLV 10	866020	59500	14.6	751677	-270414	2.8
Primo	4.35	SLV 11	865982	62895	13.8	741582	270553	2.7
Primo	4.35	SLV 12	863516	62895	13.7	741491	270553	2.7
Primo	4.35	SLV 13	884480	203482	4.3	763300	-80930	9.4
Primo	4.35	SLV 14	880150	203482	4.3	763152	-80930	9.4
Primo	4.35	SLV 15	880836	204501	4.3	758347	81360	9.3
Primo	4.35	SLV 16	879384	204501	4.3	758200	81360	9.3
Secondo	7.9	SLD 1	866228	-102281	8.5	636393	-37872	16.8
Secondo	7.9	SLD 2	866323	-102281	8.5	636337	-37872	16.8
Secondo	7.9	SLD 3	868495	-101747	8.5	635800	38824	16.4
Secondo	7.9	SLD 4	868723	-101747	8.5	635744	38824	16.4
Secondo	7.9	SLD 5	865201	-31494	27.5	636221	-127679	5
Secondo	7.9	SLD 6	865263	-31494	27.5	636185	-127679	5
Secondo	7.9	SLD 7	872267	-29714	29.4	634553	127974	5
Secondo	7.9	SLD 8	872414	-29714	29.4	634522	127974	5
Secondo	7.9	SLD 9	865419	29714	29.1	636059	-127961	5
Secondo	7.9	SLD 10	865480	29714	29.1	636040	-127961	5
Secondo	7.9	SLD 11	872601	31495	27.7	634713	127693	5
Secondo	7.9	SLD 12	872601	31495	27.7	634709	127693	5
Secondo	7.9	SLD 13	868662	101748	8.5	635949	-38811	16.4
Secondo	7.9	SLD 14	868757	101748	8.5	635934	-38811	16.4
Secondo	7.9	SLD 15	871239	102282	8.5	635495	37885	16.8
Secondo	7.9	SLD 16	871245	102282	8.5	633332	37885	16.7
Secondo	7.9	SLV 1	856775	-159763	5.4	637332	-64216	9.9
Secondo	7.9	SLV 2	859510	-159763	5.4	637244	-64216	9.9
Secondo	7.9	SLV 3	856381	-158840	5.4	636335	65679	9.7
Secondo	7.9	SLV 4	858057	-158840	5.4	636247	65679	9.7
Secondo	7.9	SLV 5	853836	-49329	17.3	634975	-216268	2.9
Secondo	7.9	SLV 6	853887	-49329	17.3	634916	-216268	2.9
Secondo	7.9	SLV 7	867130	-46252	18.7	627493	216716	2.9
Secondo	7.9	SLV 8	867130	-46252	18.7	627443	216716	2.9
Secondo	7.9	SLV 9	862863	46253	18.7	634607	-216703	2.9
Secondo	7.9	SLV 10	863034	46253	18.7	634575	-216703	2.9
Secondo	7.9	SLV 11	866856	49329	17.6	627757	216281	2.9
Secondo	7.9	SLV 12	866856	49329	17.6	625603	216281	2.9
Secondo	7.9	SLV 13	866190	158841	5.5	634467	-65665	9.7
Secondo	7.9	SLV 14	861999	158841	5.4	634443	-65665	9.7
Secondo	7.9	SLV 15	867462	159764	5.4	633788	64230	9.9
Secondo	7.9	SLV 16	862912	159764	5.4	633778	64230	9.9
Terzo	11.45	SLD 1	860412	-65843	13.1	621899	-23589	26.4
Terzo	11.45	SLD 2	856975	-65843	13	621894	-23589	26.4
Terzo	11.45	SLD 3	861008	-65704	13.1	621773	24089	25.8
Terzo	11.45	SLD 4	861020	-65704	13.1	621769	24089	25.8
Terzo	11.45	SLD 5	860107	-19964	43.1	621931	-79385	7.8
Terzo	11.45	SLD 6	860140	-19964	43.1	621928	-79385	7.8
Terzo	11.45	SLD 7	863380	-19500	44.3	621512	79544	7.8
Terzo	11.45	SLD 8	863387	-19500	44.3	621509	79544	7.8
Terzo	11.45	SLD 9	861924	19501	44.2	621834	-79531	7.8
Terzo	11.45	SLD 10	861957	19501	44.2	621831	-79531	7.8
Terzo	11.45	SLD 11	861056	19964	43.1	621415	79398	7.8
Terzo	11.45	SLD 12	861089	19964	43.1	621412	79398	7.8
Terzo	11.45	SLD 13	862571	65705	13.1	621575	-24076	25.8
Terzo	11.45	SLD 14	862714	65705	13.1	621570	-24076	25.8
Terzo	11.45	SLD 15	860624	65844	13.1	621449	23603	26.3
Terzo	11.45	SLD 16	863060	65844	13.1	621444	23603	26.3

Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	|Rd/Ed|	VrdY	VedY	|Rd/Ed|
Terzo	11.45	SLV 1	842219	-103552	8.1	622039	-40106	15.5
Terzo	11.45	SLV 2	842659	-103552	8.1	622031	-40106	15.5
Terzo	11.45	SLV 3	843099	-103335	8.2	621826	40888	15.2
Terzo	11.45	SLV 4	845746	-103335	8.2	621819	40888	15.2
Terzo	11.45	SLV 5	852868	-31395	27.2	622106	-134867	4.6
Terzo	11.45	SLV 6	859760	-31395	27.4	622101	-134867	4.6
Terzo	11.45	SLV 7	858601	-30671	28	614315	135111	4.5
Terzo	11.45	SLV 8	851700	-30671	27.8	614310	135111	4.5
Terzo	11.45	SLV 9	861582	30671	28.1	621951	-135098	4.6
Terzo	11.45	SLV 10	861637	30671	28.1	621946	-135098	4.6
Terzo	11.45	SLV 11	858335	31396	27.3	614161	134881	4.6
Terzo	11.45	SLV 12	858444	31396	27.3	614156	134881	4.6
Terzo	11.45	SLV 13	860988	103335	8.3	621524	-40874	15.2
Terzo	11.45	SLV 14	861211	103335	8.3	621517	-40874	15.2
Terzo	11.45	SLV 15	852653	103553	8.2	621312	40119	15.5
Terzo	11.45	SLV 16	861257	103553	8.3	621304	40119	15.5
Sottotetto	14.6	SLD 1	797984	-21445	37.2	499112	-7379	67.6
Sottotetto	14.6	SLD 2	794881	-21445	37.1	499117	-7379	67.6
Sottotetto	14.6	SLD 3	800919	-21457	37.3	499104	7647	65.3
Sottotetto	14.6	SLD 4	804103	-21457	37.5	499109	7647	65.3
Sottotetto	14.6	SLD 5	799302	-6414	124.6	495322	-25003	19.8
Sottotetto	14.6	SLD 6	798373	-6414	124.5	495329	-25003	19.8
Sottotetto	14.6	SLD 7	827795	-6456	128.2	482448	25084	19.2
Sottotetto	14.6	SLD 8	826071	-6456	128	472945	25084	18.9
Sottotetto	14.6	SLD 9	804554	6456	124.6	503303	-25083	20.1
Sottotetto	14.6	SLD 10	801535	6456	124.2	503310	-25083	20.1
Sottotetto	14.6	SLD 11	817513	6414	127.4	482408	25004	19.3
Sottotetto	14.6	SLD 12	819153	6414	127.7	482411	25004	19.3
Sottotetto	14.6	SLD 13	809115	21457	37.7	503141	-7646	65.8
Sottotetto	14.6	SLD 14	816137	21457	38	503152	-7646	65.8
Sottotetto	14.6	SLD 15	815660	21445	38	503088	7380	68.2
Sottotetto	14.6	SLD 16	817341	21445	38.1	503099	7380	68.2
Sottotetto	14.6	SLV 1	785193	-33763	23.3	499151	-12614	39.6
Sottotetto	14.6	SLV 2	782819	-33763	23.2	499159	-12614	39.6
Sottotetto	14.6	SLV 3	778182	-33781	23	480113	13004	36.9
Sottotetto	14.6	SLV 4	777217	-33781	23	480121	13004	36.9
Sottotetto	14.6	SLV 5	771696	-10102	76.4	484055	-42639	11.4
Sottotetto	14.6	SLV 6	784669	-10102	77.7	483898	-42639	11.3
Sottotetto	14.6	SLV 7	804105	-10161	79.1	457730	42757	10.7
Sottotetto	14.6	SLV 8	804157	-10161	79.1	458304	42757	10.7
Sottotetto	14.6	SLV 9	798935	10161	78.6	492028	-42756	11.5
Sottotetto	14.6	SLV 10	795153	10161	78.3	506033	-42756	11.8
Sottotetto	14.6	SLV 11	805726	10102	79.8	456553	42640	10.7
Sottotetto	14.6	SLV 12	813077	10102	80.5	457150	42640	10.7
Sottotetto	14.6	SLV 13	812635	33781	24.1	503079	-13004	38.7
Sottotetto	14.6	SLV 14	818391	33781	24.2	503096	-13004	38.7
Sottotetto	14.6	SLV 15	799801	33763	23.7	486389	12615	38.6
Sottotetto	14.6	SLV 16	805350	33763	23.9	486406	12615	38.6

1.2 Verifiche travate C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.

N°: *indice progressivo della sezione.*
Descrizione: *descrizione della sezione.*
Tipo: *tipo di sezione.*
Base: *base della sezione. [m]*
Altezza: *altezza della sezione. [m]*
Copriferro sup.: *distanza del bordo della staffa dalla superficie superiore del getto. [m]*
Copriferro inf.: *distanza del bordo della staffa dalla superficie inferiore del getto. [m]*
Copriferro lat.: *distanza del bordo della staffa dalle superfici laterali del getto. [m]*
x: *distanza da asse appoggio sinistro. [m]*
A sup.: *area efficace di armatura longitudinale superiore. [m²]*
C.b. sup.: *distanza dal bordo del baricentro dell'armatura longitudinale superiore. [m]*
A inf.: *area efficace di armatura longitudinale inferiore. [m²]*
C.b. inf.: *distanza dal bordo del baricentro dell'armatura longitudinale inferiore. [m]*
M+ela: *momento flettente desunto dal solutore che tende le fibre inferiori. [daN*m]*
Comb.: *combinazione.*
M+des: *momento flettente di progetto che tende le fibre inferiori. [daN*m]*
M+ult: *momento ultimo per trazione delle fibre inferiori. [daN*m]*
x/d: *rapporto tra posizione asse neutro e altezza utile.*
coeff: *coefficiente di sicurezza.*
M-ela: *momento flettente desunto dal solutore che tende le fibre superiori. [daN*m]*
M-des: *momento flettente di progetto che tende le fibre superiori. [daN*m]*
M-ult: *momento ultimo per trazione delle fibre superiori. [daN*m]*
Verifica: *stato di verifica.*
A st: *area di staffe per unità di lunghezza. [m²]*

A sl: *area di armatura longitudinale tesa per valutazione resistenza taglio in assenza di armature a taglio. [m²]*
A sag: *area equivalente di barre piegate per unità di lunghezza. [m²]*
Vela: *taglio elastico. [daN]*
Vdes: *taglio di progetto. [daN]*
Vrd: *resistenza a taglio della sezione senza armature. [daN]*
Vrcd: *sforzo di taglio che produce il cedimento delle bielle. [daN]*
Vrsd: *resistenza a taglio per la presenza delle armature. [daN]*
Vult: *taglio ultimo. [daN]*
cotgϑ: *cotg dell'angolo di inclinazione dei puntoni in calcestruzzo.*
Rara: *famiglia di combinazione di verifica.*
Mela: *momento elastico. [daN*m]*
Mdes: *momento di progetto. [daN*m]*
σ c: *tensione di compressione nel calcestruzzo. [daN/m²]*
σ c lim.: *tensione limite di compressione nel calcestruzzo. [daN/m²]*
σ f.: *tensione di trazione nell'acciaio. [daN/m²]*
σ f lim.: *tensione limite di trazione nell'acciaio. [daN/m²]*
σ c limite: *tensione di compressione limite nel calcestruzzo. [daN/m²]*
σ f: *tensione di trazione nell'acciaio. [daN/m²]*
σ f limite: *tensione di trazione limite nell'acciaio. [daN/m²]*
Quasi permanente: *famiglia di combinazione di verifica.*
σ FRP: *tensione di trazione nell'FRP. [daN/m²]*
σ FRP lim.: *tensione limite di trazione nell'FRP. [daN/m²]*
d: *altezza utile. [m]*
Af: *area di armatura inferiore per unità di lunghezza. [m]*
M: *momento flettente. [daN*m/m]*
Comb: *combinazione.*
Mult: *momento ultimo. [daN*m/m]*
V: *sforzo di taglio. [daN/m]*
Vult: *sforzo di taglio ultimo. [daN/m]*
Af: *area di armatura. [m²]*
Aste: *numero delle aste del tratto in verifica.*
Size X: *misura dell'impronta al suolo lungo la direzione X locale. [m]*
Size Y: *misura dell'impronta al suolo lungo la direzione Y locale. [m]*
Type: *indicazione del tipo di combinazione statica o sismica.*
Cond: *indicazione della condizione di carico (BT breve termine o LT lungo termine).*
γR: *coefficiente parziale sulla resistenza di progetto.*
Rd: *resistenza di progetto. [daN]*
Ed: *azione di progetto. [daN]*
Rd/Ed: *coefficiente di sicurezza alla capacità portante.*
Fx: *componente orizzontale del carico lungo x. [daN]*
Fy: *componente orizzontale del carico lungo y. [daN]*
Fz: *componente verticale del carico. [daN]*
Mx: *momento risultante agente attorno x. [daN*m]*
My: *momento risultante agente attorno y. [daN*m]*
Inc.x: *inclinazione del carico lungo x. [deg]*
Inc.y: *inclinazione del carico lungo y. [deg]*
Ecc.x: *eccentricità del carico lungo x. [m]*
Ecc.y: *eccentricità del carico lungo y. [m]*
B': *larghezza efficace. [m]*
L': *lunghezza efficace. [m]*
qd: *sovraccarico di progetto. [daN/m²]*
γs: *peso specifico di progetto del suolo. [daN/m³]*
Fi: *angolo di attrito di progetto. [deg]*
Coes: *coesione di progetto. [daN/m²]*
Amax: *accelerazione normalizzata max al suolo.*
N:
Nq: *fattore di capacità portante per il termine di sovraccarico.*
Nc: *fattore di capacità portante per il termine coesivo.*
Ng: *fattore di capacità portante per il termine attritivo.*
S:
Sq: *fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.*
Sc: *fattore correttivo di capacità portante per forma (shape), per il termine coesivo.*
Sg: *fattore correttivo di capacità portante per forma (shape), per il termine attritivo.*
D:
Dq: *fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.*
Dc: *fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.*
Dg: *fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.*
I:
Iq: *fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.*
Ic: *fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.*
Ig: *fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.*
B:

Bq: fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.
Bc: fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.
Bg: fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.
G:
Gq: fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.
Gc: fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.
Gg: fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.
P:
Pq: fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.
Pc: fattore correttivo di capacità portante per punzonamento, per il termine coesivo.
Pg: fattore correttivo di capacità portante per punzonamento, per il termine attritivo.
E:
Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.
Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.
Eg: fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.
Tipo: tipologia di cedimento considerato (E = elastico, D = edometrico, Z = consolidazione primaria).
Assoluto: cedimento assoluto massimo.
Sa adm: cedimento assoluto ammissibile. [m]
Sa: cedimento assoluto massimo. [m]
Nodo: nodo dove avviene il cedimento assoluto massimo.
Differenziale: cedimento differenziale massimo.
Sd adm: cedimento differenziale ammissibile. [m]
Sd: cedimento differenziale massimo. [m]
Nodo I: nodo dove avviene il cedimento differenziale massimo.
Nodo j: nodo dove avviene il cedimento differenziale massimo.
Relativo: cedimento relativo massimo.
Sr adm: cedimento relativo ammissibile. [m]
Sr: cedimento relativo massimo. [m]
Nodo: nodo dove avviene il cedimento relativo massimo.
Rapp. inflessione: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).
RI adm: rapporto di inflessione ammissibile.
RI: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).
Rotazione rigida: rotazione rigida valutata tra primo ed ultimo punto.
RR adm: rotazione rigida ammissibile. [deg]
RR: rotazione rigida massima (tra primo ed ultimo punto). [deg]
Rotazione assoluta: rotazione assoluta dei singoli tratti.
R Adm: rotazione assoluta ammissibile. [deg]
R Max: rotazione assoluta massima. [deg]
Nodo I: dal nodo.
Nodo J: al nodo.
Distorsione angolare positiva: distorsione angolare positiva (concavità verso l'alto).
D+ adm: distorsione angolare ammissibile. [deg]
D+: distorsione angolare massima positiva (concavità verso l'alto). [deg]
Nodo: nodo dove avviene la distorsione angolare massima positiva (concavità verso l'alto).
Distorsione angolare negativa: distorsione angolare negativa (concavità verso il basso).
D- adm: distorsione angolare ammissibile. [deg]
D-: distorsione angolare massima negativa (concavità verso il basso). [deg]
Nodo: nodo dove avviene la distorsione angolare massima negativa (concavità verso il basso).
Bordo: bordo interessato dalla fessura.
Rara: famiglia di combinazione per verifica inferiore.
Dmax: distanza massima tra le fessure. [m]
Esm: dilatazione media delle barre di armatura.
Wd: valore di calcolo di apertura delle fessure. [m]
Frequente: famiglia di combinazione per verifica inferiore.
Quasi permanente: famiglia di combinazione per verifica inferiore.
Frequente: famiglia di combinazione di verifica.
x: ascissa relativa. [m]
taglio negativo: valori per taglio negativo.
contr. grav.: contributo azioni gravitazionali. [daN]
contr. mom. res.: contributo dei momenti resistenti. [daN]
taglio positivo: valori per taglio positivo.
campata: campata.
appoggio: appoggio.
*momento positivo: momento resistente positivo. [daN*m]*
*momento negativo: momento resistente negativo. [daN*m]*
Ascissa: ascissa sezione di verifica. [m]
Lv: luce di taglio considerata. [m]
x: altezza della zona compressa della sezione. [m]
h: altezza totale della sezione. [m]
ρ,tot: percentuale geometrica totale di armatura longitudinale.
ϑ,m: rotazione massima per la combinazione considerata.
ϑ,y: rotazione di prima plasticizzazione.

μΔ,pl: parte plastica della domanda di duttilità.
Vrd: resistenza a taglio del calcestruzzo non staffato per la verifica nella direzione considerata. [daN]
VRcd(cotϑ=1): resistenza a taglio delle bielle compresse per la verifica nella direzione considerata consideranto il valore di cotϑ unitario. [daN]
VRsd: resistenza a taglio delle staffe per la verifica nella direzione considerata. [daN]
Vw: contributo dell'armatura trasversale per la resistenza a taglio. [daN]
Vr: resistenza a taglio in condizioni cicliche (formula [C8.7.2.8]). [daN]
Vu: resistenza a taglio in condizioni sismiche. [daN]
Ved: sollecitazione tagliante. [daN]
Ned: sollecitazione di sforzo normale. [daN]
Comb.: combinazione di verifica.

CORDOLO 1

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

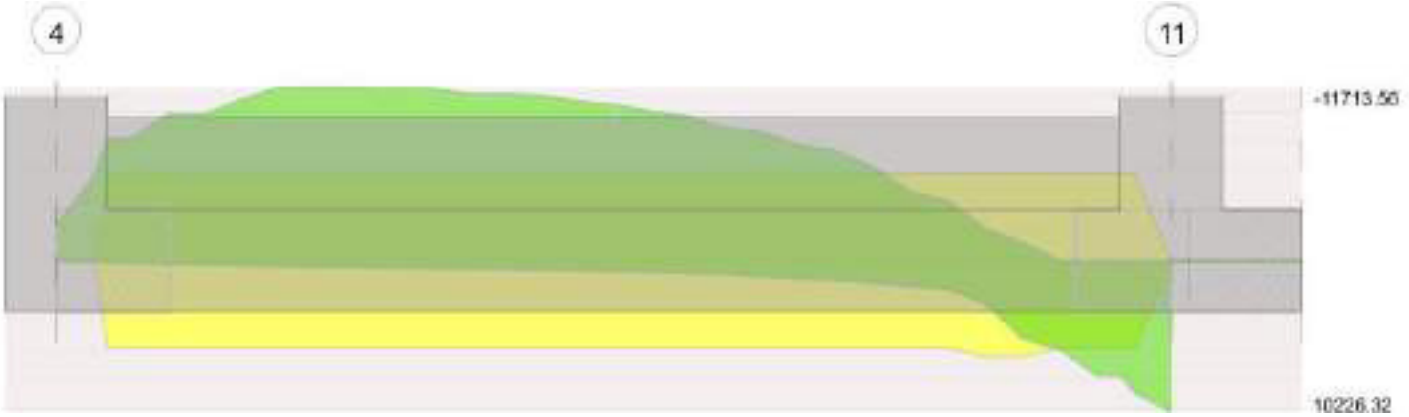


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 4 - 11, sezione R 70x45, aste 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.46	0.41	0.0003	3817	SLV FO 8	0.119	5173	9851	SLV FO 8	15877	Si
4.69	0.41	0.0003	4488	SLV FO 8	0.119	5173	11581	SLV FO 8	15877	Si
4.91	0.41	0.0003	4558	SLV FO 8	0.119	5173	11762	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4399	SLD 8	0.098	6001	11353	SLD 8	15877	Si
0.23	0.41	0.0003	4158	SLD 8	0.098	6001	10730	SLD 8	15877	Si
2.46	0.41	0.0003	2875	SLD 8	0.098	6001	7419	SLD 8	15877	Si
4.69	0.41	0.0003	3406	SLD 8	0.098	6001	8790	SLD 8	15877	Si
4.91	0.41	0.0003	3455	SLD 8	0.098	6001	8917	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000338	2885	SLE RA 20	81723	1494000	1013361	36000000	2624	SLE QP 2	74320	1120500	Si
0.23	0.41	0.00000338	2728	SLE RA 20	77270	1494000	958147	36000000	2480	SLE QP 2	70243	1120500	Si
2.46	0.41	0.00000338	1939	SLE RA 20	54922	1494000	681032	36000000	1756	SLE QP 2	49731	1120500	Si
4.69	0.41	0.00000338	2353	SLE RA 20	66653	1494000	826495	36000000	2130	SLE QP 2	60319	1120500	Si
4.91	0.41	0.00000338	2381	SLE RA 20	67448	1494000	836357	36000000	2155	SLE QP 2	61031	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
159,160,161,162,163,164,165,166,167,168,169,170	5.14	1.3	SLU 83	ST	BT	2.3	227352	81034	2.81	Si
159,160,161,162,163,164,165,166,167,168,169,170	5.14	1.3	SLD 8	SIS	BT	2.3	202601	82619	2.45	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-195	-81034	-9022.36	-2993.08	0	0	-0.04	-0.11	1.08	5.06	1496	2060	0	14430	
0	-10160	-4791	6194.36	4503.14	0	-65	0.94	1.29	-1.29	3.25	1496	2060	0	14430	0.07
0	5261	-82619	-12625.64	-5790.19	0	4	-0.07	-0.15	0.99	4.99	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

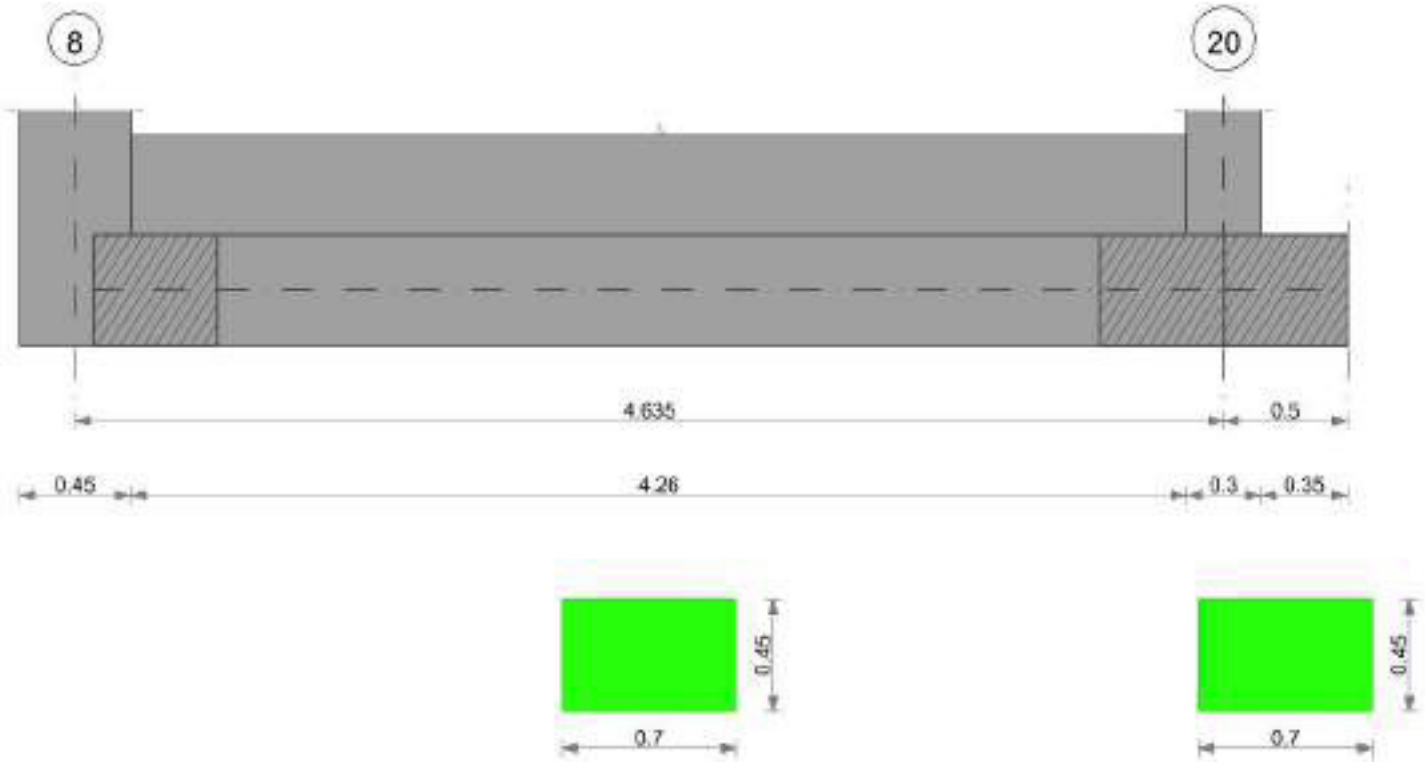
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	966	SLE RA 20	0.05	0	966	954	SLE RA 20	0.05	0	966	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	966	SLE RA 1	0.05	0	966	966	SLE RA 1	0.05	0	966	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	966	SLE RA 1	0.05	0	966	966	SLE RA 1	0.05	0	966	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	966	954	SLE RA 20	0.19	0	966	SLE RA 1	0.1	0	966	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	966	954	SLE RA 1	0.19	0	966	SLE RA 1	0.1	0	966	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	966	954	SLE RA 1	0.19	0	966	SLE RA 1	0.1	0	966	SLE RA 1	Si

CORDOLO 2

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

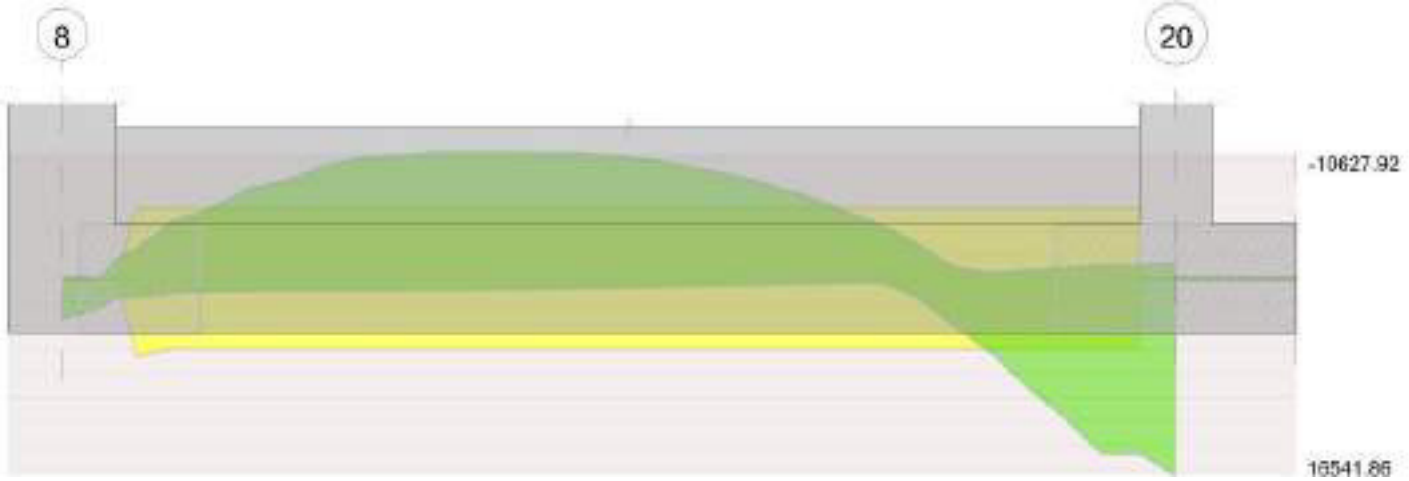


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 8 - 20, sezione R 70x45, aste 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	5646	SLV FO 8	0.145	7759	14571	SLV FO 8	15877	Si
0.23	0.41	0.0005	5421	SLV FO 8	0.145	7759	13989	SLV FO 8	15877	Si
2.32	0.41	0.0005	4015	SLV FO 8	0.145	7759	10361	SLV FO 8	15877	Si
4.48	0.41	0.0005	4340	SLV FO 8	0.145	7759	11200	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	4195	SLD 8	0.12	9019	10826	SLD 8	15877	Si
0.23	0.41	0.0005	4028	SLD 8	0.12	9019	10394	SLD 8	15877	Si
2.32	0.41	0.0005	2973	SLD 8	0.12	9019	7673	SLD 8	15877	Si
4.48	0.41	0.0005	3219	SLD 8	0.12	9019	8308	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000512	2742	SLE RA 20	75926	1494000	941489	36000000	2484	SLE QP 2	68798	1120500	Si
0.23	0.41	0.00000512	2634	SLE RA 20	72938	1494000	904435	36000000	2386	SLE QP 2	66074	1120500	Si
2.32	0.41	0.00000512	1938	SLE RA 20	53673	1494000	665540	36000000	1751	SLE QP 2	48491	1120500	Si
4.48	0.41	0.00000512	2113	SLE RA 20	58525	1494000	725706	36000000	1909	SLE QP 2	52848	1120500	Si
4.63	0.42	0	2108	SLE RA 20	62473	1494000	0	36000000	1904	SLE QP 2	56411	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
419,420,421,422,423,424,425,426,427,428,429,430,431	4.86	1.3	SLU 83	ST	BT	2.3	222686	73831	3.02	Si
419,420,421,422,423,424,425,426,427,428,429,430,431	4.86	1.3	SLD 8	SIS	BT	2.3	202206	77014	2.63	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-402	-73831	-6386.11	-5042.51	0	0	-0.07	-0.09	1.13	4.72	1496	2060	0	14430	
0	-8848	-4985	5405.87	-2690.77	0	-61	-0.54	1.08	-0.87	3.78	1496	2060	0	14430	0.07
0	4354	-77014	-9725.72	-6236.87	0	3	-0.08	-0.13	1.05	4.7	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1036	SLE RA 20	0.05	0	1036	1049	SLE RA 7	0.05	0	1049	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1049	SLE RA 1	0.05	0	1049	1049	SLE RA 1	0.05	0	1049	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1049	SLE RA 1	0.05	0	1049	1049	SLE RA 1	0.05	0	1049	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 7	0.19	0	1049	1036	SLE RA 7	0.19	0	1049	SLE RA 1	0.1	0	1049	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1049	1036	SLE RA 1	0.19	0	1049	SLE RA 1	0.1	0	1049	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1049	1036	SLE RA 1	0.19	0	1049	SLE RA 1	0.1	0	1049	SLE RA 1	Si

CORDOLO 3

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

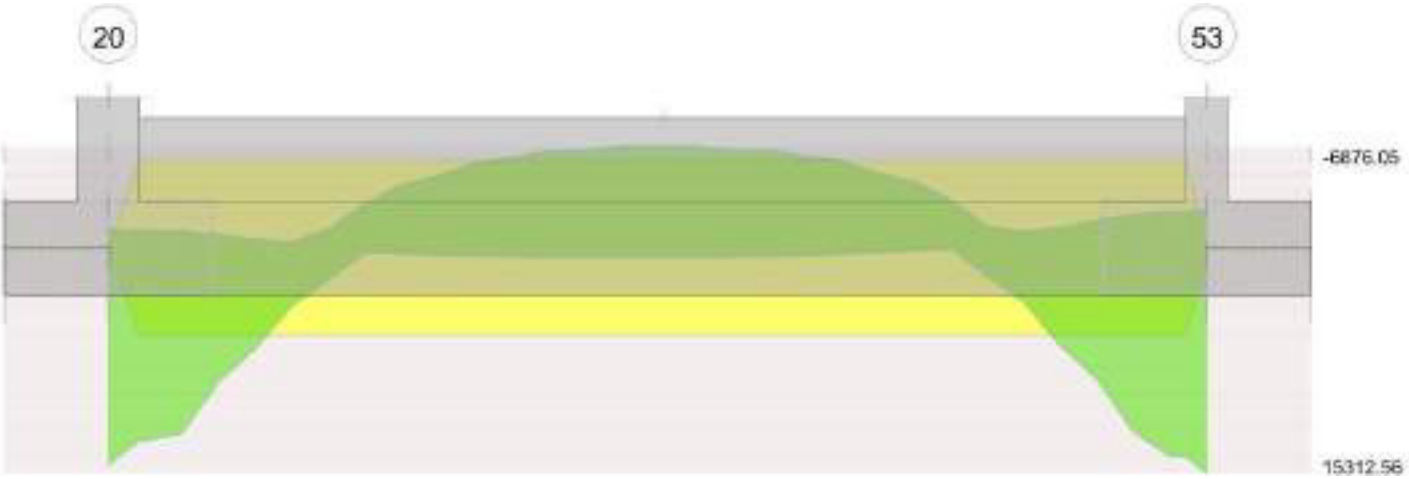
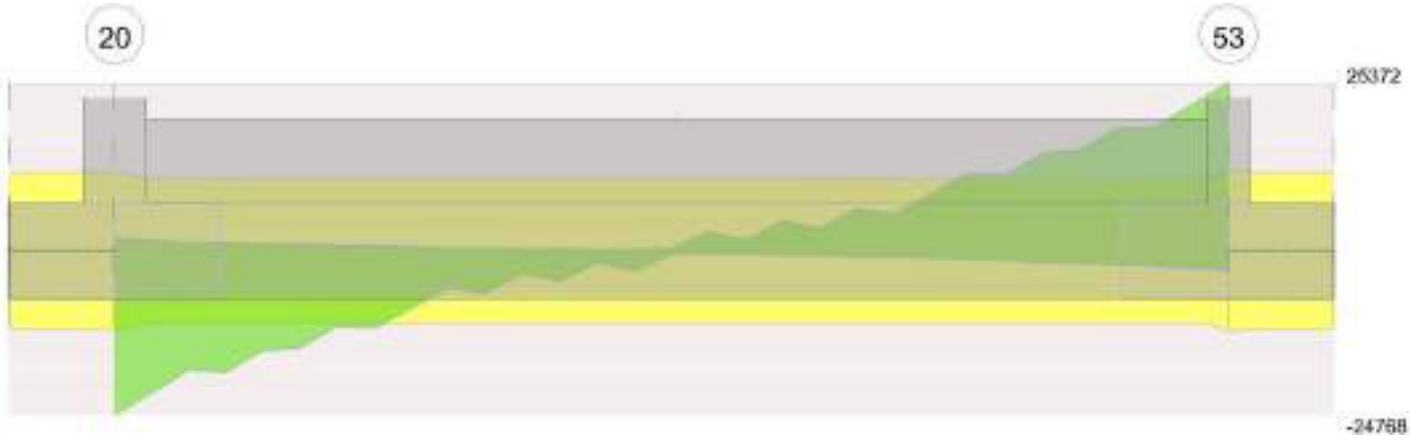


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 20 - 53, sezione R 70x45, aste 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.64	0.41	0.0003	3568	SLV FO 12	0.104	3925	9208	SLV FO 12	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3211	SLD 8	0.085	4549	8286	SLD 8	15877	Si
0.15	0.41	0.0003	3199	SLD 8	0.085	4549	8255	SLD 8	15877	Si
2.64	0.41	0.0003	2640	SLD 12	0.085	4549	6813	SLD 12	15877	Si
5.18	0.41	0.0003	3178	SLD 11	0.085	4549	8201	SLD 11	15877	Si
5.28	0.41	0.0003	3185	SLD 11	0.085	4549	8219	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000255	2108	SLE RA 20	60372	1494000	748613	36000000	1904	SLE QP 2	54514	1120500	Si
0.15	0.41	0.00000255	2101	SLE RA 20	60161	1494000	746000	36000000	1897	SLE QP 2	54320	1120500	Si
2.64	0.41	0.00000255	1730	SLE RA 20	49536	1494000	614245	36000000	1560	SLE QP 2	44654	1120500	Si
5.18	0.41	0.00000255	2056	SLE RA 20	58860	1494000	729867	36000000	1857	SLE QP 2	53161	1120500	Si
5.28	0.41	0.00000255	2061	SLE RA 20	59002	1494000	731623	36000000	1861	SLE QP 2	53293	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
471,472,473,474,475,476,477,478,479,480,481,482,483	5.28	1.3	SLU 83	ST	BT	2.3	237938	76133	3.13	Si
471,472,473,474,475,476,477,478,479,480,481,482,483	5.28	1.3	SLD 12	SIS	BT	2.3	217465	78593	2.77	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-729	-76133	-8081.39	-747.26	0	-1	-0.01	-0.11	1.09	5.26	1496	2060	0	14430	
0	-9558	-2041	5701.72	-3526.8	0	-78	-1.73	2.79	-4.29	1.82	1496	2060	0	14430	0.07
0	4335	-78593	-11314.04	1263.95	0	3	0.02	-0.14	1.01	5.25	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

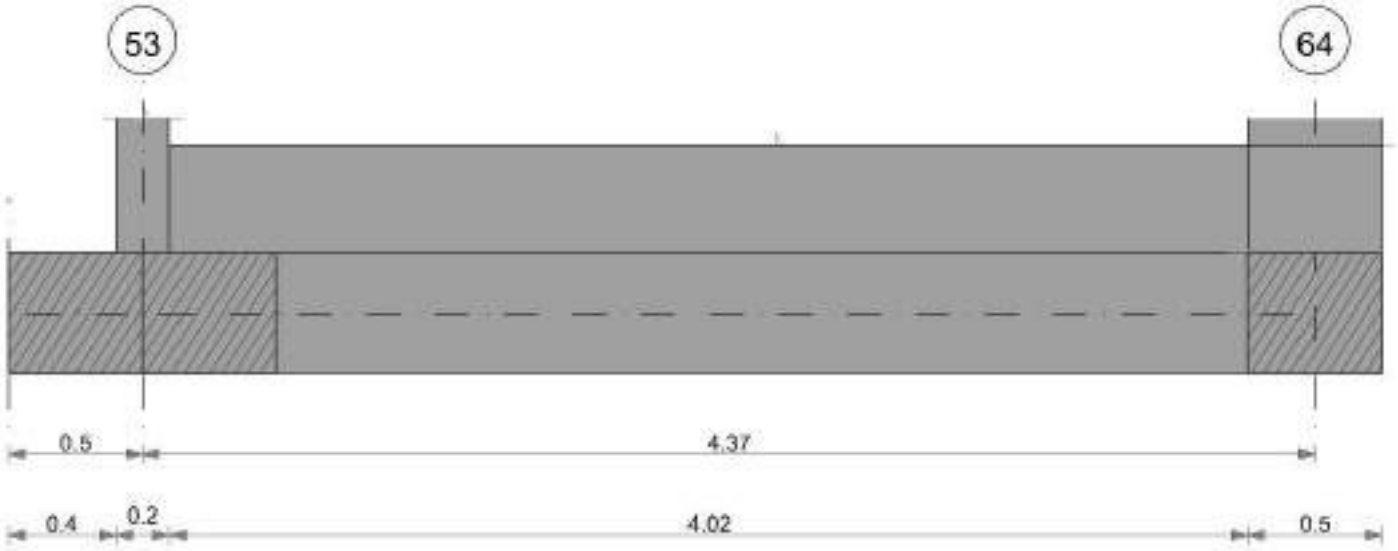
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1049	SLE RA 20	0.05	0	1049	1062	SLE RA 15	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1062	SLE RA 1	0.05	0	1062	1062	SLE RA 1	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1062	SLE RA 1	0.05	0	1062	1062	SLE RA 1	0.05	0	1062	SLE RA 1	0.0033	0	SLE RA 1	Si

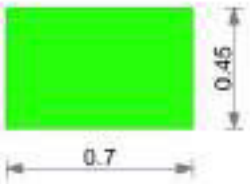
Verifiche geotecniche - Rotazioni assolute e differenziali

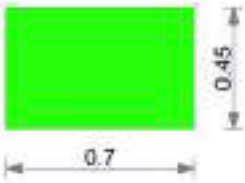
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 15	0.19	0	1062	1049	SLE RA 15	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1062	1049	SLE RA 1	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1062	1049	SLE RA 1	0.19	0	1062	SLE RA 1	0.1	0	1062	SLE RA 1	Si

CORDOLO 4

Geometria







Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

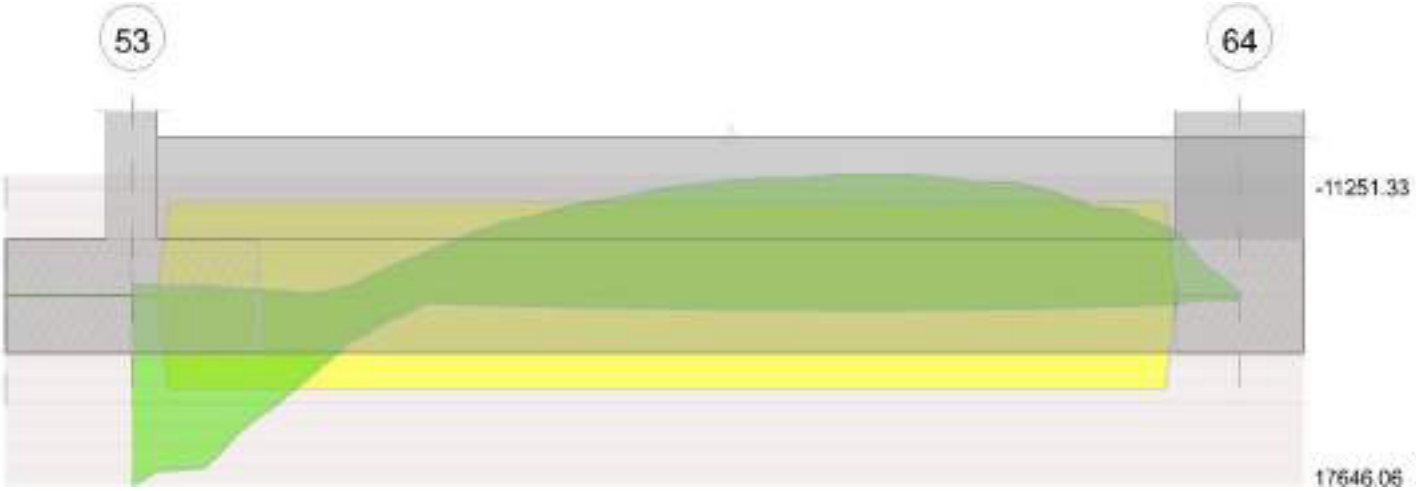
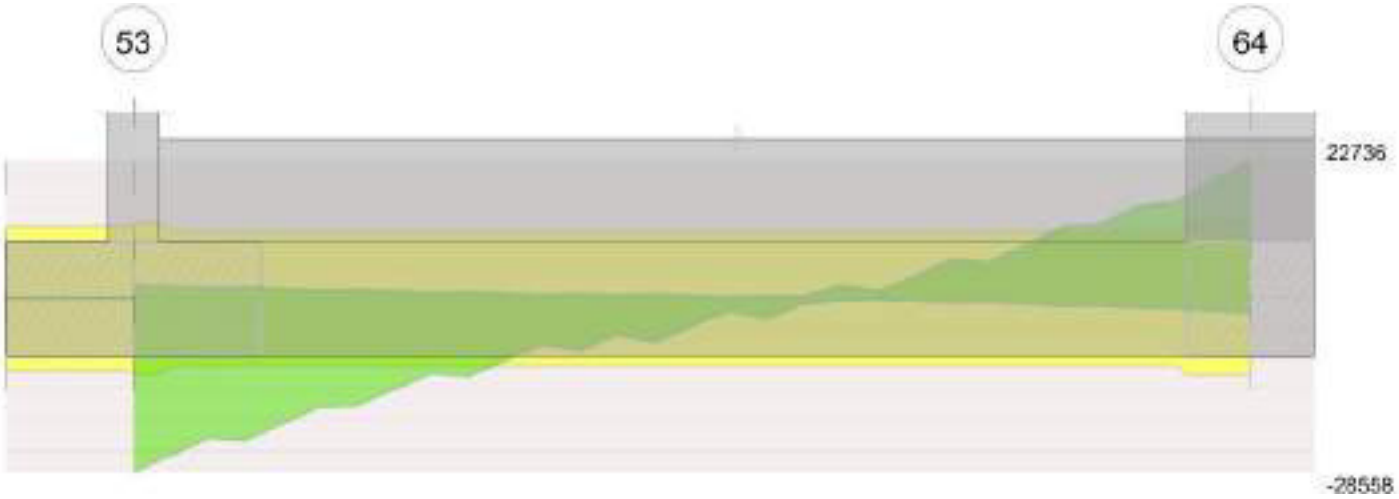


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 53 - 64, sezione R 70x45, aste 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.18	0.41	0.0003	3933	SLV FO 11	0.105	4031	10151	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3185	SLD 11	0.086	4671	8219	SLD 11	15877	Si
0.1	0.41	0.0003	3190	SLD 11	0.086	4671	8233	SLD 11	15877	Si
2.18	0.41	0.0003	2896	SLD 11	0.086	4671	7474	SLD 11	15877	Si
4.12	0.41	0.0003	3752	SLD 11	0.086	4671	9682	SLD 11	15877	Si
4.37	0.41	0.0003	3951	SLD 11	0.086	4671	10195	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000262	2061	SLE RA 20	58947	1494000	730948	36000000	1861	SLE QP 2	53244	1120500	Si
0.1	0.41	0.00000262	2064	SLE RA 20	59058	1494000	732320	36000000	1865	SLE QP 2	53348	1120500	Si
2.18	0.41	0.00000262	1855	SLE RA 20	53063	1494000	657981	36000000	1677	SLE QP 2	47977	1120500	Si
4.12	0.41	0.00000262	2392	SLE RA 20	68418	1494000	848389	36000000	2168	SLE QP 2	62025	1120500	Si
4.37	0.41	0.00000262	2519	SLE RA 20	72049	1494000	893412	36000000	2284	SLE QP 2	65339	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
484,485,486,487,488,489,490,491,492,493,494	4.62	1.3	SLU 83	ST	BT	2.3	217159	66780	3.25	Si
484,485,486,487,488,489,490,491,492,493,494	4.62	1.3	SLD 11	SIS	BT	2.3	197921	70590	2.8	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-430	-66780	-5295.59	2681.46	0	0	0.04	-0.08	1.14	4.54	1496	2060	0	14430	
0	-7826	-4181	4365.16	1573.52	0	-62	0.38	1.04	-0.79	3.87	1496	2060	0	14430	0.07
0	3998	-70590	-8298.78	3919.47	0	3	0.06	-0.12	1.06	4.51	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

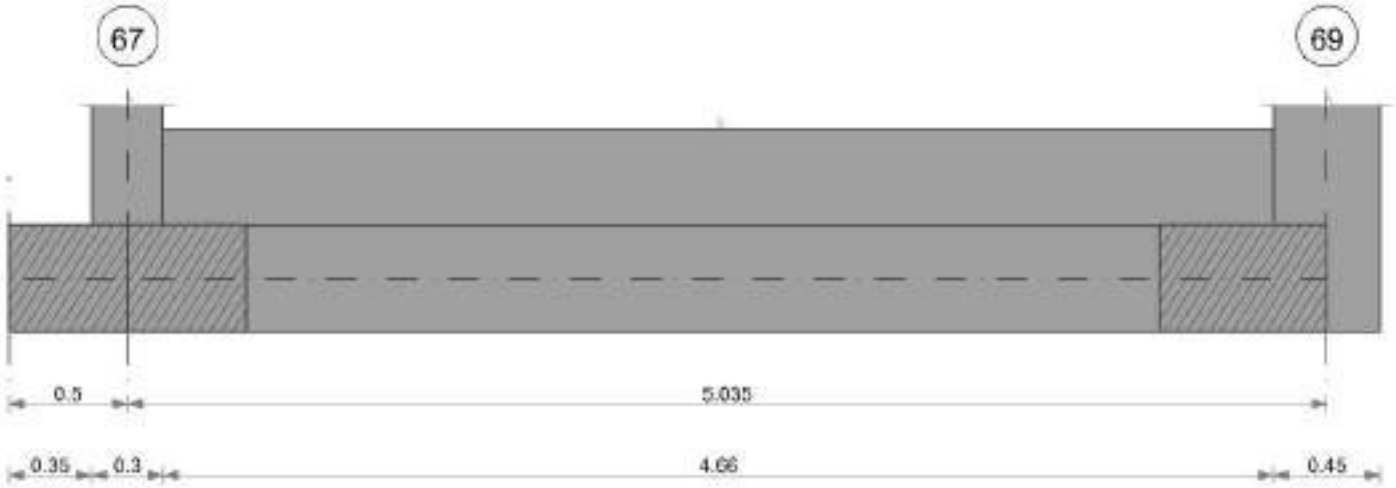
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1062	SLE RA 20	0.05	0	1062	1073	SLE RA 20	0.05	0	1073	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1073	SLE RA 1	0.05	0	1073	1073	SLE RA 1	0.05	0	1073	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1073	SLE RA 1	0.05	0	1073	1073	SLE RA 1	0.05	0	1073	SLE RA 1	0.0033	0	SLE RA 1	Si

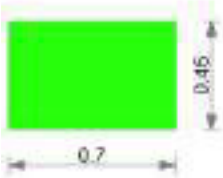
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	1073	1062	SLE RA 20	0.19	0	1073	SLE RA 1	0.1	0	1073	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1073	1062	SLE RA 1	0.19	0	1073	SLE RA 1	0.1	0	1073	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1073	1062	SLE RA 1	0.19	0	1073	SLE RA 1	0.1	0	1073	SLE RA 1	Si

CORDOLO 5

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

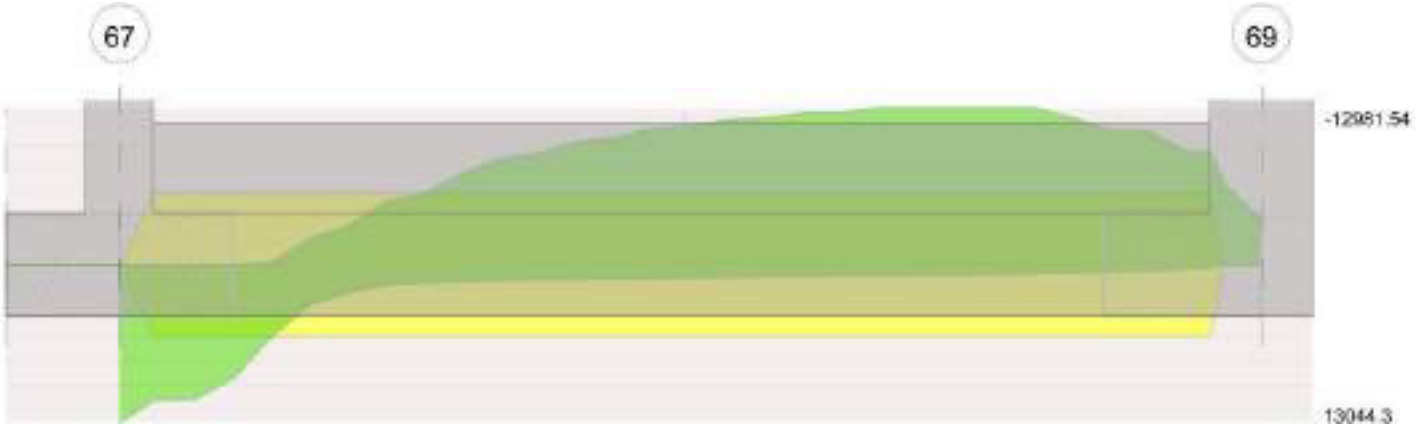
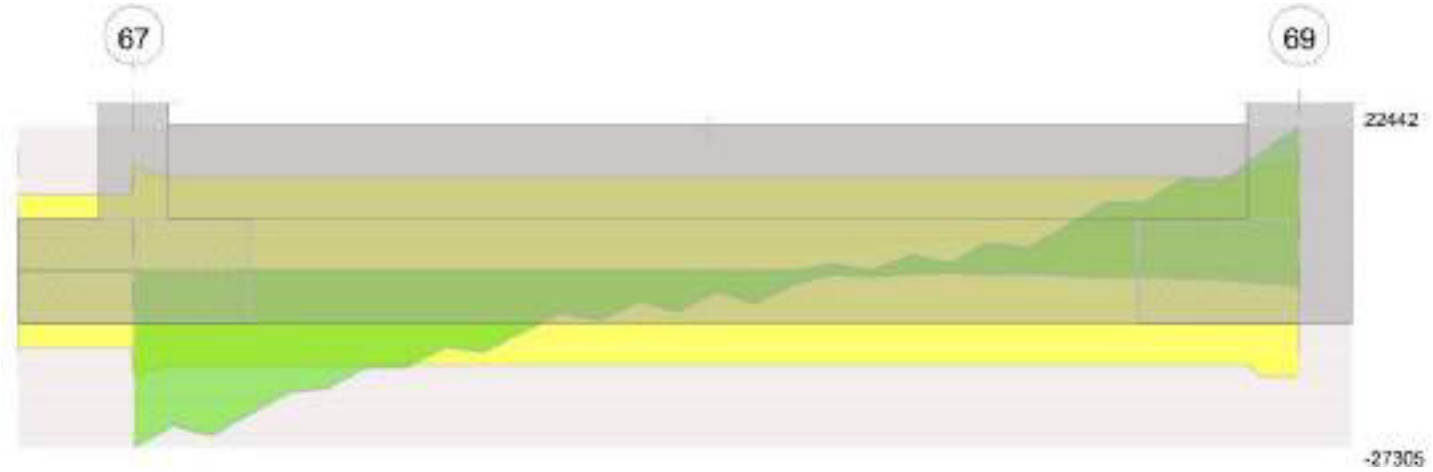


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 67 - 69, sezione R 70x45, aste 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4827	SLV FO 11	0.12	5267	12457	SLV FO 11	15877	Si
0.15	0.41	0.0003	4792	SLV FO 11	0.12	5267	12367	SLV FO 11	15877	Si
2.52	0.41	0.0003	4094	SLV FO 11	0.12	5267	10565	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3628	SLD 11	0.099	6111	9363	SLD 11	15877	Si
0.15	0.41	0.0003	3604	SLD 11	0.099	6111	9300	SLD 11	15877	Si
2.52	0.41	0.0003	3052	SLD 11	0.099	6111	7877	SLD 11	15877	Si
4.81	0.41	0.0003	4328	SLD 11	0.099	6111	11169	SLD 11	15877	Si
5.03	0.41	0.0003	4564	SLD 11	0.099	6111	11778	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000344	2446	SLE RA 20	69232	1494000	858473	36000000	2216	SLE QP 2	62716	1120500	Si
0.15	0.41	0.00000344	2433	SLE RA 20	68851	1494000	853748	36000000	2204	SLE QP 2	62372	1120500	Si
2.52	0.41	0.00000344	2007	SLE RA 20	56795	1494000	704259	36000000	1819	SLE QP 2	51484	1120500	Si
4.81	0.41	0.00000344	2769	SLE RA 20	78371	1494000	971796	36000000	2521	SLE QP 2	71345	1120500	Si
5.03	0.41	0.00000344	2920	SLE RA 20	82625	1494000	1024544	36000000	2659	SLE QP 2	75248	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
298,299,300,301,302,303,304,305,306,307,308,309,310	5.26	1.3	SLU 83	ST	BT	2.3	238016	79931	2.98	Si
298,299,300,301,302,303,304,305,306,307,308,309,310	5.26	1.3	SLD 11	SIS	BT	2.3	213652	83289	2.57	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-587	-79931	-8036.18	2306.09	0	0	0.03	-0.1	1.1	5.2	1496	2060	0	14430	
0	-8936	-2910	5744.02	-4599.77	0	-72	-1.58	1.97	-2.65	2.1	1496	2060	0	14430	0.07
0	4861	-83289	-11785.73	5076.08	0	3	0.06	-0.14	1.02	5.14	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

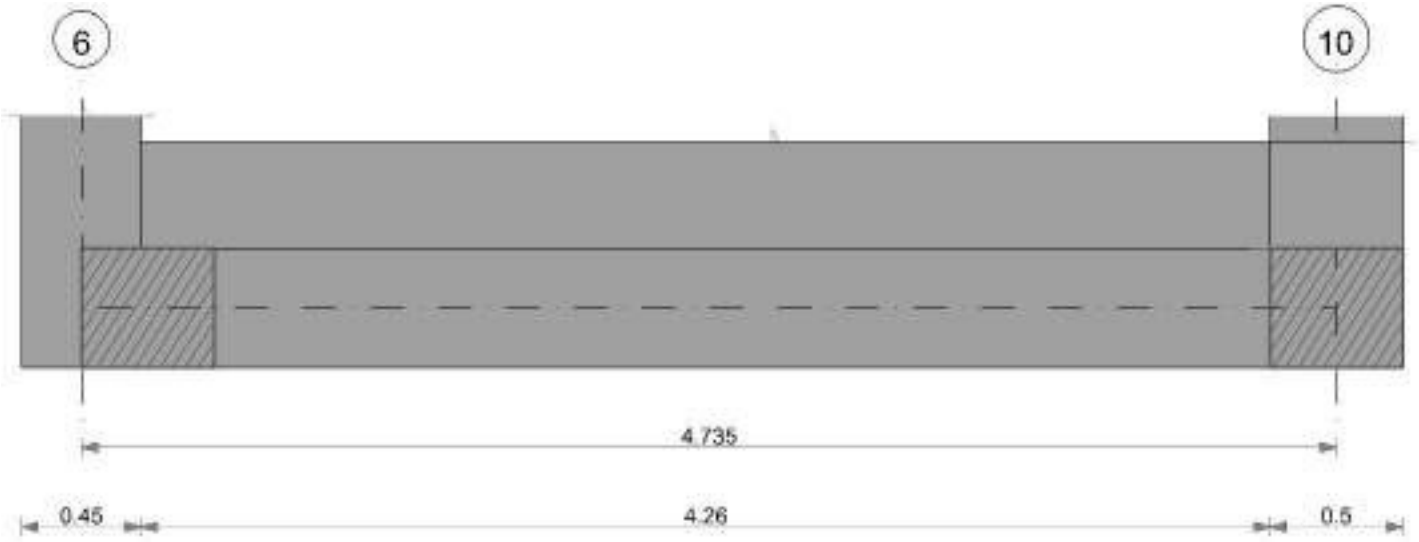
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	969	SLE RA 20	0.05	0	969	983	SLE RA 20	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	983	SLE RA 1	0.05	0	983	983	SLE RA 1	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	983	SLE RA 1	0.05	0	983	983	SLE RA 1	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si

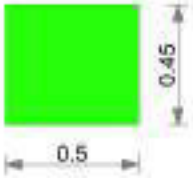
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	983	969	SLE RA 20	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	983	969	SLE RA 1	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	983	969	SLE RA 1	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si

CORDOLO 6

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

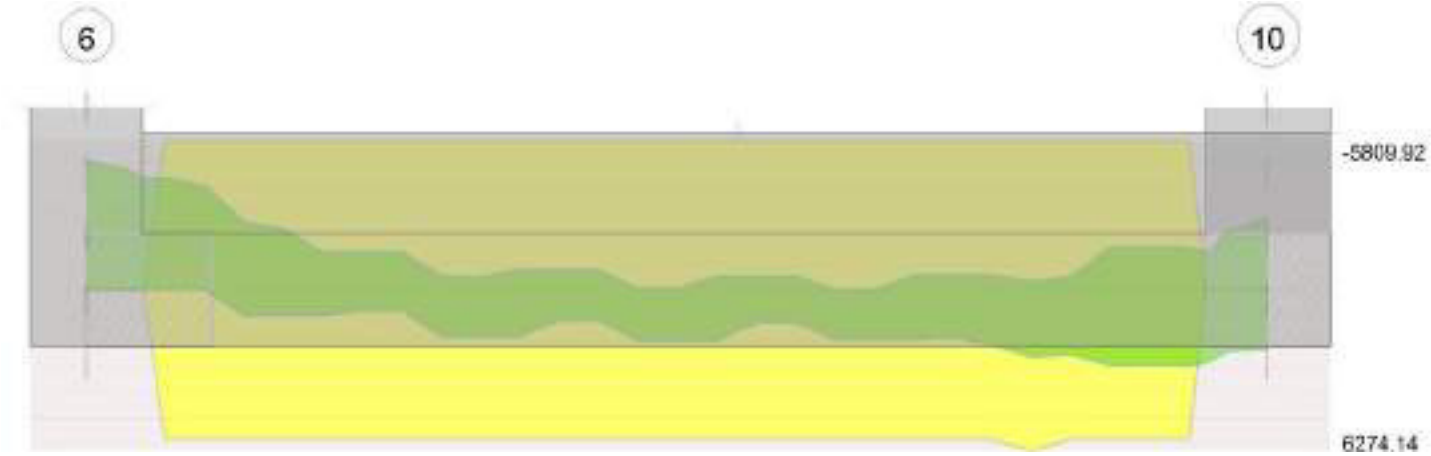
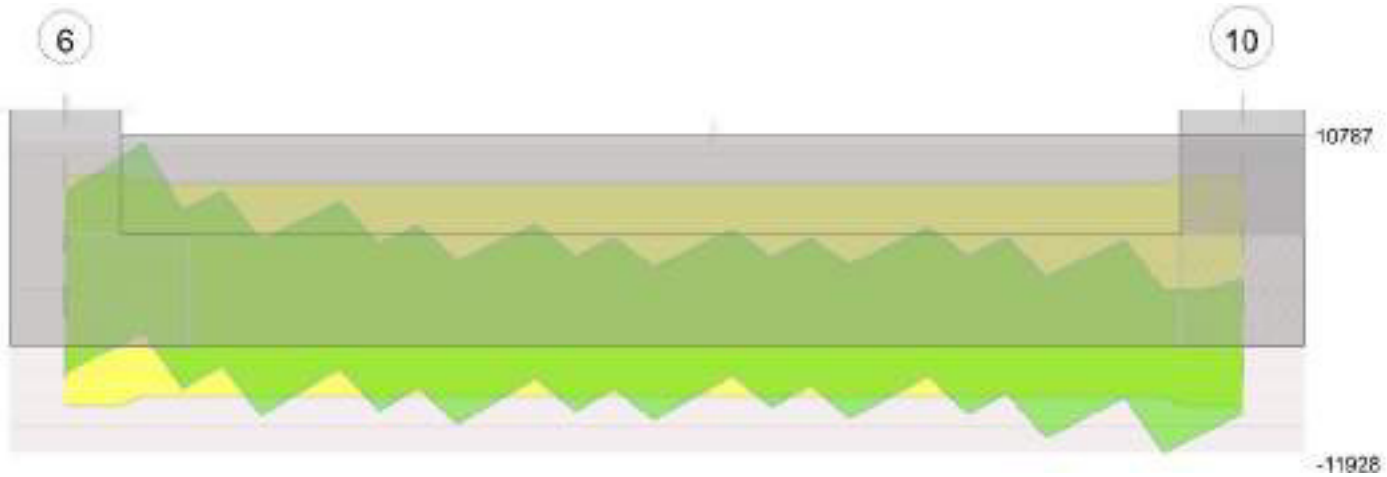


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 10, sezione R 50x45, aste 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2237	SLV FO 4	0.086	2676	7782	SLV FO 4	15877	Si
0.23	0.41	0.0002	2183	SLV FO 4	0.086	2676	7594	SLV FO 4	15877	Si
2.37	0.41	0.0002	2021	SLU 83	0.017	2751	7028	SLU 83	15877	Si
4.49	0.41	0.0002	1818	SLU 83	0.017	2751	6323	SLU 83	15877	Si
4.74	0.41	0.0002	1779	SLU 83	0.017	2751	6186	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1899	SLD 4	0.07	3097	6606	SLD 4	15877	Si
0.23	0.41	0.0002	1860	SLD 4	0.07	3097	6470	SLD 4	15877	Si
2.37	0.41	0.0002	1638	SLD 1	0.07	3097	5697	SLD 1	15877	Si
4.49	0.41	0.0002	1367	SLD 1	0.07	3097	4753	SLD 1	15877	Si
4.74	0.41	0.0002	1330	SLD 3	0.07	3097	4624	SLD 3	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	1569	SLE RA 20	45429	1494000	563322	36000000	1428	SLE QP 2	41324	1120500	Si
0.23	0.41	0.00000172	1549	SLE RA 20	44846	1494000	556093	36000000	1409	SLE QP 2	40779	1120500	Si
2.37	0.41	0.00000172	1475	SLE RA 20	42692	1494000	529375	36000000	1337	SLE QP 2	38699	1120500	Si
4.49	0.41	0.00000172	1325	SLE RA 20	38369	1494000	475781	36000000	1198	SLE QP 2	34694	1120500	Si
4.74	0.41	0.00000172	1297	SLE RA 20	37534	1494000	465423	36000000	1172	SLE QP 2	33928	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
209,210,211,212,213,214,215,216,217,218,219,220	5.21	1.1	SLU 84	ST	BT	2.3	241900	76126	3.18	Si
209,210,211,212,213,214,215,216,217,218,219,220	5.21	1.1	SLV FO 4	SIS	BT	2.3	216894	67815	3.2	Si
209,210,211,212,213,214,215,216,217,218,219,220	5.21	1.1	SLD 4	SIS	BT	2.3	226668	61139	3.71	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-168	-76126	109.04	-3431.77	0	0	-0.05	0	1.1	5.12	1496	2060	0	14430	
0	3657	-67815	-1763.09	-11645.19	0	3	-0.17	-0.03	1.05	4.87	1496	2060	0	14430	0.07
0	2004	-61139	-954.92	-7778.17	0	2	-0.13	-0.02	1.07	4.96	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

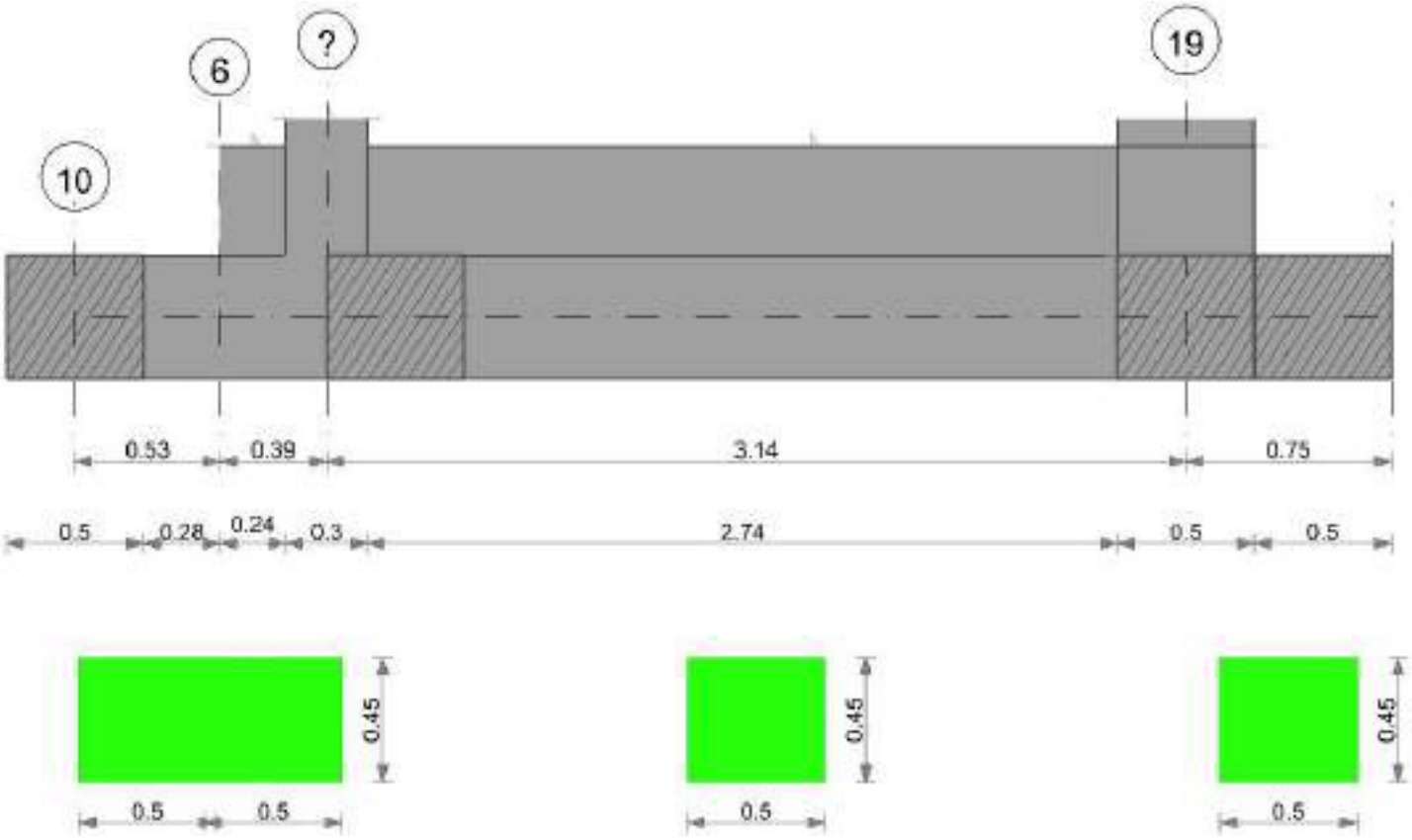
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	730	SLE RA 20	0.05	0.001	730	718	SLE RA 20	0.05	0	730	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	730	SLE RA 1	0.05	0	730	730	SLE RA 1	0.05	0	730	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	730	SLE RA 1	0.05	0	730	730	SLE RA 1	0.05	0	730	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	730	718	SLE RA 20	0.19	0	730	SLE RA 1	0.1	0	730	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	730	718	SLE RA 1	0.19	0	730	SLE RA 1	0.1	0	730	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	730	718	SLE RA 1	0.19	0	730	SLE RA 1	0.1	0	730	SLE RA 1	Si

CORDOLO 7

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

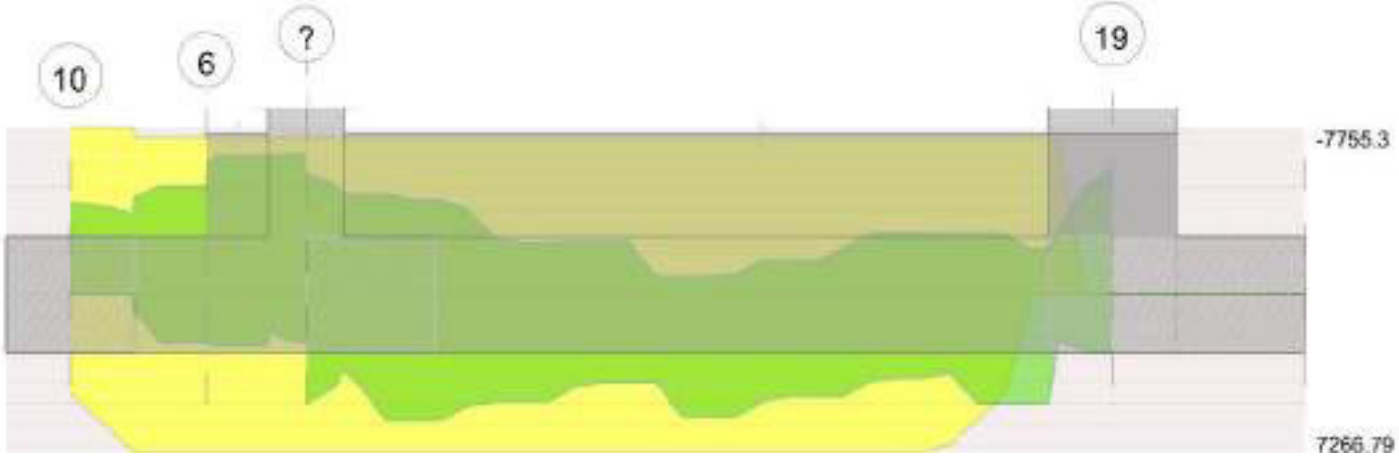


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 1 tra i fili 10 - 6, sezione R 50x45, asta 527

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-4344.4	SLU 83	-4215.48	-7738.37	0.109	1.84	Si
0.25	0.000509	0.052	0.000508	0.052							-3710.61	SLU 84	-3710.61	-7755.42	0.113	2.09	Si
0.26	0.000509	0.052	0.000509	0.052							-3649.62	SLU 84	-3710.61	-7755.45	0.113	2.09	Si
0.53	0.000509	0.052	0.000509	0.052							-2112.3	SLU 84	-3247.78	-7755.45	0.113	2.39	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-4445.57	SLV FO 4	-3566.67	-7269.88	0.2	2.04	Si
0.25	0.000509	0.052	0.000508	0.052	-1495.56	SLV FO 12	783.31	7260.75	0.197	9.27	-3421.04	SLV FO 5	-4507.48	-7266.86	0.197	1.61	Si
0.26	0.000509	0.052	0.000509	0.052	-1311.51	SLV FO 8	987.96	7266.79	0.197	7.36	-3526.04	SLV FO 9	-4588.86	-7266.79	0.197	1.58	Si
0.35	0.000509	0.052	0.000509	0.052	-223.73	SLV FO 8	2195.42	7266.79	0.197	3.31	-4071.53	SLV FO 9	-5023.18	-7266.79	0.197	1.45	Si
0.53	0.000509	0.052	0.000509	0.052	2195.42	SLV FO 8	2195.42	7266.79	0.197	3.31	-5023.18	SLV FO 9	-5023.18	-7266.79	0.197	1.45	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000314	0.052							-3765.8	SLD 4	-3231.84	-7269.88	0.2	2.25	Si
0.25	0.000509	0.052	0.000508	0.052							-2975.35	SLD 5	-3299.78	-7266.86	0.197	2.2	Si
0.26	0.000509	0.052	0.000509	0.052							-3014.91	SLD 9	-3316.33	-7266.79	0.197	2.19	Si
0.35	0.000509	0.052	0.000509	0.052	-1104.39	SLD 8	550.77	7266.79	0.197	13.19	-3190.87	SLD 9	-3378.54	-7266.79	0.197	2.15	Si
0.53	0.000509	0.052	0.000509	0.052	550.77	SLD 8	550.77	7266.79	0.197	13.19	-3378.54	SLD 9	-3378.54	-7266.79	0.197	2.15	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000155	0.000509	0	1025	SLU 83	1025	7764	63178	21678	21678	1	21.16	Si
0.25	0.0000155	0.000509	0	4116	SLU 83	4116	7764	63178	21678	21678	1	5.27	Si
0.26	0.0000155	0.000509	0	4301	SLU 83	4301	7764	63178	21678	21678	1	5.04	Si
0.53	0.0000155	0.000509	0	7555	SLU 83	7555	7764	63178	21678	21678	1	2.87	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000155	0.000509	0	9601	SLV FO 8	9601	7764	63178	21678	21678	1	2.26	Si
0	0.0000155	0.000509	0	-8551	SLV FO 9	-8551	-7764	-63178	-21678	-21678	1	2.54	Si
0.25	0.0000155	0.000509	0	11916	SLV FO 8	11916	7764	63178	21678	21678	1	1.82	Si
0.25	0.0000155	0.000509	0	-6747	SLV FO 9	-6747	-7764	-63178	-21678	-21678	1	3.21	Si
0.26	0.0000155	0.000509	0	12056	SLV FO 8	12056	7764	63178	21678	21678	1	1.8	Si
0.26	0.0000155	0.000509	0	-6641	SLV FO 9	-6641	-7764	-63178	-21678	-21678	1	3.26	Si
0.53	0.0000155	0.000508	0	14553	SLV FO 8	14553	7764	63178	21678	21678	1	1.49	Si
0.53	0.0000155	0.000509	0	-4803	SLV FO 9	-4803	-7764	-63178	-21678	-21678	1	4.51	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000155	0.000509	0	5479	SLD 8	5479	7764	63178	21678	21678	1	3.96	Si
0	0.0000155	0.000509	0	-4429	SLD 9	-4429	-7764	-63178	-21678	-21678	1	4.9	Si
0.25	0.0000155	0.000509	0	7682	SLD 8	7682	7764	63178	21678	21678	1	2.82	Si
0.25	0.0000155	0.000509	0	-2513	SLD 9	-2513	-7764	-63178	-21678	-21678	1	8.63	Si
0.26	0.0000155	0.000509	0	7815	SLD 8	7815	7764	63178	21678	21678	1	2.77	Si
0.26	0.0000155	0.000509	0	-2399	SLD 9	-2399	-7764	-63178	-21678	-21678	1	9.04	Si
0.53	0.0000155	0.000508	0	10165	SLD 8	10165	7764	63178	21678	21678	1	2.13	Si
0.53	0.0000155	0.000509	0	-416	SLD 9	-416	-7764	-63178	-21678	-21678	1	52.15	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-3165.95	20	-3077.42	167801	1494000	2469881	36000000	-2847.63	2	-2781.39	151660	1120500			Si
0.25	-2713.19	21	-2713.19	143520	1494000	2152706	36000000	-2458.3	2	-2458.3	130037	1120500			Si
0.26	-2669.14	21	-2713.19	143510	1494000	2152652	36000000	-2418.77	2	-2458.3	130028	1120500			Si
0.53	-1554.43	21	-2378.38	125801	1494000	1887013	36000000	-1413.88	2	-2157.31	114108	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 10 - 6, sezione R 50x45, asta 527

Campata 2 tra i fili 6 - ?, sezione R 50x45, aste 528, 529

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0008	1711	SLU 83	0.065	12112	5950	SLU 83	30277	Si
0.2	0.41	0.0003	1711	SLU 83	0.023	4108	5951	SLU 83	15877	Si
0.24	0.41	0.0003	1712	SLU 83	0.023	4108	5954	SLU 83	15877	Si
0.39	0.41	0.0003	1716	SLU 83	0.023	4108	5969	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0008	1294	SLD 4	0.147	13462	4499	SLD 4	34818	Si
0.2	0.41	0.0003	1294	SLD 4	0.086	4604	4501	SLD 4	15877	Si
0.24	0.41	0.0003	1294	SLD 4	0.086	4604	4502	SLD 4	15877	Si
0.39	0.41	0.0003	1296	SLD 4	0.086	4604	4507	SLD 4	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000773	1247	SLE RA 20	33403	1494000	414200	36000000	1125	SLE QP 2	30157	1120500	Si
0.2	0.41	0.00000258	1247	SLE RA 20	35682	1494000	442453	36000000	1125	SLE QP 2	32208	1120500	Si
0.24	0.41	0.00000258	1247	SLE RA 20	35699	1494000	442665	36000000	1126	SLE QP 2	32223	1120500	Si
0.39	0.41	0.00000258	1251	SLE RA 20	35792	1494000	443821	36000000	1129	SLE QP 2	32303	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili ? - 19, sezione R 50x45, aste 530, 531, 532, 533, 534, 535, 536, 537

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1716	SLU 83	0.023	4108	5969	SLU 83	15877	Si
0.15	0.41	0.0002	1721	SLU 83	0.018	2812	5986	SLU 83	15877	Si
1.57	0.41	0.0002	1770	SLU 83	0.018	2812	6157	SLU 83	15877	Si
2.89	0.41	0.0002	1695	SLU 83	0.018	2812	5896	SLU 83	15877	Si
3.14	0.41	0.0002	1670	SLU 83	0.018	2812	5810	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1296	SLD 4	0.086	4604	4507	SLD 4	15877	Si
0.15	0.41	0.0002	1297	SLD 4	0.071	3164	4512	SLD 4	15877	Si
1.57	0.41	0.0002	1269	SLD 8	0.071	3164	4415	SLD 8	15877	Si
2.89	0.41	0.0002	1177	SLD 7	0.071	3164	4093	SLD 7	15877	Si
3.14	0.41	0.0002	1158	SLD 7	0.071	3164	4029	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000258	1251	SLE RA 20	35792	1494000	443821	36000000	1129	SLE QP 2	32303	1120500	Si
0.15	0.41	0.00000176	1254	SLE RA 20	36286	1494000	449947	36000000	1132	SLE QP 2	32746	1120500	Si
1.57	0.41	0.00000176	1290	SLE RA 20	37313	1494000	462680	36000000	1163	SLE QP 2	33639	1120500	Si
2.89	0.41	0.00000176	1235	SLE RA 20	35723	1494000	442966	36000000	1112	SLE QP 2	32171	1120500	Si
3.14	0.41	0.00000176	1217	SLE RA 20	35202	1494000	436506	36000000	1095	SLE QP 2	31695	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
527,528,529,530,531,532,533,534,535,536,537	4.31	1.1	SLU 84	ST	BT	2.3	204340	57979	3.52	Si
527,528,529,530,531,532,533,534,535,536,537	4.31	1.1	SLV FO 8	SIS	BT	2.3	170146	44467	3.83	Si
527,528,529,530,531,532,533,534,535,536,537	4.31	1.1	SLD 8	SIS	BT	2.3	185663	42179	4.4	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-261	-57979	97.88	212.44	0	0	0	0	1.1	4.3	1496	2060	0	14430	
0	6389	-44467	-3231.44	-1278.2	0	8	-0.03	-0.07	0.95	4.25	1496	2060	0	14430	0.07
0	3390	-42179	-1723.4	-695.48	0	5	-0.02	-0.04	1.02	4.28	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

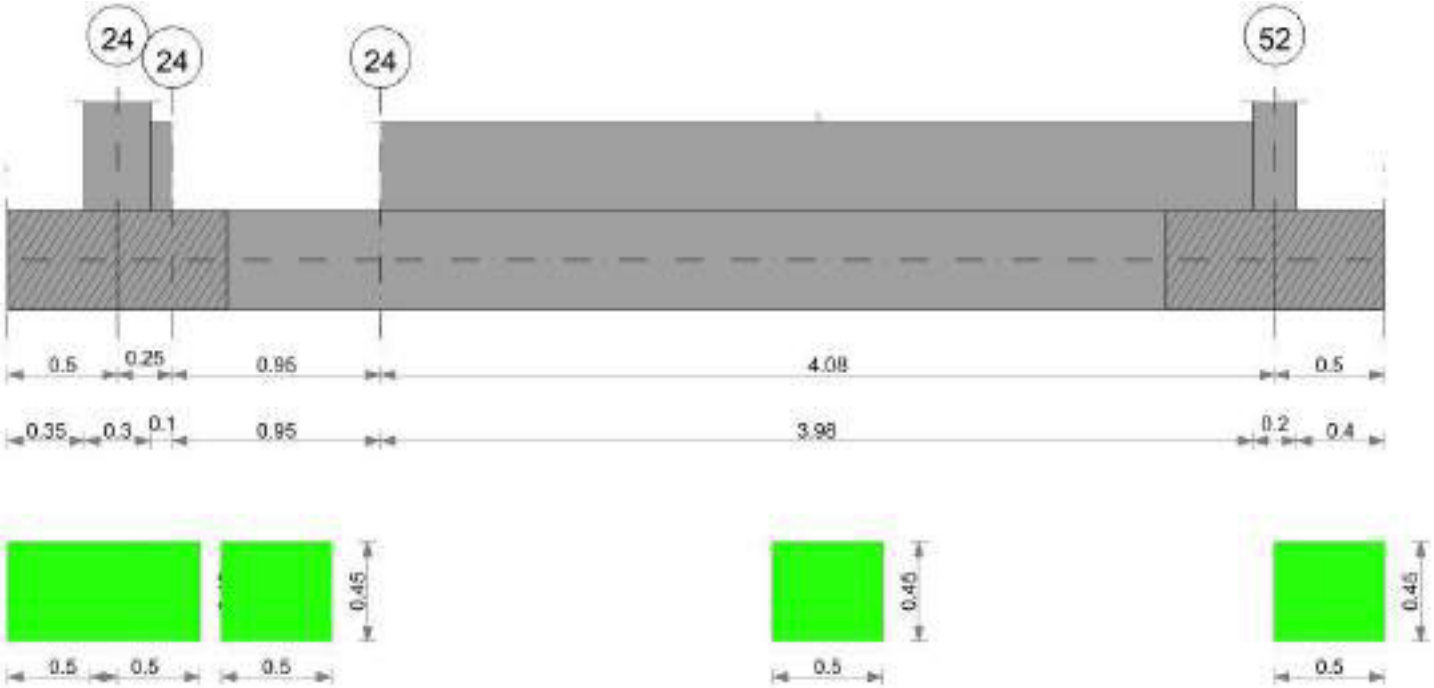
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	742	SLE RA 20	0.05	0	742	731	SLE RA 20	0.05	0	734	SLE RA 14	0.0033	0	SLE FR 6	Si
D	0.05	0	742	SLE RA 1	0.05	0	742	742	SLE RA 1	0.05	0	734	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	742	SLE RA 1	0.05	0	742	742	SLE RA 1	0.05	0	734	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0.01	732	731	SLE RA 20	0.19	0	732	SLE RA 20	0.1	0	734	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	742	734	SLE RA 1	0.19	0	742	SLE RA 1	0.1	0	734	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	742	734	SLE RA 1	0.19	0	742	SLE RA 1	0.1	0	734	SLE RA 1	Si

CORDOLO 8

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

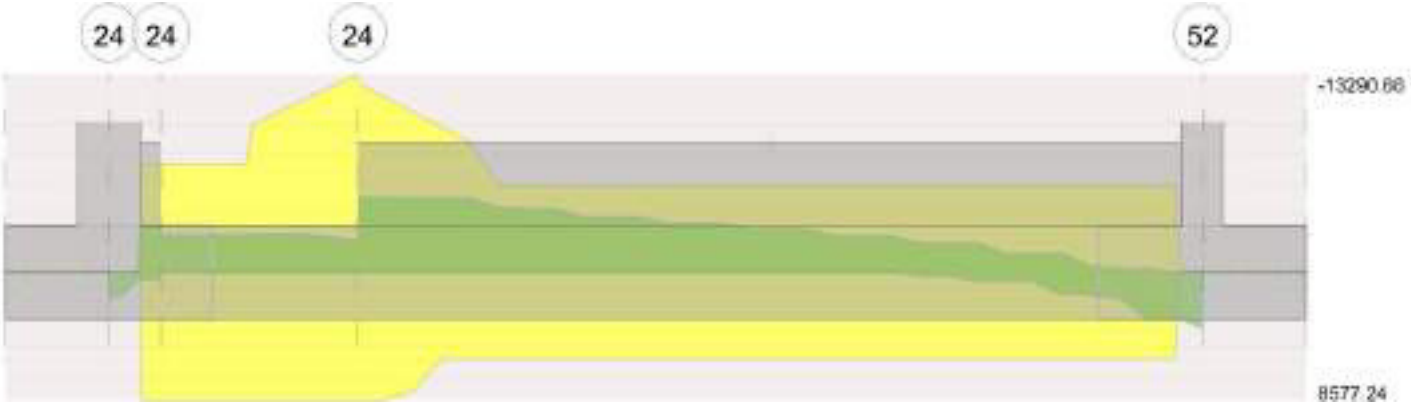


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 3 tra i fili 24 - 24, sezione R 50x45, asta 739

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051							-2205.79	SLU 83	-2509.11	-7750.24	0.114	3.09	Si
0.41	0.000509	0.052	0.000603	0.051							-2608.66	SLU 83	-2614.35	-7750.24	0.114	2.96	Si
0.47	0.000682	0.052	0.000603	0.051							-2579.36	SLU 83	-2614.35	-10133.71	0.124	3.88	Si
0.95	0.000911	0.052	0.000603	0.051							-1624.23	SLU 84	-2134.27	-13290.66	0.141	6.23	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051							-2445.04	SLV FO 11	-2494.38	-7266.96	0.196	2.91	Si
0.28	0.000509	0.052	0.000603	0.051							-2437.66	SLV FO 11	-2494.38	-7266.96	0.196	2.91	Si
0.47	0.000682	0.052	0.000603	0.051							-2212.88	SLV FO 12	-2428.79	-9603.77	0.224	3.95	Si
0.95	0.000911	0.052	0.000603	0.051							-1926.28	SLV FO 14	-2030.05	-12682.89	0.256	6.25	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051							-1979.75	SLD 11	-2104.42	-7266.96	0.196	3.45	Si
0.28	0.000509	0.052	0.000603	0.051							-2107.67	SLD 11	-2112.28	-7266.96	0.196	3.44	Si
0.47	0.000682	0.052	0.000603	0.051							-1999.08	SLD 16	-2104.61	-9603.77	0.224	4.56	Si
0.95	0.000911	0.052	0.000603	0.051							-1585.04	SLD 14	-1785.74	-12682.89	0.256	7.1	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000509	0	-2699	SLU 78	-2699	-7764	-63178	-16909	-16909	1	6.26	Si
0.47	0.0000095	0.000509	0	772	SLU 83	772	7767	63218	13358	13358	1	17.29	Si
0.95	0.0000095	0.000712	0	4006	SLU 83	4006	8465	63248	13364	13364	1	3.34	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000509	0	-3055	SLV FO 10	-3055	-7764	-63178	-16909	-16909	1	5.53	Si
0.47	0.0000095	0.000509	0	2366	SLV FO 7	2366	7767	63218	13358	13358	1	5.65	Si
0.47	0.0000095	0.000509	0	-1566	SLV FO 10	-1566	-7767	-63218	-13358	-13358	1	8.53	Si
0.95	0.0000095	0.000712	0	5312	SLV FO 7	5312	8465	63248	13364	13364	1	2.52	Si
0.95	0.0000095	0.000712	0	-229	SLV FO 10	-229	-8465	-63248	-13364	-13364	1	58.37	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000509	0	-2521	SLD 10	-2521	-7764	-63178	-16909	-16909	1	6.71	Si
0.47	0.0000095	0.000509	0	1466	SLD 7	1466	7767	63218	13358	13358	1	9.11	Si
0.47	0.0000095	0.000509	0	-665	SLD 10	-665	-7767	-63218	-13358	-13358	1	20.08	Si
0.95	0.0000095	0.000712	0	4044	SLD 7	4044	8465	63248	13364	13364	1	3.3	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1599.94	20	-1827.03	95176	1494000	1441024	36000000	-1429.31	2	-1647.34	85816	1120500			Si
0.47	-1887.46	20	-1910.08	98528	1494000	1467357	36000000	-1721.72	2	-1735.97	89547	1120500			Si
0.95	-1204.24	21	-1571.42	80060	1494000	1167088	36000000	-1128.87	2	-1452.97	74026	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 24 - 24, sezione R 50x45, asta 738

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1945	SLU 83	0.051	9503	5558	SLU 83	15877	Si
0.13	0.41	0.0006	1872	SLU 83	0.051	9503	5348	SLU 83	15877	Si
0.15	0.41	0.0006	1857	SLU 83	0.051	9503	5305	SLU 83	15877	Si
0.25	0.41	0.0006	1797	SLU 83	0.051	9503	5133	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1533	SLD 7	0.13	10576	4380	SLD 7	15877	Si
0.13	0.41	0.0006	1479	SLD 7	0.13	10576	4227	SLD 7	15877	Si
0.15	0.41	0.0006	1468	SLD 7	0.13	10576	4195	SLD 7	15877	Si
0.25	0.41	0.0006	1425	SLD 7	0.13	10576	4071	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000603	1414	SLE RA 20	38707	1494000	479969	36000000	1271	SLE QP 2	34803	1120500	Si
0.13	0.41	0.00000603	1360	SLE RA 20	37230	1494000	461652	36000000	1222	SLE QP 2	33449	1120500	Si
0.15	0.41	0.00000603	1349	SLE RA 20	36926	1494000	457883	36000000	1212	SLE QP 2	33170	1120500	Si
0.25	0.41	0.00000603	1305	SLE RA 20	35721	1494000	442944	36000000	1171	SLE QP 2	32065	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 24 - 24, sezione R 50x45, asta 739

Campata 4 tra i fili 24 - 52, sezione R 50x45, aste 740, 741, 742, 743, 744, 745, 746, 747, 748, 749

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1552	SLU 83	0.04	7535	4434	SLU 83	15877	Si
2.04	0.41	0.0002	1463	SLU 83	0.017	2755	4180	SLU 83	15877	Si
3.98	0.41	0.0002	1746	SLU 83	0.017	2755	4989	SLU 83	15877	Si
4.08	0.41	0.0002	1758	SLU 83	0.017	2755	5022	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1250	SLD 7	0.116	8399	3572	SLD 7	15877	Si
2.04	0.41	0.0002	1180	SLD 8	0.07	3100	3373	SLD 8	15877	Si
3.98	0.41	0.0002	1439	SLD 12	0.07	3100	4112	SLD 12	15877	Si
4.08	0.41	0.0002	1449	SLD 12	0.07	3100	4141	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000476	1125	SLE RA 20	31300	1494000	388124	36000000	1006	SLE QP 2	27987	1120500	Si
2.04	0.41	0.00000172	1060	SLE RA 20	30673	1494000	380350	36000000	946	SLE QP 2	27373	1120500	Si
3.98	0.41	0.00000172	1268	SLE RA 20	36704	1494000	455131	36000000	1138	SLE QP 2	32934	1120500	Si
4.08	0.41	0.00000172	1276	SLE RA 20	36949	1494000	458173	36000000	1146	SLE QP 2	33161	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
738,739,740,741,742,743,744,745,746,747,748,749	5.28	1.1	SLU 84	ST	BT	2.3	241793	51364	4.71	Si
738,739,740,741,742,743,744,745,746,747,748,749	5.28	1.1	SLV FO 5	SIS	LT	2.3	86851	25075	3.46	Si
738,739,740,741,742,743,744,745,746,747,748,749	5.28	1.1	SLD 7	SIS	BT	2.3	224593	40814	5.5	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-649	-51364	695.43	-792.73	0	-1	-0.02	0.01	1.07	5.25	1496	2060	0	14430	
0	-8036	-25075	4509.3	-3511.94	0	-18	-0.14	0.18	0.74	5	1496	2060	37	0	0.07
0	3729	-40814	-1748.21	-1171.35	0	5	-0.03	-0.04	1.01	5.22	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.11	1.11	0.94	1.16	1.27	1	0.49	0.47	0.33	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

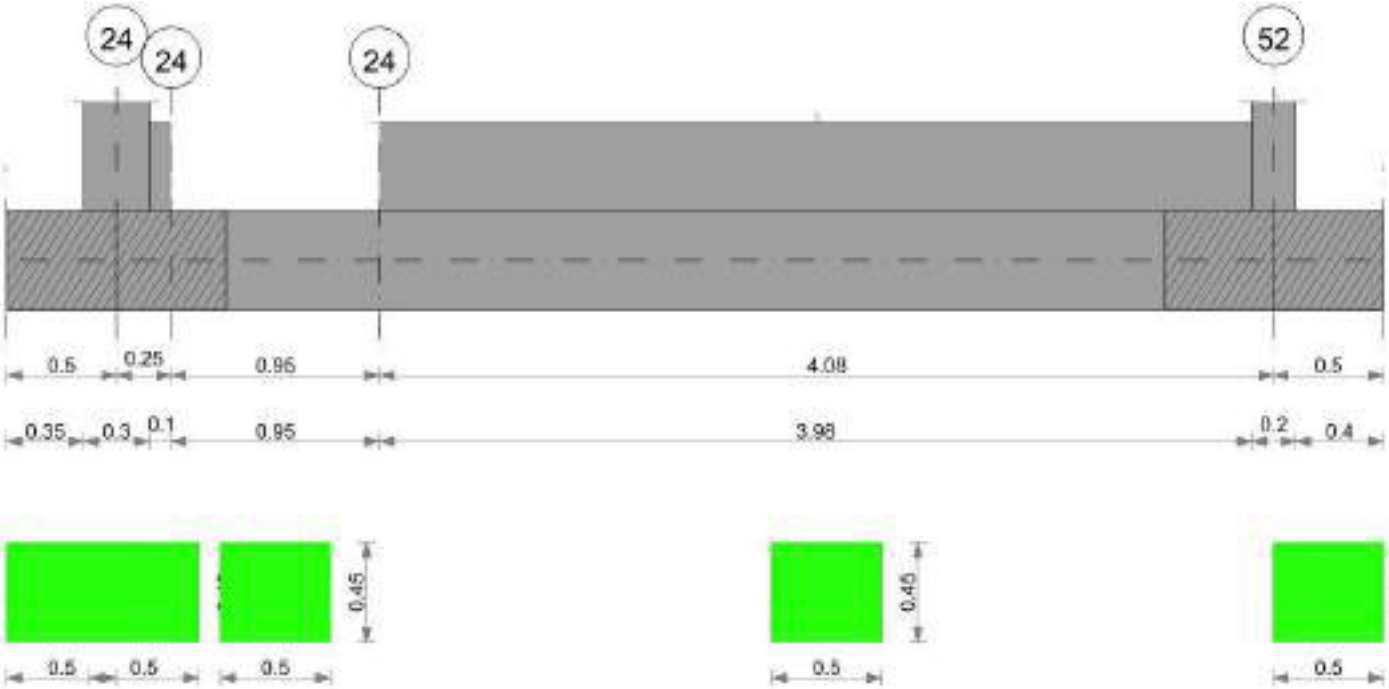
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	868	SLE RA 20	0.05	0	868	870	SLE RA 20	0.05	0	870	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	880	SLE RA 1	0.05	0	880	880	SLE RA 1	0.05	0	870	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	880	SLE RA 1	0.05	0	880	880	SLE RA 1	0.05	0	870	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE FR 6	0.19	0.02	870	869	SLE RA 20	0.19	0	869	SLE RA 15	0.1	0.02	870	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	880	870	SLE RA 1	0.19	0	880	SLE RA 1	0.1	0	870	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	880	870	SLE RA 1	0.19	0	880	SLE RA 1	0.1	0	870	SLE RA 1	Si

CORDOLO 9

Geometria



Caratteristiche dei materiali

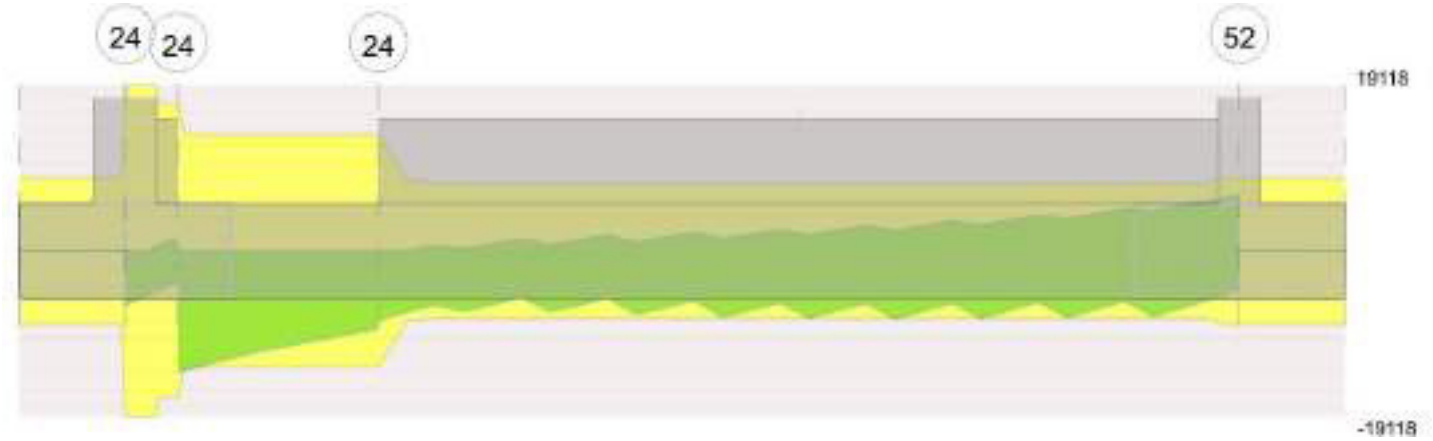
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 24 - 24, sezione R 50x45, asta 727

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051	2228.76	SLU 83	2228.76	9076.41	0.12	4.07							Si
0.47	0.000682	0.052	0.000603	0.051							-2592.64	SLU 83	-4040.39	-10133.71	0.124	2.51	Si
0.76	0.000819	0.052	0.000603	0.051							-4799.69	SLU 83	-5937.41	-12029.78	0.134	2.03	Si
0.95	0.000911	0.052	0.000603	0.051							-5998.44	SLU 83	-5998.44	-13290.66	0.141	2.22	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051	2794.81	SLV FO 11	2794.81	8577.24	0.213	3.07	146.34	SLV FO 6	-481.68	-7266.96	0.196	15.09	Si
0.47	0.000682	0.052	0.000603	0.051							-2212.43	SLV FO 16	-3812.15	-9603.77	0.224	2.52	Si
0.76	0.000819	0.052	0.000603	0.051							-4704.97	SLV FO 15	-6126.95	-11458.44	0.244	1.87	Si
0.95	0.000911	0.052	0.000603	0.051							-6206.43	SLV FO 15	-6206.43	-12682.89	0.256	2.04	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000603	0.051	2195.7	SLD 11	2195.7	8577.24	0.213	3.91	745.45	SLD 6	-203.74	-7266.96	0.196	35.67	Si
0.47	0.000682	0.052	0.000603	0.051							-2005.83	SLD 16	-3332.96	-9603.77	0.224	2.88	Si
0.76	0.000819	0.052	0.000603	0.051							-4060.1	SLD 15	-5198.37	-11458.44	0.244	2.2	Si
0.95	0.000911	0.052	0.000603	0.051							-5261.29	SLD 15	-5261.29	-12682.89	0.256	2.41	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000603	0	-13910	SLU 83	-13910	-8014	-63336	-16952	-16952	1	1.22	Si
0.47	0.0000095	0.000509	0	-10242	SLU 83	-10242	-7767	-63218	-13358	-13358	1	1.3	Si
0.95	0.0000095	0.000712	0	-6825	SLU 83	-6825	-8465	-63248	-13364	-13364	1	1.96	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000603	0	-13938	SLV FO 11	-13938	-8014	-63336	-16952	-16952	1	1.22	Si
0.47	0.0000095	0.000509	0	-11135	SLV FO 15	-11135	-7767	-63218	-13358	-13358	1	1.2	Si
0.95	0.0000095	0.000712	0	-8963	SLV FO 15	-8963	-8465	-63248	-13364	-13364	1	1.49	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000121	0.000603	0	-11807	SLD 11	-11807	-8014	-63336	-16952	-16952	1	1.44	Si
0.03	0.0000095	0.000603	0	-11621	SLD 11	-11621	-8014	-63336	-13383	-13383	1	1.15	Si
0.47	0.0000095	0.000509	0	-9282	SLD 15	-9282	-7767	-63218	-13358	-13358	1	1.44	Si
0.95	0.0000095	0.000712	0	-7079	SLD 15	-7079	-8465	-63248	-13364	-13364	1	1.89	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	1627.52	20	1627.52	85578	1494000	1271746	36000000	1470.58	2	1470.58	77325	1120500			Si
0.47	-1897.22	20	-2955.8	152469	1494000	2270694	36000000	-1730.56	2	-2692.14	138869	1120500			Si
0.95	-4387.86	20	-4387.86	223552	1494000	3258855	36000000	-3993.37	2	-3993.37	203454	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 24 - 24, sezione R 50x45, asta 726

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2068	SLU 83	0.051	9503	5909	SLU 83	15877	Si
0.13	0.41	0.0006	1995	SLU 83	0.051	9503	5701	SLU 83	15877	Si
0.15	0.41	0.0006	1981	SLU 83	0.051	9503	5659	SLU 83	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.25	0.41	0.0006	1922	SLU 83	0.051	9503	5492	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1549	SLD 7	0.13	10576	4426	SLD 7	15877	Si
0.13	0.41	0.0006	1497	SLD 7	0.13	10576	4276	SLD 7	15877	Si
0.15	0.41	0.0006	1486	SLD 7	0.13	10576	4246	SLD 7	15877	Si
0.25	0.41	0.0006	1444	SLD 7	0.13	10576	4125	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000603	1504	SLE RA 20	41175	1494000	510576	36000000	1353	SLE QP 2	37038	1120500	Si
0.13	0.41	0.00000603	1451	SLE RA 20	39715	1494000	492470	36000000	1304	SLE QP 2	35699	1120500	Si
0.15	0.41	0.00000603	1440	SLE RA 20	39421	1494000	488819	36000000	1294	SLE QP 2	35429	1120500	Si
0.25	0.41	0.00000603	1397	SLE RA 20	38242	1494000	474195	36000000	1255	SLE QP 2	34347	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 24 - 24, sezione R 50x45, asta 727

Campata 4 tra i fili 24 - 52, sezione R 50x45, aste 728, 729, 730, 731, 732, 733, 734, 735, 736, 737

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1648	SLU 83	0.04	7535	4710	SLU 83	15877	Si
2.04	0.41	0.0002	1543	SLU 83	0.017	2755	4408	SLU 83	15877	Si
3.98	0.41	0.0002	1813	SLU 83	0.017	2755	5181	SLU 83	15877	Si
4.08	0.41	0.0002	1825	SLU 83	0.017	2755	5214	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1244	SLD 7	0.116	8399	3555	SLD 7	15877	Si
2.04	0.41	0.0002	1158	SLD 8	0.07	3100	3308	SLD 8	15877	Si
3.98	0.41	0.0002	1398	SLD 12	0.07	3100	3993	SLD 12	15877	Si
4.08	0.41	0.0002	1408	SLD 12	0.07	3100	4022	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000476	1196	SLE RA 20	33276	1494000	412620	36000000	1070	SLE QP 2	29780	1120500	Si
2.04	0.41	0.00000172	1119	SLE RA 20	32378	1494000	401491	36000000	999	SLE QP 2	28924	1120500	Si
3.98	0.41	0.00000172	1318	SLE RA 20	38146	1494000	473009	36000000	1183	SLE QP 2	34250	1120500	Si
4.08	0.41	0.00000172	1326	SLE RA 20	38389	1494000	476028	36000000	1191	SLE QP 2	34475	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
726,727,728,729,730,731,732,733,734,735,736,737	5.28	1.1	SLU 84	ST	BT	2.3	241132	53499	4.51	Si
726,727,728,729,730,731,732,733,734,735,736,737	5.28	1.1	SLV FO 5	SIS	LT	2.3	113461	29779	3.81	Si
726,727,728,729,730,731,732,733,734,735,736,737	5.28	1.1	SLD 7	SIS	BT	2.3	223189	40453	5.52	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-649	-53499	695.43	-1370.92	0	-1	-0.03	0.01	1.07	5.23	1496	2060	0	14430	
0	-8036	-29779	4509.3	-3399.54	0	-15	-0.11	0.15	0.8	5.05	1496	2060	37	0	0.07
0	3729	-40453	-1748.21	-1748.84	0	5	-0.04	-0.04	1.01	5.19	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.12	1.12	0.94	1.16	1.27	1	0.56	0.55	0.41	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

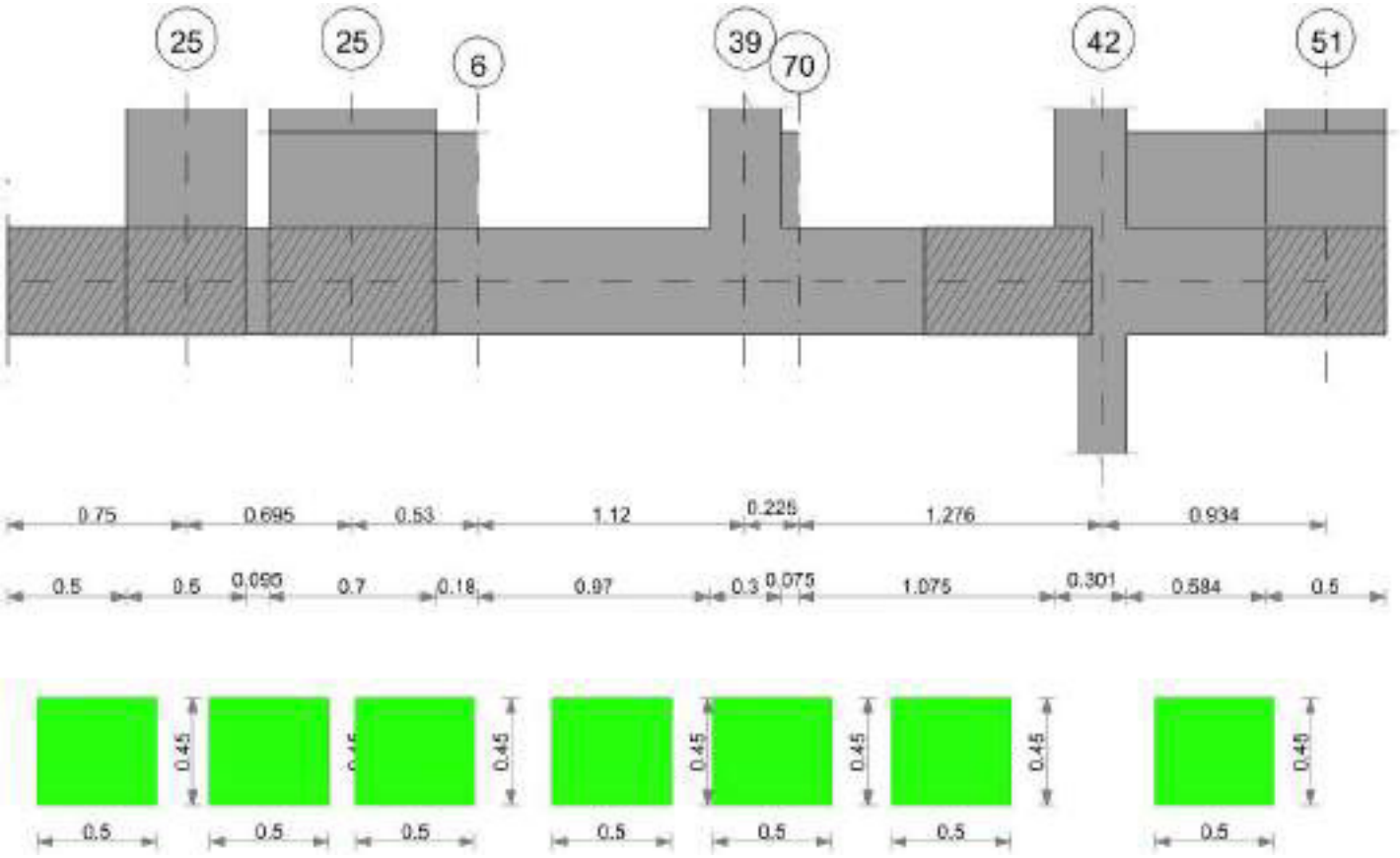
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	826	SLE RA 20	0.05	0	826	828	SLE RA 20	0.05	0	828	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	838	SLE RA 1	0.05	0	838	838	SLE RA 1	0.05	0	828	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	838	SLE RA 1	0.05	0	838	838	SLE RA 1	0.05	0	828	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 4	0.19	0.02	828	827	SLE RA 20	0.19	0	827	SLE RA 21	0.1	0.02	828	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	838	828	SLE RA 1	0.19	0	838	SLE RA 1	0.1	0	828	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	838	828	SLE RA 1	0.19	0	838	SLE RA 1	0.1	0	828	SLE RA 1	Si

CORDOLO 10

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

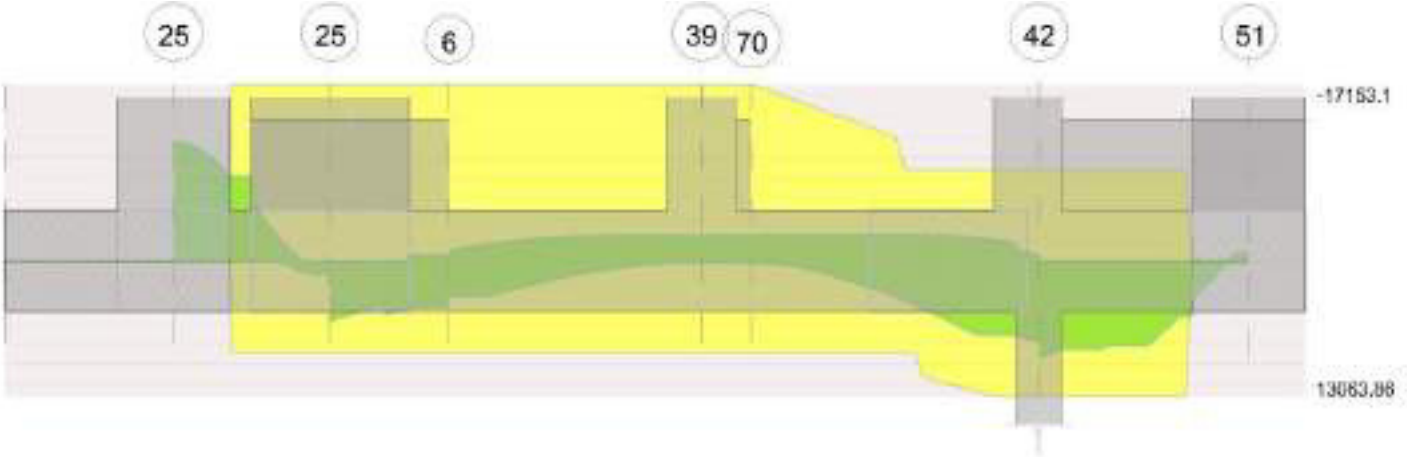
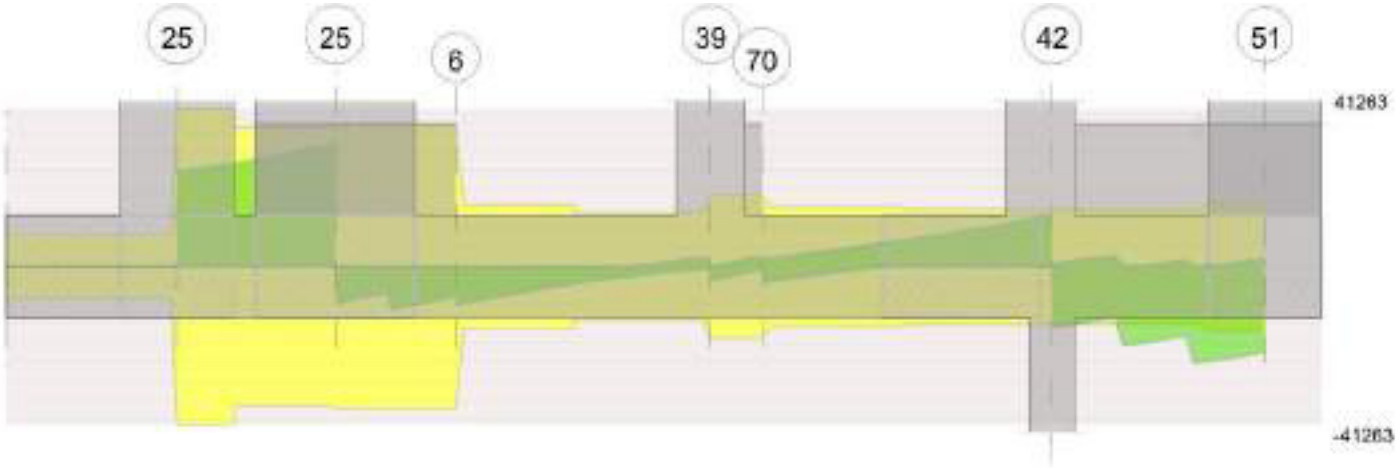


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 25 - 25, sezione R 50x45, asta 538

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-4872.35	SLU 83	-7486.16	-17905.28	0.173	2.39	Si
0.35	0.001257	0.053	0.000628	0.053							-4802.44	SLU 83	-4802.43	-17905.28	0.173	3.73	Si
0.7	0.001257	0.053	0.000628	0.053	5672.17	SLU 83	56.86	9394.23	0.128	165.23							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-5667.91	SLV FO 8	-8227.16	-17153.1	0.299	2.08	Si
0.35	0.001257	0.053	0.000628	0.053							-5599.73	SLV FO 8	-5599.73	-17153.1	0.299	3.06	Si
0.7	0.001257	0.053	0.000628	0.053	5259.16	SLV FO 15	1234.75	8862.89	0.207	7.18							Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.35	0.001257	0.053	0.000628	0.053							-4563.64	SLD 8	-6738.59	-17153.1	0.299	2.55	Si
0.35	0.001257	0.053	0.000628	0.053							-4505.61	SLD 8	-4505.61	-17153.1	0.299	3.81	Si
0.7	0.001257	0.053	0.000628	0.053	4606.02	SLD 15	711.7	8862.89	0.207	12.45							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	24041	SLU 83	24041	8455	71432	41263	41263	1	1.72	Si
0.25	0.000026	0	0	26961	SLU 83	26961	8455	71432	41263	41263	1	1.53	Si
0.35	0.000026	0	0	28071	SLU 83	28071	7751	63019	36403	36403	1	1.3	Si
0.35	0.000026	0	0	28101	SLU 83	28101	7751	63019	36403	36403	1	1.3	Si
0.67	0.000026	0.000628	0	31919	SLU 83	31919	8105	63019	36403	36403	1	1.14	Si
0.7	0.0000266	0.000628	0	32194	SLU 83	32194	8105	63019	37128	37128	1	1.15	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	24918	SLV FO 12	24918	8455	71432	41263	41263	1	1.66	Si
0.25	0.000026	0	0	27068	SLV FO 12	27068	8455	71432	41263	41263	1	1.52	Si
0.35	0.000026	0	0	27892	SLV FO 12	27892	7751	63019	36403	36403	1	1.31	Si
0.35	0.000026	0	0	27914	SLV FO 12	27914	7751	63019	36403	36403	1	1.3	Si
0.67	0.000026	0.000628	0	30789	SLV FO 12	30789	8105	63019	36403	36403	1	1.18	Si
0.7	0.0000266	0.000628	0	30998	SLV FO 12	30998	8105	63019	37128	37128	1	1.2	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000026	0	0	20765	SLD 12	20765	8455	71432	41263	41263	1	1.99	Si
0.25	0.000026	0	0	22817	SLD 12	22817	8455	71432	41263	41263	1	1.81	Si
0.35	0.000026	0	0	23602	SLD 12	23602	7751	63019	36403	36403	1	1.54	Si
0.35	0.000026	0	0	23622	SLD 12	23622	7751	63019	36403	36403	1	1.54	Si
0.67	0.000026	0.000628	0	26341	SLD 12	26341	8105	63019	36403	36403	1	1.38	Si
0.7	0.0000266	0.000628	0	26538	SLD 12	26538	8105	63019	37128	37128	1	1.4	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.35	-3570.19	20	-5482.31	406354	1494000	12393899	36000000	-3250.36	2	-4979.92	369117	1120500			Si
0.35	-3519.04	20	-3519.03	176144	1494000	2495992	36000000	-3204.1	2	-3204.09	160379	1120500			Si
0.7	4143.55	20	29.78	1408	1494000	22362	36000000	3728.97	2	9.59	454	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.35	superiore	0.29	0.00036	0.000105	20	0.29	0.00034	0.000098	6	0.29	0.00033	0.000095	2	Si

Campata 4 tra i fili 6 - 39, sezione R 50x45, asta 541

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	2380.17	SLU 83	2380.17	9394.23	0.128	3.95							Si
0.56	0.001257	0.053	0.000628	0.053							-1033.28	SLU 84	-1526.99	-17905.28	0.173	11.73	Si
0.97	0.001257	0.053	0.000628	0.053							-1741.7	SLU 84	-1741.7	-17905.28	0.173	10.28	Si
1.12	0.001257	0.053	0.000628	0.053							-1626.54	SLU 84	-1626.54	-17905.28	0.173	11.01	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	3425.99	SLV FO 16	3425.99	8862.89	0.207	2.59	-340.41	SLV FO 1	-1074.88	-17153.1	0.299	15.96	Si
0.56	0.001257	0.053	0.000628	0.053	715.7	SLV FO 12	1341.06	8862.89	0.207	6.61	-2135.45	SLV FO 5	-2394.56	-17153.1	0.299	7.16	Si
0.97	0.001257	0.053	0.000628	0.053	150.08	SLV FO 11	250.06	8862.89	0.207	35.44	-2505.69	SLV FO 6	-2505.69	-17153.1	0.299	6.85	Si
1.12	0.001257	0.053	0.000628	0.053	244.85	SLV FO 11	157.02	8862.89	0.207	56.44	-2444.43	SLV FO 6	-2444.43	-17153.1	0.299	7.02	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	2620.66	SLD 16	2620.66	8862.89	0.207	3.38	464.92	SLD 1	-317.3	-17153.1	0.299	54.06	Si
0.56	0.001257	0.053	0.000628	0.053	67.54	SLD 12	646.82	8862.89	0.207	13.7	-1487.29	SLD 5	-1775.06	-17153.1	0.299	9.66	Si
0.97	0.001257	0.053	0.000628	0.053							-1896.42	SLD 6	-1896.42	-17153.1	0.299	9.05	Si
1.12	0.001257	0.053	0.000628	0.053							-1824.95	SLD 6	-1824.95	-17153.1	0.299	9.4	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-9900	SLU 83	-9900	-8105	-63019	-37128	-37128	1	3.75	Si
0.04	0.0000116	0.000628	0	-9514	SLU 83	-9514	-8105	-63019	-16212	-16212	1	1.7	Si
0.56	0.0000101	0.001257	0	-4108	SLU 83	-4108	-10212	-63019	-14056	-14056	1	3.42	Si
0.97	0.0000101	0.001257	0	121	SLU 83	121	10212	63019	14056	14056	1	116.31	Si
1.12	0.0000134	0.001257	0	1669	SLU 83	1669	10212	63019	18756	18756	1	11.24	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-8205	SLV FO 16	-8205	-8105	-63019	-37128	-37128	1	4.52	Si
0.04	0.0000116	0.000628	0	-7930	SLV FO 16	-7930	-8105	-63019	-16212	-16212	1	2.04	Si
0.56	0.0000101	0.000628	0	-4091	SLV FO 16	-4091	-8105	-63019	-14056	-14056	1	3.44	Si
0.97	0.0000101	0.001257	0	1510	SLV FO 3	1510	10212	63019	14056	14056	1	9.31	Si
0.97	0.0000101	0.001257	0	-1336	SLV FO 14	-1336	-10212	-63019	-14056	-14056	1	10.52	Si
1.12	0.0000134	0.001257	0	2604	SLV FO 3	2604	10212	63019	18756	18756	1	7.2	Si
1.12	0.0000134	0.001257	0	-373	SLV FO 14	-373	-10212	-63019	-18756	-18756	1	50.35	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000266	0.000628	0	-7511	SLD 16	-7511	-8105	-63019	-37128	-37128	1	4.94	Si
0.04	0.0000116	0.000628	0	-7244	SLD 16	-7244	-8105	-63019	-16212	-16212	1	2.24	Si
0.56	0.0000101	0.001257	0	-3517	SLD 16	-3517	-10212	-63019	-14056	-14056	1	4	Si
0.97	0.0000101	0.001257	0	911	SLD 3	911	10212	63019	14056	14056	1	15.43	Si
0.97	0.0000101	0.001257	0	-737	SLD 14	-737	-10212	-63019	-14056	-14056	1	19.08	Si
1.12	0.0000134	0.001257	0	1974	SLD 3	1974	10212	63019	18756	18756	1	9.5	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	1736.09	20	1736.09	82092	1494000	1303487	36000000	1542.79	2	1542.79	72952	1120500			Si
0.56	-759.39	21	-1120.3	56076	1494000	794607	36000000	-709.88	2	-1036.92	51903	1120500			Si
0.97	-1276.86	21	-1276.86	63912	1494000	905653	36000000	-1177.81	2	-1177.81	58955	1120500			Si
1.12	-1192.17	21	-1192.17	59674	1494000	845586	36000000	-1099.79	2	-1099.79	55049	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 6 tra i fili 70 - 42, sezione R 50x45, asta 543

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053							-1622.24	SLU 84	-1770.56	-17905.28	0.173	10.11	Si
0.64	0.000871	0.053	0.000628	0.053	-202.11	SLU 8	878.59	9389.48	0.126	10.69	-387.29	SLU 82	-1226.57	-12698.03	0.141	10.35	Si
1.18	0.000628	0.053	0.000942	0.053	4542.27	SLU 83	4542.27	13662.92	0.147	3.01							Si
1.28	0.000628	0.053	0.000942	0.053	5846.18	SLU 83	5164.46	13662.92	0.147	2.65							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053	195.57	SLV FO 11	195.57	8862.89	0.207	45.32	-2381.16	SLV FO 6	-2537.51	-17153.1	0.299	6.76	Si
0.64	0.000871	0.053	0.000628	0.053	2050.1	SLV FO 3	3466.44	8867.15	0.212	2.56	-2523.86	SLV FO 14	-2560.77	-12125.57	0.251	4.74	Si
1.18	0.000628	0.053	0.000942	0.053	7151.85	SLV FO 3	7151.85	13063.86	0.261	1.83	-1041.2	SLV FO 14	-1777.18	-8866.46	0.211	4.99	Si
1.28	0.000628	0.053	0.000942	0.053	8383.22	SLV FO 3	7746.21	13063.86	0.261	1.69	-526.21	SLV FO 14	-526.21	-8866.46	0.211	16.85	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.000628	0.053							-1785.5	SLD 6	-1917.93	-17153.1	0.299	8.94	Si
0.64	0.000871	0.053	0.000628	0.053	1078.58	SLD 3	2251.14	8867.15	0.212	3.94	-1552.34	SLD 14	-1799.67	-12125.57	0.251	6.74	Si
1.18	0.000628	0.053	0.000942	0.053	5419.07	SLD 3	5419.07	13063.86	0.261	2.41	691.58	SLD 14	-308.7	-8866.46	0.211	28.72	Si
1.28	0.000628	0.053	0.000942	0.053	6499.24	SLD 3	5938.49	13063.86	0.261	2.2							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	-1896	SLU 83	-1896	-9543	-63019	-18756	-18756	1	9.89	Si
0.64	0.0000108	0.000628	0	5810	SLU 83	5810	8105	63019	15119	15119	1	2.6	Si
1.18	0.0000108	0.000809	0	12444	SLU 83	12444	8817	63019	15119	15119	1	1.21	Si
1.28	0.0000108	0.000864	0	13688	SLU 83	13688	9013	63019	15119	15119	1	1.1	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	1852	SLV FO 2	1852	9543	63019	18756	18756	1	10.13	Si
0	0.0000134	0.001026	0	-4279	SLV FO 15	-4279	-9543	-63019	-18756	-18756	1	4.38	Si
0.64	0.0000108	0.000628	0	7091	SLV FO 4	7091	8105	63019	15119	15119	1	2.13	Si
1.18	0.0000108	0.000809	0	11898	SLV FO 4	11898	8817	63019	15119	15119	1	1.27	Si
1.28	0.0000108	0.000864	0	12790	SLV FO 4	12790	9013	63019	15119	15119	1	1.18	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000134	0.001026	0	565	SLD 2	565	9543	63019	18756	18756	1	33.21	Si
0	0.0000134	0.001026	0	-2991	SLD 15	-2991	-9543	-63019	-18756	-18756	1	6.27	Si
0.64	0.0000108	0.000628	0	5759	SLD 4	5759	8105	63019	15119	15119	1	2.62	Si
1.18	0.0000108	0.000809	0	10394	SLD 4	10394	8817	63019	15119	15119	1	1.45	Si
1.28	0.0000108	0.000864	0	11259	SLD 4	11259	9013	63019	15119	15119	1	1.34	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1188.95	21	-1296.14	64878	1494000	919332	36000000	-1092.8	2	-1183.78	59254	1120500			Si
0.64	-279.04	19	-895.41	45672	1494000	669822	36000000	-236.88	2	-807.74	41201	1120500			Si
1.18	3333.46	20	3333.46	169416	1494000	2468640	36000000	3055.33	2	3055.33	155281	1120500			Si
1.28	4289.1	20	3789.48	192593	1494000	2806352	36000000	3928.5	2	3472.07	176461	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 25 - 25, sezione R 50x45, asta 538

Campata 3 tra i fili 25 - 6, sezione R 50x45, aste 539, 540

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0013	1650	SLU 83	0.112	20398	5737	SLU 83	51984	Si
0.26	0.41	0.0013	1663	SLU 83	0.112	20398	5784	SLU 83	51984	Si
0.35	0.41	0.0013	1665	SLU 83	0.112	20398	5791	SLU 83	51984	Si
0.53	0.41	0.0013	1666	SLU 83	0.112	20398	5794	SLU 83	51984	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0013	1176	SLD 11	0.191	22680	4091	SLD 11	59782	Si
0.26	0.41	0.0013	1197	SLD 11	0.191	22680	4164	SLD 11	59782	Si
0.35	0.41	0.0013	1202	SLD 11	0.191	22680	4180	SLD 11	59782	Si
0.53	0.41	0.0013	1208	SLD 11	0.191	22680	4203	SLD 11	59782	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00001328	1202	SLE RA 20	30138	1494000	373705	36000000	1081	SLE QP 2	27115	1120500	Si
0.26	0.41	0.00001328	1212	SLE RA 20	30386	1494000	376788	36000000	1090	SLE QP 2	27339	1120500	Si
0.35	0.41	0.00001328	1213	SLE RA 20	30423	1494000	377247	36000000	1091	SLE QP 2	27372	1120500	Si
0.53	0.41	0.00001328	1214	SLE RA 20	30443	1494000	377490	36000000	1092	SLE QP 2	27390	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 6 - 39, sezione R 50x45, asta 541

Campata 5 tra i fili 39 - 70, sezione R 50x45, asta 542

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1660	SLU 83	0.057	10543	5773	SLU 83	26261	Si
0.11	0.41	0.0007	1663	SLU 83	0.057	10543	5784	SLU 83	26261	Si
0.15	0.41	0.0007	1664	SLU 83	0.057	10543	5789	SLU 83	26261	Si
0.22	0.41	0.0007	1668	SLU 83	0.057	10543	5802	SLU 83	26261	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1219	SLD 8	0.137	11726	4240	SLD 8	30200	Si
0.11	0.41	0.0007	1223	SLD 8	0.137	11726	4255	SLD 8	30200	Si
0.15	0.41	0.0007	1225	SLD 8	0.137	11726	4261	SLD 8	30200	Si
0.22	0.41	0.0007	1228	SLD 8	0.137	11726	4273	SLD 8	30200	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000671	1210	SLE RA 20	32840	1494000	407213	36000000	1089	SLE QP 2	29569	1120500	Si
0.11	0.41	0.00000671	1212	SLE RA 20	32901	1494000	407967	36000000	1092	SLE QP 2	29631	1120500	Si
0.15	0.41	0.00000671	1213	SLE RA 20	32931	1494000	408342	36000000	1093	SLE QP 2	29661	1120500	Si

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0.22	0.41	0.00000671	1216	SLE RA 20	33008	1494000	409300	36000000	1096	SLE QP 2	29737	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 6 tra i fili 70 - 42, sezione R 50x45, asta 543

Campata 7 tra i fili 42 - 51, sezione R 50x45, aste 544, 545, 546

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1739	SLU 83	0.046	8537	6049	SLU 83	21168	Si
0.1	0.41	0.0005	1742	SLU 83	0.045	8458	6058	SLU 83	20969	Si
0.47	0.41	0.0005	1733	SLU 83	0.045	8458	6029	SLU 83	20969	Si
0.68	0.41	0.0005	1717	SLU 83	0.045	8458	5971	SLU 83	20969	Si
0.93	0.41	0.0005	1692	SLU 83	0.045	8458	5886	SLU 83	20969	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1254	SLD 8	0.123	9507	4362	SLD 8	24343	Si
0.1	0.41	0.0005	1251	SLD 8	0.123	9419	4353	SLD 8	24114	Si
0.47	0.41	0.0005	1224	SLD 12	0.123	9419	4258	SLD 12	24114	Si
0.68	0.41	0.0005	1201	SLD 12	0.123	9419	4179	SLD 12	24114	Si
0.93	0.41	0.0005	1173	SLD 12	0.123	9419	4080	SLD 12	24114	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000541	1269	SLE RA 20	35012	1494000	434150	36000000	1146	SLE QP 2	31619	1120500	Si
0.1	0.41	0.00000536	1271	SLE RA 20	35088	1494000	435097	36000000	1148	SLE QP 2	31692	1120500	Si
0.47	0.41	0.00000536	1265	SLE RA 20	34920	1494000	433010	36000000	1143	SLE QP 2	31554	1120500	Si
0.68	0.41	0.00000536	1253	SLE RA 20	34587	1494000	428873	36000000	1132	SLE QP 2	31259	1120500	Si
0.93	0.41	0.00000536	1235	SLE RA 20	34098	1494000	422816	36000000	1116	SLE QP 2	30824	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
538,539,540,541,542,543,544,545,546	5.03	1.1	SLU 83	ST	BT	2.3	224937	66556	3.38	Si
538,539,540,541,542,543,544,545,546	5.03	1.1	SLV FO 9	SIS	LT	2.3	148815	38989	3.82	Si
538,539,540,541,542,543,544,545,546	5.03	1.1	SLD 8	SIS	BT	2.3	225258	48545	4.64	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	439	-66556	1702.72	1396.85	0	0	0.02	0.03	1.05	4.99	1496	2060	0	14430	
0	-7755	-38989	4900.97	1607.23	0	-11	0.04	0.13	0.85	4.95	1496	2060	37	0	0.07
0	4626	-48545	-907.6	695.49	0	5	0.01	-0.02	1.06	5	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.13	1.13	0.93	1.16	1.27	1	0.66	0.65	0.53	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

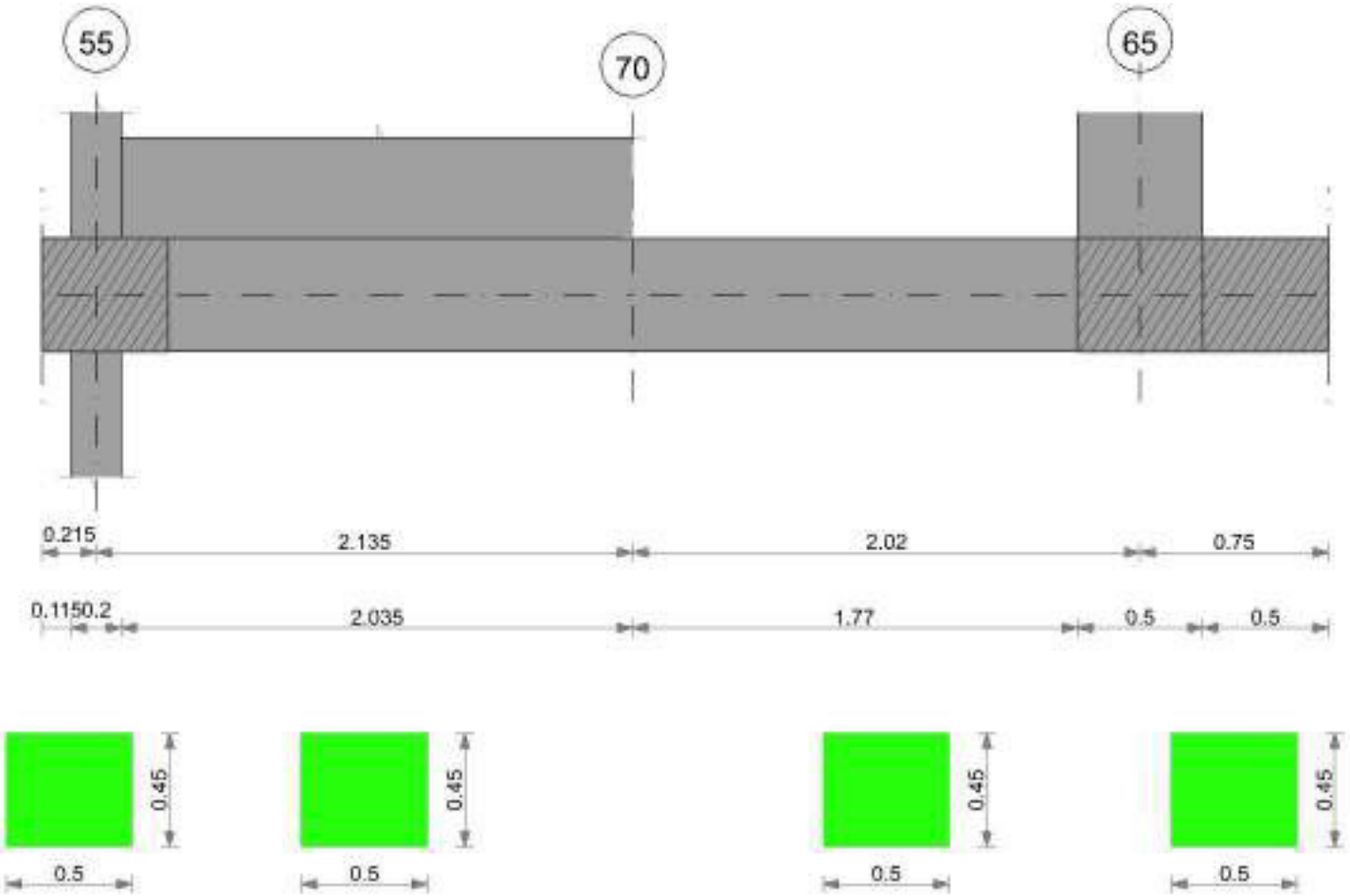
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	749	SLE RA 20	0.05	0.001	749	743	SLE RA 21	0.05	0	749	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	752	SLE RA 1	0.05	0	752	752	SLE RA 1	0.05	0	749	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	752	SLE RA 1	0.05	0	752	752	SLE RA 1	0.05	0	749	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0.01	752	749	SLE RA 20	0.19	0.03	749	SLE RA 20	0.1	0.01	747	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	752	749	SLE RA 1	0.19	0	752	SLE RA 1	0.1	0	749	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	752	749	SLE RA 1	0.19	0	752	SLE RA 1	0.1	0	749	SLE RA 1	Si

CORDOLO 11

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

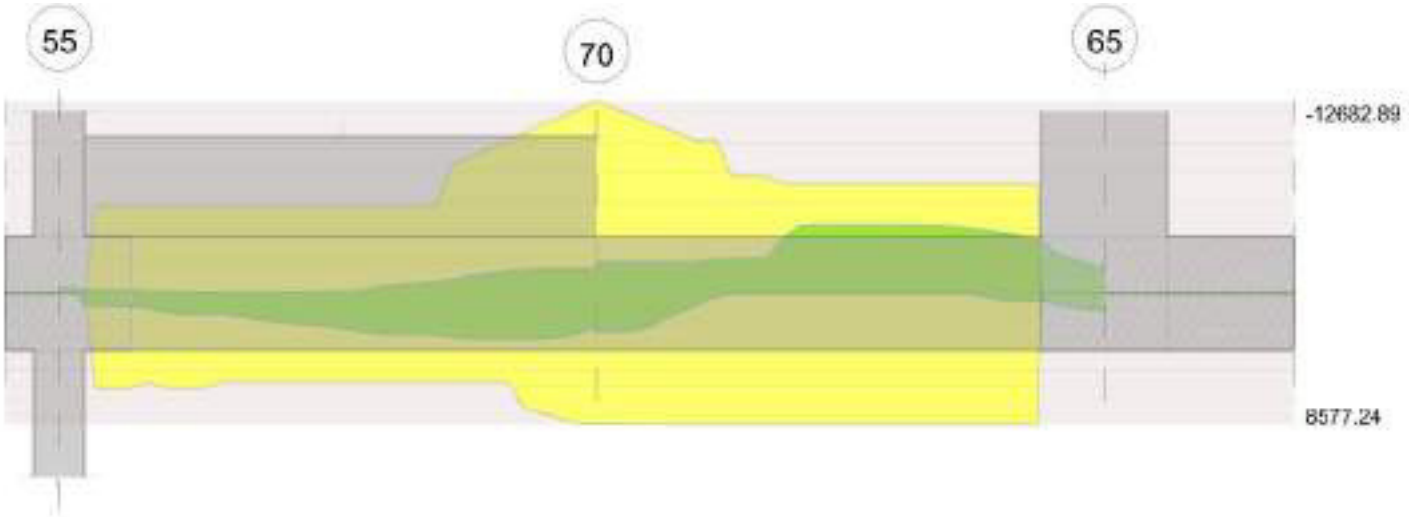
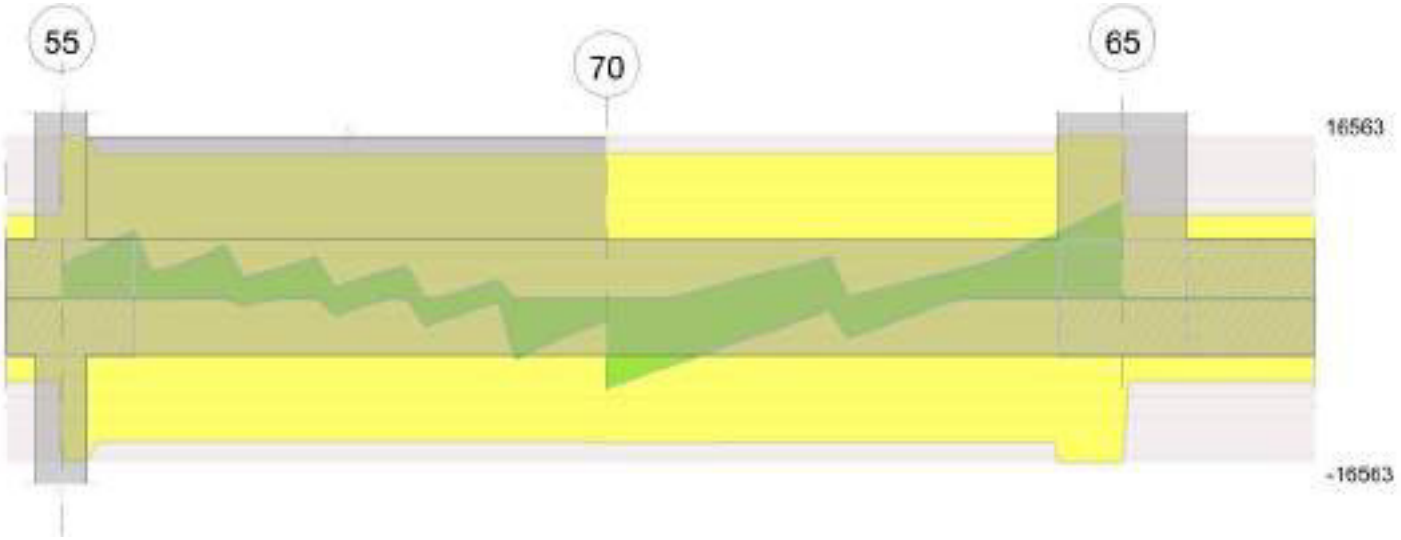


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 70 - 65, sezione R 50x45, aste 762, 763

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000603	0.051	456.6	SLU 83	456.6	9082.58	0.122	19.89	237.4	SLU 2	-801.26	-13290.66	0.141	16.59	Si
1.01	0.000509	0.052	0.000603	0.051							-3571.11	SLU 84	-3768.44	-7750.24	0.114	2.06	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000603	0.051	2446.35	SLV FO 15	2446.35	8575.42	0.206	3.51	-1885.62	SLV FO 2	-2099.61	-12682.89	0.256	6.04	Si
1.01	0.000509	0.052	0.000603	0.051							-4480.16	SLV FO 10	-4493.01	-7266.96	0.196	1.62	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000603	0.051	1538.81	SLD 15	1538.81	8575.42	0.206	5.57	-978.08	SLD 2	-1449.42	-12682.89	0.256	8.75	Si
1.01	0.000509	0.052	0.000603	0.051							-3518.45	SLD 10	-3574.14	-7266.96	0.196	2.03	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000603	0	-8094	SLU 83	-8094	-8014	-63336	-14686	-14686	1	1.81	Si
1.01	0.0000105	0.000509	0	-2210	SLU 83	-2210	-7764	-63178	-14649	-14649	1	6.63	Si
1.77	0.0000105	0	0	6705	SLU 84	6705	8455	71432	16563	16563	1	2.47	Si
2.02	0.0000105	0	0	9695	SLU 84	9695	8455	71432	16563	16563	1	1.71	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000603	0	-9087	SLV FO 14	-9087	-8014	-63336	-14686	-14686	1	1.62	Si
1.01	0.0000105	0.000509	0	538	SLV FO 2	538	7764	63178	14649	14649	1	27.21	Si
1.01	0.0000105	0.000509	0	-3430	SLV FO 15	-3430	-7764	-63178	-14649	-14649	1	4.27	Si
1.77	0.0000105	0	0	5518	SLV FO 6	5518	8455	71432	16563	16563	1	3	Si
2.02	0.0000105	0	0	7285	SLV FO 6	7285	8455	71432	16563	16563	1	2.27	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.000603	0	-7533	SLD 14	-7533	-8014	-63336	-14686	-14686	1	1.95	Si
1.01	0.0000105	0.000509	0	-2583	SLD 15	-2583	-7764	-63178	-14649	-14649	1	5.67	Si
1.77	0.0000105	0	0	5051	SLD 6	5051	8455	71432	16563	16563	1	3.28	Si
2.02	0.0000105	0	0	6919	SLD 6	6919	8455	71432	16563	16563	1	2.39	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	327.33	20	327.33	16207	1494000	250150	36000000	280.36	2	280.36	13882	1120500			Si
1.01	-2624.28	21	-2767.06	144145	1494000	2182445	36000000	-2380.23	2	-2509.89	130749	1120500			Si
1.77	-1367.15	21	-2106.28	-124817	1494000	0	36000000	-1230.11	2	-1905.37	-112911	1120500			Si
2.02	162.79	6	162.79	9647	1494000	0	36000000	145.59	1	145.59	8628	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 55 - 70, sezione R 50x45, aste 756, 757, 758, 759, 760, 761

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1723	SLU 83	0.044	8185	5992	SLU 83	20279	Si
0.1	0.41	0.0005	1724	SLU 83	0.044	8185	5997	SLU 83	20279	Si
1.07	0.41	0.0005	1725	SLU 83	0.044	8185	5999	SLU 83	20279	Si
2.14	0.41	0.0005	1666	SLU 83	0.044	8256	5796	SLU 83	20459	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1200	SLD 16	0.121	9117	4174	SLD 16	23321	Si
0.1	0.41	0.0005	1206	SLD 16	0.121	9117	4194	SLD 16	23321	Si
1.07	0.41	0.0005	1252	SLD 16	0.121	9117	4353	SLD 16	23321	Si
2.14	0.41	0.0005	1242	SLD 16	0.121	9196	4319	SLD 16	23528	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000518	1258	SLE RA 20	34798	1494000	431490	36000000	1138	SLE QP 2	31476	1120500	Si
0.1	0.41	0.00000518	1258	SLE RA 20	34823	1494000	431804	36000000	1138	SLE QP 2	31497	1120500	Si
1.07	0.41	0.00000518	1258	SLE RA 20	34820	1494000	431764	36000000	1138	SLE QP 2	31478	1120500	Si
2.14	0.41	0.00000523	1215	SLE RA 20	33604	1494000	416684	36000000	1098	SLE QP 2	30373	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 70 - 65, sezione R 50x45, aste 762, 763

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
756,757,758,759,760,761,762,763	4.16	1.1	SLU 84	ST	BT	2.3	189885	56971	3.33	Si
756,757,758,759,760,761,762,763	4.16	1.1	SLV FO 6	SIS	LT	2.3	137447	34447	3.99	Si
756,757,758,759,760,761,762,763	4.16	1.1	SLD 14	SIS	BT	2.3	185802	41319	4.5	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-400	-56971	897.68	-1485.68	0	0	-0.03	0.02	1.07	4.1	1496	2060	0	14430	
0	-6436	-34447	3516.55	-2271.91	0	-11	-0.07	0.1	0.9	4.02	1496	2060	37	0	0.07
0	-1330	-41319	1098.93	770.11	0	-2	0.02	0.03	1.05	4.12	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.17	1.17	0.91	1.16	1.27	1	0.69	0.68	0.56	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

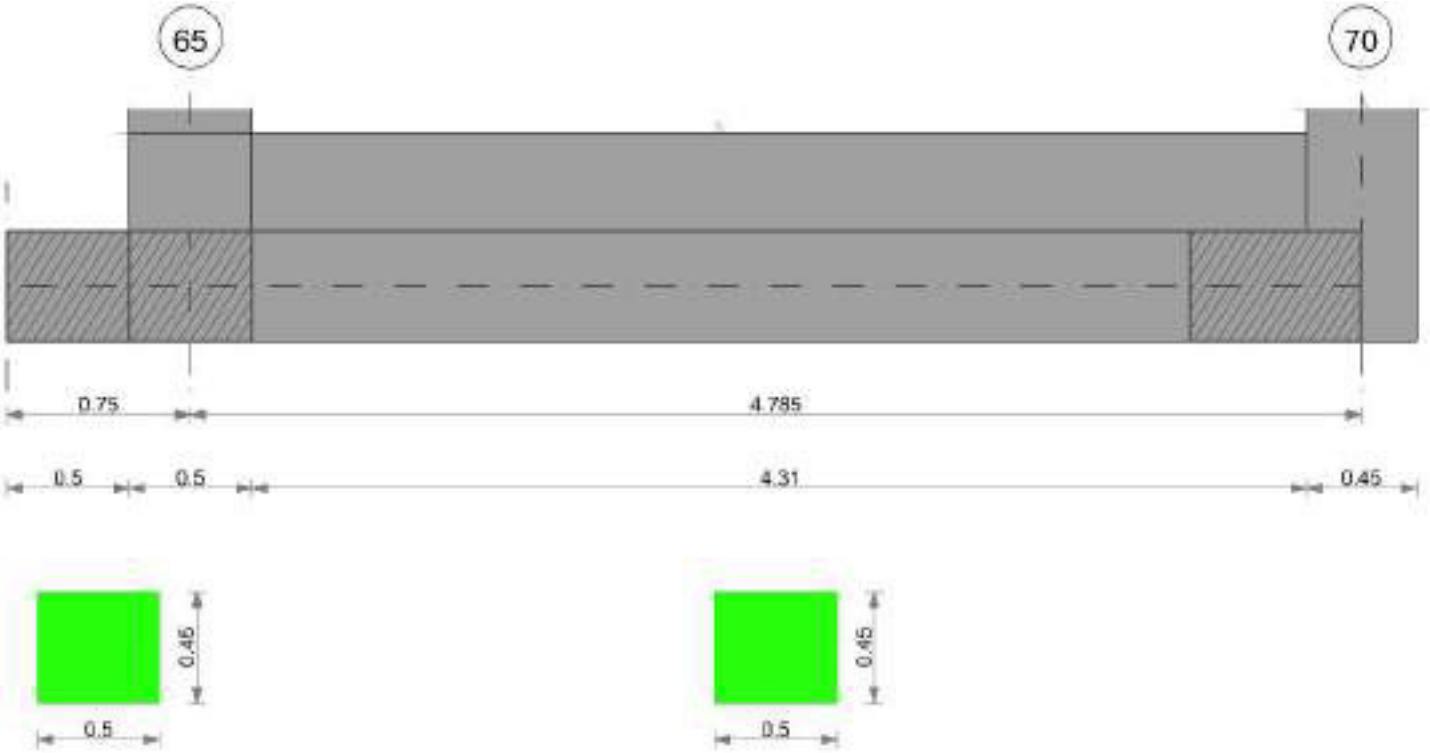
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	753	SLE RA 20	0.05	0.001	753	761	SLE RA 21	0.05	0	759	SLE FR 3	0.0033	0	SLE FR 3	Si
D	0.05	0	761	SLE RA 1	0.05	0	761	761	SLE RA 1	0.05	0	759	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	761	SLE RA 1	0.05	0	761	761	SLE RA 1	0.05	0	759	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	759	753	SLE RA 20	0.19	0	761	SLE RA 1	0.1	0.01	759	SLE FR 3	Si
D	0.19	0	SLE RA 1	0.19	0	761	759	SLE RA 1	0.19	0	761	SLE RA 1	0.1	0	759	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	761	759	SLE RA 1	0.19	0	761	SLE RA 1	0.1	0	759	SLE RA 1	Si

CORDOLO 12

Geometria



Caratteristiche dei materiali

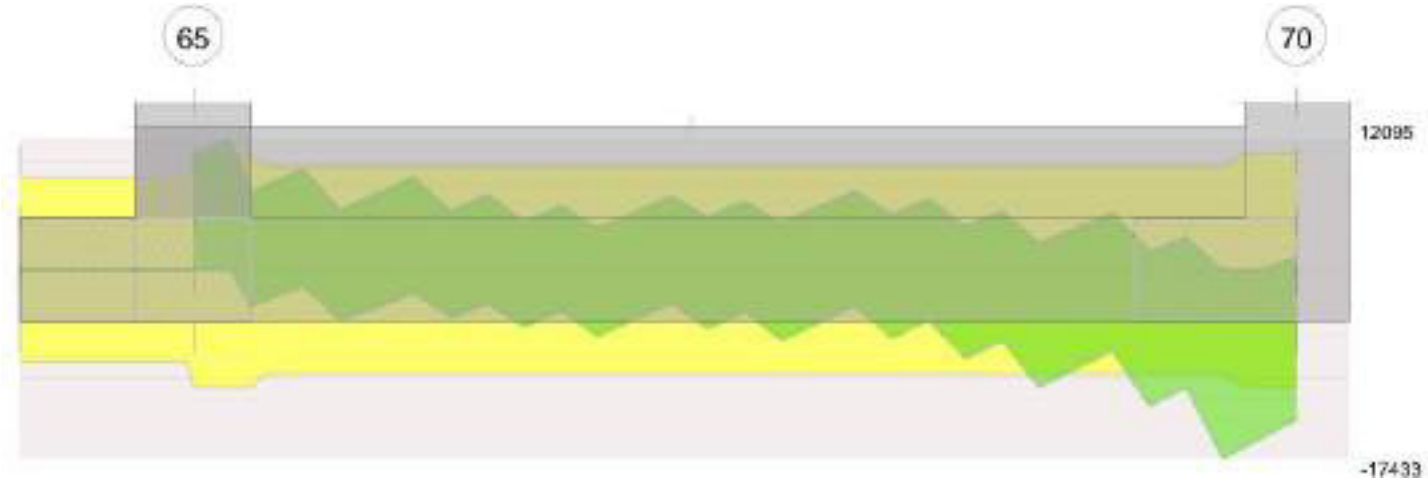
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 65 - 70, sezione R 50x45, aste 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1735	SLU 83	0.029	5423	6034	SLU 83	15877	Si
0.25	0.41	0.0003	1765	SLU 83	0.029	5423	6140	SLU 83	15877	Si
2.39	0.41	0.0003	1972	SLU 83	0.029	5423	6859	SLU 83	15877	Si
4.56	0.41	0.0003	2150	SLV FO 15	0.119	5224	7479	SLV FO 15	15877	Si
4.79	0.41	0.0003	2224	SLV FO 15	0.119	5224	7736	SLV FO 15	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1291	SLD 15	0.098	6061	4490	SLD 15	15877	Si
0.25	0.41	0.0003	1317	SLD 16	0.098	6061	4581	SLD 16	15877	Si
2.39	0.41	0.0003	1584	SLD 15	0.098	6061	5510	SLD 15	15877	Si
4.56	0.41	0.0003	1840	SLD 15	0.098	6061	6399	SLD 15	15877	Si
4.79	0.41	0.0003	1897	SLD 15	0.098	6061	6598	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000341	1265	SLE RA 20	35821	1494000	444182	36000000	1146	SLE QP 2	32430	1120500	Si
0.25	0.41	0.00000341	1288	SLE RA 20	36453	1494000	452022	36000000	1166	SLE QP 2	33010	1120500	Si
2.39	0.41	0.00000341	1440	SLE RA 20	40775	1494000	505611	36000000	1308	SLE QP 2	37029	1120500	Si
4.56	0.41	0.00000341	1544	SLE RA 20	43714	1494000	542056	36000000	1408	SLE QP 2	39847	1120500	Si
4.79	0.41	0.00000341	1581	SLE RA 20	44754	1494000	554951	36000000	1442	SLE QP 2	40814	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
547,548,549,550,551,552,553,554,555,556,557,558,559	5.01	1.1	SLU 84	ST	BT	2.3	230919	75195	3.07	Si
547,548,549,550,551,552,553,554,555,556,557,558,559	5.01	1.1	SLV FO 14	SIS	BT	2.3	206178	65783	3.13	Si
547,548,549,550,551,552,553,554,555,556,557,558,559	5.01	1.1	SLD 14	SIS	BT	2.3	215749	59754	3.61	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-550	-75195	274.37	3848.98	0	0	0.05	0	1.09	4.91	1496	2060	0	14430	
0	-3823	-65783	1881.98	11876.15	0	-3	0.18	0.03	1.04	4.65	1496	2060	0	14430	0.07
0	-2230	-59754	1098.3	8046.26	0	-2	0.13	0.02	1.06	4.74	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

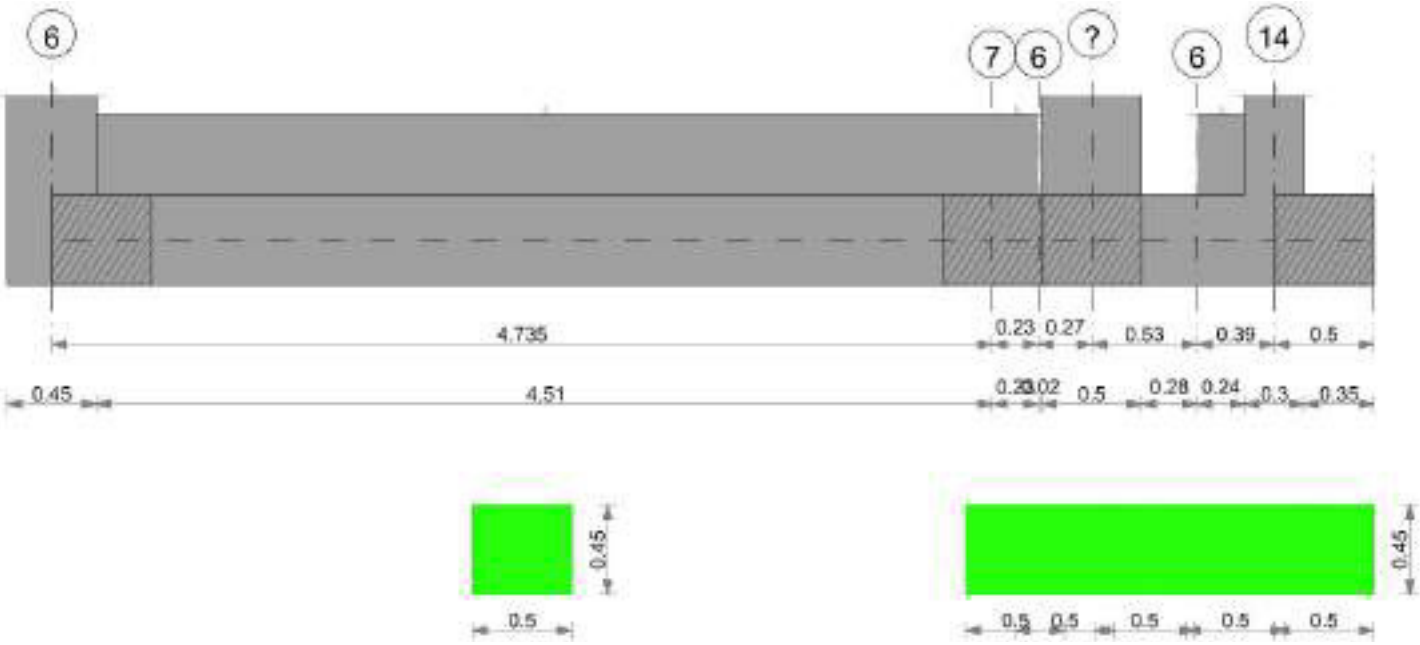
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	762	SLE RA 20	0.05	0.001	762	775	SLE RA 20	0.05	0	775	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	775	SLE RA 1	0.05	0	775	775	SLE RA 1	0.05	0	775	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	775	SLE RA 1	0.05	0	775	775	SLE RA 1	0.05	0	775	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	775	762	SLE RA 20	0.19	0	775	SLE RA 1	0.1	0	775	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	775	762	SLE RA 1	0.19	0	775	SLE RA 1	0.1	0	775	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	775	762	SLE RA 1	0.19	0	775	SLE RA 1	0.1	0	775	SLE RA 1	Si

CORDOLO 13

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

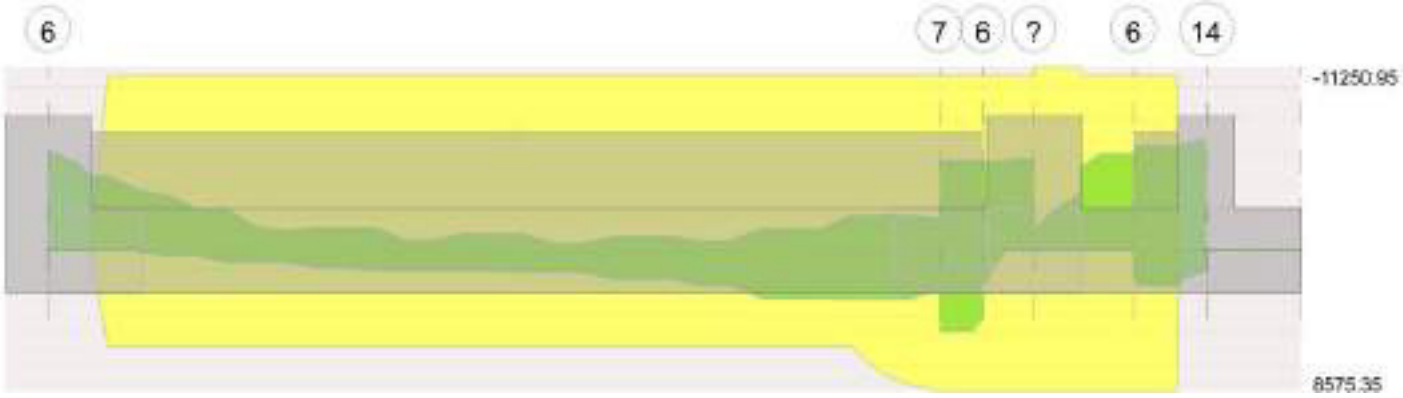
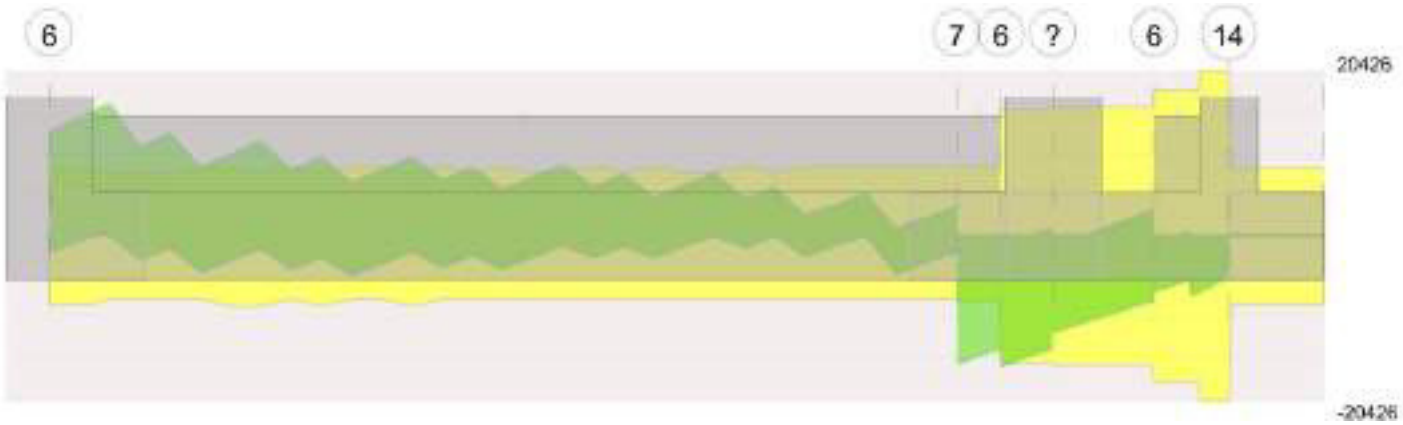


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 6 - ?, sezione R 50x45, asta 234

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-2647.34	SLU 83	-2907.5	-11250.95	0.13	3.87	Si
0.02	0.000763	0.052	0.000603	0.051							-2907.5	SLU 83	-2907.5	-11250.95	0.13	3.87	Si
0.14	0.000763	0.052	0.000603	0.051							-4306.72	SLU 83	-4048.59	-11250.95	0.13	2.78	Si
0.27	0.000763	0.052	0.000603	0.051							-5739	SLU 83	-4518.3	-11250.95	0.13	2.49	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051	1868.95	SLV FO 9	1868.95	8575.35	0.209	4.59	-5389.48	SLV FO 8	-5414.58	-10722.22	0.236	1.98	Si
0.02	0.000763	0.052	0.000603	0.051	1549.13	SLV FO 9	1868.95	8575.35	0.209	4.59	-5414.58	SLV FO 8	-5414.58	-10722.22	0.236	1.98	Si
0.14	0.000763	0.052	0.000603	0.051							-5561.25	SLV FO 4	-5542.46	-10722.22	0.236	1.93	Si
0.27	0.000763	0.052	0.000603	0.051							-5731.21	SLV FO 4	-5651.82	-10722.22	0.236	1.9	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051	227.85	SLD 9	227.85	8575.35	0.209	37.64	-3748.39	SLD 8	-3844.55	-10722.22	0.236	2.79	Si
0.02	0.000763	0.052	0.000603	0.051	-20.9	SLD 13	227.85	8575.35	0.209	37.64	-3844.55	SLD 4	-3844.55	-10722.22	0.236	2.79	Si
0.14	0.000763	0.052	0.000603	0.051							-4407.36	SLD 4	-4323.39	-10722.22	0.236	2.48	Si
0.27	0.000763	0.052	0.000603	0.051							-4913.46	SLD 4	-4520.5	-10722.22	0.236	2.37	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000112	0.000763	0	-13216	SLU 84	-13216	-8659	-63178	-15657	-15657	1	1.18	Si
0.02	0.0000112	0.000763	0	-12965	SLU 84	-12965	-8659	-63178	-15657	-15657	1	1.21	Si
0.14	0.0000112	0.000763	0	-11526	SLU 84	-11526	-8659	-63178	-15657	-15657	1	1.36	Si
0.27	0.0000114	0.000763	0	-9851	SLU 84	-9851	-8659	-63178	-15952	-15952	1	1.62	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000112	0.000603	0	-16095	SLV FO 9	-16095	-8014	-63336	-15696	-15696	1	1.00	No
0.02	0.0000112	0.000603	0	-15931	SLV FO 9	-15931	-8014	-63336	-15696	-15696	1	1.00	No
0.14	0.0000112	0.000763	0	-14998	SLV FO 9	-14998	-8659	-63178	-15657	-15657	1	1.04	Si
0.27	0.0000114	0.000763	0	992	SLV FO 8	992	8659	63178	15952	15952	1	16.08	Si
0.27	0.0000114	0.000763	0	-13925	SLV FO 9	-13925	-8659	-63178	-15952	-15952	1	1.15	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000112	0.000603	0	-12729	SLD 9	-12729	-8014	-63336	-15696	-15696	1	1.23	Si
0.02	0.0000112	0.000763	0	-12564	SLD 9	-12564	-8659	-63178	-15657	-15657	1	1.25	Si
0.14	0.0000112	0.000763	0	-11622	SLD 9	-11622	-8659	-63178	-15657	-15657	1	1.35	Si
0.27	0.0000114	0.000763	0	-10532	SLD 9	-10532	-8659	-63178	-15952	-15952	1	1.51	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1938.92	20	-2129	109351	1494000	1616291	36000000	-1760.27	2	-1932.73	99270	1120500			Si
0.02	-2129	20	-2129	109351	1494000	1616291	36000000	-1932.73	2	-1932.73	99270	1120500			Si
0.14	-3151.17	20	-2962.69	152172	1494000	2249217	36000000	-2859.92	2	-2689.13	138121	1120500			Si
0.27	-4197.21	20	-3305.87	169799	1494000	2509750	36000000	-3808.19	2	-3000.49	154114	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili ? - 6, sezione R 50x45, asta 235

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-1359.71	SLU 83	-1359.71	-11250.95	0.13	8.27	Si
0.25	0.000763	0.052	0.000603	0.051							-3541.84	SLU 84	-4637.78	-11250.95	0.13	2.43	Si
0.26	0.000763	0.052	0.000603	0.051							-3648.71	SLU 84	-4711.73	-11250.95	0.13	2.39	Si

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.41	0.000763	0.052	0.000603	0.051							-4518.58	SLU 84	-5080.19	-11250.95	0.13	2.21	Si
0.53	0.000763	0.052	0.000603	0.051							-5080.19	SLU 84	-5080.19	-11250.95	0.13	2.21	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-1275.7	SLV FO 4	-1275.7	-10722.22	0.236	8.4	Si
0.25	0.000763	0.052	0.000603	0.051							-3383.03	SLV FO 9	-5059.34	-10722.22	0.236	2.12	Si
0.26	0.000763	0.052	0.000603	0.051							-3531.8	SLV FO 9	-5188.93	-10722.22	0.236	2.07	Si
0.41	0.000763	0.052	0.000603	0.051							-4855.9	SLV FO 9	-5895.4	-10722.22	0.236	1.82	Si
0.53	0.000763	0.052	0.000603	0.051							-5895.4	SLV FO 9	-5895.4	-10722.22	0.236	1.82	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000603	0.051							-1130.98	SLD 4	-1130.98	-10722.22	0.236	9.48	Si
0.25	0.000763	0.052	0.000603	0.051							-2905.65	SLD 9	-4135.05	-10722.22	0.236	2.59	Si
0.26	0.000763	0.052	0.000603	0.051							-3017.74	SLD 9	-4226.74	-10722.22	0.236	2.54	Si
0.41	0.000763	0.052	0.000603	0.051							-3990.15	SLD 9	-4715.79	-10722.22	0.236	2.27	Si
0.53	0.000763	0.052	0.000603	0.051							-4715.79	SLD 9	-4715.79	-10722.22	0.236	2.27	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000114	0.000763	0	-10274	SLU 84	-10274	-8659	-63178	-15952	-15952	1	1.55	Si
0.25	0.0000114	0.000763	0	-7200	SLU 84	-7200	-8659	-63178	-15952	-15952	1	2.22	Si
0.26	0.0000114	0.000763	0	-7017	SLU 84	-7017	-8659	-63178	-15952	-15952	1	2.27	Si
0.53	0.0000129	0.000763	0	-3790	SLU 84	-3790	-8659	-63178	-18065	-18065	1	4.77	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000114	0.000763	0	-11988	SLV FO 9	-11988	-8659	-63178	-15952	-15952	1	1.33	Si
0.25	0.0000114	0.000763	0	797	SLV FO 8	797	8659	63178	15952	15952	1	20.02	Si
0.25	0.0000114	0.000763	0	-10051	SLV FO 9	-10051	-8659	-63178	-15952	-15952	1	1.59	Si
0.26	0.0000114	0.000763	0	927	SLV FO 8	927	8659	63178	15952	15952	1	17.2	Si
0.26	0.0000114	0.000763	0	-9937	SLV FO 9	-9937	-8659	-63178	-15952	-15952	1	1.61	Si
0.53	0.0000129	0.000763	0	3257	SLV FO 8	3257	8659	63178	18065	18065	1	5.55	Si
0.53	0.0000129	0.000763	0	-7965	SLV FO 9	-7965	-8659	-63178	-18065	-18065	1	2.27	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000114	0.000763	0	-9547	SLD 9	-9547	-8659	-63178	-15952	-15952	1	1.67	Si
0.25	0.0000114	0.000763	0	-7566	SLD 9	-7566	-8659	-63178	-15952	-15952	1	2.11	Si
0.26	0.0000114	0.000763	0	-7448	SLD 9	-7448	-8659	-63178	-15952	-15952	1	2.14	Si
0.53	0.0000129	0.000763	0	692	SLD 8	692	8659	63178	18065	18065	1	26.09	Si
0.53	0.0000129	0.000763	0	-5400	SLD 9	-5400	-8659	-63178	-18065	-18065	1	3.35	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1005.8	20	-1005.8	51661	1494000	763582	36000000	-937.27	2	-937.27	48141	1120500			Si
0.25	-2591	21	-3384.52	173838	1494000	2569457	36000000	-2349.52	2	-3049.08	156610	1120500			Si
0.26	-2668.51	21	-3437.92	176581	1494000	2609998	36000000	-2418.17	2	-3095.79	159008	1120500			Si
0.53	-3703.49	21	-3703.49	190222	1494000	2811617	36000000	-3326.65	2	-3326.65	170866	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 7, sezione R 50x45, aste 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2258	SLV FO 2	0.086	2676	7854	SLV FO 2	15877	Si
0.23	0.41	0.0002	2206	SLV FO 1	0.086	2676	7672	SLV FO 1	15877	Si
2.37	0.41	0.0002	2026	SLU 84	0.017	2751	7047	SLU 84	15877	Si
4.74	0.41	0.0002	1793	SLU 84	0.02	3486	6236	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1909	SLD 2	0.07	3097	6641	SLD 2	15877	Si
0.23	0.41	0.0002	1871	SLD 1	0.07	3097	6508	SLD 1	15877	Si
2.37	0.41	0.0002	1657	SLD 1	0.07	3097	5765	SLD 1	15877	Si
4.74	0.41	0.0002	1353	SLD 1	0.079	3914	4707	SLD 1	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	1567	SLE RA 21	45369	1494000	562576	36000000	1425	SLE QP 2	41263	1120500	Si
0.23	0.41	0.00000172	1547	SLE RA 21	44791	1494000	555410	36000000	1407	SLE QP 2	40721	1120500	Si
2.37	0.41	0.00000172	1479	SLE RA 21	42811	1494000	530851	36000000	1340	SLE QP 2	38794	1120500	Si
4.74	0.41	0.00000219	1307	SLE RA 21	37612	1494000	466384	36000000	1181	SLE QP 2	33992	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 7 - 6, sezione R 50x45, asta 233

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1793	SLU 84	0.02	3486	6236	SLU 84	15877	Si
0.11	0.41	0.0002	1775	SLU 84	0.02	3486	6174	SLU 84	15877	Si
0.23	0.41	0.0006	1758	SLU 84	0.047	8813	6116	SLU 84	21866	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1353	SLD 1	0.079	3914	4707	SLD 1	15877	Si
0.11	0.41	0.0002	1336	SLD 1	0.079	3914	4647	SLD 1	15877	Si
0.23	0.41	0.0006	1320	SLD 1	0.125	9812	4591	SLD 1	25146	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000219	1307	SLE RA 21	37612	1494000	466384	36000000	1181	SLE QP 2	33992	1120500	Si
0.11	0.41	0.00000219	1294	SLE RA 21	37239	1494000	461758	36000000	1170	SLE QP 2	33652	1120500	Si
0.23	0.41	0.00000559	1282	SLE RA 21	35292	1494000	437627	36000000	1158	SLE QP 2	31891	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 6 - ?, sezione R 50x45, asta 234

Campata 4 tra i fili ? - 6, sezione R 50x45, asta 235

Campata 5 tra i fili 6 - 14, sezione R 50x45, aste 236, 237

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1695	SLU 83	0.054	10139	5896	SLU 83	25230	Si
0.2	0.41	0.0006	1695	SLU 83	0.054	10139	5896	SLU 83	25230	Si
0.24	0.41	0.0006	1696	SLU 83	0.054	10139	5898	SLU 83	25230	Si
0.39	0.41	0.0006	1700	SLU 83	0.054	10139	5914	SLU 83	25230	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1267	SLD 3	0.134	11278	4408	SLD 3	29015	Si
0.2	0.41	0.0006	1267	SLD 4	0.134	11278	4408	SLD 4	29015	Si
0.24	0.41	0.0006	1267	SLD 4	0.134	11278	4409	SLD 4	29015	Si
0.39	0.41	0.0006	1269	SLD 4	0.134	11278	4413	SLD 4	29015	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000644	1236	SLE RA 20	33647	1494000	417221	36000000	1116	SLE QP 2	30384	1120500	Si
0.2	0.41	0.00000644	1236	SLE RA 20	33646	1494000	417207	36000000	1116	SLE QP 2	30378	1120500	Si
0.24	0.41	0.00000644	1236	SLE RA 20	33662	1494000	417404	36000000	1116	SLE QP 2	30392	1120500	Si
0.39	0.41	0.00000644	1239	SLE RA 20	33749	1494000	418492	36000000	1119	SLE QP 2	30468	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237	6.38	1.1	SLU 84	ST	BT	2.3	290929	96100	3.03	Si
221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237	6.38	1.1	SLV FO 1	SIS	BT	2.3	262087	85044	3.08	Si
221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237	6.38	1.1	SLD 1	SIS	BT	2.3	273173	76778	3.56	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-194	-96100	52.57	-9546.26	0	0	-0.1	0	1.1	6.18	1496	2060	0	14430	
0	-3461	-85044	1769.85	-23098.04	0	-2	-0.27	0.02	1.06	5.84	1496	2060	0	14430	0.07
0	-1884	-76778	952.15	-16149.03	0	-1	-0.21	0.01	1.08	5.96	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

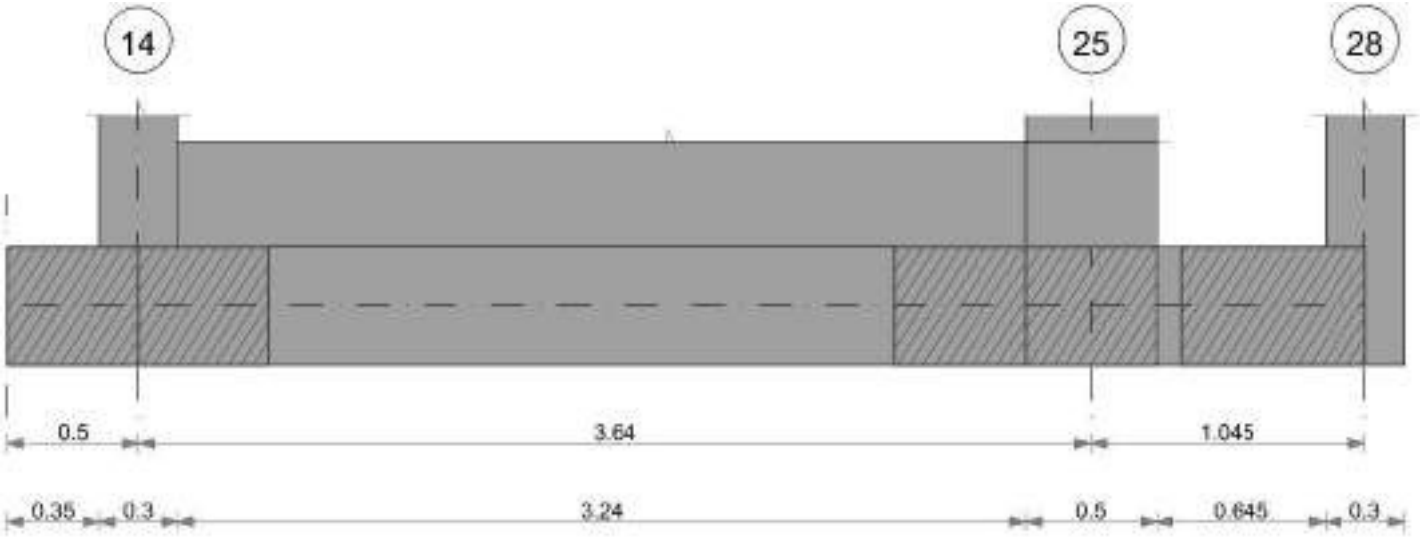
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	604	SLE RA 20	0.05	0.001	604	586	SLE RA 20	0.05	0	599	SLE FR 6	0.0033	0	SLE RA 20	Si
D	0.05	0	604	SLE RA 1	0.05	0	604	604	SLE RA 1	0.05	0	602	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	604	SLE RA 1	0.05	0	604	604	SLE RA 1	0.05	0	602	SLE RA 1	0.0033	0	SLE RA 1	Si

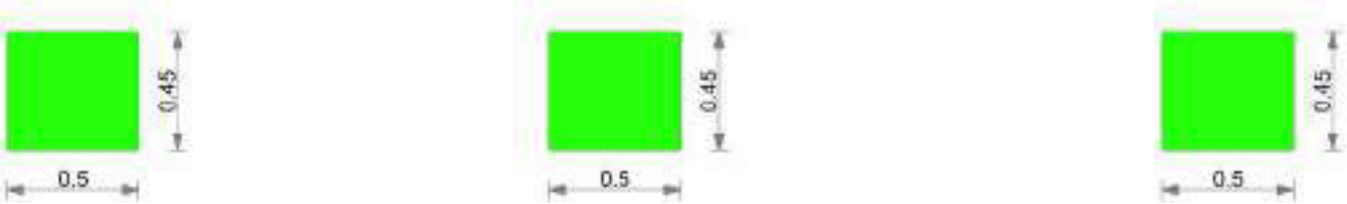
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.03	600	599	SLE RA 18	0.19	0.04	599	SLE RA 20	0.1	0.03	600	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	604	602	SLE RA 1	0.19	0	604	SLE RA 1	0.1	0	602	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	604	602	SLE RA 1	0.19	0	604	SLE RA 1	0.1	0	602	SLE RA 1	Si

CORDOLO 14

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

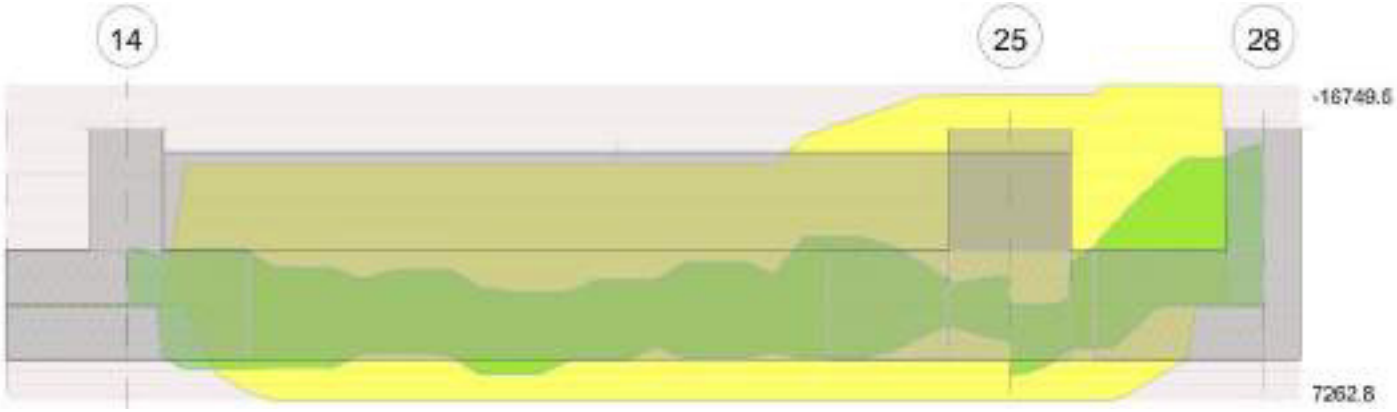


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 3 tra i fili 25 - 28, sezione R 50x45, asta 605

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	8655.39	SLU 84	4624.75	7774.71	0.12	1.68							Si
0.25	0.001166	0.052	0.000509	0.052	1888.88	SLU 84	1888.88	7774.71	0.12	4.12	1111.17	SLU 1	-2398.44	-16748.89	0.167	6.98	Si
0.52	0.001166	0.052	0.000444	0.052							-4415.8	SLU 83	-7941.1	-16747.91	0.17	2.11	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	8162.93	SLV FO 9	5254.07	7257.26	0.188	1.38							Si
0.25	0.001166	0.052	0.000509	0.052	3232.24	SLV FO 9	3232.24	7257.26	0.188	2.25	-782.76	SLV FO 8	-3258.07	-15990.14	0.291	4.91	Si
0.52	0.001166	0.052	0.000444	0.052	-1473.89	SLV FO 9	1549.79	6356.58	0.178	4.1	-4402.82	SLV FO 8	-6406.17	-15981.15	0.293	2.49	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000509	0.052	7077.1	SLD 13	4249.06	7257.26	0.188	1.71							Si
0.25	0.001166	0.052	0.000509	0.052	2319.92	SLD 9	2319.92	7257.26	0.188	3.13	129.56	SLD 8	-2501.49	-15990.14	0.291	6.39	Si
0.52	0.001166	0.052	0.000444	0.052	-2144.98	SLD 9	716.53	6356.58	0.178	8.87	-3731.73	SLD 8	-5884.37	-15981.15	0.293	2.72	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-25274	SLU 84	-25274	-7764	-63178	-29914	-29914	1	1.18	Si
0.25	0.0000213	0.000336	0	-21887	SLU 84	-21887	-7764	-63178	-29914	-29914	1	1.37	Si
0.52	0.0000213	0	0	-18282	SLU 84	-18282	-7769	-63232	-29940	-29940	1	1.64	Si
0.9	0.0000213	0	0	-13473	SLU 84	-13473	-8455	-71432	-33822	-33822	1	2.51	Si
0.91	0	0	0	-13336	SLU 84	-13336	-8455	-71432	0	-8455	1	0.63	Si
1.05	0	0	0	-11543	SLU 84	-11543	-8455	-71432	0	-8455	1	0.73	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-19415	SLV FO 13	-19415	-7764	-63178	-29914	-29914	1	1.54	Si
0.25	0.0000213	0.000336	0	-17179	SLV FO 13	-17179	-7764	-63178	-29914	-29914	1	1.74	Si
0.52	0.0000213	0	0	-14796	SLV FO 13	-14796	-7769	-63232	-29940	-29940	1	2.02	Si
0.9	0.0000213	0	0	-11626	SLV FO 13	-11626	-8455	-71432	-33822	-33822	1	2.91	Si
0.91	0	0	0	-11536	SLV FO 13	-11536	-8455	-71432	0	-8455	1	0.73	Si
1.05	0	0	0	-10359	SLV FO 13	-10359	-8455	-71432	0	-8455	1	0.82	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000213	0.000509	0	-18291	SLD 13	-18291	-7764	-63178	-29914	-29914	1	1.64	Si
0.25	0.0000213	0.000336	0	-16047	SLD 13	-16047	-7764	-63178	-29914	-29914	1	1.86	Si
0.52	0.0000213	0	0	-13655	SLD 13	-13655	-7769	-63232	-29940	-29940	1	2.19	Si
0.9	0.0000213	0	0	-10469	SLD 13	-10469	-8455	-71432	-33822	-33822	1	3.23	Si
0.91	0	0	0	-10378	SLD 13	-10378	-8455	-71432	0	-8455	1	0.81	Si
1.05	0	0	0	-9192	SLD 13	-9192	-8455	-71432	0	-8455	1	0.92	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	6324.33	21	3376.48	162288	1494000	2586881	36000000	5709.94	2	3037.82	146010	1120500			Si
0.25	1375.69	21	1375.69	66122	1494000	1053982	36000000	1224.74	2	1224.74	58866	1120500			Si
0.52	-3233.47	20	-5811.35	451522	1494000	14109566	36000000	-2938.36	2	-5274.12	409781	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.52	superiore	0.281	0.00041	0.000115	20	0.281	0.00038	0.000107	6	0.281	0.00037	0.000105	2	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 14 - 25, sezione R 50x45, aste 596, 597, 598, 599, 600, 601, 602, 603, 604

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1700	SLU 83	0.02	3305	5914	SLU 83	15877	Si
0.15	0.41	0.0002	1705	SLU 83	0.02	3305	5931	SLU 83	15877	Si
1.82	0.41	0.0002	1769	SLU 83	0.02	3305	6152	SLU 83	15877	Si
3.39	0.41	0.0002	1678	SLU 83	0.02	3305	5836	SLU 83	15877	Si
3.64	0.41	0.0011	1659	SLU 83	0.09	16544	5770	SLU 83	41778	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1269	SLD 4	0.077	3713	4413	SLD 4	15877	Si
0.15	0.41	0.0002	1270	SLD 4	0.077	3713	4419	SLD 4	15877	Si
1.82	0.41	0.0002	1243	SLD 4	0.077	3713	4322	SLD 4	15877	Si
3.39	0.41	0.0002	1149	SLD 7	0.077	3713	3996	SLD 7	15877	Si
3.64	0.41	0.0011	1142	SLD 11	0.172	18380	3972	SLD 11	48045	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000207	1239	SLE RA 20	35711	1494000	442815	36000000	1119	SLE QP 2	32238	1120500	Si
0.15	0.41	0.00000207	1243	SLE RA 20	35815	1494000	444107	36000000	1122	SLE QP 2	32329	1120500	Si
1.82	0.41	0.00000207	1289	SLE RA 20	37143	1494000	460568	36000000	1162	SLE QP 2	33487	1120500	Si
3.39	0.41	0.00000207	1223	SLE RA 20	35227	1494000	436820	36000000	1101	SLE QP 2	31717	1120500	Si
3.64	0.41	0.00001067	1209	SLE RA 20	31251	1494000	387514	36000000	1088	SLE QP 2	28130	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 25 - 28, sezione R 50x45, asta 605

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
596,597,598,599,600,601,602,603,604,605	4.84	1.1	SLU 83	ST	BT	2.3	225885	65594	3.44	Si
596,597,598,599,600,601,602,603,604,605	4.84	1.1	SLV FO 8	SIS	BT	2.3	186157	48284	3.86	Si
596,597,598,599,600,601,602,603,604,605	4.84	1.1	SLD 8	SIS	BT	2.3	203727	46571	4.37	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-218	-65594	-80.23	-2173.58	0	0	-0.03	0	1.1	4.77	1496	2060	0	14430	
0	7297	-48284	-3705.55	-2855.08	0	9	-0.06	-0.08	0.95	4.72	1496	2060	0	14430	0.07
0	3859	-46571	-2017.48	-2302.51	0	5	-0.05	-0.04	1.01	4.74	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

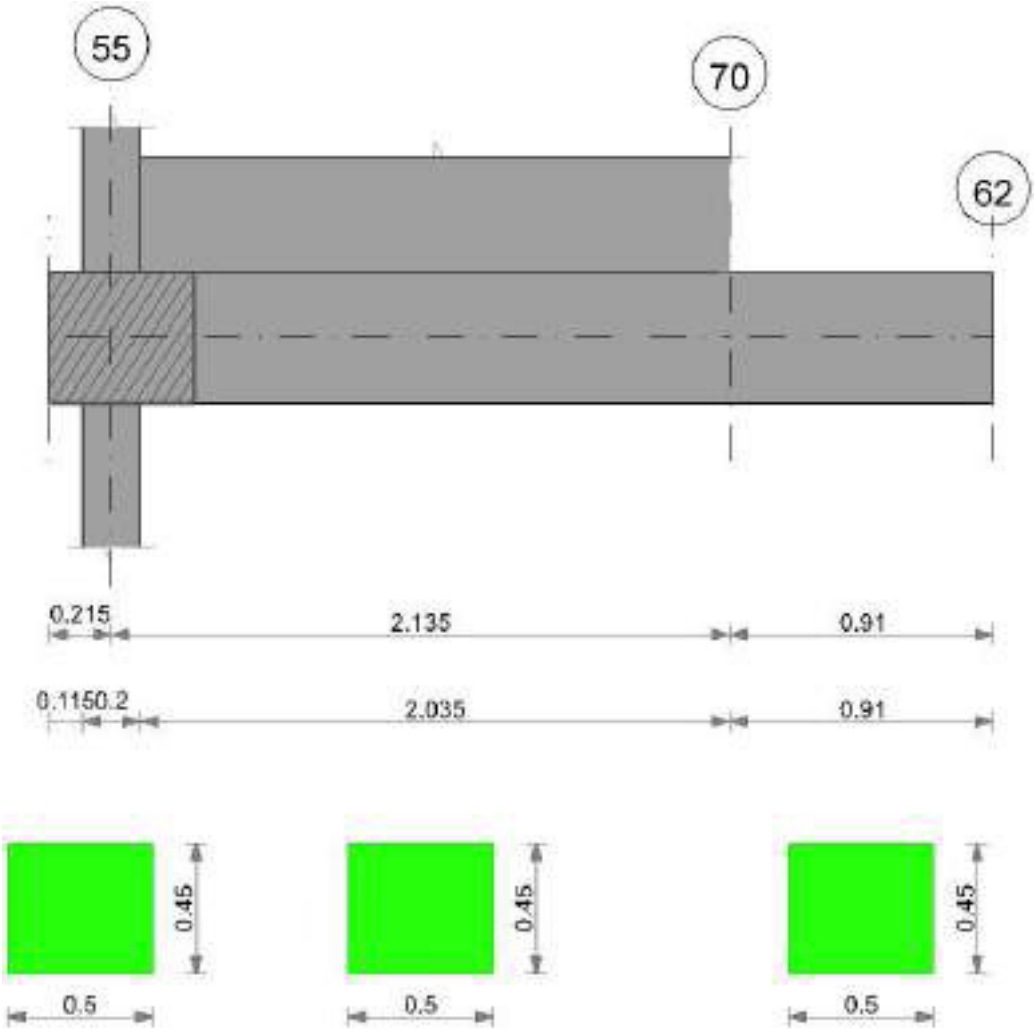
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	614	SLE RA 20	0.05	0	614	604	SLE RA 20	0.05	0	613	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	614	SLE RA 1	0.05	0	614	614	SLE RA 1	0.05	0	613	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	614	SLE RA 1	0.05	0	614	614	SLE RA 1	0.05	0	613	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	614	613	SLE RA 20	0.19	0	614	SLE RA 1	0.1	0	613	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	614	613	SLE RA 1	0.19	0	614	SLE RA 1	0.1	0	613	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	614	613	SLE RA 1	0.19	0	614	SLE RA 1	0.1	0	613	SLE RA 1	Si

CORDOLO 15

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

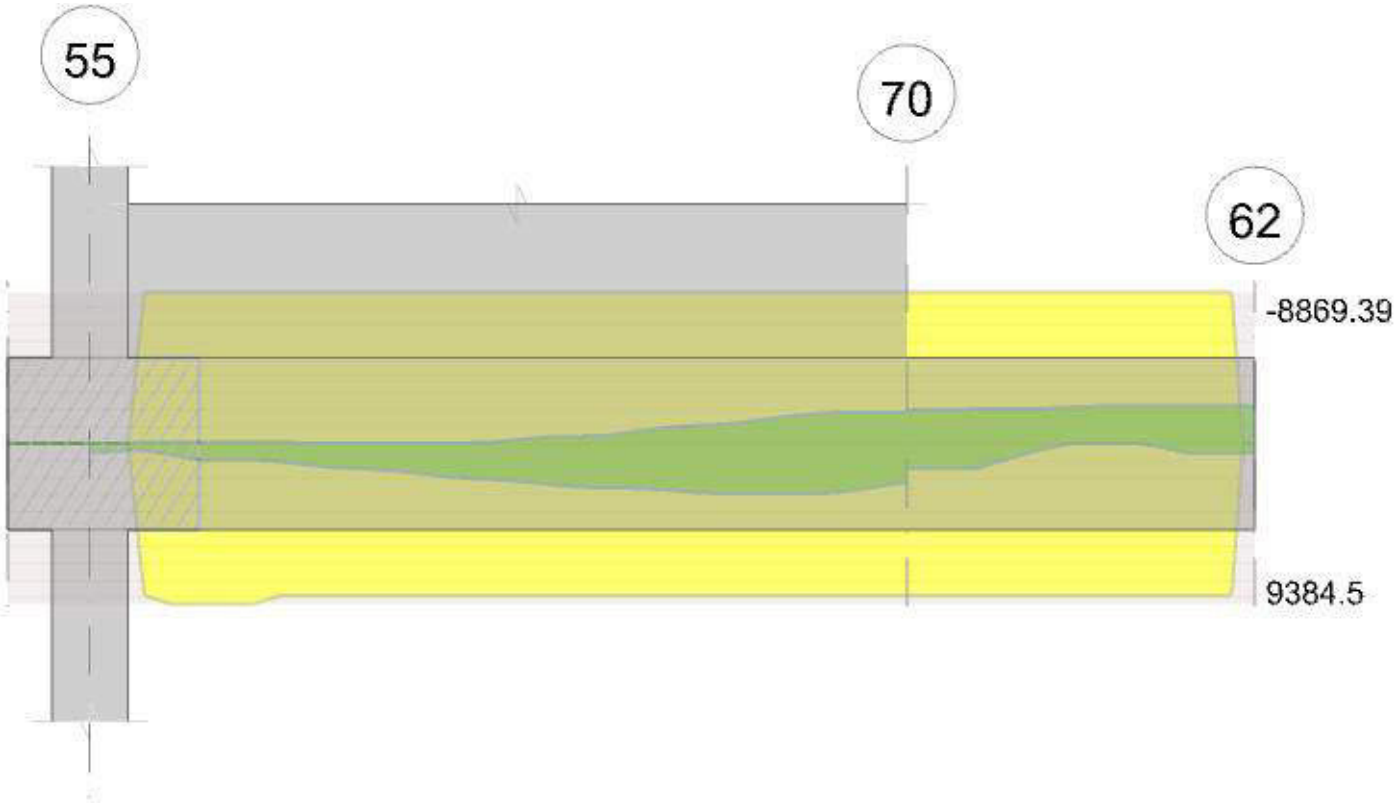
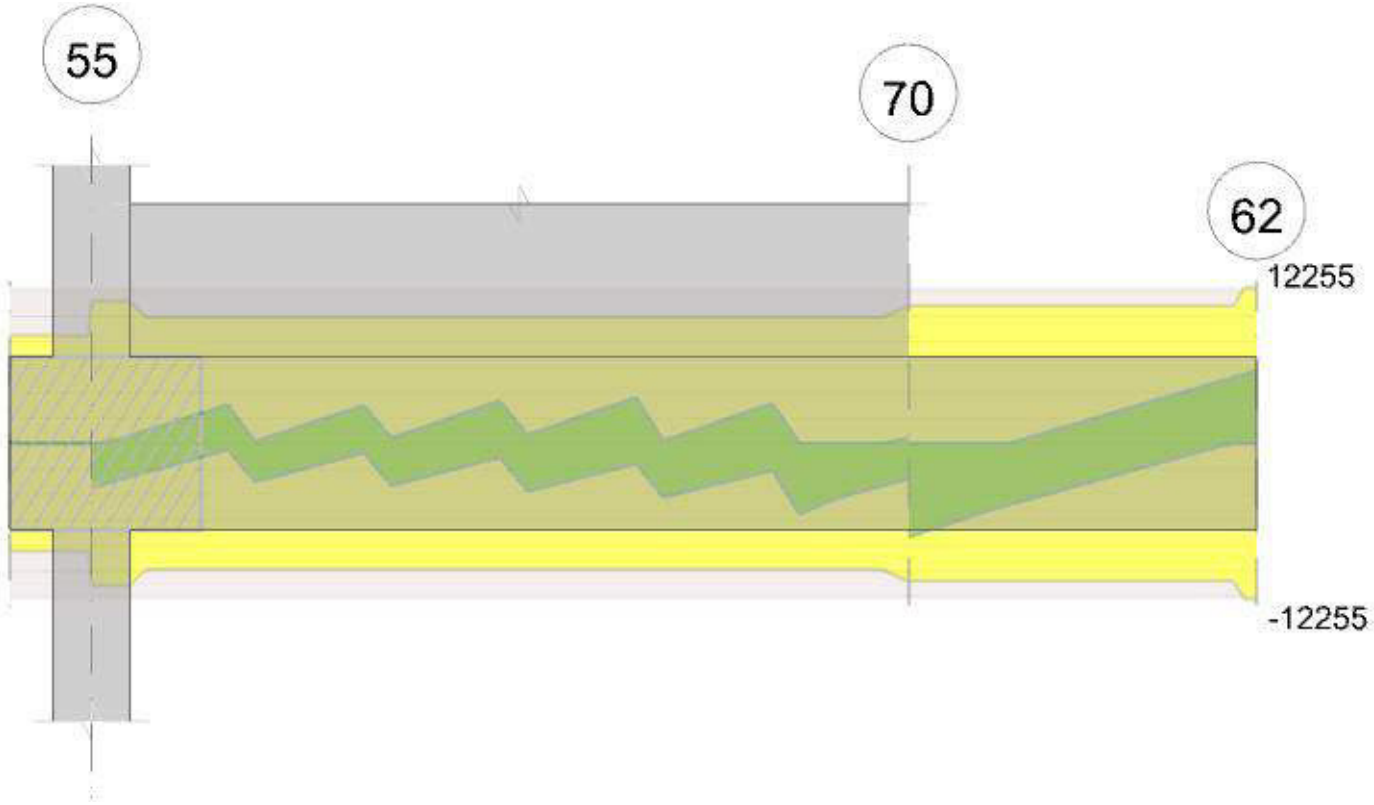


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 70 - 62, sezione R 50x45, asta 398

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053							-175.33	SLU 83	-1220.31	-9384.5	0.124	7.69	Si
0.45	0.000628	0.053	0.000628	0.053							-2017	SLU 84	-2066.51	-9384.5	0.124	4.54	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053	1464.94	SLV FO 14	1464.94	8869.39	0.216	6.05	-1698.52	SLV FO 3	-1945.4	-8869.39	0.216	4.56	Si
0.45	0.000628	0.053	0.000628	0.053							-2063.99	SLV FO 2	-2148.06	-8869.39	0.216	4.13	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000628	0.053	0.000628	0.053	795.59	SLD 14	795.59	8869.39	0.216	11.15	-1029.17	SLD 3	-1470.86	-8869.39	0.216	6.03	Si
0.45	0.000628	0.053	0.000628	0.053							-1762.74	SLD 2	-1785.08	-8869.39	0.216	4.97	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-7020	SLU 84	-7020	-8105	-63019	-10812	-10812	1	1.54	Si
0.45	0.0000077	0.000628	0	-1128	SLU 84	-1128	-8105	-63019	-10812	-10812	1	9.58	Si
0.91	0.0000077	0	0	4728	SLU 83	4728	8455	71432	12255	12255	1	2.59	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-7349	SLV FO 14	-7349	-8105	-63019	-10812	-10812	1	1.47	Si
0.45	0.0000077	0.000628	0	1686	SLV FO 7	1686	8105	63019	10812	10812	1	6.41	Si
0.45	0.0000077	0.000628	0	-3195	SLV FO 10	-3195	-8105	-63019	-10812	-10812	1	3.38	Si
0.91	0.0000077	0	0	5707	SLV FO 7	5707	8455	71432	12255	12255	1	2.15	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000077	0.000628	0	-6216	SLD 14	-6216	-8105	-63019	-10812	-10812	1	1.74	Si
0.45	0.0000077	0.000628	0	578	SLD 7	578	8105	63019	10812	10812	1	18.7	Si
0.45	0.0000077	0.000628	0	-2087	SLD 10	-2087	-8105	-63019	-10812	-10812	1	5.18	Si
0.91	0.0000077	0	0	4531	SLD 7	4531	8455	71432	12255	12255	1	2.7	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-125.22	20	-893.49	46167	1494000	692502	36000000	-116.79	2	-819.18	42328	1120500			Si
0.45	-1480.9	21	-1518.3	78451	1494000	1176771	36000000	-1354.34	2	-1387.4	71688	1120500			Si
0.91	-891.42	21	-1355.33	-80316	1494000	0	36000000	-810.49	2	-1236.34	-73265	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 55 - 70, sezione R 50x45, aste 392, 393, 394, 395, 396, 397

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1891	SLU 83	0.03	5612	6576	SLU 83	15877	Si
0.1	0.41	0.0004	1892	SLU 83	0.03	5612	6581	SLU 83	15877	Si
1.07	0.41	0.0004	1892	SLU 83	0.03	5612	6581	SLU 83	15877	Si
2.14	0.41	0.0004	1832	SLU 83	0.033	6137	6374	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1308	SLD 16	0.1	6270	4548	SLD 16	15900	Si
0.1	0.41	0.0004	1313	SLD 16	0.1	6270	4569	SLD 16	15900	Si
1.07	0.41	0.0004	1360	SLD 16	0.1	6270	4730	SLD 16	15900	Si
2.14	0.41	0.0004	1351	SLD 15	0.105	6852	4701	SLD 15	17409	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000353	1382	SLE RA 20	39051	1494000	484232	36000000	1252	SLE QP 2	35392	1120500	Si
0.1	0.41	0.00000353	1382	SLE RA 20	39077	1494000	484550	36000000	1253	SLE QP 2	35412	1120500	Si
1.07	0.41	0.00000353	1382	SLE RA 20	39057	1494000	484312	36000000	1252	SLE QP 2	35377	1120500	Si
2.14	0.41	0.00000387	1338	SLE RA 20	37651	1494000	466874	36000000	1212	SLE QP 2	34098	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 70 - 62, sezione R 50x45, asta 398

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
392,393,394,395,396,397,398	3.05	1.1	SLU 84	ST	BT	2.3	140739	45780	3.07	Si
392,393,394,395,396,397,398	3.05	1.1	SLV FO 14	SIS	BT	2.3	130955	34232	3.83	Si
392,393,394,395,396,397,398	3.05	1.1	SLD 14	SIS	BT	2.3	136533	32981	4.14	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-357	-347	-45780	785.39	-824.24	0	0	-0.02	0.02	1.07	3.01	1496	2060	0	14430	
3329	-1749	-34232	1223.29	1699.36	6	-3	0.05	0.04	1.03	2.95	1496	2060	0	14430	0.07
1830	-1043	-32981	901.96	757.41	3	-2	0.02	0.03	1.05	3	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

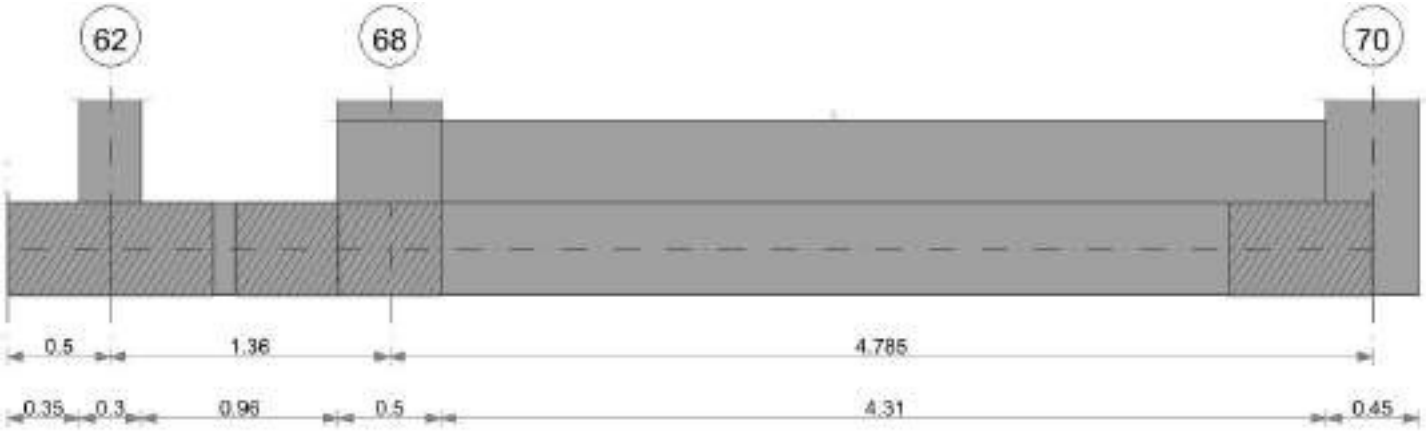
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	615	SLE RA 21	0.05	0.001	615	621	SLE RA 21	0.05	0	621	SLE RA 21	0.0033	0	SLE RA 21	Si
D	0.05	0	622	SLE RA 1	0.05	0	622	622	SLE RA 1	0.05	0	621	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	622	SLE RA 1	0.05	0	622	622	SLE RA 1	0.05	0	621	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	621	615	SLE RA 21	0.19	0	622	SLE RA 1	0.1	0.02	621	SLE RA 21	Si
D	0.19	0	SLE RA 1	0.19	0	622	621	SLE RA 1	0.19	0	622	SLE RA 1	0.1	0	621	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	622	621	SLE RA 1	0.19	0	622	SLE RA 1	0.1	0	621	SLE RA 1	Si

CORDOLO 16

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

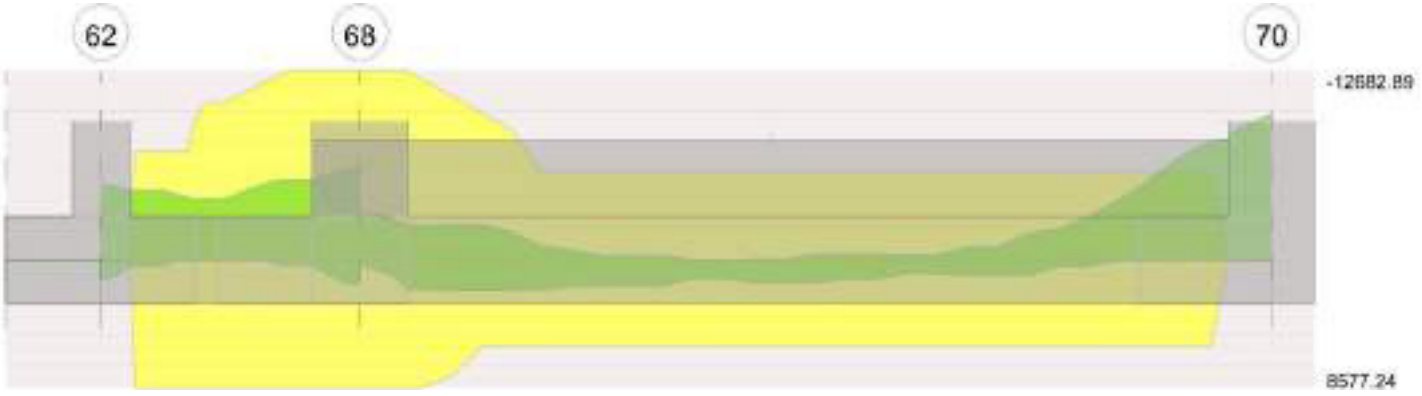
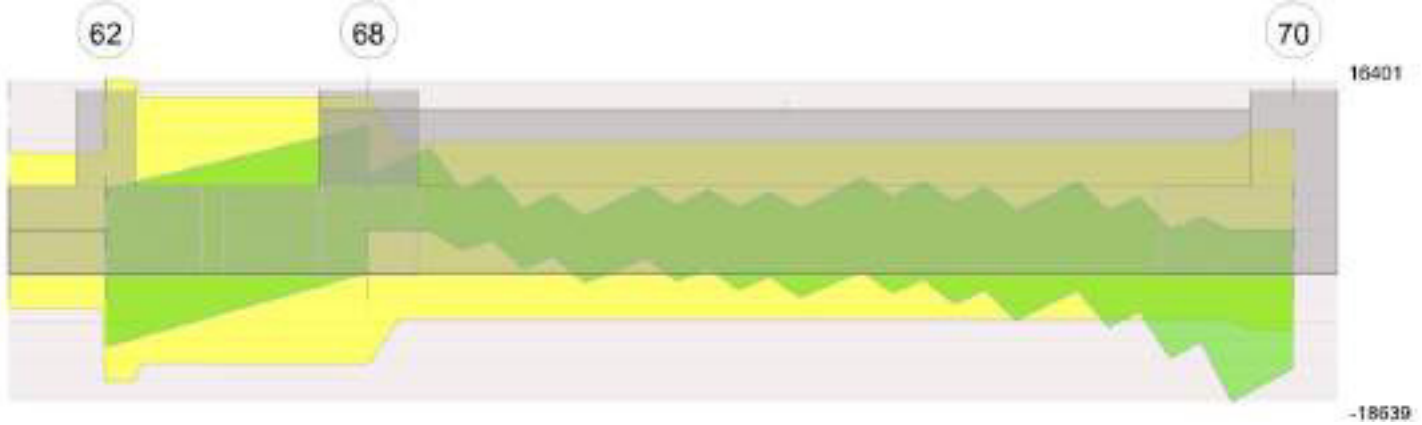


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 62 - 68, sezione R 50x45, asta 560

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000765	0.052	0.000603	0.051							-4087.57	SLU 83	-4093.81	-11282.22	0.13	2.76	Si
1.11	0.000911	0.052	0.000603	0.051							-3676.81	SLU 83	-3975.27	-13290.66	0.141	3.34	Si
1.36	0.000911	0.052	0.000603	0.051							-2956.19	SLU 83	-2956.19	-13290.66	0.141	4.5	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000765	0.052	0.000603	0.051							-3473.1	SLV FO 15	-4239.68	-10729.36	0.236	2.53	Si
1.11	0.000911	0.052	0.000603	0.051	378.75	SLV FO 6	378.75	8575.42	0.206	22.64	-5390.89	SLV FO 11	-5390.89	-12682.89	0.256	2.35	Si
1.36	0.000911	0.052	0.000603	0.051	2216.87	SLV FO 6	1642.09	8575.42	0.206	5.22	-6291.98	SLV FO 11	-6142.34	-12682.89	0.256	2.06	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000765	0.052	0.000603	0.051							-3170.21	SLD 15	-3558.75	-10729.36	0.236	3.01	Si
1.11	0.000911	0.052	0.000603	0.051							-4076.15	SLD 11	-4076.15	-12682.89	0.256	3.11	Si
1.36	0.000911	0.052	0.000603	0.051	274.03	SLD 6	166.69	8575.42	0.206	51.45	-4349.14	SLD 11	-4349.14	-12682.89	0.256	2.92	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000103	0	0	-5997	SLU 83	-5997	-8455	-71432	-16401	-16401	1	2.74	Si
0.15	0.0000103	0	0	-4759	SLU 83	-4759	-8455	-71432	-16401	-16401	1	3.45	Si
0.68	0.0000103	0.000509	0	-523	SLU 69	-523	-7769	-63231	-14518	-14518	1	27.75	Si
1.11	0.0000103	0.000787	0	3275	SLU 84	3275	8751	63248	14521	14521	1	4.43	Si
1.36	0.0000103	0.000896	0	5369	SLU 84	5369	9139	63248	14521	14521	1	2.7	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000103	0	0	4485	SLV FO 6	4485	8455	71432	16401	16401	1	3.66	Si
0	0.0000103	0	0	-12653	SLV FO 11	-12653	-8455	-71432	-16401	-16401	1	1.3	Si
0.15	0.0000103	0	0	5224	SLV FO 6	5224	8455	71432	16401	16401	1	3.14	Si
0.15	0.0000103	0	0	-11737	SLV FO 11	-11737	-8455	-71432	-16401	-16401	1	1.4	Si
0.18	0.0000103	0	0	5379	SLV FO 6	5379	7764	63178	14505	14505	1	2.7	Si
0.18	0.0000103	0	0	-11546	SLV FO 11	-11546	-7777	-63336	-14542	-14542	1	1.26	Si
0.68	0.0000103	0.000509	0	7879	SLV FO 6	7879	7769	63231	14518	14518	1	1.84	Si
0.68	0.0000103	0.000509	0	-8551	SLV FO 11	-8551	-7769	-63231	-14518	-14518	1	1.7	Si
1.11	0.0000103	0.000603	0	10107	SLV FO 6	10107	8014	63336	14542	14542	1	1.44	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
1.11	0.0000103	0.000787	0	-6012	SLV FO 11	-6012	-8751	-63248	-14521	-14521	1	2.42	Si
1.36	0.0000103	0.000603	0	11437	SLV FO 6	11437	8014	63336	14542	14542	1	1.27	Si
1.36	0.0000103	0.000896	0	-4543	SLV FO 11	-4543	-9139	-63248	-14521	-14521	1	3.2	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000103	0	0	570	SLD 6	570	8455	71432	16401	16401	1	28.79	Si
0	0.0000103	0	0	-8738	SLD 11	-8738	-8455	-71432	-16401	-16401	1	1.88	Si
0.15	0.0000103	0	0	1347	SLD 6	1347	8455	71432	16401	16401	1	12.17	Si
0.15	0.0000103	0	0	-7860	SLD 11	-7860	-8455	-71432	-16401	-16401	1	2.09	Si
0.68	0.0000103	0.000509	0	4118	SLD 6	4118	7769	63231	14518	14518	1	3.53	Si
0.68	0.0000103	0.000509	0	-4790	SLD 11	-4790	-7769	-63231	-14518	-14518	1	3.03	Si
1.11	0.0000103	0.000787	0	6412	SLD 6	6412	8751	63248	14521	14521	1	2.26	Si
1.11	0.0000103	0.000787	0	-2317	SLD 11	-2317	-8751	-63248	-14521	-14521	1	6.27	Si
1.36	0.0000103	0.000603	0	7771	SLD 6	7771	8014	63336	14542	14542	1	1.87	Si
1.36	0.0000103	0.000896	0	-876	SLD 11	-876	-9139	-63248	-14521	-14521	1	16.57	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1932.32	21	-1932.32	-114508	1494000	0	36000000	-1730.57	2	-1730.57	-102552	1120500			Si
0.15	-2330.58	21	-2686.31	-159189	1494000	0	36000000	-2106.2	2	-2445.37	-144911	1120500			Si
0.68	-3005.4	20	-3010.59	154584	1494000	2284221	36000000	-2758.13	2	-2764.66	141956	1120500			Si
1.11	-2710.51	20	-2926.61	149105	1494000	2173589	36000000	-2506.07	2	-2696.15	137363	1120500			Si
1.36	-2186.19	20	-2186.19	111381	1494000	1623677	36000000	-2037.55	2	-2037.55	103809	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 62 - 68, sezione R 50x45, asta 560

Campata 3 tra i fili 68 - 70, sezione R 50x45, aste 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1718	SLU 83	0.044	8176	5975	SLU 83	20259	Si
0.25	0.41	0.0003	1749	SLU 83	0.029	5423	6083	SLU 83	15877	Si
2.39	0.41	0.0003	1971	SLU 84	0.029	5423	6855	SLU 84	15877	Si
4.56	0.41	0.0003	2146	SLV FO 14	0.119	5224	7464	SLV FO 14	15877	Si
4.79	0.41	0.0003	2222	SLV FO 14	0.119	5224	7729	SLV FO 14	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1265	SLD 14	0.121	9108	4399	SLD 14	23297	Si
0.25	0.41	0.0003	1294	SLD 14	0.098	6061	4502	SLD 14	15877	Si
2.39	0.41	0.0003	1577	SLD 14	0.098	6061	5486	SLD 14	15877	Si
4.56	0.41	0.0003	1837	SLD 14	0.098	6061	6391	SLD 14	15877	Si
4.79	0.41	0.0003	1896	SLD 14	0.098	6061	6596	SLD 14	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000517	1253	SLE RA 20	34681	1494000	430048	36000000	1135	SLE QP 2	31401	1120500	Si
0.25	0.41	0.00000341	1276	SLE RA 20	36123	1494000	447923	36000000	1156	SLE QP 2	32714	1120500	Si
2.39	0.41	0.00000341	1440	SLE RA 21	40758	1494000	505398	36000000	1307	SLE QP 2	37011	1120500	Si
4.56	0.41	0.00000341	1545	SLE RA 21	43726	1494000	542204	36000000	1408	SLE QP 2	39858	1120500	Si
4.79	0.41	0.00000341	1582	SLE RA 21	44798	1494000	555500	36000000	1443	SLE QP 2	40855	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
560,561,562,563,564,565,566,567,568,569,570,571,572,573	6.37	1.1	SLU 84	ST	BT	2.3	289671	91097	3.18	Si
560,561,562,563,564,565,566,567,568,569,570,571,572,573	6.37	1.1	SLV FO 14	SIS	BT	2.3	258797	78931	3.28	Si
560,561,562,563,564,565,566,567,568,569,570,571,572,573	6.37	1.1	SLD 14	SIS	BT	2.3	270808	71912	3.77	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-569	-91097	254.14	8330.67	0	0	0.09	0	1.09	6.19	1496	2060	0	14430	
0	-4356	-78931	2138.11	20447.58	0	-3	0.26	0.03	1.05	5.85	1496	2060	0	14430	0.07
0	-2515	-71912	1225.7	14296.97	0	-2	0.2	0.02	1.07	5.97	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

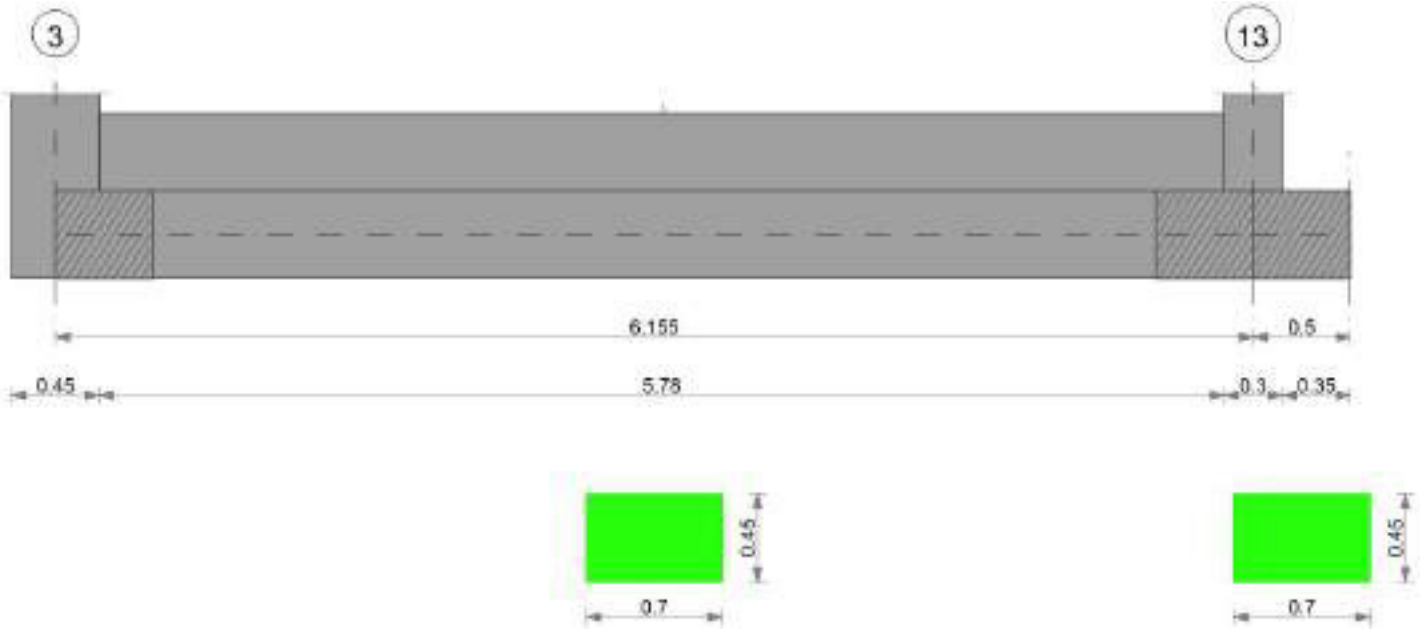
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	623	SLE RA 20	0.05	0.001	623	637	SLE RA 20	0.05	0	624	SLE FR 6	0.0033	0	SLE RA 1	Si
D	0.05	0	637	SLE RA 1	0.05	0	637	637	SLE RA 1	0.05	0	624	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	637	SLE RA 1	0.05	0	637	637	SLE RA 1	0.05	0	624	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	637	624	SLE RA 20	0.19	0.01	624	SLE FR 6	0.1	0	637	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	637	624	SLE RA 1	0.19	0	637	SLE RA 1	0.1	0	624	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	637	624	SLE RA 1	0.19	0	637	SLE RA 1	0.1	0	624	SLE RA 1	Si

CORDOLO 17

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

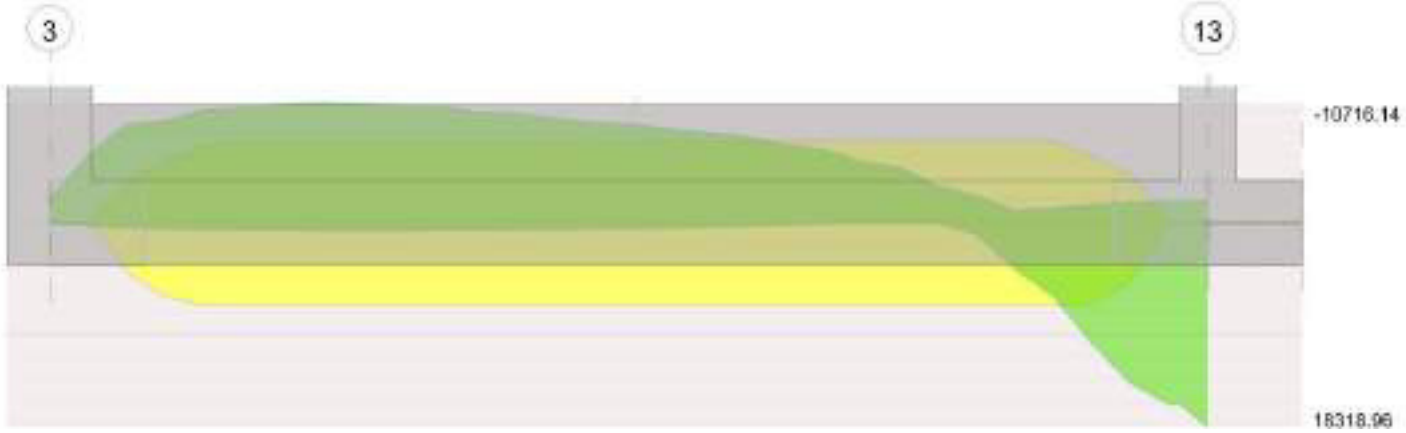
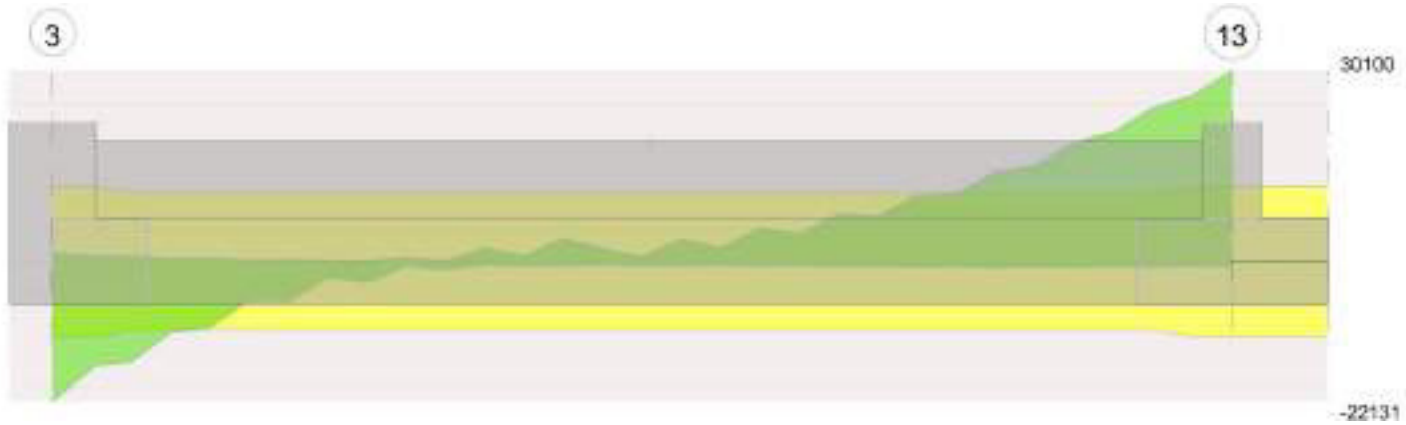


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 3 - 13, sezione R 70x45, aste 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
3.08	0.41	0.0003	3251	SLV FO 5	0.119	5189	8390	SLV FO 5	15877	Si
6.01	0.41	0.0003	4227	SLV FO 5	0.119	5189	10907	SLV FO 5	15877	Si
6.16	0.41	0.0003	4239	SLV FO 5	0.119	5189	10939	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4338	SLD 5	0.098	6020	11195	SLD 5	15877	Si
0.23	0.41	0.0003	4081	SLD 5	0.098	6020	10531	SLD 5	15877	Si
3.08	0.41	0.0003	2423	SLD 5	0.098	6020	6254	SLD 5	15877	Si
6.01	0.41	0.0003	3216	SLD 5	0.098	6020	8298	SLD 5	15877	Si
6.16	0.41	0.0003	3230	SLD 5	0.098	6020	8335	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000339	2837	SLE RA 21	80350	1494000	996343	36000000	2566	SLE QP 2	72651	1120500	Si
0.23	0.41	0.00000339	2667	SLE RA 21	75531	1494000	936583	36000000	2410	SLE QP 2	68260	1120500	Si
3.08	0.41	0.00000339	1607	SLE RA 21	45497	1494000	564159	36000000	1443	SLE QP 2	40850	1120500	Si
6.01	0.41	0.00000339	2251	SLE RA 21	63751	1494000	790506	36000000	2026	SLE QP 2	57368	1120500	Si
6.16	0.41	0.00000339	2270	SLE RA 21	64280	1494000	797068	36000000	2043	SLE QP 2	57848	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186	6.38	1.3	SLU 84	ST	BT	2.3	268156	90865	2.95	Si
171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186	6.38	1.3	SLD 5	SIS	BT	2.3	237602	93090	2.55	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-209	-90865	12216.72	-4355.61	0	0	-0.05	0.13	1.03	6.28	1496	2060	0	14430	
0	10577	-6096	-6395.35	7160.71	0	60	1.17	-1.05	-0.8	4.03	1496	2060	0	14430	0.07
0	-6430	-93090	16364.13	-8695.68	0	-4	-0.09	0.18	0.95	6.19	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.03	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

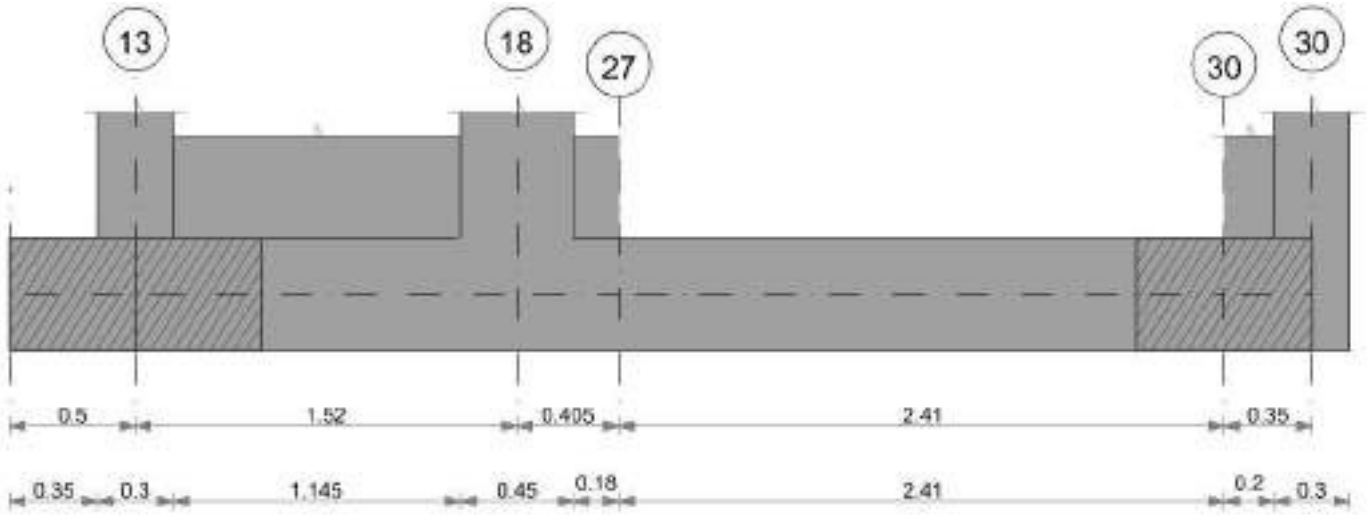
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	377	SLE RA 21	0.05	0	377	361	SLE RA 21	0.05	0	377	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	377	SLE RA 1	0.05	0	377	377	SLE RA 1	0.05	0	377	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	377	SLE RA 1	0.05	0	377	377	SLE RA 1	0.05	0	377	SLE RA 1	0.0033	0	SLE RA 1	Si

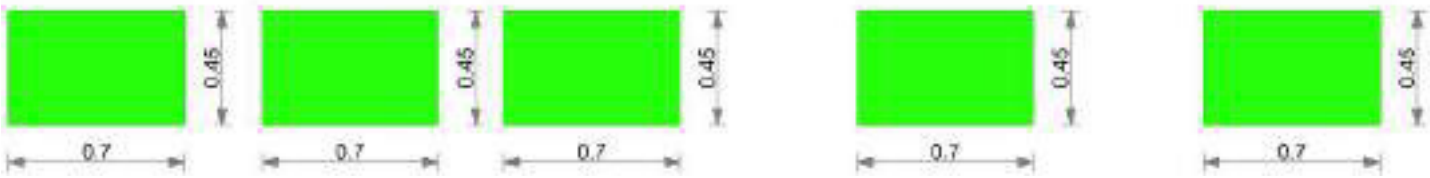
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	377	361	SLE RA 21	0.19	0	377	SLE RA 1	0.1	0	377	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	377	361	SLE RA 1	0.19	0	377	SLE RA 1	0.1	0	377	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	377	361	SLE RA 1	0.19	0	377	SLE RA 1	0.1	0	377	SLE RA 1	Si

CORDOLO 18

Geometria





Caratteristiche dei materiali

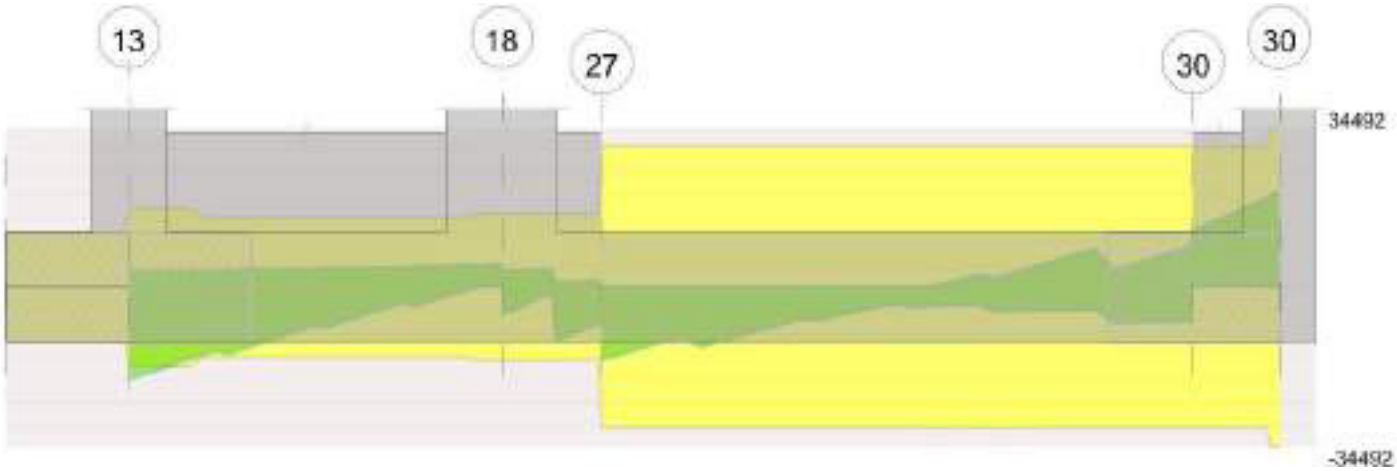
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Campata 4 tra i fili 27 - 30, sezione R 70x45, aste 317, 318, 319, 320, 321, 322

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	36.45	SLU 64	36.45	11583.13	0.12	317.75	-28.79	SLU 13	-2012.62	-13985.55	0.125	6.95	Si
1.12	0.000942	0.053	0.000763	0.052							-7458.7	SLU 84	-7754.12	-13985.55	0.125	1.8	Si
1.21	0.000942	0.053	0.000763	0.052							-7754.12	SLU 84	-7754.12	-13985.55	0.125	1.8	Si
2.41	0.000734	0.053	0.000763	0.052							-5762.53	SLU 84	-5820.1	-11131.59	0.115	1.91	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	1729.22	SLV FO 12	1729.22	10865.3	0.201	6.28	-1684.56	SLV FO 5	-4102.27	-13269.6	0.224	3.23	Si
1.12	0.000942	0.053	0.000763	0.052	74.54	SLV FO 12	631.44	10865.3	0.201	17.21	-9935.26	SLV FO 5	-10093.56	-13269.6	0.224	1.31	Si
1.21	0.000942	0.053	0.000763	0.052	-162.69	SLV FO 12	546.16	10865.3	0.201	19.89	-10093.56	SLV FO 5	-10093.56	-13269.6	0.224	1.31	Si
2.41	0.000734	0.053	0.000763	0.052							-5403.09	SLV FO 9	-6512.7	-10443.74	0.2	1.6	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	948.49	SLD 12	948.49	10865.3	0.201	11.46	-903.84	SLD 5	-2817.4	-13269.6	0.224	4.71	Si
1.12	0.000942	0.053	0.000763	0.052							-7626.58	SLD 5	-7801.68	-13269.6	0.224	1.7	Si
1.21	0.000942	0.053	0.000763	0.052							-7801.68	SLD 5	-7801.68	-13269.6	0.224	1.7	Si
2.41	0.000734	0.053	0.000763	0.052							-4679.07	SLD 9	-5271.98	-10443.74	0.2	1.98	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-12866	SLU 84	-12866	-11611	-88226	-30430	-30430	1	2.37	Si
1.21	0.0000218	0.000942	0	-3371	SLU 83	-3371	-11611	-88226	-30430	-30430	1	9.03	Si
2.41	0.0000218	0.000734	0	1316	SLU 73	1316	10851	88226	30430	30430	1	23.12	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-15844	SLV FO 9	-15844	-11611	-88226	-30430	-30430	1	1.92	Si
1.21	0.0000218	0.000942	0	-3745	SLV FO 16	-3745	-11611	-88226	-30430	-30430	1	8.12	Si
2.41	0.0000218	0.000734	0	9079	SLV FO 5	9079	10851	88226	30430	30430	1	3.35	Si
2.41	0.0000218	0.000734	0	-7451	SLV FO 12	-7451	-10851	-88226	-30430	-30430	1	4.08	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-12476	SLD 9	-12476	-11611	-88226	-30430	-30430	1	2.44	Si
1.21	0.0000218	0.000942	0	-3116	SLD 16	-3116	-11611	-88226	-30430	-30430	1	9.77	Si
2.41	0.0000218	0.000734	0	5284	SLD 5	5284	10851	88226	30430	30430	1	5.76	Si
2.41	0.0000218	0.000734	0	-3656	SLD 12	-3656	-10851	-88226	-30430	-30430	1	8.32	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	27.46	1	27.46	1011	1494000	15340	36000000	27.46	1	27.46	1011	1120500			Si
0	-9.53	13	-1472.38	54844	1494000	813048	36000000								Si
1.21	-5684.33	21	-5684.33	211734	1494000	3138889	36000000	-5128.13	2	-5128.13	191016	1120500			Si
2.41	-4221.47	21	-4264.73	160179	1494000	2408063	36000000	-3826.18	2	-3861.3	145027	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 13 - 18, sezione R 70x45, aste 311, 312, 313, 314

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4239	SLV FO 5	0.123	5511	10939	SLV FO 5	15877	Si
0.15	0.41	0.0004	4246	SLV FO 5	0.123	5511	10958	SLV FO 5	15877	Si
0.76	0.41	0.0004	4172	SLV FO 5	0.123	5511	10767	SLV FO 5	15877	Si
1.29	0.41	0.0004	4021	SLV FO 5	0.123	5511	10376	SLV FO 5	15877	Si
1.52	0.41	0.0004	3945	SLV FO 5	0.126	5794	10179	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3230	SLD 5	0.101	6395	8335	SLD 5	15877	Si
0.15	0.41	0.0004	3240	SLD 5	0.101	6395	8362	SLD 5	15877	Si
0.76	0.41	0.0004	3203	SLD 5	0.101	6395	8266	SLD 5	15877	Si
1.29	0.41	0.0004	3103	SLD 5	0.101	6395	8007	SLD 5	15877	Si
1.52	0.41	0.0004	3049	SLD 5	0.104	6725	7868	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000036	2270	SLE RA 21	64099	1494000	794831	36000000	2043	SLE QP 2	57686	1120500	Si
0.15	0.41	0.0000036	2285	SLE RA 21	64528	1494000	800153	36000000	2057	SLE QP 2	58076	1120500	Si
0.76	0.41	0.0000036	2294	SLE RA 21	64776	1494000	803218	36000000	2065	SLE QP 2	58306	1120500	Si
1.29	0.41	0.0000036	2250	SLE RA 21	63527	1494000	787735	36000000	2025	SLE QP 2	57179	1120500	Si
1.52	0.41	0.00000379	2220	SLE RA 21	62535	1494000	775437	36000000	1998	SLE QP 2	56281	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 18 - 27, sezione R 70x45, aste 315, 316

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3945	SLV FO 5	0.126	5794	10179	SLV FO 5	15877	Si
0.2	0.41	0.0004	3844	SLV FO 5	0.126	5794	9920	SLV FO 5	15877	Si
0.23	0.41	0.0004	3832	SLV FO 5	0.126	5794	9890	SLV FO 5	15877	Si
0.41	0.41	0.0007	3740	SLV FO 5	0.172	10865	9653	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3049	SLD 5	0.104	6725	7868	SLD 5	15877	Si
0.2	0.41	0.0004	2977	SLD 5	0.104	6725	7683	SLD 5	15877	Si
0.23	0.41	0.0004	2969	SLD 5	0.104	6725	7661	SLD 5	15877	Si
0.41	0.41	0.0007	2901	SLD 5	0.142	12654	7486	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000379	2220	SLE RA 21	62535	1494000	775437	36000000	1998	SLE QP 2	56281	1120500	Si
0.2	0.41	0.00000379	2179	SLE RA 21	61377	1494000	761079	36000000	1961	SLE QP 2	55231	1120500	Si
0.23	0.41	0.00000379	2174	SLE RA 21	61234	1494000	759298	36000000	1956	SLE QP 2	55100	1120500	Si
0.41	0.41	0.00000725	2131	SLE RA 21	57450	1494000	712380	36000000	1917	SLE QP 2	51685	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 27 - 30, sezione R 70x45, aste 317, 318, 319, 320, 321, 322

Campata 5 tra i fili 30 - 30, sezione R 70x45, asta 323

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3903	SLV FO 5	0.172	10865	10072	SLV FO 5	15877	Si
0.18	0.41	0.0007	4047	SLV FO 5	0.172	10865	10443	SLV FO 5	15877	Si
0.2	0.41	0.0007	4069	SLV FO 5	0.172	10865	10500	SLV FO 5	15877	Si
0.35	0.41	0.0007	4206	SLV FO 9	0.172	10865	10854	SLV FO 9	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3023	SLD 5	0.142	12654	7801	SLD 5	15877	Si
0.18	0.41	0.0007	3134	SLD 5	0.142	12654	8088	SLD 5	15877	Si
0.2	0.41	0.0007	3151	SLD 5	0.142	12654	8132	SLD 5	15877	Si
0.35	0.41	0.0007	3257	SLD 9	0.142	12654	8406	SLD 9	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000725	2226	SLE RA 21	60002	1494000	744028	36000000	1998	SLE QP 2	53849	1120500	Si
0.18	0.41	0.00000725	2308	SLE RA 21	62226	1494000	771605	36000000	2072	SLE QP 2	55842	1120500	Si
0.2	0.41	0.00000725	2321	SLE RA 21	62568	1494000	775843	36000000	2083	SLE QP 2	56149	1120500	Si
0.35	0.41	0.00000725	2399	SLE RA 21	64682	1494000	802055	36000000	2153	SLE QP 2	58045	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

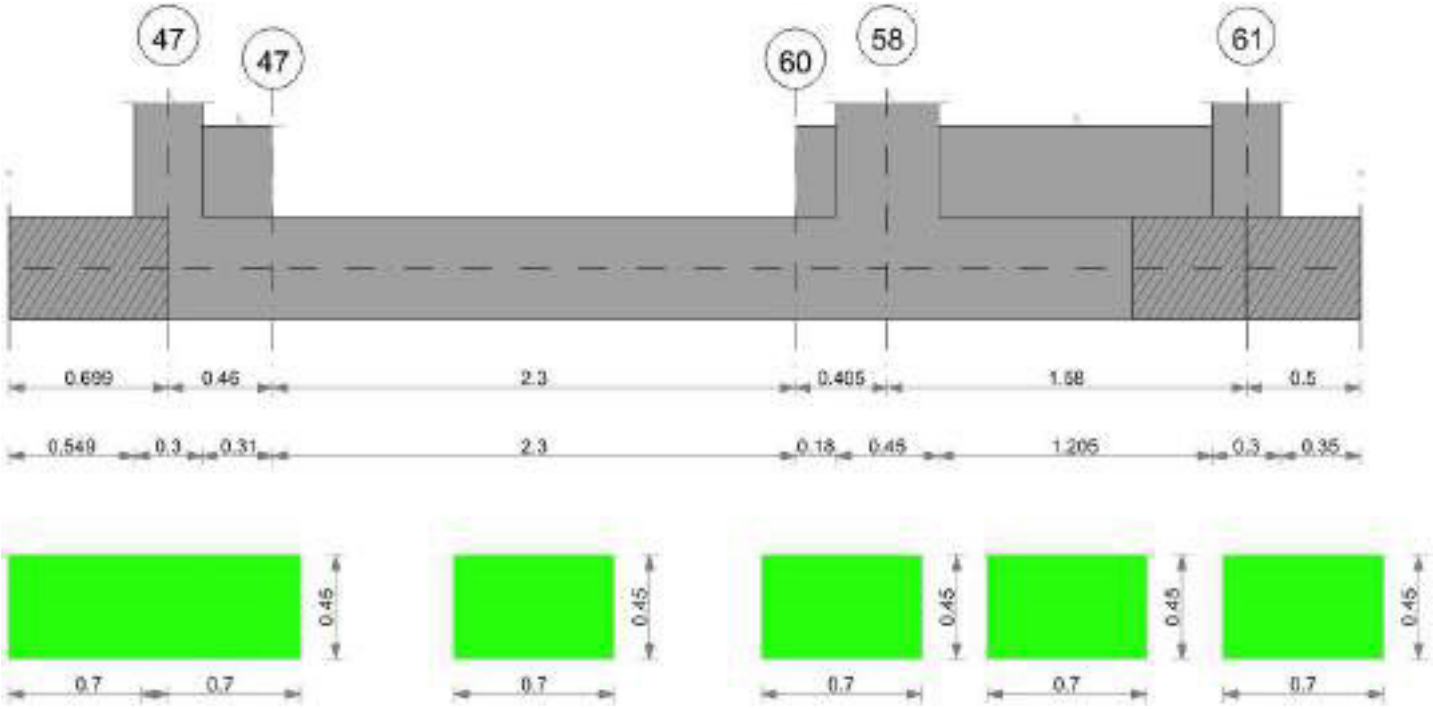
Tipo	Assoluto				Differenziale					Relativo				Rapp. Inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	389	SLE RA 21	0.05	0	389	383	SLE RA 21	0.05	0	383	SLE RA 21	0.0033	0	SLE RA 20	Si
D	0.05	0	390	SLE RA 1	0.05	0	390	390	SLE RA 1	0.05	0	389	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	390	SLE RA 1	0.05	0	390	390	SLE RA 1	0.05	0	389	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	389	383	SLE RA 21	0.19	0.01	389	SLE RA 21	0.1	0.01	383	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	390	389	SLE RA 1	0.19	0	390	SLE RA 1	0.1	0	389	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	390	389	SLE RA 1	0.19	0	390	SLE RA 1	0.1	0	389	SLE RA 1	Si

CORDOLO 19

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

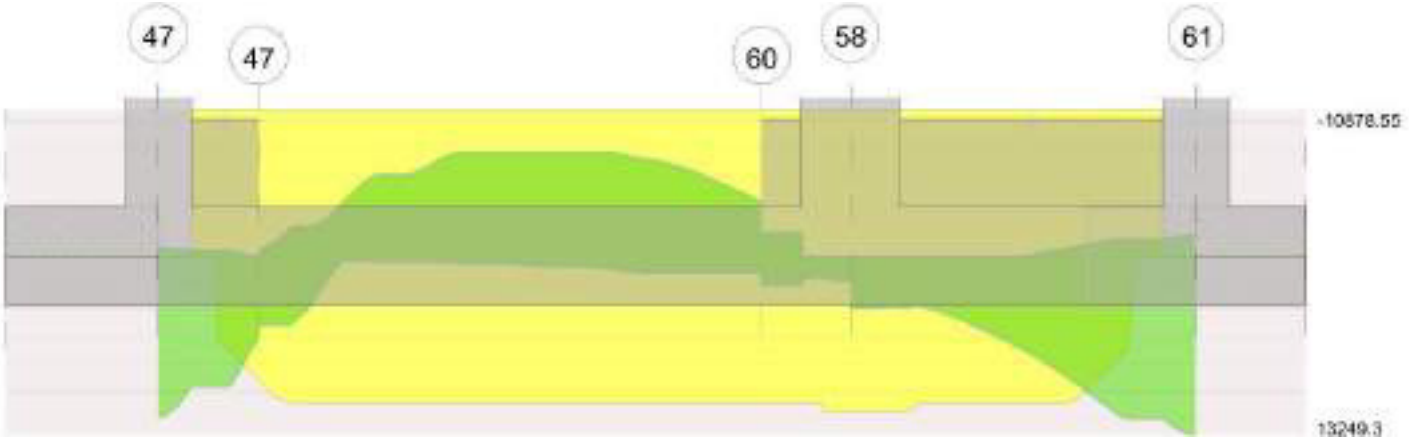
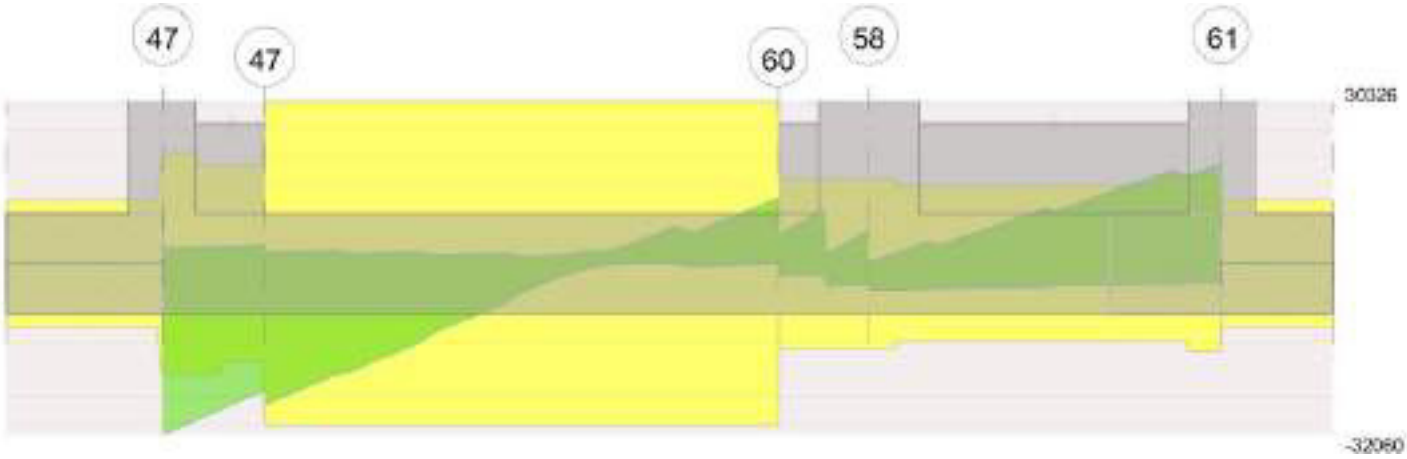


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 47 - 60, sezione R 70x45, aste 782, 781, 780, 779, 778, 777

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	3502.84	SLU 84	3502.84	9903	0.111	2.83							Si
1.07	0.000763	0.052	0.000763	0.052							-5445.61	SLU 84	-5445.61	-11561.07	0.116	2.12	Si
1.15	0.000763	0.052	0.000763	0.052							-5016.29	SLU 84	-5445.61	-11561.07	0.116	2.12	Si
2.3	0.000763	0.052	0.000763	0.052							-710.12	SLU 84	-2121.86	-11561.07	0.116	5.45	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	5070.05	SLV FO 10	5070.05	9214.73	0.188	1.82	-385.27	SLV FO 7	-385.27	-10871.8	0.204	28.22	Si
1.07	0.000763	0.052	0.000763	0.052	534.78	SLV FO 7	534.78	10870.29	0.203	20.33	-7751	SLV FO 10	-7751	-10870.29	0.203	1.4	Si
1.15	0.000763	0.052	0.000763	0.052	268.93	SLV FO 7	534.78	10870.29	0.203	20.33	-6898.76	SLV FO 10	-7751	-10870.29	0.203	1.4	Si
2.3	0.000763	0.052	0.000763	0.052	1268.18	SLV FO 7	1268.18	10870.29	0.203	8.57	-2179.62	SLV FO 10	-4036.35	-10870.29	0.203	2.69	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000643	0.052	3814.06	SLD 10	3814.06	9214.73	0.188	2.42							Si
1.07	0.000763	0.052	0.000763	0.052							-5845.83	SLD 10	-5845.83	-10870.29	0.203	1.86	Si
1.15	0.000763	0.052	0.000763	0.052							-5246.26	SLD 10	-5845.83	-10870.29	0.203	1.86	Si
2.3	0.000763	0.052	0.000763	0.052	479.8	SLD 7	479.8	10870.29	0.203	22.66	-1391.24	SLD 10	-2821.79	-10870.29	0.203	3.85	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000643	0	-18282	SLU 84	-18282	-10870	-88449	-30326	-30326	1	1.66	Si
1.15	0.0000216	0.000763	0	-2958	SLU 84	-2958	-10870	-88449	-30326	-30326	1	10.25	Si
2.3	0.0000216	0.000763	0	9164	SLU 84	9164	10870	88449	30326	30326	1	3.31	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000763	0	2038	SLV FO 7	2038	10870	88449	30326	30326	1	14.88	Si
0	0.0000216	0.000643	0	-26403	SLV FO 10	-26403	-10870	-88449	-30326	-30326	1	1.15	Si
1.15	0.0000216	0.000763	0	1355	SLV FO 7	1355	10870	88449	30326	30326	1	22.38	Si
1.15	0.0000216	0.000763	0	-5334	SLV FO 10	-5334	-10870	-88449	-30326	-30326	1	5.69	Si
2.3	0.0000216	0.000763	0	12172	SLV FO 6	12172	10870	88449	30326	30326	1	2.49	Si
2.3	0.0000216	0.000763	0	-15	SLV FO 11	-15	-10870	-88449	-30326	-30326	1	2054.14	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000643	0	-19864	SLD 10	-19864	-10870	-88449	-30326	-30326	1	1.53	Si
1.15	0.0000216	0.000763	0	-3809	SLD 10	-3809	-10870	-88449	-30326	-30326	1	7.96	Si
2.3	0.0000216	0.000763	0	9359	SLD 6	9359	10870	88449	30326	30326	1	3.24	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	2580.22	21	2580.22	97222	1494000	1470443	36000000	2342.39	2	2342.39	88261	1120500			Si
1.15	-3676.06	21	-3995.41	149801	1494000	2247017	36000000	-3314.91	2	-3608.11	135280	1120500			Si
2.3	-520.64	21	-1555.5	58321	1494000	874814	36000000	-455.72	2	-1391.25	52163	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 47 - 47, sezione R 70x45, asta 783

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4090	SLV FO 10	0.135	6651	10554	SLV FO 10	15877	Si
0.15	0.41	0.0004	4069	SLV FO 10	0.135	6651	10501	SLV FO 10	15877	Si
0.23	0.41	0.0004	4054	SLV FO 10	0.135	6651	10461	SLV FO 10	15877	Si
0.46	0.41	0.0007	3999	SLV FO 10	0.172	10803	10319	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3162	SLD 10	0.111	7725	8161	SLD 10	15877	Si
0.15	0.41	0.0004	3147	SLD 10	0.111	7725	8121	SLD 10	15877	Si
0.23	0.41	0.0004	3135	SLD 10	0.111	7725	8091	SLD 10	15877	Si
0.46	0.41	0.0007	3093	SLD 10	0.142	12581	7983	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000437	2314	SLE RA 21	64687	1494000	802116	36000000	2082	SLE QP 2	58203	1120500	Si
0.15	0.41	0.00000437	2302	SLE RA 21	64370	1494000	798185	36000000	2072	SLE QP 2	57926	1120500	Si
0.23	0.41	0.00000437	2294	SLE RA 21	64140	1494000	795337	36000000	2065	SLE QP 2	57723	1120500	Si
0.46	0.41	0.00000721	2264	SLE RA 21	61063	1494000	757180	36000000	2038	SLE QP 2	54964	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 47 - 60, sezione R 70x45, aste 782, 781, 780, 779, 778, 777

Campata 4 tra i fili 60 - 58, sezione R 70x45, aste 776, 775

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3948	SLV FO 10	0.172	10803	10189	SLV FO 10	15877	Si
0.18	0.41	0.0004	4028	SLV FO 10	0.126	5794	10395	SLV FO 10	15877	Si
0.2	0.41	0.0004	4038	SLV FO 10	0.126	5794	10421	SLV FO 10	15877	Si
0.4	0.41	0.0004	4127	SLV FO 10	0.126	5794	10651	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3051	SLD 10	0.142	12581	7873	SLD 10	15877	Si
0.18	0.41	0.0004	3109	SLD 10	0.104	6725	8022	SLD 10	15877	Si
0.2	0.41	0.0004	3116	SLD 10	0.104	6725	8041	SLD 10	15877	Si
0.4	0.41	0.0004	3179	SLD 10	0.104	6725	8203	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000721	2217	SLE RA 21	59787	1494000	741353	36000000	1999	SLE QP 2	53917	1120500	Si
0.18	0.41	0.00000379	2251	SLE RA 21	63414	1494000	786330	36000000	2030	SLE QP 2	57197	1120500	Si
0.2	0.41	0.00000379	2255	SLE RA 21	63532	1494000	787792	36000000	2034	SLE QP 2	57304	1120500	Si
0.4	0.41	0.00000379	2289	SLE RA 21	64488	1494000	799650	36000000	2065	SLE QP 2	58173	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 5 tra i fili 58 - 61, sezione R 70x45, aste 774, 773, 772, 771

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4127	SLV FO 10	0.126	5794	10651	SLV FO 10	15877	Si
0.23	0.41	0.0003	4182	SLV FO 10	0.12	5289	10793	SLV FO 10	15877	Si
0.79	0.41	0.0003	4299	SLV FO 10	0.12	5289	11094	SLV FO 10	15877	Si
1.43	0.41	0.0003	4360	SLV FO 10	0.12	5289	11251	SLV FO 10	15877	Si
1.58	0.41	0.0003	4355	SLV FO 10	0.12	5289	11239	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3179	SLD 10	0.104	6725	8203	SLD 10	15877	Si
0.23	0.41	0.0003	3216	SLD 10	0.099	6136	8300	SLD 10	15877	Si
0.79	0.41	0.0003	3291	SLD 10	0.099	6136	8494	SLD 10	15877	Si
1.43	0.41	0.0003	3320	SLD 10	0.099	6136	8567	SLD 10	15877	Si
1.58	0.41	0.0003	3312	SLD 10	0.099	6136	8548	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000379	2289	SLE RA 21	64488	1494000	799650	36000000	2065	SLE QP 2	58173	1120500	Si
0.23	0.41	0.00000345	2308	SLE RA 21	65305	1494000	809778	36000000	2082	SLE QP 2	58913	1120500	Si
0.79	0.41	0.00000345	2336	SLE RA 21	66088	1494000	819491	36000000	2107	SLE QP 2	59619	1120500	Si
1.43	0.41	0.00000345	2325	SLE RA 21	65782	1494000	815702	36000000	2097	SLE QP 2	59330	1120500	Si
1.58	0.41	0.00000345	2313	SLE RA 21	65443	1494000	811490	36000000	2086	SLE QP 2	59019	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

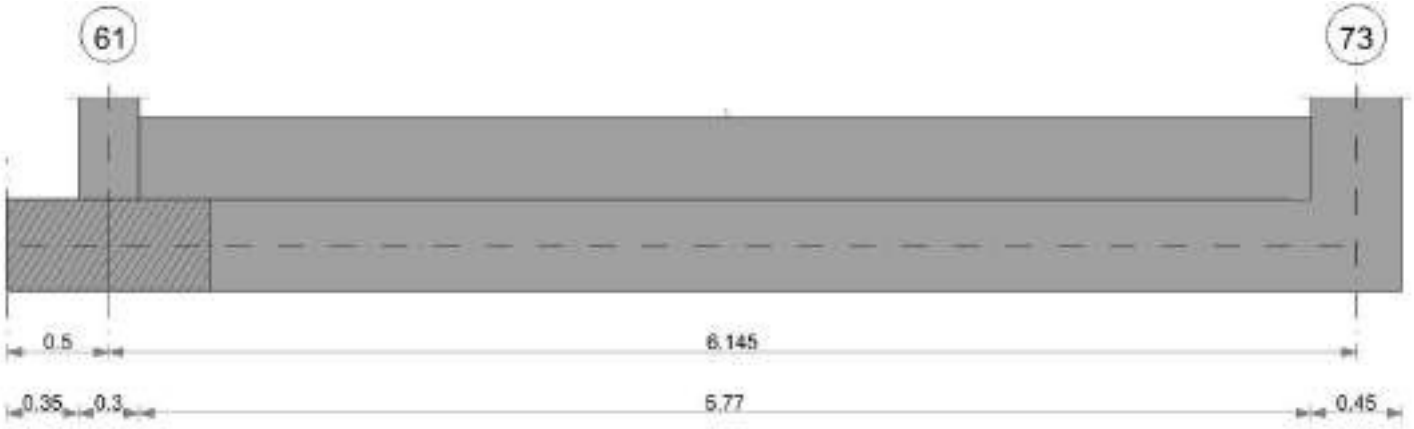
Tipo	Assoluto				Differenziale					Relativo				Rapp. Inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	391	SLE RA 21	0.05	0	391	404	SLE RA 21	0.05	0	398	SLE RA 8	0.0033	0	SLE RA 1	Si
D	0.05	0	404	SLE RA 1	0.05	0	404	404	SLE RA 1	0.05	0	400	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	404	SLE RA 1	0.05	0	404	404	SLE RA 1	0.05	0	400	SLE RA 1	0.0033	0	SLE RA 1	Si

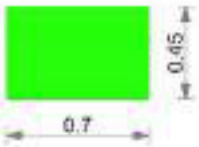
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	398	392	SLE RA 21	0.19	0.01	392	SLE RA 15	0.1	0.01	398	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	404	400	SLE RA 1	0.19	0	404	SLE RA 1	0.1	0	400	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	404	400	SLE RA 1	0.19	0	404	SLE RA 1	0.1	0	400	SLE RA 1	Si

CORDOLO 20

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

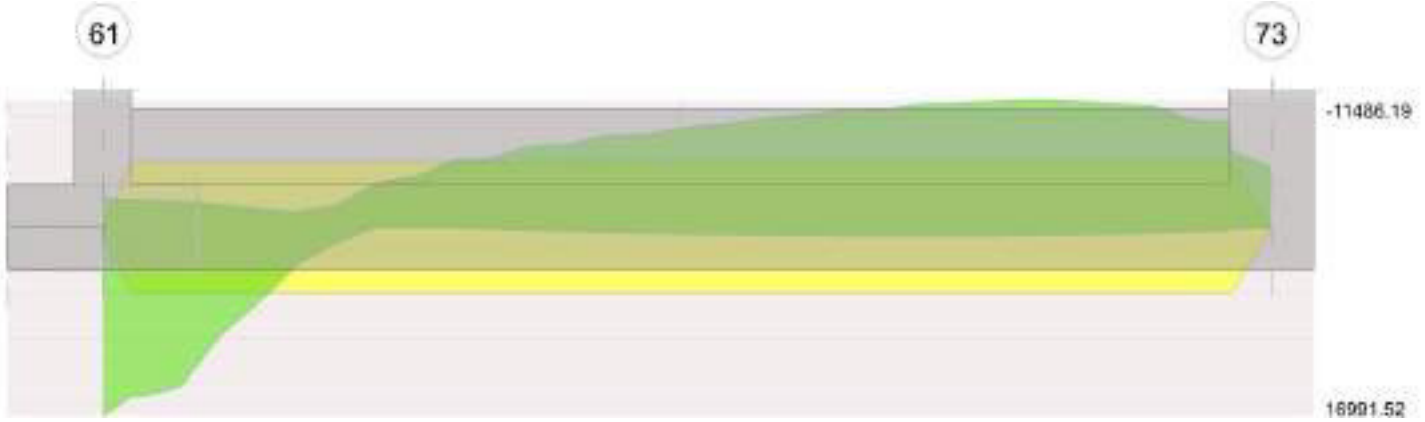
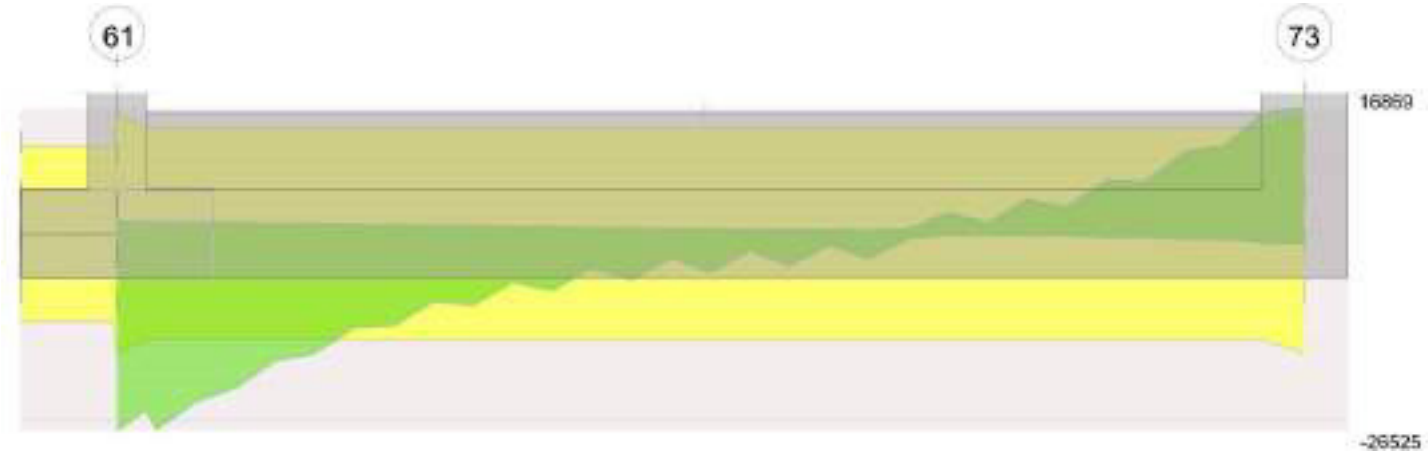


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 61 - 73, sezione R 70x45, aste 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4314	SLV FO 10	0.119	5197	11134	SLV FO 10	15877	Si
0.15	0.41	0.0003	4293	SLV FO 10	0.119	5197	11078	SLV FO 10	15877	Si
3.07	0.41	0.0003	3223	SLV FO 10	0.119	5197	8316	SLV FO 10	15877	Si
6.15	0.41	0.0003	5004	SLV FO 10	0.119	5197	12914	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3264	SLD 10	0.098	6029	8424	SLD 10	15877	Si
0.15	0.41	0.0003	3243	SLD 10	0.098	6029	8370	SLD 10	15877	Si
3.07	0.41	0.0003	2392	SLD 10	0.098	6029	6173	SLD 10	15877	Si
5.92	0.41	0.0003	3921	SLD 10	0.098	6029	10119	SLD 10	15877	Si
6.15	0.41	0.0003	3718	SLD 10	0.098	6029	9594	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000339	2251	SLE RA 21	63727	1494000	790217	36000000	2029	SLE QP 2	57447	1120500	Si
0.15	0.41	0.00000339	2228	SLE RA 21	63088	1494000	782290	36000000	2008	SLE QP 2	56863	1120500	Si
3.07	0.41	0.00000339	1566	SLE RA 21	44344	1494000	549870	36000000	1408	SLE QP 2	39878	1120500	Si
5.92	0.41	0.00000339	2548	SLE RA 21	72155	1494000	894725	36000000	2307	SLE QP 2	65338	1120500	Si
6.15	0.41	0.00000339	2414	SLE RA 21	68345	1494000	847473	36000000	2185	SLE QP 2	61858	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364	6.37	1.3	SLU 84	ST	BT	2.3	266498	85319	3.12	Si
349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364	6.37	1.3	SLD 10	SIS	BT	2.3	235421	88110	2.67	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-25	-85319	11882.2	2872.15	0	0	0.03	0.14	1.02	6.3	1496	2060	0	14430	
0	12281	-3657	-7326.67	-5086.15	0	73	-1.39	-2	-2.71	3.59	1496	2060	0	14430	0.07
0	-6433	-88110	16100.23	6078.7	0	-4	0.07	0.18	0.93	6.23	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	0	0	0.03	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

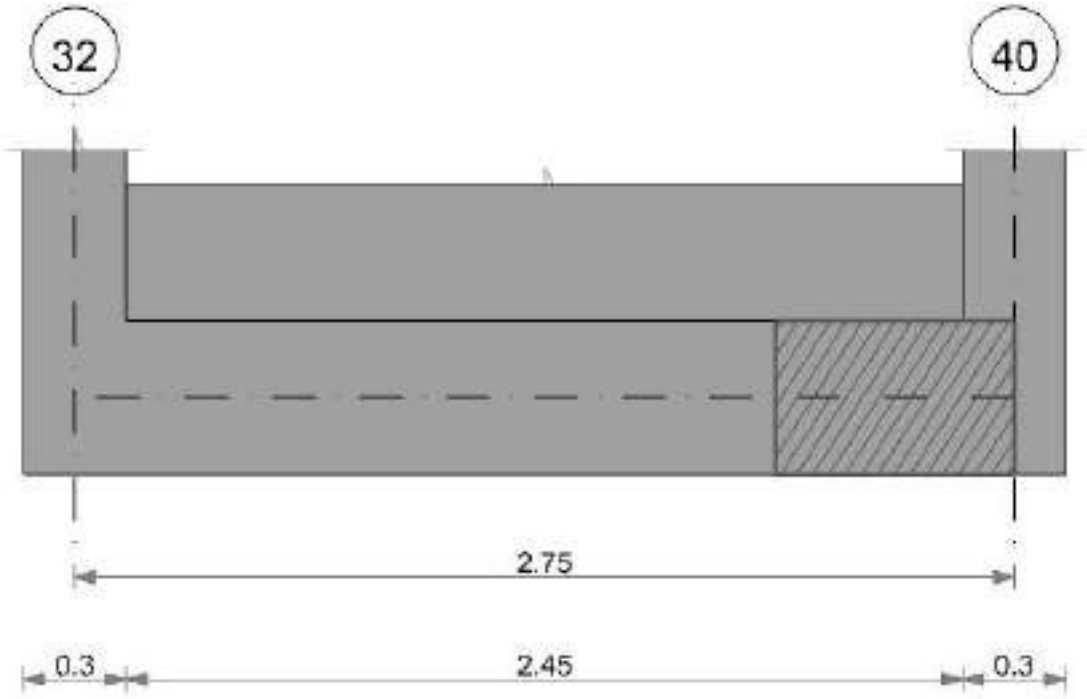
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	405	SLE RA 21	0.05	0	405	421	SLE RA 21	0.05	0	421	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	421	SLE RA 1	0.05	0	421	421	SLE RA 1	0.05	0	421	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	421	SLE RA 1	0.05	0	421	421	SLE RA 1	0.05	0	421	SLE RA 1	0.0033	0	SLE RA 1	Si

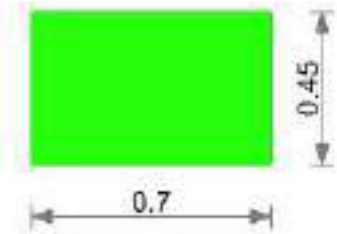
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	421	405	SLE RA 21	0.19	0	421	SLE RA 1	0.1	0	421	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	421	405	SLE RA 1	0.19	0	421	SLE RA 1	0.1	0	421	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	421	405	SLE RA 1	0.19	0	421	SLE RA 1	0.1	0	421	SLE RA 1	Si

CORDOLO 21

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

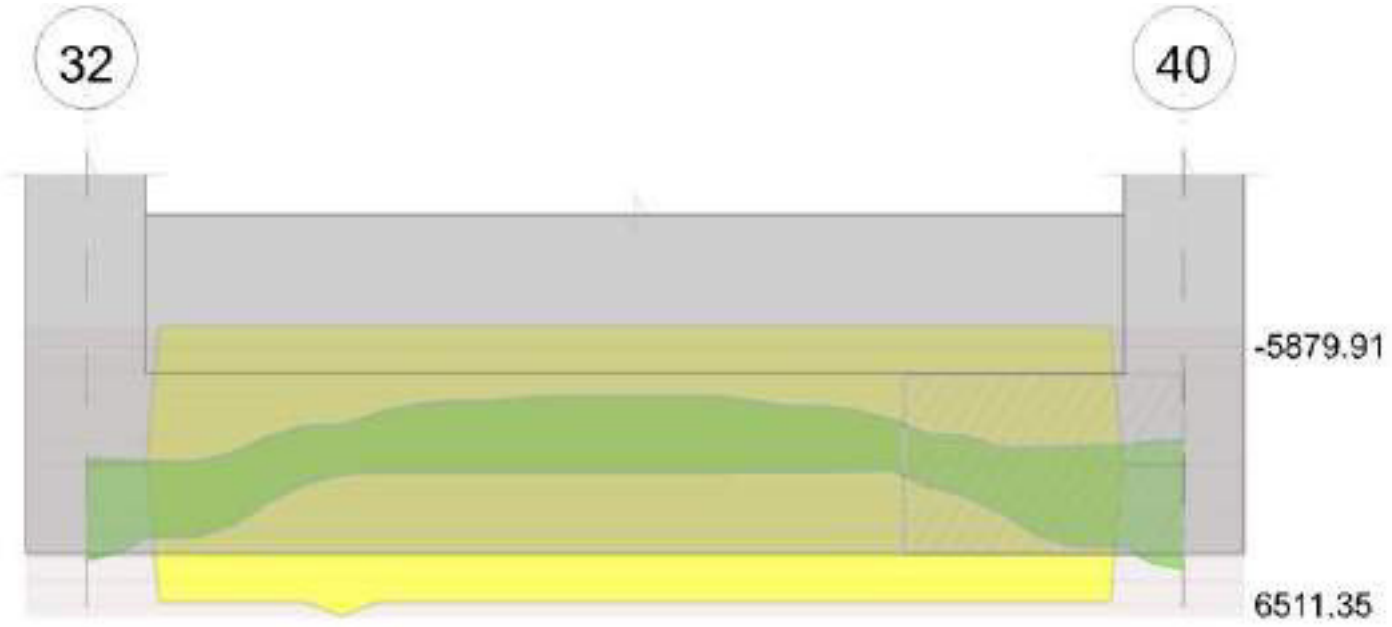
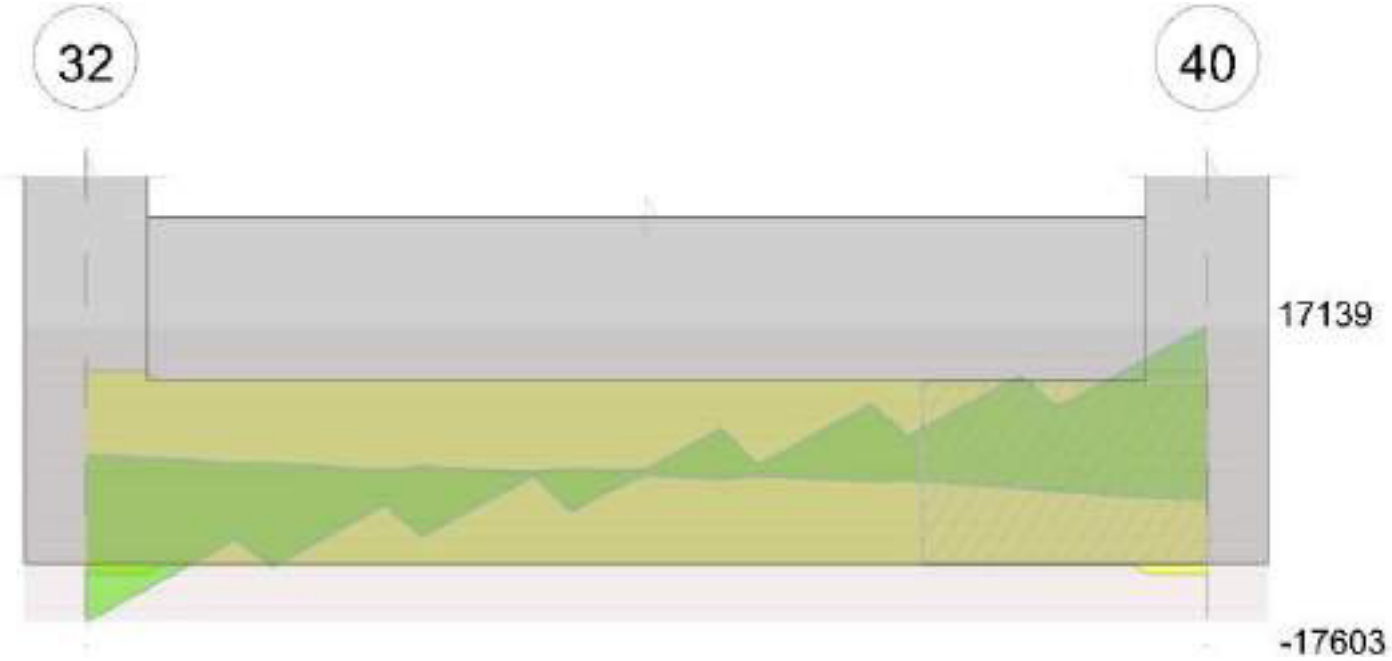


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 32 - 40, sezione R 70x45, aste 595, 594, 593, 592, 591, 590, 589

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4154	SLD 5	0.099	6147	11077	SLD 5	15877	Si
0.15	0.41	0.0003	4142	SLD 5	0.099	6147	11045	SLD 5	15877	Si
1.38	0.41	0.0003	4046	SLD 10	0.099	6147	10789	SLD 10	15877	Si
2.6	0.41	0.0003	4079	SLD 10	0.099	6147	10876	SLD 10	15877	Si
2.75	0.41	0.0003	4081	SLD 10	0.099	6147	10881	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000346	2692	SLE RA 21	76156	1494000	944339	36000000	2415	SLE QP 2	68332	1120500	Si
0.15	0.41	0.00000346	2685	SLE RA 21	75951	1494000	941793	36000000	2409	SLE QP 2	68147	1120500	Si
1.38	0.41	0.00000346	2616	SLE RA 21	74010	1494000	917730	36000000	2348	SLE QP 2	66422	1120500	Si
2.6	0.41	0.00000346	2613	SLE RA 21	73938	1494000	916834	36000000	2348	SLE QP 2	66415	1120500	Si
2.75	0.41	0.00000346	2612	SLE RA 21	73895	1494000	916303	36000000	2346	SLE QP 2	66385	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
595,594,593,592,591,590,589	3.05	1.3	SLU 84	ST	BT	2.3	164786	54722	3.01	Si
595,594,593,592,591,590,589	3.05	1.3	SLV FO 6	SIS	BT	2.3	146225	77141	1.9	Si
595,594,593,592,591,590,589	3.05	1.3	SLD 6	SIS	BT	2.3	152461	58600	2.6	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
210	124	-54722	1087.06	-225.5	0	0	0	0.02	1.26	3.04	1496	2060	0	14430	
-1936	-5459	-77141	5238.08	-1306.36	-1	-4	-0.02	0.07	1.16	3.02	1496	2060	0	14430	0.07
-1057	-2869	-58600	3136.34	-808.98	-1	-3	-0.01	0.05	1.19	3.02	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.08	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

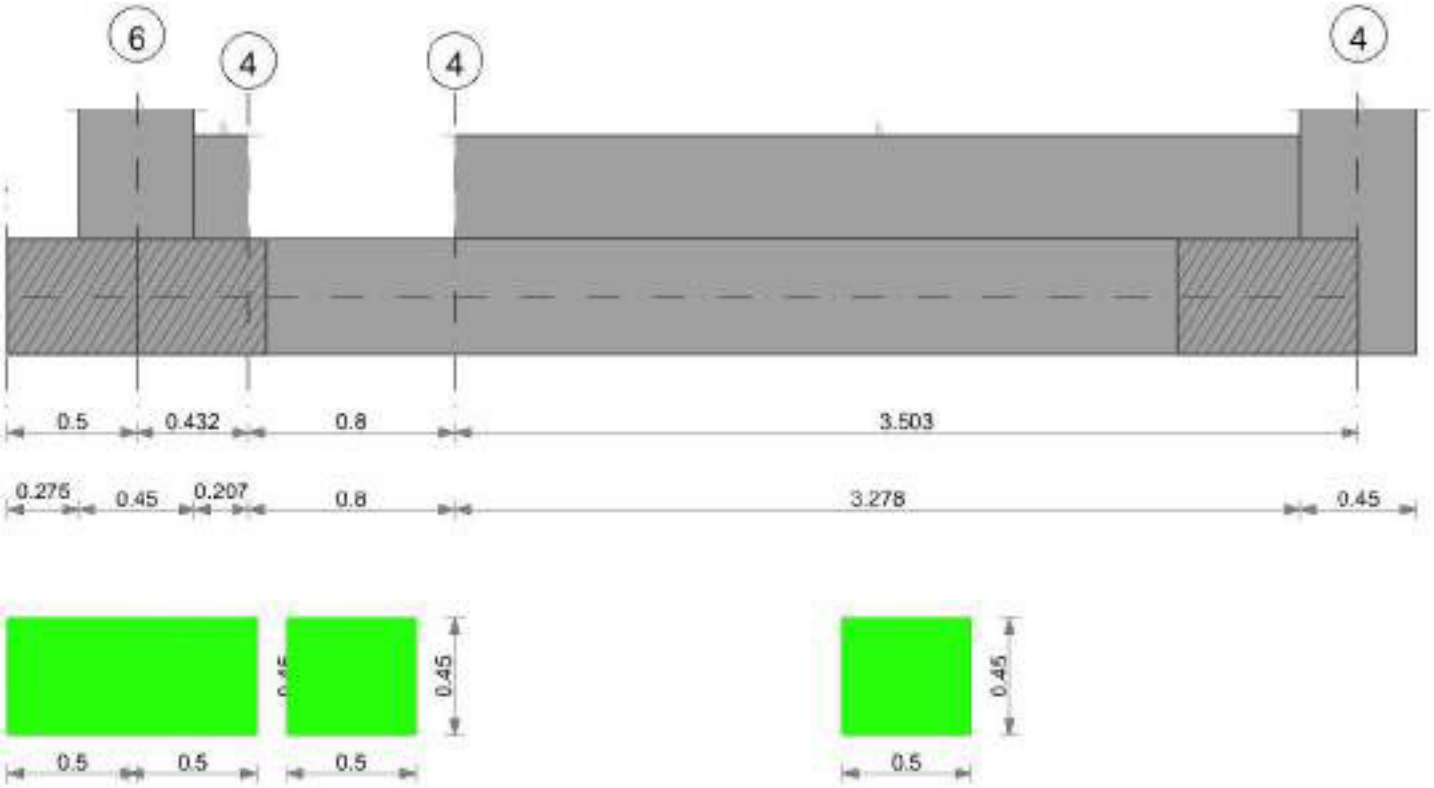
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	224	SLE RA 21	0.05	0	224	217	SLE RA 21	0.05	0	224	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	224	SLE RA 1	0.05	0	224	224	SLE RA 1	0.05	0	224	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	224	SLE RA 1	0.05	0	224	224	SLE RA 1	0.05	0	224	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	224	217	SLE RA 21	0.19	0	224	SLE RA 1	0.1	0	224	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	224	217	SLE RA 1	0.19	0	224	SLE RA 1	0.1	0	224	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	224	217	SLE RA 1	0.19	0	224	SLE RA 1	0.1	0	224	SLE RA 1	Si

CORDOLO 22

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

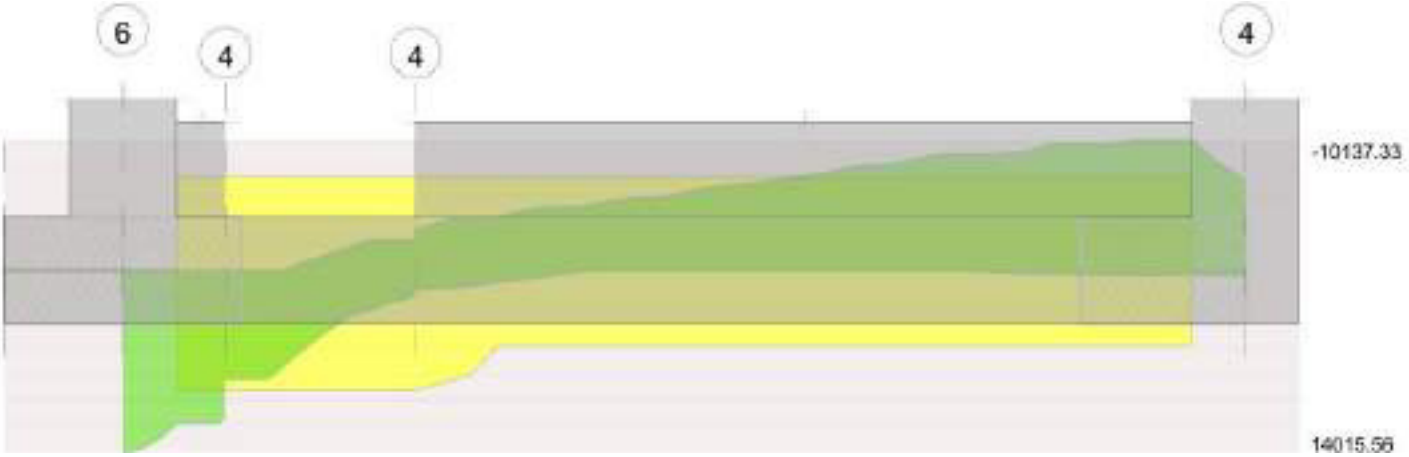
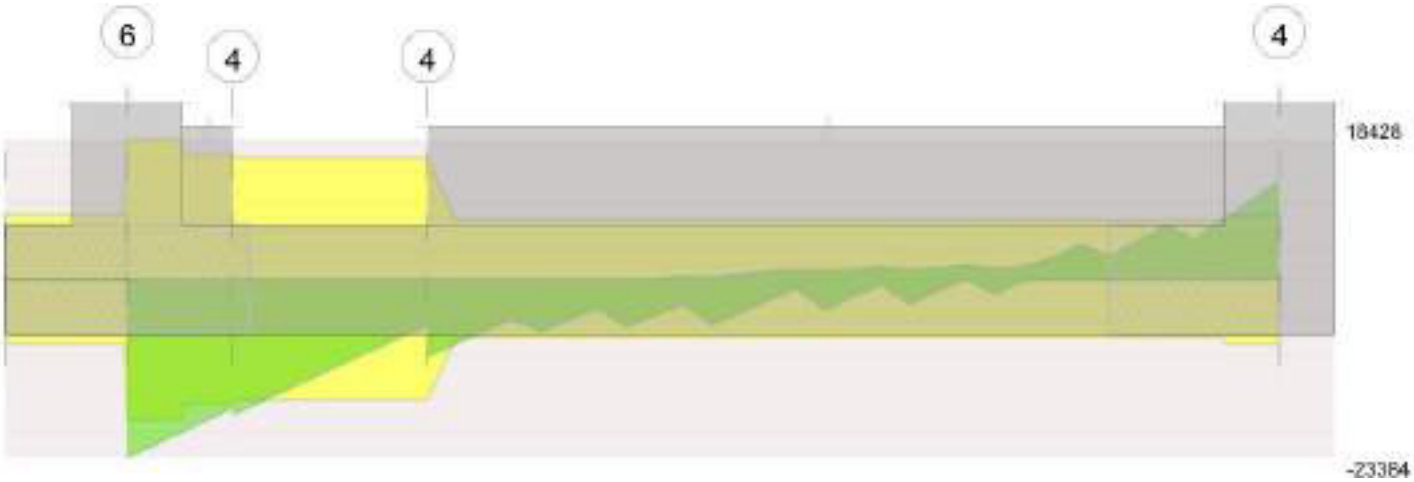


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 4 - 4, sezione R 50x45, asta 458

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	8002.81	SLU 84	8002.81	9802.96	0.123	1.22							Si
0.16	0.000509	0.052	0.000657	0.051	5528.78	SLU 84	8002.81	9802.96	0.123	1.22							Si
0.4	0.000509	0.052	0.000657	0.051	2518.01	SLU 84	4692.78	9802.96	0.123	2.09							Si
0.8	0.000509	0.052	0.000657	0.051	-374.32	SLU 2	479.79	9802.96	0.123	20.43	-706.13	SLU 83	-706.13	-7757.04	0.115	10.99	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	8425.69	SLV FO 2	8425.69	9282.47	0.222	1.1							Si
0.16	0.000509	0.052	0.000657	0.051	5932.3	SLV FO 2	8425.69	9282.47	0.222	1.1							Si
0.4	0.000509	0.052	0.000657	0.051	3186.46	SLV FO 5	5090.22	9282.47	0.222	1.82	142.77	SLV FO 12	-1083.56	-7265.54	0.195	6.71	Si
0.8	0.000509	0.052	0.000657	0.051	1464.08	SLV FO 9	1937.35	9282.47	0.222	4.79	-2390.1	SLV FO 8	-2390.1	-7265.54	0.195	3.04	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000657	0.051	7124.18	SLD 2	7124.18	9282.47	0.222	1.3							Si
0.16	0.000509	0.052	0.000657	0.051	4978.18	SLD 2	7124.18	9282.47	0.222	1.3							Si
0.4	0.000509	0.052	0.000657	0.051	2494.98	SLD 5	4253.26	9282.47	0.222	2.18	834.24	SLD 12	-344.45	-7265.54	0.195	21.09	Si
0.8	0.000509	0.052	0.000657	0.051	579.19	SLD 9	1186.05	9282.47	0.222	7.83	-1505.22	SLD 8	-1505.22	-7265.54	0.195	4.83	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.4	0.0000113	0.000657	0	-10848	SLU 83	-10848	-8240	-63275	-15877	-15877	1	1.46	Si
0.8	0.0000113	0.000509	0	-5240	SLU 83	-5240	-7764	-63178	-15852	-15852	1	3.03	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.4	0.0000113	0.000657	0	-11831	SLV FO 4	-11831	-8240	-63275	-15877	-15877	1	1.34	Si
0.8	0.0000113	0.000509	0	-6036	SLV FO 4	-6036	-7764	-63178	-15852	-15852	1	2.63	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000116	0.000657	0	-14986	SLD 4	-14986	-8240	-63275	-16324	-16324	1	1.09	Si
0.03	0.0000113	0.000657	0	-14642	SLD 4	-14642	-8240	-63275	-15877	-15877	1	1.08	Si
0.4	0.0000113	0.000657	0	-9883	SLD 4	-9883	-8240	-63275	-15877	-15877	1	1.61	Si
0.8	0.0000113	0.000509	0	-4942	SLD 4	-4942	-7764	-63178	-15852	-15852	1	3.21	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	5853.7	21	5853.7	557054	1494000	24620985	36000000	5327.62	2	5327.62	506991	1120500			Si
0.4	1841.12	21	3431.72	179944	1494000	2660926	36000000	1664.61	2	3116.09	163394	1120500			Si
0.8	-512.54	20	-512.54	26495	1494000	403129	36000000	-463.01	2	-463.01	23934	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0	inferiore	0.398	0.00072	0.000285	21	0.398	0.00067	0.000266	6	0.398	0.00065	0.00026	2	Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 6 - 4, sezione R 50x45, asta 459

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2185	SLV FO 2	0.155	8772	7600	SLV FO 2	22763	Si
0.22	0.41	0.0006	2173	SLV FO 2	0.155	8772	7558	SLV FO 2	22763	Si
0.23	0.41	0.0006	2170	SLV FO 4	0.155	8772	7547	SLV FO 4	22763	Si
0.43	0.41	0.0006	2162	SLV FO 4	0.155	8772	7519	SLV FO 4	22763	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1859	SLD 2	0.128	10204	6465	SLD 2	26177	Si
0.22	0.41	0.0006	1852	SLD 2	0.128	10204	6441	SLD 2	26177	Si
0.23	0.41	0.0006	1850	SLD 4	0.128	10204	6435	SLD 4	26177	Si
0.43	0.41	0.0006	1839	SLD 4	0.128	10204	6397	SLD 4	26177	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000581	1545	SLE RA 21	42402	1494000	525786	36000000	1405	SLE QP 2	38556	1120500	Si
0.22	0.41	0.00000581	1544	SLE RA 20	42373	1494000	525425	36000000	1404	SLE QP 2	38528	1120500	Si
0.23	0.41	0.00000581	1543	SLE RA 20	42364	1494000	525313	36000000	1403	SLE QP 2	38520	1120500	Si
0.43	0.41	0.00000581	1529	SLE RA 20	41971	1494000	520435	36000000	1390	SLE QP 2	38161	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 4 - 4, sezione R 50x45, asta 458

Campata 4 tra i fili 4 - 4, sezione R 50x45, aste 457, 456, 455, 454, 453, 452, 451, 450, 449

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2048	SLV FO 4	0.153	8540	7125	SLV FO 4	22140	Si
1.75	0.41	0.0002	2108	SLV FO 8	0.086	2722	7332	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1725	SLD 4	0.126	9932	6001	SLD 4	25461	Si
1.75	0.41	0.0002	1671	SLD 8	0.071	3150	5812	SLD 8	15877	Si
3.28	0.41	0.0002	2366	SLD 8	0.071	3150	8228	SLD 8	15877	Si
3.5	0.41	0.0002	2523	SLD 8	0.071	3150	8776	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000565	1409	SLE RA 20	38765	1494000	480687	36000000	1281	SLE QP 2	35237	1120500	Si
1.75	0.41	0.00000175	1258	SLE RA 20	36406	1494000	451437	36000000	1143	SLE QP 2	33076	1120500	Si
3.28	0.41	0.00000175	1539	SLE RA 20	44546	1494000	552370	36000000	1400	SLE QP 2	40498	1120500	Si
3.5	0.41	0.00000175	1620	SLE RA 20	46869	1494000	581174	36000000	1473	SLE QP 2	42617	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
459,458,457,456,455,454,453,452,451,450,449	4.96	1.1	SLU 83	ST	BT	2.3	197312	72719	2.71	Si
459,458,457,456,455,454,453,452,451,450,449	4.96	1.1	SLV FO 8	SIS	BT	2.3	167090	76289	2.19	Si
459,458,457,456,455,454,453,452,451,450,449	4.96	1.1	SLD 4	SIS	BT	2.3	182917	65663	2.79	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-898	-72719	-5918.85	-1403.34	0	-1	-0.02	-0.08	0.94	4.92	1496	2060	0	14430	
0	150	-76289	-7657.26	24439.08	0	0	0.32	-0.1	0.9	4.32	1496	2060	0	14430	0.07
0	2285	-65663	-6988.59	3407.52	0	2	0.05	-0.11	0.89	4.86	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

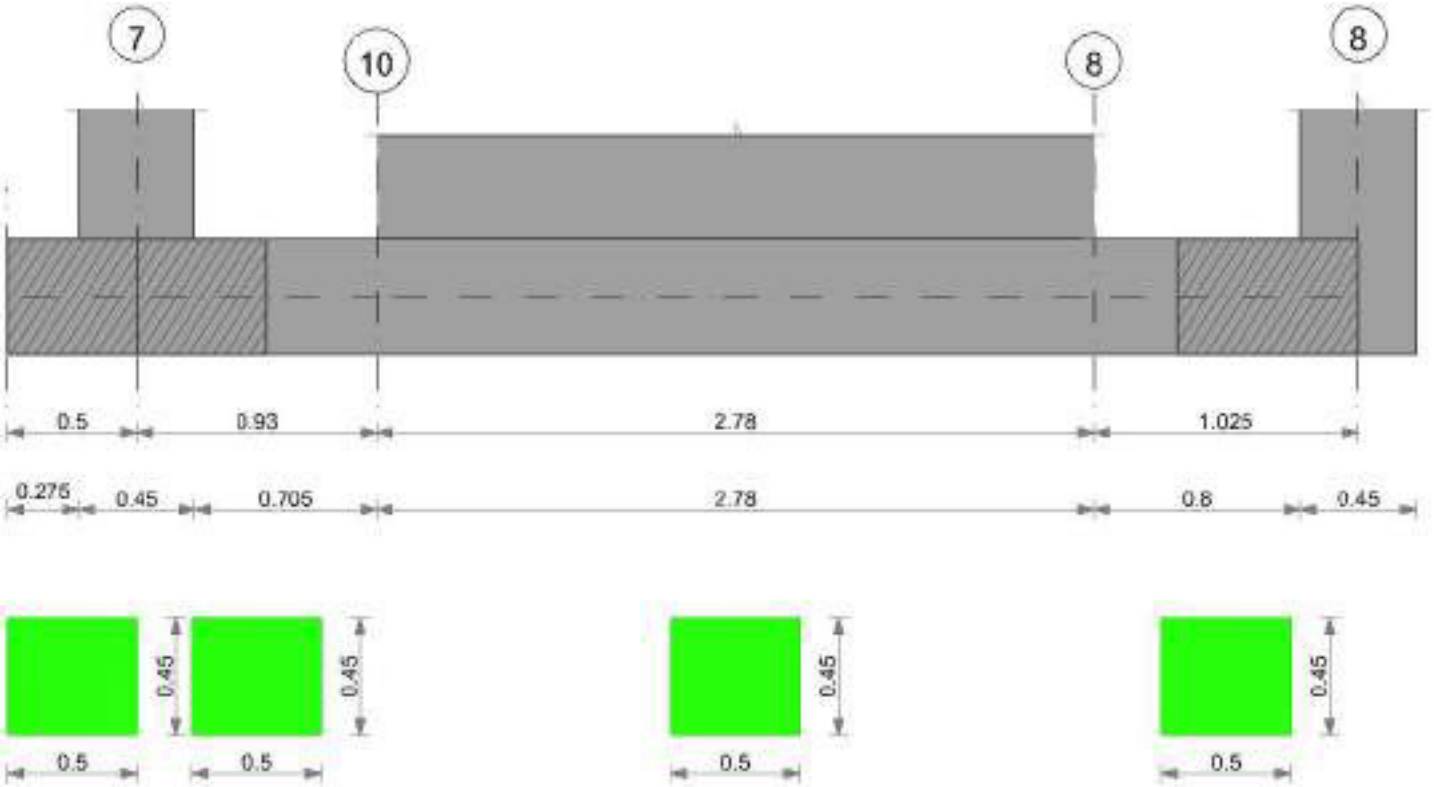
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	644	SLE RA 21	0.05	0	644	994	SLE RA 21	0.05	0	795	SLE RA 10	0.0033	0	SLE RA 10	Si
D	0.05	0	644	SLE RA 1	0.05	0	644	644	SLE RA 1	0.05	0	779	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	644	SLE RA 1	0.05	0	644	644	SLE RA 1	0.05	0	779	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0.01	779	795	SLE RA 21	0.19	0	779	SLE RA 21	0.1	0.01	795	SLE RA 10	Si
D	0.19	0	SLE RA 1	0.19	0	644	779	SLE RA 1	0.19	0	644	SLE RA 1	0.1	0	779	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	644	779	SLE RA 1	0.19	0	644	SLE RA 1	0.1	0	779	SLE RA 1	Si

CORDOLO 23

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

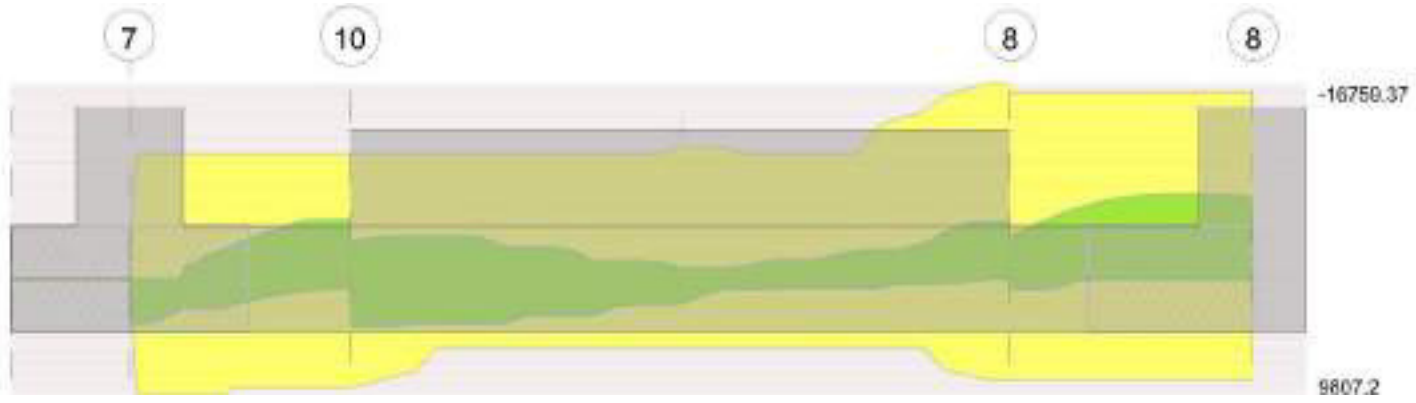


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 2 tra i fili 7 - 10, sezione R 50x45, asta 448

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	2464.74	SLU 84	2464.74	9807.2	0.125	3.98							Si
0.47	0.000763	0.052	0.000657	0.051	-107	SLU 2	1725.26	9807.2	0.125	5.68	-224.58	SLU 77	-1739.47	-11252.05	0.131	6.47	Si
0.93	0.000763	0.052	0.000657	0.051							-3331.49	SLU 83	-3331.49	-11252.05	0.131	3.38	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	2327.52	SLV FO 10	2327.52	9282.36	0.217	3.99	940.12	SLV FO 7	-983.54	-10721.8	0.235	10.9	Si
0.47	0.000763	0.052	0.000657	0.051	1284.5	SLV FO 9	2010.7	9282.36	0.217	4.62	-1579.37	SLV FO 8	-3157.34	-10721.8	0.235	3.4	Si
0.93	0.000763	0.052	0.000657	0.051	626.89	SLV FO 9	685.17	9282.36	0.217	13.55	-5066.45	SLV FO 8	-5066.45	-10721.8	0.235	2.12	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000763	0.052	0.000657	0.051	2006.16	SLD 10	2006.16	9282.36	0.217	4.63	1261.48	SLD 7	-412.96	-10721.8	0.235	25.96	Si
0.47	0.000763	0.052	0.000657	0.051	625.34	SLD 9	1608.35	9282.36	0.217	5.77	-920.22	SLD 8	-2238.38	-10721.8	0.235	4.79	Si
0.93	0.000763	0.052	0.000657	0.051							-3752.72	SLD 8	-3752.72	-10721.8	0.235	2.86	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-15534	SLU 83	-15534	-8716	-71432	-27410	-27410	1	1.76	Si
0.03	0.0000173	0.000657	0	-15138	SLU 83	-15138	-8240	-63275	-24280	-24280	1	1.6	Si
0.23	0.0000173	0.000657	0	-12668	SLU 83	-12668	-8240	-63275	-24280	-24280	1	1.92	Si
0.47	0.0000173	0.000763	0	-9627	SLU 83	-9627	-8659	-63178	-24242	-24242	1	2.52	Si
0.93	0.0000173	0.000763	0	-3786	SLU 83	-3786	-8659	-63178	-24242	-24242	1	6.4	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-13865	SLV FO 8	-13865	-8716	-71432	-27410	-27410	1	1.98	Si
0.03	0.0000173	0.000657	0	-13591	SLV FO 8	-13591	-8240	-63275	-24280	-24280	1	1.79	Si
0.23	0.0000173	0.000657	0	-11867	SLV FO 8	-11867	-8240	-63275	-24280	-24280	1	2.05	Si
0.47	0.0000173	0.000763	0	-9713	SLV FO 8	-9713	-8659	-63178	-24242	-24242	1	2.5	Si
0.93	0.0000173	0.000657	0	604	SLV FO 5	604	8240	63275	24280	24280	1	40.18	Si
0.93	0.0000173	0.000763	0	-5631	SLV FO 12	-5631	-8659	-63178	-24242	-24242	1	4.3	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000173	0.000657	0	-12253	SLD 8	-12253	-8716	-71432	-27410	-27410	1	2.24	Si
0.03	0.0000173	0.000657	0	-11983	SLD 8	-11983	-8240	-63275	-24280	-24280	1	2.03	Si
0.23	0.0000173	0.000657	0	-10290	SLD 8	-10290	-8240	-63275	-24280	-24280	1	2.36	Si
0.47	0.0000173	0.000763	0	-8187	SLD 8	-8187	-8659	-63178	-24242	-24242	1	2.96	Si
0.93	0.0000173	0.000763	0	-4198	SLD 12	-4198	-8659	-63178	-24242	-24242	1	5.78	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4120.23	20	2843.25	168489	1494000	0	36000000	3745.33	2	2582.58	153042	1120500			Si
0.23	1803.75	21	1803.75	91038	1494000	1378993	36000000	1633.82	2	1633.82	82461	1120500			Si
0.47	-161.58	14	-1269.42	64700	1494000	961044	36000000	-147.44	2	-1161.53	59200	1120500			Si
0.93	-2432.4	20	-2432.4	123974	1494000	1841498	36000000	-2219.78	2	-2219.78	113137	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili 8 - 8, sezione R 50x45, asta 440

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051							-917.72	SLU 83	-2747.23	-16759.37	0.162	6.1	Si
0.51	0.001166	0.052	0.000603	0.051							-5082.96	SLU 83	-5761.82	-16759.37	0.162	2.91	Si
0.8	0.001166	0.052	0.000603	0.051							-5972.38	SLU 83	-5972.38	-16759.37	0.162	2.81	Si
0.89	0.001166	0.052	0.000603	0.051							-6034.95	SLU 83	-6034.95	-16759.37	0.162	2.78	Si
1.02	0.001166	0.052	0.000603	0.051							-5927.78	SLU 83	-5927.78	-16759.37	0.162	2.83	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051	811.64	SLV FO 14	811.64	8572.71	0.203	10.56	-2095.85	SLV FO 3	-3609.86	-16008.95	0.288	4.43	Si
0.51	0.001166	0.052	0.000603	0.051							-6337.91	SLV FO 8	-7067.29	-16008.95	0.288	2.27	Si
0.8	0.001166	0.052	0.000603	0.051							-7243.24	SLV FO 8	-7243.24	-16008.95	0.288	2.21	Si
0.85	0.001166	0.052	0.000603	0.051							-7259.26	SLV FO 8	-7259.26	-16008.95	0.288	2.21	Si
1.02	0.001166	0.052	0.000603	0.051							-7025.19	SLV FO 12	-7025.19	-16008.95	0.288	2.28	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051	197.91	SLD 14	197.91	8572.71	0.203	43.32	-1482.12	SLD 3	-2813.07	-16008.95	0.288	5.69	Si
0.51	0.001166	0.052	0.000603	0.051							-4988.25	SLD 8	-5582.19	-16008.95	0.288	2.87	Si
0.8	0.001166	0.052	0.000603	0.051							-5736.62	SLD 8	-5736.62	-16008.95	0.288	2.79	Si
0.85	0.001166	0.052	0.000603	0.051							-5758.21	SLD 8	-5758.21	-16008.95	0.288	2.78	Si
1.02	0.001166	0.052	0.000603	0.051							-5595.89	SLD 12	-5595.89	-16008.95	0.288	2.86	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	-11303	SLU 83	-11303	-9974	-63232	-14667	-14667	1	1.3	Si
0.51	0.0000105	0.001166	0	-4926	SLU 83	-4926	-9974	-63232	-14667	-14667	1	2.98	Si
0.8	0.0000105	0.001166	0	-1260	SLU 83	-1260	-9974	-63232	-14667	-14667	1	11.64	Si
1.02	0.0000105	0.001166	0	1682	SLU 83	1682	9974	63232	14667	14667	1	8.72	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	-13994	SLV FO 12	-13994	-9974	-63232	-14667	-14667	1	1.05	Si
0.51	0.0000105	0.001166	0	-6403	SLV FO 12	-6403	-9974	-63232	-14667	-14667	1	2.29	Si
0.8	0.0000105	0.001166	0	1255	SLV FO 1	1255	9974	63232	14667	14667	1	11.69	Si
0.8	0.0000105	0.001166	0	-2834	SLV FO 16	-2834	-9974	-63232	-14667	-14667	1	5.18	Si
1.02	0.0000105	0.001166	0	4083	SLV FO 3	4083	9974	63232	14667	14667	1	3.59	Si
1.02	0.0000105	0.001166	0	-1742	SLV FO 14	-1742	-9974	-63232	-14667	-14667	1	8.42	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001166	0	-10990	SLD 12	-10990	-9974	-63232	-14667	-14667	1	1.33	Si
0.51	0.0000105	0.001166	0	-4957	SLD 12	-4957	-9974	-63232	-14667	-14667	1	2.96	Si
0.8	0.0000105	0.001166	0	397	SLD 1	397	9974	63232	14667	14667	1	36.96	Si
0.8	0.0000105	0.001166	0	-1976	SLD 16	-1976	-9974	-63232	-14667	-14667	1	7.42	Si
1.02	0.0000105	0.001166	0	2844	SLD 3	2844	9974	63232	14667	14667	1	5.16	Si
1.02	0.0000105	0.001166	0	-503	SLD 14	-503	-9974	-63232	-14667	-14667	1	29.16	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-683.28	20	-2016.54	101444	1494000	1445318	36000000	-642.11	2	-1852.09	93171	1120500			Si
0.51	-3716.58	20	-4209	211738	1494000	3016716	36000000	-3391.89	2	-3835.36	192941	1120500			Si
0.8	-4360.66	20	-4360.66	219367	1494000	3125415	36000000	-3970.32	2	-3970.32	199731	1120500			Si
1.02	-4323.44	20	-4323.44	217495	1494000	3098743	36000000	-3929.38	2	-3929.38	197671	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 7 - 10, sezione R 50x45, asta 448

Campata 3 tra i fili 10 - 8, sezione R 50x45, aste 447, 446, 445, 444, 443, 442, 441

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	2234	SLU 83	0.073	13502	6875	SLU 83	30740	Si
1.39	0.41	0.0002	2206	SLV FO 8	0.096	3356	6788	SLV FO 8	15877	Si
2.78	0.41	0.0005	2797	SLV FO 8	0.147	7913	8607	SLV FO 8	18582	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	1690	SLD 3	0.155	15002	5199	SLD 3	35351	Si
1.39	0.41	0.0002	1861	SLD 8	0.079	3886	5726	SLD 8	15877	Si
2.78	0.41	0.0005	2178	SLD 8	0.121	9199	6701	SLD 8	21369	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000865	1628	SLE RA 20	43145	1494000	534993	36000000	1472	SLE QP 2	38992	1120500	Si
1.39	0.41	0.00000217	1604	SLE RA 20	46161	1494000	572398	36000000	1450	SLE QP 2	41712	1120500	Si
2.78	0.41	0.00000523	1599	SLE RA 20	44227	1494000	548414	36000000	1446	SLE QP 2	39986	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 8 - 8, sezione R 50x45, asta 440

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
448,447,446,445,444,443,442,441,440	4.96	1.1	SLU 83	ST	BT	2.3	232421	67870	3.42	Si
448,447,446,445,444,443,442,441,440	4.96	1.1	SLV FO 8	SIS	BT	2.3	204878	66501	3.08	Si
448,447,446,445,444,443,442,441,440	4.96	1.1	SLD 8	SIS	BT	2.3	215837	57199	3.77	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-786	-67870	344.42	-50.13	0	-1	0	0.01	1.09	4.96	1496	2060	0	14430	
0	301	-66501	146.17	21298.09	0	0	0.32	0	1.1	4.32	1496	2060	0	14430	0.07
0	-26	-57199	157.94	11449.99	0	0	0.2	0	1.09	4.56	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

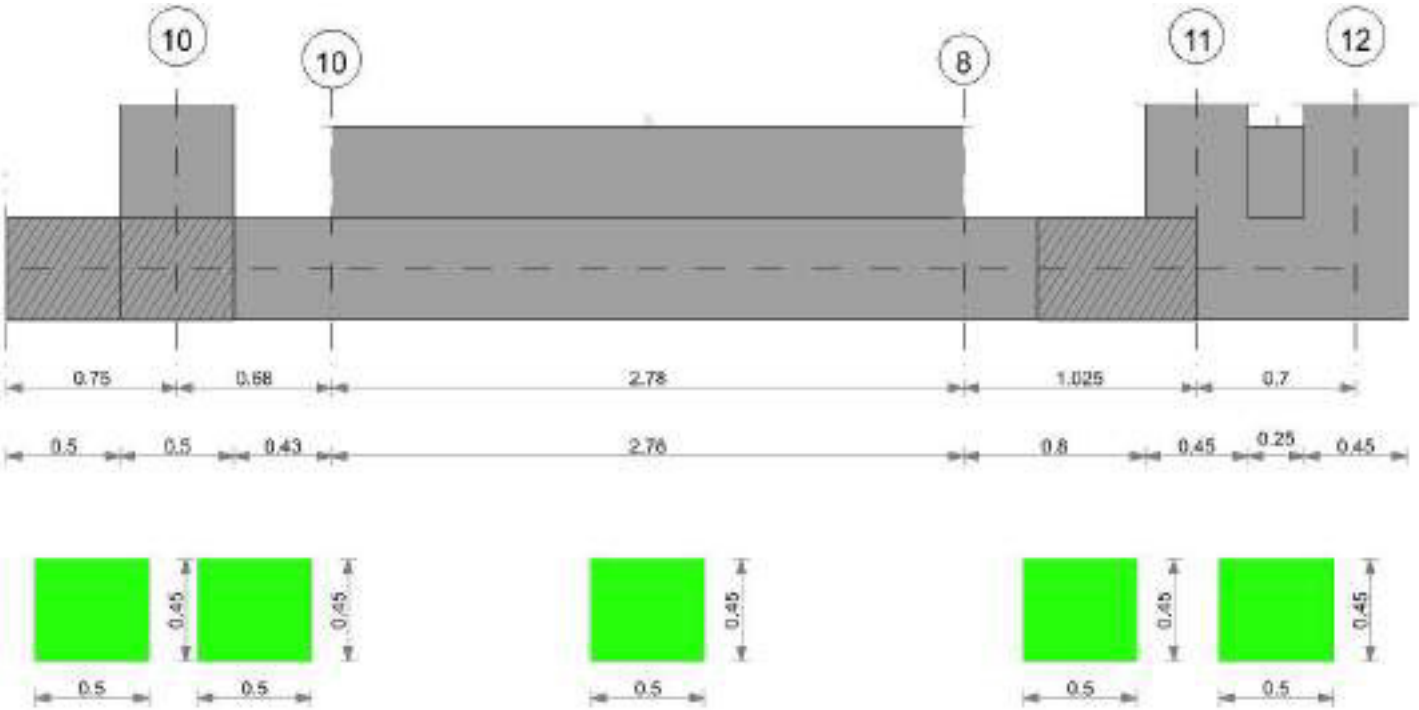
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	782	SLE RA 20	0.05	0.001	782	1006	SLE RA 21	0.05	0	782	SLE RA 20	0.0033	0	SLE FR 4	Si
D	0.05	0	656	SLE RA 1	0.05	0	656	656	SLE RA 1	0.05	0	782	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	656	SLE RA 1	0.05	0	656	656	SLE RA 1	0.05	0	782	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	782	934	SLE RA 21	0.19	0.02	782	SLE RA 20	0.1	0	934	SLE FR 4	Si
D	0.19	0	SLE RA 1	0.19	0	656	782	SLE RA 1	0.19	0	656	SLE RA 1	0.1	0	782	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	656	782	SLE RA 1	0.19	0	656	SLE RA 1	0.1	0	782	SLE RA 1	Si

CORDOLO 24

Geometria



Caratteristiche dei materiali

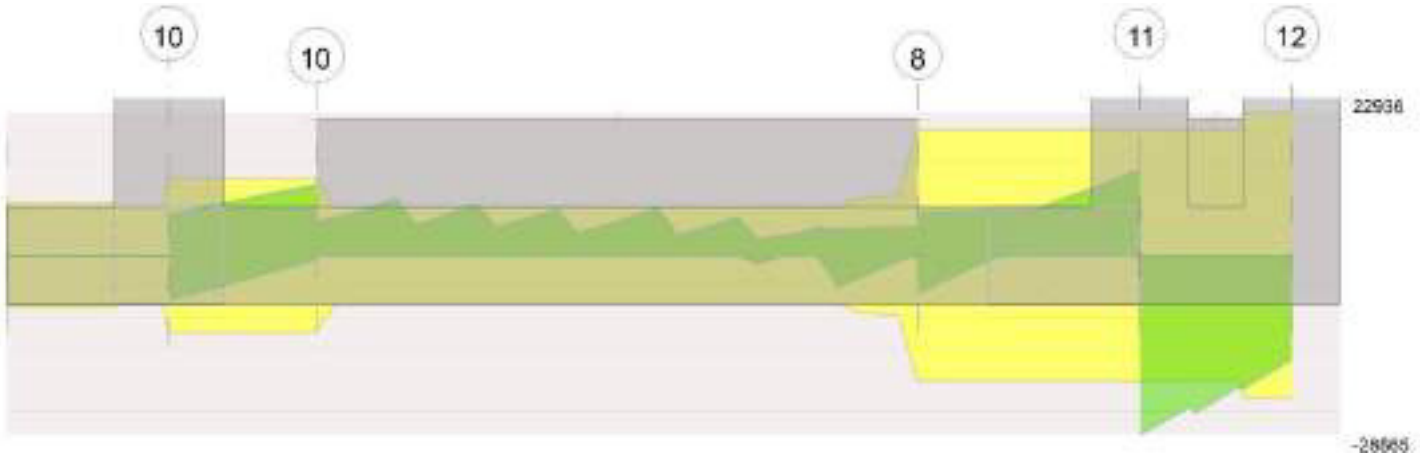
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 249

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	430.19	SLU 83	358.65	7755.45	0.113	21.62							Si
0.25	0.000509	0.052	0.000509	0.052	685.78	SLU 84	1358.92	7755.45	0.113	5.71							Si
0.34	0.000509	0.052	0.000509	0.052	972.89	SLU 84	1847.49	7755.45	0.113	4.2							Si
0.66	0.000509	0.052	0.000509	0.052	2790.61	SLU 84	2968.45	7755.45	0.113	2.61							Si
0.68	0.000509	0.052	0.000509	0.052	2968.45	SLU 84	2968.45	7755.45	0.113	2.61							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	1712.48	SLV FO 4	1255.16	7266.79	0.197	5.79	-1230.13	SLV FO 13	-851.92	-7266.79	0.197	8.53	Si
0.25	0.000509	0.052	0.000509	0.052	1615.23	SLV FO 5	3037.57	7266.79	0.197	2.39	-772.96	SLV FO 12	-1296.99	-7266.79	0.197	5.6	Si
0.34	0.000509	0.052	0.000509	0.052	2294.09	SLV FO 5	3852.05	7266.79	0.197	1.89	-1068.6	SLV FO 12	-1459.67	-7266.79	0.197	4.98	Si
0.66	0.000509	0.052	0.000509	0.052	5235.11	SLV FO 5	5479.66	7266.79	0.197	1.33	-1584.64	SLV FO 12	-1591.97	-7266.79	0.197	4.56	Si
0.68	0.000509	0.052	0.000509	0.052	5479.66	SLV FO 5	5479.66	7266.79	0.197	1.33	-1591.97	SLV FO 12	-1591.97	-7266.79	0.197	4.56	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052	1090.39	SLD 4	811.85	7266.79	0.197	8.95	-608.04	SLD 13	-408.61	-7266.79	0.197	17.78	Si
0.25	0.000509	0.052	0.000509	0.052	1073.38	SLD 5	2042.5	7266.79	0.197	3.56	-231.1	SLD 12	-309.23	-7266.79	0.197	23.5	Si
0.34	0.000509	0.052	0.000509	0.052	1525.29	SLD 5	2629.52	7266.79	0.197	2.76	-299.8	SLD 12	-309.23	-7266.79	0.197	23.5	Si
0.66	0.000509	0.052	0.000509	0.052	3661.56	SLD 5	3847.59	7266.79	0.197	1.89	-11.09	SLD 12	-275.5	-7266.79	0.197	26.38	Si
0.68	0.000509	0.052	0.000509	0.052	3847.59	SLD 5	3847.59	7266.79	0.197	1.89	40.1	SLD 12	-256.46	-7266.79	0.197	28.33	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	-572	SLU 83	-572	-7764	-63178	-12433	-12433	1	21.74	Si
0.25	0.0000089	0.000509	0	2631	SLU 84	2631	7764	63178	12433	12433	1	4.73	Si
0.34	0.0000089	0.000509	0	3751	SLU 84	3751	7764	63178	12433	12433	1	3.31	Si
0.68	0.0000089	0.000509	0	7987	SLU 84	7987	7764	63178	12433	12433	1	1.56	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	6559	SLV FO 9	6559	7764	63178	12433	12433	1	1.9	Si
0	0.0000089	0.000509	0	-7191	SLV FO 8	-7191	-7764	-63178	-12433	-12433	1	1.73	Si
0.25	0.0000089	0.000509	0	8369	SLV FO 9	8369	7764	63178	12433	12433	1	1.49	Si
0.25	0.0000089	0.000509	0	-4857	SLV FO 8	-4857	-7764	-63178	-12433	-12433	1	2.56	Si
0.34	0.0000089	0.000509	0	9006	SLV FO 9	9006	7764	63178	12433	12433	1	1.38	Si
0.34	0.0000089	0.000509	0	-3999	SLV FO 8	-3999	-7764	-63178	-12433	-12433	1	3.11	Si
0.68	0.0000089	0.000509	0	11333	SLV FO 9	11333	7764	63178	12433	12433	1	1.1	Si
0.68	0.0000089	0.000509	0	-679	SLV FO 8	-679	-7764	-63178	-12433	-12433	1	18.31	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000089	0.000509	0	3417	SLD 9	3417	7764	63178	12433	12433	1	3.64	Si
0	0.0000089	0.000509	0	-4049	SLD 8	-4049	-7764	-63178	-12433	-12433	1	3.07	Si
0.25	0.0000089	0.000509	0	5342	SLD 9	5342	7764	63178	12433	12433	1	2.33	Si
0.25	0.0000089	0.000509	0	-1830	SLD 8	-1830	-7764	-63178	-12433	-12433	1	6.79	Si
0.34	0.0000089	0.000509	0	6028	SLD 9	6028	7764	63178	12433	12433	1	2.06	Si
0.34	0.0000089	0.000509	0	-1021	SLD 8	-1021	-7764	-63178	-12433	-12433	1	12.17	Si
0.68	0.0000089	0.000509	0	8576	SLD 9	8576	7764	63178	12433	12433	1	1.45	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	301.25	20	251.21	13287	1494000	199312	36000000	241.17	2	201.62	10664	1120500			Si
0.25	492.22	21	986.94	52203	1494000	783042	36000000	421.14	2	870.29	46033	1120500			Si
0.34	703.4	21	1345.5	71168	1494000	1067526	36000000	612.74	2	1196.19	63271	1120500			Si

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.68	2167.6	21	2167.6	114652	1494000	1719774	36000000	1943.84	2	1943.84	102817	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili 8 - 11, sezione R 50x45, asta 241

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-6365.77	SLU 83	-6365.77	-20525.72	0.198	3.22	Si
0.07	0.001451	0.053	0.000509	0.052							-6296.02	SLU 83	-6365.77	-20525.72	0.198	3.22	Si
0.51	0.001451	0.053	0.000509	0.052							-4416.28	SLU 83	-5473.99	-20525.72	0.198	3.75	Si
0.8	0.001451	0.053	0.000509	0.052							-1855.39	SLU 83	-3580.15	-20525.72	0.198	5.73	Si
1.02	0.001451	0.053	0.000509	0.052	943.23	SLU 84	642.87	7792.26	0.123	12.12							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-5069.2	SLV FO 7	-5809.47	-19592.87	0.324	3.37	Si
0.51	0.001451	0.053	0.000509	0.052	13.26	SLV FO 9	1289.84	7250.15	0.186	5.62	-5907.76	SLV FO 8	-6074.76	-19592.87	0.324	3.23	Si
0.8	0.001451	0.053	0.000509	0.052	2053.52	SLV FO 9	2053.52	7250.15	0.186	3.53	-4505.08	SLV FO 8	-5550.15	-19592.87	0.324	3.53	Si
1.02	0.001451	0.053	0.000509	0.052	3625.47	SLV FO 9	2809.72	7250.15	0.186	2.58	-2375.55	SLV FO 8	-2375.55	-19592.87	0.324	8.25	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001451	0.053	0.000509	0.052							-4713.79	SLD 3	-5009.41	-19592.87	0.324	3.91	Si
0.07	0.001451	0.053	0.000509	0.052							-4864.74	SLD 7	-5027.85	-19592.87	0.324	3.9	Si
0.51	0.001451	0.053	0.000509	0.052							-4552.7	SLD 8	-4964.04	-19592.87	0.324	3.95	Si
0.8	0.001451	0.053	0.000509	0.052	552.04	SLD 9	552.04	7250.15	0.186	13.13	-3003.61	SLD 8	-4100.89	-19592.87	0.324	4.78	Si
1.02	0.001451	0.053	0.000509	0.052	2251.59	SLD 9	1335.53	7250.15	0.186	5.43	-1001.67	SLD 8	-1001.67	-19592.87	0.324	19.56	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	762	SLU 52	762	10718	63074	20252	20252	1	26.58	Si
0.51	0.0000145	0.001451	0	7079	SLU 84	7079	10718	63074	20252	20252	1	2.86	Si
0.8	0.0000145	0.001451	0	10783	SLU 84	10783	10718	63074	20252	20252	1	1.88	Si
1.02	0.0000145	0.000509	0	13783	SLU 83	13783	7764	63178	20285	20285	1	1.47	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	6938	SLV FO 9	6938	10718	63074	20252	20252	1	2.92	Si
0	0.0000145	0.001451	0	-6020	SLV FO 8	-6020	-10718	-63074	-20252	-20252	1	3.36	Si
0.51	0.0000145	0.000509	0	7180	SLV FO 9	7180	7764	63178	20285	20285	1	2.83	Si
0.8	0.0000145	0.001451	0	7878	SLV FO 7	7878	10718	63074	20252	20252	1	2.57	Si
1.02	0.0000145	0.001451	0	11757	SLV FO 7	11757	10718	63074	20252	20252	1	1.72	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0.001451	0	3965	SLD 9	3965	10718	63074	20252	20252	1	5.11	Si
0	0.0000145	0.001451	0	-3047	SLD 8	-3047	-10718	-63074	-20252	-20252	1	6.65	Si
0.51	0.0000145	0.001451	0	6060	SLD 9	6060	10718	63074	20252	20252	1	3.34	Si
0.8	0.0000145	0.001451	0	7576	SLD 7	7576	10718	63074	20252	20252	1	2.67	Si
1.02	0.0000145	0.001451	0	10598	SLD 7	10598	10718	63074	20252	20252	1	1.91	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-4666.04	20	-4666.04	235426	1494000	3243597	36000000	-4274.54	2	-4274.54	215673	1120500			Si
0.51	-3229.16	20	-4006.33	202141	1494000	2785001	36000000	-2947.25	2	-3661.7	184752	1120500			Si
0.8	-1351.12	20	-2615.64	131973	1494000	1818262	36000000	-1225.78	2	-2384.41	120306	1120500			Si
1.02	696.65	21	462.48	21433	1494000	350018	36000000	624.96	2	412.01	19094	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 249

Campata 3 tra i fili 10 - 8, sezione R 50x45, aste 248, 247, 246, 245, 244, 243, 242

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2226	SLU 83	0.037	7026	6849	SLU 83	15877	Si
1.39	0.41	0.0002	2275	SLV FO 8	0.088	2806	7001	SLV FO 8	15877	Si
2.78	0.41	0.0007	2873	SLV FO 8	0.172	10838	8840	SLV FO 8	25722	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1693	SLD 3	0.112	7836	5209	SLD 3	18130	Si
1.39	0.41	0.0002	1899	SLD 8	0.072	3248	5842	SLD 8	15877	Si
2.78	0.41	0.0007	2222	SLD 8	0.142	12622	6838	SLD 8	29580	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000444	1622	SLE RA 20	45302	1494000	561740	36000000	1465	SLE QP 2	40919	1120500	Si
1.39	0.41	0.00000181	1606	SLE RA 20	46434	1494000	575776	36000000	1450	SLE QP 2	41938	1120500	Si
2.78	0.41	0.00000724	1609	SLE RA 20	43394	1494000	538090	36000000	1454	SLE QP 2	39217	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 8 - 11, sezione R 50x45, asta 241

Campata 5 tra i fili 11 - 12, sezione R 50x45, aste 240, 239, 238

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3516	SLV FO 8	0.172	10838	10819	SLV FO 8	25722	Si
0.23	0.41	0.0007	3679	SLV FO 8	0.172	10838	11320	SLV FO 8	25722	Si
0.35	0.41	0.0007	3770	SLV FO 8	0.172	10838	11599	SLV FO 8	25722	Si
0.48	0.41	0.0007	3863	SLV FO 8	0.172	10838	11887	SLV FO 8	25722	Si
0.7	0.41	0.0007	4046	SLV FO 8	0.172	10838	12448	SLV FO 8	25722	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2637	SLD 8	0.142	12622	8113	SLD 8	29580	Si
0.23	0.41	0.0007	2743	SLD 8	0.142	12622	8439	SLD 8	29580	Si
0.35	0.41	0.0007	2801	SLD 8	0.142	12622	8619	SLD 8	29580	Si
0.48	0.41	0.0007	2862	SLD 8	0.142	12622	8805	SLD 8	29580	Si
0.7	0.41	0.0007	2980	SLD 8	0.142	12622	9170	SLD 8	29580	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000724	1768	SLE RA 20	47660	1494000	590982	36000000	1600	SLE QP 2	43148	1120500	Si
0.23	0.41	0.00000724	1810	SLE RA 20	48815	1494000	605302	36000000	1640	SLE QP 2	44210	1120500	Si
0.35	0.41	0.00000724	1833	SLE RA 20	49419	1494000	612796	36000000	1660	SLE QP 2	44765	1120500	Si
0.48	0.41	0.00000724	1856	SLE RA 20	50043	1494000	620538	36000000	1682	SLE QP 2	45338	1120500	Si
0.7	0.41	0.00000724	1904	SLE RA 20	51340	1494000	636610	36000000	1726	SLE QP 2	46527	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
249,248,247,246,245,244,243,242,241,240,239,238	5.41	1.1	SLU 83	ST	BT	2.3	249806	75440	3.31	Si
249,248,247,246,245,244,243,242,241,240,239,238	5.41	1.1	SLV FO 8	SIS	BT	2.3	220405	80789	2.73	Si
249,248,247,246,245,244,243,242,241,240,239,238	5.41	1.1	SLD 8	SIS	BT	2.3	231398	67258	3.44	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-870	-75440	280.37	3076.64	0	-1	0.04	0	1.09	5.33	1496	2060	0	14430	
0	275	-80789	3.96	31131.46	0	0	0.39	0	1.1	4.64	1496	2060	0	14430	0.07
0	-58	-67258	57.61	17725.05	0	0	0.26	0	1.1	4.88	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

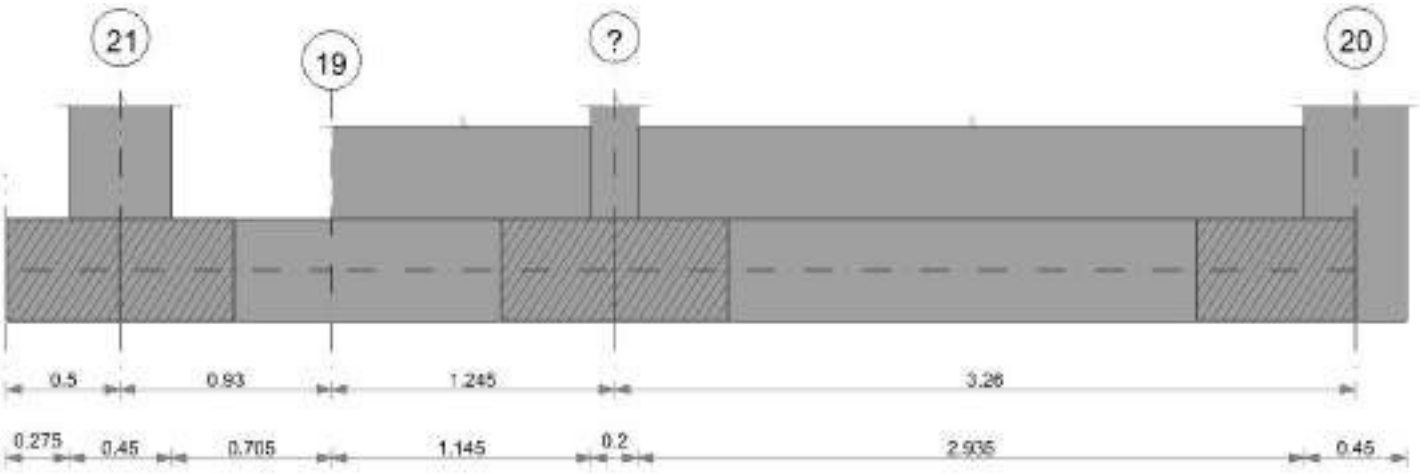
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	784	SLE RA 20	0.05	0.001	784	1079	SLE RA 21	0.05	0	784	SLE RA 14	0.0033	0	SLE RA 7	Si
D	0.05	0	731	SLE RA 1	0.05	0	731	731	SLE RA 1	0.05	0	784	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	731	SLE RA 1	0.05	0	731	731	SLE RA 1	0.05	0	784	SLE RA 1	0.0033	0	SLE RA 1	Si

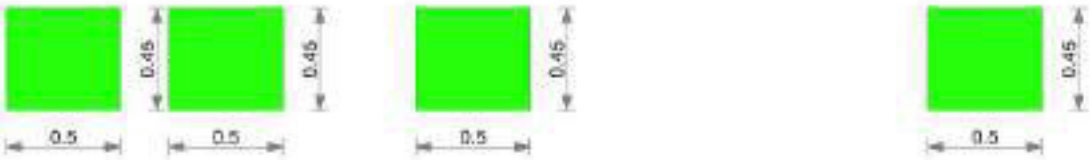
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	1009	1079	SLE RA 20	0.19	0.02	784	SLE RA 14	0.1	0.01	936	SLE RA 7	Si
D	0.19	0	SLE RA 1	0.19	0	731	784	SLE RA 1	0.19	0	731	SLE RA 1	0.1	0	784	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	731	784	SLE RA 1	0.19	0	731	SLE RA 1	0.1	0	784	SLE RA 1	Si

CORDOLO 25

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

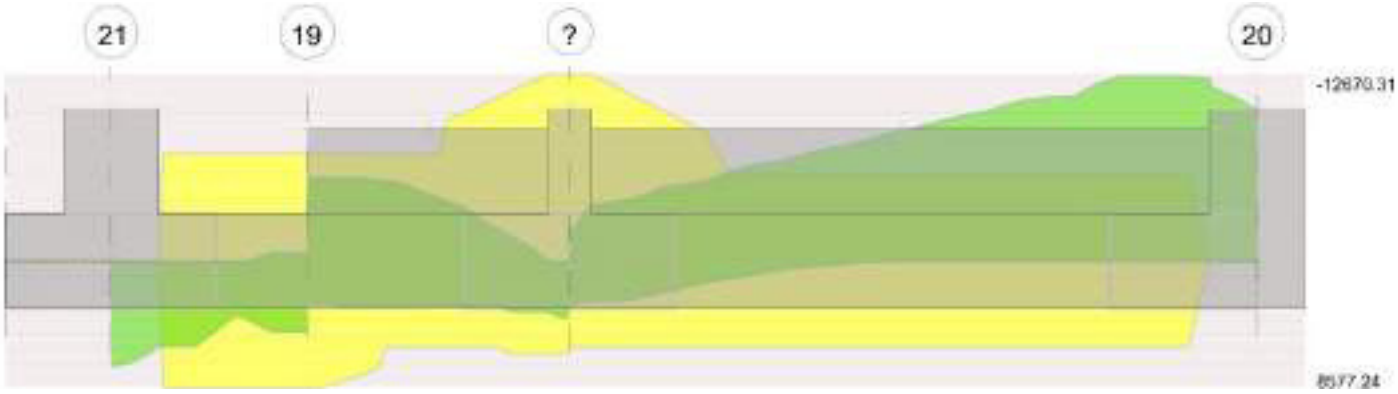
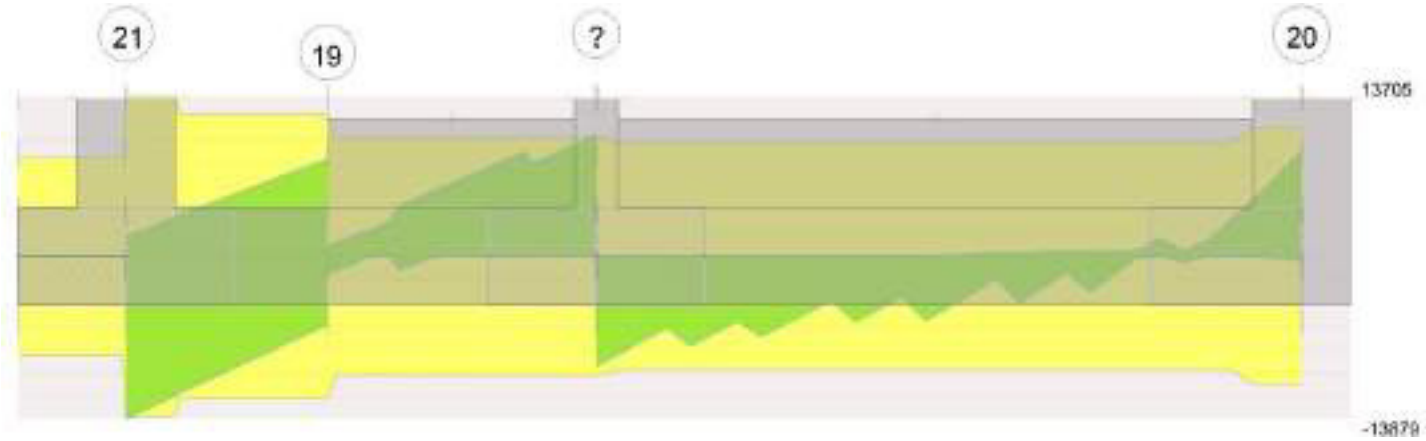


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 21 - 19, sezione R 50x45, asta 264

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	3611.26	SLU 83	4481.12	9076.41	0.12	2.03							Si
0.93	0.000509	0.052	0.000603	0.051	3164.26	SLU 84	3164.26	9076.41	0.12	2.87							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	3192.25	SLV FO 12	5078.59	8577.24	0.213	1.69							Si
0.93	0.000509	0.052	0.000603	0.051	4750.29	SLV FO 9	4750.29	8577.24	0.213	1.81	-549.36	SLV FO 8	-549.36	-7266.96	0.196	13.23	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000509	0.052	0.000603	0.051	2817.56	SLD 12	4091.01	8577.24	0.213	2.1							Si
0.93	0.000509	0.052	0.000603	0.051	3529.95	SLD 9	3529.95	8577.24	0.213	2.43							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	-9339	SLU 83	-9339	-8455	-71432	-13705	-13705	1	1.47	Si
0.23	0.0000086	0	0	-6634	SLU 83	-6634	-8455	-71432	-13705	-13705	1	2.07	Si
0.47	0.0000086	0	0	-3771	SLU 83	-3771	-7777	-63336	-12152	-12152	1	3.22	Si
0.93	0.0000086	0.000603	0	1802	SLU 76	1802	8014	63336	12152	12152	1	6.74	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	1676	SLV FO 9	1676	8455	71432	13705	13705	1	8.18	Si
0	0.0000086	0	0	-13879	SLV FO 8	-13879	-8455	-71432	-13705	-13705	1	0.99	Si
0.23	0.0000086	0	0	3313	SLV FO 9	3313	8455	71432	13705	13705	1	4.14	Si
0.23	0.0000086	0	0	-11923	SLV FO 8	-11923	-8455	-71432	-13705	-13705	1	1.15	Si
0.47	0.0000086	0	0	5030	SLV FO 9	5030	7777	63336	12152	12152	1	2.42	Si
0.47	0.0000086	0	0	-9837	SLV FO 8	-9837	-7777	-63336	-12152	-12152	1	1.24	Si
0.93	0.0000086	0.000603	0	8254	SLV FO 9	8254	8014	63336	12152	12152	1	1.47	Si
0.93	0.0000086	0.000509	0	-5853	SLV FO 8	-5853	-7764	-63178	-12121	-12121	1	2.07	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000086	0	0	-10292	SLD 8	-10292	-8455	-71432	-13705	-13705	1	1.33	Si
0.23	0.0000086	0	0	-8409	SLD 8	-8409	-8455	-71432	-13705	-13705	1	1.63	Si
0.47	0.0000086	0	0	1600	SLD 9	1600	7777	63336	12152	12152	1	7.59	Si
0.47	0.0000086	0	0	-6408	SLD 8	-6408	-7777	-63336	-12152	-12152	1	1.9	Si
0.93	0.0000086	0.000603	0	4999	SLD 9	4999	8014	63336	12152	12152	1	2.43	Si
0.93	0.0000086	0.000603	0	-2598	SLD 8	-2598	-8014	-63336	-12152	-12152	1	4.68	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4846.44	20	4083.05	241958	1494000	0	36000000	4350.43	2	3664.92	217181	1120500			Si
0.23	3541.24	20	3541.24	209851	1494000	0	36000000	3180.61	2	3180.61	188481	1120500			Si
0.47	2636.31	20	3266.01	171732	1494000	2552061	36000000	2375.27	2	2934.81	154317	1120500			Si
0.93	2323.69	21	2323.69	122184	1494000	1815737	36000000	2100.46	2	2100.46	110446	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 21 - 19, sezione R 50x45, asta 264

Campata 3 tra i fili 19 - ?, sezione R 50x45, aste 263, 262, 261, 260

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2030	SLU 83	0.036	6853	6248	SLU 83	15877	Si
0.62	0.41	0.0004	1920	SLU 83	0.031	5772	5907	SLU 83	15877	Si
1.15	0.41	0.0004	1829	SLU 83	0.031	5772	5629	SLU 83	15877	Si
1.25	0.41	0.0004	1808	SLU 83	0.031	5772	5564	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1427	SLD 7	0.111	7644	4392	SLD 7	17675	Si
0.62	0.41	0.0004	1394	SLD 7	0.101	6448	4288	SLD 7	15877	Si
1.15	0.41	0.0004	1388	SLD 7	0.101	6448	4271	SLD 7	15877	Si
1.25	0.41	0.0004	1385	SLD 7	0.101	6448	4262	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000432	1478	SLE RA 20	41360	1494000	512858	36000000	1331	SLE QP 2	37236	1120500	Si
0.62	0.41	0.00000363	1397	SLE RA 20	39436	1494000	489003	36000000	1258	SLE QP 2	35502	1120500	Si
1.15	0.41	0.00000363	1331	SLE RA 20	37564	1494000	465798	36000000	1198	SLE QP 2	33814	1120500	Si
1.25	0.41	0.00000363	1315	SLE RA 20	37131	1494000	460419	36000000	1184	SLE QP 2	33421	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 20, sezione R 50x45, aste 259, 258, 257, 256, 255, 254, 253, 252

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1808	SLU 83	0.031	5772	5564	SLU 83	15877	Si
0.1	0.41	0.0003	1787	SLU 83	0.029	5502	5499	SLU 83	15877	Si
1.63	0.41	0.0003	1967	SLV FO 8	0.12	5299	6052	SLV FO 8	15877	Si
3.03	0.41	0.0003	3240	SLV FO 8	0.12	5299	9969	SLV FO 8	15877	Si
3.26	0.41	0.0003	3551	SLV FO 8	0.12	5299	10926	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1385	SLD 7	0.101	6448	4262	SLD 7	15877	Si
0.1	0.41	0.0003	1382	SLD 7	0.099	6148	4254	SLD 7	15877	Si
1.63	0.41	0.0003	1551	SLD 8	0.099	6148	4772	SLD 8	15877	Si
3.03	0.41	0.0003	2397	SLD 8	0.099	6148	7374	SLD 8	15877	Si
3.26	0.41	0.0003	2615	SLD 8	0.099	6148	8046	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000363	1315	SLE RA 20	37131	1494000	460419	36000000	1184	SLE QP 2	33421	1120500	Si
0.1	0.41	0.00000346	1300	SLE RA 20	36773	1494000	455991	36000000	1170	SLE QP 2	33097	1120500	Si
1.63	0.41	0.00000346	1181	SLE RA 20	33413	1494000	414322	36000000	1063	SLE QP 2	30074	1120500	Si
3.03	0.41	0.00000346	1561	SLE RA 20	44163	1494000	547625	36000000	1410	SLE QP 2	39900	1120500	Si
3.26	0.41	0.00000346	1682	SLE RA 20	47583	1494000	590031	36000000	1521	SLE QP 2	43020	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
264,263,262,261,260,259,258,257,256,255,254,253,252	5.66	1.1	SLU 83	ST	BT	2.3	240616	67544	3.56	Si
264,263,262,261,260,259,258,257,256,255,254,253,252	5.66	1.1	SLV FO 12	SIS	BT	2.3	198756	63705	3.12	Si
264,263,262,261,260,259,258,257,256,255,254,253,252	5.66	1.1	SLD 12	SIS	BT	2.3	217298	55458	3.92	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-111	-67544	3065.44	-3289.69	0	0	-0.05	0.05	1.01	5.56	1496	2060	0	14430	
0	-2624	-63705	4787.8	23437.42	0	-2	0.37	0.08	0.95	4.92	1496	2060	0	14430	0.07
0	-1542	-55458	3556.65	11590.52	0	-2	0.21	0.06	0.97	5.24	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

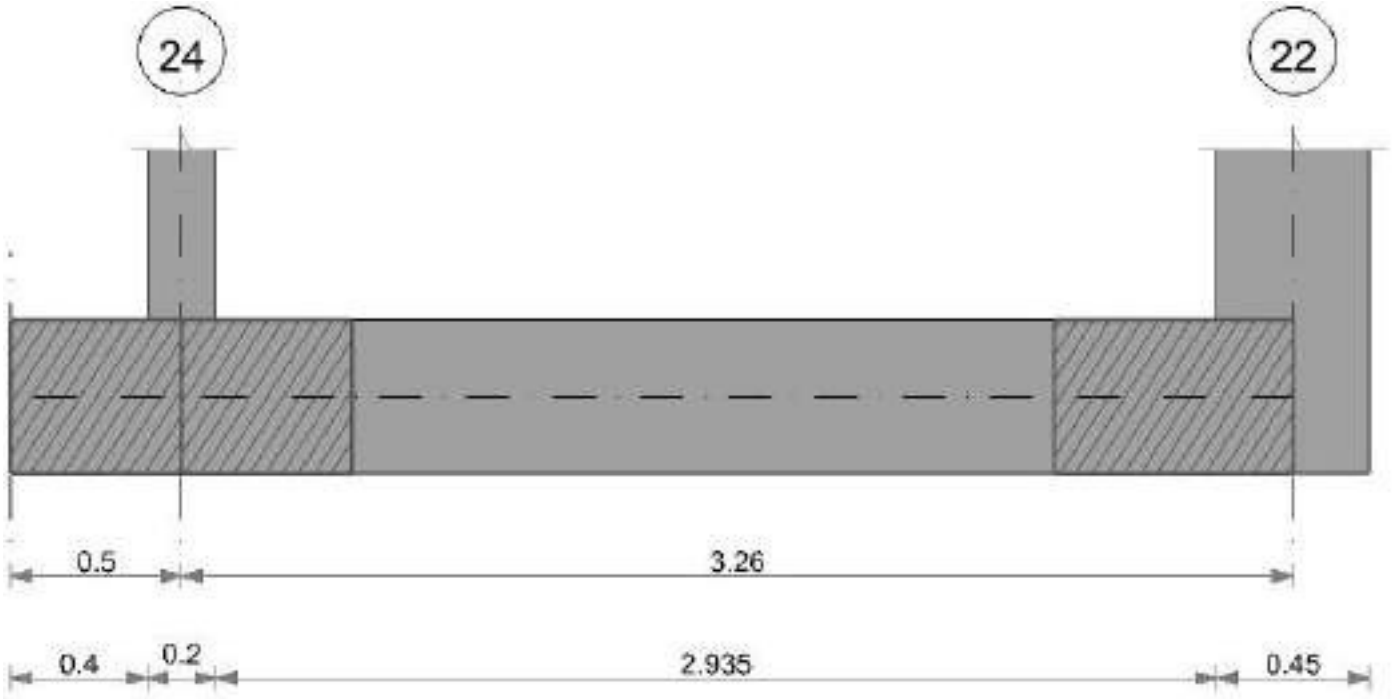
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	671	SLE RA 20	0.05	0.001	671	1092	SLE RA 21	0.05	0	785	SLE RA 20	0.0033	0	SLE FR 6	Si
D	0.05	0	671	SLE RA 1	0.05	0	671	671	SLE RA 1	0.05	0	785	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	671	SLE RA 1	0.05	0	671	671	SLE RA 1	0.05	0	785	SLE RA 1	0.0033	0	SLE RA 1	Si

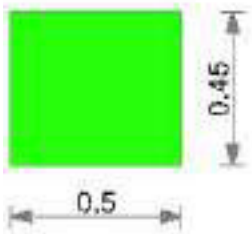
Verifiche geotecniche - Rotazioni assolute e differenziali

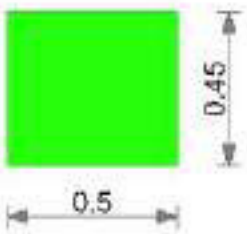
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	785	849	SLE RA 21	0.19	0.01	785	SLE RA 19	0.1	0.01	849	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	671	785	SLE RA 1	0.19	0	671	SLE RA 1	0.1	0	785	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	671	785	SLE RA 1	0.19	0	671	SLE RA 1	0.1	0	785	SLE RA 1	Si

CORDOLO 26

Geometria







Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

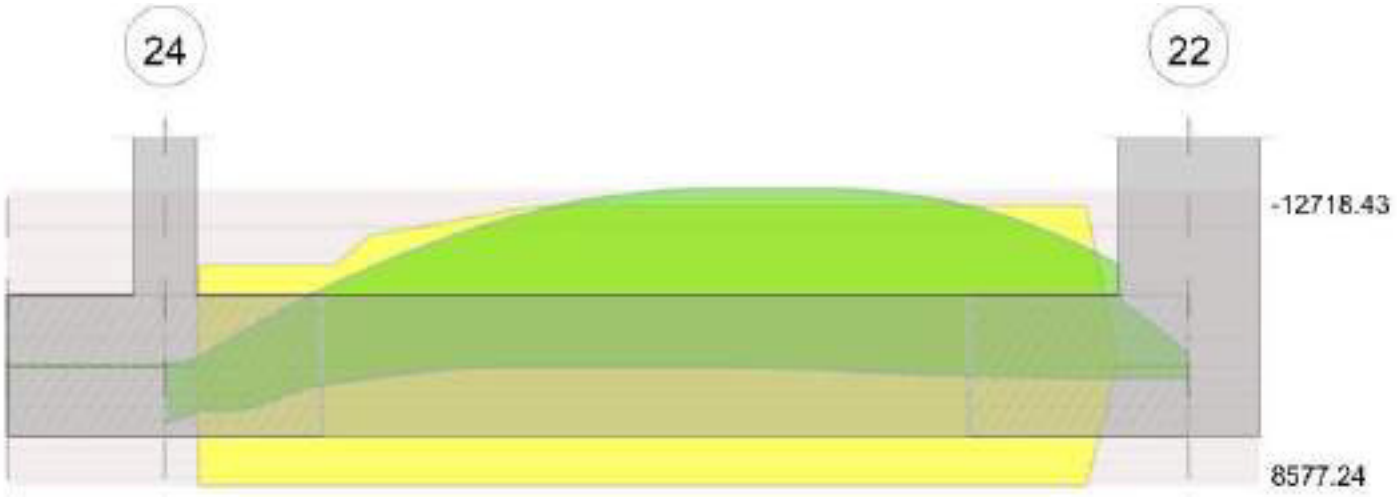
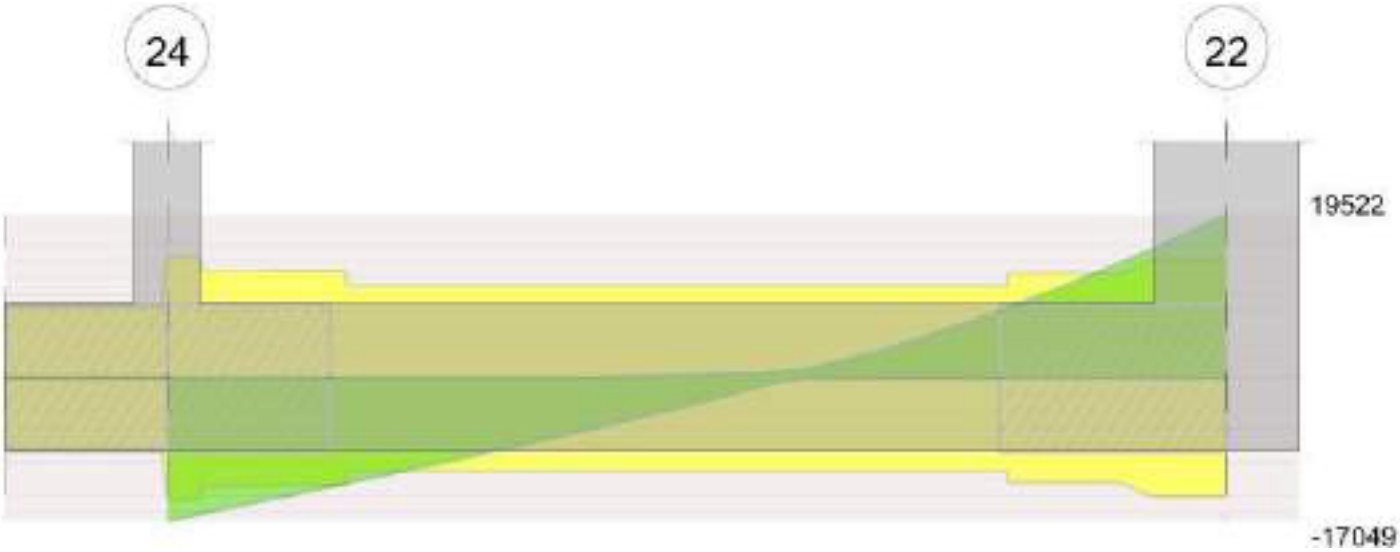


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 24 - 22, sezione R 50x45, aste 251, 250

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
1.63	0.000823	0.052	0.000603	0.051							-9397.95	SLU 83	-9588.73	-12057.57	0.134	1.26	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
1.63	0.000823	0.052	0.000603	0.051							-9502.17	SLD 8	-9756.06	-11495.09	0.245	1.18	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000091	0	0	-15984	SLU 83	-15984	-8455	-71432	-14484	-14484	1	0.91	Si
1.63	0.0000079	0.000823	0	-1880	SLU 83	-1880	-8875	-63117	-11068	-11068	1	5.89	Si
3.03	0.0000089	0	0	11885	SLU 83	11885	8455	71432	14162	14162	1	1.19	Si
3.26	0.0000089	0	0	14669	SLU 83	14669	8455	71432	14162	14162	1	0.97	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000091	0	0	-17049	SLV FO 7	-17049	-8455	-71432	-14484	-14484	1	0.85	Si
1.63	0.0000079	0.000823	0	508	SLV FO 10	508	8875	63117	11068	11068	1	21.77	Si
1.63	0.0000079	0.000823	0	-2994	SLV FO 7	-2994	-8875	-63117	-11068	-11068	1	3.7	Si
3.26	0.0000089	0	0	19522	SLV FO 8	19522	8455	71432	14162	14162	1	0.73	Si
3.26	0.0000089	0	0	-5	SLV FO 9	-5	-8455	-71432	-14162	-14162	1	2608.6	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000091	0	0	-14090	SLD 7	-14090	-8455	-71432	-14484	-14484	1	1.03	Si
0.1	0.0000091	0	0	-13362	SLD 7	-13362	-8455	-71432	-14484	-14484	1	1.08	Si
1.63	0.0000079	0.000823	0	-2190	SLD 7	-2190	-8875	-63117	-11068	-11068	1	5.05	Si
3.03	0.0000089	0	0	11961	SLD 8	11961	8455	71432	14162	14162	1	1.18	Si
3.26	0.0000089	0	0	15018	SLD 8	15018	8455	71432	14162	14162	1	0.94	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	3556.9	20	2974.81	176285	1494000	0	36000000	3223.56	2	2694.55	159677	1120500			Si
0.1	2425.79	21	2425.79	143751	1494000	0	36000000	2195.48	2	2195.48	130102	1120500			Si
1.63	-6866.19	20	-7004.65	603916	1494000	23747685	36000000	-6250.23	2	-6375.89	549706	1120500			Si
3.03	-2159.07	20	-3572.03	-211676	1494000	0	36000000	-1963.2	2	-3249.79	-192580	1120500			Si
3.26	31.71	2	31.71	1879	1494000	0	36000000	20.98	1	20.98	1243	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
1.63	superiore	0.365	0.00069	0.000253	20	0.365	0.00066	0.000241	6	0.365	0.00063	0.000231	2	Si
1.96	superiore	0.365	0.00069	0.000253	20	0.365	0.00066	0.000241	6	0.365	0.00063	0.000232	2	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
251,250	3.48	1.1	SLU 83	ST	BT	2.3	160620	36776	4.37	Si
251,250	3.48	1.1	SLV FO 7	SIS	BT	2.3	137232	41214	3.33	Si
251,250	3.48	1.1	SLD 7	SIS	BT	2.3	145085	33780	4.29	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-57	-36776	-83.98	2533.15	0	0	0.07	0	1.1	3.35	1496	2060	0	14430	
0	1263	-41214	-662.93	11279.28	0	2	0.27	-0.02	1.07	2.94	1496	2060	0	14430	0.07
0	721	-33780	-409.47	6848.35	0	1	0.2	-0.01	1.08	3.08	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

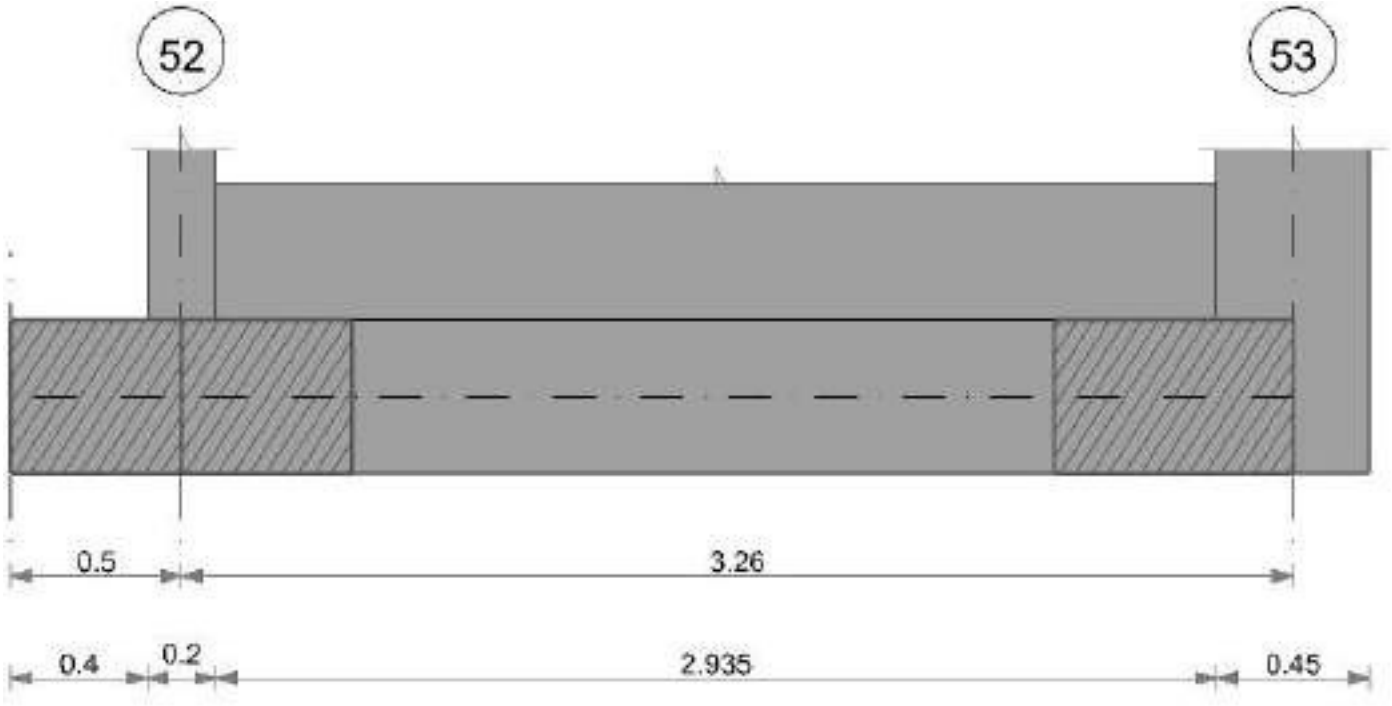
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	851	SLE RA 20	0.05	0.001	851	1094	SLE RA 20	0.05	0	851	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	851	SLE RA 1	0.05	0	851	851	SLE RA 1	0.05	0	851	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	851	SLE RA 1	0.05	0	851	851	SLE RA 1	0.05	0	851	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	851	1094	SLE RA 20	0.19	0	851	SLE RA 1	0.1	0	851	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	851	1094	SLE RA 1	0.19	0	851	SLE RA 1	0.1	0	851	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	851	1094	SLE RA 1	0.19	0	851	SLE RA 1	0.1	0	851	SLE RA 1	Si

CORDOLO 27

Geometria



Caratteristiche dei materiali

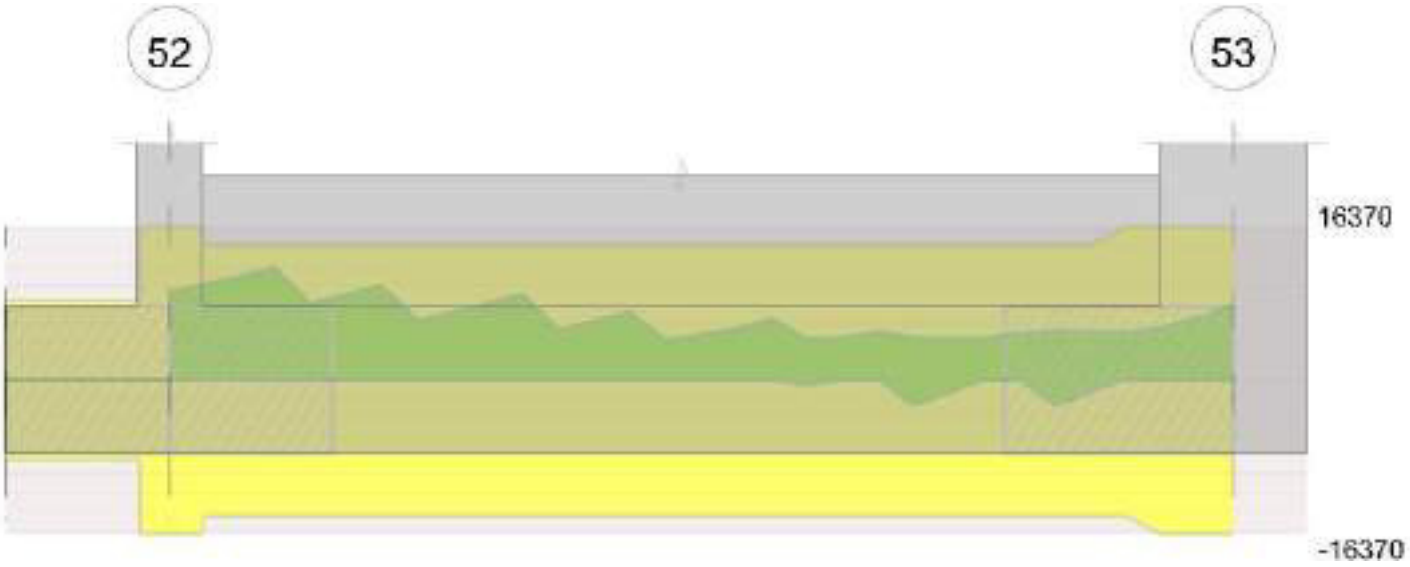
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 52 - 53, sezione R 50x45, aste 284, 283, 282, 281, 280, 279, 278, 277

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1763	SLU 83	0.044	8162	5037	SLU 83	15877	Si
0.1	0.41	0.0005	1750	SLU 83	0.044	8162	5000	SLU 83	15877	Si
1.63	0.41	0.0005	2394	SLV FO 11	0.146	7821	6841	SLV FO 11	15877	Si
3.03	0.41	0.0005	3667	SLV FO 11	0.146	7821	10476	SLV FO 11	15877	Si
3.26	0.41	0.0005	3949	SLV FO 11	0.146	7821	11284	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1403	SLD 12	0.121	9092	4010	SLD 12	15877	Si
0.1	0.41	0.0005	1412	SLD 12	0.121	9092	4035	SLD 12	15877	Si
1.63	0.41	0.0005	1849	SLD 11	0.121	9092	5282	SLD 11	15877	Si
3.03	0.41	0.0005	2698	SLD 11	0.121	9092	7709	SLD 11	15877	Si
3.26	0.41	0.0005	2894	SLD 11	0.121	9092	8270	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000516	1280	SLE RA 20	35439	1494000	439444	36000000	1149	SLE QP 2	31800	1120500	Si
0.1	0.41	0.00000516	1271	SLE RA 20	35174	1494000	436153	36000000	1140	SLE QP 2	31557	1120500	Si
1.63	0.41	0.00000516	1344	SLE RA 20	37186	1494000	461103	36000000	1208	SLE QP 2	33434	1120500	Si
3.03	0.41	0.00000516	1732	SLE RA 20	47939	1494000	594447	36000000	1565	SLE QP 2	43313	1120500	Si
3.26	0.41	0.00000516	1836	SLE RA 20	50823	1494000	630204	36000000	1660	SLE QP 2	45955	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
284,283,282,281,280,279,278,277	3.48	1.1	SLU 83	ST	BT	2.3	160351	37405	4.29	Si
284,283,282,281,280,279,278,277	3.48	1.1	SLV FO 12	SIS	BT	2.3	138640	43702	3.17	Si
284,283,282,281,280,279,278,277	3.48	1.1	SLD 12	SIS	BT	2.3	145752	35319	4.13	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	106	-37405	70.09	2722.61	0	0	0.07	0	1.1	3.34	1496	2060	0	14430	
0	-1349	-43702	738.67	11125.91	0	-2	0.25	0.02	1.07	2.98	1496	2060	0	14430	0.07
0	-750	-35319	447.19	6827.78	0	-1	0.19	0.01	1.07	3.1	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

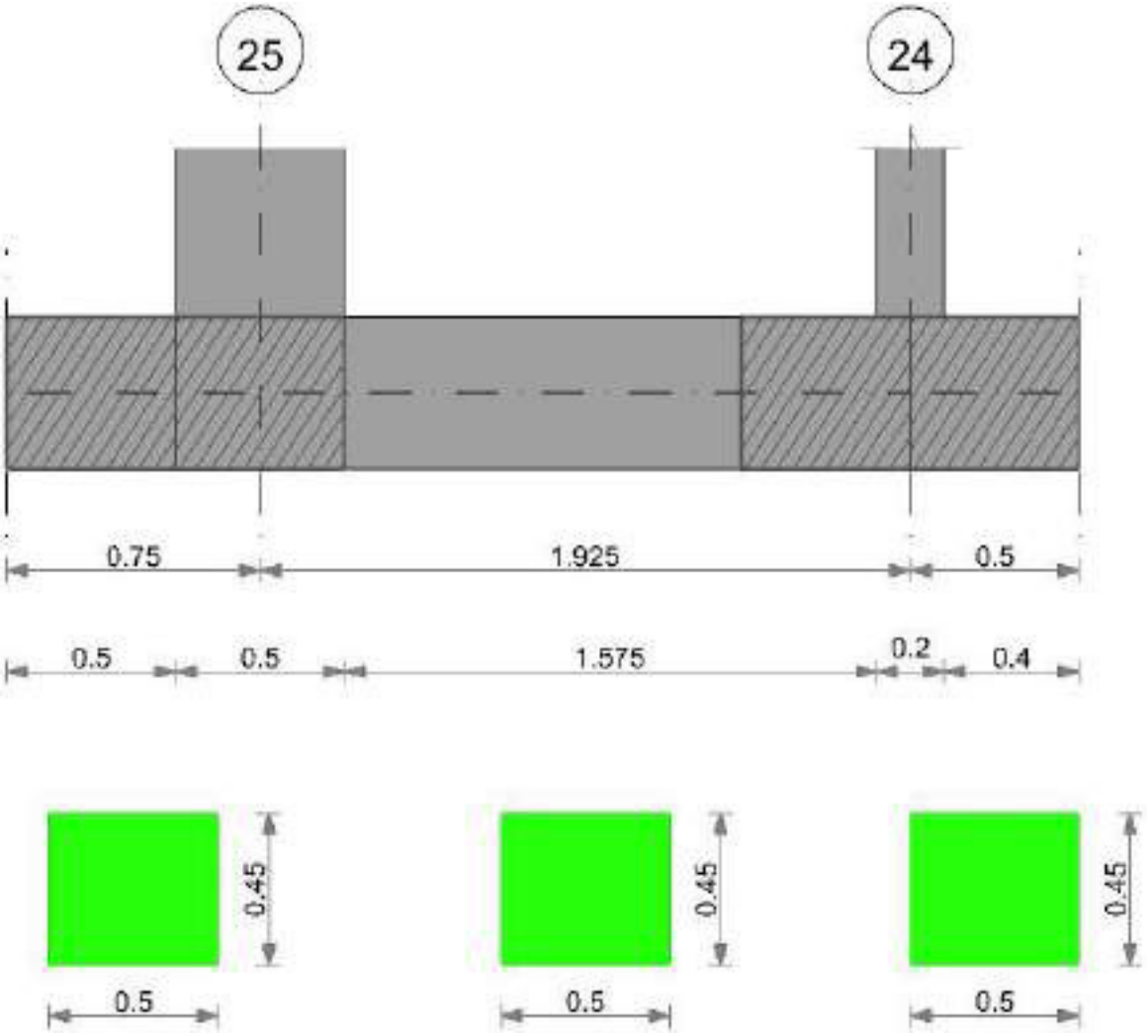
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	863	SLE RA 20	0.05	0.001	863	1107	SLE RA 20	0.05	0	863	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	863	SLE RA 1	0.05	0	863	863	SLE RA 1	0.05	0	863	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	863	SLE RA 1	0.05	0	863	863	SLE RA 1	0.05	0	863	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	863	1107	SLE RA 20	0.19	0	863	SLE RA 1	0.1	0	863	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	863	1107	SLE RA 1	0.19	0	863	SLE RA 1	0.1	0	863	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	863	1107	SLE RA 1	0.19	0	863	SLE RA 1	0.1	0	863	SLE RA 1	Si

CORDOLO 28

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

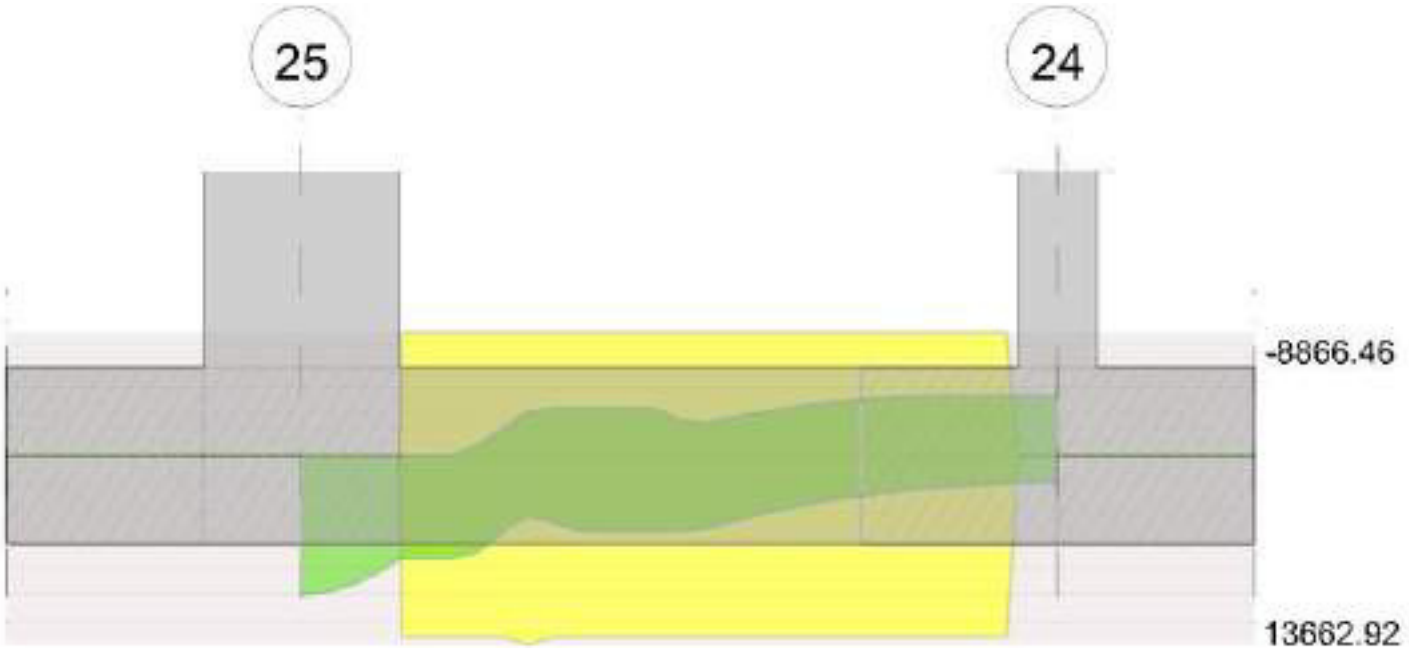
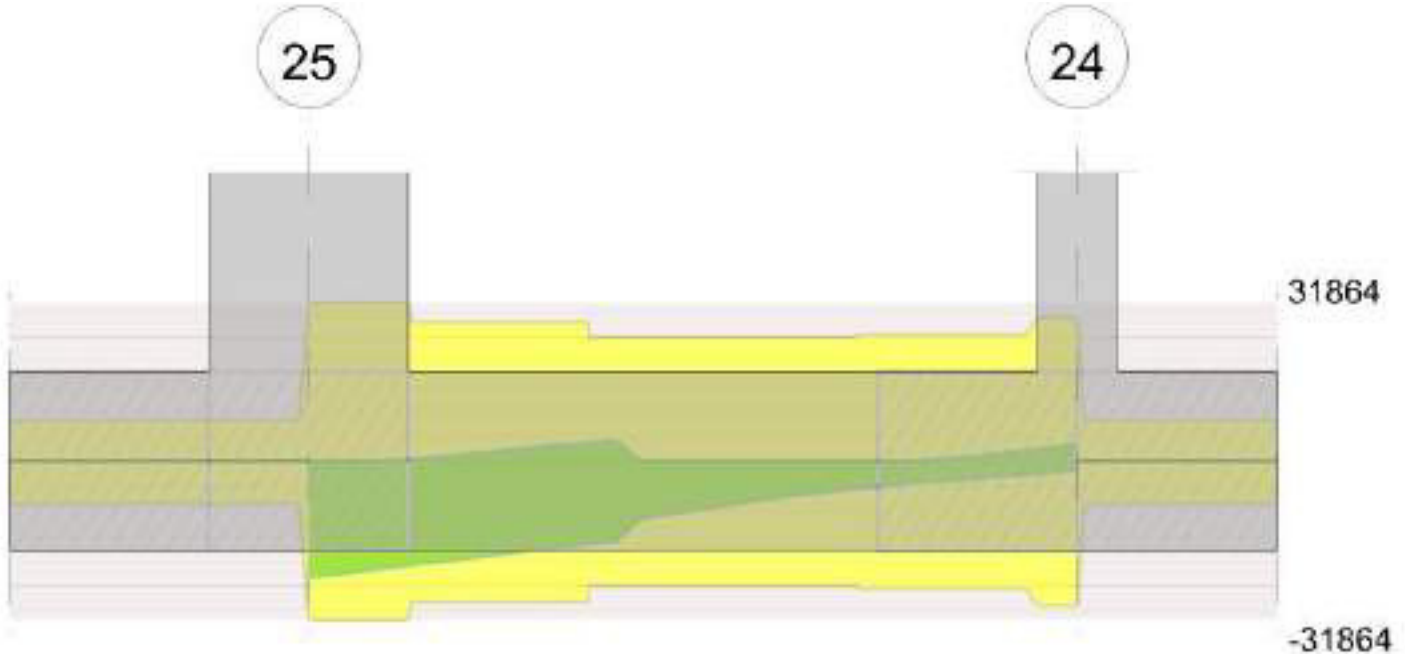


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 25 - 24, sezione R 50x45, aste 751, 750

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.96	0.000628	0.053	0.000942	0.053	2888.05	SLU 84	4433.79	13662.92	0.147	3.08							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.96	0.000628	0.053	0.000942	0.053	4399.09	SLV FO 9	5411.03	13063.86	0.261	2.41	-555.62	SLV FO 8	-2567.84	-8866.46	0.211	3.45	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.96	0.000628	0.053	0.000942	0.053	3257.45	SLD 9	4283.71	13063.86	0.261	3.05	586.02	SLD 8	-1195.65	-8866.46	0.211	7.42	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000201	0	0	-18760	SLU 83	-18760	-8455	-71432	-31864	-31864	1	1.7	Si
0.25	0.0000201	0	0	-15446	SLU 83	-15446	-8455	-71432	-31864	-31864	1	2.06	Si
0.96	0.0000179	0.000942	0	-9874	SLU 83	-9874	-9278	-63019	-24988	-24988	1	2.53	Si
1.83	0.0000183	0	0	160	SLU 39	160	8455	71432	28967	28967	1	181.4	Si
1.83	0.0000183	0	0	-145	SLU 49	-145	-8455	-71432	-28967	-28967	1	200.44	Si
1.93	0.0000183	0	0	1172	SLU 81	1172	8455	71432	28967	28967	1	24.71	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000201	0	0	-23307	SLV FO 12	-23307	-8455	-71432	-31864	-31864	1	1.37	Si
0.25	0.0000201	0	0	361	SLV FO 5	361	8455	71432	31864	31864	1	88.27	Si
0.25	0.0000201	0	0	-20887	SLV FO 12	-20887	-8455	-71432	-31864	-31864	1	1.53	Si
0.26	0.0000201	0	0	413	SLV FO 5	413	7751	63019	28111	28111	1	68.01	Si
0.26	0.0000201	0	0	-20822	SLV FO 12	-20822	-7751	-63019	-28111	-28111	1	1.35	Si
0.96	0.0000179	0.000942	0	-8719	SLV FO 15	-8719	-9278	-63019	-24988	-24988	1	2.87	Si
1.83	0.0000183	0	0	2460	SLV FO 4	2460	8455	71432	28967	28967	1	11.78	Si
1.83	0.0000183	0	0	-2447	SLV FO 13	-2447	-8455	-71432	-28967	-28967	1	11.84	Si
1.93	0.0000183	0	0	3290	SLV FO 4	3290	8455	71432	28967	28967	1	8.8	Si
1.93	0.0000183	0	0	-1847	SLV FO 13	-1847	-8455	-71432	-28967	-28967	1	15.69	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000201	0	0	-18338	SLD 12	-18338	-8455	-71432	-31864	-31864	1	1.74	Si
0.25	0.0000201	0	0	-16019	SLD 12	-16019	-8455	-71432	-31864	-31864	1	1.99	Si
0.96	0.0000179	0.000942	0	-7828	SLD 15	-7828	-9278	-63019	-24988	-24988	1	3.19	Si
1.83	0.0000183	0	0	1430	SLD 4	1430	8455	71432	28967	28967	1	20.26	Si
1.83	0.0000183	0	0	-1417	SLD 13	-1417	-8455	-71432	-28967	-28967	1	20.45	Si
1.93	0.0000183	0	0	2210	SLD 4	2210	8455	71432	28967	28967	1	13.11	Si
1.93	0.0000183	0	0	-766	SLD 13	-766	-8455	-71432	-28967	-28967	1	37.82	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.96	2121.95	21	3256.29	165494	1494000	2411489	36000000	1921.74	2	2956.51	150259	1120500			Si
1.83	-1340.73	20	-1340.73	-79451	1494000	0	36000000	-1227.04	2	-1227.04	-72714	1120500			Si
1.93	-1295.96	14	-1295.96	-76797	1494000	0	36000000	-1186.92	2	-1186.92	-70336	1120500			Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
751,750	1.93	1.1	SLU 84	ST	BT	2.3	91084	27081	3.36	Si
751,750	1.93	1.1	SLV FO 7	SIS	BT	2.3	84928	20814	4.08	Si
751,750	1.93	1.1	SLD 3	SIS	BT	2.3	85890	19111	4.49	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-258	11	-27081	-172.6	-1098.18	-1	0	-0.04	-0.01	1.09	1.84	1496	2060	0	14430	
3177	784	-20814	-464.89	1185.72	9	2	0.06	-0.02	1.06	1.81	1496	2060	0	14430	0.07
330	1495	-19111	-796.23	-295.51	1	4	-0.02	-0.04	1.02	1.89	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.12	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.12	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.11	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

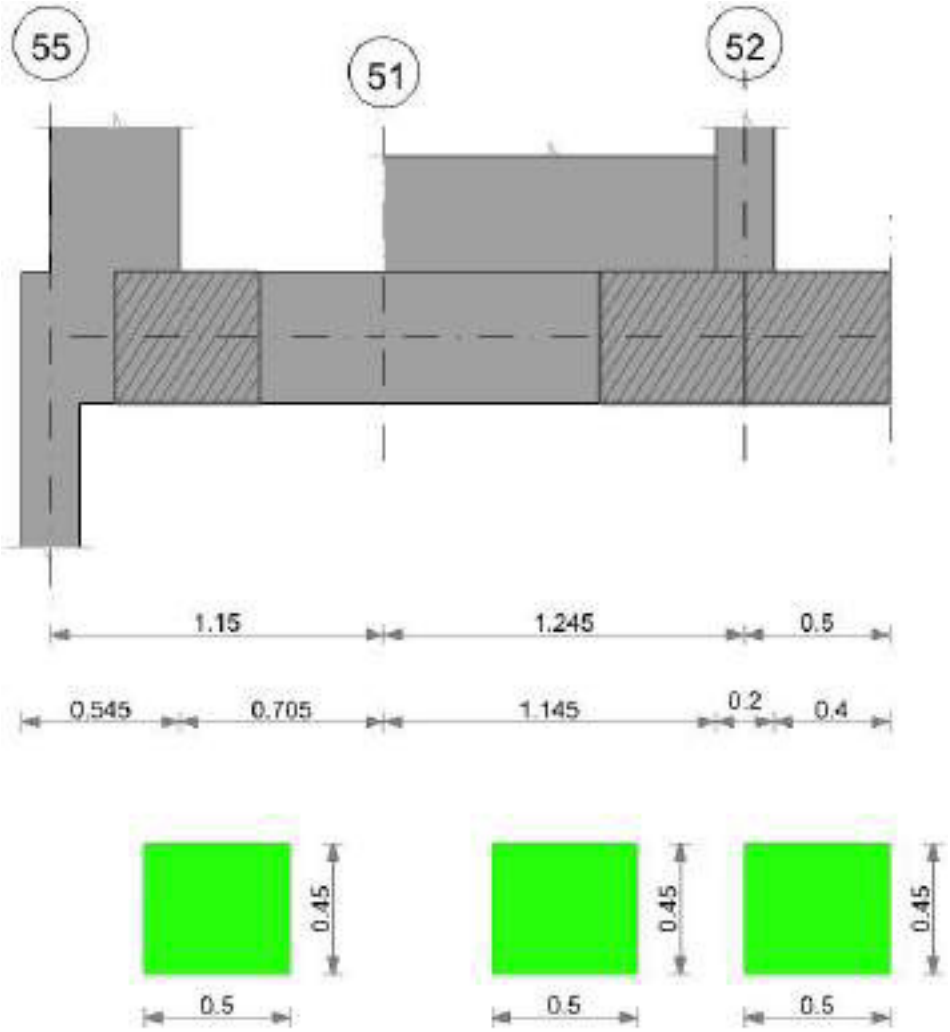
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	673	SLE RA 20	0.05	0	673	851	SLE RA 21	0.05	0	673	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	673	SLE RA 1	0.05	0	673	673	SLE RA 1	0.05	0	673	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	673	SLE RA 1	0.05	0	673	673	SLE RA 1	0.05	0	673	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	673	851	SLE RA 21	0.19	0	673	SLE RA 1	0.1	0	673	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	673	851	SLE RA 1	0.19	0	673	SLE RA 1	0.1	0	673	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	673	851	SLE RA 1	0.19	0	673	SLE RA 1	0.1	0	673	SLE RA 1	Si

CORDOLO 29

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

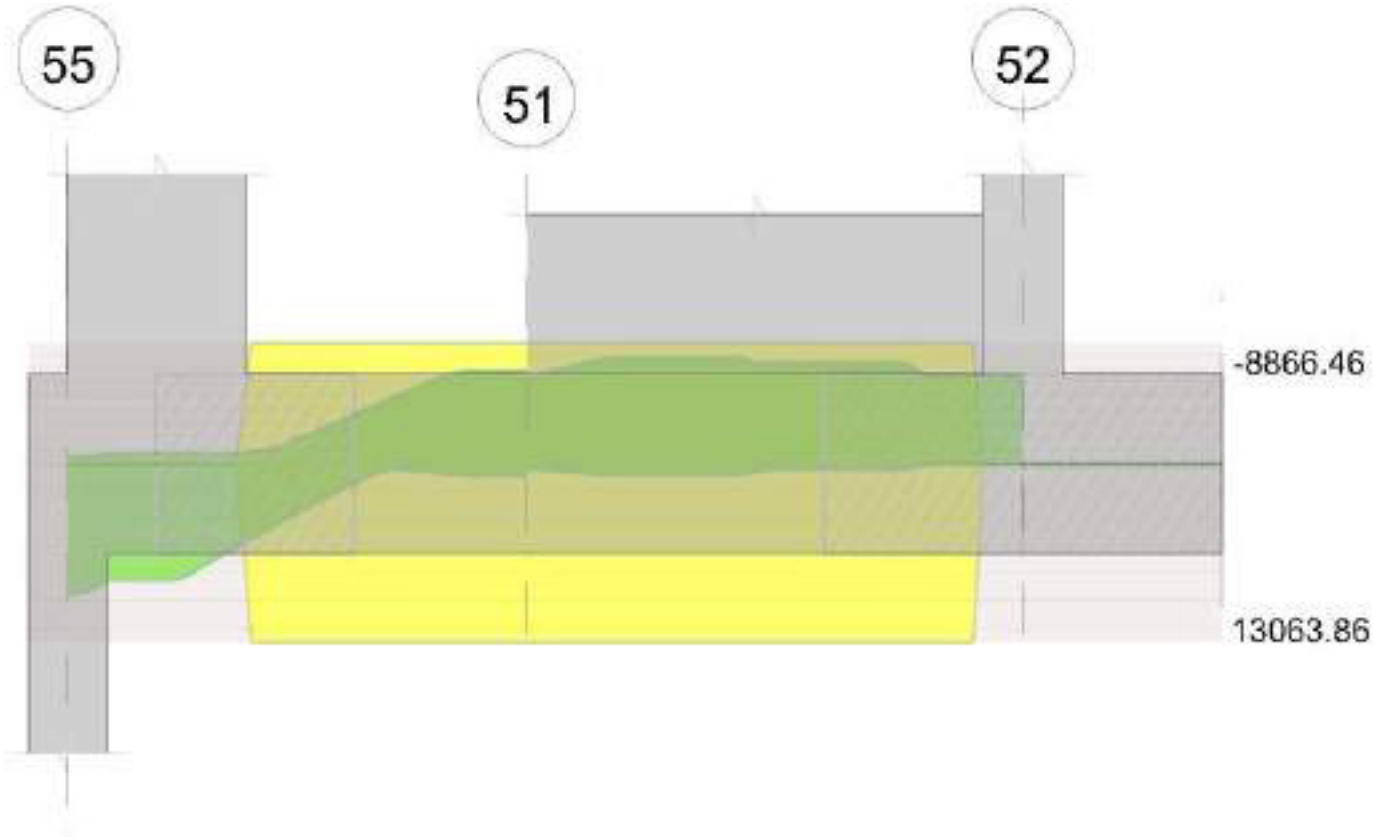
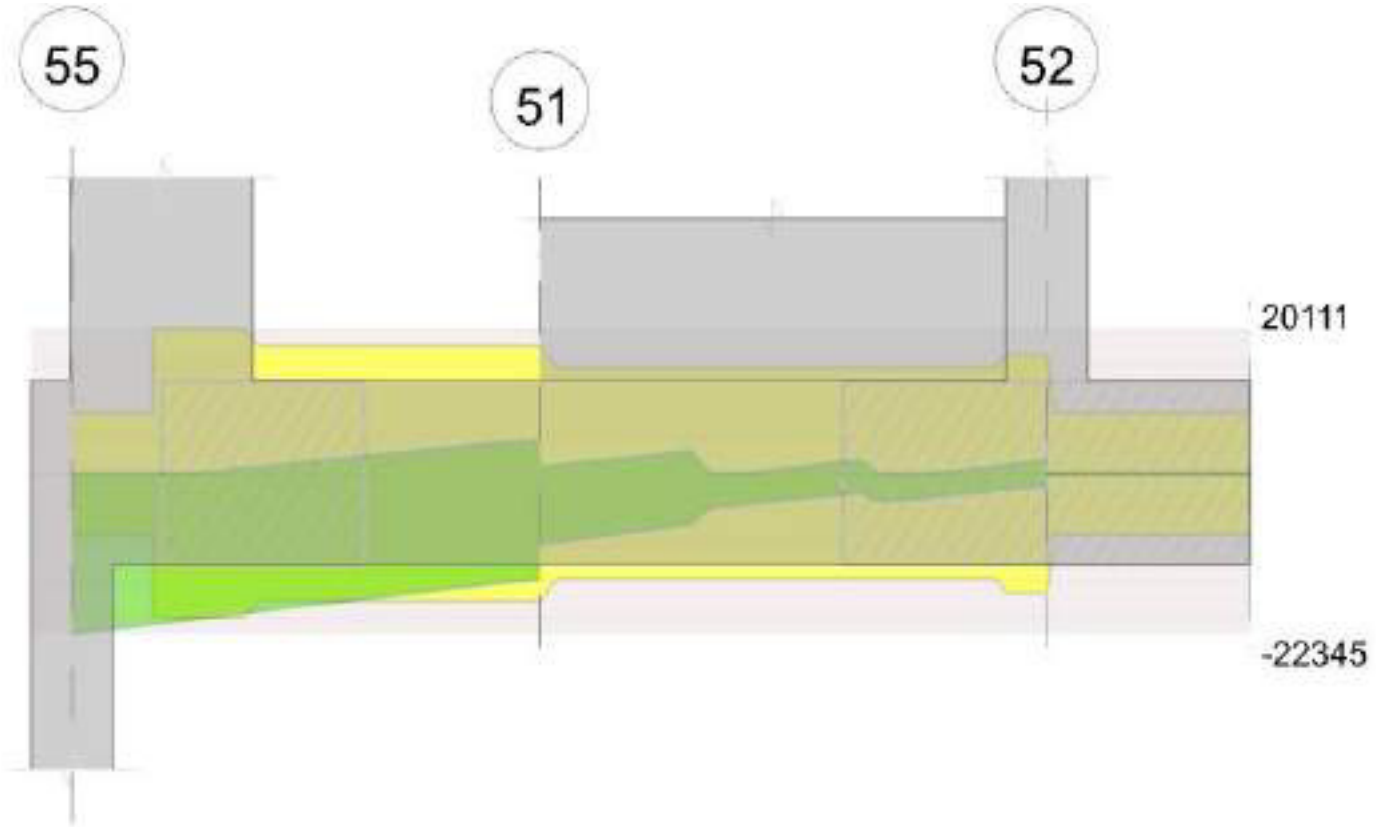


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 55 - 51, sezione R 50x45, asta 755

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	234.75	SLU 77	2182.86	13662.92	0.147	6.26	80.59	SLU 2	-1467.82	-9390.61	0.127	6.4	Si
1.15	0.000628	0.053	0.000942	0.053							-4393.49	SLU 83	-4393.49	-9390.61	0.127	2.14	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	931.71	SLV FO 4	3619.19	13063.86	0.261	3.61	-683.76	SLV FO 13	-1862.01	-8866.46	0.211	4.76	Si
1.15	0.000628	0.053	0.000942	0.053	847.83	SLV FO 10	847.83	13063.86	0.261	15.41	-6797.98	SLV FO 7	-6797.98	-8866.46	0.211	1.3	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000628	0.053	0.000942	0.053	586.57	SLD 4	2619.9	13063.86	0.261	4.99	-338.62	SLD 13	-1474.46	-8866.46	0.211	6.01	Si
1.15	0.000628	0.053	0.000942	0.053							-5040.82	SLD 7	-5040.82	-8866.46	0.211	1.76	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-18216	SLU 83	-18216	-8455	-71432	0	-8455	1	0.46	Si
0.58	0.0000127	0	0	-12562	SLU 83	-12562	-7751	-63019	-17742	-17742	1	1.41	Si
1.15	0.0000127	0.000628	0	-7426	SLU 83	-7426	-8105	-63019	-17742	-17742	1	2.39	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-22345	SLV FO 7	-22345	-8455	-71432	0	-8455	1	0.38	Si
0.58	0.0000127	0	0	1535	SLV FO 10	1535	7751	63019	17742	17742	1	11.56	Si
1.15	0.0000127	0.000942	0	4704	SLV FO 10	4704	9278	63019	17742	17742	1	3.77	Si
1.15	0.0000127	0.000628	0	-14668	SLV FO 7	-14668	-8105	-63019	-17742	-17742	1	1.21	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-17682	SLD 7	-17682	-8455	-71432	0	-8455	1	0.48	Si
0.58	0.0000127	0	0	-13788	SLD 7	-13788	-7751	-63019	-17742	-17742	1	1.29	Si
1.15	0.0000127	0.000628	0	267	SLD 10	267	8105	63019	17742	17742	1	66.49	Si
1.15	0.0000127	0.000628	0	-10231	SLD 7	-10231	-8105	-63019	-17742	-17742	1	1.73	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.58	158.89	14	1586.77	80645	1494000	1175106	36000000	123.98	2	1427.7	72560	1120500			Si

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
1.15	-3234.32	20	-3234.32	159682	1494000	2465672	36000000	-2975.07	2	-2975.07	146882	1120500			Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 55 - 51, sezione R 50x45, asta 755

Campata 2 tra i fili 51 - 52, sezione R 50x45, aste 754, 753, 752

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	2145	SLU 83	0.054	9986	6129	SLU 83	15877	Si
0.62	0.41	0.0005	1896	SLU 83	0.044	8292	5418	SLU 83	15877	Si
1.15	0.41	0.0005	1777	SLU 83	0.044	8292	5077	SLU 83	15877	Si
1.25	0.41	0.0005	1763	SLU 83	0.044	8292	5037	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1515	SLD 12	0.133	11109	4328	SLD 12	15877	Si
0.62	0.41	0.0005	1399	SLD 12	0.122	9235	3999	SLD 12	15877	Si
1.15	0.41	0.0005	1395	SLD 12	0.122	9235	3987	SLD 12	15877	Si
1.25	0.41	0.0005	1403	SLD 12	0.122	9235	4010	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000635	1563	SLE RA 20	42602	1494000	528268	36000000	1408	SLE QP 2	38390	1120500	Si
0.62	0.41	0.00000525	1379	SLE RA 20	38126	1494000	472757	36000000	1239	SLE QP 2	34262	1120500	Si
1.15	0.41	0.00000525	1291	SLE RA 20	35684	1494000	442485	36000000	1158	SLE QP 2	32024	1120500	Si
1.25	0.41	0.00000525	1280	SLE RA 20	35401	1494000	438975	36000000	1149	SLE QP 2	31766	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
755,754,753,752	2.5	1.1	SLU 84	ST	BT	2.3	116017	26831	4.32	Si
755,754,753,752	2.5	1.1	SLV FO 16	SIS	BT	2.3	103804	20003	5.19	Si
755,754,753,752	2.5	1.1	SLD 16	SIS	BT	2.3	108935	19273	5.65	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-256	143	-26831	-18.45	-1730.35	-1	0	-0.06	0	1.1	2.37	1496	2060	0	14430	
707	-2529	-20003	1253.01	-449.44	2	-7	-0.02	0.06	0.97	2.45	1496	2060	0	14430	0.07
306	-1428	-19273	723.12	-772.56	1	-4	-0.04	0.04	1.02	2.41	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.09	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

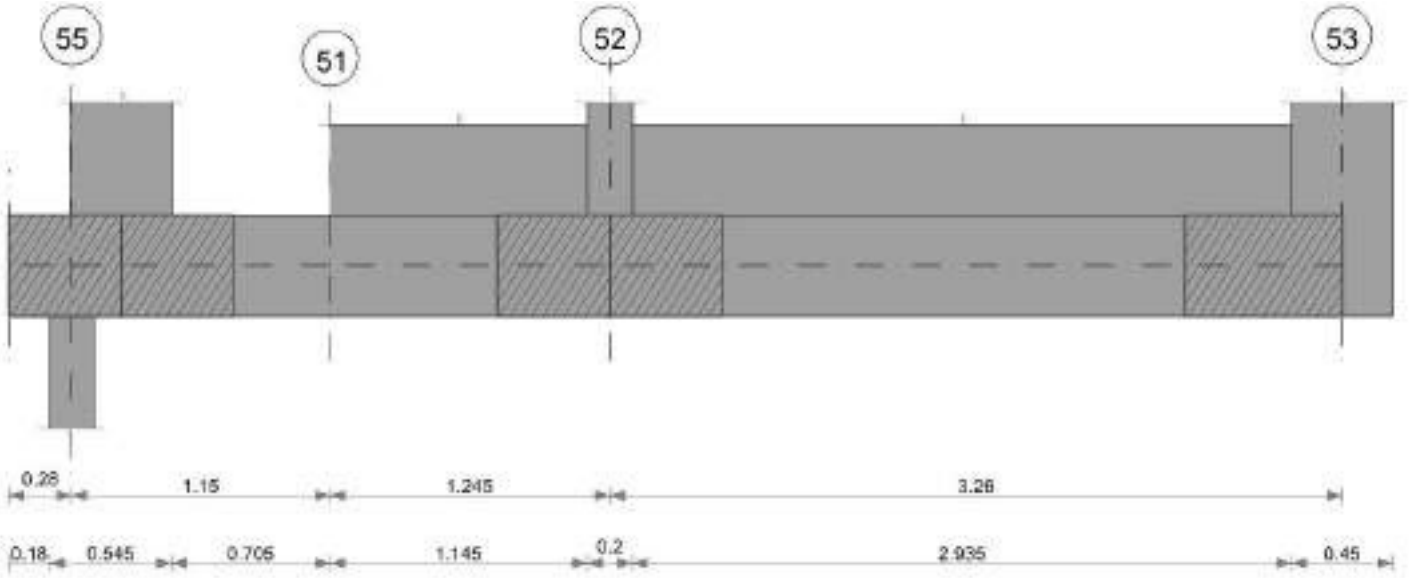
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	688	SLE RA 20	0.05	0.001	688	863	SLE RA 21	0.05	0	788	SLE RA 2	0.0033	0	SLE RA 2	Si
D	0.05	0	688	SLE RA 1	0.05	0	688	688	SLE RA 1	0.05	0	788	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	688	SLE RA 1	0.05	0	688	688	SLE RA 1	0.05	0	788	SLE RA 1	0.0033	0	SLE RA 1	Si

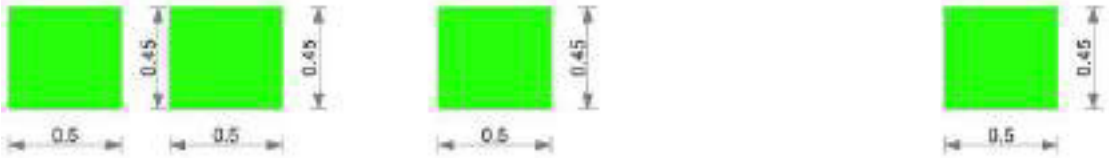
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.03	SLE RA 21	0.19	0.03	688	788	SLE RA 21	0.19	0	688	SLE RA 1	0.1	0	788	SLE RA 2	Si
D	0.19	0	SLE RA 1	0.19	0	688	788	SLE RA 1	0.19	0	688	SLE RA 1	0.1	0	788	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	688	788	SLE RA 1	0.19	0	688	SLE RA 1	0.1	0	788	SLE RA 1	Si

CORDOLO 30

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

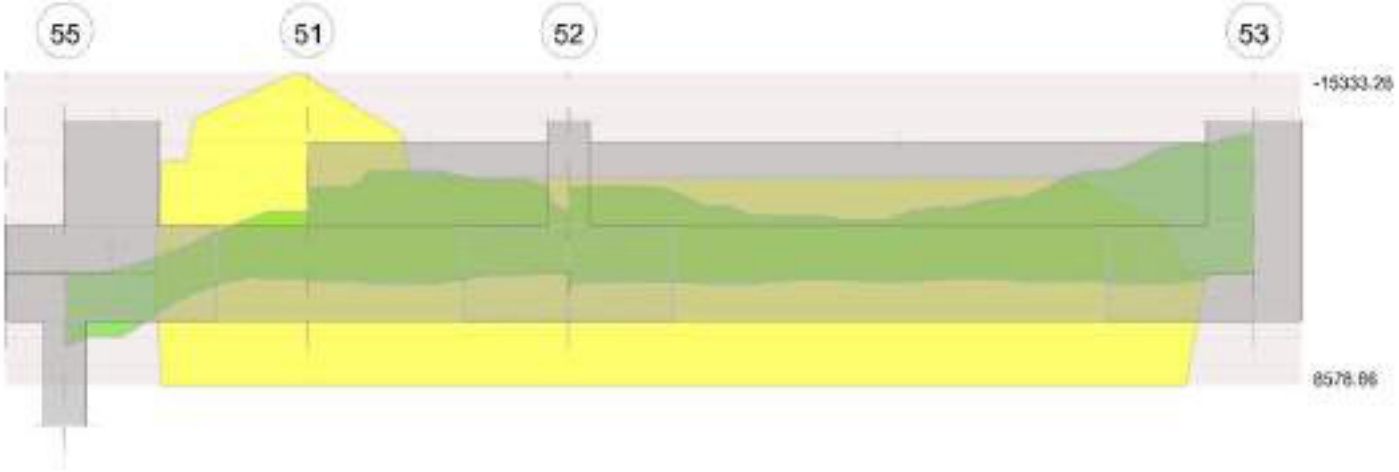


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 2 tra i fili 55 - 51, sezione R 50x45, asta 276

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	5350.94	SLU 83	4885.81	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	-115.69	SLU 36	1267.43	9071.72	0.119	7.16	-201.02	SLU 43	-1362.07	-9071.72	0.119	6.66	Si
1.15	0.001087	0.051	0.000603	0.051							-3141.48	SLU 83	-3141.48	-15699.13	0.155	5	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	5987.69	SLV FO 7	5513.52	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	703.37	SLV FO 2	1789.39	8578.86	0.211	4.79	-1001.48	SLV FO 15	-2031.71	-8578.86	0.211	4.22	Si
1.15	0.001087	0.051	0.000603	0.051	396.3	SLV FO 6	396.3	8574.08	0.204	21.64	-4718.55	SLV FO 11	-4718.55	-15005.04	0.279	3.18	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0	0	0	0	4878.3	SLD 7	4479.21	0	0	0							Si
0.58	0.000603	0.051	0.000603	0.051	345.48	SLD 2	1376.93	8578.86	0.211	6.23	-643.59	SLD 15	-1569.34	-8578.86	0.211	5.47	Si
1.15	0.001087	0.051	0.000603	0.051							-3546.67	SLD 11	-3546.67	-15005.04	0.279	4.23	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-14797	SLU 83	-14797	-8455	-71432	0	-8455	1	0.57	Si
0.58	0.0000176	0	0	-9046	SLU 83	-9046	-7777	-63336	-24721	-24721	1	2.73	Si
1.15	0.0000105	0.000932	0	-3805	SLU 83	-3805	-9261	-63262	-14793	-14793	1	3.89	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-15242	SLV FO 11	-15242	-8455	-71432	0	-8455	1	0.55	Si
0.58	0.0000176	0	0	-11100	SLV FO 11	-11100	-7777	-63336	-24721	-24721	1	2.23	Si
1.15	0.0000105	0.000932	0	2087	SLV FO 10	2087	9261	63262	14793	14793	1	7.09	Si
1.15	0.0000105	0.000932	0	-7302	SLV FO 7	-7302	-9261	-63262	-14793	-14793	1	2.03	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-12797	SLD 11	-12797	-8455	-71432	0	-8455	1	0.66	Si
0.58	0.0000176	0	0	-8790	SLD 11	-8790	-7777	-63336	-24721	-24721	1	2.81	Si
1.15	0.0000105	0.000932	0	-5133	SLD 7	-5133	-9261	-63262	-14793	-14793	1	2.88	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	3918.44	20	3577.11	211977	1494000	0	36000000	3568.92	2	3256.33	192968	1120500			Si
0.1	3072.11	20	3072.11	182051	1494000	0	36000000	2793.68	2	2793.68	165551	1120500			Si
0.58	-151.18	1	-1010.36	52323	1494000	784852	36000000	-151.18	1	-952.1	49306	1120500			Si
1.15	-2319.9	20	-2319.9	117134	1494000	1680412	36000000	-2161.12	2	-2161.12	109117	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 55 - 51, sezione R 50x45, asta 276

Campata 3 tra i fili 51 - 52, sezione R 50x45, aste 275, 274, 273

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	2197	SLU 83	0.044	8324	6278	SLU 83	15877	Si
0.62	0.41	0.0005	1951	SLU 83	0.044	8324	5574	SLU 83	15877	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
1.15	0.41	0.0002	1833	SLU 83	0.019	3218	5238	SLU 83	15877	Si
1.25	0.41	0.0002	1819	SLU 83	0.019	3218	5199	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1560	SLD 12	0.122	9272	4458	SLD 12	15877	Si
0.62	0.41	0.0005	1448	SLD 12	0.122	9272	4136	SLD 12	15877	Si
1.15	0.41	0.0002	1446	SLD 12	0.076	3616	4131	SLD 12	15877	Si
1.25	0.41	0.0002	1454	SLD 12	0.076	3616	4154	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000527	1601	SLE RA 20	44252	1494000	548729	36000000	1444	SLE QP 2	39905	1120500	Si
0.62	0.41	0.00000527	1419	SLE RA 20	39227	1494000	486414	36000000	1277	SLE QP 2	35283	1120500	Si
1.15	0.41	0.00000202	1332	SLE RA 20	38417	1494000	476376	36000000	1197	SLE QP 2	34511	1120500	Si
1.25	0.41	0.00000202	1322	SLE RA 20	38123	1494000	472730	36000000	1188	SLE QP 2	34243	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 52 - 53, sezione R 50x45, aste 272, 271, 270, 269, 268, 267, 266, 265

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1819	SLU 83	0.019	3218	5199	SLU 83	15877	Si
0.1	0.41	0.0002	1806	SLU 83	0.019	3218	5161	SLU 83	15877	Si
1.63	0.41	0.0002	2441	SLV FO 11	0.092	3123	6975	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1454	SLD 12	0.076	3616	4154	SLD 12	15877	Si
0.1	0.41	0.0002	1462	SLD 12	0.076	3616	4178	SLD 12	15877	Si
1.63	0.41	0.0002	1888	SLD 11	0.076	3616	5393	SLD 11	15877	Si
3.03	0.41	0.0002	2725	SLD 11	0.076	3616	7785	SLD 11	15877	Si
3.26	0.41	0.0002	2920	SLD 11	0.076	3616	8344	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000202	1322	SLE RA 20	38123	1494000	472730	36000000	1188	SLE QP 2	34243	1120500	Si
0.1	0.41	0.00000202	1312	SLE RA 20	37844	1494000	469260	36000000	1179	SLE QP 2	33988	1120500	Si
1.63	0.41	0.00000202	1375	SLE RA 20	39637	1494000	491501	36000000	1237	SLE QP 2	35664	1120500	Si
3.03	0.41	0.00000202	1751	SLE RA 20	50494	1494000	626131	36000000	1583	SLE QP 2	45640	1120500	Si
3.26	0.41	0.00000202	1855	SLE RA 20	53478	1494000	663122	36000000	1678	SLE QP 2	48372	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
276,275,274,273,272,271,270,269,268,267,266,265	5.88	1.1	SLU 83	ST	BT	2.3	273814	65271	4.2	Si
276,275,274,273,272,271,270,269,268,267,266,265	5.88	1.1	SLV FO 12	SIS	BT	2.3	231584	65544	3.53	Si
276,275,274,273,272,271,270,269,268,267,266,265	5.88	1.1	SLD 12	SIS	BT	2.3	248902	55877	4.45	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	265	-65271	77.66	-2078.45	0	0	-0.03	0	1.1	5.82	1496	2060	0	14430	
0	-2159	-65544	1192.82	25729.28	0	-2	0.39	0.02	1.06	5.09	1496	2060	0	14430	0.07
0	-1169	-55877	709.63	13178.13	0	-1	0.24	0.01	1.07	5.41	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

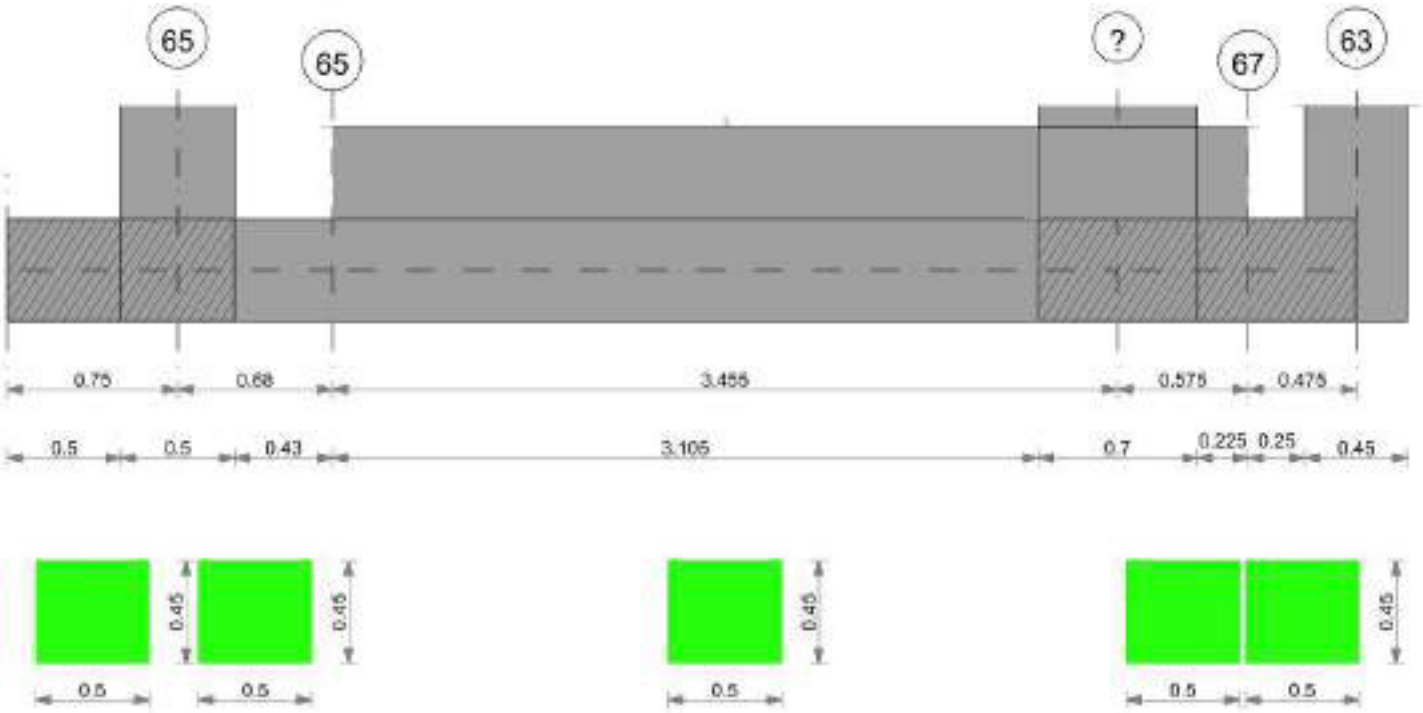
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	691	SLE RA 20	0.05	0.002	691	1109	SLE RA 21	0.05	0	865	SLE FR 4	0.0033	0	SLE FR 5	Si
D	0.05	0	691	SLE RA 1	0.05	0	691	691	SLE RA 1	0.05	0	790	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	691	SLE RA 1	0.05	0	691	691	SLE RA 1	0.05	0	790	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.04	691	790	SLE RA 21	0.19	0	691	SLE RA 1	0.1	0.02	865	SLE FR 5	Si
D	0.19	0	SLE RA 1	0.19	0	691	790	SLE RA 1	0.19	0	691	SLE RA 1	0.1	0	790	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	691	790	SLE RA 1	0.19	0	691	SLE RA 1	0.1	0	790	SLE RA 1	Si

CORDOLO 31

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

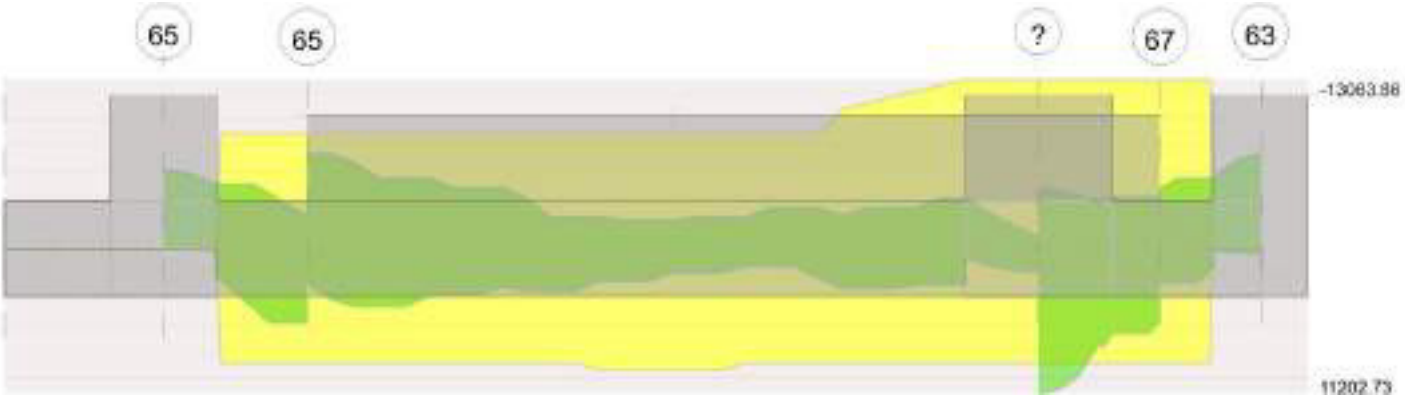
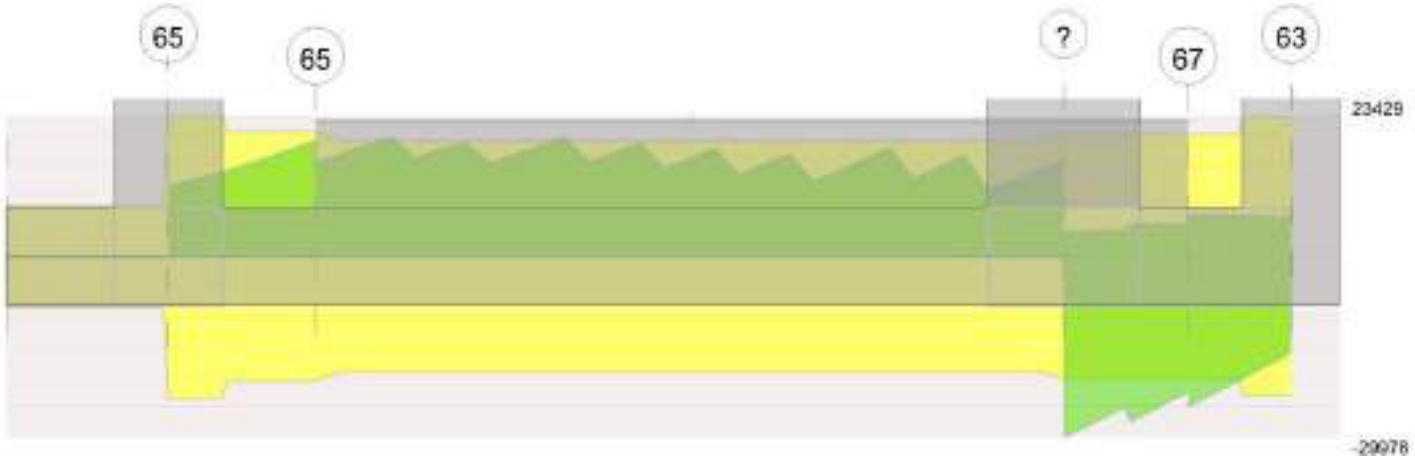


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 65 - 65, sezione R 50x45, asta 297

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	-1232	SLU 2	815.38	9384.5	0.124	11.51	-2097.63	SLU 83	-3391.92	-9384.5	0.124	2.77	Si
0.68	0.000628	0.053	0.000628	0.053	3718.76	SLU 84	3718.76	9384.5	0.124	2.52							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	1248.28	SLV FO 6	3426.11	8869.39	0.216	2.59	-4053.85	SLV FO 11	-4913.12	-8869.39	0.216	1.81	Si
0.68	0.000628	0.053	0.000628	0.053	5729.03	SLV FO 10	5729.03	8869.39	0.216	1.55	-832.94	SLV FO 7	-2568.77	-8869.39	0.216	3.45	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.34	0.000628	0.053	0.000628	0.053	27.82	SLD 6	2089.17	8869.39	0.216	4.25	-2833.39	SLD 11	-3698.31	-8869.39	0.216	2.4	Si
0.68	0.000628	0.053	0.000628	0.053	4232.37	SLD 10	4232.37	8869.39	0.216	2.1	663.72	SLD 7	-1251.24	-8869.39	0.216	7.09	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	10859	SLU 84	10859	8455	71432	23429	23429	1	2.16	Si
0.25	0.0000148	0	0	13871	SLU 84	13871	8455	71432	23429	23429	1	1.69	Si
0.34	0.0000148	0	0	14956	SLU 84	14956	7751	63019	20670	20670	1	1.38	Si
0.68	0.0000148	0.000628	0	19070	SLU 84	19070	8105	63019	20670	20670	1	1.08	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	11619	SLV FO 14	11619	8455	71432	23429	23429	1	2.02	Si
0.25	0.0000148	0	0	13942	SLV FO 14	13942	8455	71432	23429	23429	1	1.68	Si
0.34	0.0000148	0	0	14778	SLV FO 14	14778	7751	63019	20670	20670	1	1.4	Si
0.68	0.0000148	0.000628	0	17944	SLV FO 14	17944	8105	63019	20670	20670	1	1.15	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000148	0	0	9756	SLD 14	9756	8455	71432	23429	23429	1	2.4	Si
0.25	0.0000148	0	0	11952	SLD 14	11952	8455	71432	23429	23429	1	1.96	Si
0.34	0.0000148	0	0	12743	SLD 14	12743	7751	63019	20670	20670	1	1.62	Si
0.68	0.0000148	0.000628	0	15738	SLD 14	15738	8105	63019	20670	20670	1	1.31	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-4733.07	20	-3744.15	-221875	1494000	0	36000000	-4321.08	2	-3419.21	-202620	1120500			Si
0.25	-2479.44	20	-2479.44	-146930	1494000	0	36000000	-2265.81	2	-2265.81	-134270	1120500			Si
0.34	-1533.15	20	-2479.44	128114	1494000	1921709	36000000	-1402.78	2	-2265.81	117075	1120500			Si
0.68	2717.42	21	2717.42	140411	1494000	2106158	36000000	2448.05	2	2448.05	126492	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 5 tra i fili 67 - 63, sezione R 50x45, asta 285

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053							-965.38	SLU 82	-3190.53	-13662.92	0.147	4.28	Si
0.24	0.000942	0.053	0.000628	0.053							-3823.46	SLU 83	-3953.63	-13662.92	0.147	3.46	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053	2683.91	SLV FO 3	2683.91	8866.46	0.211	3.3	-4060.27	SLV FO 14	-4709.53	-13063.86	0.261	2.77	Si
0.24	0.000942	0.053	0.000628	0.053	23.13	SLV FO 5	1668.22	8866.46	0.211	5.31	-5175.14	SLV FO 12	-5381.15	-13063.86	0.261	2.43	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000628	0.053	1260.39	SLD 3	1260.39	8866.46	0.211	7.03	-2636.75	SLD 14	-3626.74	-13063.86	0.261	3.6	Si
0.24	0.000942	0.053	0.000628	0.053	-1155.08	SLD 5	467.89	8866.46	0.211	18.95	-3996.94	SLD 12	-4146.25	-13063.86	0.261	3.15	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	-13745	SLU 83	-13745	-7751	-63019	-20282	-20282	1	1.48	Si
0.24	0.0000145	0	0	-10521	SLU 83	-10521	-7751	-63019	-20282	-20282	1	1.93	Si
0.25	0.0000145	0	0	-10351	SLU 83	-10351	-8455	-71432	-22989	-22989	1	2.22	Si
0.47	0.0000145	0	0	-7280	SLU 83	-7280	-8455	-71432	-22989	-22989	1	3.16	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	6886	SLV FO 10	6886	7751	63019	20282	20282	1	2.95	Si
0.24	0.0000145	0	0	6701	SLV FO 10	6701	7751	63019	20282	20282	1	3.03	Si
0.25	0.0000145	0	0	6690	SLV FO 10	6690	8455	71432	22989	22989	1	3.44	Si
0.25	0.0000145	0	0	-20206	SLV FO 7	-20206	-8455	-71432	-22989	-22989	1	1.14	Si
0.47	0.0000145	0	0	6452	SLV FO 10	6452	8455	71432	22989	22989	1	3.56	Si
0.47	0.0000145	0	0	-15863	SLV FO 7	-15863	-8455	-71432	-22989	-22989	1	1.45	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000145	0	0	-17652	SLD 7	-17652	-7751	-63019	-20282	-20282	1	1.15	Si
0.24	0.0000145	0	0	507	SLD 10	507	7751	63019	20282	20282	1	40.03	Si
0.24	0.0000145	0	0	-14250	SLD 7	-14250	-7751	-63019	-20282	-20282	1	1.42	Si
0.25	0.0000145	0	0	553	SLD 10	553	8455	71432	22989	22989	1	41.55	Si
0.25	0.0000145	0	0	-14070	SLD 7	-14070	-8455	-71432	-22989	-22989	1	1.63	Si
0.47	0.0000145	0	0	1382	SLD 10	1382	8455	71432	22989	22989	1	16.64	Si
0.47	0.0000145	0	0	-10794	SLD 7	-10794	-8455	-71432	-22989	-22989	1	2.13	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-725.9	19	-2344.48	119153	1494000	1736236	36000000	-688.18	2	-2162.29	109894	1120500			Si
0.24	-2804.06	20	-2898.55	147313	1494000	2146560	36000000	-2576.01	2	-2661.01	135240	1120500			Si
0.25	-2898.55	20	-2898.55	-171766	1494000	0	36000000	-2661.01	2	-2661.01	-157689	1120500			Si
0.47	-4336.81	20	-3743.81	-221855	1494000	0	36000000	-3951.12	2	-3421.29	-202743	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 65 - 65, sezione R 50x45, asta 297

Campata 3 tra i fili 65 - ?, sezione R 50x45, aste 296, 295, 294, 293, 292, 291, 290, 289, 288

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2164	SLU 83	0.062	11592	6660	SLU 83	26276	Si
1.73	0.41	0.0007	2572	SLV FO 11	0.167	10262	7912	SLV FO 11	24306	Si
3.1	0.41	0.0007	3302	SLV FO 11	0.167	10262	10159	SLV FO 11	24306	Si
3.45	0.41	0.0007	3479	SLV FO 11	0.172	10862	10703	SLV FO 11	25782	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	1640	SLD 15	0.144	12886	5046	SLD 15	30217	Si
1.73	0.41	0.0007	2081	SLD 11	0.138	11947	6405	SLD 11	27952	Si
3.1	0.41	0.0007	2505	SLD 11	0.138	11947	7707	SLD 11	27952	Si
3.45	0.41	0.0007	2610	SLD 11	0.142	12651	8030	SLD 11	29650	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000739	1578	SLE RA 20	42463	1494000	526541	36000000	1428	SLE QP 2	38417	1120500	Si
1.73	0.41	0.00000684	1660	SLE RA 20	44979	1494000	557741	36000000	1502	SLE QP 2	40692	1120500	Si
3.1	0.41	0.00000684	1731	SLE RA 20	46892	1494000	581463	36000000	1567	SLE QP 2	42455	1120500	Si
3.45	0.41	0.00000725	1752	SLE RA 20	47221	1494000	585545	36000000	1587	SLE QP 2	42772	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 67, sezione R 50x45, aste 287, 286

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3479	SLV FO 11	0.172	10862	10703	SLV FO 11	25782	Si
0.29	0.41	0.0007	3616	SLV FO 11	0.172	10862	11127	SLV FO 11	25782	Si
0.35	0.41	0.0007	3643	SLV FO 11	0.172	10862	11209	SLV FO 11	25782	Si
0.57	0.41	0.0007	3733	SLV FO 11	0.172	10862	11486	SLV FO 11	25782	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2610	SLD 11	0.142	12651	8030	SLD 11	29650	Si
0.29	0.41	0.0007	2691	SLD 11	0.142	12651	8279	SLD 11	29650	Si

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.35	0.41	0.0007	2706	SLD 11	0.142	12651	8326	SLD 11	29650	Si
0.57	0.41	0.0007	2757	SLD 11	0.142	12651	8483	SLD 11	29650	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000725	1752	SLE RA 20	47221	1494000	585545	36000000	1587	SLE QP 2	42772	1120500	Si
0.29	0.41	0.00000725	1767	SLE RA 20	47622	1494000	590512	36000000	1601	SLE QP 2	43154	1120500	Si
0.35	0.41	0.00000725	1768	SLE RA 20	47671	1494000	591115	36000000	1603	SLE QP 2	43202	1120500	Si
0.57	0.41	0.00000725	1773	SLE RA 20	47800	1494000	592725	36000000	1608	SLE QP 2	43338	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 5 tra i fili 67 - 63, sezione R 50x45, asta 285

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
297,296,295,294,293,292,291,290,289,288,287,286,285	5.41	1.1	SLU 83	ST	BT	2.3	248961	76067	3.27	Si
297,296,295,294,293,292,291,290,289,288,287,286,285	5.41	1.1	SLV FO 11	SIS	BT	2.3	218411	83710	2.61	Si
297,296,295,294,293,292,291,290,289,288,287,286,285	5.41	1.1	SLD 11	SIS	BT	2.3	230107	69053	3.33	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	970	-76067	-254.77	3886.25	0	1	0.05	0	1.09	5.31	1496	2060	0	14430	
0	-182	-83710	278.72	32903.33	0	0	0.39	0	1.09	4.62	1496	2060	0	14430	0.07
0	140	-69053	99.17	18932.3	0	0	0.27	0	1.1	4.86	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

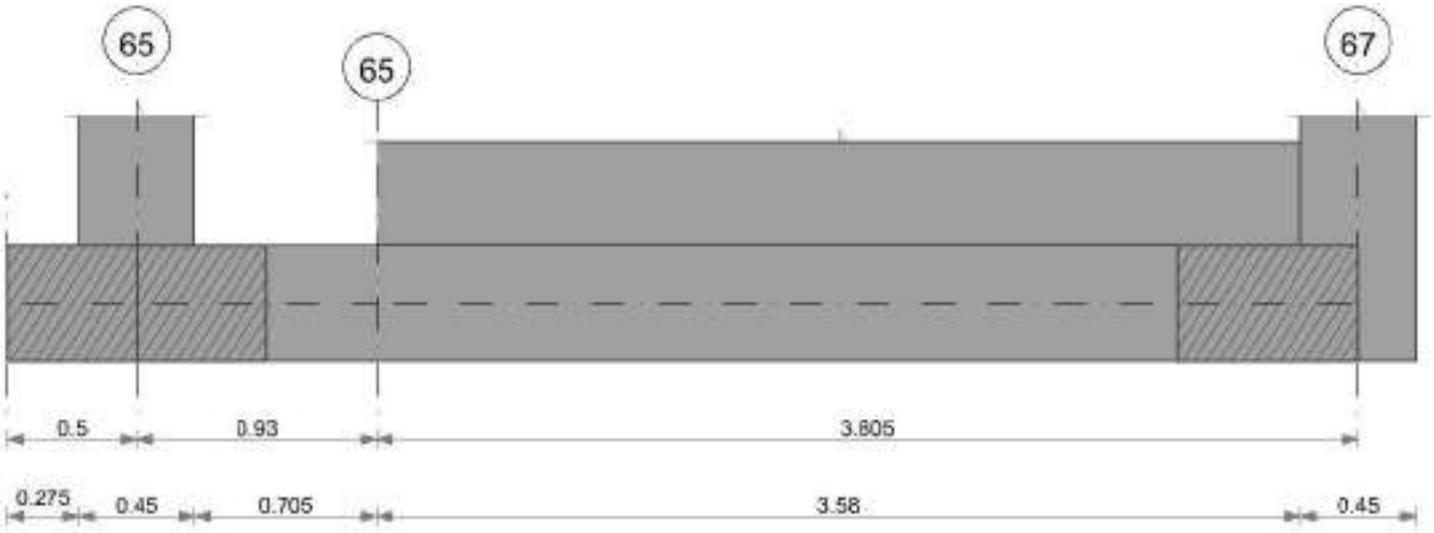
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	791	SLE RA 20	0.05	0.001	791	1120	SLE RA 20	0.05	0	791	SLE RA 14	0.0033	0	SLE RA 6	Si
D	0.05	0	761	SLE RA 1	0.05	0	761	761	SLE RA 1	0.05	0	791	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	761	SLE RA 1	0.05	0	761	761	SLE RA 1	0.05	0	791	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	791	967	SLE RA 21	0.19	0.02	791	SLE RA 14	0.1	0.01	1030	SLE RA 6	Si
D	0.19	0	SLE RA 1	0.19	0	761	791	SLE RA 1	0.19	0	761	SLE RA 1	0.1	0	791	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	761	791	SLE RA 1	0.19	0	761	SLE RA 1	0.1	0	791	SLE RA 1	Si

CORDOLO 32

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

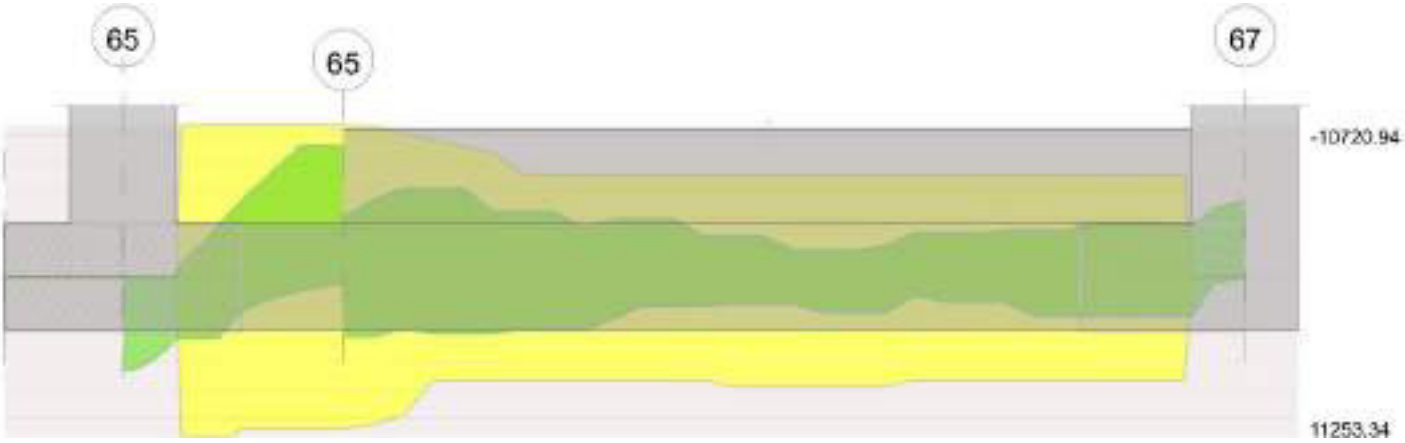


Diagramma verifica stato limite ultimo taglio

Output campate

Campata 2 tra i fili 65 - 65, sezione R 50x45, asta 515

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	-65.33	SLU 2	3124.96	11253.34	0.131	3.6	-156.95	SLU 77	-3019.39	-11253.34	0.131	3.73	Si
0.93	0.000763	0.052	0.000763	0.052							-6771.82	SLU 83	-6771.82	-11253.34	0.131	1.66	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	1410.25	SLV FO 10	2970.41	10720.94	0.233	3.61	-1615.46	SLV FO 7	-4775	-10720.94	0.233	2.25	Si
0.93	0.000763	0.052	0.000763	0.052	267.34	SLV FO 6	504.08	10720.94	0.233	21.27	-9290.57	SLV FO 11	-9290.57	-10720.94	0.233	1.15	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.47	0.000763	0.052	0.000763	0.052	713.66	SLD 10	2592.24	10720.94	0.233	4.14	-918.87	SLD 7	-3506	-10720.94	0.233	3.06	Si
0.93	0.000763	0.052	0.000763	0.052							-7098.65	SLD 11	-7098.65	-10720.94	0.233	1.51	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-22869	SLU 83	-22869	-8455	-71432	-32549	-32549	1	1.42	Si
0.23	0.0000205	0	0	-20074	SLU 83	-20074	-8455	-71432	-32549	-32549	1	1.62	Si
0.47	0.0000205	0	0	-17103	SLU 83	-17103	-7764	-63178	-28788	-28788	1	1.68	Si
0.93	0.0000205	0.000763	0	-11393	SLU 83	-11393	-8659	-63178	-28788	-28788	1	2.53	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-23194	SLV FO 12	-23194	-8455	-71432	-32549	-32549	1	1.4	Si
0.23	0.0000205	0	0	-21164	SLV FO 12	-21164	-8455	-71432	-32549	-32549	1	1.54	Si
0.25	0.0000205	0	0	-20954	SLV FO 12	-20954	-7764	-63178	-28788	-28788	1	1.37	Si
0.47	0.0000205	0	0	-18950	SLV FO 12	-18950	-7764	-63178	-28788	-28788	1	1.52	Si
0.93	0.0000205	0.000763	0	-14517	SLV FO 12	-14517	-8659	-63178	-28788	-28788	1	1.98	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000205	0	0	-19572	SLD 12	-19572	-8455	-71432	-32549	-32549	1	1.66	Si
0.23	0.0000205	0	0	-17612	SLD 12	-17612	-8455	-71432	-32549	-32549	1	1.85	Si
0.25	0.0000205	0	0	-17410	SLD 12	-17410	-7764	-63178	-28788	-28788	1	1.65	Si
0.47	0.0000205	0	0	-15499	SLD 12	-15499	-7764	-63178	-28788	-28788	1	1.86	Si
0.93	0.0000205	0.000763	0	-11343	SLD 12	-11343	-8659	-63178	-28788	-28788	1	2.54	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.23	3152.3	20	3152.3	186803	1494000	0	36000000	2869.85	2	2869.85	170065	1120500			Si
0.47	-114.5	14	-2206.32	110751	1494000	1661266	36000000	-102.61	2	-2014.55	101125	1120500			Si
0.93	-4946.54	20	-4946.54	248303	1494000	3724546	36000000	-4511.61	2	-4511.61	226471	1120500			Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 65 - 65, sezione R 50x45, asta 515

Campata 3 tra i fili 65 - 67, sezione R 50x45, aste 514, 513, 512, 511, 510, 509, 508, 507, 506

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.001	2186	SLU 83	0.087	15943	6725	SLU 83	36503	Si
1.9	0.41	0.0006	2517	SLV FO 11	0.16	9388	7745	SLV FO 11	22168	Si
3.58	0.41	0.0006	3293	SLV FO 11	0.16	9388	10134	SLV FO 11	22168	Si
3.8	0.41	0.0006	3396	SLV FO 11	0.16	9388	10448	SLV FO 11	22168	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.001	1655	SLD 15	0.169	17712	5093	SLD 15	41979	Si
1.9	0.41	0.0006	2048	SLD 11	0.132	10924	6303	SLD 11	25493	Si
3.58	0.41	0.0006	2492	SLD 11	0.132	10924	7667	SLD 11	25493	Si
3.8	0.41	0.0006	2552	SLD 11	0.132	10924	7853	SLD 11	25493	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00001027	1594	SLE RA 20	41407	1494000	513451	36000000	1442	SLE QP 2	37473	1120500	Si
1.9	0.41	0.00000624	1651	SLE RA 20	45067	1494000	558835	36000000	1494	SLE QP 2	40779	1120500	Si
3.58	0.41	0.00000624	1709	SLE RA 20	46655	1494000	578516	36000000	1548	SLE QP 2	42251	1120500	Si
3.8	0.41	0.00000624	1721	SLE RA 20	46985	1494000	582613	36000000	1559	SLE QP 2	42563	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
515,514,513,512,511,510,509,508,507,506	4.96	1.1	SLU 83	ST	BT	2.3	230052	63800	3.61	Si
515,514,513,512,511,510,509,508,507,506	4.96	1.1	SLV FO 11	SIS	BT	2.3	206577	63152	3.27	Si
515,514,513,512,511,510,509,508,507,506	4.96	1.1	SLD 11	SIS	BT	2.3	215851	54140	3.99	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	873	-63800	-397.03	1308.14	0	1	0.02	-0.01	1.09	4.92	1496	2060	0	14430	
0	-189	-63152	-105.06	19256.41	0	0	0.3	0	1.1	4.35	1496	2060	0	14430	0.07
0	118	-54140	-155.27	10760.53	0	0	0.2	0	1.09	4.56	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

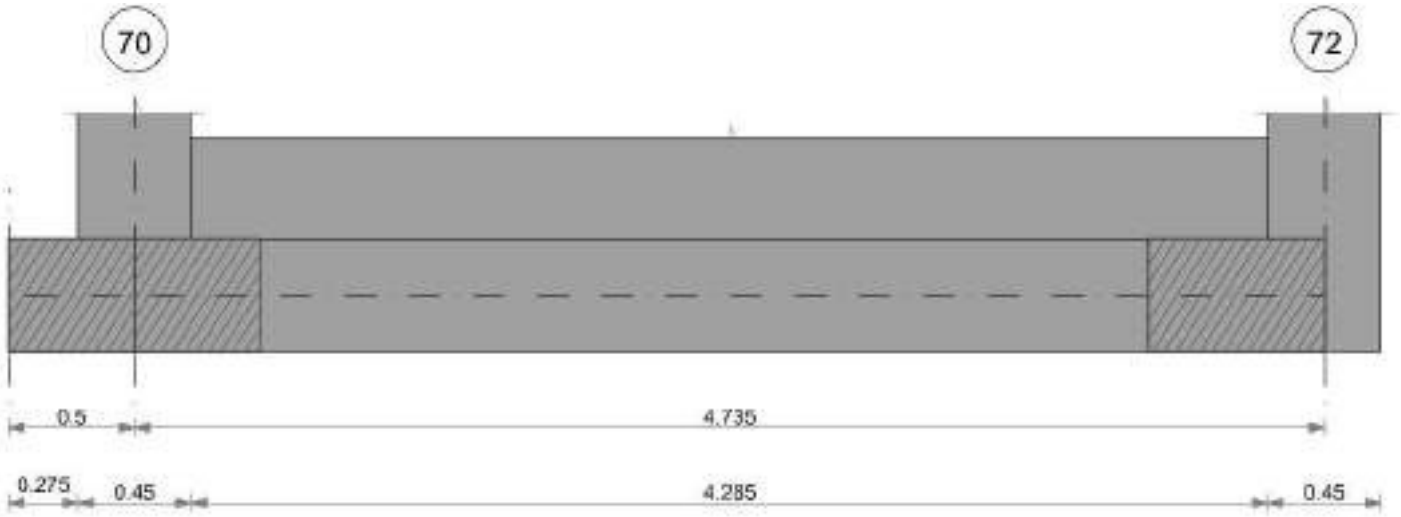
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	793	SLE RA 20	0.05	0.001	793	969	SLE RA 21	0.05	0	793	SLE RA 20	0.0033	0	SLE RA 1	Si
D	0.05	0	703	SLE RA 1	0.05	0	703	703	SLE RA 1	0.05	0	793	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	703	SLE RA 1	0.05	0	703	703	SLE RA 1	0.05	0	793	SLE RA 1	0.0033	0	SLE RA 1	Si

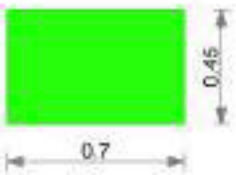
Verifiche geotecniche - Rotazioni assolute e differenziali

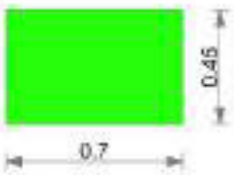
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	793	969	SLE RA 21	0.19	0.01	793	SLE RA 20	0.1	0	703	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	703	793	SLE RA 1	0.19	0	703	SLE RA 1	0.1	0	793	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	703	793	SLE RA 1	0.19	0	703	SLE RA 1	0.1	0	793	SLE RA 1	Si

CORDOLO 33

Geometria







Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

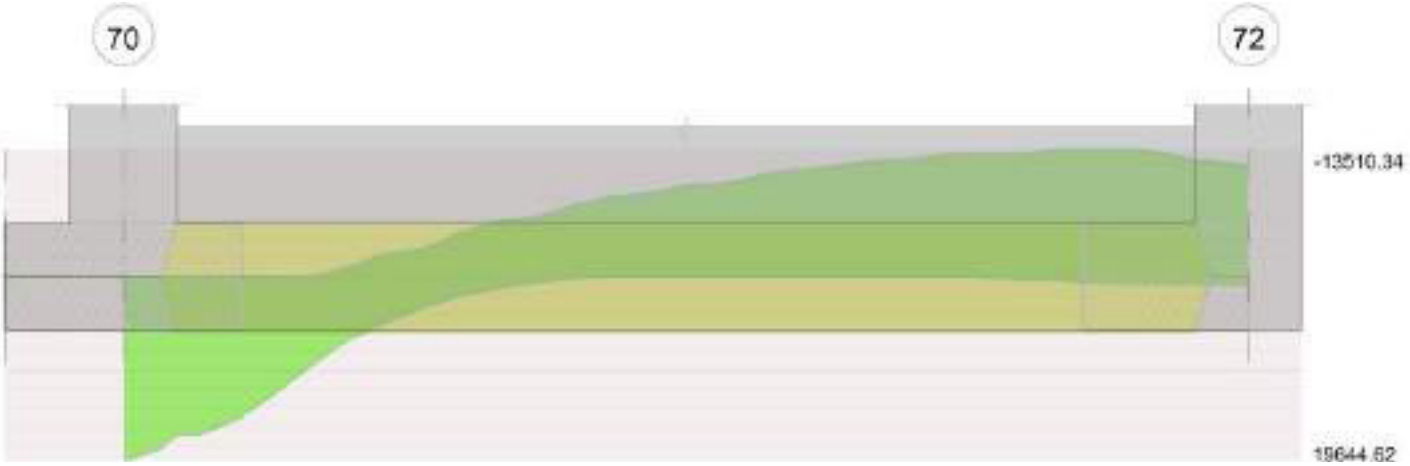
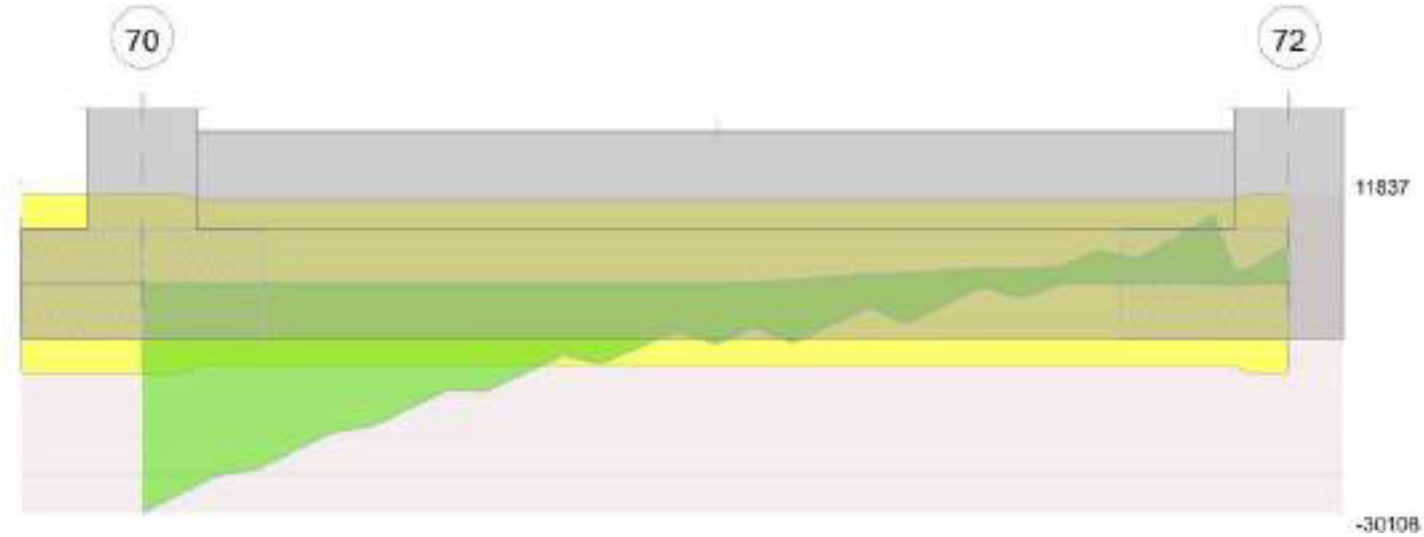


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 70 - 72, sezione R 70x45, aste 505, 504, 503, 502, 501, 500, 499, 498, 497, 496, 495

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.37	0.41	0.0002	2797	SLD 15	0.07	3097	7219	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	2764	SLE RA 20	80022	1494000	992271	36000000	2519	SLE QP 2	72928	1120500	Si
0.23	0.41	0.00000172	2760	SLE RA 20	79896	1494000	990711	36000000	2515	SLE QP 2	72808	1120500	Si
2.37	0.41	0.00000172	2217	SLE RA 20	64186	1494000	795908	36000000	2018	SLE QP 2	58406	1120500	Si
4.51	0.41	0.00000172	2556	SLE RA 20	73981	1494000	917366	36000000	2326	SLE QP 2	67320	1120500	Si
4.74	0.41	0.00000172	2672	SLE RA 20	77349	1494000	959130	36000000	2432	SLE QP 2	70395	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
505,504,503,502,501,500,499,498,497,496,495	4.96	1.3	SLU 83	ST	BT	2.3	225894	77257	2.92	Si
505,504,503,502,501,500,499,498,497,496,495	4.96	1.3	SLV FO 11	SIS	BT	2.3	194923	80639	2.42	Si
505,504,503,502,501,500,499,498,497,496,495	4.96	1.3	SLD 11	SIS	BT	2.3	209246	68115	3.07	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	1108	-77257	7164.85	-3705.69	0	1	-0.05	0.09	1.11	4.86	1496	2060	0	14430	
0	-228	-80639	10117.41	20921.1	0	0	0.26	0.13	1.05	4.44	1496	2060	0	14430	0.07
0	165	-68115	7731.7	10072.77	0	0	0.15	0.11	1.07	4.66	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	716	SLE RA 20	0.05	0	716	982	SLE RA 21	0.05	0	716	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	716	SLE RA 1	0.05	0	716	716	SLE RA 1	0.05	0	716	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	716	SLE RA 1	0.05	0	716	716	SLE RA 1	0.05	0	716	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	716	982	SLE RA 21	0.19	0	716	SLE RA 1	0.1	0	716	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	716	982	SLE RA 1	0.19	0	716	SLE RA 1	0.1	0	716	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	716	982	SLE RA 1	0.19	0	716	SLE RA 1	0.1	0	716	SLE RA 1	Si

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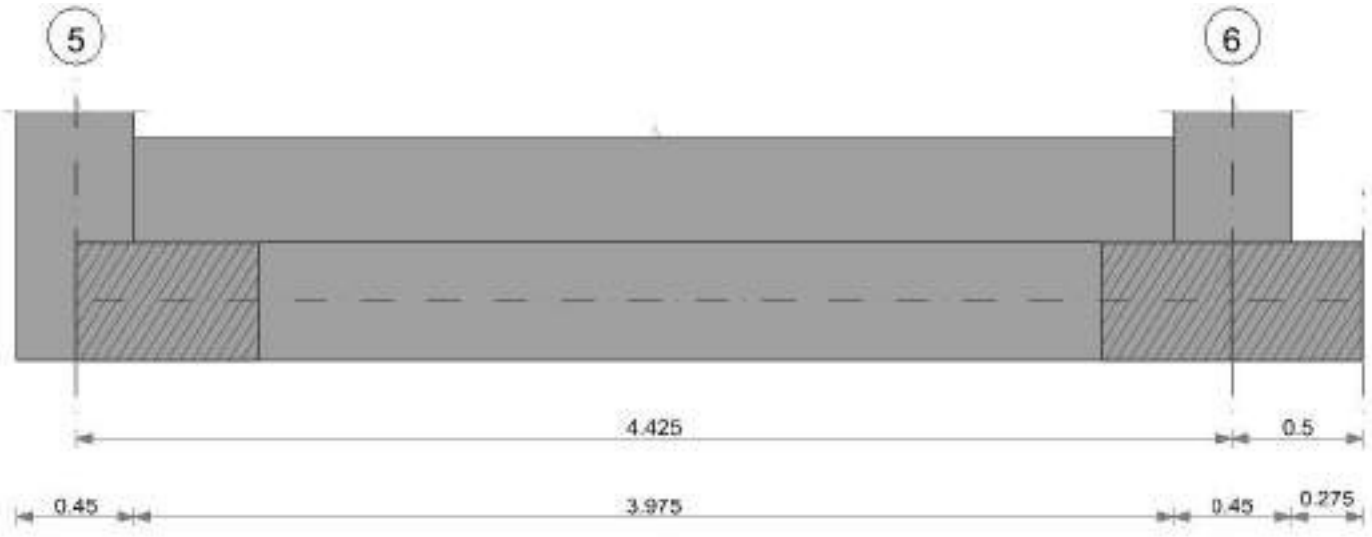
CORDOLO 34

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

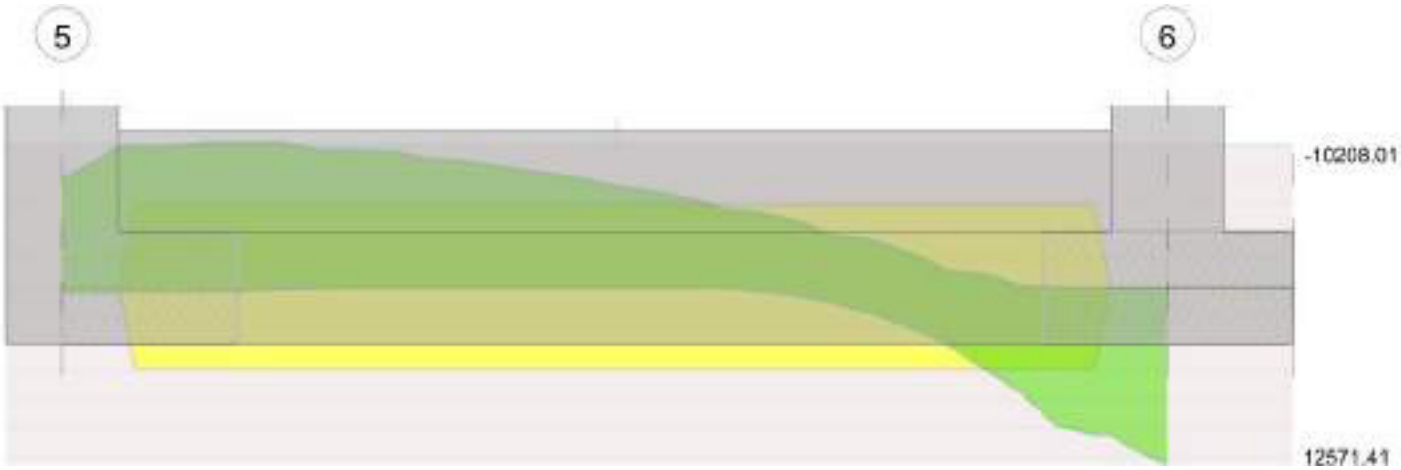
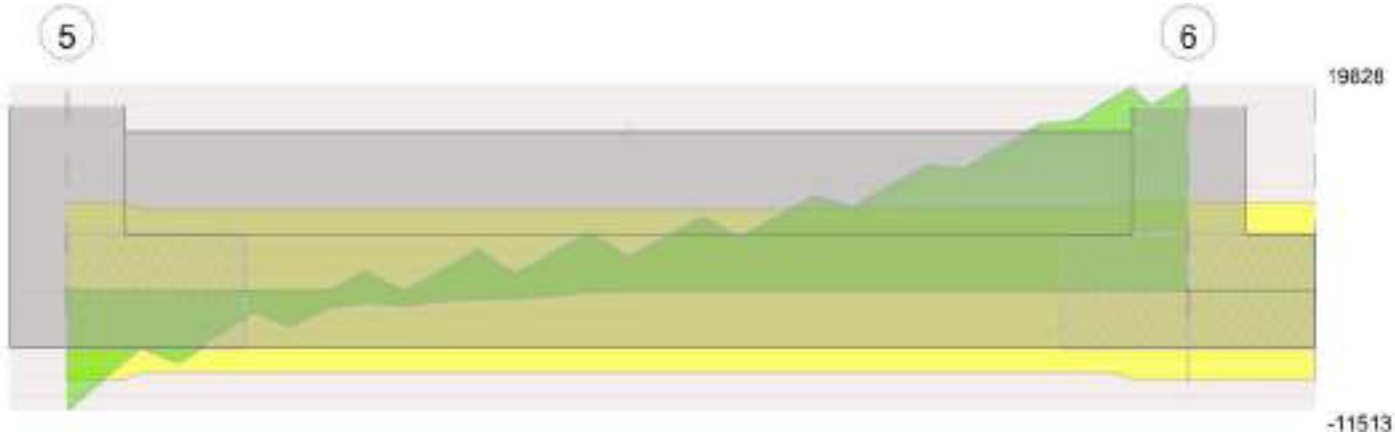


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 5 - 6, sezione R 50x45, aste 470, 469, 468, 467, 466, 465, 464, 463, 462, 461, 460

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2003	SLV FO 5	0.086	2686	6966	SLV FO 5	15877	Si
4.2	0.41	0.0002	2200	SLV FO 1	0.086	2686	7652	SLV FO 1	15877	Si
4.42	0.41	0.0002	2198	SLV FO 1	0.086	2686	7646	SLV FO 1	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2472	SLD 5	0.07	3109	8598	SLD 5	15877	Si
0.23	0.41	0.0002	2326	SLD 5	0.07	3109	8092	SLD 5	15877	Si
2.21	0.41	0.0002	1640	SLD 1	0.07	3109	5704	SLD 1	15877	Si
4.2	0.41	0.0002	1862	SLD 1	0.07	3109	6478	SLD 1	15877	Si
4.42	0.41	0.0002	1865	SLD 1	0.07	3109	6488	SLD 1	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1579	SLE RA 21	45697	1494000	566638	36000000	1427	SLE QP 2	41294	1120500	Si
0.23	0.41	0.00000173	1506	SLE RA 21	43592	1494000	540547	36000000	1361	SLE QP 2	39393	1120500	Si
2.21	0.41	0.00000173	1276	SLE RA 21	36926	1494000	457886	36000000	1156	SLE QP 2	33447	1120500	Si
4.2	0.41	0.00000173	1535	SLE RA 21	44438	1494000	551032	36000000	1395	SLE QP 2	40389	1120500	Si
4.42	0.41	0.00000173	1544	SLE RA 21	44690	1494000	554162	36000000	1404	SLE QP 2	40627	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
470,469,468,467,466,465,464,463,462,461,460	4.65	1.1	SLU 84	ST	BT	2.3	188672	64191	2.94	Si
470,469,468,467,466,465,464,463,462,461,460	4.65	1.1	SLV FO 5	SIS	BT	2.3	161490	69896	2.31	Si
470,469,468,467,466,465,464,463,462,461,460	4.65	1.1	SLD 5	SIS	BT	2.3	172035	58098	2.96	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-871	-64191	-4691.2	1197.78	0	-1	0.02	-0.07	0.95	4.61	1496	2060	0	14430	
0	84	-69896	-6784.64	-17958.15	0	0	-0.26	-0.1	0.91	4.14	1496	2060	0	14430	0.07
0	-177	-58098	-5150.86	-9251.06	0	0	-0.16	-0.09	0.92	4.33	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0	587	SLE RA 21	0.05	0	587	289	SLE RA 20	0.05	0	587	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	587	SLE RA 1	0.05	0	587	587	SLE RA 1	0.05	0	587	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	587	SLE RA 1	0.05	0	587	587	SLE RA 1	0.05	0	587	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	587	289	SLE RA 20	0.19	0	587	SLE RA 1	0.1	0	587	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	587	289	SLE RA 1	0.19	0	587	SLE RA 1	0.1	0	587	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	587	289	SLE RA 1	0.19	0	587	SLE RA 1	0.1	0	587	SLE RA 1	Si

CORDOLO 35

Geometria

Caratteristiche dei materiali

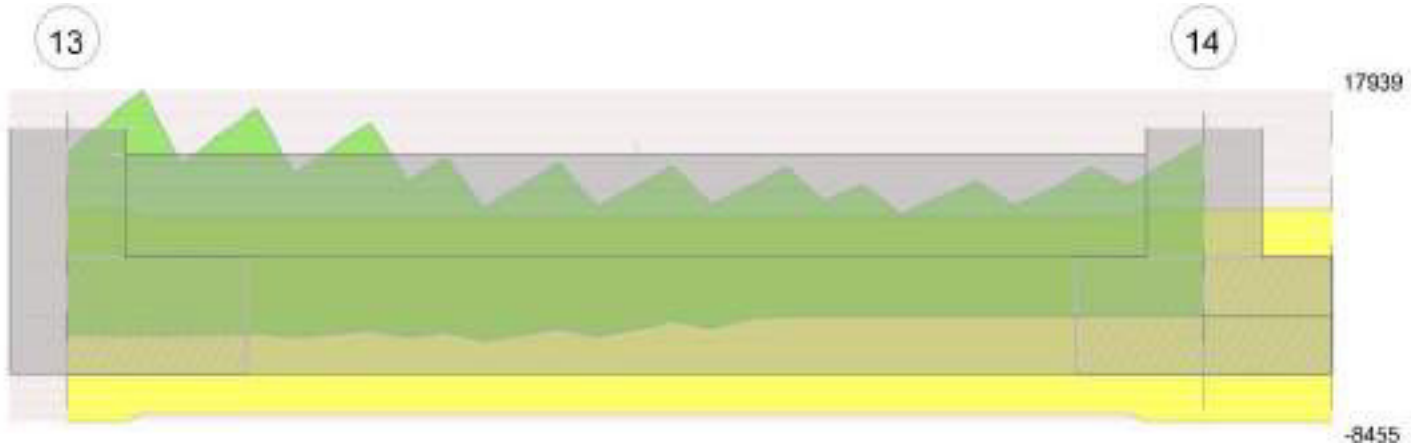
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 13 - 14, sezione R 50x45, aste 197, 196, 195, 194, 193, 192, 191, 190, 189, 188, 187

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2023	SLV FO 5	0.086	2686	6223	SLV FO 5	15877	Si
4.2	0.41	0.0002	2162	SLU 83	0.017	2762	6653	SLU 83	15877	Si
4.42	0.41	0.0002	2172	SLU 83	0.017	2762	6684	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2448	SLD 5	0.07	3109	7531	SLD 5	15877	Si
0.23	0.41	0.0002	2328	SLD 5	0.07	3109	7163	SLD 5	15877	Si
2.21	0.41	0.0002	1704	SLD 5	0.07	3109	5244	SLD 5	15877	Si
4.2	0.41	0.0002	1619	SLD 4	0.07	3109	4982	SLD 4	15877	Si
4.42	0.41	0.0002	1635	SLD 4	0.07	3109	5032	SLD 4	15877	Si

Verifiche delle tensioni di esercizio

			Rara							Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1657	SLE RA 21	47977	1494000	594913	36000000	1491	SLE QP 2	43164	1120500	Si
0.23	0.41	0.00000173	1607	SLE RA 21	46514	1494000	576778	36000000	1446	SLE QP 2	41853	1120500	Si
2.21	0.41	0.00000173	1469	SLE RA 21	42532	1494000	527398	36000000	1325	SLE QP 2	38357	1120500	Si
4.2	0.41	0.00000173	1576	SLE RA 20	45620	1494000	565685	36000000	1423	SLE QP 2	41191	1120500	Si
4.42	0.41	0.00000173	1583	SLE RA 20	45831	1494000	568302	36000000	1429	SLE QP 2	41376	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
197,196,195,194,193,192,191,190,189,188,187	4.65	1.1	SLU 84	ST	BT	2.3	217208	60047	3.62	Si
197,196,195,194,193,192,191,190,189,188,187	4.65	1.1	SLV FO 5	SIS	BT	2.3	189766	58006	3.27	Si
197,196,195,194,193,192,191,190,189,188,187	4.65	1.1	SLD 5	SIS	BT	2.3	202711	50187	4.04	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-666	-60047	468.01	103.73	0	-1	0	0.01	1.08	4.65	1496	2060	0	14430	
0	589	-58006	-284.05	-18415.74	0	1	-0.32	0	1.09	4.02	1496	2060	0	14430	0.07
0	167	-50187	-35.27	-9856.98	0	0	-0.2	0	1.1	4.26	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

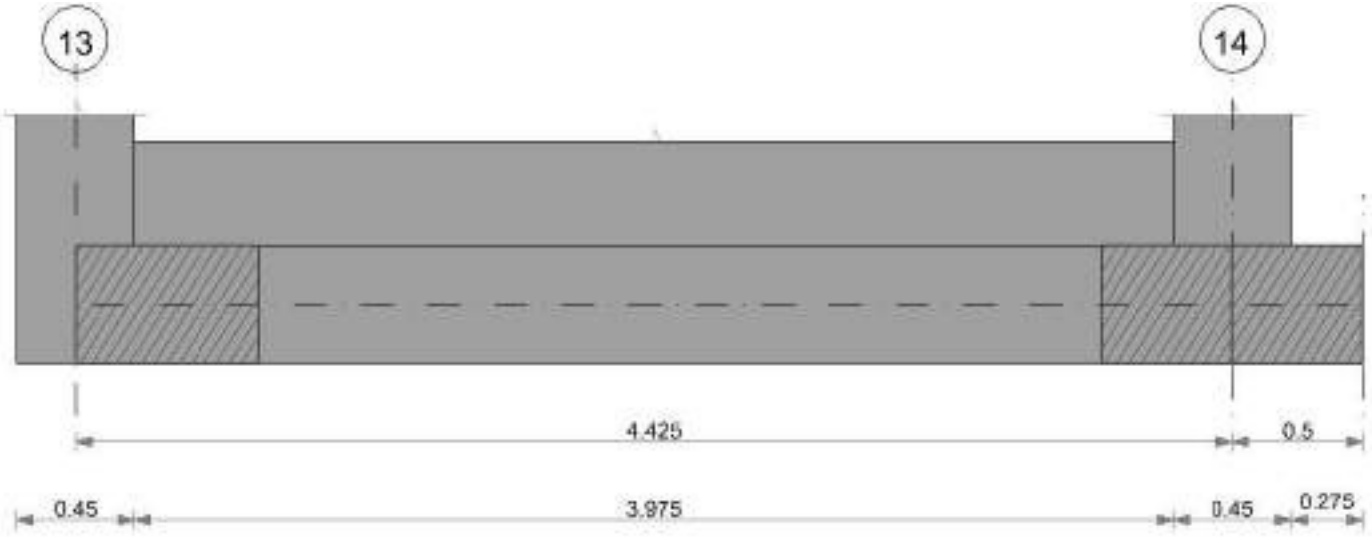
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	659	SLE RA 20	0.05	0.001	659	305	SLE RA 20	0.05	0	659	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	659	SLE RA 1	0.05	0	659	659	SLE RA 1	0.05	0	659	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	659	SLE RA 1	0.05	0	659	659	SLE RA 1	0.05	0	659	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	659	305	SLE RA 20	0.19	0	659	SLE RA 1	0.1	0	659	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	659	305	SLE RA 1	0.19	0	659	SLE RA 1	0.1	0	659	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	659	305	SLE RA 1	0.19	0	659	SLE RA 1	0.1	0	659	SLE RA 1	Si

CORDOLO 36

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

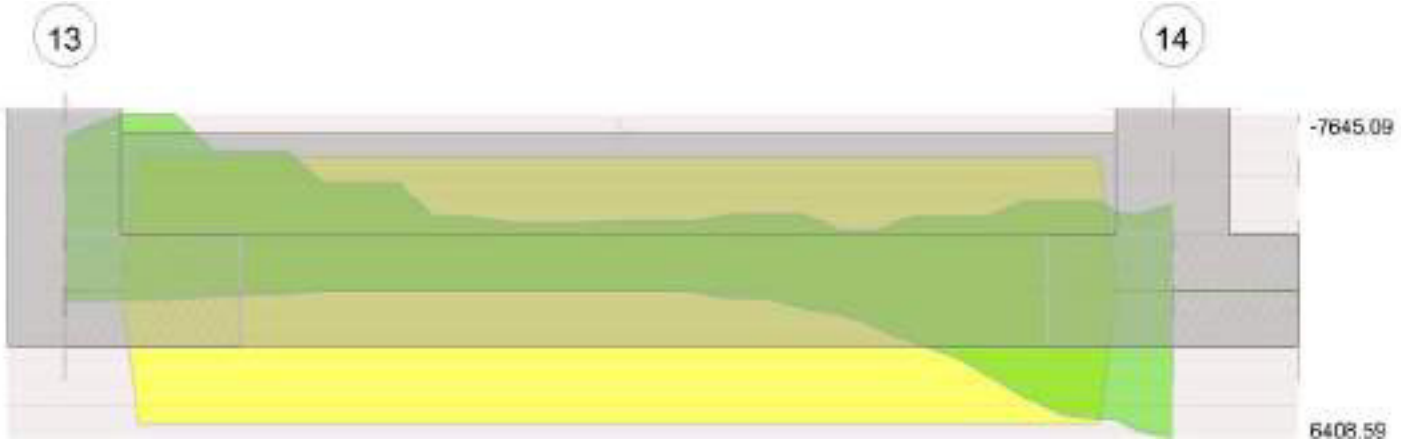
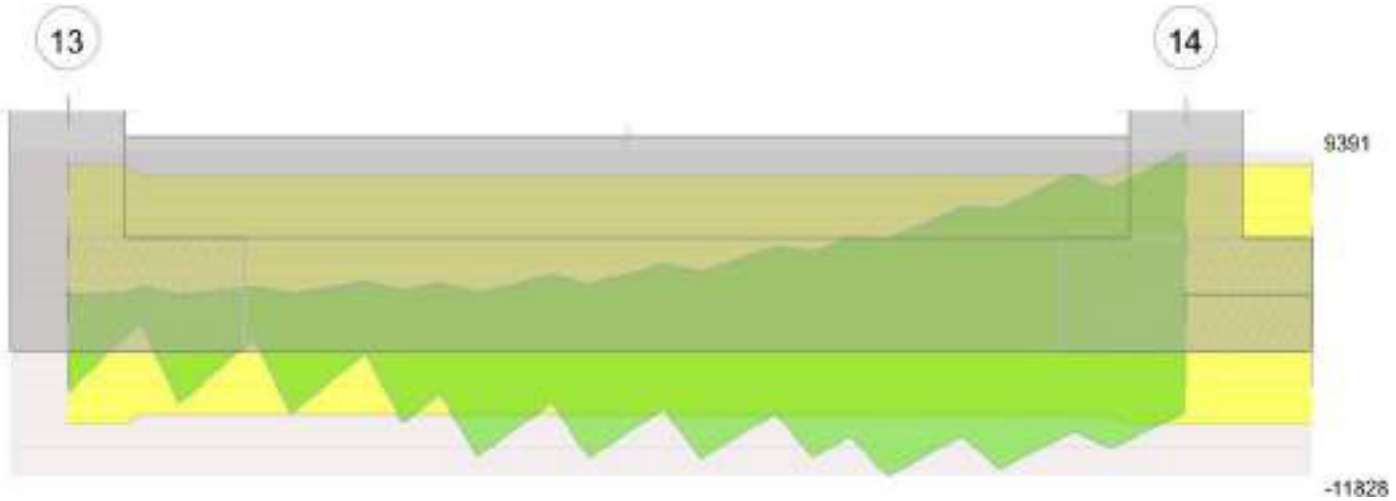


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 13 - 14, sezione R 50x45, aste 208, 207, 206, 205, 204, 203, 202, 201, 200, 199, 198

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2019	SLV FO 5	0.086	2686	6307	SLU 84	15877	Si
4.2	0.41	0.0002	2183	SLU 83	0.017	2762	6718	SLU 83	15877	Si
4.42	0.41	0.0002	2193	SLU 83	0.017	2762	6748	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2477	SLD 5	0.07	3109	7620	SLD 5	15877	Si
0.23	0.41	0.0002	2356	SLD 5	0.07	3109	7250	SLD 5	15877	Si
2.21	0.41	0.0002	1713	SLD 5	0.07	3109	5272	SLD 5	15877	Si
4.2	0.41	0.0002	1626	SLD 4	0.07	3109	5002	SLD 4	15877	Si
4.42	0.41	0.0002	1642	SLD 4	0.07	3109	5052	SLD 4	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	1698	SLE RA 21	49155	1494000	609526	36000000	1528	SLE QP 2	44233	1120500	Si
0.23	0.41	0.00000173	1647	SLE RA 21	47683	1494000	591264	36000000	1483	SLE QP 2	42914	1120500	Si
2.21	0.41	0.00000173	1497	SLE RA 21	43331	1494000	537299	36000000	1350	SLE QP 2	39079	1120500	Si
4.2	0.41	0.00000173	1591	SLE RA 20	46066	1494000	571220	36000000	1436	SLE QP 2	41579	1120500	Si
4.42	0.41	0.00000173	1598	SLE RA 20	46268	1494000	573720	36000000	1443	SLE QP 2	41756	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
208,207,206,205,204,203,202,201,200,199,198	4.65	1.1	SLU 84	ST	BT	2.3	217153	60916	3.56	Si
208,207,206,205,204,203,202,201,200,199,198	4.65	1.1	SLV FO 5	SIS	BT	2.3	189094	57915	3.27	Si
208,207,206,205,204,203,202,201,200,199,198	4.65	1.1	SLD 9	SIS	BT	2.3	193109	48226	4	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	-666	-60916	468.01	-173.18	0	-1	0	0.01	1.08	4.64	1496	2060	0	14430	
0	589	-57915	-284.05	-18812.95	0	1	-0.32	0	1.09	4	1496	2060	0	14430	0.07
0	-1821	-48226	893.31	-10278.51	0	-2	-0.21	0.02	1.06	4.22	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

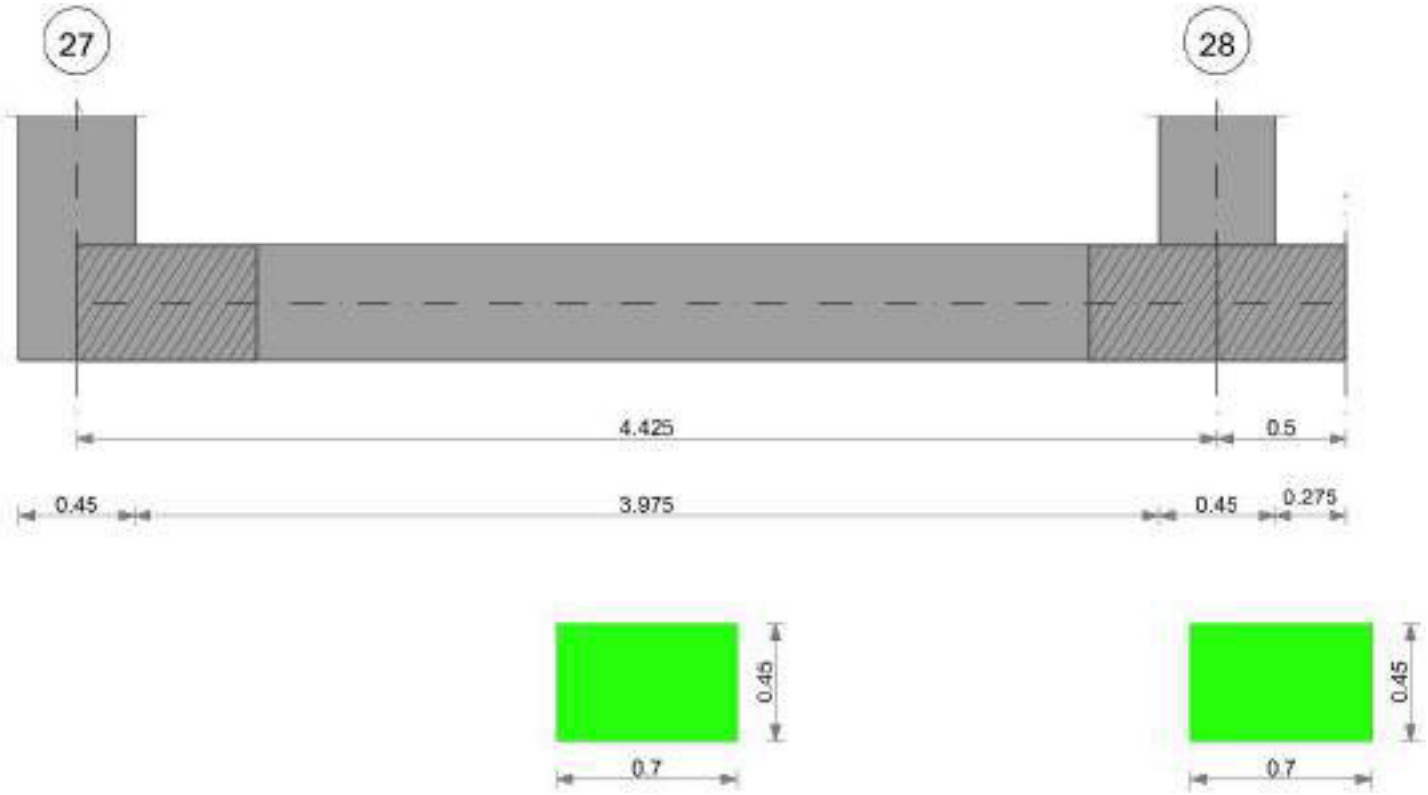
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	662	SLE RA 20	0.05	0.001	662	307	SLE RA 20	0.05	0	662	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	662	SLE RA 1	0.05	0	662	662	SLE RA 1	0.05	0	662	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	662	SLE RA 1	0.05	0	662	662	SLE RA 1	0.05	0	662	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	662	307	SLE RA 20	0.19	0	662	SLE RA 1	0.1	0	662	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	662	307	SLE RA 1	0.19	0	662	SLE RA 1	0.1	0	662	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	662	307	SLE RA 1	0.19	0	662	SLE RA 1	0.1	0	662	SLE RA 1	Si

CORDOLO 37

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

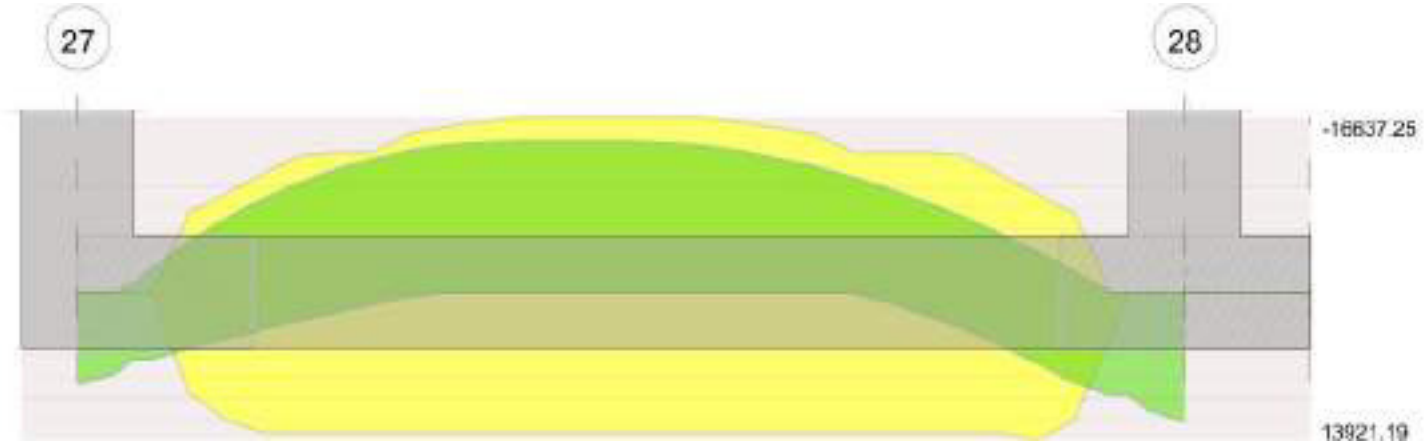
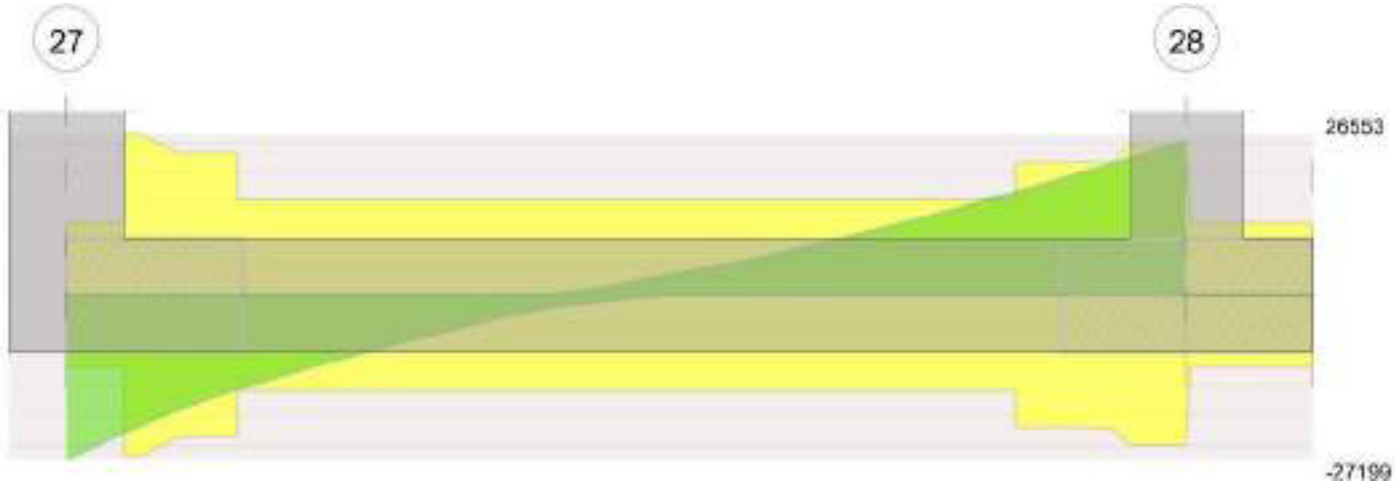


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 27 - 28, sezione R 70x45, aste 326, 325, 324

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.21	0.001197	0.053	0.000942	0.053							-12565.82	SLU 84	-12617.96	-17472.25	0.14	1.38	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.21	0.001197	0.053	0.000942	0.053							-14127.57	SLV FO 5	-14342.19	-16637.25	0.248	1.16	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1
Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.21	0.001197	0.053	0.000942	0.053							-11455.26	SLD 5	-11583.2	-16637.25	0.248	1.44	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-25190	SLU 84	-25190	-11837	-100005	0	-11837	1	0.47	Si
0.23	0.0000168	0	0	-21808	SLU 84	-21808	-11837	-100005	-26553	-26553	1	1.22	Si
2.21	0.0000113	0.001155	0	1057	SLU 84	1057	12427	88274	15778	15778	1	14.92	Si
4.2	0.0000156	0	0	22551	SLU 84	22551	11837	100005	24783	24783	1	1.1	Si
4.42	0.0000156	0	0	25518	SLU 84	25518	11837	100005	24783	24783	1	0.97	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-27199	SLV FO 9	-27199	-11837	-100005	0	-11837	1	0.44	Si
0.23	0.0000168	0	0	-22826	SLV FO 9	-22826	-11837	-100005	-26553	-26553	1	1.16	Si
2.21	0.0000113	0.001155	0	2035	SLV FO 9	2035	12427	88274	15778	15778	1	7.75	Si
2.21	0.0000113	0.001155	0	-635	SLV FO 8	-635	-12427	-88274	-15778	-15778	1	24.84	Si
4.2	0.0000156	0	0	16323	SLV FO 9	16323	11837	100005	24783	24783	1	1.52	Si
4.42	0.0000156	0	0	18054	SLV FO 9	18054	11837	100005	24783	24783	1	1.37	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-22357	SLD 9	-22357	-11837	-100005	0	-11837	1	0.53	Si
0.23	0.0000168	0	0	-18969	SLD 9	-18969	-11837	-100005	-26553	-26553	1	1.4	Si
2.21	0.0000113	0.001155	0	1419	SLD 9	1419	12427	88274	15778	15778	1	11.12	Si
2.21	0.0000113	0.001155	0	-19	SLD 8	-19	-12427	-88274	-15778	-15778	1	829.58	Si
4.2	0.0000156	0	0	15703	SLD 9	15703	11837	100005	24783	24783	1	1.58	Si
4.42	0.0000156	0	0	17544	SLD 9	17544	11837	100005	24783	24783	1	1.41	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.23	4608.56	20	4608.56	195071	1494000	0	36000000	4174.38	2	4174.38	176693	1120500			Si
2.21	-9213.62	21	-9252.51	559240	1494000	21673611	36000000	-8335.33	2	-8369.7	505881	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
2.21	superiore	0.366	0.00063	0.000231	21	0.366	0.00059	0.000214	6	0.366	0.00057	0.000209	2	Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
326,325,324	4.65	1.3	SLU 84	ST	BT	2.3	244239	61133	4	Si
326,325,324	4.65	1.3	SLV FO 9	SIS	BT	2.3	194635	53232	3.66	Si
326,325,324	4.65	1.3	SLD 9	SIS	BT	2.3	214194	47899	4.47	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-1145	-61133	749.32	-2790.84	0	-1	-0.05	0.01	1.28	4.56	1496	2060	0	14430	
0	-3439	-53232	1774.72	-23517.66	0	-4	-0.44	0.03	1.23	3.77	1496	2060	0	14430	0.07
0	-2309	-47899	1233.28	-13480.06	0	-3	-0.28	0.03	1.25	4.09	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.06	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.06	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

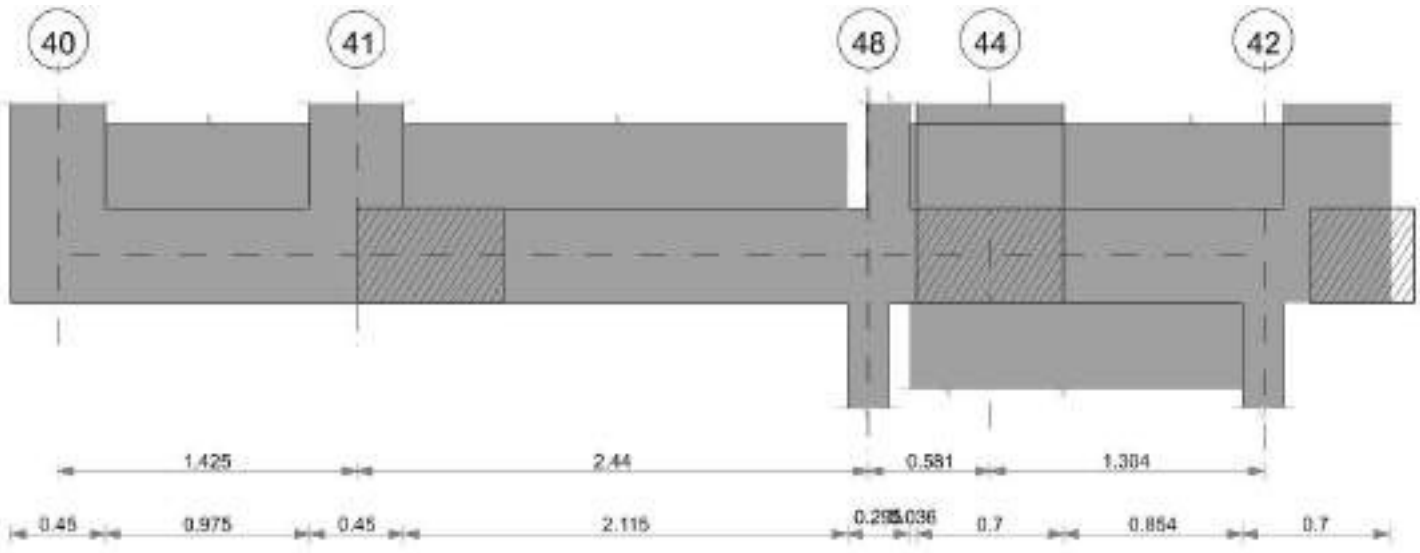
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	675	SLE RA 20	0.05	0.001	675	321	SLE RA 20	0.05	0	675	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	675	SLE RA 1	0.05	0	675	675	SLE RA 1	0.05	0	675	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	675	SLE RA 1	0.05	0	675	675	SLE RA 1	0.05	0	675	SLE RA 1	0.0033	0	SLE RA 1	Si

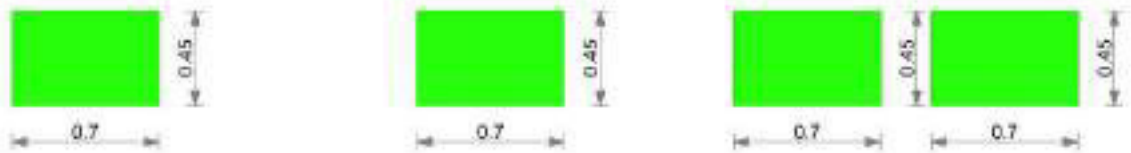
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	675	321	SLE RA 20	0.19	0	675	SLE RA 1	0.1	0	675	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	675	321	SLE RA 1	0.19	0	675	SLE RA 1	0.1	0	675	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	675	321	SLE RA 1	0.19	0	675	SLE RA 1	0.1	0	675	SLE RA 1	Si

CORDOLO 38

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

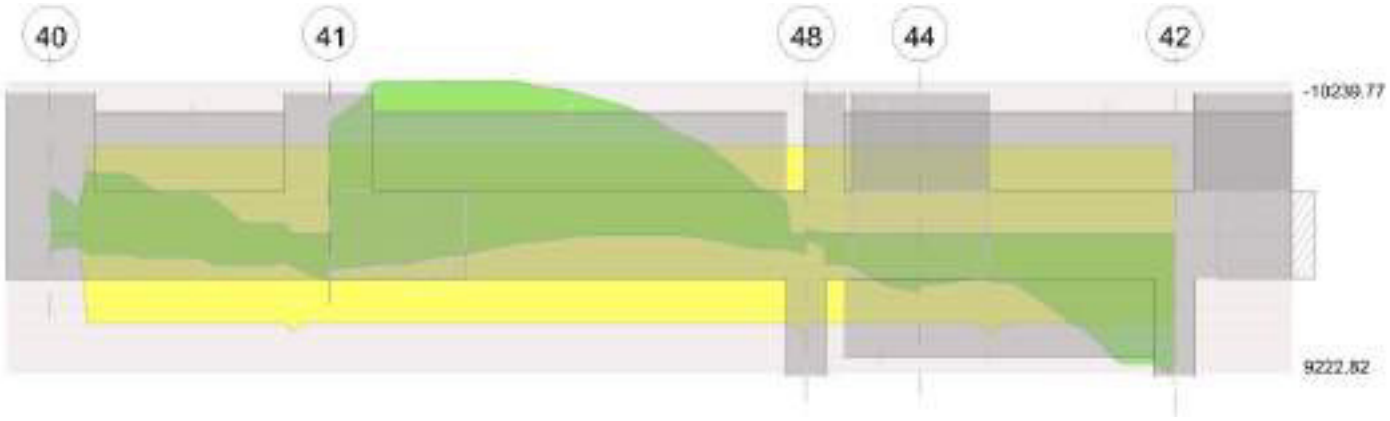
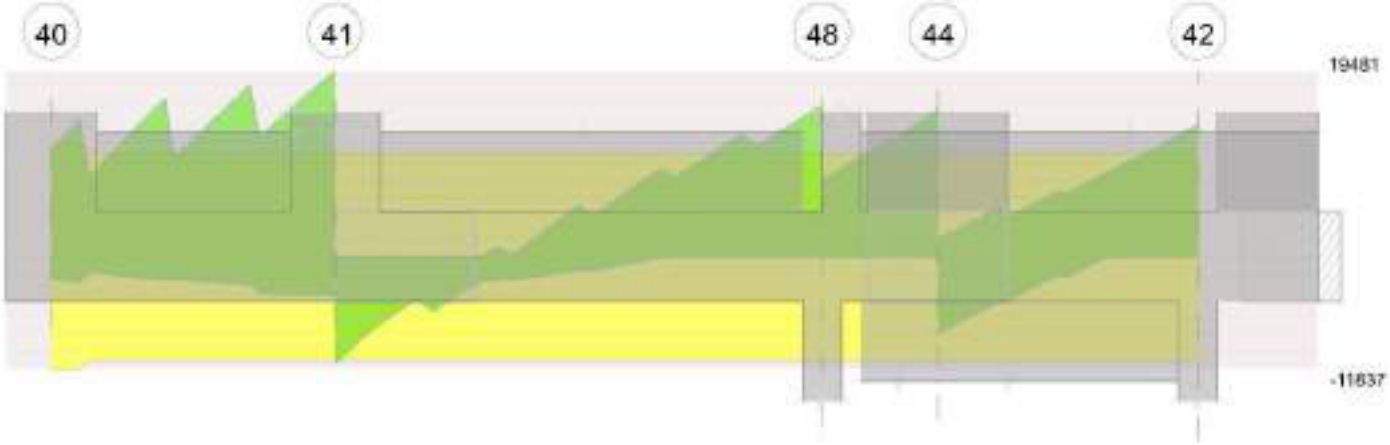


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 40 - 41, sezione R 70x45, aste 588, 587, 586, 585

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	5379	SLD 10	0.098	5956	12671	SLD 10	15877	Si
0.23	0.41	0.0003	5183	SLD 10	0.098	5956	12209	SLD 10	15877	Si
0.71	0.41	0.0003	4773	SLD 10	0.098	5956	11242	SLD 10	15877	Si
1.2	0.41	0.0003	4368	SLD 10	0.098	5956	10289	SLD 10	15877	Si
1.42	0.41	0.0004	4179	SLD 10	0.1	6219	9844	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000335	3413	SLE RA 21	96696	1494000	1199031	36000000	3065	SLE QP 2	86831	1120500	Si
0.23	0.41	0.00000335	3337	SLE RA 21	94541	1494000	1172307	36000000	2997	SLE QP 2	84911	1120500	Si
0.71	0.41	0.00000335	3180	SLE RA 21	90082	1494000	1117019	36000000	2857	SLE QP 2	80940	1120500	Si
1.2	0.41	0.00000335	3022	SLE RA 21	85612	1494000	1061586	36000000	2716	SLE QP 2	76958	1120500	Si
1.42	0.41	0.0000035	2945	SLE RA 21	83282	1494000	1032699	36000000	2648	SLE QP 2	74880	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 41 - 48, sezione R 70x45, aste 584, 583, 582, 581, 580, 579

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.23	0.41	0.0004	5156	SLV FO 10	0.121	5360	12145	SLV FO 10	15877	Si
1.22	0.41	0.0004	4036	SLV FO 6	0.121	5360	9506	SLV FO 6	15877	Si
2.34	0.41	0.0004	3746	SLU 84	0.03	5566	8824	SLU 84	15877	Si
2.44	0.41	0.0004	3768	SLU 84	0.03	5566	8875	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	4179	SLD 10	0.1	6219	9844	SLD 10	15877	Si
0.23	0.41	0.0004	3961	SLD 10	0.1	6219	9331	SLD 10	15877	Si
1.22	0.41	0.0004	3272	SLD 6	0.1	6219	7706	SLD 6	15877	Si
2.34	0.41	0.0004	2970	SLD 6	0.1	6219	6995	SLD 6	15877	Si
2.44	0.41	0.0004	2953	SLD 6	0.1	6219	6955	SLD 6	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000035	2945	SLE RA 21	83282	1494000	1032699	36000000	2648	SLE QP 2	74880	1120500	Si
0.23	0.41	0.0000035	2858	SLE RA 21	80799	1494000	1001911	36000000	2570	SLE QP 2	72667	1120500	Si
1.22	0.41	0.0000035	2643	SLE RA 21	74741	1494000	926786	36000000	2381	SLE QP 2	67334	1120500	Si
2.34	0.41	0.0000035	2740	SLE RA 21	77478	1494000	960733	36000000	2474	SLE QP 2	69964	1120500	Si
2.44	0.41	0.0000035	2756	SLE RA 21	77925	1494000	966273	36000000	2489	SLE QP 2	70379	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 48 - 44, sezione R 70x45, asta 578

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3768	SLU 84	0.03	5566	8875	SLU 84	15877	Si
0.1	0.41	0.0003	3790	SLU 84	0.023	4133	8926	SLU 84	15877	Si
0.23	0.41	0.0003	3817	SLU 84	0.023	4133	8992	SLU 84	15877	Si
0.29	0.41	0.0003	3829	SLU 84	0.023	4133	9020	SLU 84	15877	Si
0.58	0.41	0.0003	3877	SLU 84	0.029	5457	9133	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2953	SLD 6	0.1	6219	6955	SLD 6	15877	Si
0.1	0.41	0.0003	2936	SLD 6	0.086	4632	6915	SLD 6	15877	Si
0.23	0.41	0.0003	2913	SLD 6	0.086	4632	6861	SLD 6	15877	Si
0.29	0.41	0.0003	2902	SLD 6	0.086	4632	6836	SLD 6	15877	Si
0.58	0.41	0.0003	2842	SLD 6	0.099	6098	6694	SLD 6	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000035	2756	SLE RA 21	77925	1494000	966273	36000000	2489	SLE QP 2	70379	1120500	Si
0.1	0.41	0.00000259	2772	SLE RA 21	79309	1494000	983435	36000000	2504	SLE QP 2	71640	1120500	Si
0.23	0.41	0.00000259	2792	SLE RA 21	79886	1494000	990590	36000000	2522	SLE QP 2	72176	1120500	Si
0.29	0.41	0.00000259	2800	SLE RA 21	80135	1494000	993672	36000000	2530	SLE QP 2	72406	1120500	Si
0.58	0.41	0.00000343	2835	SLE RA 21	80232	1494000	994882	36000000	2562	SLE QP 2	72520	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 44 - 42, sezione R 70x45, aste 577, 576, 575, 574

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3877	SLU 84	0.029	5457	9133	SLU 84	15877	Si
0.35	0.41	0.0003	3905	SLU 84	0.029	5457	9198	SLU 84	15877	Si
0.65	0.41	0.0003	3906	SLU 83	0.029	5457	9199	SLU 83	15877	Si
1.2	0.41	0.0003	3843	SLU 83	0.029	5457	9053	SLU 83	15877	Si
1.3	0.41	0.0003	3821	SLU 83	0.029	5457	9000	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	2842	SLD 6	0.099	6098	6694	SLD 6	15877	Si
0.35	0.41	0.0003	2738	SLD 6	0.099	6098	6450	SLD 6	15877	Si
0.65	0.41	0.0003	2642	SLD 2	0.099	6098	6224	SLD 2	15877	Si
1.2	0.41	0.0003	2706	SLD 8	0.099	6098	6374	SLD 8	15877	Si
1.3	0.41	0.0003	2721	SLD 8	0.099	6098	6410	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000343	2835	SLE RA 21	80232	1494000	994882	36000000	2562	SLE QP 2	72520	1120500	Si
0.35	0.41	0.00000343	2854	SLE RA 21	80774	1494000	1001598	36000000	2581	SLE QP 2	73033	1120500	Si
0.65	0.41	0.00000343	2853	SLE RA 20	80757	1494000	1001383	36000000	2580	SLE QP 2	73022	1120500	Si
1.2	0.41	0.00000343	2806	SLE RA 20	79403	1494000	984595	36000000	2534	SLE QP 2	71721	1120500	Si
1.3	0.41	0.00000343	2789	SLE RA 20	78927	1494000	978689	36000000	2518	SLE QP 2	71274	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

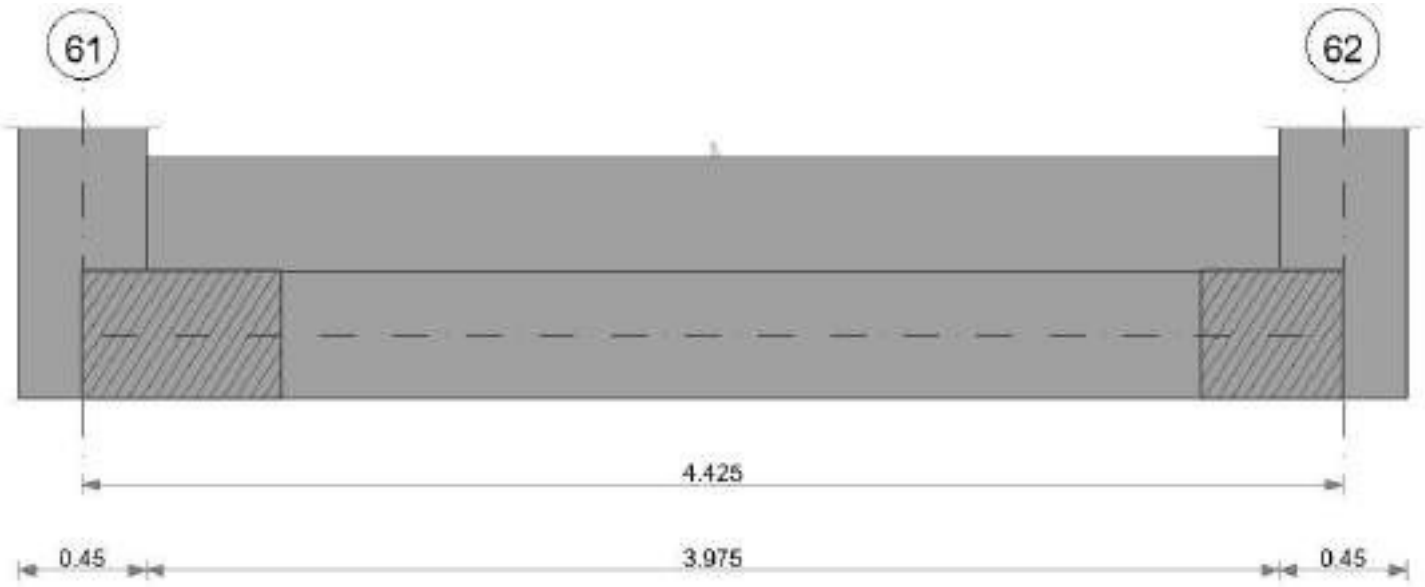
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	682	SLE RA 20	0.05	0.002	682	193	SLE RA 20	0.05	0	504	SLE RA 21	0.0033	0	SLE RA 6	Si
D	0.05	0	682	SLE RA 1	0.05	0	682	682	SLE RA 1	0.05	0	532	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	682	SLE RA 1	0.05	0	682	682	SLE RA 1	0.05	0	532	SLE RA 1	0.0033	0	SLE RA 1	Si

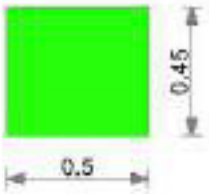
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 20	0.19	0.02	504	323	SLE RA 20	0.19	0.02	504	SLE RA 21	0.1	0.01	323	SLE RA 6	Si
D	0.19	0	SLE RA 1	0.19	0	682	532	SLE RA 1	0.19	0	682	SLE RA 1	0.1	0	532	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	682	532	SLE RA 1	0.19	0	682	SLE RA 1	0.1	0	532	SLE RA 1	Si

CORDOLO 39

Geometria





Caratteristiche dei materiali

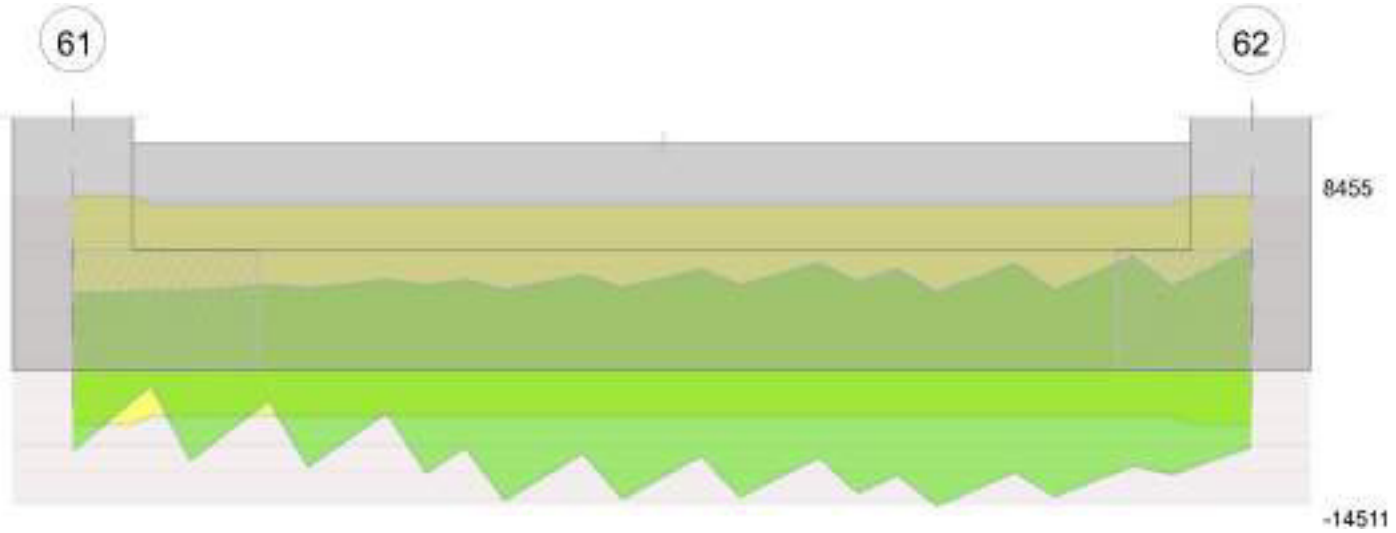
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 61 - 62, sezione R 50x45, aste 348, 347, 346, 345, 344, 343, 342, 341, 340, 339, 338

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2084	SLV FO 10	0.086	2722	6413	SLV FO 10	15877	Si
4.2	0.41	0.0002	2170	SLU 83	0.018	2799	6678	SLU 83	15877	Si
4.42	0.41	0.0002	2203	SLU 83	0.018	2799	6777	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2516	SLD 10	0.071	3150	7741	SLD 10	15877	Si
0.23	0.41	0.0002	2398	SLD 10	0.071	3150	7378	SLD 10	15877	Si
2.21	0.41	0.0002	1749	SLD 10	0.071	3150	5381	SLD 10	15877	Si
4.2	0.41	0.0002	1607	SLD 15	0.071	3150	4946	SLD 15	15877	Si
4.42	0.41	0.0002	1647	SLD 15	0.071	3150	5069	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000175	1705	SLE RA 21	49343	1494000	611855	36000000	1537	SLE QP 2	44488	1120500	Si
0.23	0.41	0.00000175	1656	SLE RA 21	47921	1494000	594221	36000000	1493	SLE QP 2	43213	1120500	Si
2.21	0.41	0.00000175	1494	SLE RA 21	43240	1494000	536177	36000000	1351	SLE QP 2	39093	1120500	Si
4.2	0.41	0.00000175	1583	SLE RA 20	45820	1494000	568166	36000000	1434	SLE QP 2	41487	1120500	Si
4.42	0.41	0.00000175	1607	SLE RA 20	46494	1494000	576525	36000000	1455	SLE QP 2	42090	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
348,347,346,345,344,343,342,341,340,339,338	4.87	1.1	SLU 84	ST	BT	2.3	226942	60993	3.72	Si
348,347,346,345,344,343,342,341,340,339,338	4.87	1.1	SLV FO 10	SIS	BT	2.3	197694	59097	3.35	Si
348,347,346,345,344,343,342,341,340,339,338	4.87	1.1	SLD 10	SIS	BT	2.3	211245	51115	4.13	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	665	-60993	-463.18	-461.01	0	1	-0.01	-0.01	1.08	4.86	1496	2060	0	14430	
0	-723	-59097	356.82	-19908.42	0	-1	-0.34	0.01	1.09	4.2	1496	2060	0	14430	0.07
0	-241	-51115	74.69	-10827.41	0	0	-0.21	0	1.1	4.45	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	699	SLE RA 20	0.05	0.001	699	334	SLE RA 20	0.05	0	699	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	699	SLE RA 1	0.05	0	699	699	SLE RA 1	0.05	0	699	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	699	SLE RA 1	0.05	0	699	699	SLE RA 1	0.05	0	699	SLE RA 1	0.0033	0	SLE RA 1	Si

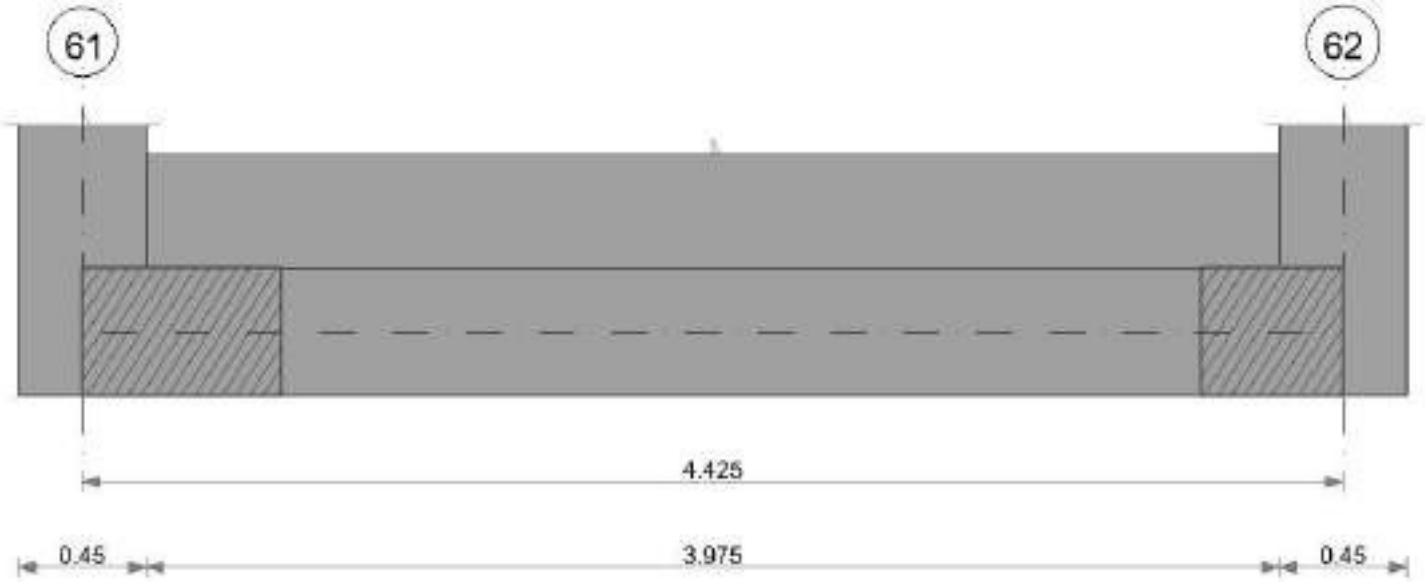
Verifiche geotecniche - Rotazioni assolute e differenziali

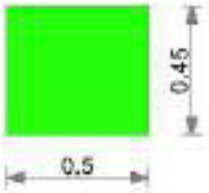
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	699	334	SLE RA 20	0.19	0	699	SLE RA 1	0.1	0	699	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	699	334	SLE RA 1	0.19	0	699	SLE RA 1	0.1	0	699	SLE RA 1	Si

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
Z	0.19	0	SLE RA 1	0.19	0	699	334	SLE RA 1	0.19	0	699	SLE RA 1	0.1	0	699	SLE RA 1	Si

CORDOLO 40

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

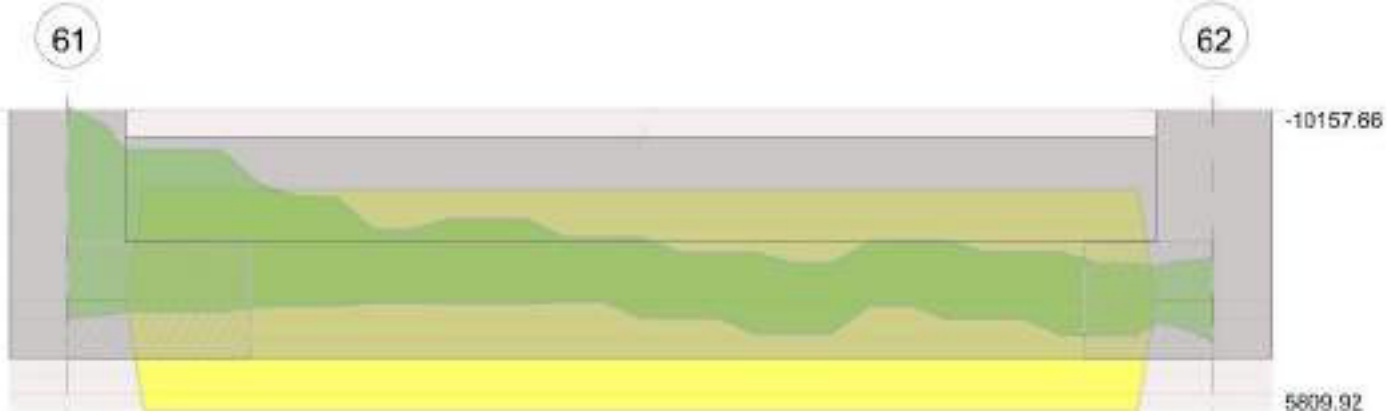
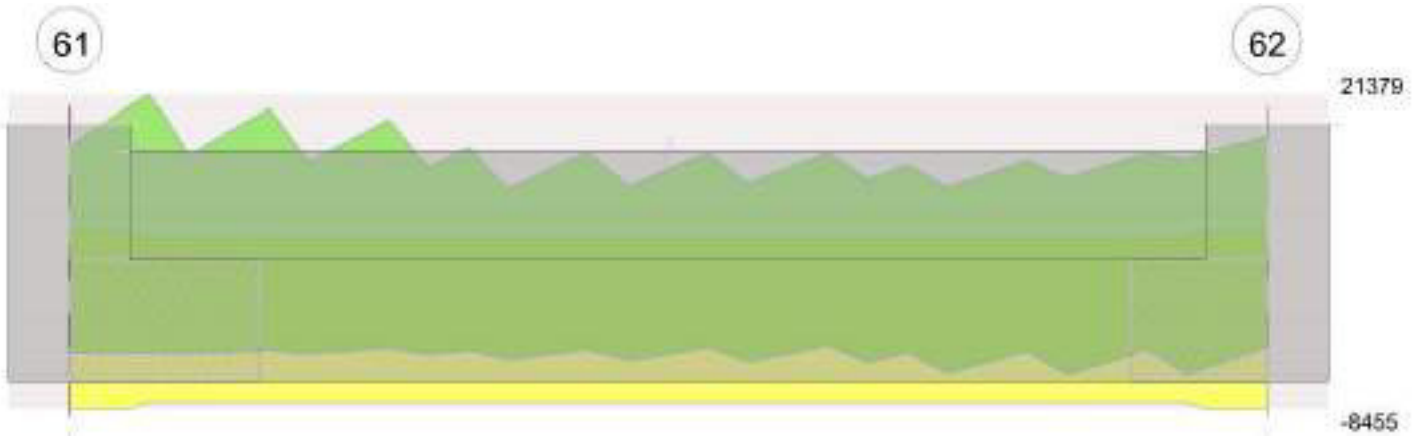


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 61 - 62, sezione R 50x45, aste 337, 336, 335, 334, 333, 332, 331, 330, 329, 328, 327

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2090	SLV FO 10	0.086	2722	6432	SLV FO 10	15877	Si
4.2	0.41	0.0002	2155	SLU 83	0.018	2799	6629	SLU 83	15877	Si
4.42	0.41	0.0002	2187	SLU 83	0.018	2799	6731	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2482	SLD 10	0.071	3150	7637	SLD 10	15877	Si
0.23	0.41	0.0002	2365	SLD 10	0.071	3150	7277	SLD 10	15877	Si
2.21	0.41	0.0002	1741	SLD 10	0.071	3150	5356	SLD 10	15877	Si
4.2	0.41	0.0002	1593	SLD 15	0.071	3150	4902	SLD 15	15877	Si
4.42	0.41	0.0002	1633	SLD 15	0.071	3150	5025	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000175	1661	SLE RA 21	48072	1494000	596094	36000000	1497	SLE QP 2	43324	1120500	Si
0.23	0.41	0.00000175	1613	SLE RA 21	46663	1494000	578623	36000000	1454	SLE QP 2	42061	1120500	Si
2.21	0.41	0.00000175	1467	SLE RA 21	42460	1494000	526499	36000000	1326	SLE QP 2	38369	1120500	Si
4.2	0.41	0.00000175	1572	SLE RA 20	45483	1494000	563995	36000000	1423	SLE QP 2	41176	1120500	Si
4.42	0.41	0.00000175	1596	SLE RA 20	46169	1494000	572502	36000000	1444	SLE QP 2	41789	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
337,336,335,334,333,332,331,330,329,328,327	4.87	1.1	SLU 84	ST	BT	2.3	227545	60147	3.78	Si
337,336,335,334,333,332,331,330,329,328,327	4.87	1.1	SLV FO 10	SIS	BT	2.3	198761	59246	3.35	Si
337,336,335,334,333,332,331,330,329,328,327	4.87	1.1	SLD 10	SIS	BT	2.3	212033	50932	4.16	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	665	-60147	-463.18	-22.91	0	1	0	-0.01	1.08	4.87	1496	2060	0	14430	
0	-723	-59246	356.82	-19265.6	0	-1	-0.33	0.01	1.09	4.22	1496	2060	0	14430	0.07
0	-241	-50932	74.69	-10348.64	0	0	-0.2	0	1.1	4.47	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

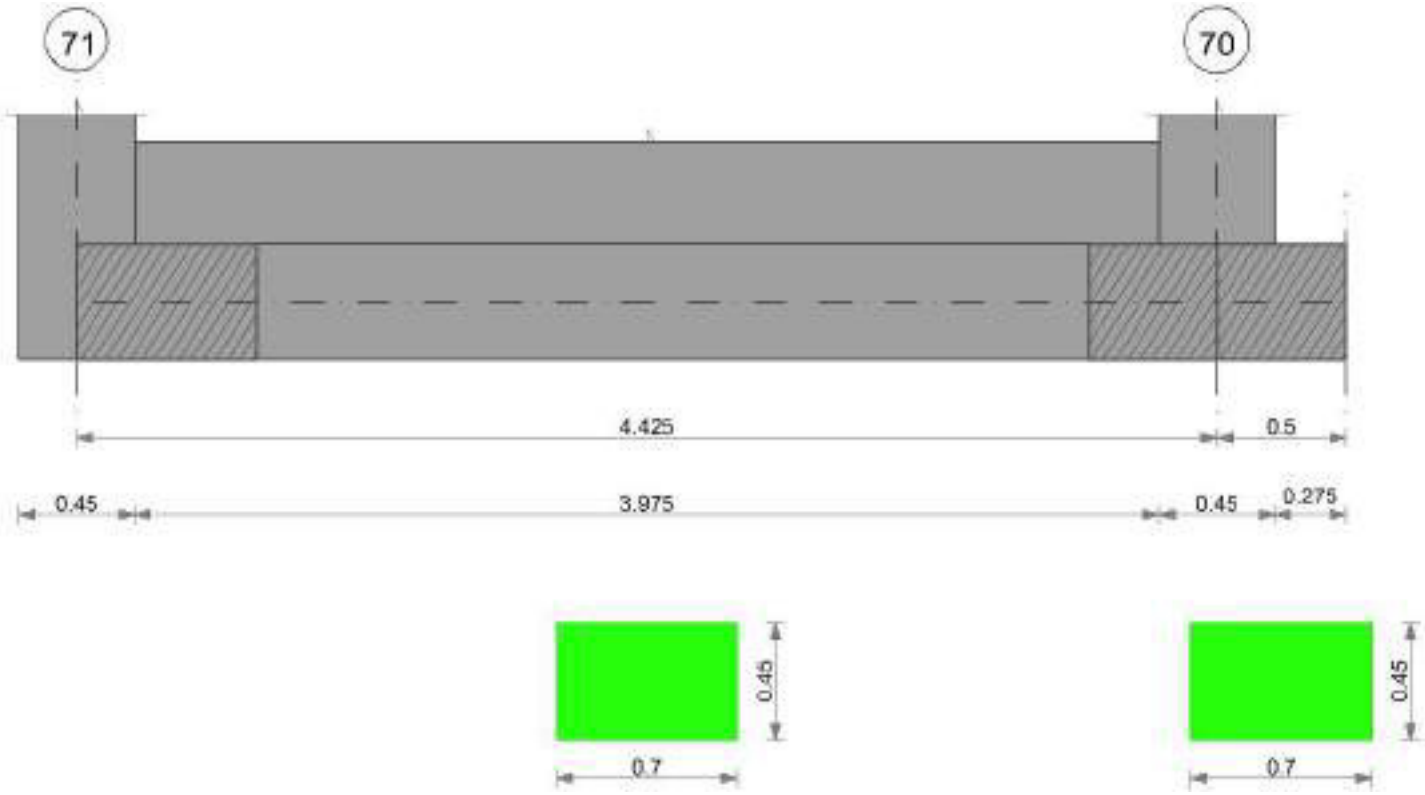
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	701	SLE RA 20	0.05	0.001	701	336	SLE RA 20	0.05	0	701	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	701	SLE RA 1	0.05	0	701	701	SLE RA 1	0.05	0	701	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	701	SLE RA 1	0.05	0	701	701	SLE RA 1	0.05	0	701	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	701	336	SLE RA 20	0.19	0	701	SLE RA 1	0.1	0	701	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	701	336	SLE RA 1	0.19	0	701	SLE RA 1	0.1	0	701	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	701	336	SLE RA 1	0.19	0	701	SLE RA 1	0.1	0	701	SLE RA 1	Si

CORDOLO 41

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

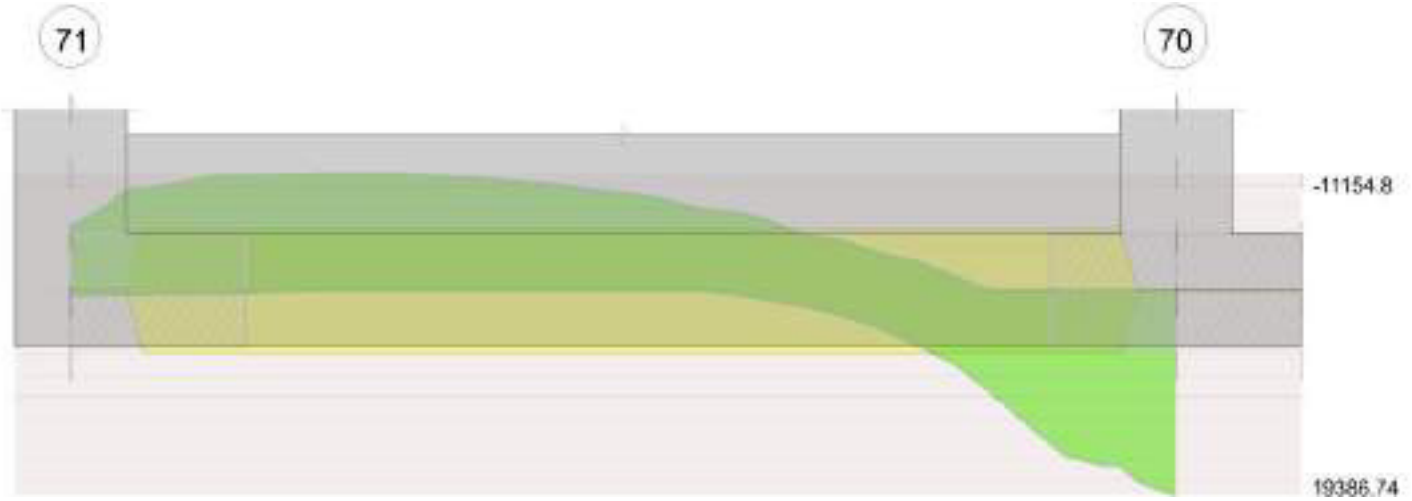


Diagramma verifica stato limite ultimo taglio

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 71 - 70, sezione R 70x45, aste 526, 525, 524, 523, 522, 521, 520, 519, 518, 517, 516

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.21	0.41	0.0002	2800	SLD 14	0.07	3109	7226	SLD 14	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000173	2599	SLE RA 21	75222	1494000	932758	36000000	2352	SLE QP 2	68074	1120500	Si
0.23	0.41	0.00000173	2495	SLE RA 21	72212	1494000	895426	36000000	2258	SLE QP 2	65359	1120500	Si
2.21	0.41	0.00000173	2221	SLE RA 21	64292	1494000	797217	36000000	2017	SLE QP 2	58386	1120500	Si
4.2	0.41	0.00000173	2761	SLE RA 21	79922	1494000	991037	36000000	2516	SLE QP 2	72834	1120500	Si
4.42	0.41	0.00000173	2764	SLE RA 20	80015	1494000	992182	36000000	2519	SLE QP 2	72922	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
526,525,524,523,522,521,520,519,518,517,516	4.65	1.3	SLU 84	ST	BT	2.3	215043	77208	2.79	Si
526,525,524,523,522,521,520,519,518,517,516	4.65	1.3	SLV FO 10	SIS	BT	2.3	184896	81384	2.27	Si
526,525,524,523,522,521,520,519,518,517,516	4.65	1.3	SLD 10	SIS	BT	2.3	199140	68496	2.91	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
0	860	-77208	6560.17	3864.79	0	1	0.05	0.08	1.13	4.55	1496	2060	0	14430	
0	-419	-81384	9288.21	-21911.67	0	0	-0.27	0.11	1.07	4.11	1496	2060	0	14430	0.07
0	-25	-68496	7101.35	-10536.71	0	0	-0.15	0.1	1.09	4.34	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	716	SLE RA 20	0.05	0	716	351	SLE RA 20	0.05	0	716	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	716	SLE RA 1	0.05	0	716	716	SLE RA 1	0.05	0	716	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	716	SLE RA 1	0.05	0	716	716	SLE RA 1	0.05	0	716	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	716	351	SLE RA 20	0.19	0	716	SLE RA 1	0.1	0	716	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	716	351	SLE RA 1	0.19	0	716	SLE RA 1	0.1	0	716	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	716	351	SLE RA 1	0.19	0	716	SLE RA 1	0.1	0	716	SLE RA 1	Si

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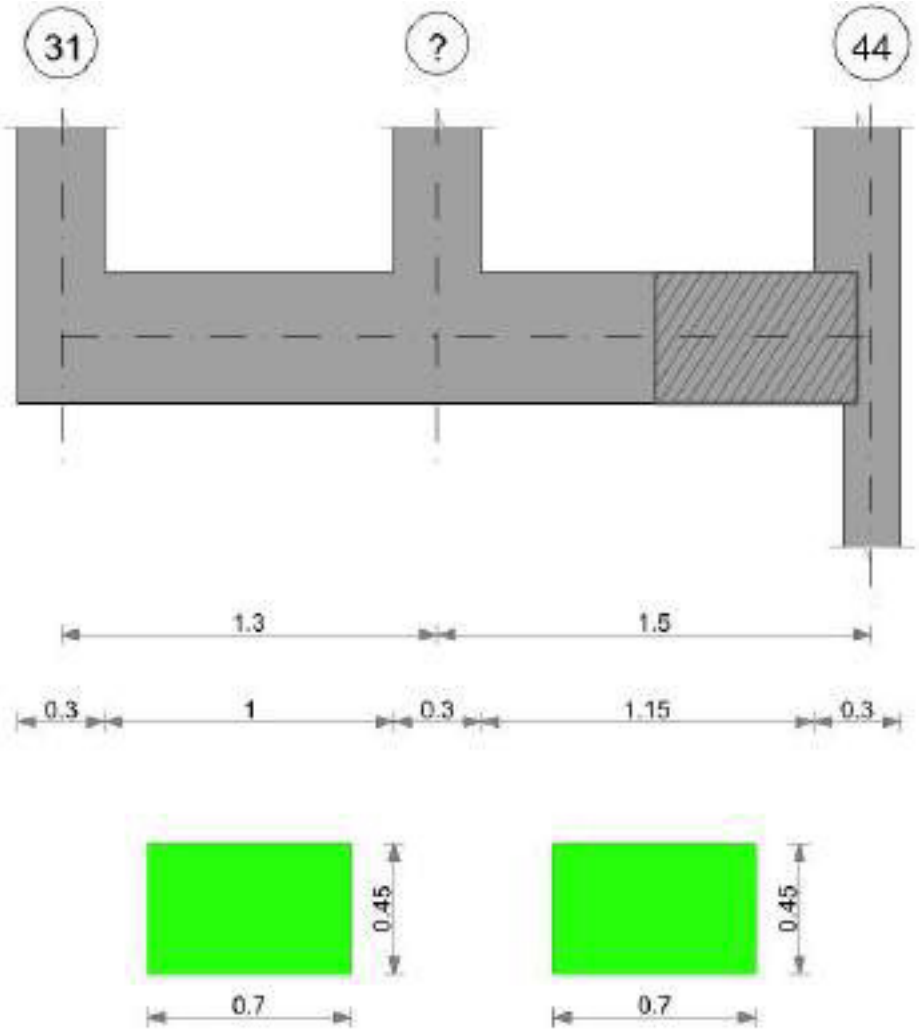
CORDOLO 42

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

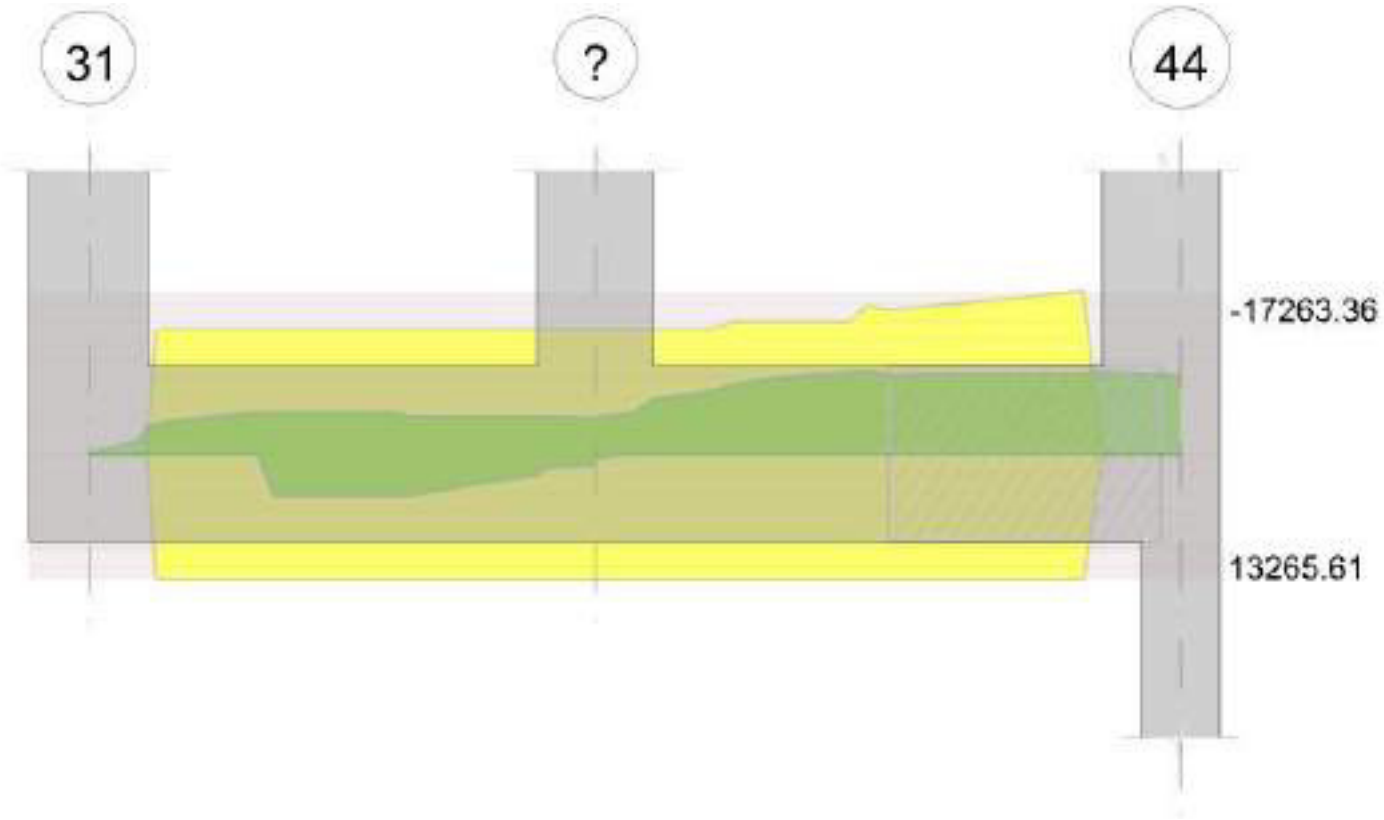
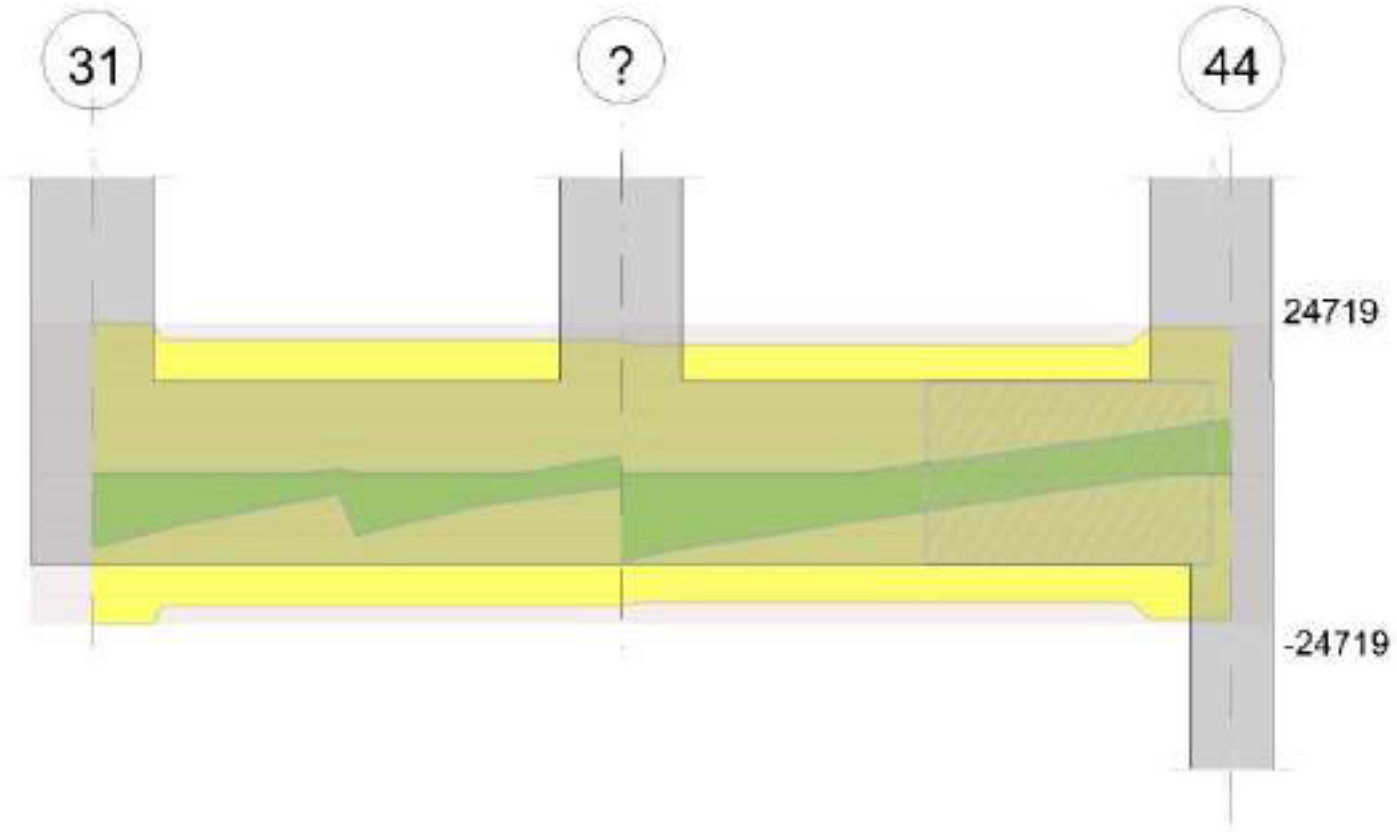


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 31 - ?, sezione R 70x45, aste 434, 433

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	1200.43	SLU 81	1200.43	13996.86	0.128	11.66	517.41	SLU 5	-4221.05	-13996.86	0.128	3.32	Si
1.15	0.000942	0.053	0.000942	0.053							-1885.73	SLU 78	-1885.73	-13996.86	0.128	7.42	Si
1.3	0.000942	0.053	0.000942	0.053							-2003.06	SLU 84	-2003.06	-13996.86	0.128	6.99	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	4420.05	SLV FO 15	4420.05	13265.61	0.222	3	-3062.65	SLV FO 2	-4434.18	-13265.61	0.222	2.99	Si
1.15	0.000942	0.053	0.000942	0.053	1543.29	SLV FO 15	2275.56	13265.61	0.222	5.83	-4050.78	SLV FO 2	-4077.13	-13265.61	0.222	3.25	Si
1.3	0.000942	0.053	0.000942	0.053	1188.05	SLV FO 15	1188.05	13265.61	0.222	11.17	-3817.5	SLV FO 2	-3817.5	-13265.61	0.222	3.47	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.65	0.000942	0.053	0.000942	0.053	2829.33	SLD 15	2829.33	13265.61	0.222	4.69	-1471.93	SLD 2	-3711.02	-13265.61	0.222	3.57	Si
1.15	0.000942	0.053	0.000942	0.053	356.42	SLD 15	940.43	13265.61	0.222	14.11	-2863.91	SLD 2	-2863.91	-13265.61	0.222	4.63	Si
1.3	0.000942	0.053	0.000942	0.053	127.97	SLD 15	127.97	13265.61	0.222	103.66	-2757.43	SLD 2	-2757.43	-13265.61	0.222	4.81	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-12202	SLU 84	-12202	-11837	-100005	-24719	-24719	1	2.03	Si
0.15	0.0000156	0	0	-9569	SLU 84	-9569	-11837	-100005	-24719	-24719	1	2.58	Si
0.65	0.0000156	0.000942	0	-10171	SLU 83	-10171	-11611	-88226	-21808	-21808	1	2.14	Si
1.15	0.0000156	0.000942	0	-2076	SLU 83	-2076	-11611	-88226	-21808	-21808	1	10.5	Si
1.3	0.0000156	0.000942	0	657	SLU 47	657	11611	88226	21808	21808	1	33.2	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-11479	SLV FO 9	-11479	-11837	-100005	-24719	-24719	1	2.15	Si
0.15	0.0000156	0	0	-9380	SLV FO 9	-9380	-11837	-100005	-24719	-24719	1	2.64	Si
0.65	0.0000156	0.000942	0	-8451	SLV FO 15	-8451	-11611	-88226	-21808	-21808	1	2.58	Si
1.15	0.0000156	0.000942	0	1015	SLV FO 6	1015	11611	88226	21808	21808	1	21.49	Si
1.15	0.0000156	0.000942	0	-3399	SLV FO 11	-3399	-11611	-88226	-21808	-21808	1	6.42	Si
1.3	0.0000156	0.000942	0	2833	SLV FO 6	2833	11611	88226	21808	21808	1	7.7	Si
1.3	0.0000156	0.000942	0	-2076	SLV FO 11	-2076	-11611	-88226	-21808	-21808	1	10.5	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-9969	SLD 9	-9969	-11837	-100005	-24719	-24719	1	2.48	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.15	0.0000156	0	0	-8033	SLD 9	-8033	-11837	-100005	-24719	-24719	1	3.08	Si
0.65	0.0000156	0.000942	0	-7652	SLD 15	-7652	-11611	-88226	-21808	-21808	1	2.85	Si
1.15	0.0000156	0.000942	0	12	SLD 6	12	11611	88226	21808	21808	1	1759.38	Si
1.15	0.0000156	0.000942	0	-2396	SLD 11	-2396	-11611	-88226	-21808	-21808	1	9.1	Si
1.3	0.0000156	0.000942	0	1716	SLD 6	1716	11611	88226	21808	21808	1	12.71	Si
1.3	0.0000156	0.000942	0	-959	SLD 11	-959	-11611	-88226	-21808	-21808	1	22.74	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-4.36	15	-4.36	-184	1494000	0	36000000	-4.06	2	-4.06	-172	1120500			Si
0.15	-1198.55	21	-2248.72	-95184	1494000	0	36000000	-1100.98	2	-2070.43	-87637	1120500			Si
0.65	868.45	18	868.45	31762	1494000	476428	36000000	678.7	2	678.7	24822	1120500			Si
1.15	-1367.31	15	-1367.31	50007	1494000	750099	36000000	-1253.74	2	-1253.74	45853	1120500			Si
1.3	-1447.38	21	-1447.38	52935	1494000	794024	36000000	-1314.73	2	-1314.73	48083	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 2 tra i fili ? - 44, sezione R 70x45, asta 432

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-1999.4	SLU 84	-1999.4	-13996.86	0.128	7	Si
0.15	0.000942	0.053	0.000942	0.053							-3930.16	SLU 84	-5810.14	-13996.86	0.128	2.41	Si
0.75	0.001091	0.053	0.000942	0.053							-8438.89	SLU 84	-8801.39	-16016.12	0.135	1.82	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053	1193.98	SLV FO 15	437.13	13265.61	0.222	30.35	-3818.68	SLV FO 2	-3818.68	-13265.61	0.222	3.47	Si
0.15	0.000942	0.053	0.000942	0.053							-4658.54	SLV FO 2	-5827.49	-13265.61	0.222	2.28	Si
0.75	0.001091	0.053	0.000942	0.053							-7862.34	SLV FO 10	-8386.88	-15255	0.238	1.82	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: εc2= 0.002, εyd= 0.0019

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053	132.43	SLD 15	132.43	13265.61	0.222	100.17	-2757.13	SLD 2	-2757.13	-13265.61	0.222	4.81	Si
0.15	0.000942	0.053	0.000942	0.053							-3780.6	SLD 2	-4929.98	-13265.61	0.222	2.69	Si
0.75	0.001091	0.053	0.000942	0.053							-6830.07	SLD 10	-7233.11	-15255	0.238	2.11	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-14447	SLU 84	-14447	-11611	-88226	-21808	-21808	1	1.51	Si
0.15	0.0000151	0.000942	0	-12193	SLU 84	-12193	-11611	-88226	-21083	-21083	1	1.73	Si
0.75	0.0000151	0.000942	0	-3408	SLU 82	-3408	-11611	-88226	-21083	-21083	1	6.19	Si
1.4	0.0000151	0	0	5981	SLU 84	5981	11837	100005	23897	23897	1	4	Si
1.5	0.0000151	0	0	7443	SLU 84	7443	11837	100005	23897	23897	1	3.21	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-13933	SLV FO 13	-13933	-11611	-88226	-21808	-21808	1	1.57	Si
0.15	0.0000151	0.000942	0	-12325	SLV FO 13	-12325	-11611	-88226	-21083	-21083	1	1.71	Si
0.75	0.0000151	0.000942	0	1543	SLV FO 4	1543	11611	88226	21083	21083	1	13.66	Si
0.75	0.0000151	0.000942	0	-6116	SLV FO 13	-6116	-11611	-88226	-21083	-21083	1	3.45	Si
1.4	0.0000151	0	0	7776	SLV FO 2	7776	11837	100005	23897	23897	1	3.07	Si
1.5	0.0000151	0	0	8828	SLV FO 2	8828	11837	100005	23897	23897	1	2.71	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-12111	SLD 13	-12111	-11611	-88226	-21808	-21808	1	1.8	Si
0.15	0.0000151	0.000942	0	-10552	SLD 13	-10552	-11611	-88226	-21083	-21083	1	2	Si
0.75	0.0000151	0.000942	0	-4506	SLD 13	-4506	-11611	-88226	-21083	-21083	1	4.68	Si
1.4	0.0000151	0	0	6183	SLD 2	6183	11837	100005	23897	23897	1	3.86	Si
1.5	0.0000151	0	0	7201	SLD 2	7201	11837	100005	23897	23897	1	3.32	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1444.71	21	-1444.71	52837	1494000	792559	36000000	-1312.35	2	-1312.35	47996	1120500			Si
0.15	-2863.88	21	-4246.58	155310	1494000	2329649	36000000	-2600.5	2	-3855.54	141008	1120500			Si
0.75	-6184.19	21	-6454.32	234721	1494000	3486363	36000000	-5613.49	2	-5857.72	213025	1120500			Si
1.5	-5137.14	21	-5137.14	-217445	1494000	0	36000000	-4654.83	2	-4654.83	-197030	1120500			Si

Verifiche geotecniche

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γR	Rd	Ed	Rd/Ed	Verifica
434,433,432	3.05	1.3	SLU 84	ST	BT	2.3	165188	50161	3.29	Si
434,433,432	3.05	1.3	SLV FO 5	SIS	BT	2.3	138283	39196	3.53	Si
434,433,432	3.05	1.3	SLD 5	SIS	BT	2.3	150482	36819	4.09	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γs	Fi	Coes	Amax
-407	591	-50161	201.48	-1977.69	0	1	-0.04	0	1.29	2.97	1496	2060	0	14430	
-1230	-5556	-39196	3407.48	-1851.46	-2	-8	-0.05	0.09	1.13	2.96	1496	2060	0	14430	0.07
-838	-2774	-36819	1866.43	-1600.35	-1	-4	-0.04	0.05	1.2	2.96	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.09	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

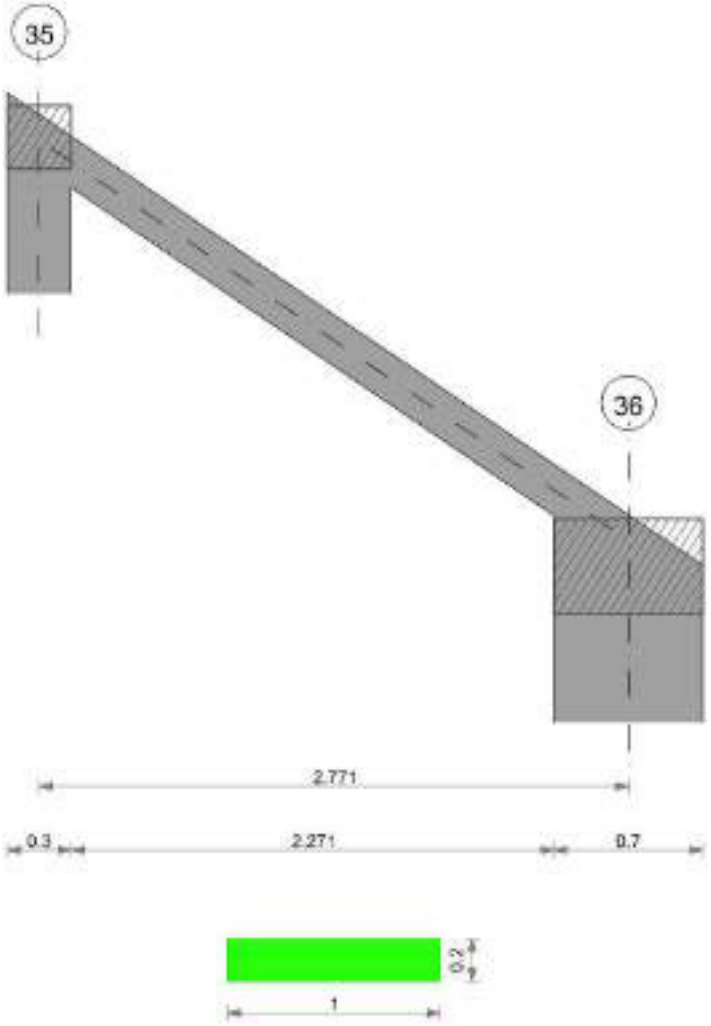
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	537	SLE RA 21	0.05	0.001	537	534	SLE RA 21	0.05	0	536	SLE RA 21	0.0033	0	SLE RA 1	Si
D	0.05	0	537	SLE RA 1	0.05	0	537	537	SLE RA 1	0.05	0	536	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	537	SLE RA 1	0.05	0	537	537	SLE RA 1	0.05	0	536	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	536	534	SLE RA 21	0.19	0	536	SLE RA 21	0.1	0	537	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	537	536	SLE RA 1	0.19	0	537	SLE RA 1	0.1	0	536	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	537	536	SLE RA 1	0.19	0	537	SLE RA 1	0.1	0	536	SLE RA 1	Si

scala piano interrato - terra

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 100x20	Rettangolare	1	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

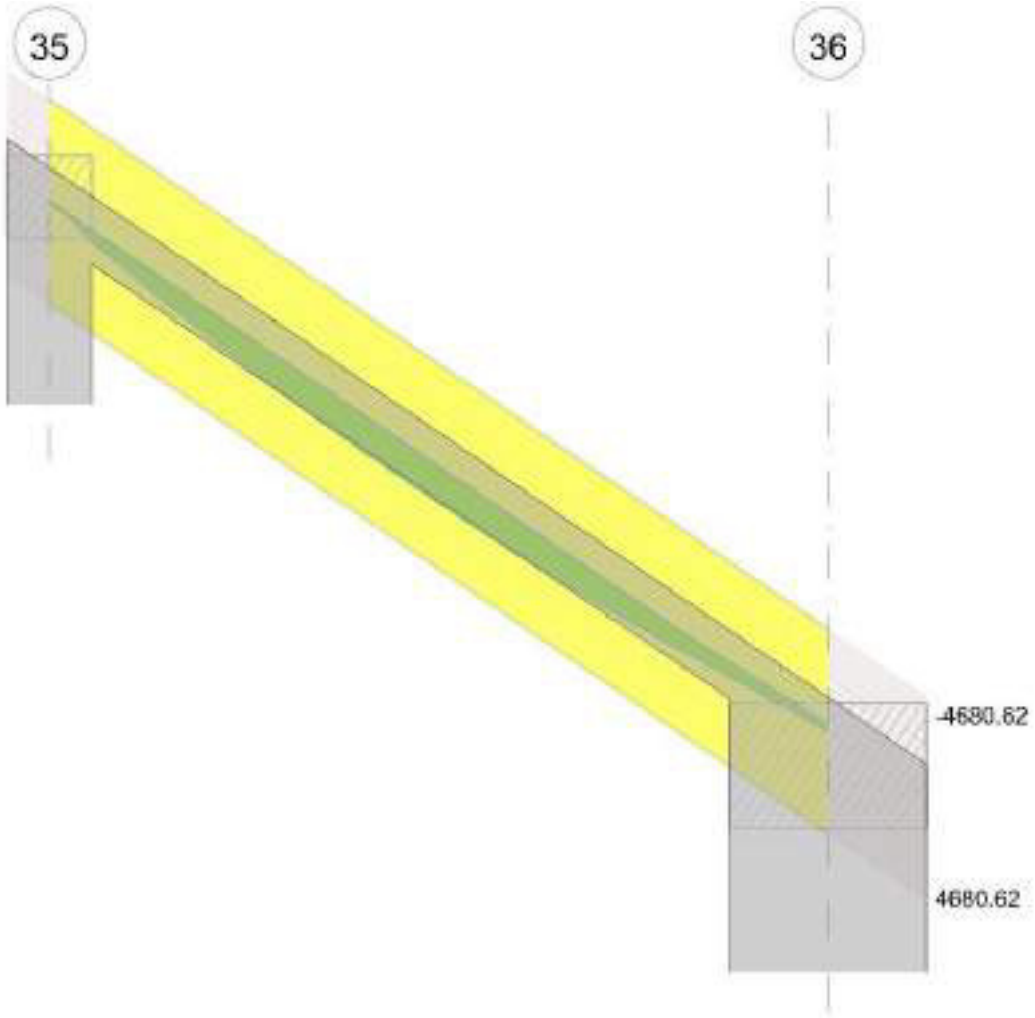


Diagramma verifica stato limite ultimo taglio

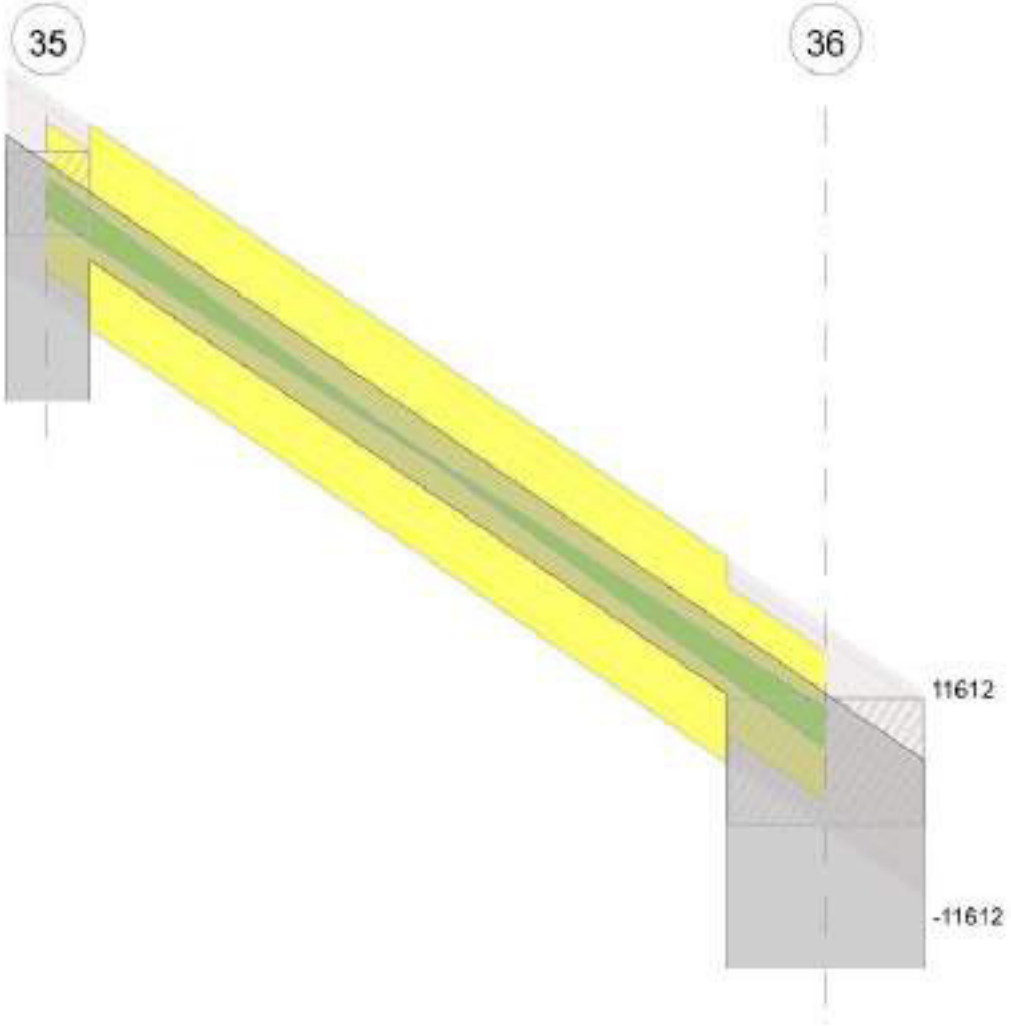
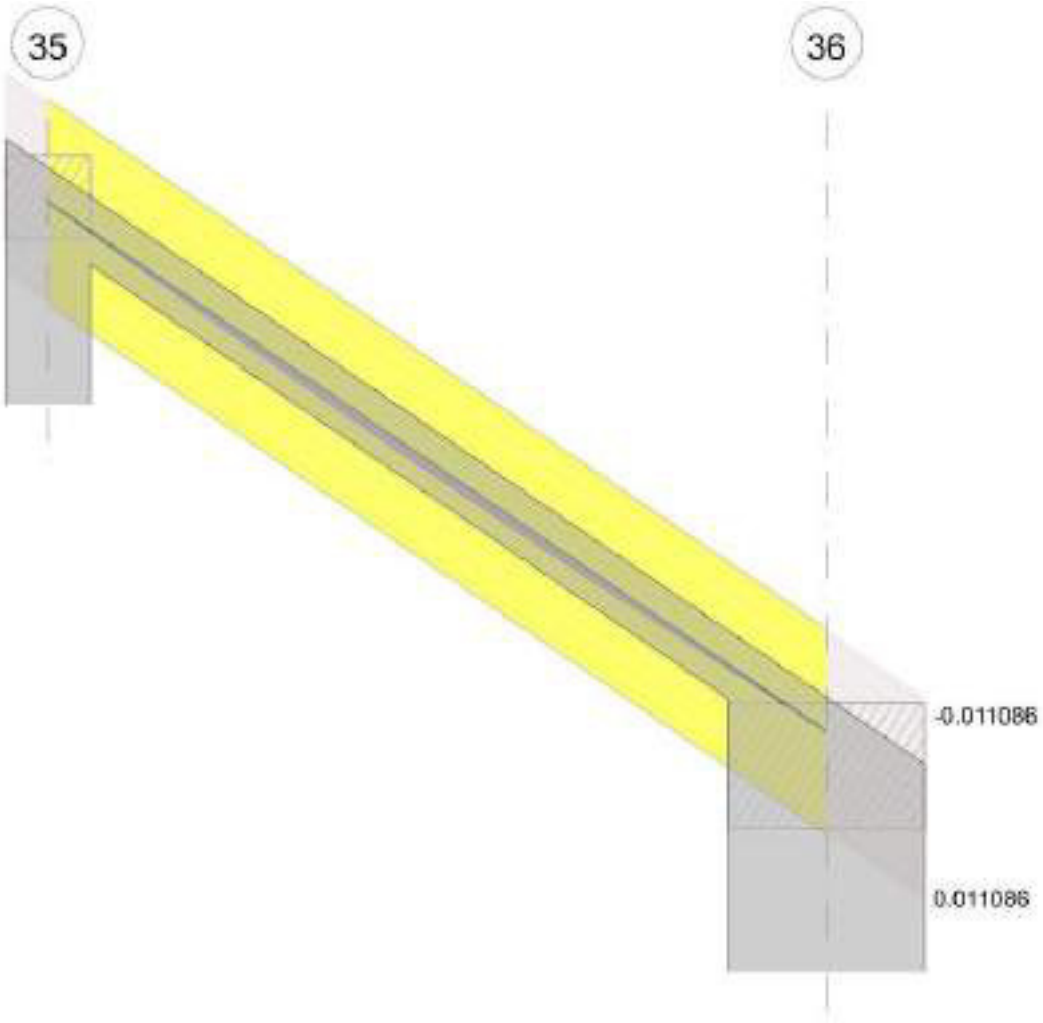


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili 35 - 36, sezione R 100x20, asta 768; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-32.58	SLU 82	-32.58	-4680.62	0.274	143.68	Si
0.15	0.000804	0.051	0.000804	0.051	338.02	SLU 83	489.76	4680.62	0.274	9.56							Si
1.29	0.000804	0.051	0.000804	0.051	1669.46	SLU 83	1669.46	4680.62	0.274	2.8							Si
1.39	0.000804	0.051	0.000804	0.051	1660.27	SLU 83	1666.94	4680.62	0.274	2.81							Si
2.42	0.000804	0.051	0.000804	0.051	362.49	SLU 83	512.02	4680.62	0.274	9.14							Si
2.77	0.000804	0.051	0.000804	0.051							-575.15	SLU 82	-32.21	-4680.62	0.274	145.3	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-21.12	SLV 9	-21.12	-4680.62	0.274	221.61	Si
0.15	0.000804	0.051	0.000804	0.051	220.64	SLV 8	318.32	4680.62	0.274	14.7							Si
1.39	0.000804	0.051	0.000804	0.051	1148.15	SLV 8	1148.15	4680.62	0.274	4.08							Si
2.42	0.000804	0.051	0.000804	0.051	501.07	SLV 8	581.76	4680.62	0.274	8.05	-82.74	SLV 9	-82.74	-4680.62	0.274	56.57	Si
2.77	0.000804	0.051	0.000804	0.051							-677.29	SLV 9	-295.81	-4680.62	0.274	15.82	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000804	0.051	0.000804	0.051							-20.14	SLD 9	-20.14	-4680.62	0.274	232.41	Si
0.15	0.000804	0.051	0.000804	0.051	212.36	SLD 8	306.77	4680.62	0.274	15.26							Si
1.39	0.000804	0.051	0.000804	0.051	1079.59	SLD 8	1079.59	4680.62	0.274	4.34							Si
2.42	0.000804	0.051	0.000804	0.051	381.96	SLD 8	465.92	4680.62	0.274	10.05							Si
2.77	0.000804	0.051	0.000804	0.051							-541.09	SLD 9	-169.76	-4680.62	0.274	27.57	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	2157	SLU 83	2157	8502	47304	0	8502	1	3.94	Si
0.15	0.0000221	0.000804	0	1906	SLU 83	1906	8502	47304	11612	11612	1	6.09	Si
1.39	0.0000221	0.000804	0	-160	SLU 82	-160	-8502	-47304	-11612	-11612	1	72.53	Si
2.42	0.0000221	0.000804	0	-1890	SLU 82	-1890	-8502	-47304	-11612	-11612	1	6.14	Si
2.77	0	0.000804	0	-2475	SLU 82	-2475	-8502	-47304	0	-8502	1	3.43	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	1373	SLV 12	1373	8502	47304	0	8502	1	6.19	Si
0	0	0.000804	0	1177	Ger.	-1906	-8502	-47304	0	-8502	1	4.46	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.15	0.0000221	0.000804	0	1224	SLV 12	1224	8502	47304	11612	11612	1	9.48	Si
0.15	0.0000221	0.000804	0	1029	Ger.	-1721	-8502	-47304	-11612	-11612	1	6.75	Si
1.39	0.0000221	0.000804	0	2	Ger.	282	8502	47304	11612	11612	1	41.22	Si
1.39	0.0000221	0.000804	0	-194	Ger.	-194	-8502	-47304	-11612	-11612	1	59.79	Si
2.42	0.0000221	0.000804	0	-1023	Ger.	1562	8502	47304	11612	11612	1	7.44	Si
2.42	0.0000221	0.000804	0	-1218	SLV 5	-1218	-8502	-47304	-11612	-11612	1	9.53	Si
2.77	0	0.000804	0	-1369	Ger.	1994	8502	47304	0	8502	1	4.26	Si
2.77	0	0.000804	0	-1564	SLV 5	-1564	-8502	-47304	0	-8502	1	5.43	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000804	0	1333	SLD 12	1333	8502	47304	0	8502	1	6.38	Si
0.15	0.0000221	0.000804	0	1184	SLD 12	1184	8502	47304	11612	11612	1	9.8	Si
1.39	0.0000221	0.000804	0	-154	SLD 5	-154	-8502	-47304	-11612	-11612	1	75.52	Si
2.42	0.0000221	0.000804	0	-1178	SLD 5	-1178	-8502	-47304	-11612	-11612	1	9.86	Si
2.77	0	0.000804	0	-1524	SLD 5	-1524	-8502	-47304	0	-8502	1	5.58	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-23.32	19	-23.32	3218	1494000	48277	36000000	-18.68	2	-18.68	2578	1120500			Si
0.15	243.46	20	352.68	48673	1494000	730089	36000000	200.32	2	289.99	40021	1120500			Si
1.39	1194.76	20	1199.61	165556	1494000	2483339	36000000	980.12	2	984.23	135832	1120500			Si
2.42	259.33	20	367.08	50660	1494000	759895	36000000	209.17	2	297.87	41108	1120500			Si
2.77	-415.9	19	-21.17	2922	1494000	43833	36000000	-343.52	2	-13.1	1808	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.15	0.0001	0.00007	0.00009	0.00007	0.00008	0.00007	0.00008	0.00007	0.00008	0.00007	0.00021	2	0.00019	2	9999	Si
1.39	0.00054	0.0004	0.00051	0.00038	0.00047	0.0004	0.00045	0.00038	0.00044	0.0004	0.00117	2	0.00106	2	2364	Si
2.42	0.00019	0.00014	0.00018	0.00014	0.00017	0.00014	0.00016	0.00014	0.00016	0.00014	0.00042	2	0.00038	2	6604	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	ρ,tot	θ,m	θ,y	μΔ,pl	Vrd	VRcd(cotθ=1)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.3	0.248	0.041	0.2	0.008	0	0.00569	0	8502	47304	11612	11612	15969	15969	1096	-3064	SLV 2	Si
2.571	1.386	0.041	0.2	0.008	0.00073	0.00569	0	8502	47304	11612	11612	11512	11612	-1151	-3244	SLV 1	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	-1712	-1906	-177	1177	-1712	1373	256	1373
0.15	-1527	-1721	-177	1029	-1527	1224	256	1224
1.39	0	-194	-177	-194	0	282	256	2
2.42	1280	-1218	-177	-1218	1280	1562	256	-1023
2.77	1712	-1564	-177	-1564	1712	1994	256	-1369

Momenti resistenti a filo appoggi

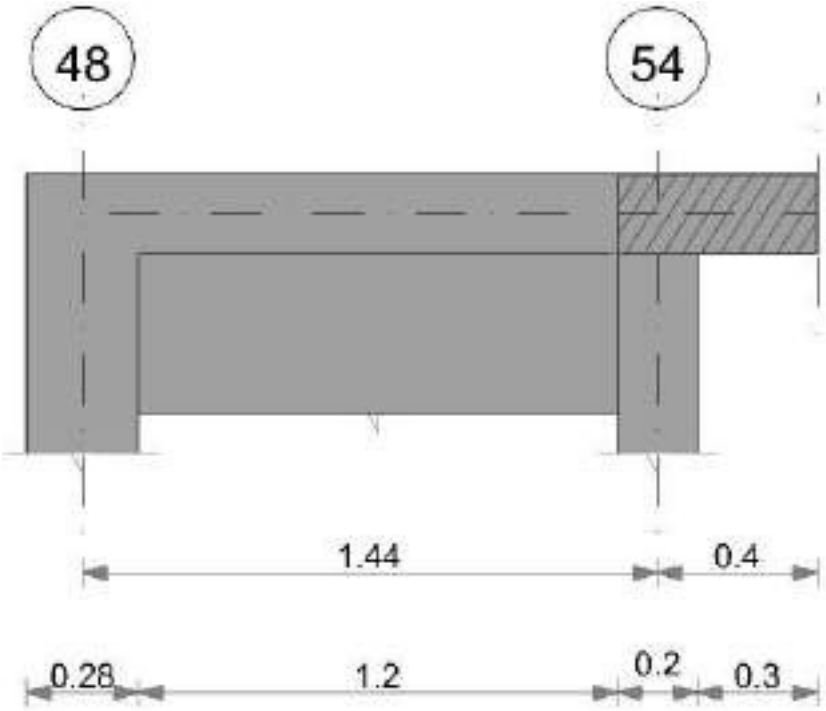
campata	x	appoggio	momento positivo	momento negativo
1	0.15	35	4680.62	-4680.62
1	2.42	36	4680.62	-4680.62

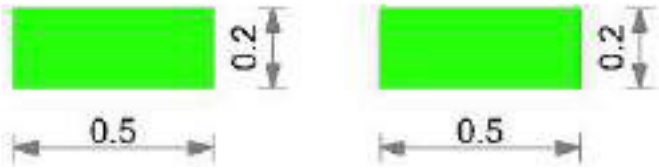
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Primo" 48-56

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

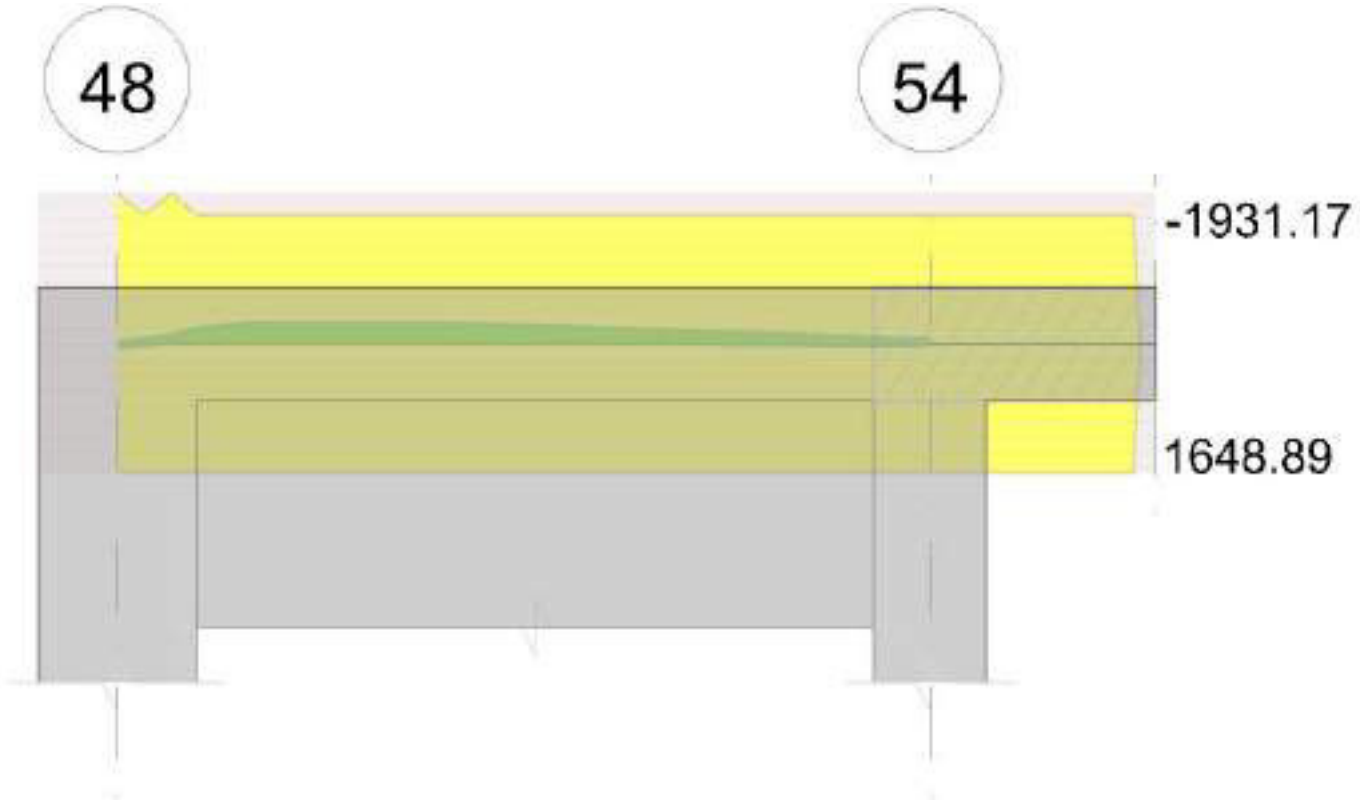


Diagramma verifica stato limite ultimo taglio

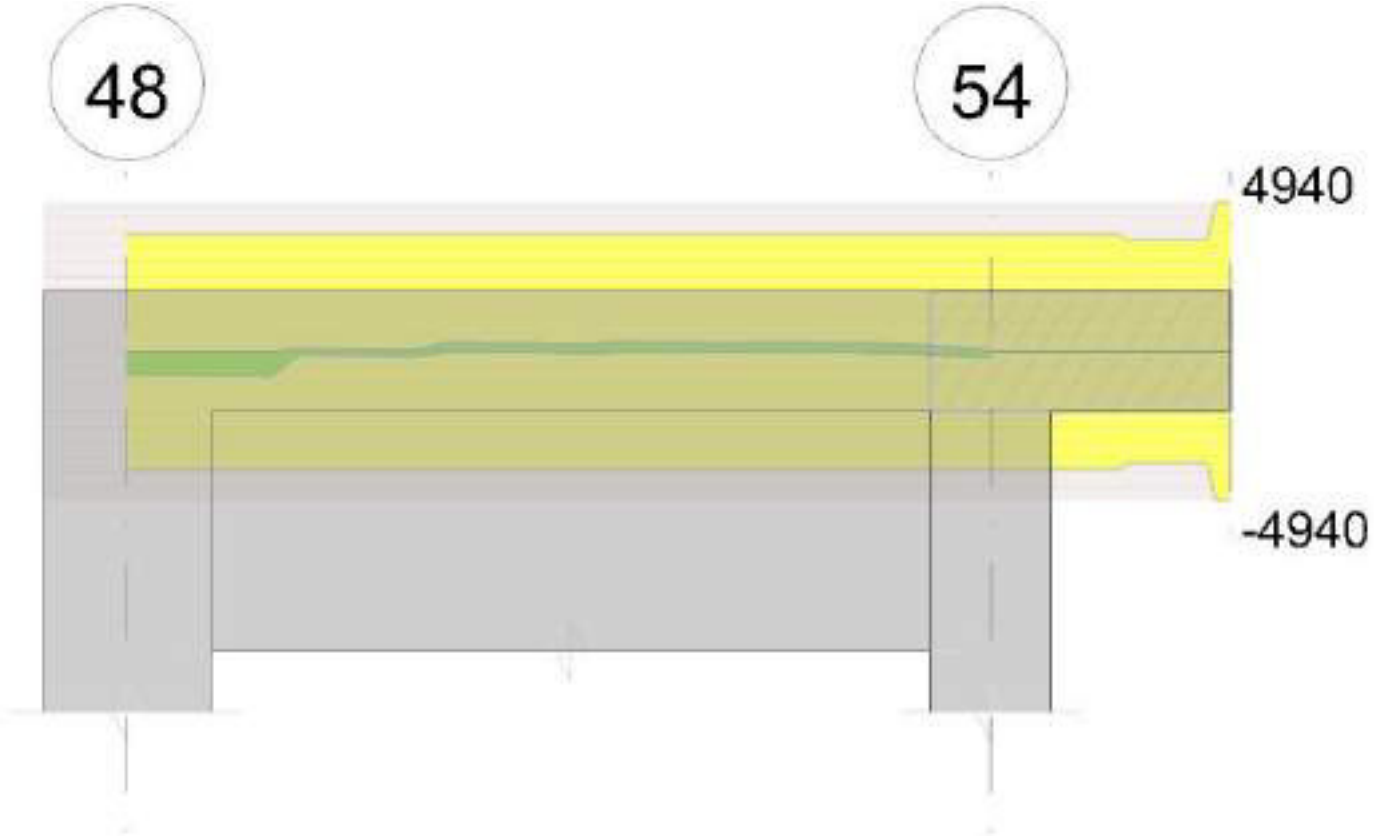
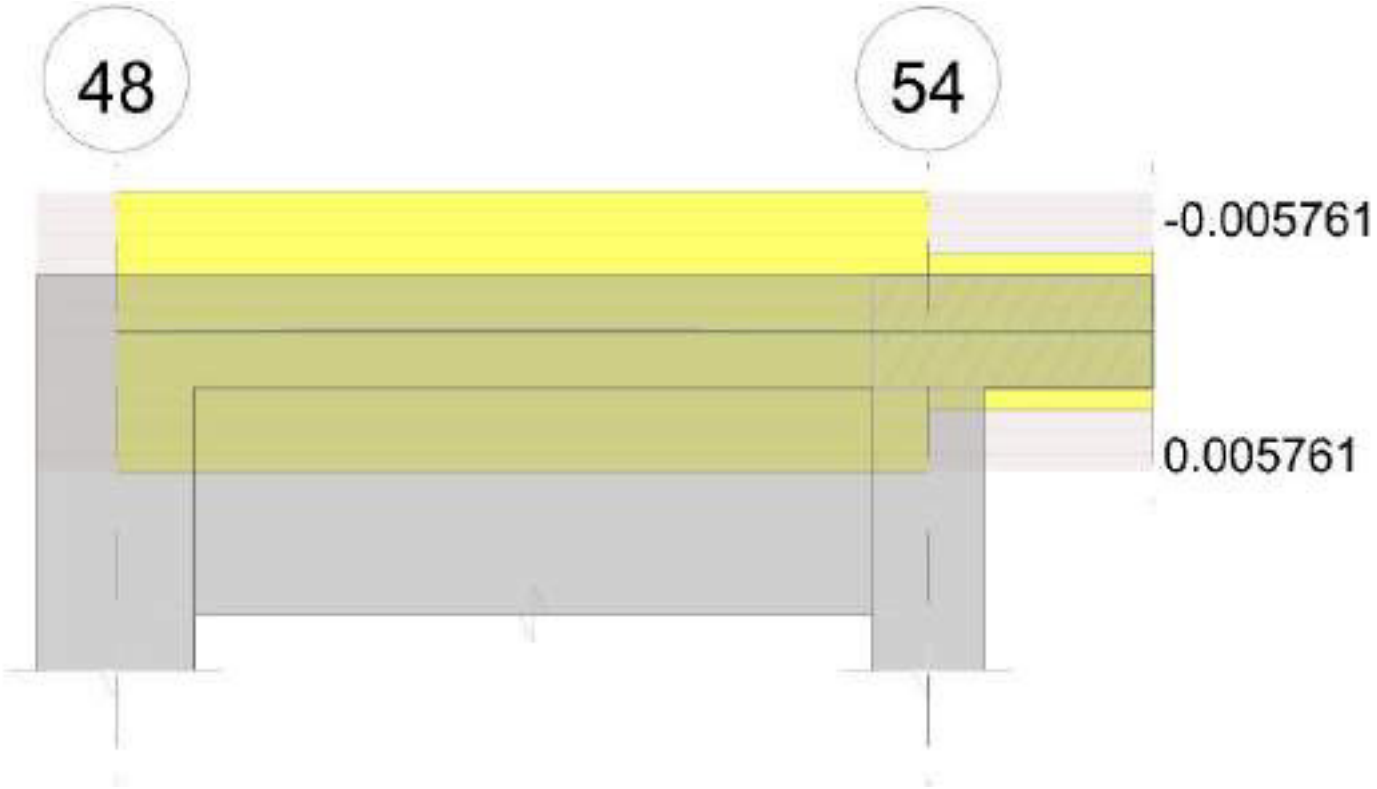


Diagramma verifica stato limite esercizio quasi permanente freccia



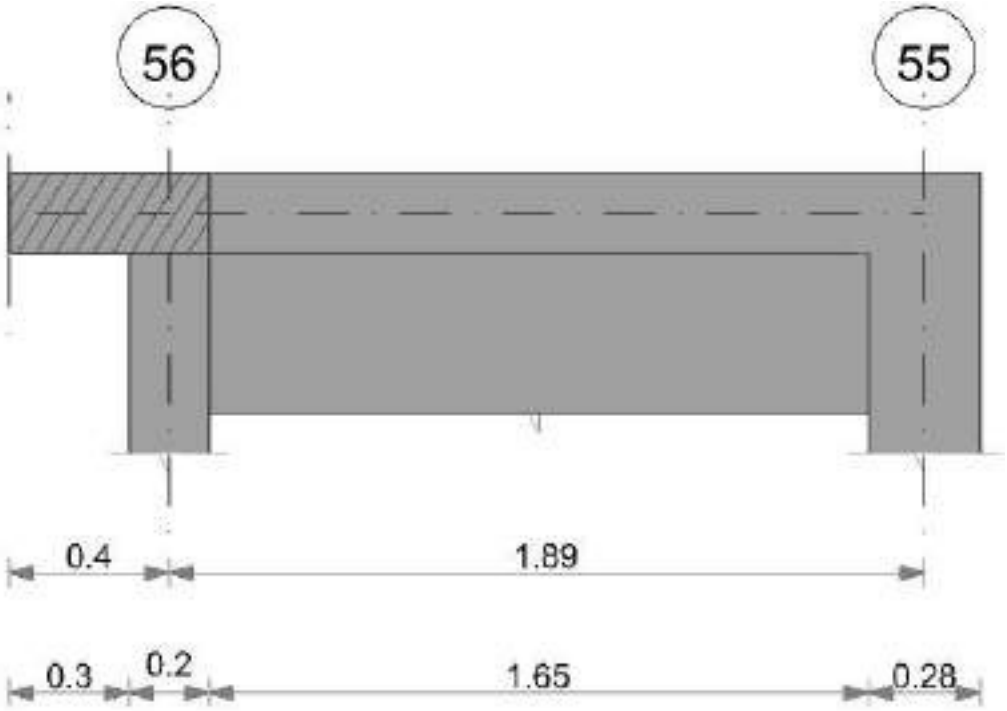
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Primo" 54-55

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

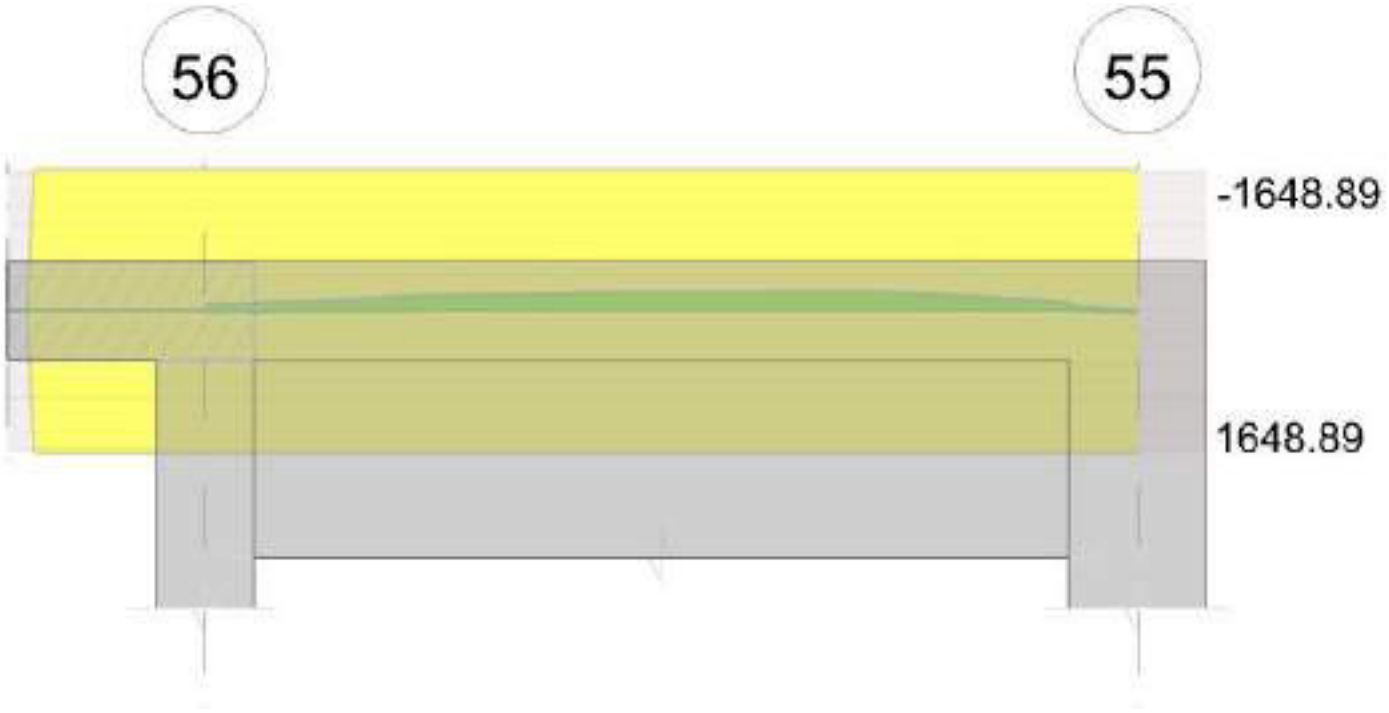


Diagramma verifica stato limite ultimo taglio

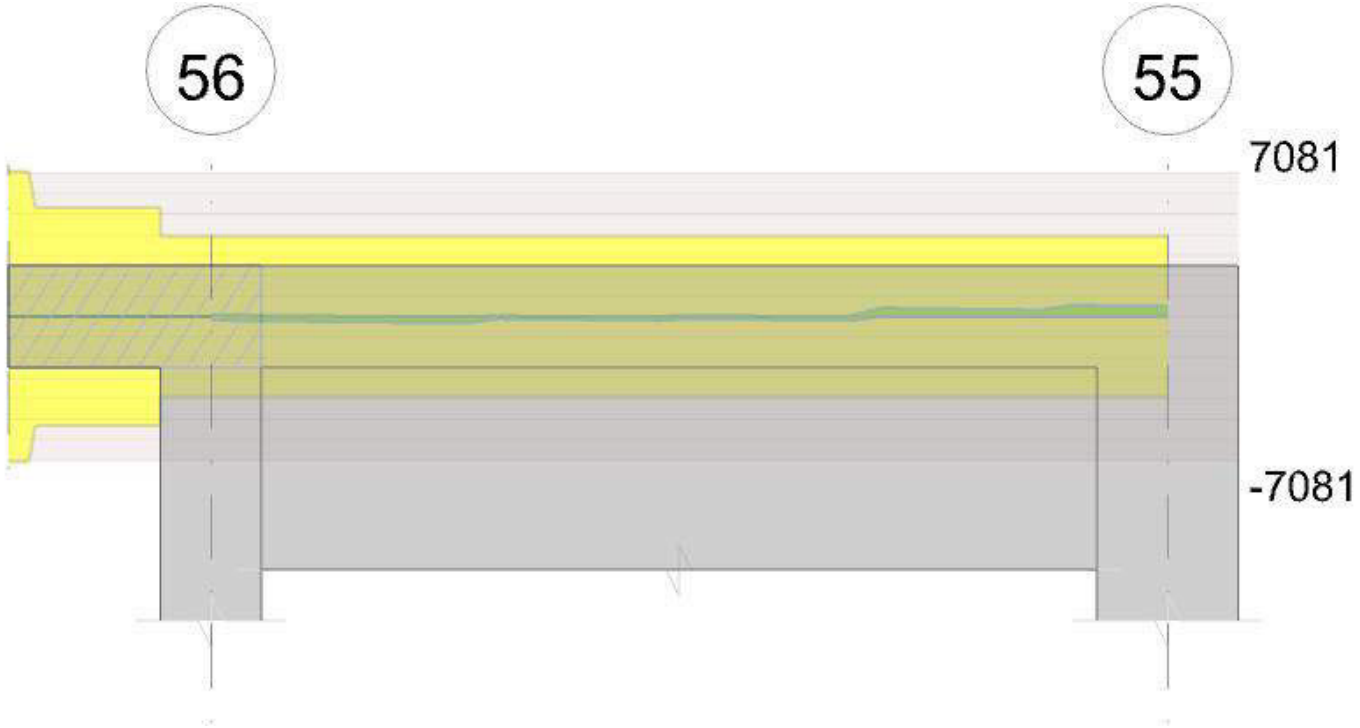


Diagramma verifica stato limite esercizio quasi permanente freccia

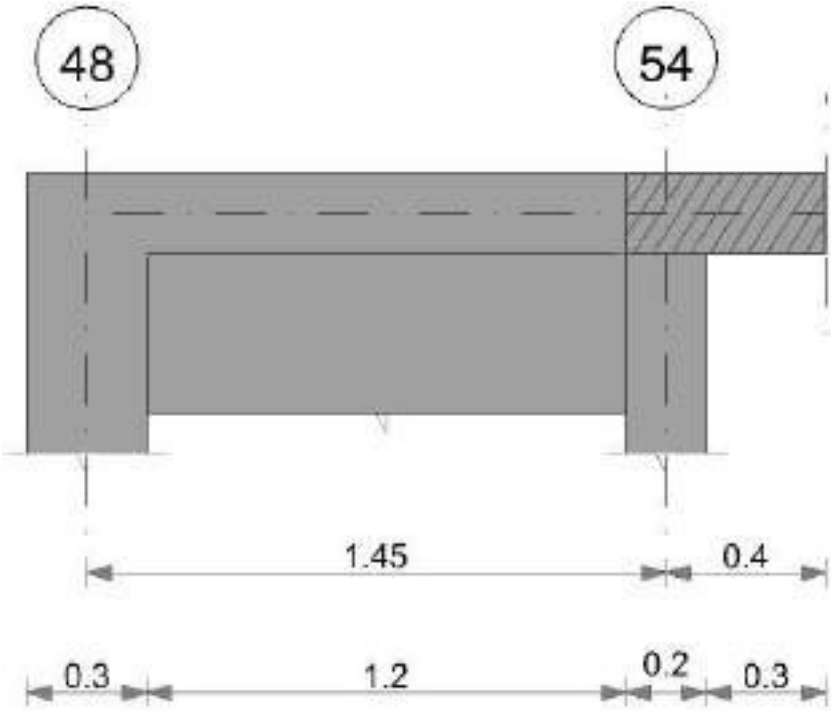
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Rialzato" 48-56

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

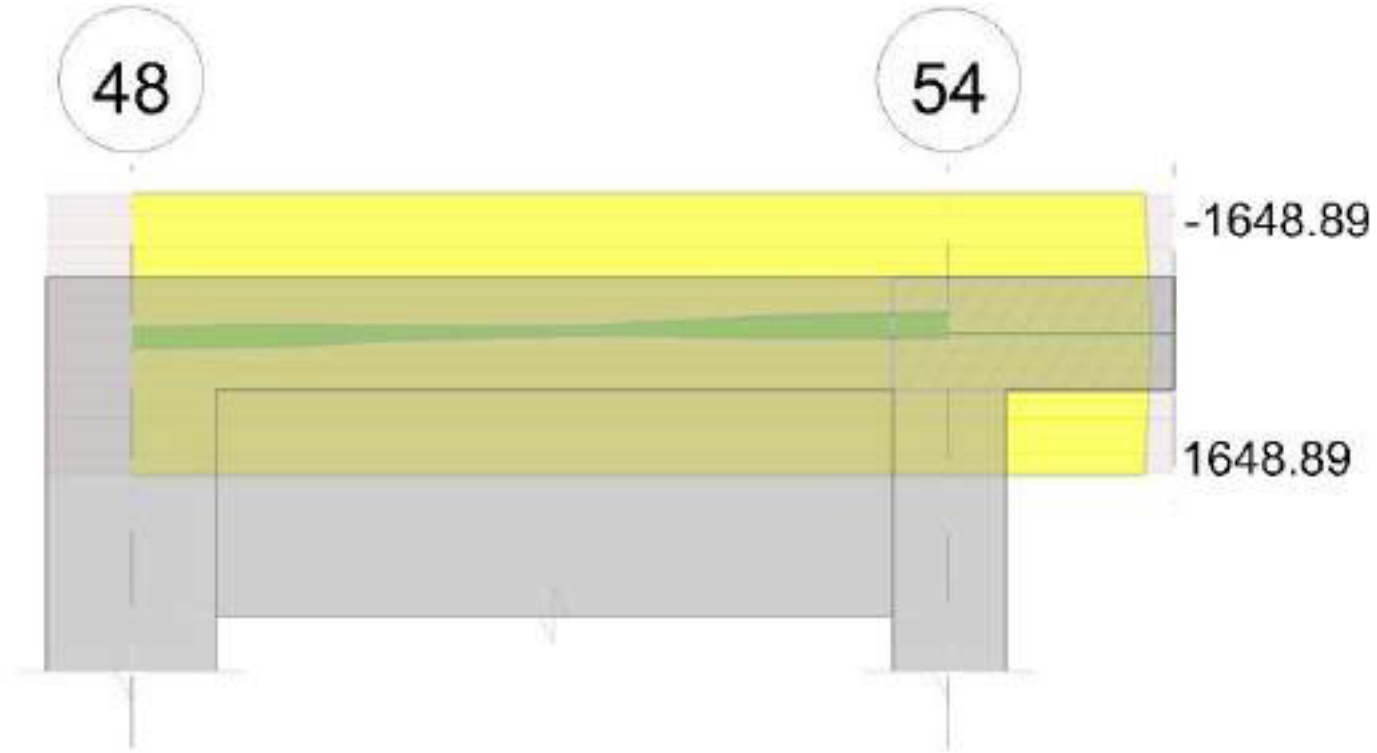
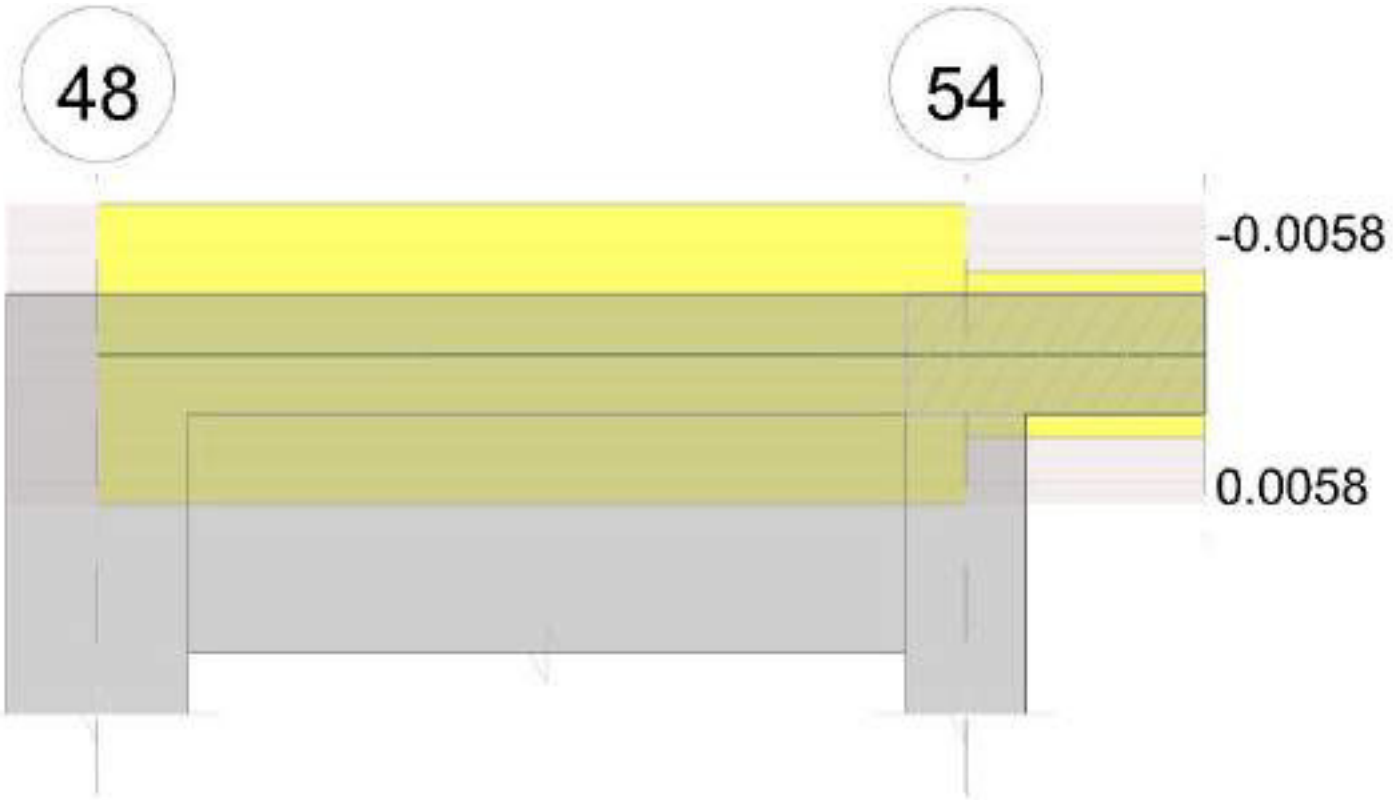


Diagramma verifica stato limite ultimo taglio

Diagramma verifica stato limite esercizio quasi permanente freccia



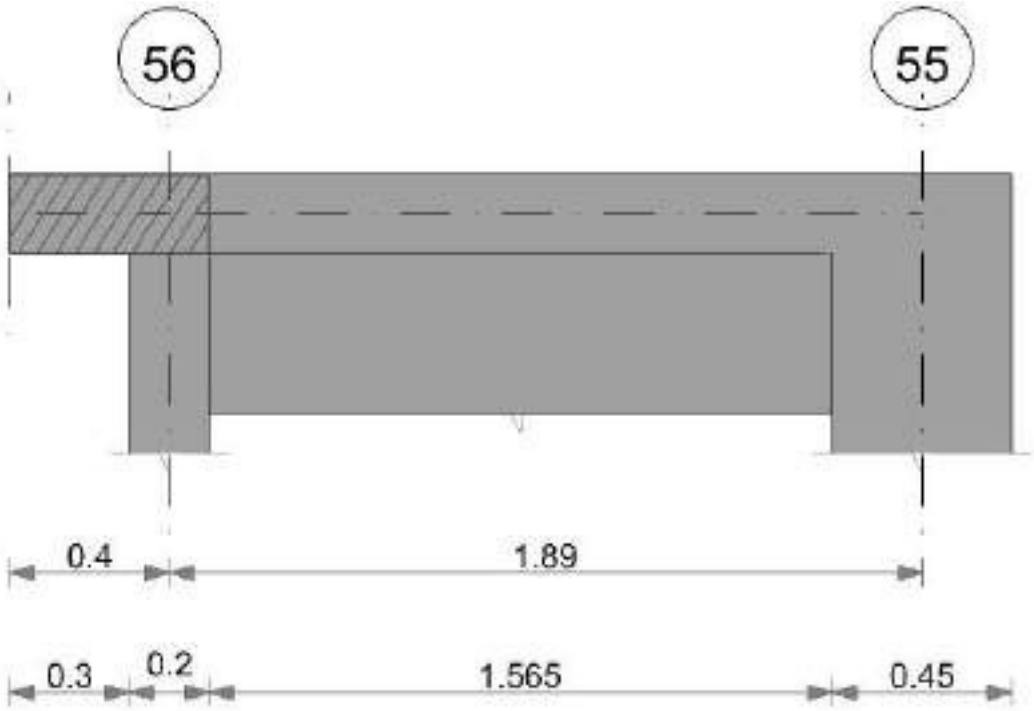
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Rialzato" 54-55

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

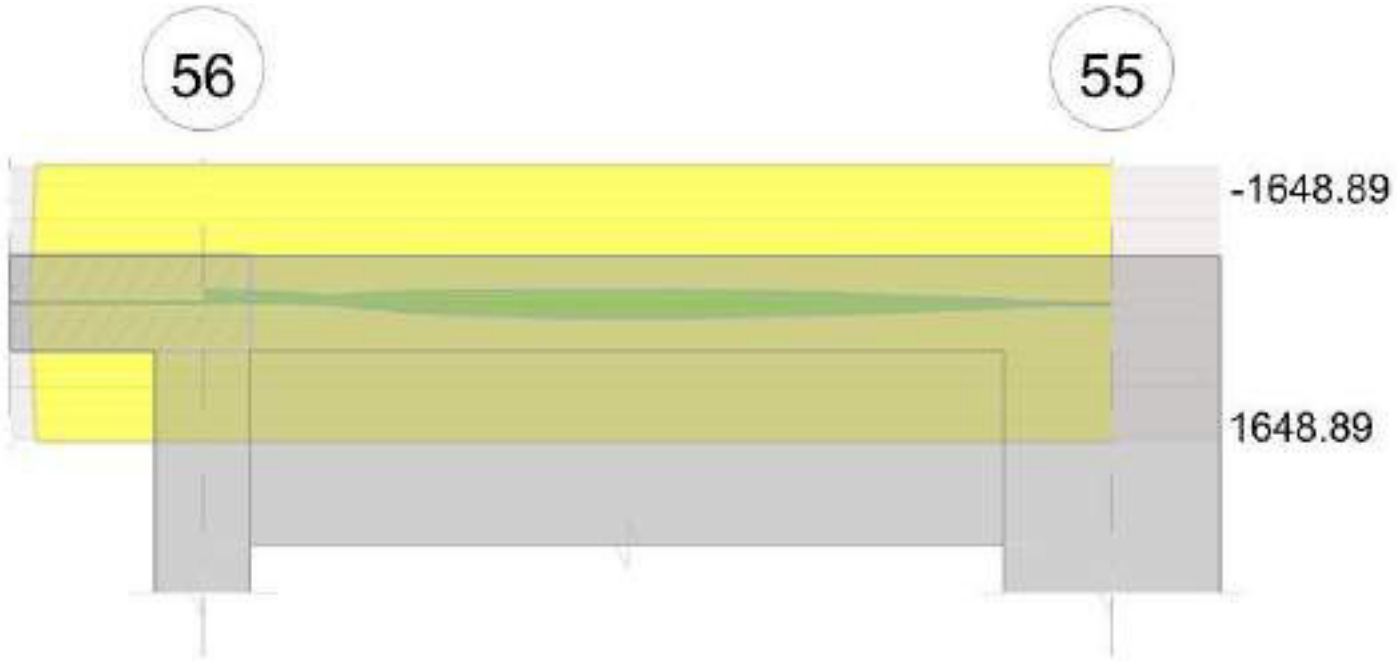


Diagramma verifica stato limite ultimo taglio

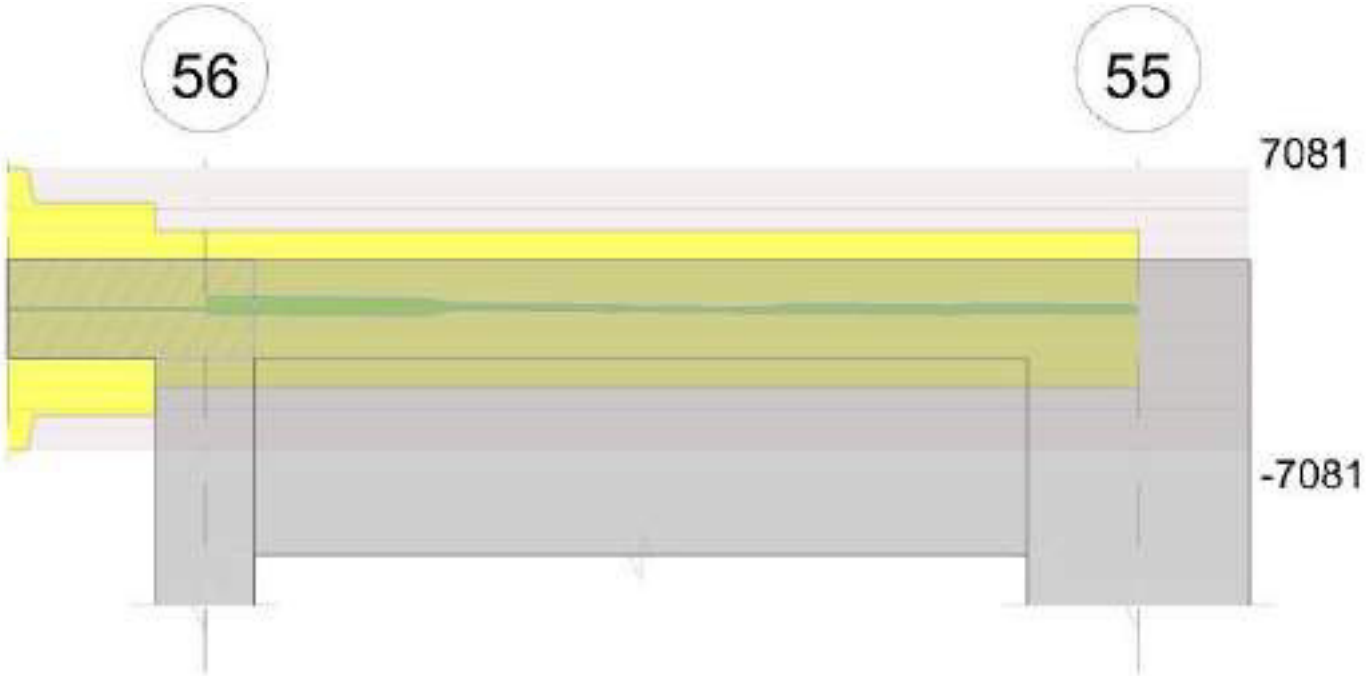
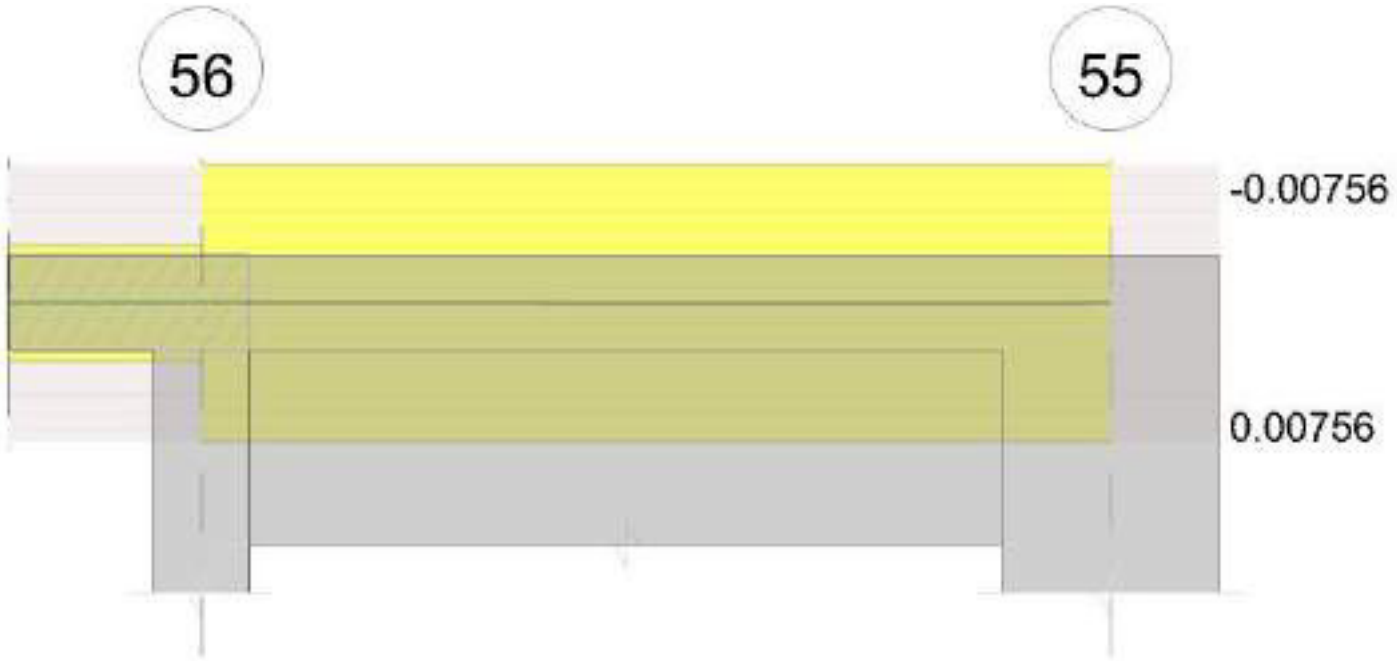


Diagramma verifica stato limite esercizio quasi permanente freccia



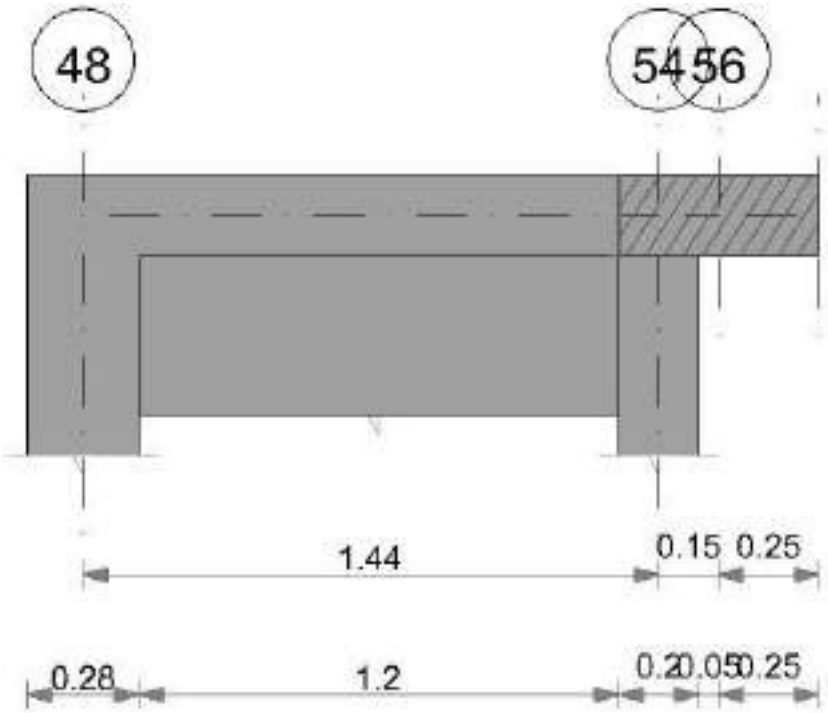
Output campate

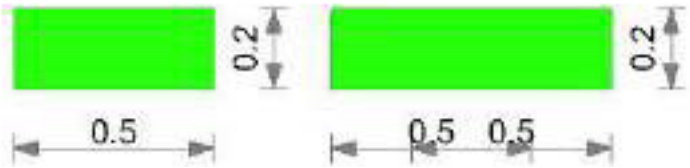
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Secondo" 48-56

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

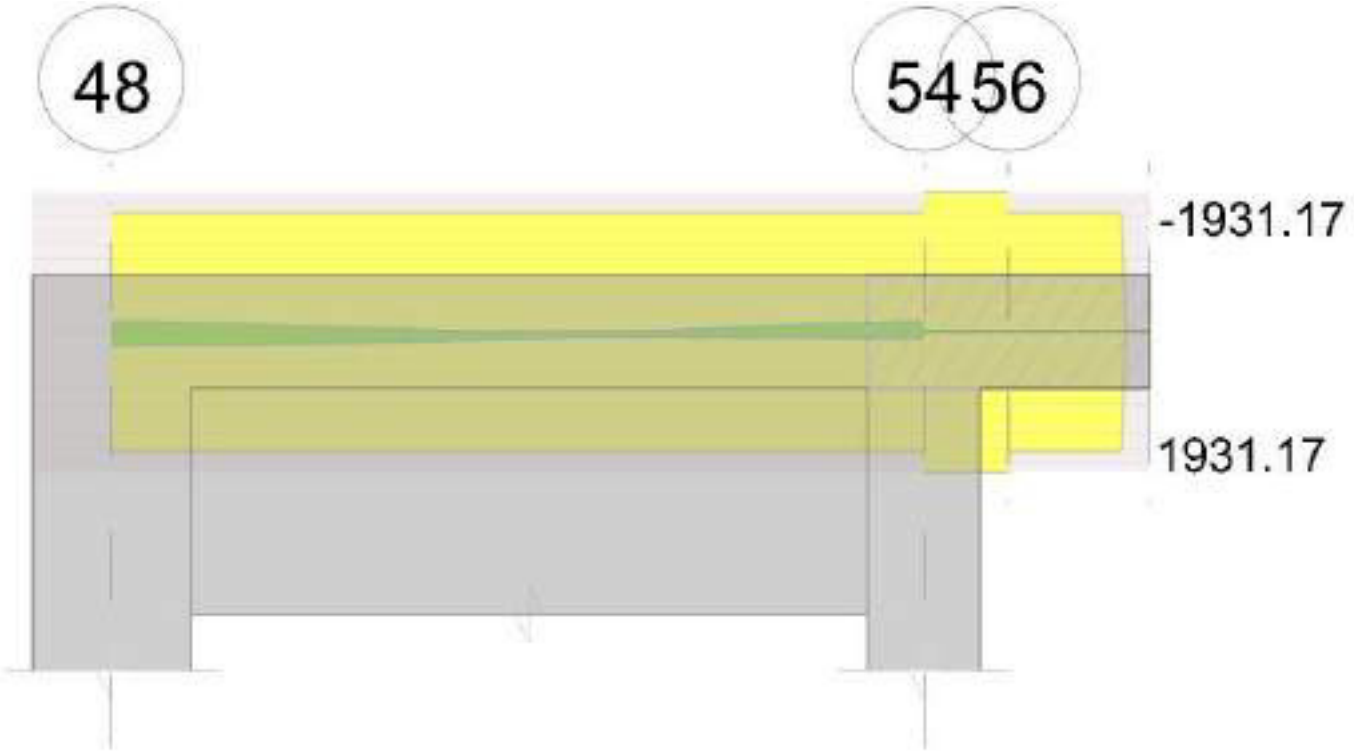


Diagramma verifica stato limite ultimo taglio

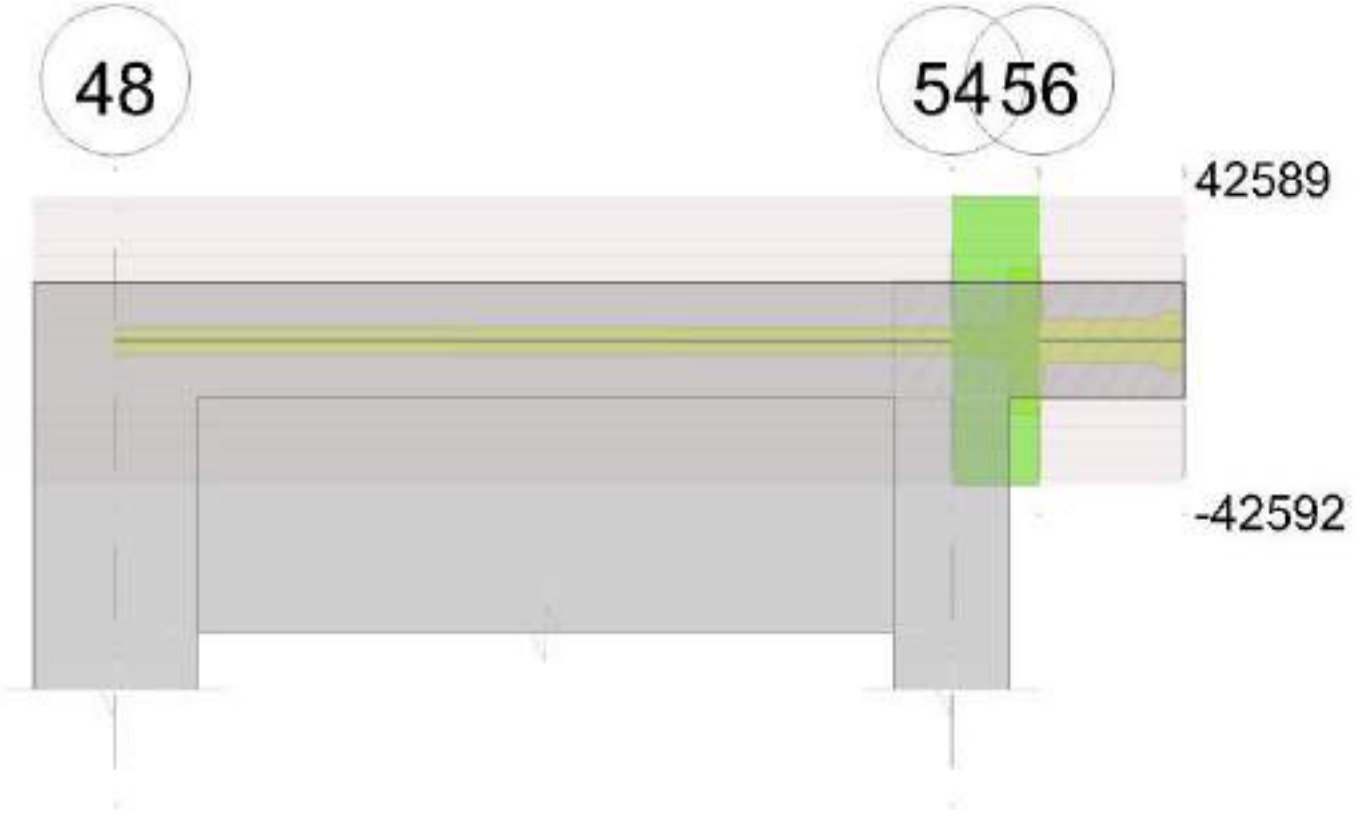
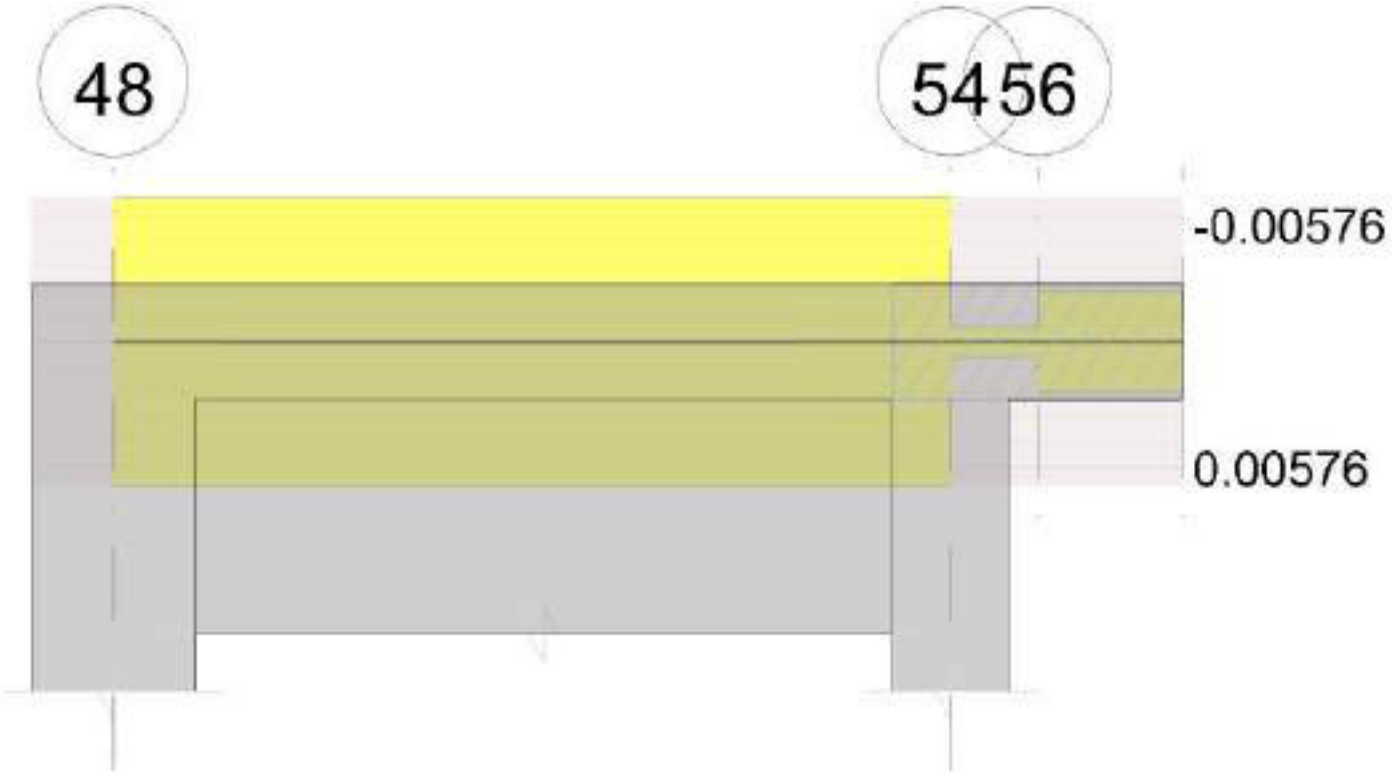


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 2 tra i fili 54 - 56, sezione R 50x20, asta 386; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05							-17.41	SLU 81	-3.72	-1931.17	0.242	519.1	Si
0.07	0.000308	0.05	0.000308	0.05							-2.79	SLU 81	-1.93	-1931.17	0.242	1000.43	Si
0.1	0.000308	0.05	0.000308	0.05	-0.36	SLU 7	0.43	1931.17	0.242	4506.3	-0.54	SLU 81	-0.54	-1931.17	0.242	3592.15	Si
0.15	0.000308	0.05	0.000308	0.05	0.02	SLU 84	0.43	1931.17	0.242	4506.3	0.01	SLU 1	-0.54	-1931.17	0.242	3592.15	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05							-10.03	SLV 2	-2.33	-1931.17	0.242	828.2	Si
0.07	0.000308	0.05	0.000308	0.05							-1.73	SLV 2	-1.24	-1931.17	0.242	1555.3	Si
0.1	0.000308	0.05	0.000308	0.05	-0.36	SLV 13	0.25	1931.17	0.242	7589.93	-0.4	SLV 4	-0.4	-1931.17	0.242	4857.12	Si
0.15	0.000308	0.05	0.000308	0.05	0.1	SLV 14	0.25	1931.17	0.242	7589.93	-0.08	SLV 3	-0.4	-1931.17	0.242	4857.12	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05							-9.94	SLD 2	-2.29	-1931.17	0.242	844.28	Si
0.07	0.000308	0.05	0.000308	0.05							-1.7	SLD 2	-1.22	-1931.17	0.242	1582.49	Si
0.1	0.000308	0.05	0.000308	0.05	-0.36	SLD 15	0.23	1931.17	0.242	8279.94	-0.39	SLD 2	-0.39	-1931.17	0.242	4950.73	Si
0.15	0.000308	0.05	0.000308	0.05	0.07	SLD 13	0.23	1931.17	0.242	8279.94	-0.05	SLD 4	-0.39	-1931.17	0.242	4950.73	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000308	0	274	SLU 81	274	3906	23811	0	3906	1	14.27	Si
0.07	0	0.000308	0	116	SLU 81	116	3906	23811	0	3906	1	33.62	Si
0.1	0.0000402	0.000308	0	64	SLU 81	64	3906	23811	21248	21248	1	333.82	Si
0.15	0.0000402	0.000308	0	-41	SLU 84	-41	-3906	-23811	-21248	-21248	1	513.58	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000308	0	154	Ger.	42589	3906	23811	0	3906	1	0.09	Si
0	0	0.000308	0	149	Ger.	-42420	-3906	-23811	0	-3906	1	0.09	Si
0.07	0	0.000308	0	68	Ger.	42503	3906	23811	0	3906	1	0.09	Si
0.07	0	0.000308	0	63	Ger.	-42506	-3906	-23811	0	-3906	1	0.09	Si
0.1	0.0000402	0.000308	0	39	Ger.	42474	3906	23811	21248	21248	1	0.5	Si
0.1	0.0000402	0.000308	0	34	Ger.	-42535	-3906	-23811	-21248	-21248	1	0.5	Si
0.15	0.0000402	0.000308	0	-19	Ger.	42417	3906	23811	21248	21248	1	0.5	Si
0.15	0.0000402	0.000308	0	-23	Ger.	-42592	-3906	-23811	-21248	-21248	1	0.5	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000308	0	153	SLD 2	153	3906	23811	0	3906	1	25.53	Si
0.07	0	0.000308	0	67	SLD 2	67	3906	23811	0	3906	1	58.55	Si
0.1	0.0000402	0.000308	0	38	SLD 2	38	3906	23811	21248	21248	1	559.97	Si
0.15	0.0000402	0.000308	0	-22	SLD 15	-22	-3906	-23811	-21248	-21248	1	949.1	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-12.12	18	-2.63	738	1494000	11070	36000000	-9.79	2	-2.2	618	1120500			Si
0.07	-1.97	18	-1.38	386	1494000	5793	36000000	-1.65	2	-1.18	330	1120500			Si
0.1	-0.4	18	-0.4	112	1494000	1687	36000000	-0.38	2	-0.38	106	1120500			Si
0.15	0.01	21	0.28	80	1494000	1193	36000000	0.01	2	0.2	56	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.05	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.07	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9999	Si
0.1	0	0	0	0	0	0	0	0	0	0	0	2	0	2	9999	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	86	-42420	-38642	149	86	42589	38639	154
0.07	0	-42506	-38642	63	0	42503	38639	68
0.1	-29	-42535	-38642	34	-29	42474	38639	39
0.15	-86	-42592	-38642	-23	-86	42417	38639	-19

Momenti resistenti a filo appoggi

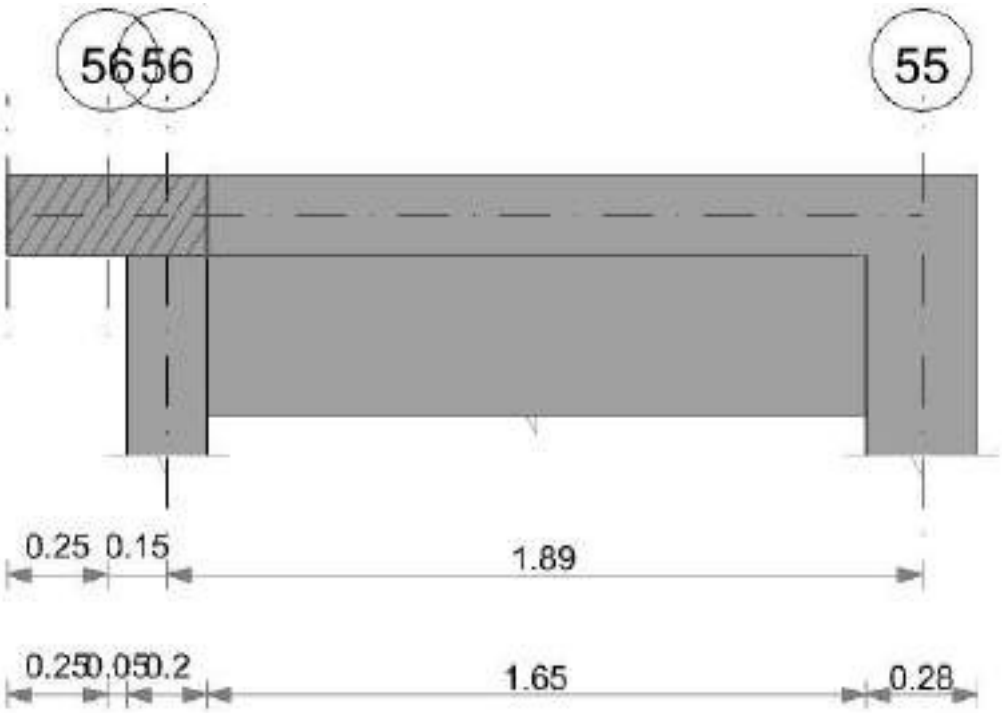
campata	x	appoggio	momento positivo	momento negativo
2	0.1	54	1931.17	-1931.17
2	0.15	56	1931.17	-1931.17

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Secondo" 54-55

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

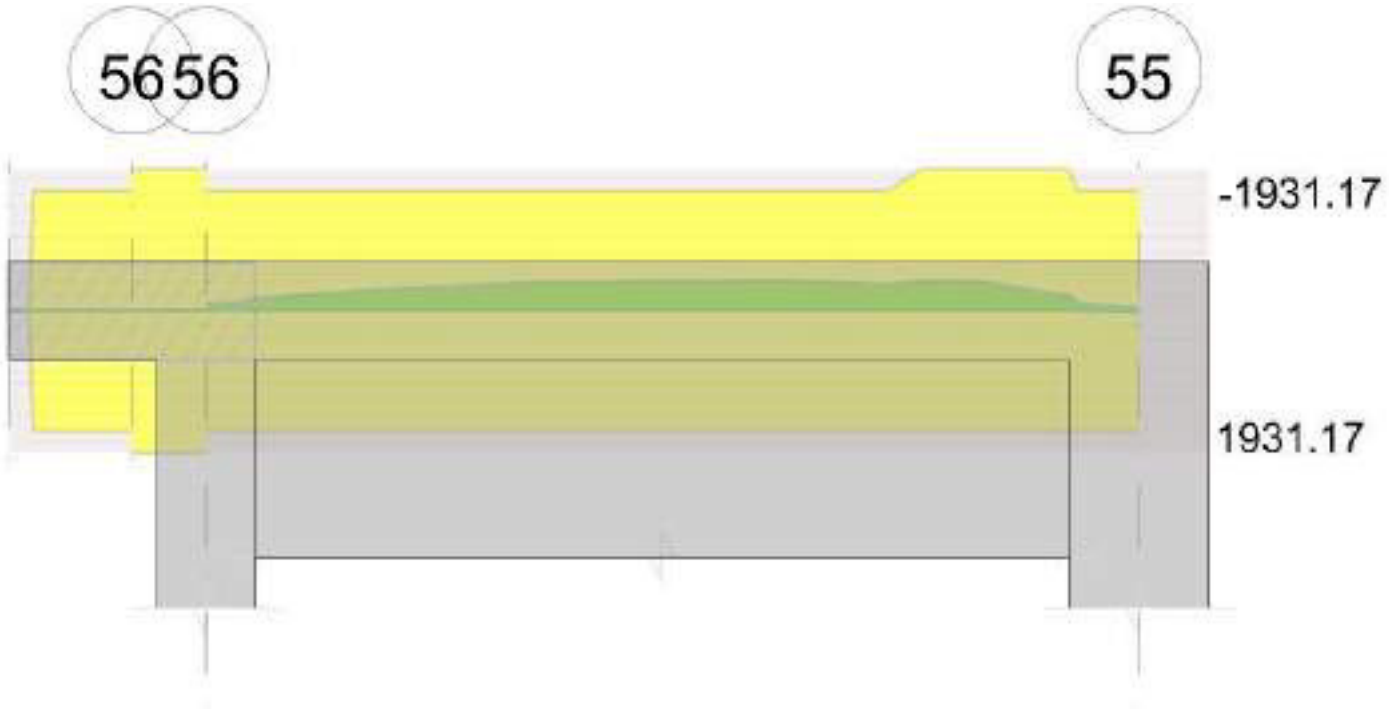


Diagramma verifica stato limite ultimo taglio

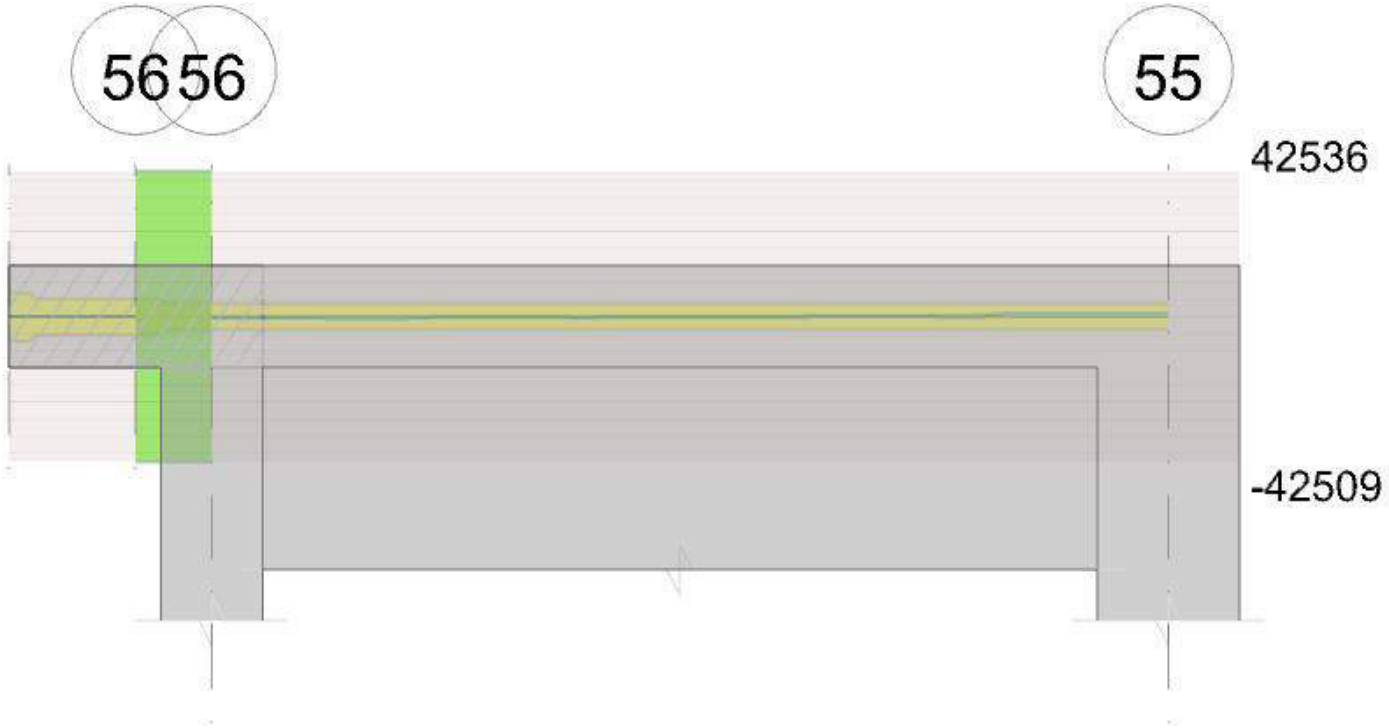


Diagramma verifica stato limite esercizio quasi permanente freccia

Output campate

Campata 2 tra i fili 56 - 56, sezione R 50x20, asta 380; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05	0.04	SLU 84	0.04	1931.17	0.242	+∞	0.02	SLU 3	-2.44	-1931.17	0.242	791.52	Si
0.05	0.000308	0.05	0.000308	0.05	-1.05	SLU 9	0.04	1931.17	0.242	+∞	-2.44	SLU 81	-2.44	-1931.17	0.242	791.52	Si
0.07	0.000308	0.05	0.000308	0.05							-3.98	SLU 81	-3.7	-1931.17	0.242	521.89	Si
0.15	0.000308	0.05	0.000308	0.05							-9.83	SLU 81	-5.32	-1931.17	0.242	362.94	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05	0.13	SLV 15	0.13	1931.17	0.242	15183.26	-0.09	SLV 2	-1.35	-1931.17	0.242	1431.25	Si
0.05	0.000308	0.05	0.000308	0.05	-1.33	SLV 13	0.13	1931.17	0.242	15183.26	-1.35	SLV 4	-1.35	-1931.17	0.242	1431.25	Si
0.07	0.000308	0.05	0.000308	0.05							-2.32	SLV 4	-2.12	-1931.17	0.242	911.64	Si
0.15	0.000308	0.05	0.000308	0.05							-6.18	SLV 4	-3.12	-1931.17	0.242	618.07	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05	0.09	SLD 1	0.09	1931.17	0.242	+∞	-0.05	SLD 16	-1.35	-1931.17	0.242	1434.16	Si
0.05	0.000308	0.05	0.000308	0.05	-1.34	SLD 13	0.09	1931.17	0.242	+∞	-1.35	SLD 4	-1.35	-1931.17	0.242	1434.16	Si
0.07	0.000308	0.05	0.000308	0.05							-2.3	SLD 4	-2.11	-1931.17	0.242	914.95	Si
0.15	0.000308	0.05	0.000308	0.05							-6.09	SLD 4	-3.09	-1931.17	0.242	624.35	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000101	0.000308	0	-41	SLU 84	-41	-3906	-23811	-5311	-5311	1	128.36	Si
0.05	0.0000101	0.000308	0	-58	SLU 84	-58	-3906	-23811	-5311	-5311	1	92.16	Si
0.07	0	0.000308	0	-66	SLU 84	-66	-3906	-23811	0	-3906	1	59.41	Si
0.15	0	0.000308	0	-90	SLU 84	-90	-3906	-23811	0	-3906	1	43.35	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000101	0.000308	0	-19	Ger.	42536	3906	23811	5311	5311	1	0.12	Si
0	0.0000101	0.000308	0	-23	Ger.	-42471	-3906	-23811	-5311	-5311	1	0.13	Si
0.05	0.0000101	0.000308	0	-31	Ger.	42523	3906	23811	5311	5311	1	0.12	Si
0.05	0.0000101	0.000308	0	-36	Ger.	-42484	-3906	-23811	-5311	-5311	1	0.13	Si
0.05	0	0.000308	0	-32	Ger.	42522	3906	23811	0	3906	1	0.09	Si
0.05	0	0.000308	0	-37	Ger.	-42485	-3906	-23811	0	-3906	1	0.09	Si
0.07	0	0.000308	0	-37	Ger.	42517	3906	23811	0	3906	1	0.09	Si
0.07	0	0.000308	0	-42	Ger.	-42490	-3906	-23811	0	-3906	1	0.09	Si
0.15	0	0.000308	0	-56	Ger.	42498	3906	23811	0	3906	1	0.09	Si
0.15	0	0.000308	0	-61	Ger.	-42509	-3906	-23811	0	-3906	1	0.09	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000101	0.000308	0	-22	SLD 4	-22	-3906	-23811	-5311	-5311	1	236.76	Si
0.05	0.0000101	0.000308	0	-35	SLD 4	-35	-3906	-23811	-5311	-5311	1	152.04	Si
0.07	0	0.000308	0	-41	SLD 4	-41	-3906	-23811	0	-3906	1	94.86	Si
0.15	0	0.000308	0	-60	SLD 4	-60	-3906	-23811	0	-3906	1	65.18	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	0.02	21	0.02	7	1494000	103	36000000	0.02	2	0.02	6	1120500			Si

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0.05	-1.69	18	-1.69	474	1494000	7106	36000000	-1.34	2	-1.34	376	1120500			Si
0.07	-2.78	18	-2.57	722	1494000	10836	36000000	-2.26	2	-2.07	582	1120500			Si
0.15	-6.99	18	-3.71	1042	1494000	15631	36000000	-5.94	2	-3.02	846	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.05	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.07	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si
0.09	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9999	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	19	-42471	-38627	-23	19	42536	38652	-19
0.05	6	-42484	-38627	-36	6	42523	38652	-31
0.07	0	-42490	-38627	-42	0	42517	38652	-37
0.15	-19	-42509	-38627	-61	-19	42498	38652	-56

Momenti resistenti a filo appoggi

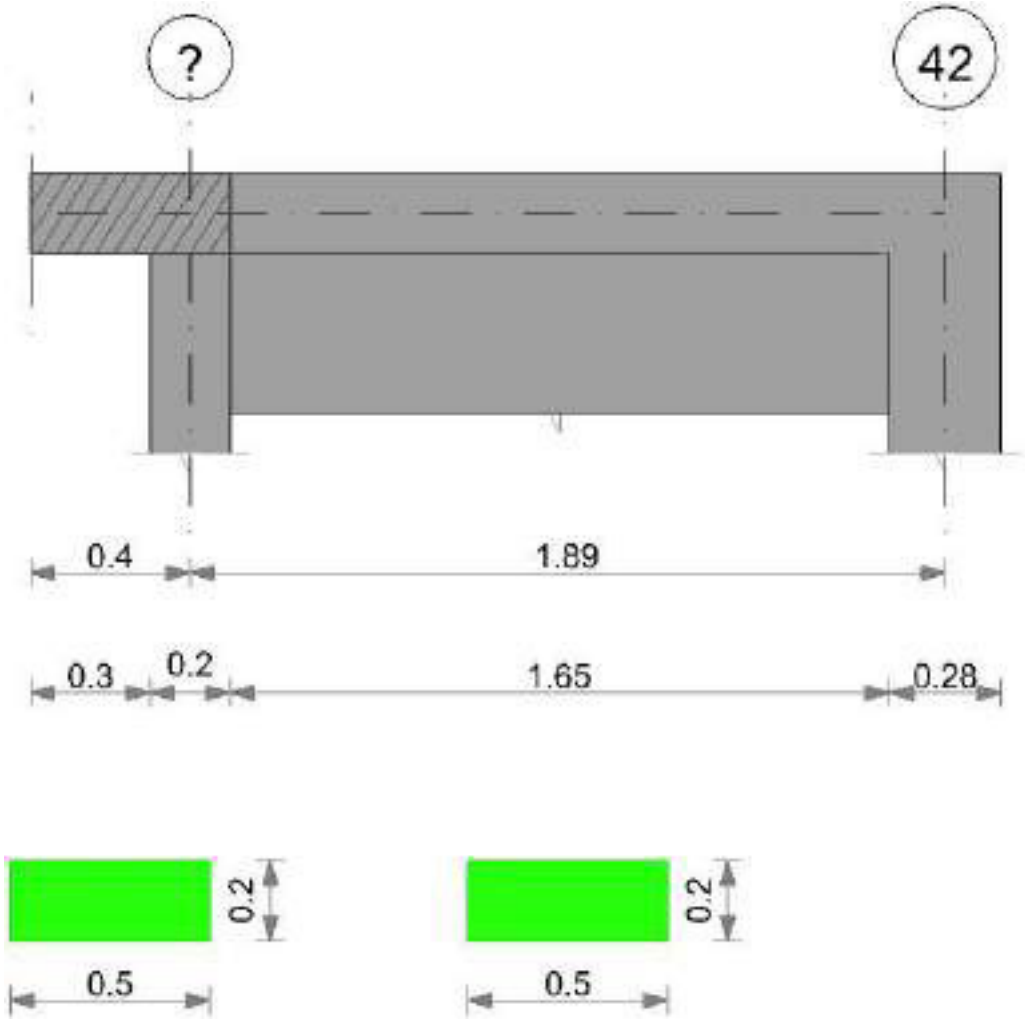
campata	x	appoggio	momento positivo	momento negativo
2	0	56	1931.17	-1931.17
2	0.05	56	1931.17	-1931.17

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 48-42

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

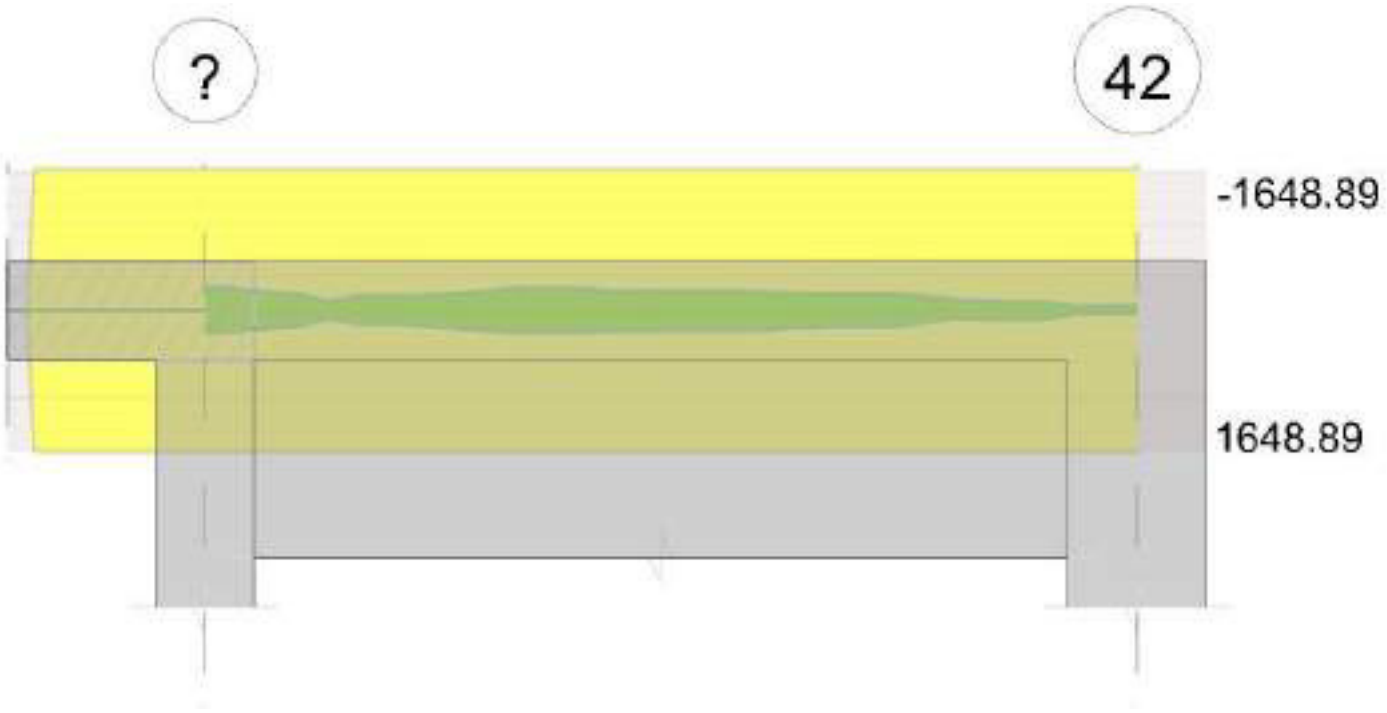


Diagramma verifica stato limite ultimo taglio

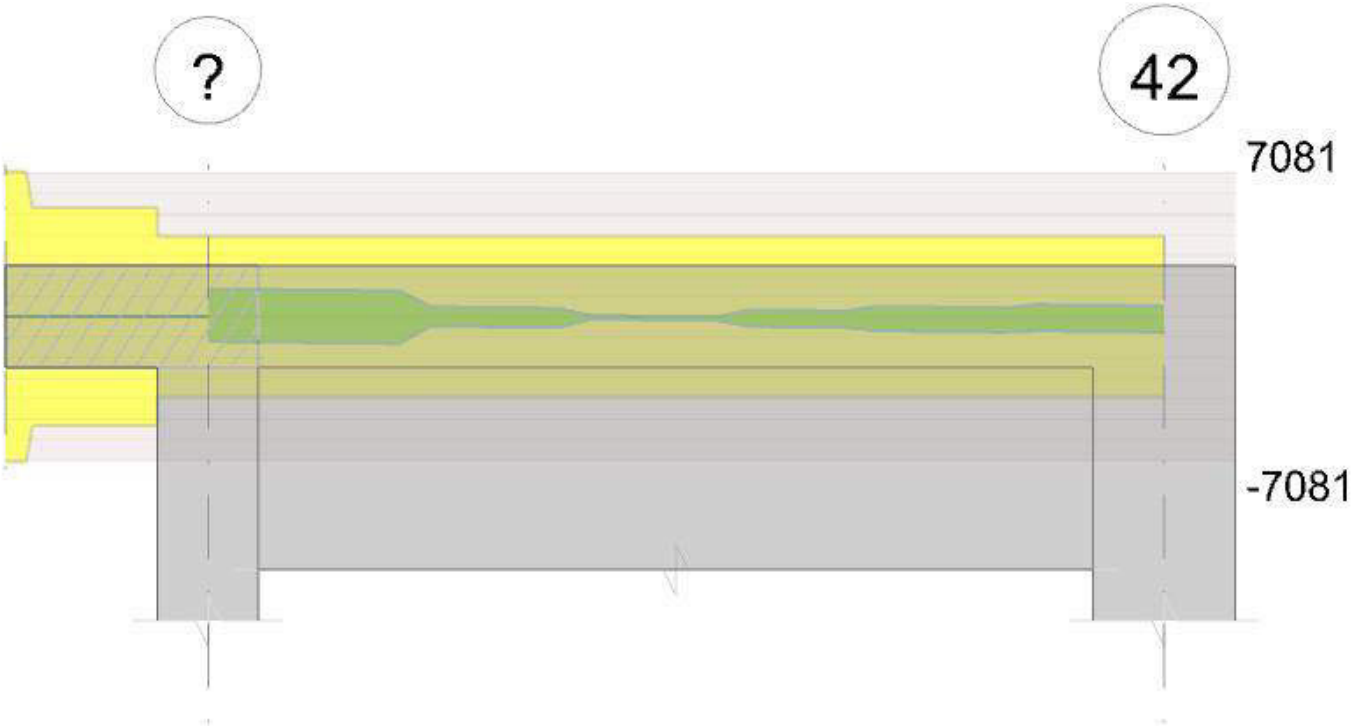


Diagramma verifica stato limite esercizio quasi permanente freccia

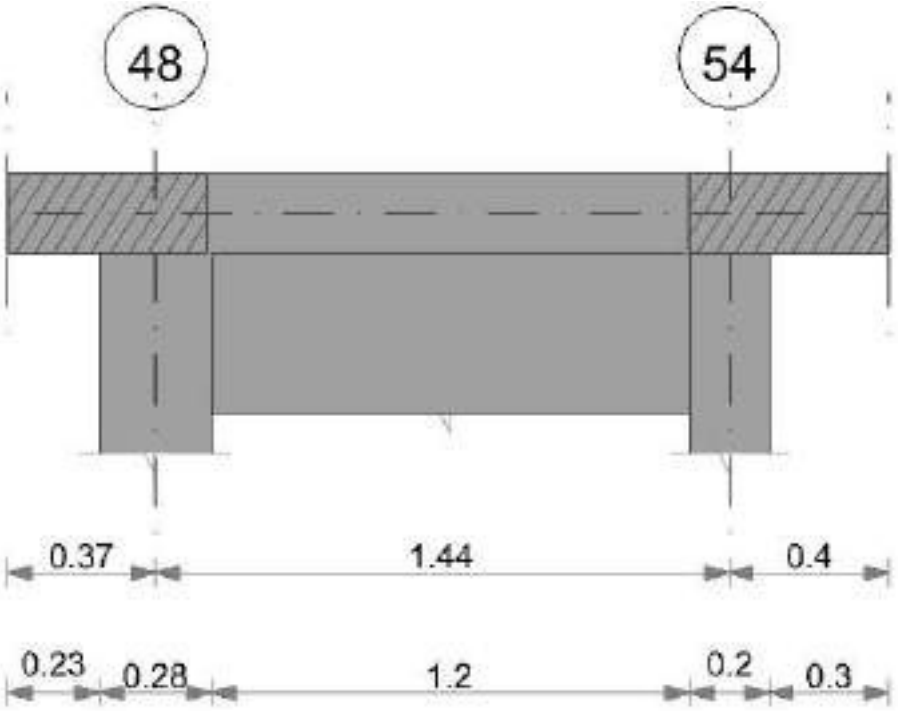
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 48-56

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

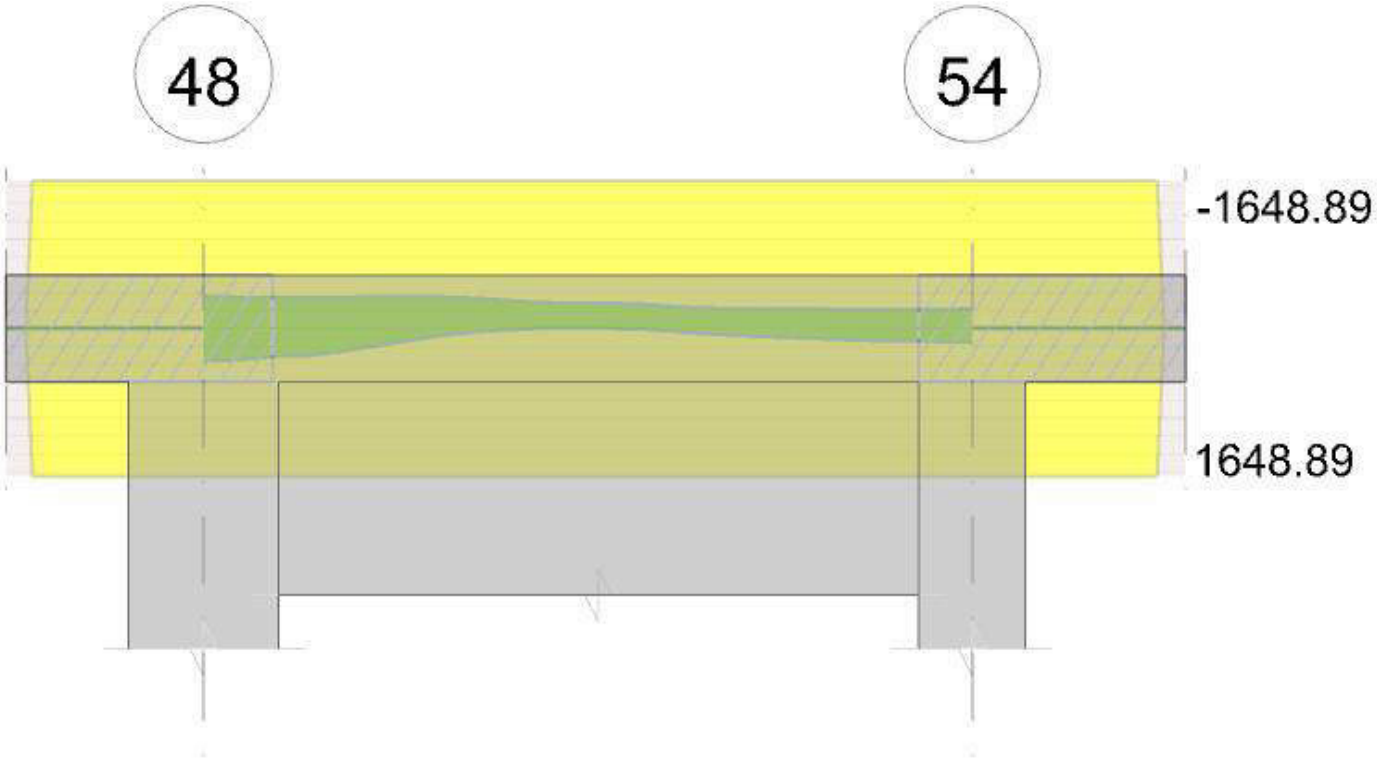


Diagramma verifica stato limite ultimo taglio

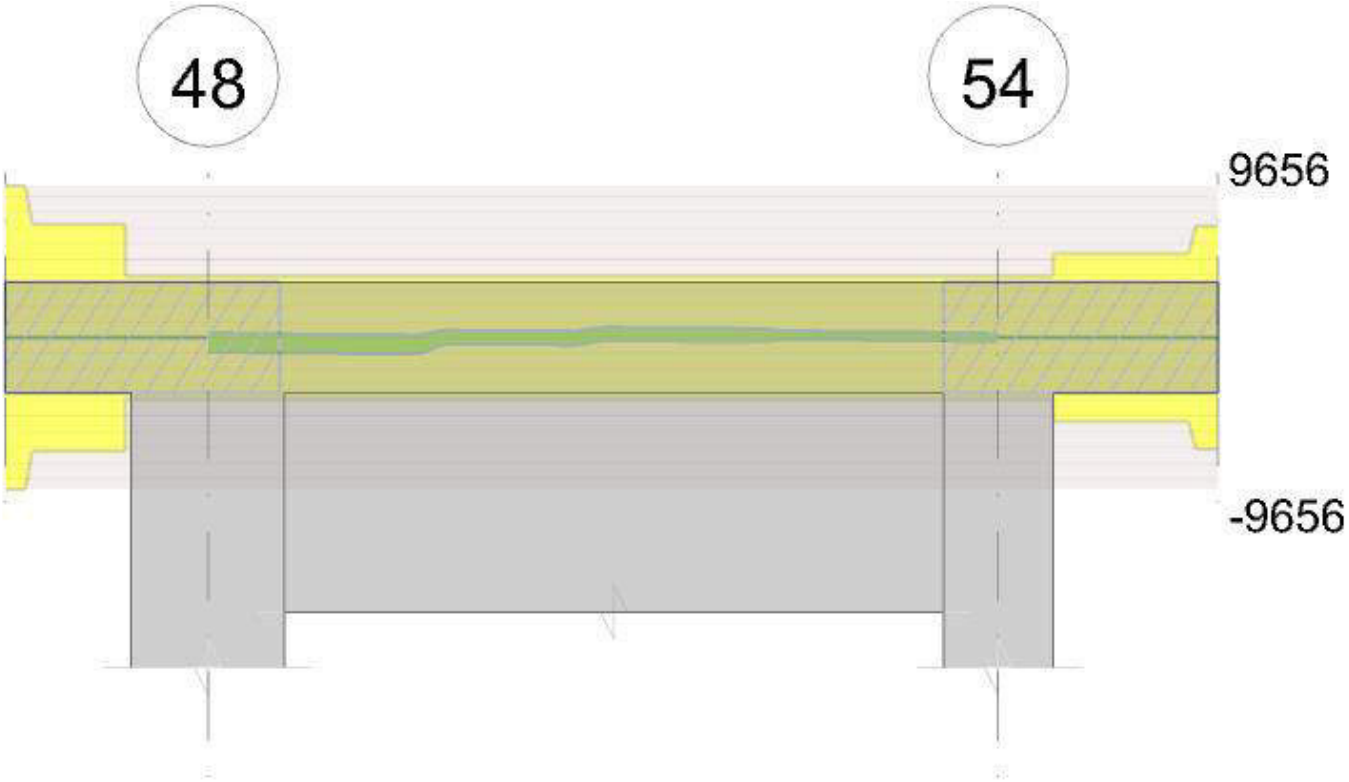
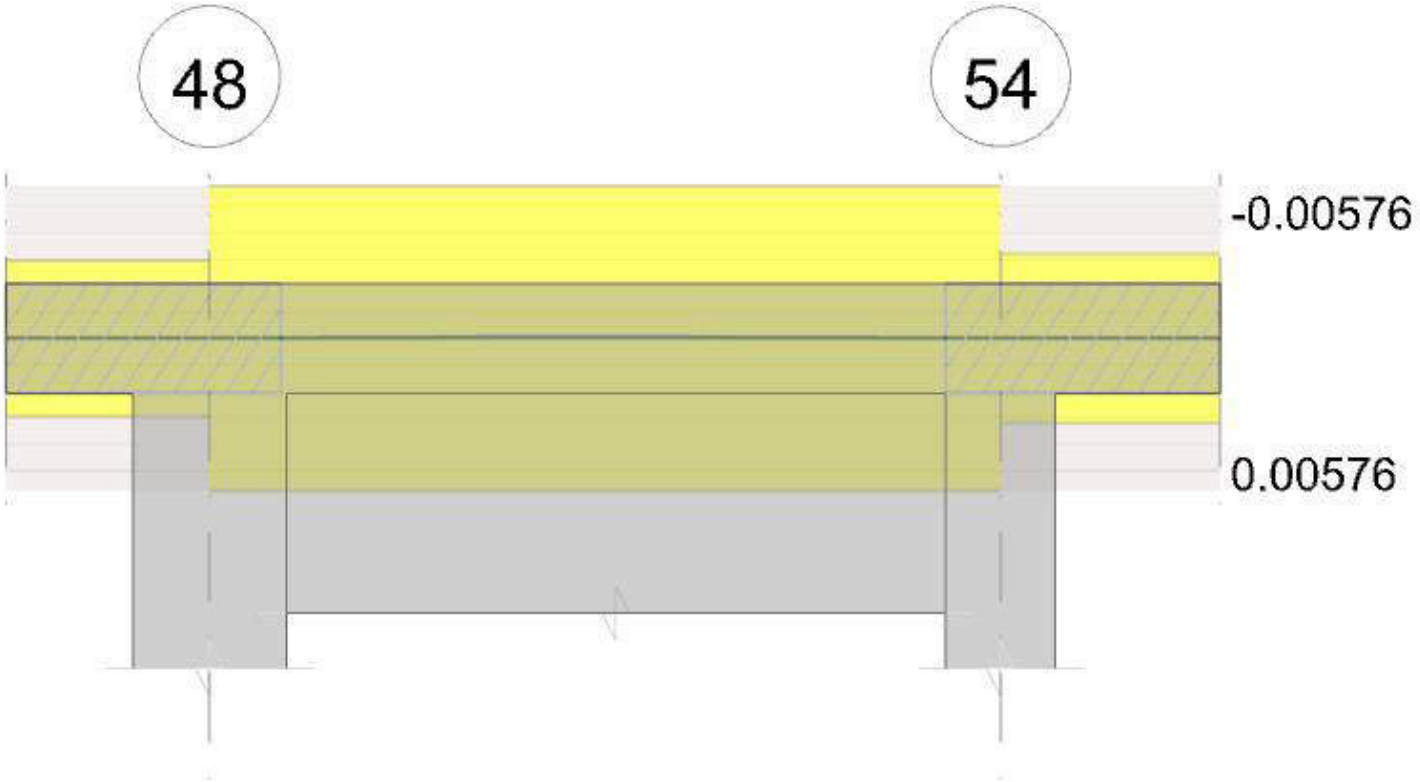


Diagramma verifica stato limite esercizio quasi permanente freccia



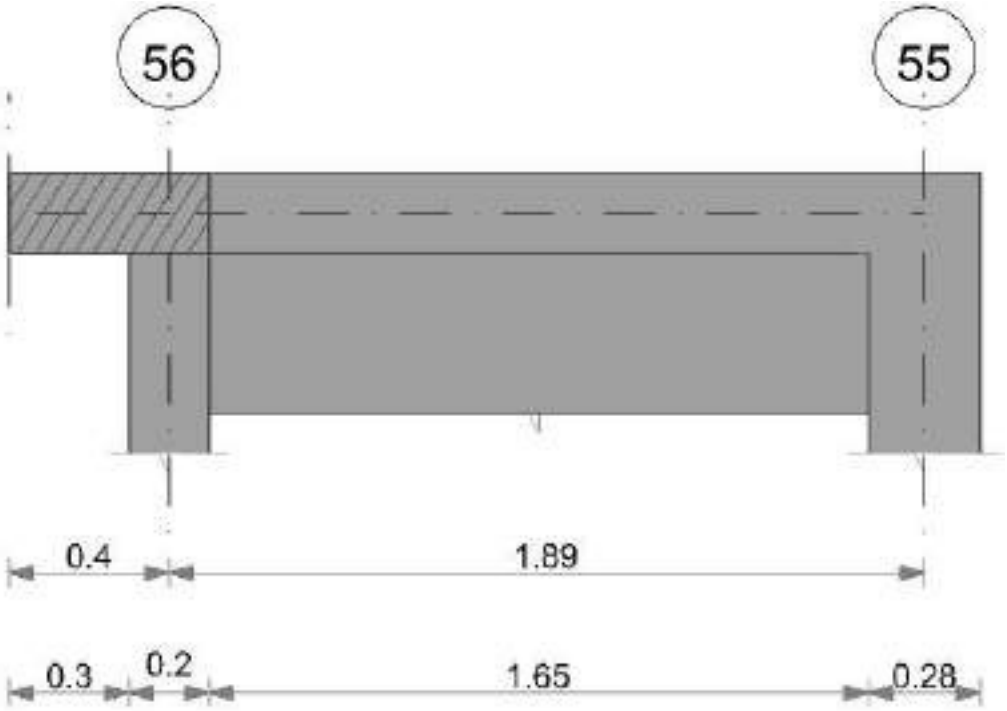
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 54-55

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

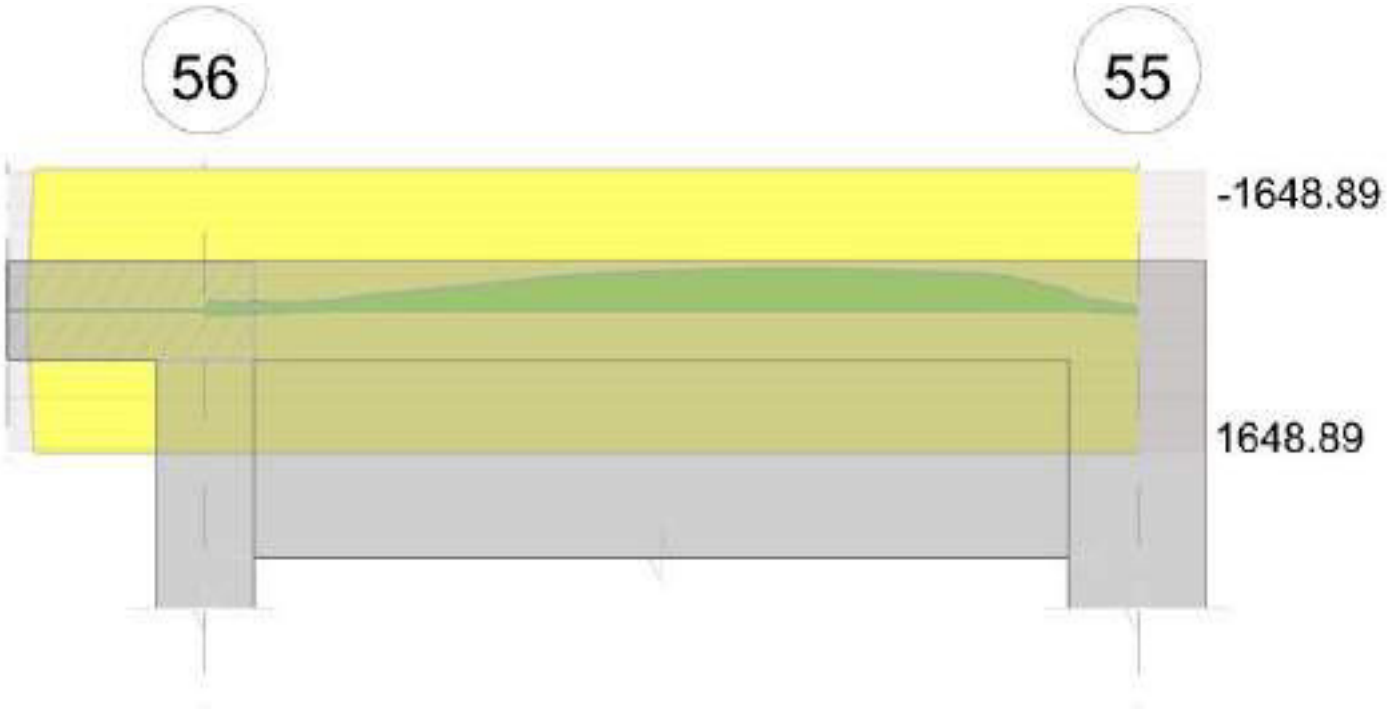


Diagramma verifica stato limite ultimo taglio

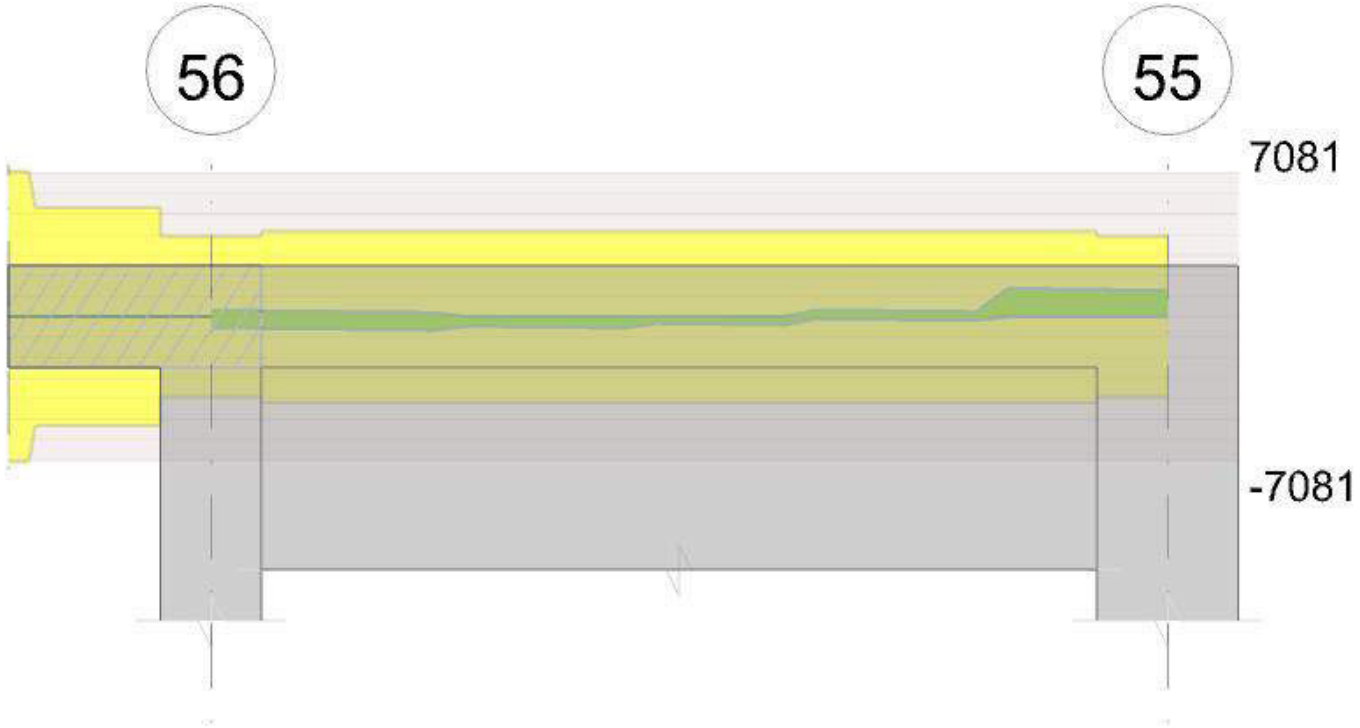


Diagramma verifica stato limite esercizio quasi permanente freccia

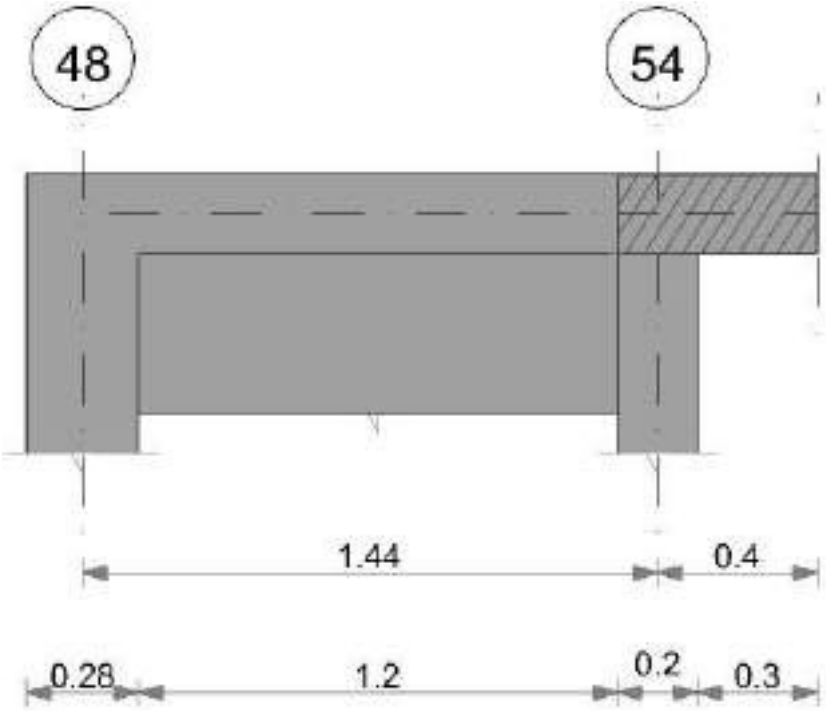
Output campate

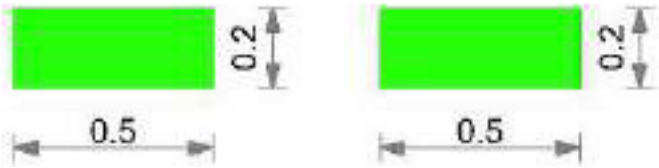
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Terzo" 48-56

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

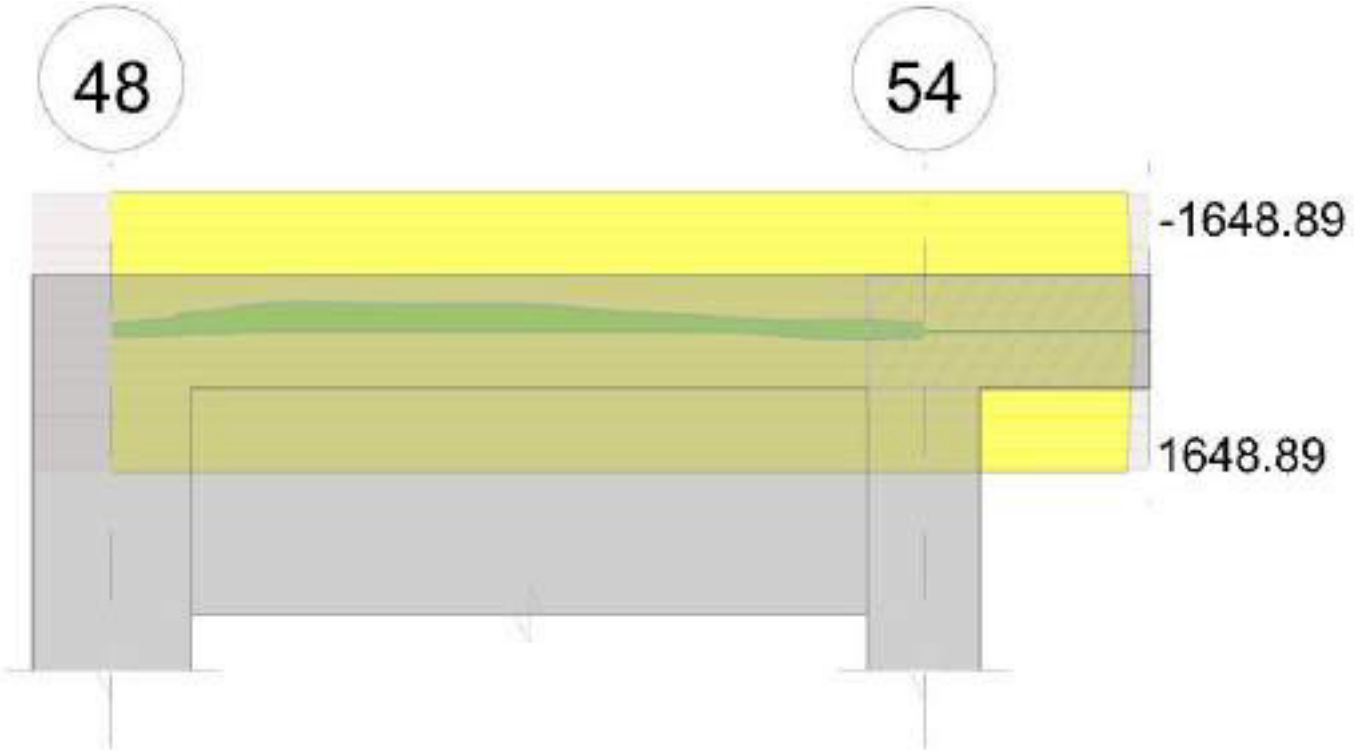


Diagramma verifica stato limite ultimo taglio

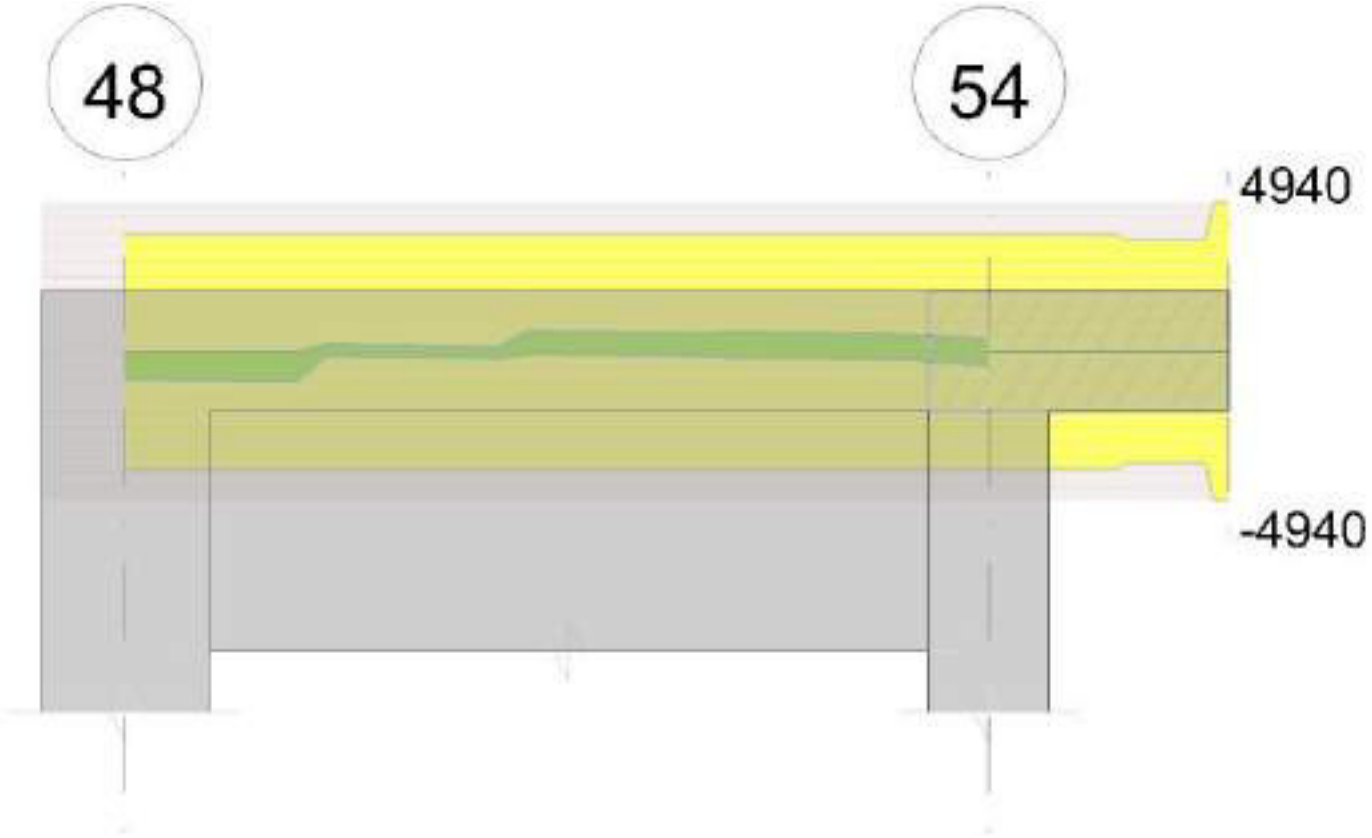
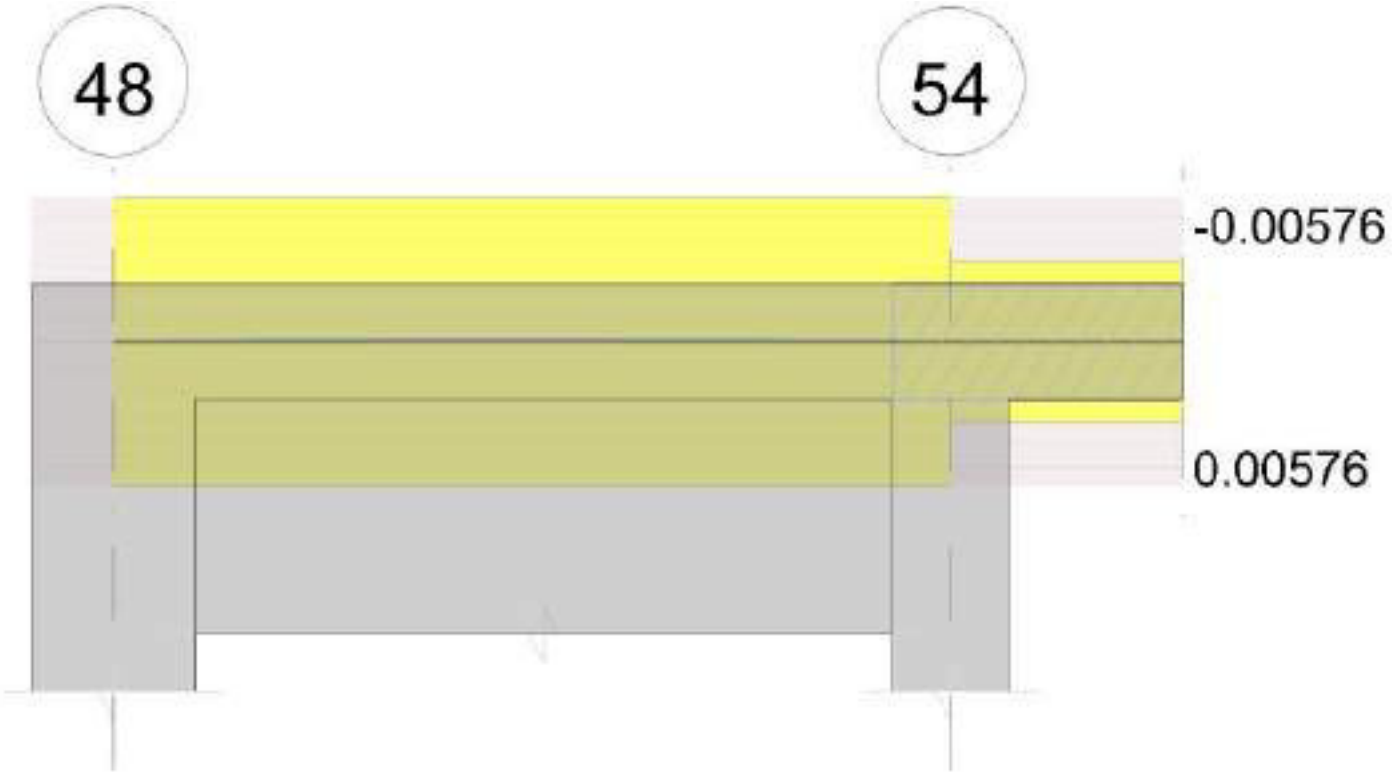


Diagramma verifica stato limite esercizio quasi permanente freccia



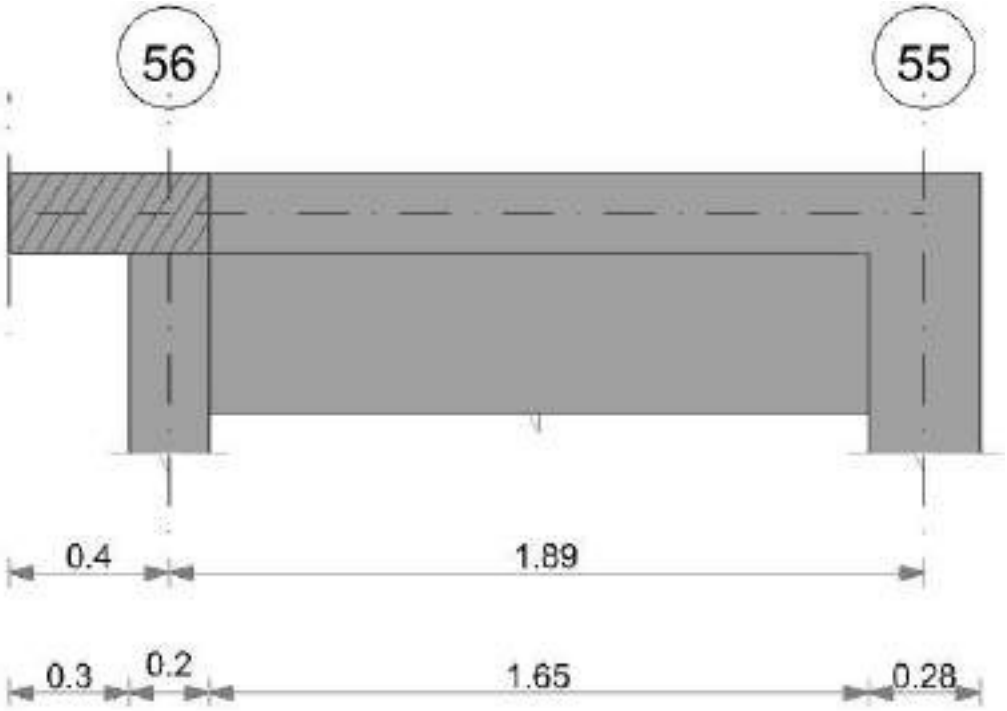
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Terzo" 54-55

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

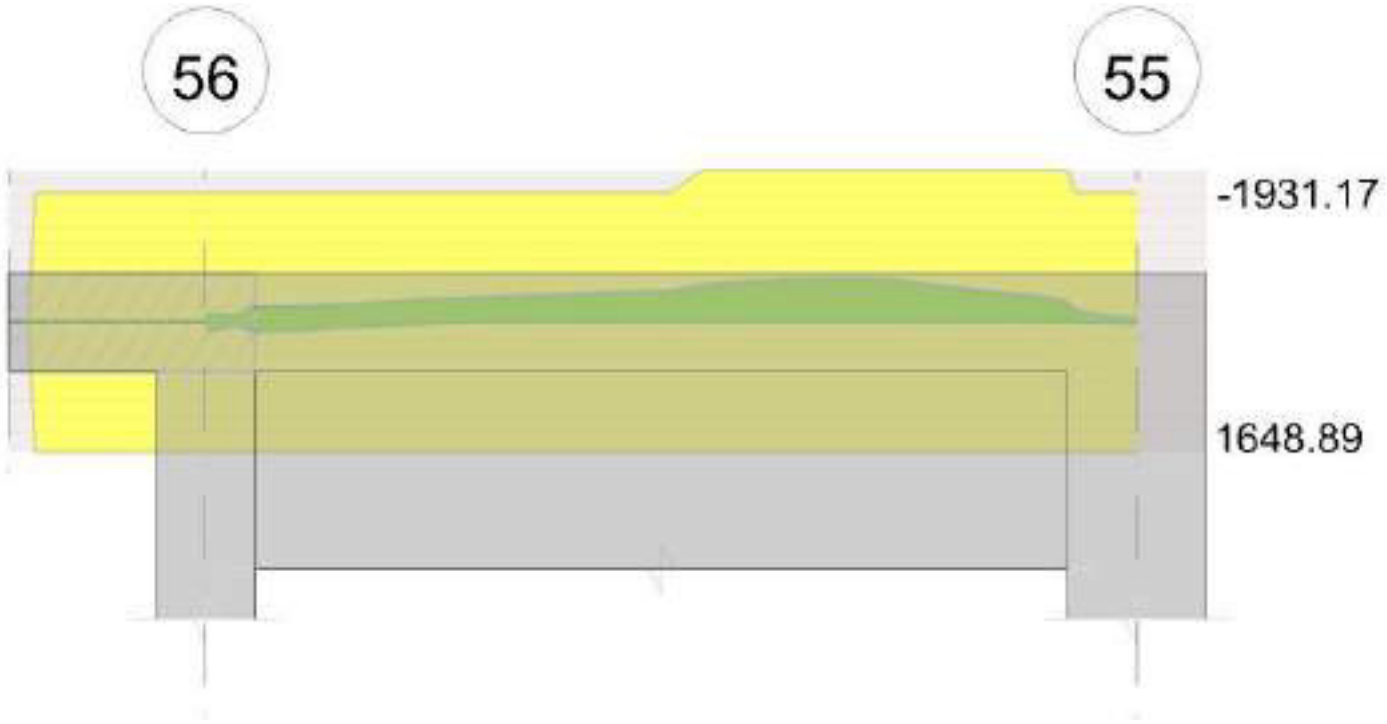


Diagramma verifica stato limite ultimo taglio

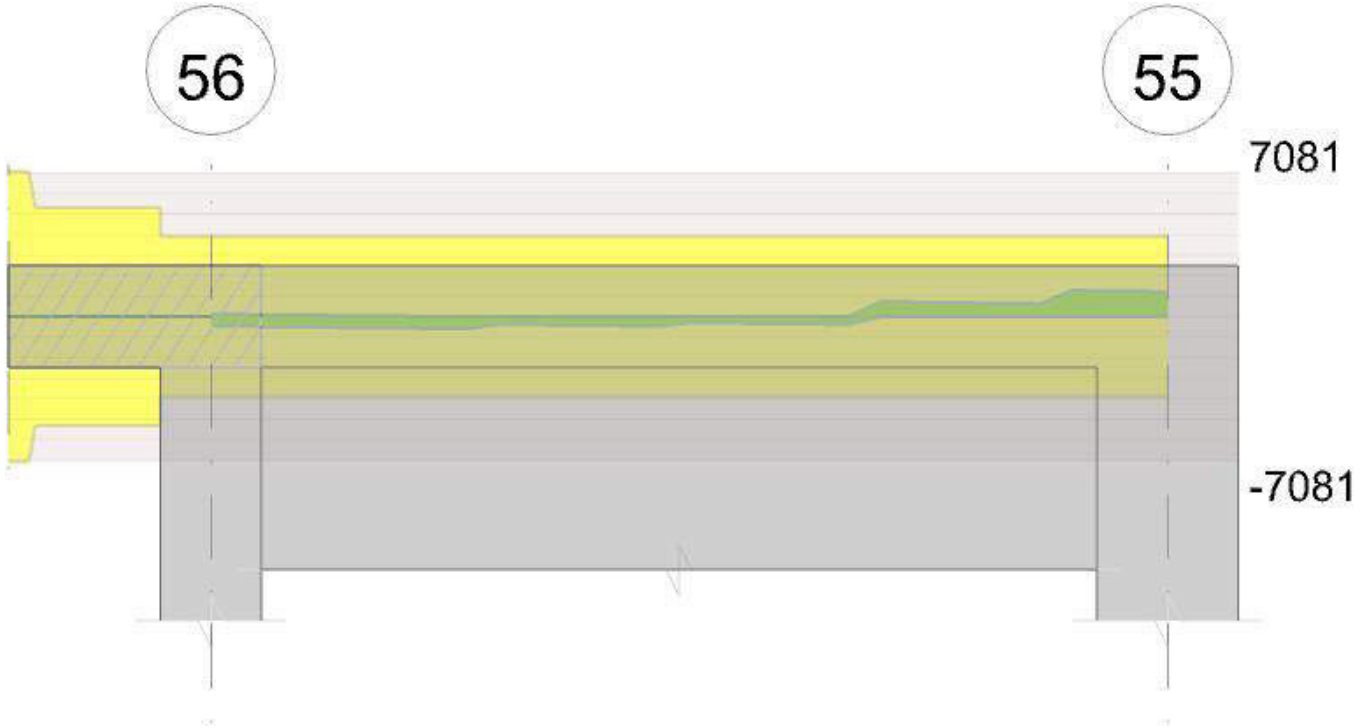


Diagramma verifica stato limite esercizio quasi permanente freccia

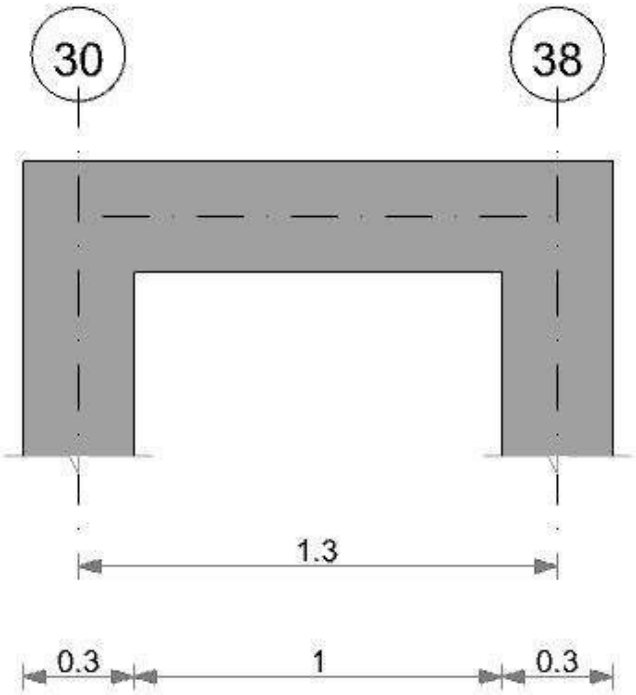
Output campate

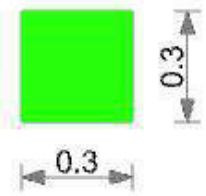
Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

TRAVE PIANO TERRA

Geometria





Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 30x30	Rettangolare	0.3	0.3	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

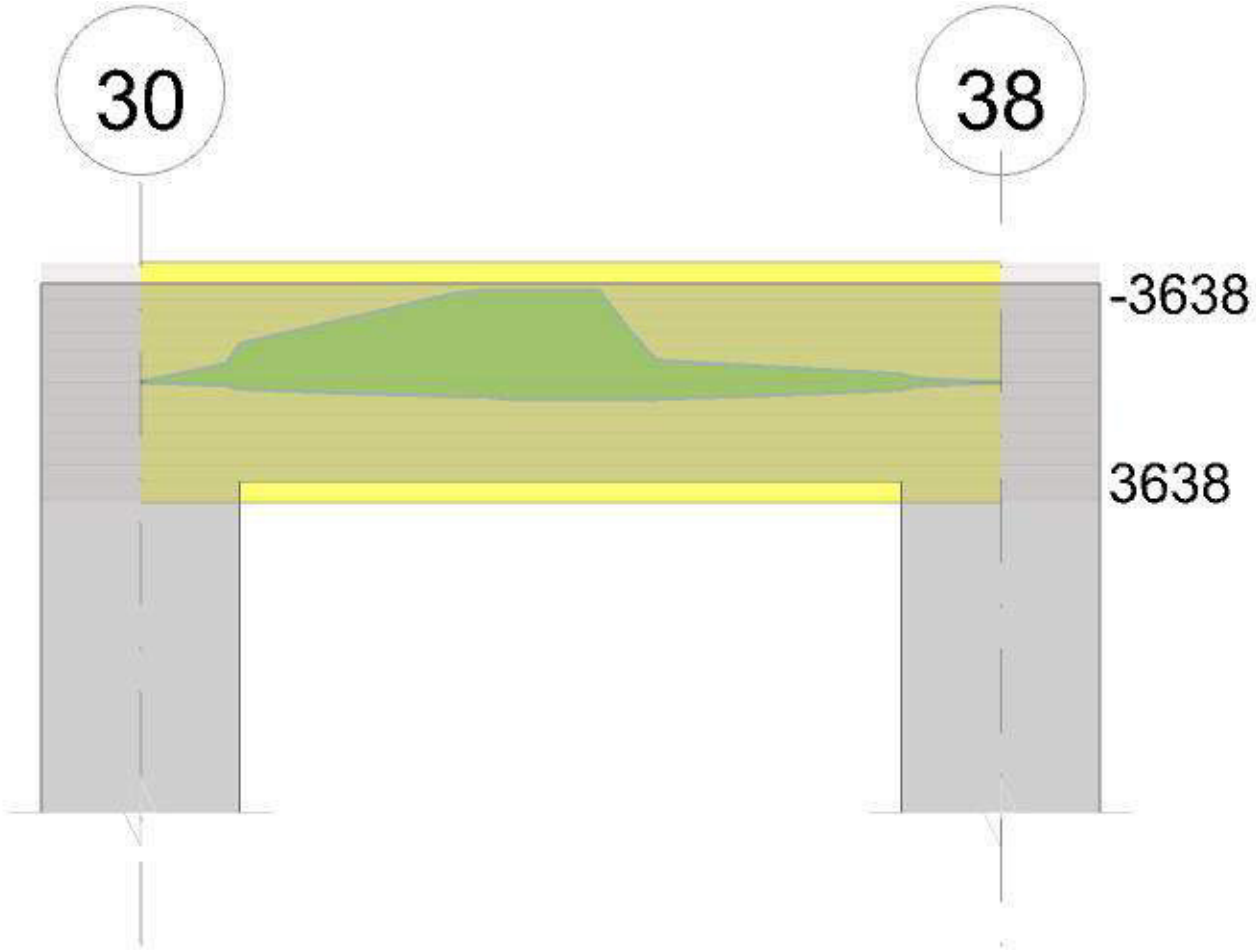


Diagramma verifica stato limite ultimo taglio

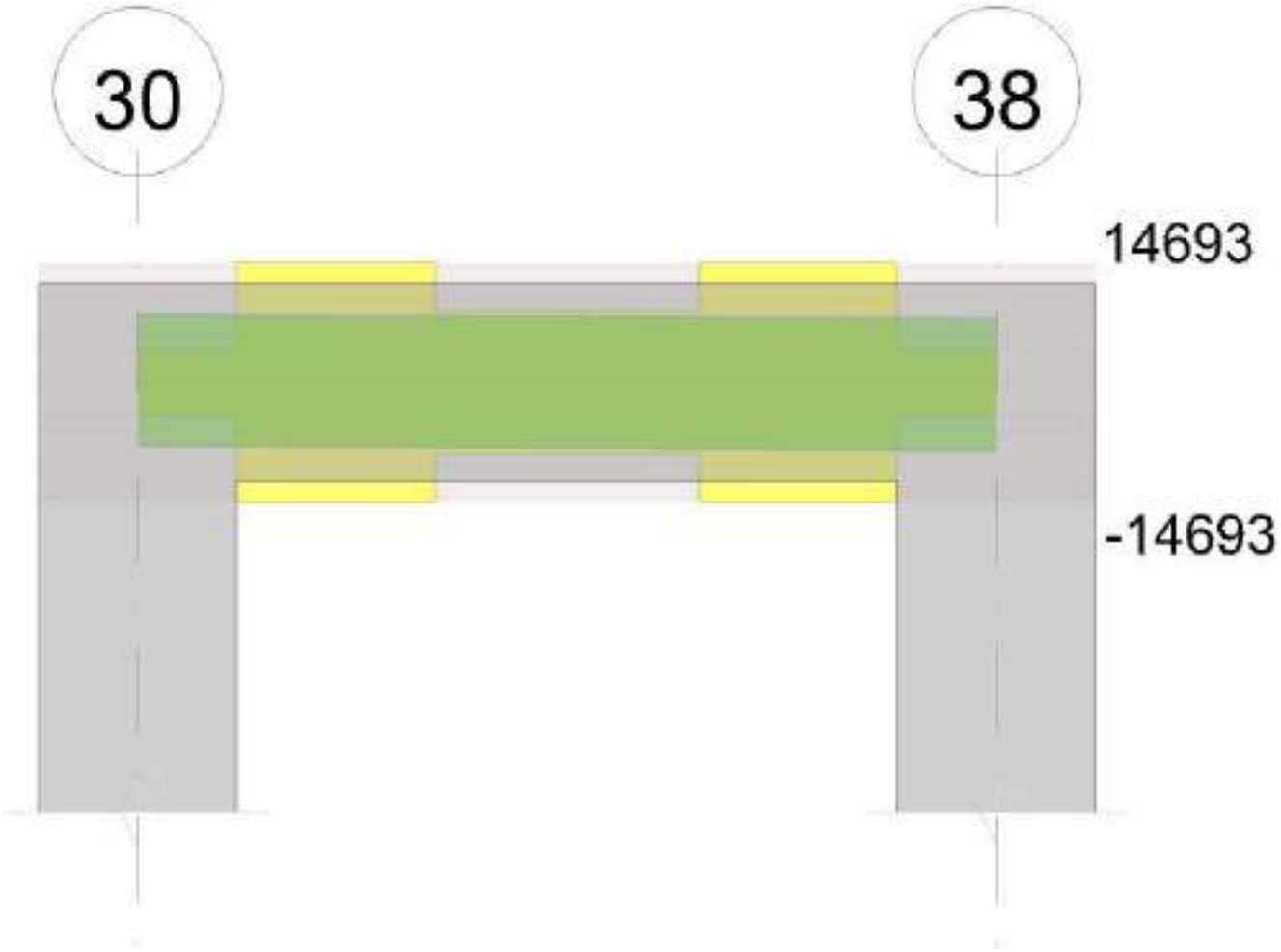
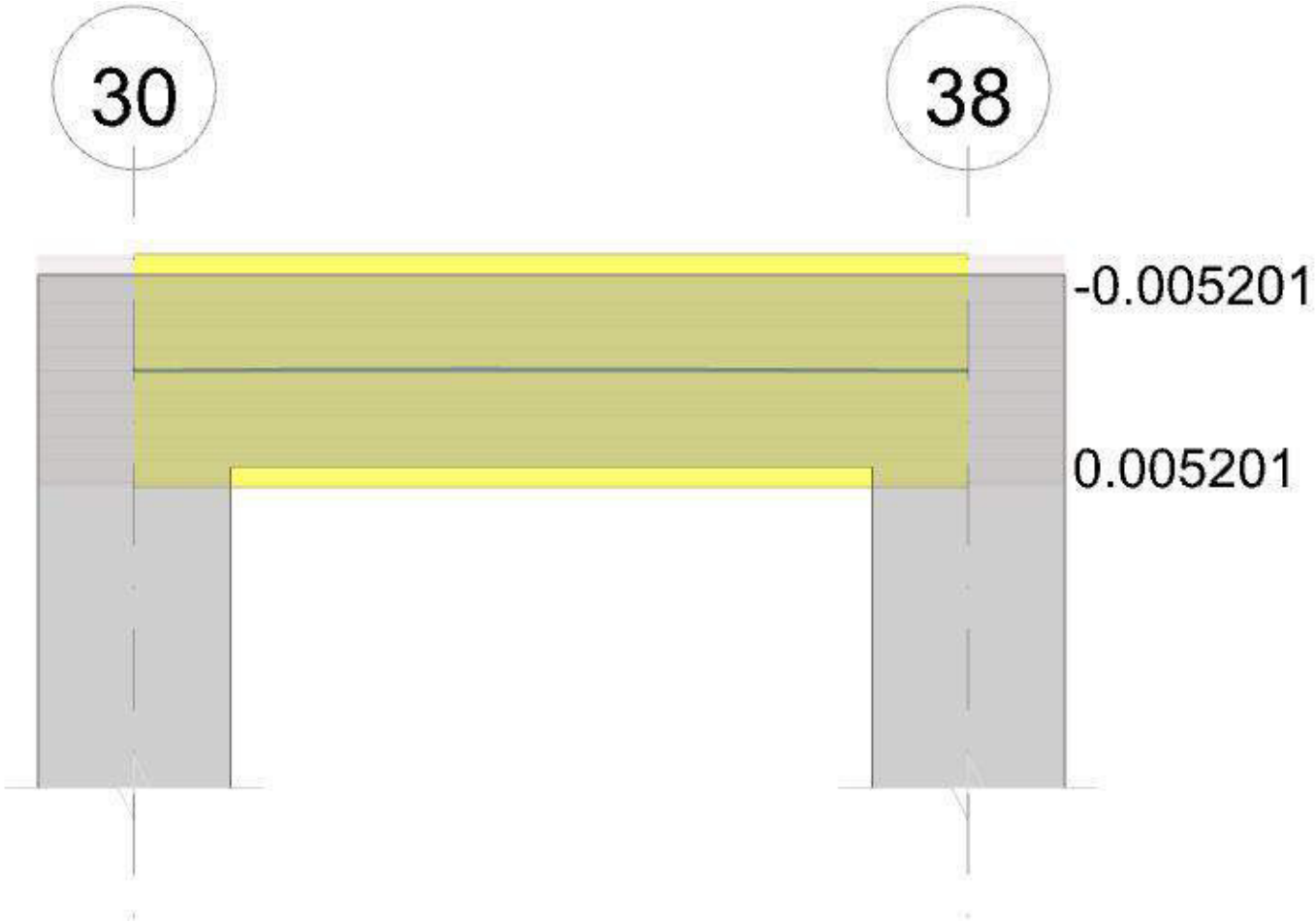


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili 30 - 38, sezione R 30x30, aste 769, 770; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	0.63	SLU 27	0.63	3638	0.198	5807.87	-0.55	SLU 52	-0.55	-3638	0.198	6601.77	Si
0.15	0.000402	0.051	0.000402	0.051							-391.81	SLU 77	-698.41	-3638	0.198	5.21	Si
0.61	0.000402	0.051	0.000402	0.051	-1051.9	SLU 2	126.68	3638	0.198	28.72	-1714.62	SLU 77	-1714.62	-3638	0.198	2.12	Si
0.65	0.000402	0.051	0.000402	0.051	119.7	SLU 42	128.8	3638	0.198	28.24	-214.24	SLU 43	-1714.62	-3638	0.198	2.12	Si
1.15	0.000402	0.051	0.000402	0.051	64.59	SLU 42	98.59	3638	0.198	36.9	-31.53	SLU 43	-62.02	-3638	0.198	58.66	Si
1.3	0.000402	0.051	0.000402	0.051							-0.54	SLU 83	-0.54	-3638	0.198	6687.96	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	10.42	SLV 11	10.42	3638	0.198	349.08	-10.29	SLV 6	-10.29	-3638	0.198	353.41	Si
0.15	0.000402	0.051	0.000402	0.051	118.15	SLV 6	206.3	3638	0.198	17.63	-664.24	SLV 11	-1175.63	-3638	0.198	3.09	Si
0.61	0.000402	0.051	0.000402	0.051	436.77	SLV 6	521.09	3638	0.198	6.98	-2789.54	SLV 11	-2789.54	-3638	0.198	1.3	Si
0.65	0.000402	0.051	0.000402	0.051	521.09	SLV 13	521.09	3638	0.198	6.98	-689.39	SLV 4	-2789.54	-3638	0.198	1.3	Si
1.15	0.000402	0.051	0.000402	0.051	138.87	SLV 13	235.76	3638	0.198	15.43	-139.29	SLV 4	-251.3	-3638	0.198	14.48	Si
1.3	0.000402	0.051	0.000402	0.051	0.67	SLV 2	0.67	3638	0.198	5469.15	-1.2	SLV 15	-1.2	-3638	0.198	3029.65	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	6.22	SLD 11	6.22	3638	0.198	584.65	-6.09	SLD 6	-6.09	-3638	0.198	596.89	Si
0.15	0.000402	0.051	0.000402	0.051							-508.34	SLD 11	-900.23	-3638	0.198	4.04	Si
0.61	0.000402	0.051	0.000402	0.051	-206.27	SLD 6	301.71	3638	0.198	12.06	-2146.5	SLD 11	-2146.5	-3638	0.198	1.69	Si
0.65	0.000402	0.051	0.000402	0.051	301.71	SLD 13	301.71	3638	0.198	12.06	-470.01	SLD 4	-2146.5	-3638	0.198	1.69	Si
1.15	0.000402	0.051	0.000402	0.051	88.46	SLD 13	147.48	3638	0.198	24.67	-88.87	SLD 4	-163.02	-3638	0.198	22.32	Si
1.3	0.000402	0.051	0.000402	0.051	0.33	SLD 2	0.33	3638	0.198	11188.34	-0.86	SLD 15	-0.86	-3638	0.198	4226.44	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	-2550	SLU 69	-2550	-4038	-23715	0	-4038	1	1.58	Si
0.13	0	0.000402	0	-2665	SLU 77	-2665	-4038	-23715	0	-4038	1	1.51	Si
0.15	0.0000168	0.000402	0	-2684	SLU 77	-2684	-4038	-23715	-14693	-14693	1	5.47	Si
0.65	0.00001	0.000402	0	486	SLU 43	486	4038	23715	8812	8812	1	18.14	Si
1.15	0.0000168	0.000402	0	245	SLU 43	245	4038	23715	14693	14693	1	59.98	Si
1.15	0.0000168	0.000402	0	-359	SLU 42	-359	-4038	-23715	-14693	-14693	1	40.87	Si
1.3	0	0.000402	0	173	SLU 43	173	4038	23715	0	4038	1	23.38	Si
1.3	0	0.000402	0	-509	SLU 42	-509	-4038	-23715	0	-4038	1	7.93	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	894	Ger.	8340	4038	23715	0	4038	1	0.48	Si

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	-4457	Ger.	-7665	-4038	-23715	0	-4038	1	0.53	Si
0.15	0.0000168	0.000402	0	816	Ger.	8261	4038	23715	14693	14693	1	1.78	Si
0.15	0.0000168	0.000402	0	-4535	Ger.	-7743	-4038	-23715	-14693	-14693	1	1.9	Si
0.65	0.00001	0.000402	0	1230	Ger.	8002	4038	23715	8812	8812	1	1.1	Si
0.65	0.00001	0.000402	0	-635	Ger.	-8002	-4038	-23715	-8812	-8812	1	1.1	Si
1.15	0.0000168	0.000402	0	971	Ger.	7743	4038	23715	14693	14693	1	1.9	Si
1.15	0.0000168	0.000402	0	-894	Ger.	-8261	-4038	-23715	-14693	-14693	1	1.78	Si
1.3	0	0.000402	0	893	Ger.	7665	4038	23715	0	4038	1	0.53	Si
1.3	0	0.000402	0	-971	Ger.	-8340	-4038	-23715	0	-4038	1	0.48	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000402	0	-3391	SLD 11	-3391	-4038	-23715	0	-4038	1	1.19	Si
0.13	0	0.000402	0	-3458	SLD 11	-3458	-4038	-23715	0	-4038	1	1.17	Si
0.15	0.0000168	0.000402	0	-3468	SLD 11	-3468	-4038	-23715	-14693	-14693	1	4.24	Si
0.65	0.00001	0.000402	0	892	SLD 4	892	4038	23715	8812	8812	1	9.88	Si
0.65	0.00001	0.000402	0	-297	SLD 13	-297	-4038	-23715	-8812	-8812	1	29.68	Si
1.15	0.0000168	0.000402	0	633	SLD 4	633	4038	23715	14693	14693	1	23.22	Si
1.15	0.0000168	0.000402	0	-556	SLD 13	-556	-4038	-23715	-14693	-14693	1	26.43	Si
1.3	0	0.000402	0	555	SLD 4	555	4038	23715	0	4038	1	7.28	Si
1.3	0	0.000402	0	-634	SLD 13	-634	-4038	-23715	0	-4038	1	6.37	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	0.27	6	0.27	50	1494000	753	36000000	0.1	1	0.1	19	1120500			Si
0	-0.17	10	-0.17	32	1494000	477	36000000								Si
0.15	-287.52	14	-512.13	96842	1494000	1452633	36000000	-273.04	2	-484.67	91650	1120500			Si
0.65	-116.63	1	-1254.95	237310	1494000	3559645	36000000	-116.63	1	-1176.38	222453	1120500			Si
1.15	28.26	21	38.38	7258	1494000	108872	36000000								Si
1.15	-11.67	1	-26.25	4964	1494000	74464	36000000	-11.67	1	-26.25	4964	1120500			Si
1.3	-0.37	20	-0.37	69	1494000	1040	36000000	-0.27	2	-0.27	51	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0.15	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00002	-0.00004	2	-0.00004	2	9999	Si
0.52	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.0001	2	-0.00011	2	9999	Si
0.65	-0.00005	-0.00005	-0.00003	-0.00004	-0.00005	-0.00005	-0.00004	-0.00004	-0.00005	-0.00005	-0.0001	2	-0.0001	2	9999	Si
1.15	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00001	-0.00002	2	-0.00002	2	9999	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	ρ,tot	θ,m	θ,y	μΔ,pl	Vrd	VRcd(cotθ=1)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.3	1.296	0.049	0.3	0.009	0.00024	0.00825	0	4038	23715	14693	14693	13854	14693	8261	0	SLV 6	Si
1.3	0.65	0.049	0.3	0.009	0.00039	0.00825	0	4038	23715	14693	14693	15055	15055	-8261	0	SLV 9	Si

Valutazione dei tagli secondo gerarchia delle resistenze (γrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	337	-7665	-7275	-4457	337	8340	7275	894
0.15	259	-7743	-7275	-4535	259	8261	7275	816
0.65	0	-8002	-7275	-635	0	8002	7275	1230
1.15	-259	-8261	-7275	-894	-259	7743	7275	971
1.3	-338	-8340	-7275	-971	-338	7665	7275	893

Momenti resistenti a filo appoggi

campata	x	appoggio	momento positivo	momento negativo
1	0.15	30	3638	-3638
1	1.15	38	3638	-3638

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

1.3 Verifiche pareti C.A.

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

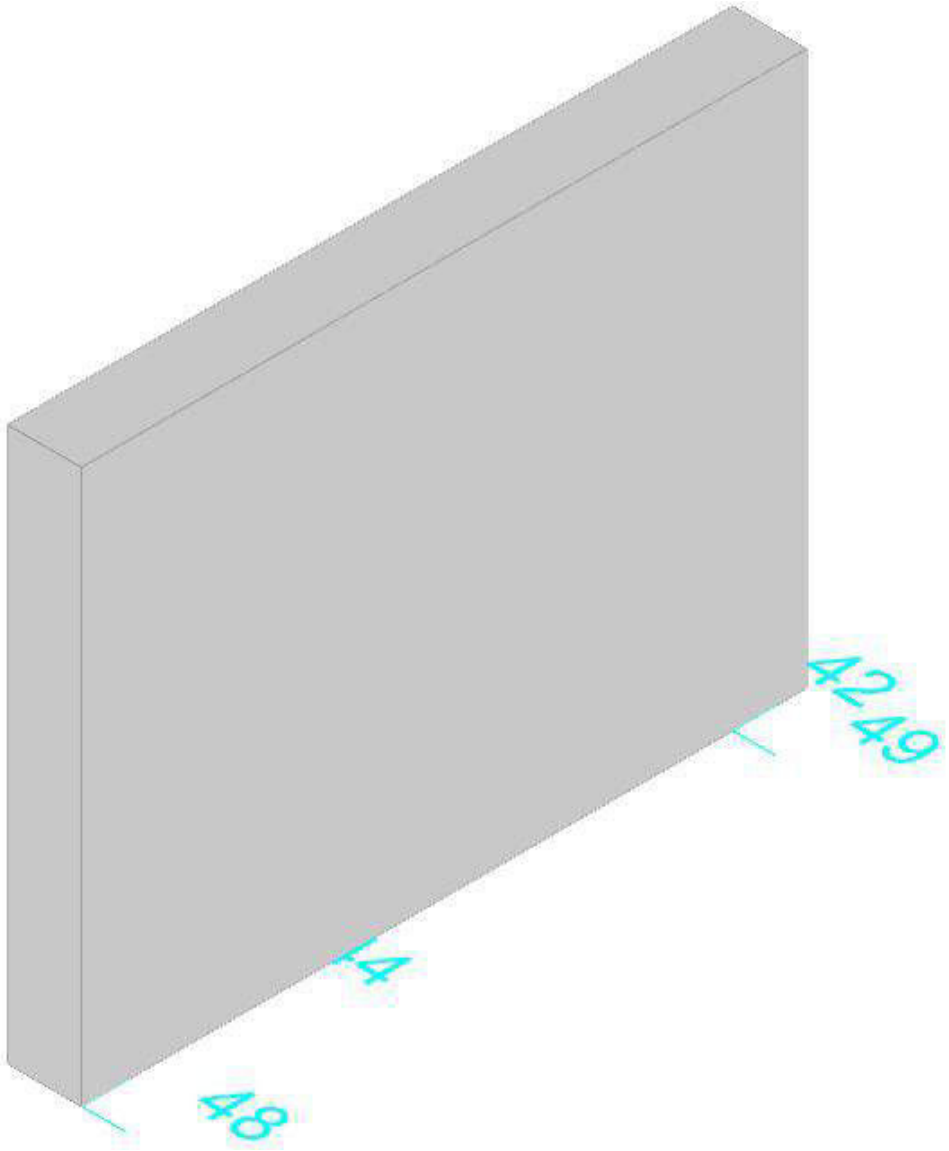
Descrizione breve: *nome sintetico assegnato al livello.*
Descrizione: *nome assegnato al livello.*
Quota: *quota superiore espressa nel sistema di riferimento assoluto. [m]*
Spessore: *spessore del livello. [m]*
Descrizione: *descrizione della sezione di verifica.*
Dir.: *direzione della sezione di verifica.*
Base: *base della sezione. [m]*
Altezza: *altezza della sezione. [m]*
As,sup: *area di acciaio efficace superiore. [m²]*
As,inf: *area di acciaio efficace inferiore. [m²]*
c,sup: *copriferro medio superiore. [m]*
c,inf: *copriferro medio inferiore. [m]*
Comb.: *combinazione di verifica.*

MEd: *momento agente. [daN*m]*
NEd: *sforzo normale agente, positivo se di trazione. [daN]*
MRd: *momento resistente. [daN*m]*
NRd: *sforzo normale resistente, positivo se di trazione. [daN]*
c.s.: *coefficiente di sicurezza.*
Verifica: *stato di verifica.*
d: *altezza utile. [m]*
bw: *minima larghezza anima. [m]*
Armatura a taglio: *necessità di armatura a taglio.*
Asw/s: *rapporto tra l'area dell'armatura trasversale e l'interasse tra due armature consecutive.*
VEd: *taglio agente. [daN]*
Vrd,c: *resistenza di calcolo a taglio per elementi privi di armature trasversali. [daN]*
Vrcd: *valore resistente di calcolo a taglio compressione del calcestruzzo d'anima. [daN]*
Vrsd: *valore resistente di calcolo a taglio trazione dell'armatura trasversale. [daN]*
VRd: *resistenza a taglio. [daN]*
cotg(ϑ): *cotangente dell'angolo dei puntoni rispetto all'asse.*
Asl: *area armatura longitudinale. [m²]*
Sezione fessurata: *sezione fessurata.*
σc: *tensione del calcestruzzo. [daN/m²]*
σc limite: *tensione limite del calcestruzzo. [daN/m²]*
Es/Ec: *coefficiente di omogenizzazione.*
σf: *tensione dell'armatura. [daN/m²]*
σf limite: *tensione limite dell'armatura. [daN/m²]*
Spessore: *spessore della parete in corrispondenza della barra. [m]*
Φ: *diametro barra. [m]*
Φ max: *diametro massimo ammissibile. [m]*
Passo: *passo massimo delle barre. [m]*
Passo max.: *passo massimo delle barre ammissibile da norma. [m]*
Ac: *area sezione. [m²]*
As,eff: *area efficace delle barre presenti nella sezione. [m²]*
As,min: *area minima richiesta. [m²]*
% min: *percentuale minima di area da prevedere.*

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
506 Prosp.A	Verticale	0.5	0.2	0.000331	0.000379	0.041	0.041
118 Prosp.A	Verticale	0.875	0.2	0.000588	0.000673	0.041	0.041
125 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
533 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041
127 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
125 Prosp.A	Verticale	0.875	0.2	0.001018	0.001018	0.041	0.041
129 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
118 Prosp.A	Orizzontale	0.6	0.2	0.000679	0.000679	0.0439	0.0439

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
506 Prosp.A	Verticale	SLV 6	375.89	14542	540.39	20905	1.4376	Si
118 Prosp.A	Verticale	SLV 6	375.89	14542	960.52	37158	2.5553	Si
506 Prosp.A	Verticale	SLV 2	-134.15	4456	-662.17	21996	4.936	Si
125 Prosp.A	Orizzontale	SLV 6	734.31	7053	3961.36	38047	5.3947	Si
533 Prosp.A	Verticale	SLV 2	171.26	5875	980.38	33631	5.7244	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
506 Prosp.A	Verticale	SLD 6	175.72	8870	436.79	22048	2.4858	Si
118 Prosp.A	Verticale	SLD 6	175.72	8870	776.37	39188	4.4183	Si

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
506 Prosp.A	Verticale	SLD 2	-110.72	3509	-685.93	21737	6.1954	Si
125 Prosp.A	Orizzontale	SLD 2	619.13	5986	3951.53	38202	6.3823	Si
127 Prosp.A	Orizzontale	SLD 6	682.36	1792	5448.33	14311	7.9845	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
118 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLV 2	5719	3159	229.99	5896	20511	0	5896	2.5	0.0006786	1.031	Si
125 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLV 2	6105	5252	731.94	9947	34813	0	9947	2.5	0.001131	1.6293	Si
506 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 6	-1280	14542	375.89	4159	17406	0	4159	2.5	0.0003307	3.249	Si
131 Prosp.A	Orizzontale	0.157	0.744	Non necessaria	0	SLV 11	-1726	-9207	-153.15	8599	26684	0	8599	2.5	0.0009048	4.9822	Si
127 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLV 2	1942	-3708	995.57	10389	35270	0	10389	2.5	0.001131	5.3495	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
118 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLD 2	4838	2895	193.17	5896	20511	0	5896	2.5	0.0006786	1.2188	Si
125 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLD 2	5020	4838	590.3	9947	34813	0	9947	2.5	0.001131	1.9814	Si
506 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 6	-1052	12454	153.25	4159	17406	0	4159	2.5	0.0003307	3.953	Si
127 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLD 2	1517	-4266	759.16	10456	35339	0	10456	2.5	0.001131	6.8941	Si
118 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 6	-1052	12454	153.25	7317	30461	0	7317	2.5	0.000588	6.9541	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
125 Prosp.A	Verticale	SLE QP 2	282.32	-9532	No	-87313	1120500	15	12.8331	Si
129 Prosp.A	Orizzontale	SLE QP 2	226.66	-10606	No	-74222	1120500	15	15.0967	Si
125 Prosp.A	Verticale	SLE RA 21	307.72	-10394	No	-95192	1494000	15	15.6946	Si
127 Prosp.A	Orizzontale	SLE QP 2	360.81	-5163	No	-68047	1120500	15	16.4664	Si
129 Prosp.A	Orizzontale	SLE RA 21	248.59	-11600	No	-81265	1494000	15	18.3842	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
506 Prosp.A	Verticale	SLE RA 21	181.56	7476	No	1457112	36000000	15	24.7064	Si
118 Prosp.A	Verticale	SLE RA 21	181.56	7476	No	831431	36000000	15	43.2988	Si
125 Prosp.A	Orizzontale	SLE RA 21	391.71	5625	No	802399	36000000	15	44.8654	Si
118 Prosp.A	Orizzontale	SLE RA 21	154.3	3753	No	694765	36000000	15	51.8161	Si
127 Prosp.A	Orizzontale	SLE RA 21	420.51	-175	No	463013	36000000	15	77.7517	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
20 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
105 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
105 Prosp.A	Verticale	0.2	0.012	0.02	Si
107 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
107 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
20 Prosp.A	Orizzontale	0.1	0.3	Si
105 Prosp.A	Orizzontale	0.1	0.3	Si
105 Prosp.A	Verticale	0.1	0.3	Si
107 Prosp.A	Orizzontale	0.1	0.3	Si
107 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

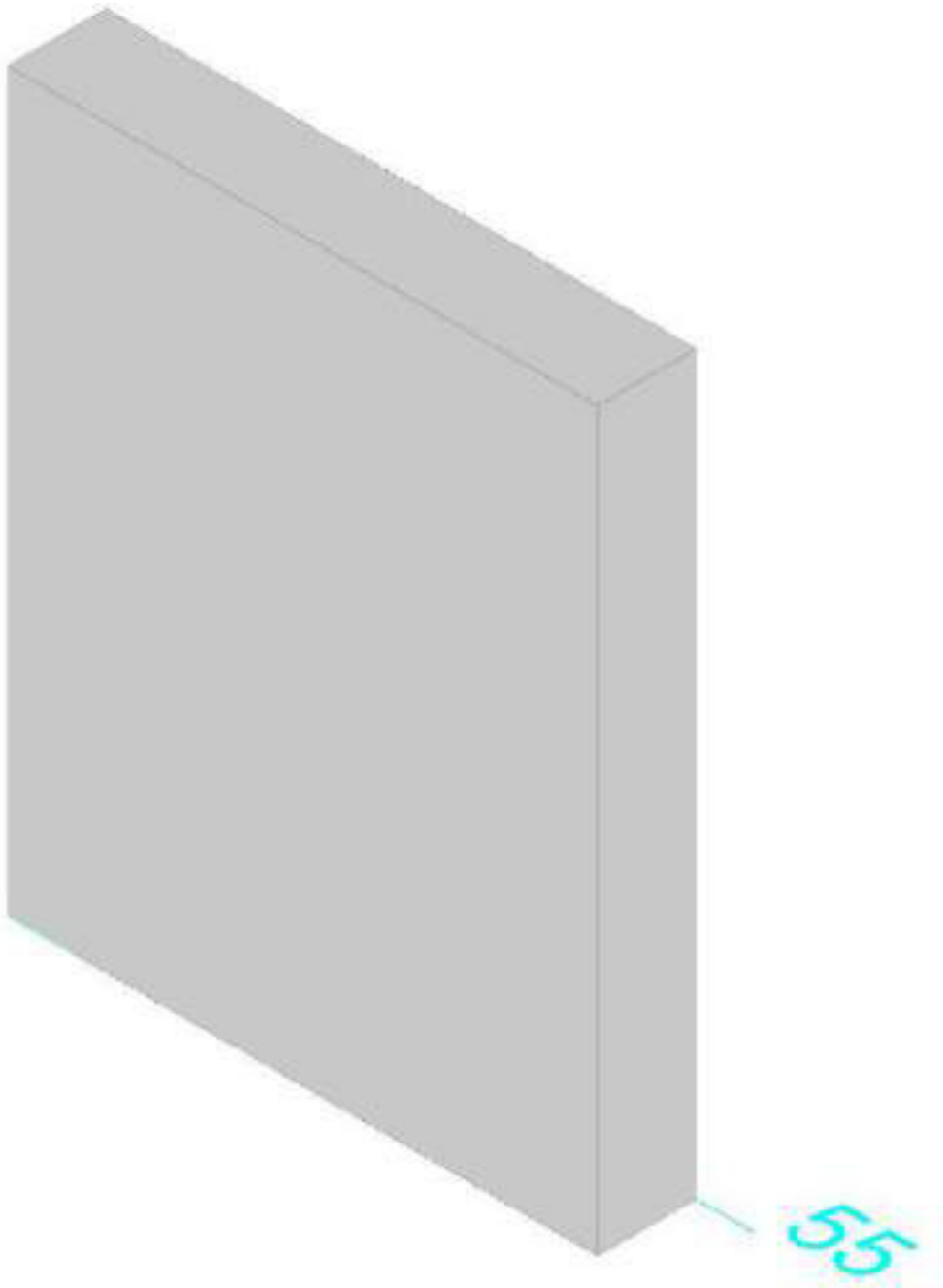
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
506 Prosp.A	Verticale	0.1	0.000709	0.0002	0.2	Si
118 Prosp.A	Verticale	0.175	0.001261	0.00035	0.2	Si
74 Prosp.A	Verticale	0.175	0.00134	0.00035	0.2	Si
20 Prosp.A	Verticale	0.1	0.000788	0.0002	0.2	Si
96 Prosp.A	Verticale	0.2	0.001576	0.0004	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
136 Prosp.A	Verticale	0.875	0.2	0	0.000565	0	0.041
135 Prosp.A	Verticale	0.875	0.2	0.001018	0.001018	0.041	0.041
133 Prosp.A	Verticale	0.875	0.2	0.000647	0.000647	0.041	0.041
134 Prosp.A	Verticale	0.875	0.2	0.001018	0.001018	0.041	0.041
642 Prosp.A	Verticale	0.5	0.2	0.000292	0.000341	0.041	0.041
641 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041
136 Prosp.A	Orizzontale	0.6527	0.2	0.000792	0.000792	0.0435	0.0435
134 Prosp.A	Orizzontale	0.9987	0.2	0.001131	0.001131	0.0427	0.0427
135 Prosp.A	Orizzontale	0.9132	0.2	0.001131	0.001131	0.0427	0.0427
133 Prosp.A	Orizzontale	0.701	0.2	0.000858	0.000858	0.0433	0.0433

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
136 Prosp.A	Verticale	SLV 11	545.7	1645	563.47	1699	1.0326	Si
135 Prosp.A	Verticale	SLV 8	573.6	14843	2153.9	55737	3.755	Si
133 Prosp.A	Verticale	SLV 8	455.98	8326	1740.6	31781	3.8173	Si
134 Prosp.A	Verticale	SLV 8	557.78	11119	2529.3	50422	4.5346	Si
642 Prosp.A	Verticale	SLV 12	415.77	-1221	2284.56	-6711	5.4947	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
136 Prosp.A	Verticale	SLD 11	433.16	1011	590.1	1377	1.3623	Si
133 Prosp.A	Verticale	SLD 8	363.11	6789	1715.67	32077	4.7249	Si
135 Prosp.A	Verticale	SLD 8	453.66	11598	2171.53	55516	4.7867	Si
134 Prosp.A	Verticale	SLD 8	442.61	8665	2555.41	50026	5.7735	Si
641 Prosp.A	Verticale	SLD 11	-216.72	3115	-1668.98	23988	7.7011	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
642 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	-3159	-1779	421.64	4203	17626	0	4203	2.5	0.0002922	1.3304	Si
136 Prosp.A	Orizzontale	0.157	0.653	Non necessaria	0	SLV 7	4272	-12167	435.67	8005	23846	0	8005	2.5	0.0007917	1.8739	Si
135 Prosp.A	Orizzontale	0.157	0.913	Non necessaria	0	SLV 7	5126	-16621	889.28	11256	33475	0	11256	2.5	0.001131	2.1959	Si
134 Prosp.A	Orizzontale	0.157	0.999	Non necessaria	0	SLV 7	4951	-17197	1241.86	11895	36489	0	11895	2.5	0.001131	2.4024	Si
114 Prosp.A	Orizzontale	0.157	0.665	Non necessaria	0	SLV 7	2602	-8269	137.24	7631	23799	0	7631	2.5	0.0007917	2.9329	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
642 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	-2375	-1701	322.65	4194	17616	0	4194	2.5	0.0002922	1.7658	Si
136 Prosp.A	Orizzontale	0.157	0.653	Non necessaria	0	SLD 7	3350	-10010	335.83	7752	23584	0	7752	2.5	0.0007917	2.3137	Si
135 Prosp.A	Orizzontale	0.157	0.913	Non necessaria	0	SLD 7	4046	-13967	698.55	10943	33151	0	10943	2.5	0.001131	2.7046	Si
134 Prosp.A	Orizzontale	0.157	0.999	Non necessaria	0	SLD 7	4008	-14688	995.95	11599	36183	0	11599	2.5	0.001131	2.8941	Si
114 Prosp.A	Orizzontale	0.157	0.665	Non necessaria	0	SLD 7	2071	-7446	115.45	7534	23699	0	7534	2.5	0.0007917	3.6377	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
136 Prosp.A	Orizzontale	SLE QP 2	558.52	-7489	No	-157653	1120500	15	7.1074	Si
134 Prosp.A	Orizzontale	SLE QP 2	749.33	-12095	No	-148073	1120500	15	7.5672	Si
135 Prosp.A	Orizzontale	SLE QP 2	730.48	-9567	No	-145482	1120500	15	7.702	Si
133 Prosp.A	Orizzontale	SLE QP 2	498.61	-7584	No	-136200	1120500	15	8.2269	Si
136 Prosp.A	Orizzontale	SLE RA 20	611.89	-8364	No	-173745	1494000	15	8.5988	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
135 Prosp.A	Verticale	SLE RA 20	306.21	7509	No	940949	36000000	15	38.2592	Si
134 Prosp.A	Verticale	SLE RA 20	300.05	5682	No	799715	36000000	15	45.016	Si
133 Prosp.A	Verticale	SLE RA 20	247.33	5109	No	730458	36000000	15	49.2842	Si
641 Prosp.A	Verticale	SLE RA 20	-166.6	1497	No	567682	36000000	15	63.4158	Si
136 Prosp.A	Verticale	SLE RA 2	222.76	-40	No	-310591	36000000	15	115.908	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
61 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
113 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
113 Prosp.A	Verticale	0.2	0.012	0.02	Si
114 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
114 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
61 Prosp.A	Orizzontale	0.1	0.3	Si
113 Prosp.A	Orizzontale	0.1	0.3	Si
113 Prosp.A	Verticale	0.1	0.3	Si
114 Prosp.A	Orizzontale	0.1	0.3	Si
114 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

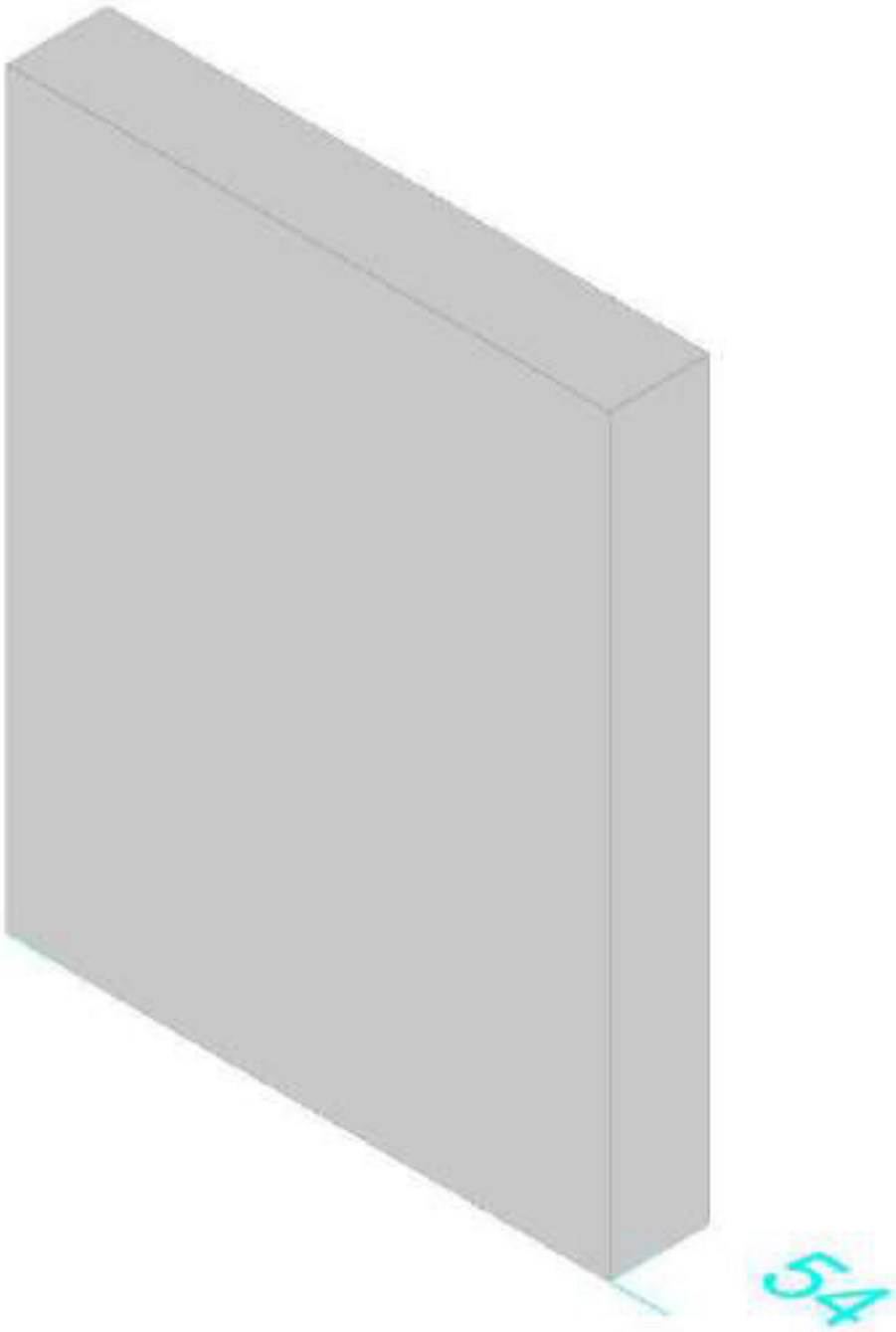
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
136 Prosp.A	Verticale	0.175	0.000565	0.00035	0.2	Si
642 Prosp.A	Verticale	0.1	0.000633	0.0002	0.2	Si
61 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
111 Prosp.A	Verticale	0.2	0.001396	0.0004	0.2	Si
89 Prosp.A	Verticale	0.175	0.001225	0.00035	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
507 Prosp.A	Verticale	0.5	0.2	0.000333	0.000333	0.041	0.041
97 Prosp.A	Verticale	1	0.2	0.000665	0.000665	0.041	0.041
119 Prosp.A	Verticale	0.875	0.2	0.000599	0.000599	0.041	0.041
510 Prosp.A	Verticale	0.5	0.2	0.000333	0.000333	0.041	0.041
119 Prosp.A	Orizzontale	0.68	0.2	0.000792	0.000792	0.0435	0.0435
120 Prosp.A	Orizzontale	0.96	0.2	0.001131	0.001131	0.0427	0.0427
121 Prosp.A	Orizzontale	0.96	0.2	0.001131	0.001131	0.0427	0.0427
100 Prosp.A	Orizzontale	0.68	0.2	0.000792	0.000792	0.0435	0.0435
99 Prosp.A	Orizzontale	0.96	0.2	0.001131	0.001131	0.0427	0.0427

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
507 Prosp.A	Verticale	SLV 2	-161.18	3101	-868.51	16709	5.3886	Si
97 Prosp.A	Verticale	SLV 6	-297.37	5483	-1783.24	32880	5.9967	Si
119 Prosp.A	Verticale	SLV 2	-210.78	5068	-1350.76	32480	6.4083	Si
510 Prosp.A	Verticale	SLV 11	-240.82	-195	-2161.63	-1750	8.976	Si
97 Prosp.A	Verticale	SLV 7	233.16	2680	2311.62	26574	9.9143	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
507 Prosp.A	Verticale	SLD 2	-129.69	2736	-819.07	17279	6.3155	Si
97 Prosp.A	Verticale	SLD 2	-159.35	5451	-1165.21	39861	7.3125	Si
119 Prosp.A	Verticale	SLD 2	-170.25	4415	-1282.39	33258	7.5322	Si
97 Prosp.A	Verticale	SLD 7	185.71	3081	1899.67	31519	10.2293	Si
510 Prosp.A	Verticale	SLD 11	-188.4	-99	-2120.76	-1114	11.2568	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
507 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 6	2236	-9472	-54.16	5297	18575	0	5297	2.5	0.0003326	2.3682	Si
119 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 6	2236	-9472	-54.16	8490	31630	0	8490	2.5	0.0005986	3.7964	Si
119 Prosp.A	Orizzontale	0.157	0.68	Non necessaria	0	SLV 6	-1839	-10168	-316.34	7953	24541	0	7953	2.5	0.0007917	4.325	Si
97 Prosp.A	Verticale	0.159	1	Non necessaria	0	SLV 6	-1541	5453	-231.28	8334	34813	0	8334	2.5	0.0006651	5.4071	Si
120 Prosp.A	Orizzontale	0.157	0.96	Non necessaria	0	SLV 6	-2024	-12893	-395.06	11131	34631	0	11131	2.5	0.001131	5.5006	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
507 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 6	1723	-7758	-29.43	5092	18363	0	5092	2.5	0.0003326	2.9549	Si
119 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 6	1723	-7758	-29.43	8286	31418	0	8286	2.5	0.0005986	4.8084	Si
119 Prosp.A	Orizzontale	0.157	0.68	Non necessaria	0	SLD 6	-1552	-9008	-305.06	7817	24400	0	7817	2.5	0.0007917	5.0363	Si
120 Prosp.A	Orizzontale	0.157	0.96	Non necessaria	0	SLD 6	-1728	-11541	-393.52	10971	34466	0	10971	2.5	0.001131	6.3484	Si
97 Prosp.A	Verticale	0.159	1	Non necessaria	0	SLD 6	-1301	4484	-165.44	8334	34813	0	8334	2.5	0.0006651	6.407	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
119 Prosp.A	Orizzontale	SLE QP 2	-306.45	-7343	No	-103773	1120500	15	10.7976	Si
120 Prosp.A	Orizzontale	SLE QP 2	-420.9	-9588	No	-98392	1120500	15	11.3881	Si
121 Prosp.A	Orizzontale	SLE QP 2	-377.38	-8222	No	-86564	1120500	15	12.9442	Si
119 Prosp.A	Orizzontale	SLE RA 21	-336.55	-8229	No	-114992	1494000	15	12.9922	Si
120 Prosp.A	Orizzontale	SLE RA 21	-461.45	-10700	No	-108707	1494000	15	13.7434	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
507 Prosp.A	Verticale	SLE RA 21	-91.54	2177	No	517051	36000000	15	69.6256	Si
119 Prosp.A	Verticale	SLE RA 21	-122.57	3463	No	437127	36000000	15	82.3559	Si
97 Prosp.A	Verticale	SLE RA 21	-118.5	4007	No	415729	36000000	15	86.5949	Si
100 Prosp.A	Orizzontale	SLE RA 1	-50.27	-5083	No	-393399	36000000	15	91.5101	Si
99 Prosp.A	Orizzontale	SLE RA 1	-57.3	-6268	No	-348745	36000000	15	103.2274	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
21 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
99 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
99 Prosp.A	Verticale	0.2	0.012	0.02	Si
100 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
100 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
21 Prosp.A	Orizzontale	0.1	0.3	Si
99 Prosp.A	Orizzontale	0.1	0.3	Si
99 Prosp.A	Verticale	0.1	0.3	Si
100 Prosp.A	Orizzontale	0.1	0.3	Si
100 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

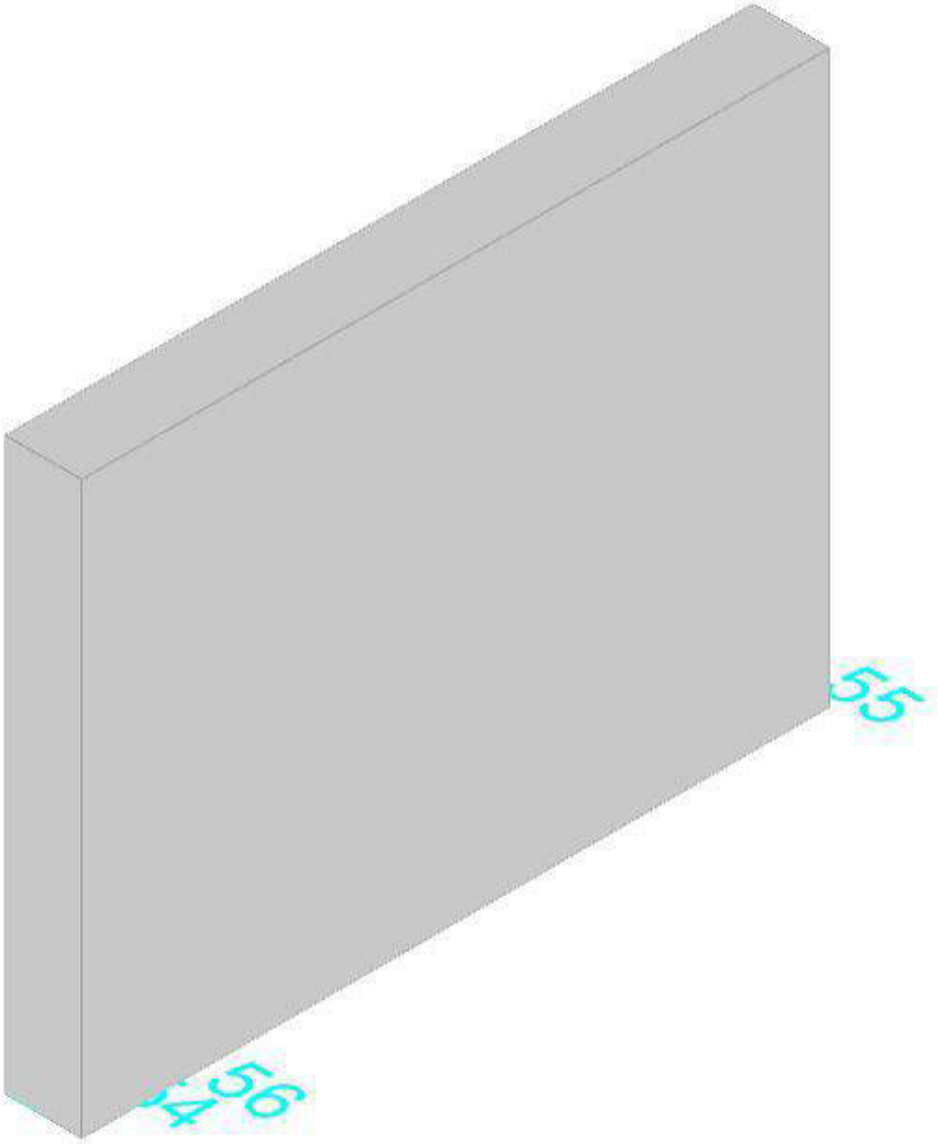
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
510 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
100 Prosp.A	Verticale	0.2	0.00133	0.0004	0.2	Si
24 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
507 Prosp.A	Verticale	0.1	0.000665	0.0002	0.2	Si
97 Prosp.A	Verticale	0.2	0.00133	0.0004	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-3.45	0
L2	Fondazione	-1.95	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
511 Prosp.A	Verticale	0.5	0.2	0.000184	0.00021	0.041	0.041
123 Prosp.A	Verticale	0.875	0.2	0.000294	0.000336	0.041	0.041
108 Prosp.A	Verticale	1	0.2	0.000916	0.000916	0.041	0.041
101 Prosp.A	Verticale	1	0.2	0.000368	0.000421	0.041	0.041
86 Prosp.A	Verticale	0.875	0.2	0.000824	0.000824	0.041	0.041
25 Prosp.A	Orizzontale	0.6	0.2	0.000679	0.000679	0.0439	0.0439
580 Prosp.A	Verticale	0.5	0.2	0.000458	0.000458	0.041	0.041
28 Prosp.A	Orizzontale	0.997	0.2	0.001131	0.001131	0.0427	0.0427
82 Prosp.A	Orizzontale	1	0.2	0.001697	0.001697	0.041	0.041
106 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
104 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
511 Prosp.A	Verticale	SLV 11	-368.86	-554	-1587.3	-2386	4.3033	Si
123 Prosp.A	Verticale	SLV 11	-473.98	-419	-2481.02	-2195	5.2345	Si
108 Prosp.A	Verticale	SLV 7	244.82	9541	1446.56	56373	5.9087	Si
511 Prosp.A	Verticale	SLV 6	113.26	788	833.38	5799	7.3578	Si
123 Prosp.A	Verticale	SLV 6	185.25	1043	1442.76	8123	7.788	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
511 Prosp.A	Verticale	SLD 11	-282.28	-284	-1530.72	-1540	5.4226	Si
123 Prosp.A	Verticale	SLD 11	-355.28	-124	-2377.39	-830	6.6915	Si
108 Prosp.A	Verticale	SLD 7	179.66	7495	1371.34	57212	7.633	Si
101 Prosp.A	Verticale	SLD 11	-207.96	431	-2456.11	5088	11.8105	Si
86 Prosp.A	Verticale	SLD 7	132.87	3988	1582.29	47492	11.909	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
511 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	490	-554	-368.86	3993	17475	0	3993	2.5	0.0002103	8.1476	Si
580 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 10	-479	-1099	-108.63	4767	17542	0	4767	2.5	0.000458	9.9553	Si
530 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	490	-1628	-132.8	5168	17607	0	5168	2.5	0.0005655	10.5438	Si
123 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 11	578	-419	-473.98	6923	30513	0	6923	2.5	0.0003365	11.983	Si
130 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 11	679	5745	149.02	8190	30461	0	8190	2.5	0.0008245	12.0628	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
511 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	381	-284	-282.28	3961	17441	0	3961	2.5	0.0002103	10.4026	Si
580 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 10	-368	-2605	-54.54	4947	17728	0	4947	2.5	0.000458	13.4407	Si
530 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	381	-1338	-94.74	5133	17571	0	5133	2.5	0.0005655	13.4807	Si
123 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 11	432	-124	-355.28	6887	30476	0	6887	2.5	0.0003365	15.9375	Si
130 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 11	494	5108	99.42	8190	30461	0	8190	2.5	0.0008245	16.589	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
25 Prosp.A	Orizzontale	SLE QP 2	107.37	-4014	No	-51693	1120500	15	21.6759	Si
580 Prosp.A	Verticale	SLE QP 2	65.61	-3890	No	-51416	1120500	15	21.793	Si
28 Prosp.A	Orizzontale	SLE QP 2	126.92	-7243	No	-47379	1120500	15	23.6498	Si
580 Prosp.A	Verticale	SLE RA 20	50.96	-5262	No	-59632	1494000	15	25.0537	Si
511 Prosp.A	Verticale	SLE QP 2	-153.96	117	No	-42489	1120500	15	26.3714	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
511 Prosp.A	Verticale	SLE RA 18	-164.87	129	No	428996	36000000	15	83.9169	Si
108 Prosp.A	Verticale	SLE RA 6	89.49	4508	No	401175	36000000	15	89.7363	Si
82 Prosp.A	Orizzontale	SLE RA 1	57.49	-7705	No	-400334	36000000	15	89.9249	Si
106 Prosp.A	Orizzontale	SLE RA 2	26.19	-6366	No	-378692	36000000	15	95.064	Si
104 Prosp.A	Orizzontale	SLE RA 2	26.31	-6172	No	-366077	36000000	15	98.34	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
25 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
104 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
104 Prosp.A	Verticale	0.2	0.012	0.02	Si
106 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
106 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
79 Prosp.A	Verticale	0.2	0.3	Si
25 Prosp.A	Verticale	0.2	0.3	Si
511 Prosp.A	Verticale	0.2	0.3	Si
123 Prosp.A	Verticale	0.2	0.3	Si
101 Prosp.A	Verticale	0.2	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
123 Prosp.A	Verticale	0.175	0.00063	0.00035	0.2	Si
101 Prosp.A	Verticale	0.2	0.000788	0.0004	0.2	Si
25 Prosp.A	Verticale	0.1	0.000394	0.0002	0.2	Si
511 Prosp.A	Verticale	0.1	0.000394	0.0002	0.2	Si
79 Prosp.A	Verticale	0.175	0.000709	0.00035	0.2	Si

Verifiche generali

1.4 Verifiche piastre C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.

Nodo: *indice del nodo di verifica.*
Dir.: *direzione della sezione di verifica.*
B: *base della sezione rettangolare di verifica. [m]*
H: *altezza della sezione rettangolare di verifica. [m]*

A. sup.: *area barre armatura superiori. [m²]*
C. sup.: *distanza media delle barre superiori dal bordo superiore della sezione. [m]*
A. inf.: *area barre armatura inferiori. [m²]*
C. inf.: *distanza media delle barre inferiori dal bordo inferiore della sezione. [m]*
Comb.: *combinazione di verifica.*
M: *momento flettente. [daN*m]*
N: *sforzo normale. [daN]*
Mu: *momento flettente ultimo. [daN*m]*
Nu: *sforzo normale ultimo. [daN]*
c.s.: *coefficiente di sicurezza.*
Verifica: *stato di verifica.*
σc: *tensione nel calcestruzzo. [daN/m²]*
σlim: *tensione limite. [daN/m²]*
Es/Ec: *coefficiente di omogenizzazione.*
σf: *tensione nell'acciaio d'armatura. [daN/m²]*
Comb.: *combinazione.*
Fh: *componente orizzontale del carico. [daN]*
Fv: *componente verticale del carico. [daN]*
Cnd: *resistenza valutata a breve o lungo termine (BT - LT).*
Ad: *adesione di progetto. [daN/m²]*
Phi: *angolo di attrito di progetto. [deg]*
RPl: *resistenza passiva laterale unitaria di progetto. [daN/m²]*
γR: *coefficiente parziale sulla resistenza di progetto.*
Rd: *resistenza alla traslazione di progetto. [daN]*
Ed: *azione di progetto. [daN]*
Rd/Ed: *coefficiente di sicurezza allo scorrimento.*
ID: *indice della verifica di capacità portante.*
Fx: *componente lungo x del carico. [daN]*
Fy: *componente lungo y del carico. [daN]*
Fz: *componente verticale del carico. [daN]*
Mx: *componente lungo x del momento. [daN*m]*
My: *componente lungo y del momento. [daN*m]*
ix: *inclinazione del carico in x. [deg]*
iy: *inclinazione del carico in y. [deg]*
ex: *eccentricità del carico in x. [m]*
ey: *eccentricità del carico in y. [m]*
B': *larghezza efficace. [m]*
L': *lunghezza efficace. [m]*
C: *coesione di progetto. [daN/m²]*
Qs: *sovraccarico laterale da piano di posa. [daN/m²]*
Rd: *resistenza alla rottura del complesso di progetto. [daN]*
Ed: *azione di progetto (sforzo normale al piano di posa). [daN]*
Rd/Ed: *coefficiente di sicurezza alla capacità portante.*
N:
Nq: *fattore di capacità portante per il termine di sovraccarico.*
Nc: *fattore di capacità portante per il termine coesivo.*
Ng: *fattore di capacità portante per il termine attritivo.*
S:
Sq: *fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.*
Sc: *fattore correttivo di capacità portante per forma (shape), per il termine coesivo.*
Sg: *fattore correttivo di capacità portante per forma (shape), per il termine attritivo.*
D:
Dq: *fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.*
Dc: *fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.*
Dg: *fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.*
I:
Iq: *fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.*
Ic: *fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.*
Ig: *fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.*
B:
Bq: *fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.*
Bc: *fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.*
Bg: *fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.*
G:
Gq: *fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.*
Gc: *fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.*
Gg: *fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.*
P:
Pq: *fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.*
Pc: *fattore correttivo di capacità portante per punzonamento, per il termine coesivo.*
Pg: *fattore correttivo di capacità portante per punzonamento, per il termine attritivo.*
E:

Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.
Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.
Eg: fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.
εsm: deformazione unitaria media delle barre di armatura.
Δmax: distanza massima tra le fessure. [m]
Wd: valore di calcolo di apertura delle fessure. [m]

Platea 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria

Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-17.056; -4.784; -1.95), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
204	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLV FO 5	-8204.77	0	-8477.33	0	1.0332	Si
320	X	0.96	0.45	0.001108	0.048	0.001251	0.048	SLV FO 5	16321.69	0	17524.32	0	1.0737	Si
287	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLV FO 5	8962.55	0	9684.43	0	1.0805	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
149	X	0.5	0.45	0.000483	0.048	0.000975	0.048	SLD 9	-6063.8	0	-6696.43	0	1.1043	Si
320	X	0.96	0.45	0.001108	0.048	0.001251	0.048	SLD 5	13817.86	0	17524.32	0	1.2682	Si
287	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLD 5	7400.9	0	9684.43	0	1.3085	Si
204	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLD 5	-6253.44	0	-8477.33	0	1.3556	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
322	X	0.5	0.45	0.000622	0.048	0.000693	0.048	SLE QP 2	8292.58	0	-743482	1120500	15	Si
322	X	0.5	0.45	0.000622	0.048	0.000693	0.048	SLE RA 21	9170.35	0	-822180	1494000	15	Si
320	X	0.96	0.45	0.001108	0.048	0.001251	0.048	SLE QP 2	11117.65	0	-535525	1120500	15	Si
287	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLE QP 2	5585.99	0	-494529	1120500	15	Si
285	X	0.918	0.45	0.001085	0.048	0.001258	0.048	SLE QP 2	9459.65	0	-466284	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
320	X	0.96	0.45	0.001108	0.048	0.001251	0.048	SLE RA 21	12282.44	0	26793587	36000000	15	Si
287	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLE RA 21	6177.45	0	23610857	36000000	15	Si
285	X	0.918	0.45	0.001085	0.048	0.001258	0.048	SLE RA 21	10459.27	0	22733090	36000000	15	Si
311	X	0.5	0.45	0.000622	0.048	0.000693	0.048	SLE RA 21	5196.71	0	20497689	36000000	15	Si

Verifiche SLE fessurazione nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	εsm	Δmax	Wd	Es/Ec	Verifica
322	X	0.5	0.45	0.000622	0.048	0.000693	0.048	SLE FR 6	8513.81	0	0.00114	0.304	0.000347	15	Si
320	X	0.96	0.45	0.001108	0.048	0.001251	0.048	SLE QP 2	11117.65	0	0.00071	0.319	0.000225	15	Si
287	X	0.5	0.45	0.000622	0.048	0.000716	0.048	SLE QP 2	5585.99	0	0.00062	0.301	0.000187	15	Si

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	εsm	Δmax	Wd	Es/Ec	Verifica
285	X	0.918	0.45	0.001085	0.048	0.001258	0.048	SLE QP 2	9459.65	0	0.0006	0.312	0.000187	15	Si

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -15.4; -4; -2.4
Lato minore B dell'impronta: 1.5
Lato maggiore L dell'impronta: 3.3
Area dell'impronta rettangolare di calcolo: 4.9

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 0

Comb.	Fh	Fv	Cnd	Ad	Phi	RPl	γR	Rd	Ed	Rd/Ed	Verifica
SLU 50	721	-52475	LT	0	19	0	1.1	15962	721	22.13	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 1.5 m
Peso specifico efficace del terreno di progetto γs: 2060 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 1.18

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	567	525	-66258	1621.48	1437.68	0	0	0.02	0.02	1.45	3.25	LT	0	37	0	2.3	161707	66258	2.44	Si
2	SLV FO 9	3365	-6716	-92416	7791.6	3462.81	2	-4	0.04	0.08	1.33	3.22	LT	0	37	0	2.3	108914	92416	1.18	Si
3	SLD 9	2093	-3421	-70194	4669.02	2357.73	2	-3	0.03	0.07	1.37	3.23	LT	0	37	0	2.3	125503	70194	1.79	Si

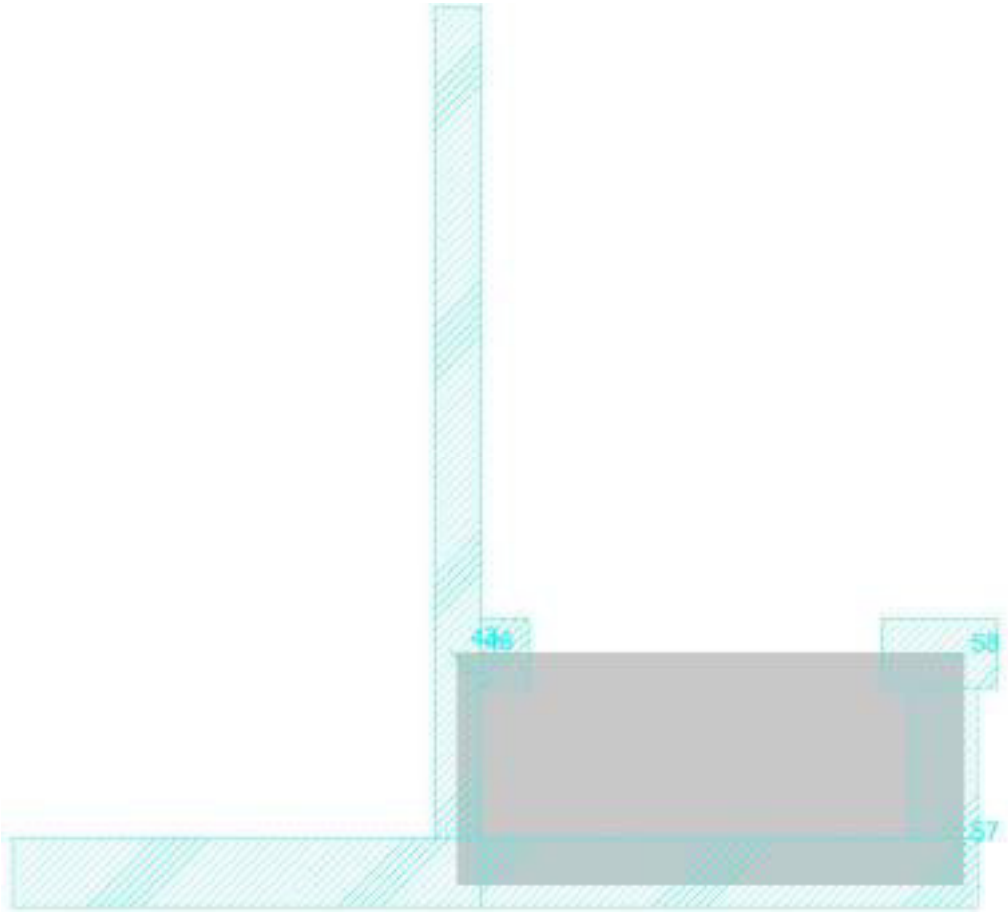
Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	43	56	66	1.34	1.34	0.82	1	1	1	0.98	0.98	0.97	1	1	1	1	1	1	1	1	1	1	1	1
2	43	56	66	1.31	1.32	0.83	1	1	1	0.87	0.87	0.8	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	43	56	66	1.32	1.33	0.83	1	1	1	0.91	0.91	0.86	1	1	1	1	1	1	1	1	1	0.99	0.99	0.99

Platea 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-11.013; -4.784; -1.95), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
356	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLV FO 10	-5875.1	0	-8385.71	0	1.4273	Si
357	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLV FO 10	-5561.17	0	-8385.71	0	1.5079	Si
330	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLV FO 5	5477.9	0	8372.76	0	1.5285	Si
358	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLV FO 10	-5080.08	0	-8385.71	0	1.6507	Si
246	Y	1	0.45	0.001131	0.048	0.001319	0.046	SLV FO 10	-9019.25	0	-15203.82	0	1.6857	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
330	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLD 5	4634.54	0	8372.76	0	1.8066	Si
356	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLD 10	-4364.5	0	-8385.71	0	1.9213	Si
357	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLD 10	-4127.35	0	-8385.71	0	2.0317	Si
328	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLD 5	5848.99	0	12238.6	0	2.0924	Si
330	Y	0.5	0.45	0.000283	0.036	0.000377	0.036	SLD 9	2503.96	0	5326.59	0	2.1273	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
330	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE QP 2	3711.97	0	-190701	1120500	15	Si
328	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLE QP 2	4710.46	0	-159539	1120500	15	Si
330	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE RA 21	4081.18	0	-209669	1494000	15	Si
328	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLE RA 21	5177.11	0	-175344	1494000	15	Si
356	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLE QP 2	-2578.93	0	-130432	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
330	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE RA 21	4081.18	0	2476121	36000000	15	Si
328	X	0.765	0.45	0.000885	0.048	0.000894	0.048	SLE RA 21	5177.11	0	2067772	36000000	15	Si
356	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLE RA 21	-2850.61	0	1835945	36000000	15	Si
357	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLE RA 21	-2710.51	0	1745718	36000000	15	Si
358	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLE RA 21	-2627.8	0	1692448	36000000	15	Si

Verifiche SLE fessurazione nei nodi

La piastra non presenta nodi con apertura delle fessure.

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -9.4; -4; -2.4
Lato minore B dell'impronta: 1.5
Lato maggiore L dell'impronta: 3.3
Area dell'impronta rettangolare di calcolo: 4.9

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 0

Comb.	Fh	Fv	Cnd	Ad	Phi	RPl	γR	Rd	Ed	Rd/Ed	Verifica
SLU 6	797	-41972	LT	0	19	0	1.1	12767	797	16.02	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 1.5 m
Peso specifico efficace del terreno di progetto γs: 2060 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 1.2

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	109	1093	-65668	1207.6	-249.03	0	1	0	0.02	1.46	3.28	LT	0	37	0	2.3	163583	65668	2.49	Si
2	SLV FO 6	-2857	-6764	-92302	7680.3	-2041.3	-2	-4	-0.02	0.08	1.33	3.25	LT	0	37	0	2.3	110792	92302	1.2	Si
3	SLD 6	-1610	-3271	-69989	4479.71	-1225.45	-1	-3	-0.02	0.06	1.37	3.25	LT	0	37	0	2.3	129350	69989	1.85	Si

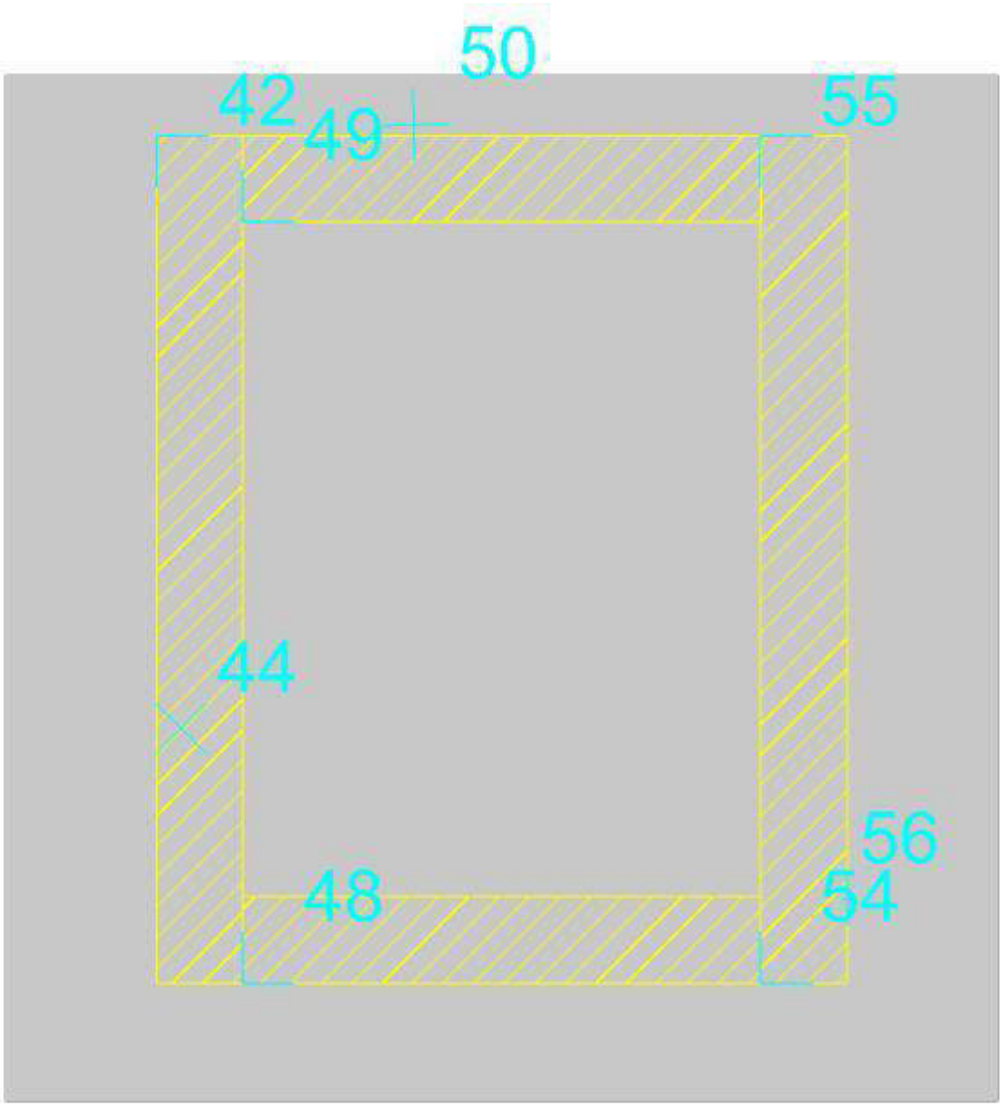
Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	43	56	66	1.34	1.34	0.82	1	1	1	0.97	0.97	0.96	1	1	1	1	1	1	1	1	1	1	1	1
2	43	56	66	1.31	1.32	0.84	1	1	1	0.87	0.87	0.8	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	43	56	66	1.32	1.33	0.83	1	1	1	0.92	0.91	0.87	1	1	1	1	1	1	1	1	1	0.99	0.99	0.99

Platea a "Fondazione ascensore"

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-11.413; -1.219; -3.45), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).
Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
71	X	1	0.3	0.000565	0.048	0.000754	0.048	SLU 83	1098.64	0	7255.81	0	6.6044	Si
70	X	1	0.3	0.000565	0.048	0.000754	0.048	SLU 83	1086.21	0	7255.81	0	6.6799	Si
28	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 84	1493.93	0	12567.22	0	8.4122	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 84	1454.01	0	12568.71	0	8.6442	Si
35	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 83	1435.92	0	12568.71	0	8.7531	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
71	X	1	0.3	0.000565	0.048	0.000754	0.048	SLD 7	782.29	0	6573.28	0	8.4027	Si
70	X	1	0.3	0.000565	0.048	0.000754	0.048	SLD 7	772.69	0	6573.28	0	8.507	Si
28	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 10	1143.89	0	11538.06	0	10.0867	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 10	1100.68	0	11552.33	0	10.4956	Si
27	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 6	1072.82	0	11538.06	0	10.7549	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
28	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	1001.63	0	-55439	1120500	15	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	976.04	0	-54023	1120500	15	Si
35	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	960.48	0	-53161	1120500	15	Si
27	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	952.74	0	-52733	1120500	15	Si
45	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	906.95	0	-50198	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
28	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1096.73	0	681852	36000000	15	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1067.39	0	663611	36000000	15	Si
35	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1053.42	0	654924	36000000	15	Si
27	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1047.83	0	651448	36000000	15	Si
45	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	992.68	0	617161	36000000	15	Si

Verifiche SLE fessurazione nei nodi

La piastra non presenta nodi con apertura delle fessure.

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente
Centro impronta, nel sistema globale: -10.3; 0; -3.8
Lato minore B dell'impronta: 2.3
Lato maggiore L dell'impronta: 2.4
Area dell'impronta rettangolare di calcolo: 5.5

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 2.47

Comb.	Fh	Fv	Cnd	Ad	Phi	RPl	γR	Rd	Ed	Rd/Ed	Verifica
SLU 43	2096	-53972	LT	0	19	0	1.1	16417	2096	7.83	Si
SLV FO 4	5392	-43762	LT	0	19	0	1.1	13311	5392	2.47	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 2.1 m
Peso specifico efficace del terreno di progetto γs: 2046 daN/m3
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03
Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 1.73

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	γR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	-1955	1264	-69090	449.32	162.16	-2	1	0	0.01	2.3	2.37	LT	0	34	0	2.3	119665	69090	1.73	Si
2	SLV FO 2	-5304	61	-47533	1732.28	-2271.18	-6	0	-0.05	0.04	2.2	2.31	LT	0	34	0	2.3	84369	47533	1.77	Si
3	SLD 2	-3663	472	-47083	1065.77	-1263.82	-4	1	-0.03	0.02	2.25	2.33	LT	0	34	0	2.3	99206	47083	2.11	Si

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	28	41	38	1.64	1.67	0.61	1	1	1	0.95	0.95	0.92	1	1	1	1	1	1	1	1	1	1	1	1
2	28	41	38	1.63	1.66	0.62	1	1	1	0.84	0.83	0.74	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	28	41	38	1.64	1.66	0.62	1	1	1	0.88	0.88	0.81	1	1	1	1	1	1	1	1	1	0.98	0.99	0.98

1.5 Verifica sismica globale

***Desc.**: descrizione.*
***Stato limite**: (muratura) V=Taglio; PF=Pressoflessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.*
***Molt.**: moltiplicatore minimo della azione sismica che produce lo stato limite.*
***Comb.**: combinazione.*
***PGA**: accelerazione al suolo.*
***iPGA (ζE)**: indicatore di rischio sismico in termini di PGA ovvero rapporto tra l'azione sismica massima sopportabile dall'elemento e l'azione sismica massima che si utilizzerebbe nel progetto nuovo (§C8.3).*
***TR**: tempo di ritorno.*
***(TR/TRrif)^.41**: indicatore di rischio sismico in termini di periodo di ritorno.*
***fa**: fattore di accelerazione.*
***Stato limite**: (muratura) V=Taglio; PF=Presso flessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.*
***Coeff.s.**: coefficiente minimo prodotto dallo stato limite.*
***Verifica**: stato di verifica.*
***Maschio**: maschio.*
***Stato limite**: (maschio muratura) V=Taglio; PF=Presso flessione; PFFP=Presso flessione fuori piano; R=Ribaltamento.*
***Trave**: trave di collegamento in muratura.*
***Stato limite**: (trave muratura) V=Taglio; F=Flessione.*
***S. L.**: stato limite di riferimento.*
***TR,C**: periodo di ritorno di capacità.*
***PGA,C**: accelerazione di aggancio di capacità.*
***TR,Rif**: periodo di ritorno di riferimento.*
***PGA,Rif**: accelerazione di aggancio di riferimento.*
***Tipo rottura**: tipo di rottura che fornisce il valore minimo degli elementi considerati.*
***PAM**: perdita media annua attesa.*
***Classe PAM**: classe di rischio PAM.*
***IS-V**: indice di sicurezza.*
***Classe IS-V**: classe di rischio IS-V.*
***λ,SLR**: frequenza media annua di superamento in Stato Limite di Ricostruzione.*
***λ,SLC**: frequenza media annua di superamento in Stato Limite di Collasso.*
***λ,SLV**: frequenza media annua di superamento in Stato Limite di salvaguardia della Vita.*
***λ,SLD**: frequenza media annua di superamento in Stato Limite di Danno.*
***λ,SLO**: frequenza media annua di superamento in Stato Limite di Operatività.*
***λ,SLID**: frequenza media annua di superamento in Stato Limite di Inizio Danno.*

Verifica di elementi dotati di indicatori di rischio sismico mediante analisi con fattore q

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.) § C8.7.1

Accelerazioni e tempi di ritorno

Accelerazione di aggancio SLO (ag/g_SLO*S*ST) PGA,SLOrif = 0.081
Accelerazione di aggancio SLD (ag/g_SLD*S*ST) PGA,SLDrif = 0.101
Accelerazione di aggancio SLV (ag/g_SLV*S*ST) PGA,SLVrif = 0.244
Tr,SLOrif = 30 anni
Tr,SLDrif = 50 anni
Tr,SLVrif = 475 anni

Moltiplicatori minimi delle condizioni sismiche

(Il valore di ζE corrisponde al valore di I.R. PGA secondo quanto riportato nella Circolare 7 21-01-19 §C8.3)

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	fa
Maschio 216	PF	0.182	SLV 13	0.0414	0.1693	6	0.1666	0.1647
Maschio 18	V	0.426	SLV 8	0.1035	0.4236	56	0.4162	0.4214
Maschio 243	PFFP	0.32	SLV 2	0.0753	0.3082	26	0.3039	0.3048
Maschio 282	R	0.584	SLV 13	0.1385	0.5669	115	0.559	0.5668
Trave di accoppiamento 27	PF	0.107	SLV 11	0.0261	0.1068	2	0.1062	0.1039
Trave di accoppiamento 53	V	0.241	SLV 13	0.0553	0.2265	12	0.2213	0.2203

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	5.638	SLU 83	Si
Maschio 1	V SLU	27.008	SLU 76	Si
Maschio 1	PF	1.56	SLV 12	Si
Maschio 1	V	3.873	SLV 12	Si
Maschio 1	PFFP	16.667	SLV 16	Si
Maschio 1	R	1.835	SLV 1	Si
Maschio 2	PF SLU	5.783	SLU 47	Si
Maschio 2	V SLU	54.744	SLU 77	Si
Maschio 2	PF	0	SLV 9	No
Maschio 2	V	7.676	SLV 9	Si
Maschio 2	PFFP	2.806	SLV 9	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 2	R	2.145	SLV 4	Si
Maschio 3	PF SLU	8.71	SLU 81	Si
Maschio 3	V SLU	2.471	SLU 77	Si
Maschio 3	PF	0.875	SLV 9	No
Maschio 3	V	1.819	SLV 12	Si
Maschio 3	PFFP	0	SLV 10	No
Maschio 3	R	2.473	SLV 8	Si
Maschio 4	PF SLU	4.138	SLU 48	Si
Maschio 4	V SLU	4.111	SLU 83	Si
Maschio 4	PF	1.83	SLV 9	Si
Maschio 4	V	2.864	SLV 16	Si
Maschio 4	PFFP	6.975	SLV 9	Si
Maschio 4	R	2.415	SLV 8	Si
Maschio 6	PF SLU	11.46	SLU 78	Si
Maschio 6	V SLU	10.932	SLU 73	Si
Maschio 6	PF	1.286	SLV 9	Si
Maschio 6	V	2.26	SLV 5	Si
Maschio 6	PFFP	43.466	SLV 9	Si
Maschio 6	R	1.472	SLV 4	Si
Maschio 8	PF SLU	3.838	SLU 76	Si
Maschio 8	V SLU	1.768	SLU 84	Si
Maschio 8	PF	1.996	SLV 15	Si
Maschio 8	V	1.39	SLV 9	Si
Maschio 8	PFFP	0	SLV 12	No
Maschio 8	R	3.682	SLV 5	Si
Maschio 9	PF SLU	2.113	SLU 69	Si
Maschio 9	V SLU	2.214	SLU 84	Si
Maschio 9	PF	1.547	SLV 15	Si
Maschio 9	V	0.861	SLV 13	No
Maschio 9	PFFP	3.789	SLV 12	Si
Maschio 9	R	2.626	SLV 5	Si
Maschio 10	PF SLU	3.086	SLU 83	Si
Maschio 10	V SLU	2.199	SLU 83	Si
Maschio 10	PF	2.344	SLV 8	Si
Maschio 10	V	1.909	SLV 2	Si
Maschio 10	PFFP	24.913	SLV 11	Si
Maschio 10	R	0.621	SLV 5	No
Maschio 12	PF SLU	4.782	SLU 81	Si
Maschio 12	V SLU	5.536	SLU 83	Si
Maschio 12	PF	2.218	SLV 12	Si
Maschio 12	V	2.083	SLV 12	Si
Maschio 12	PFFP	22.373	SLV 12	Si
Maschio 12	R	2.667	SLV 1	Si
Maschio 13	PF SLU	2.849	SLU 83	Si
Maschio 13	V SLU	3.545	SLU 83	Si
Maschio 13	PF	1.443	SLV 5	Si
Maschio 13	V	2.068	SLV 16	Si
Maschio 13	PFFP	0	SLV 10	No
Maschio 13	R	2.297	SLV 8	Si
Maschio 15	PF SLU	2.353	SLU 82	Si
Maschio 15	V SLU	4.705	SLU 84	Si
Maschio 15	PF	0	SLD 7	No
Maschio 15	V	1.883	SLV 2	Si
Maschio 15	PFFP	0	SLV 12	No
Maschio 15	R	3.097	SLV 6	Si
Maschio 16	PF SLU	12.59	SLU 77	Si
Maschio 16	V SLU	2.729	SLU 84	Si
Maschio 16	PF	1.372	SLV 9	Si
Maschio 16	V	1.594	SLV 5	Si
Maschio 16	PFFP	32.715	SLV 10	Si
Maschio 16	R	1.871	SLV 4	Si
Maschio 17	PF SLU	1.482	SLU 84	Si
Maschio 17	V SLU	3.055	SLU 83	Si
Maschio 17	PF	0.296	SLV 8	No
Maschio 17	V	3.245	SLV 8	Si
Maschio 17	PFFP	0	SLV 8	No
Maschio 17	R	1.881	SLV 9	Si
Maschio 18	PF SLU	2.38	SLU 83	Si
Maschio 18	V SLU	1.295	SLU 83	Si
Maschio 18	PF	0.28	SLV 8	No
Maschio 18	V	0.275	SLV 8	No
Maschio 18	PFFP	25.378	SLV 8	Si
Maschio 18	R	2.569	SLV 9	Si
Maschio 19	PF SLU	3.903	SLU 83	Si
Maschio 19	V SLU	4.216	SLU 83	Si
Maschio 19	PF	1.651	SLV 8	Si
Maschio 19	V	1.428	SLV 8	Si
Maschio 19	PFFP	27.117	SLV 8	Si
Maschio 19	R	1.845	SLV 13	Si
Maschio 21	PF SLU	9.248	SLU 69	Si
Maschio 21	V SLU	4.686	SLU 83	Si
Maschio 21	PF	3.116	SLV 14	Si
Maschio 21	V	3.096	SLV 3	Si
Maschio 21	PFFP	19.892	SLV 10	Si
Maschio 21	R	4.179	SLV 3	Si
Maschio 22	PF SLU	31.533	SLU 40	Si
Maschio 22	V SLU	14.92	SLU 69	Si
Maschio 22	PF	1.23	SLV 10	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 22	V	1.67	SLV 14	Si
Maschio 22	PFFP	2.715	SLV 9	Si
Maschio 22	R	1.751	SLV 8	Si
Maschio 23	PF SLU	4.898	SLU 84	Si
Maschio 23	V SLU	3.529	SLU 84	Si
Maschio 23	PF	2.86	SLV 13	Si
Maschio 23	V	4.111	SLV 14	Si
Maschio 23	PFFP	42.522	SLV 16	Si
Maschio 23	R	1.816	SLV 1	Si
Maschio 24	PF SLU	9.172	SLU 84	Si
Maschio 24	V SLU	12.658	SLU 83	Si
Maschio 24	PF	2.722	SLV 13	Si
Maschio 24	V	4.765	SLV 3	Si
Maschio 24	PFFP	68.522	SLV 9	Si
Maschio 24	R	1.467	SLV 3	Si
Maschio 26	PF SLU	2.799	SLU 84	Si
Maschio 26	V SLU	37.17	SLU 70	Si
Maschio 26	PF	2.285	SLV 2	Si
Maschio 26	V	19.149	SLV 16	Si
Maschio 26	PFFP	79.703	SLV 2	Si
Maschio 26	R	1.192	SLV 15	Si
Maschio 27	PF SLU	11.162	SLU 84	Si
Maschio 27	V SLU	56.88	SLU 26	Si
Maschio 27	PF	3.928	SLV 14	Si
Maschio 27	V	4.88	SLV 1	Si
Maschio 27	PFFP	73.877	SLV 5	Si
Maschio 27	R	1.73	SLV 14	Si
Maschio 28	PF SLU	3.355	SLU 84	Si
Maschio 28	V SLU	13.404	SLU 83	Si
Maschio 28	PF	2.445	SLV 3	Si
Maschio 28	V	13.934	SLV 3	Si
Maschio 28	PFFP	85.915	SLV 3	Si
Maschio 28	R	1.442	SLV 14	Si
Maschio 29	PF SLU	5.407	SLU 83	Si
Maschio 29	V SLU	2.828	SLU 83	Si
Maschio 29	PF	3.27	SLV 1	Si
Maschio 29	V	3.552	SLV 3	Si
Maschio 29	PFFP	43.819	SLV 2	Si
Maschio 29	R	2.046	SLV 14	Si
Maschio 30	PF SLU	1.046	SLU 84	Si
Maschio 30	V SLU	1.397	SLU 84	Si
Maschio 30	PF	0	SLV 11	No
Maschio 30	V	2.074	SLV 13	Si
Maschio 30	PFFP	0	SLV 11	No
Maschio 30	R	1.778	SLV 6	Si
Maschio 31	PF SLU	4.22	SLU 83	Si
Maschio 31	V SLU	1.688	SLU 83	Si
Maschio 31	PF	0	SLV 11	No
Maschio 31	V	0.471	SLV 11	No
Maschio 31	PFFP	19.016	SLV 11	Si
Maschio 31	R	2.597	SLV 6	Si
Maschio 32	PF SLU	4.801	SLU 83	Si
Maschio 32	V SLU	2.983	SLU 83	Si
Maschio 32	PF	2.012	SLV 11	Si
Maschio 32	V	1.401	SLV 11	Si
Maschio 32	PFFP	26.96	SLV 11	Si
Maschio 32	R	1.689	SLV 10	Si
Maschio 34	PF SLU	9.1	SLU 84	Si
Maschio 34	V SLU	4.536	SLU 83	Si
Maschio 34	PF	1.899	SLV 10	Si
Maschio 34	V	1.495	SLV 11	Si
Maschio 34	PFFP	38.567	SLV 15	Si
Maschio 34	R	1.843	SLV 14	Si
Maschio 35	PF SLU	30.78	SLU 48	Si
Maschio 35	V SLU	33.828	SLU 50	Si
Maschio 35	PF	2.049	SLV 5	Si
Maschio 35	V	2.097	SLV 1	Si
Maschio 35	PFFP	2.852	SLV 6	Si
Maschio 35	R	1.419	SLV 11	Si
Maschio 36	PF SLU	9.677	SLU 69	Si
Maschio 36	V SLU	7.176	SLU 83	Si
Maschio 36	PF	2.354	SLV 5	Si
Maschio 36	V	4.258	SLV 3	Si
Maschio 36	PFFP	2.267	SLV 5	Si
Maschio 36	R	2.768	SLV 7	Si
Maschio 38	PF SLU	3.994	SLU 83	Si
Maschio 38	V SLU	2.841	SLU 84	Si
Maschio 38	PF	1.393	SLV 6	Si
Maschio 38	V	1.489	SLV 10	Si
Maschio 38	PFFP	18.358	SLV 5	Si
Maschio 38	R	2.22	SLV 15	Si
Maschio 40	PF SLU	2.126	SLU 82	Si
Maschio 40	V SLU	4.561	SLU 83	Si
Maschio 40	PF	0	SLD 7	No
Maschio 40	V	1.721	SLV 13	Si
Maschio 40	PFFP	0	SLV 12	No
Maschio 40	R	2.884	SLV 9	Si
Maschio 42	PF SLU	1.251	SLU 84	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 42	V SLU	1.819	SLU 84	Si
Maschio 42	PF	1.494	SLV 6	Si
Maschio 42	V	1.666	SLV 6	Si
Maschio 42	PFFP	50.831	SLV 8	Si
Maschio 42	R	1.928	SLV 10	Si
Maschio 43	PF SLU	3.128	SLU 83	Si
Maschio 43	V SLU	2.009	SLU 83	Si
Maschio 43	PF	2.036	SLV 11	Si
Maschio 43	V	1.107	SLV 15	Si
Maschio 43	PFFP	925.901	SLV 8	Si
Maschio 43	R	3.794	SLV 10	Si
Maschio 44	PF SLU	8.537	SLU 84	Si
Maschio 44	V SLU	2.719	SLU 83	Si
Maschio 44	PF	3.215	SLV 11	Si
Maschio 44	V	2.16	SLV 11	Si
Maschio 44	PFFP	1835.04	SLV 7	Si
Maschio 44	R	6.684	SLV 10	Si
Maschio 46	PF SLU	6.679	SLU 81	Si
Maschio 46	V SLU	7.326	SLU 83	Si
Maschio 46	PF	2.515	SLV 7	Si
Maschio 46	V	2.362	SLV 11	Si
Maschio 46	PFFP	27.733	SLV 7	Si
Maschio 46	R	2.011	SLV 14	Si
Maschio 47	PF SLU	3.96	SLU 84	Si
Maschio 47	V SLU	3.626	SLU 84	Si
Maschio 47	PF	1.289	SLV 6	Si
Maschio 47	V	2.272	SLV 10	Si
Maschio 47	PFFP	29.113	SLV 6	Si
Maschio 47	R	1.414	SLV 15	Si
Maschio 49	PF SLU	2.388	SLU 69	Si
Maschio 49	V SLU	2.86	SLU 82	Si
Maschio 49	PF	1.659	SLV 4	Si
Maschio 49	V	1	SLV 2	No
Maschio 49	PFFP	0	SLV 7	No
Maschio 49	R	2.767	SLV 10	Si
Maschio 50	PF SLU	4.43	SLU 76	Si
Maschio 50	V SLU	2.015	SLU 83	Si
Maschio 50	PF	2.43	SLV 4	Si
Maschio 50	V	1.408	SLV 6	Si
Maschio 50	PFFP	2.242	SLV 7	Si
Maschio 50	R	4.498	SLV 10	Si
Maschio 51	PF SLU	4.972	SLU 48	Si
Maschio 51	V SLU	5.558	SLU 83	Si
Maschio 51	PF	0	SLV 5	No
Maschio 51	V	4.166	SLV 1	Si
Maschio 51	PFFP	3.633	SLV 6	Si
Maschio 51	R	2.558	SLV 16	Si
Maschio 52	PF SLU	6.579	SLU 81	Si
Maschio 52	V SLU	1.939	SLU 83	Si
Maschio 52	PF	0.65	SLV 6	No
Maschio 52	V	1.58	SLV 11	Si
Maschio 52	PFFP	0	SLV 6	No
Maschio 52	R	2.378	SLV 11	Si
Maschio 53	PF SLU	7.38	SLU 52	Si
Maschio 53	V SLU	35.267	SLU 55	Si
Maschio 53	PF	1.67	SLV 6	Si
Maschio 53	V	3.532	SLV 10	Si
Maschio 53	PFFP	20.624	SLV 2	Si
Maschio 53	R	2.307	SLV 13	Si
Maschio 54	PF SLU	10.766	SLU 52	Si
Maschio 54	V SLU	43.773	SLU 83	Si
Maschio 54	PF	1.41	SLV 9	Si
Maschio 54	V	2.949	SLV 8	Si
Maschio 54	PFFP	8.023	SLV 15	Si
Maschio 54	R	1.289	SLV 1	Si
Maschio 55	PF SLU	20.614	SLU 43	Si
Maschio 55	V SLU	13.929	SLU 84	Si
Maschio 55	PF	0	SLV 5	No
Maschio 55	V	3.916	SLV 5	Si
Maschio 55	PFFP	0	SLV 9	No
Maschio 55	R	1.519	SLV 4	Si
Maschio 56	PF SLU	2.72	SLU 77	Si
Maschio 56	V SLU	2.445	SLU 83	Si
Maschio 56	PF	1.628	SLV 14	Si
Maschio 56	V	1.74	SLV 16	Si
Maschio 56	PFFP	1.996	SLV 9	Si
Maschio 56	R	1.316	SLV 16	Si
Maschio 57	PF SLU	3.337	SLU 81	Si
Maschio 57	V SLU	3.715	SLU 83	Si
Maschio 57	PF	0	SLV 7	No
Maschio 57	V	2.507	SLV 4	Si
Maschio 57	PFFP	0	SLV 11	No
Maschio 57	R	1.378	SLV 1	Si
Maschio 58	PF SLU	2.674	SLU 83	Si
Maschio 58	V SLU	2.295	SLU 83	Si
Maschio 58	PF	1.502	SLV 8	Si
Maschio 58	V	1.883	SLV 13	Si
Maschio 58	PFFP	2.975	SLV 12	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 58	R	1.729	SLV 1	Si
Maschio 59	PF SLU	2.417	SLU 83	Si
Maschio 59	V SLU	4.336	SLU 83	Si
Maschio 59	PF	0.671	SLV 15	No
Maschio 59	V	2.144	SLV 13	Si
Maschio 59	PFFP	5.041	SLV 12	Si
Maschio 59	R	1.324	SLV 2	Si
Maschio 60	PF SLU	14.657	SLU 77	Si
Maschio 60	V SLU	8.02	SLU 76	Si
Maschio 60	PF	7.49	SLV 8	Si
Maschio 60	V	2.303	SLV 5	Si
Maschio 60	PFFP	6.645	SLV 9	Si
Maschio 60	R	0.765	SLV 4	No
Maschio 61	PF SLU	2.624	SLU 84	Si
Maschio 61	V SLU	1.876	SLU 84	Si
Maschio 61	PF	0	SLV 5	No
Maschio 61	V	1.096	SLV 1	Si
Maschio 61	PFFP	1.25	SLV 9	Si
Maschio 61	R	0.928	SLV 16	No
Maschio 62	PF SLU	3.042	SLU 70	Si
Maschio 62	V SLU	8.981	SLU 78	Si
Maschio 62	PF	1.448	SLV 15	Si
Maschio 62	V	3.325	SLV 15	Si
Maschio 62	PFFP	2.46	SLV 11	Si
Maschio 62	R	1.462	SLV 13	Si
Maschio 63	PF SLU	5.757	SLU 64	Si
Maschio 63	V SLU	5.355	SLU 83	Si
Maschio 63	PF	1.489	SLV 12	Si
Maschio 63	V	2.953	SLV 12	Si
Maschio 63	PFFP	2.944	SLV 12	Si
Maschio 63	R	1.12	SLV 1	Si
Maschio 66	PF SLU	1.145	SLU 84	Si
Maschio 66	V SLU	2.482	SLU 84	Si
Maschio 66	PF	0.864	SLV 11	No
Maschio 66	V	2.505	SLV 13	Si
Maschio 66	PFFP	1.002	SLV 8	Si
Maschio 66	R	1.874	SLV 2	Si
Maschio 70	PF SLU	6.813	SLU 83	Si
Maschio 70	V SLU	3.204	SLU 84	Si
Maschio 70	PF	3.014	SLV 9	Si
Maschio 70	V	2.14	SLV 5	Si
Maschio 70	PFFP	4.712	SLV 9	Si
Maschio 70	R	0.825	SLV 4	No
Maschio 71	PF SLU	14.544	SLU 40	Si
Maschio 71	V SLU	8.654	SLU 69	Si
Maschio 71	PF	0.312	SLV 8	No
Maschio 71	V	2.464	SLV 8	Si
Maschio 71	PFFP	5.124	SLV 8	Si
Maschio 71	R	1.679	SLV 9	Si
Maschio 72	PF SLU	14.275	SLU 48	Si
Maschio 72	V SLU	3.691	SLU 77	Si
Maschio 72	PF	1.18	SLV 8	Si
Maschio 72	V	2.664	SLV 8	Si
Maschio 72	PFFP	18.342	SLV 8	Si
Maschio 72	R	1.918	SLV 9	Si
Maschio 73	PF SLU	9.969	SLU 77	Si
Maschio 73	V SLU	3.635	SLU 83	Si
Maschio 73	PF	2.372	SLV 11	Si
Maschio 73	V	1.623	SLV 8	Si
Maschio 73	PFFP	10.315	SLV 8	Si
Maschio 73	R	1.073	SLV 13	Si
Maschio 74	PF SLU	40.595	SLU 43	Si
Maschio 74	V SLU	7.686	SLU 84	Si
Maschio 74	PF	1.011	SLV 14	Si
Maschio 74	V	2.356	SLV 1	Si
Maschio 74	PFFP	3.922	SLV 10	Si
Maschio 74	R	0.915	SLV 3	No
Maschio 75	PF SLU	16.281	SLU 83	Si
Maschio 75	V SLU	151.93	SLU 43	Si
Maschio 75	PF	2.326	SLV 14	Si
Maschio 75	V	3.215	SLV 14	Si
Maschio 75	PFFP	5.994	SLV 10	Si
Maschio 75	R	1.096	SLV 3	Si
Maschio 76	PF SLU	19.984	SLU 81	Si
Maschio 76	V SLU	33.521	SLU 69	Si
Maschio 76	PF	2.098	SLV 10	Si
Maschio 76	V	3.077	SLV 3	Si
Maschio 76	PFFP	5.069	SLV 5	Si
Maschio 76	R	1.156	SLV 16	Si
Maschio 77	PF SLU	3.162	SLU 83	Si
Maschio 77	V SLU	17.998	SLU 82	Si
Maschio 77	PF	0.532	SLV 1	No
Maschio 77	V	2.027	SLV 3	Si
Maschio 77	PFFP	3.91	SLV 1	Si
Maschio 77	R	0.984	SLV 16	No
Maschio 78	PF SLU	7.882	SLU 84	Si
Maschio 78	V SLU	4.173	SLU 83	Si
Maschio 78	PF	3.466	SLV 13	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 78	V	3.453	SLV 15	Si
Maschio 78	PFFP	11.508	SLV 16	Si
Maschio 78	R	0.994	SLV 1	No
Maschio 79	PF SLU	6.238	SLU 84	Si
Maschio 79	V SLU	21.518	SLU 73	Si
Maschio 79	PF	3.234	SLV 2	Si
Maschio 79	V	3.035	SLV 13	Si
Maschio 79	PFFP	21.404	SLV 16	Si
Maschio 79	R	0.915	SLV 3	No
Maschio 80	PF SLU	8.53	SLU 83	Si
Maschio 80	V SLU	6.686	SLU 84	Si
Maschio 80	PF	3.902	SLV 3	Si
Maschio 80	V	2.29	SLV 2	Si
Maschio 80	PFFP	19.201	SLV 3	Si
Maschio 80	R	1.101	SLV 16	Si
Maschio 81	PF SLU	5.723	SLU 84	Si
Maschio 81	V SLU	7.3	SLU 69	Si
Maschio 81	PF	2.973	SLV 2	Si
Maschio 81	V	4.625	SLV 4	Si
Maschio 81	PFFP	11.454	SLV 2	Si
Maschio 81	R	1.108	SLV 13	Si
Maschio 82	PF SLU	14.458	SLU 83	Si
Maschio 82	V SLU	6.644	SLU 77	Si
Maschio 82	PF	0.247	SLV 11	No
Maschio 82	V	2.151	SLV 11	Si
Maschio 82	PFFP	3.56	SLV 7	Si
Maschio 82	R	1.678	SLV 10	Si
Maschio 83	PF SLU	9.389	SLU 83	Si
Maschio 83	V SLU	2.969	SLU 83	Si
Maschio 83	PF	0.887	SLV 7	No
Maschio 83	V	1.832	SLV 11	Si
Maschio 83	PFFP	10.363	SLV 8	Si
Maschio 83	R	1.973	SLV 10	Si
Maschio 85	PF SLU	21.763	SLU 83	Si
Maschio 85	V SLU	2.426	SLU 83	Si
Maschio 85	PF	3.68	SLV 11	Si
Maschio 85	V	0.863	SLV 11	No
Maschio 85	PFFP	111.061	SLV 7	Si
Maschio 85	R	2.496	SLV 10	Si
Maschio 86	PF SLU	14.15	SLU 69	Si
Maschio 86	V SLU	2.744	SLU 83	Si
Maschio 86	PF	2.424	SLV 11	Si
Maschio 86	V	1.758	SLV 11	Si
Maschio 86	PFFP	15.789	SLV 7	Si
Maschio 86	R	1.424	SLV 14	Si
Maschio 87	PF SLU	2.324	SLU 84	Si
Maschio 87	V SLU	1.265	SLU 83	Si
Maschio 87	PF	0.721	SLV 10	No
Maschio 87	V	0.913	SLV 11	No
Maschio 87	PFFP	9.569	SLV 2	Si
Maschio 87	R	0.903	SLV 15	No
Maschio 89	PF SLU	9.894	SLU 73	Si
Maschio 89	V SLU	3.789	SLU 84	Si
Maschio 89	PF	1.689	SLV 10	Si
Maschio 89	V	1.35	SLV 10	Si
Maschio 89	PFFP	6.488	SLV 6	Si
Maschio 89	R	1.143	SLV 3	Si
Maschio 93	PF SLU	1.198	SLU 84	Si
Maschio 93	V SLU	1.599	SLU 84	Si
Maschio 93	PF	0.833	SLV 8	No
Maschio 93	V	1.624	SLV 2	Si
Maschio 93	PFFP	2.342	SLV 11	Si
Maschio 93	R	1.411	SLV 13	Si
Maschio 94	PF SLU	2.937	SLU 82	Si
Maschio 94	V SLU	8.331	SLU 84	Si
Maschio 94	PF	0.537	SLV 11	No
Maschio 94	V	2.491	SLV 15	Si
Maschio 94	PFFP	2.006	SLV 8	Si
Maschio 94	R	1.465	SLV 2	Si
Maschio 96	PF SLU	8.53	SLU 82	Si
Maschio 96	V SLU	4.113	SLU 83	Si
Maschio 96	PF	3.552	SLV 7	Si
Maschio 96	V	2.525	SLV 11	Si
Maschio 96	PFFP	5.56	SLV 7	Si
Maschio 96	R	0.988	SLV 14	No
Maschio 97	PF SLU	6.404	SLU 84	Si
Maschio 97	V SLU	7.266	SLU 76	Si
Maschio 97	PF	5.535	SLV 1	Si
Maschio 97	V	2.711	SLV 6	Si
Maschio 97	PFFP	6.499	SLV 6	Si
Maschio 97	R	0.813	SLV 15	No
Maschio 99	PF SLU	2.506	SLU 83	Si
Maschio 99	V SLU	4.617	SLU 81	Si
Maschio 99	PF	0.828	SLV 4	No
Maschio 99	V	2.222	SLV 2	Si
Maschio 99	PFFP	4.025	SLV 7	Si
Maschio 99	R	1.435	SLV 13	Si
Maschio 100	PF SLU	2.373	SLU 83	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 100	V SLU	2.388	SLU 83	Si
Maschio 100	PF	1.241	SLV 11	Si
Maschio 100	V	1.916	SLV 2	Si
Maschio 100	PFFP	2.37	SLV 7	Si
Maschio 100	R	1.687	SLV 14	Si
Maschio 101	PF SLU	4.032	SLU 83	Si
Maschio 101	V SLU	3.2	SLU 83	Si
Maschio 101	PF	0	SLV 7	No
Maschio 101	V	1.953	SLV 15	Si
Maschio 101	PFFP	0	SLV 7	No
Maschio 101	R	1.55	SLV 14	Si
Maschio 102	PF SLU	3.594	SLU 43	Si
Maschio 102	V SLU	2.77	SLU 83	Si
Maschio 102	PF	1.448	SLV 1	Si
Maschio 102	V	2.31	SLV 3	Si
Maschio 102	PFFP	1.537	SLV 6	Si
Maschio 102	R	1.393	SLV 15	Si
Maschio 103	PF SLU	9.03	SLU 84	Si
Maschio 103	V SLU	7.149	SLU 84	Si
Maschio 103	PF	0	SLV 5	No
Maschio 103	V	4.03	SLV 10	Si
Maschio 103	PFFP	0	SLV 6	No
Maschio 103	R	1.482	SLV 15	Si
Maschio 104	PF SLU	12.74	SLU 52	Si
Maschio 104	V SLU	52.374	SLU 81	Si
Maschio 104	PF	1.746	SLV 6	Si
Maschio 104	V	2.515	SLV 6	Si
Maschio 104	PFFP	8.741	SLV 2	Si
Maschio 104	R	1.295	SLV 15	Si
Maschio 105	PF SLU	24.021	SLU 52	Si
Maschio 105	V SLU	72.209	SLU 39	Si
Maschio 105	PF	2.725	SLV 9	Si
Maschio 105	V	1.725	SLV 12	Si
Maschio 105	PFFP	4.969	SLV 16	Si
Maschio 105	R	1.778	SLV 3	Si
Maschio 106	PF SLU	7.446	SLU 43	Si
Maschio 106	V SLU	28.727	SLU 42	Si
Maschio 106	PF	0.213	SLV 5	No
Maschio 106	V	3.213	SLV 5	Si
Maschio 106	PFFP	2.671	SLV 9	Si
Maschio 106	R	1.969	SLV 3	Si
Maschio 107	PF SLU	10.783	SLU 81	Si
Maschio 107	V SLU	7.002	SLU 81	Si
Maschio 107	PF	1.019	SLV 5	Si
Maschio 107	V	3.665	SLV 16	Si
Maschio 107	PFFP	1.608	SLV 5	Si
Maschio 107	R	1.4	SLV 16	Si
Maschio 108	PF SLU	11.486	SLU 39	Si
Maschio 108	V SLU	9.616	SLU 81	Si
Maschio 108	PF	0.693	SLV 12	No
Maschio 108	V	3.572	SLV 8	Si
Maschio 108	PFFP	2.485	SLV 11	Si
Maschio 108	R	1.733	SLV 2	Si
Maschio 109	PF SLU	9.142	SLU 81	Si
Maschio 109	V SLU	7.267	SLU 78	Si
Maschio 109	PF	3.052	SLV 8	Si
Maschio 109	V	2.945	SLV 13	Si
Maschio 109	PFFP	2.561	SLV 12	Si
Maschio 109	R	1.973	SLV 1	Si
Maschio 110	PF SLU	2.491	SLU 64	Si
Maschio 110	V SLU	11.89	SLU 83	Si
Maschio 110	PF	0.523	SLV 15	No
Maschio 110	V	2.616	SLV 13	Si
Maschio 110	PFFP	2.865	SLV 11	Si
Maschio 110	R	1.842	SLV 2	Si
Maschio 111	PF SLU	15.929	SLU 73	Si
Maschio 111	V SLU	10.273	SLU 76	Si
Maschio 111	PF	3.358	SLV 9	Si
Maschio 111	V	3.13	SLV 5	Si
Maschio 111	PFFP	3.715	SLV 9	Si
Maschio 111	R	1.093	SLV 4	Si
Maschio 112	PF SLU	4.583	SLU 42	Si
Maschio 112	V SLU	6.488	SLU 77	Si
Maschio 112	PF	0	SLD 5	No
Maschio 112	V	2.332	SLV 5	Si
Maschio 112	PFFP	0	SLV 5	No
Maschio 112	R	1.06	SLV 3	Si
Maschio 113	PF SLU	3.419	SLU 70	Si
Maschio 113	V SLU	7.367	SLU 70	Si
Maschio 113	PF	0.416	SLV 15	No
Maschio 113	V	2.347	SLV 13	Si
Maschio 113	PFFP	1.043	SLV 11	Si
Maschio 113	R	1.649	SLV 13	Si
Maschio 114	PF SLU	4.958	SLU 69	Si
Maschio 114	V SLU	6.961	SLU 81	Si
Maschio 114	PF	1.607	SLV 12	Si
Maschio 114	V	3.37	SLV 12	Si
Maschio 114	PFFP	2.277	SLV 12	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 114	R	1.546	SLV 1	Si
Maschio 117	PF SLU	2.866	SLU 39	Si
Maschio 117	V SLU	2.302	SLU 84	Si
Maschio 117	PF	0	SLD 11	No
Maschio 117	V	2.052	SLV 15	Si
Maschio 117	PFFP	2.689	SLV 8	Si
Maschio 117	R	1.718	SLV 2	Si
Maschio 121	PF SLU	3.515	SLU 82	Si
Maschio 121	V SLU	10.323	SLU 73	Si
Maschio 121	PF	0.49	SLV 5	No
Maschio 121	V	2.424	SLV 5	Si
Maschio 121	PFFP	0.628	SLV 5	No
Maschio 121	R	1.176	SLV 4	Si
Maschio 122	PF SLU	8.845	SLU 40	Si
Maschio 122	V SLU	2.504	SLU 84	Si
Maschio 122	PF	3.156	SLV 8	Si
Maschio 122	V	1.925	SLV 9	Si
Maschio 122	PFFP	14.928	SLV 8	Si
Maschio 122	R	2.241	SLV 9	Si
Maschio 123	PF SLU	9.85	SLU 40	Si
Maschio 123	V SLU	5.956	SLU 82	Si
Maschio 123	PF	2.739	SLV 8	Si
Maschio 123	V	2.933	SLV 13	Si
Maschio 123	PFFP	11.15	SLV 11	Si
Maschio 123	R	2.654	SLV 9	Si
Maschio 125	PF SLU	8.951	SLU 83	Si
Maschio 125	V SLU	5.993	SLU 83	Si
Maschio 125	PF	3.08	SLV 7	Si
Maschio 125	V	2.029	SLV 8	Si
Maschio 125	PFFP	9.685	SLV 12	Si
Maschio 125	R	2.104	SLV 1	Si
Maschio 126	PF SLU	6.219	SLU 83	Si
Maschio 126	V SLU	3.31	SLU 83	Si
Maschio 126	PF	3.209	SLV 8	Si
Maschio 126	V	1.92	SLV 8	Si
Maschio 126	PFFP	8.889	SLV 12	Si
Maschio 126	R	1.34	SLV 1	Si
Maschio 127	PF SLU	9.638	SLU 43	Si
Maschio 127	V SLU	53.219	SLU 43	Si
Maschio 127	PF	1.033	SLV 16	Si
Maschio 127	V	3.641	SLV 16	Si
Maschio 127	PFFP	3.58	SLV 14	Si
Maschio 127	R	1.411	SLV 3	Si
Maschio 128	PF SLU	47.229	SLU 80	Si
Maschio 128	V SLU	64.878	SLU 84	Si
Maschio 128	PF	3.27	SLV 14	Si
Maschio 128	V	3.278	SLV 1	Si
Maschio 128	PFFP	6.489	SLV 10	Si
Maschio 128	R	1.435	SLV 3	Si
Maschio 129	PF SLU	18.925	SLU 79	Si
Maschio 129	V SLU	13.938	SLU 81	Si
Maschio 129	PF	2.764	SLV 1	Si
Maschio 129	V	2.939	SLV 3	Si
Maschio 129	PFFP	6.727	SLV 5	Si
Maschio 129	R	1.48	SLV 16	Si
Maschio 130	PF SLU	5.126	SLU 50	Si
Maschio 130	V SLU	14.115	SLU 77	Si
Maschio 130	PF	0.364	SLV 3	No
Maschio 130	V	3.898	SLV 3	Si
Maschio 130	PFFP	1.246	SLV 3	Si
Maschio 130	R	1.384	SLV 16	Si
Maschio 131	PF SLU	6.774	SLU 84	Si
Maschio 131	V SLU	9.405	SLU 43	Si
Maschio 131	PF	3.804	SLV 14	Si
Maschio 131	V	4.666	SLV 16	Si
Maschio 131	PFFP	7.823	SLV 13	Si
Maschio 131	R	1.287	SLV 4	Si
Maschio 132	PF SLU	29.71	SLU 83	Si
Maschio 132	V SLU	12.848	SLU 82	Si
Maschio 132	PF	5.092	SLV 4	Si
Maschio 132	V	3.322	SLV 13	Si
Maschio 132	PFFP	13.566	SLV 16	Si
Maschio 132	R	1.14	SLV 1	Si
Maschio 133	PF SLU	16.452	SLU 20	Si
Maschio 133	V SLU	47.281	SLU 62	Si
Maschio 133	PF	0.648	SLV 6	No
Maschio 133	V	4.868	SLV 11	Si
Maschio 133	PFFP	11.085	SLV 7	Si
Maschio 133	R	1.356	SLV 15	Si
Maschio 134	PF SLU	7.94	SLU 83	Si
Maschio 134	V SLU	7.632	SLU 83	Si
Maschio 134	PF	2.061	SLV 3	Si
Maschio 134	V	4.178	SLV 1	Si
Maschio 134	PFFP	15.171	SLV 7	Si
Maschio 134	R	1.167	SLV 15	Si
Maschio 135	PF SLU	4.766	SLU 82	Si
Maschio 135	V SLU	7.729	SLU 84	Si
Maschio 135	PF	1.797	SLV 2	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 135	V	3.543	SLV 2	Si
Maschio 135	PFFP	14.315	SLV 3	Si
Maschio 135	R	1.204	SLV 15	Si
Maschio 136	PF SLU	6.148	SLU 82	Si
Maschio 136	V SLU	12.359	SLU 44	Si
Maschio 136	PF	3.024	SLV 1	Si
Maschio 136	V	5.825	SLV 1	Si
Maschio 136	PFFP	7.781	SLV 2	Si
Maschio 136	R	1.414	SLV 15	Si
Maschio 137	PF SLU	14.263	SLU 82	Si
Maschio 137	V SLU	4.757	SLU 84	Si
Maschio 137	PF	2.223	SLV 11	Si
Maschio 137	V	2.254	SLV 6	Si
Maschio 137	PFFP	12.808	SLV 7	Si
Maschio 137	R	2.209	SLV 10	Si
Maschio 138	PF SLU	11.801	SLU 79	Si
Maschio 138	V SLU	5.161	SLU 77	Si
Maschio 138	PF	1.908	SLV 11	Si
Maschio 138	V	2.882	SLV 11	Si
Maschio 138	PFFP	11.406	SLV 8	Si
Maschio 138	R	2.554	SLV 10	Si
Maschio 139	PF SLU	13.255	SLU 83	Si
Maschio 139	V SLU	5.297	SLU 83	Si
Maschio 139	PF	3.009	SLV 11	Si
Maschio 139	V	2.447	SLV 11	Si
Maschio 139	PFFP	5.48	SLV 7	Si
Maschio 139	R	1.358	SLV 14	Si
Maschio 140	PF SLU	2.374	SLU 40	Si
Maschio 140	V SLU	2.211	SLU 84	Si
Maschio 140	PF	0.822	SLV 10	No
Maschio 140	V	1.362	SLV 10	Si
Maschio 140	PFFP	6.519	SLV 2	Si
Maschio 140	R	1.08	SLV 2	Si
Maschio 142	PF SLU	3.51	SLU 82	Si
Maschio 142	V SLU	8.003	SLU 82	Si
Maschio 142	PF	0.608	SLV 10	No
Maschio 142	V	2.132	SLV 10	Si
Maschio 142	PFFP	2.865	SLV 10	Si
Maschio 142	R	1.471	SLV 15	Si
Maschio 146	PF SLU	3.397	SLU 82	Si
Maschio 146	V SLU	2.812	SLU 82	Si
Maschio 146	PF	0.81	SLV 4	No
Maschio 146	V	1.946	SLV 4	Si
Maschio 146	PFFP	3.363	SLV 11	Si
Maschio 146	R	1.533	SLV 13	Si
Maschio 148	PF SLU	7.151	SLU 71	Si
Maschio 148	V SLU	9.198	SLU 81	Si
Maschio 148	PF	2.637	SLV 7	Si
Maschio 148	V	3.216	SLV 11	Si
Maschio 148	PFFP	4.657	SLV 7	Si
Maschio 148	R	1.293	SLV 14	Si
Maschio 149	PF SLU	3.244	SLU 82	Si
Maschio 149	V SLU	8.277	SLU 78	Si
Maschio 149	PF	0.567	SLV 4	No
Maschio 149	V	1.976	SLV 2	Si
Maschio 149	PFFP	2.551	SLV 8	Si
Maschio 149	R	1.654	SLV 2	Si
Maschio 150	PF SLU	14.577	SLU 82	Si
Maschio 150	V SLU	7.651	SLU 78	Si
Maschio 150	PF	3.949	SLV 10	Si
Maschio 150	V	3.203	SLV 6	Si
Maschio 150	PFFP	4.239	SLV 6	Si
Maschio 150	R	1.161	SLV 15	Si
Maschio 152	PF SLU	2.388	SLU 65	Si
Maschio 152	V SLU	8.813	SLU 81	Si
Maschio 152	PF	0.474	SLV 4	No
Maschio 152	V	2.344	SLV 2	Si
Maschio 152	PFFP	2.547	SLV 8	Si
Maschio 152	R	1.81	SLV 13	Si
Maschio 153	PF SLU	6.944	SLU 81	Si
Maschio 153	V SLU	5.527	SLU 82	Si
Maschio 153	PF	2.908	SLV 11	Si
Maschio 153	V	2.689	SLV 2	Si
Maschio 153	PFFP	2.861	SLV 7	Si
Maschio 153	R	1.937	SLV 14	Si
Maschio 154	PF SLU	11.195	SLU 44	Si
Maschio 154	V SLU	15.292	SLU 41	Si
Maschio 154	PF	1.11	SLV 11	Si
Maschio 154	V	3.06	SLV 11	Si
Maschio 154	PFFP	2.586	SLV 8	Si
Maschio 154	R	1.764	SLV 13	Si
Maschio 155	PF SLU	13.232	SLU 81	Si
Maschio 155	V SLU	5.868	SLU 81	Si
Maschio 155	PF	1.56	SLV 10	Si
Maschio 155	V	3.63	SLV 3	Si
Maschio 155	PFFP	1.632	SLV 10	Si
Maschio 155	R	1.387	SLV 3	Si
Maschio 156	PF SLU	6.468	SLU 43	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 156	V SLU	30.618	SLU 42	Si
Maschio 156	PF	0.833	SLV 10	No
Maschio 156	V	3.844	SLV 10	Si
Maschio 156	PFFP	1.808	SLV 6	Si
Maschio 156	R	1.904	SLV 16	Si
Maschio 157	PF SLU	23.581	SLU 61	Si
Maschio 157	V SLU	40.729	SLU 47	Si
Maschio 157	PF	2.857	SLV 6	Si
Maschio 157	V	1.796	SLV 6	Si
Maschio 157	PFFP	5.141	SLV 1	Si
Maschio 157	R	1.805	SLV 16	Si
Maschio 158	PF SLU	61.295	SLU 61	Si
Maschio 158	V SLU	59.763	SLU 55	Si
Maschio 158	PF	5.587	SLV 12	Si
Maschio 158	V	2.212	SLV 12	Si
Maschio 158	PFFP	3.304	SLV 16	Si
Maschio 158	R	3.003	SLV 3	Si
Maschio 159	PF SLU	8.326	SLU 40	Si
Maschio 159	V SLU	15.677	SLU 42	Si
Maschio 159	PF	1.025	SLV 5	Si
Maschio 159	V	3.92	SLV 5	Si
Maschio 159	PFFP	2.759	SLV 10	Si
Maschio 159	R	2.734	SLV 1	Si
Maschio 160	PF SLU	8.386	SLU 50	Si
Maschio 160	V SLU	24.28	SLU 81	Si
Maschio 160	PF	2.47	SLV 5	Si
Maschio 160	V	8.565	SLV 16	Si
Maschio 160	PFFP	2.079	SLV 5	Si
Maschio 160	R	2.347	SLV 4	Si
Maschio 161	PF SLU	9.267	SLU 39	Si
Maschio 161	V SLU	12.455	SLU 81	Si
Maschio 161	PF	1.408	SLV 8	Si
Maschio 161	V	4.494	SLV 8	Si
Maschio 161	PFFP	2.473	SLV 15	Si
Maschio 161	R	2.587	SLV 4	Si
Maschio 162	PF SLU	11.642	SLU 81	Si
Maschio 162	V SLU	10.544	SLU 70	Si
Maschio 162	PF	2.734	SLV 8	Si
Maschio 162	V	4.086	SLV 13	Si
Maschio 162	PFFP	1.956	SLV 12	Si
Maschio 162	R	2.901	SLV 1	Si
Maschio 163	PF SLU	2.336	SLU 44	Si
Maschio 163	V SLU	16.138	SLU 65	Si
Maschio 163	PF	0.233	SLV 13	No
Maschio 163	V	3.294	SLV 13	Si
Maschio 163	PFFP	1.638	SLV 15	Si
Maschio 163	R	2.612	SLV 2	Si
Maschio 164	PF SLU	13.027	SLU 52	Si
Maschio 164	V SLU	20.372	SLU 47	Si
Maschio 164	PF	3.376	SLV 10	Si
Maschio 164	V	4.577	SLV 5	Si
Maschio 164	PFFP	2.038	SLV 10	Si
Maschio 164	R	1.598	SLV 3	Si
Maschio 165	PF SLU	2.916	SLU 81	Si
Maschio 165	V SLU	9.002	SLU 77	Si
Maschio 165	PF	0	SLD 9	No
Maschio 165	V	4.933	SLV 12	Si
Maschio 165	PFFP	0.986	SLV 10	No
Maschio 165	R	1.629	SLV 1	Si
Maschio 166	PF SLU	2.288	SLU 64	Si
Maschio 166	V SLU	8.044	SLU 82	Si
Maschio 166	PF	0.294	SLV 15	No
Maschio 166	V	2.753	SLV 13	Si
Maschio 166	PFFP	0	SLV 11	No
Maschio 166	R	2.245	SLV 13	Si
Maschio 167	PF SLU	5.931	SLU 43	Si
Maschio 167	V SLU	13.583	SLU 81	Si
Maschio 167	PF	1.795	SLV 12	Si
Maschio 167	V	4.917	SLV 12	Si
Maschio 167	PFFP	0.881	SLV 12	No
Maschio 167	R	2.41	SLV 1	Si
Maschio 170	PF SLU	3.095	SLU 39	Si
Maschio 170	V SLU	3.153	SLU 82	Si
Maschio 170	PF	0.465	SLV 11	No
Maschio 170	V	2.641	SLV 15	Si
Maschio 170	PFFP	2.301	SLV 8	Si
Maschio 170	R	2.609	SLV 2	Si
Maschio 174	PF SLU	4.435	SLU 83	Si
Maschio 174	V SLU	30.14	SLU 77	Si
Maschio 174	PF	0	SLV 5	No
Maschio 174	V	4.18	SLV 5	Si
Maschio 174	PFFP	0	SLV 5	No
Maschio 174	R	2.238	SLV 16	Si
Maschio 175	PF SLU	7.268	SLU 40	Si
Maschio 175	V SLU	3.681	SLU 84	Si
Maschio 175	PF	4.214	SLV 13	Si
Maschio 175	V	2.695	SLV 9	Si
Maschio 175	PFFP	14.017	SLV 8	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 175	R	3.47	SLV 5	Si
Maschio 176	PF SLU	6.986	SLU 40	Si
Maschio 176	V SLU	7.156	SLU 82	Si
Maschio 176	PF	3.142	SLV 13	Si
Maschio 176	V	3.749	SLV 13	Si
Maschio 176	PFFP	7.722	SLV 11	Si
Maschio 176	R	5.085	SLV 6	Si
Maschio 178	PF SLU	8.925	SLU 41	Si
Maschio 178	V SLU	18.916	SLU 43	Si
Maschio 178	PF	5.149	SLV 11	Si
Maschio 178	V	3.139	SLV 8	Si
Maschio 178	PFFP	4.634	SLV 11	Si
Maschio 178	R	3.104	SLV 1	Si
Maschio 179	PF SLU	9.047	SLU 60	Si
Maschio 179	V SLU	6.742	SLU 78	Si
Maschio 179	PF	3.365	SLV 8	Si
Maschio 179	V	2.86	SLV 8	Si
Maschio 179	PFFP	4.46	SLV 12	Si
Maschio 179	R	1.676	SLV 1	Si
Maschio 180	PF SLU	9.361	SLU 42	Si
Maschio 180	V SLU	44.791	SLU 42	Si
Maschio 180	PF	1.927	SLV 16	Si
Maschio 180	V	7.044	SLV 1	Si
Maschio 180	PFFP	3.187	SLV 14	Si
Maschio 180	R	2.355	SLV 15	Si
Maschio 181	PF SLU	59.988	SLU 38	Si
Maschio 181	V SLU	44.945	SLU 78	Si
Maschio 181	PF	3.256	SLV 1	Si
Maschio 181	V	3.953	SLV 1	Si
Maschio 181	PFFP	4.613	SLV 10	Si
Maschio 181	R	2.015	SLV 3	Si
Maschio 182	PF SLU	20.614	SLU 71	Si
Maschio 182	V SLU	17.939	SLU 81	Si
Maschio 182	PF	2.643	SLV 3	Si
Maschio 182	V	3.806	SLV 3	Si
Maschio 182	PFFP	4.561	SLV 1	Si
Maschio 182	R	1.992	SLV 16	Si
Maschio 183	PF SLU	8.818	SLU 43	Si
Maschio 183	V SLU	36.058	SLU 64	Si
Maschio 183	PF	1.687	SLV 1	Si
Maschio 183	V	9.012	SLV 3	Si
Maschio 183	PFFP	2.687	SLV 1	Si
Maschio 183	R	2.741	SLV 16	Si
Maschio 184	PF SLU	8.671	SLU 82	Si
Maschio 184	V SLU	19.871	SLU 43	Si
Maschio 184	PF	4.947	SLV 14	Si
Maschio 184	V	7.401	SLV 16	Si
Maschio 184	PFFP	4.179	SLV 13	Si
Maschio 184	R	1.859	SLV 4	Si
Maschio 185	PF SLU	63.229	SLU 35	Si
Maschio 185	V SLU	11.695	SLU 82	Si
Maschio 185	PF	4.406	SLV 15	Si
Maschio 185	V	4.07	SLV 14	Si
Maschio 185	PFFP	6.942	SLV 12	Si
Maschio 185	R	1.439	SLV 1	Si
Maschio 186	PF SLU	14.919	SLU 23	Si
Maschio 186	V SLU	62.453	SLU 65	Si
Maschio 186	PF	0.187	SLV 11	No
Maschio 186	V	5.508	SLV 6	Si
Maschio 186	PFFP	4.885	SLV 7	Si
Maschio 186	R	2.016	SLV 15	Si
Maschio 187	PF SLU	4.553	SLU 40	Si
Maschio 187	V SLU	7.159	SLU 84	Si
Maschio 187	PF	1.548	SLV 1	Si
Maschio 187	V	4.709	SLV 1	Si
Maschio 187	PFFP	7.998	SLV 2	Si
Maschio 187	R	1.345	SLV 15	Si
Maschio 188	PF SLU	5.258	SLU 73	Si
Maschio 188	V SLU	10.896	SLU 84	Si
Maschio 188	PF	1.401	SLV 1	Si
Maschio 188	V	3.965	SLV 1	Si
Maschio 188	PFFP	7.01	SLV 2	Si
Maschio 188	R	1.643	SLV 15	Si
Maschio 189	PF SLU	8.21	SLU 44	Si
Maschio 189	V SLU	29.015	SLU 44	Si
Maschio 189	PF	4.257	SLV 1	Si
Maschio 189	V	9.577	SLV 1	Si
Maschio 189	PFFP	4.068	SLV 1	Si
Maschio 189	R	2.02	SLV 15	Si
Maschio 190	PF SLU	11.665	SLU 40	Si
Maschio 190	V SLU	6.74	SLU 82	Si
Maschio 190	PF	4.073	SLV 11	Si
Maschio 190	V	2.992	SLV 6	Si
Maschio 190	PFFP	13.611	SLV 7	Si
Maschio 190	R	3.331	SLV 10	Si
Maschio 191	PF SLU	10.569	SLU 50	Si
Maschio 191	V SLU	9.998	SLU 71	Si
Maschio 191	PF	2.298	SLV 11	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 191	V	4.194	SLV 15	Si
Maschio 191	PFFP	8.262	SLV 8	Si
Maschio 191	R	4.696	SLV 14	Si
Maschio 192	PF SLU	23.376	SLU 71	Si
Maschio 192	V SLU	11.384	SLU 79	Si
Maschio 192	PF	4.342	SLV 7	Si
Maschio 192	V	3.533	SLV 7	Si
Maschio 192	PFFP	3.107	SLV 8	Si
Maschio 192	R	2.074	SLV 14	Si
Maschio 193	PF SLU	17.462	SLU 18	Si
Maschio 193	V SLU	6.801	SLU 78	Si
Maschio 193	PF	2.763	SLV 7	Si
Maschio 193	V	3.148	SLV 10	Si
Maschio 193	PFFP	3.783	SLV 7	Si
Maschio 193	R	1.781	SLV 14	Si
Maschio 195	PF SLU	5.606	SLU 82	Si
Maschio 195	V SLU	77.594	SLU 44	Si
Maschio 195	PF	0.713	SLV 10	No
Maschio 195	V	4.117	SLV 10	Si
Maschio 195	PFFP	0.706	SLV 10	No
Maschio 195	R	2.459	SLV 15	Si
Maschio 199	PF SLU	3.719	SLU 82	Si
Maschio 199	V SLU	3.548	SLU 82	Si
Maschio 199	PF	0.6	SLV 4	No
Maschio 199	V	2.652	SLV 2	Si
Maschio 199	PFFP	2.13	SLV 11	Si
Maschio 199	R	2.384	SLV 13	Si
Maschio 201	PF SLU	8.864	SLU 50	Si
Maschio 201	V SLU	35.907	SLU 43	Si
Maschio 201	PF	3.776	SLV 7	Si
Maschio 201	V	4.661	SLV 11	Si
Maschio 201	PFFP	2.681	SLV 4	Si
Maschio 201	R	1.924	SLV 13	Si
Maschio 202	PF SLU	3.361	SLU 65	Si
Maschio 202	V SLU	8.361	SLU 82	Si
Maschio 202	PF	0.328	SLV 4	No
Maschio 202	V	2.246	SLV 2	Si
Maschio 202	PFFP	0.982	SLV 4	No
Maschio 202	R	2.23	SLV 2	Si
Maschio 203	PF SLU	12.121	SLU 82	Si
Maschio 203	V SLU	15.028	SLU 51	Si
Maschio 203	PF	3.028	SLV 5	Si
Maschio 203	V	4.873	SLV 5	Si
Maschio 203	PFFP	2.526	SLV 5	Si
Maschio 203	R	1.624	SLV 16	Si
Maschio 205	PF SLU	2.867	SLU 65	Si
Maschio 205	V SLU	14.283	SLU 65	Si
Maschio 205	PF	0.088	SLV 2	No
Maschio 205	V	2.79	SLV 2	Si
Maschio 205	PFFP	1.627	SLV 4	Si
Maschio 205	R	2.424	SLV 15	Si
Maschio 206	PF SLU	8.678	SLU 64	Si
Maschio 206	V SLU	8.332	SLU 73	Si
Maschio 206	PF	1.987	SLV 11	Si
Maschio 206	V	3.687	SLV 2	Si
Maschio 206	PFFP	2.046	SLV 7	Si
Maschio 206	R	2.781	SLV 14	Si
Maschio 207	PF SLU	9.943	SLU 41	Si
Maschio 207	V SLU	21.792	SLU 41	Si
Maschio 207	PF	1.775	SLV 11	Si
Maschio 207	V	3.963	SLV 11	Si
Maschio 207	PFFP	2.559	SLV 8	Si
Maschio 207	R	2.762	SLV 13	Si
Maschio 208	PF SLU	9.485	SLU 43	Si
Maschio 208	V SLU	18.695	SLU 81	Si
Maschio 208	PF	3.808	SLV 3	Si
Maschio 208	V	9.048	SLV 3	Si
Maschio 208	PFFP	2.915	SLV 10	Si
Maschio 208	R	2.218	SLV 15	Si
Maschio 209	PF SLU	7.281	SLU 42	Si
Maschio 209	V SLU	17.605	SLU 42	Si
Maschio 209	PF	1.79	SLV 10	Si
Maschio 209	V	4.676	SLV 10	Si
Maschio 209	PFFP	2.595	SLV 5	Si
Maschio 209	R	2.768	SLV 16	Si
Maschio 210	PF SLU	34.588	SLU 9	Si
Maschio 210	V SLU	30.799	SLU 52	Si
Maschio 210	PF	5.68	SLV 6	Si
Maschio 210	V	2.253	SLV 6	Si
Maschio 210	PFFP	3.35	SLV 1	Si
Maschio 210	R	3.046	SLV 15	Si
Maschio 211	PF SLU	12.87	SLU 51	Si
Maschio 211	V SLU	138.373	SLU 59	Si
Maschio 211	PF	2.926	SLV 11	Si
Maschio 211	V	4.841	SLV 12	Si
Maschio 211	PFFP	1.637	SLV 4	Si
Maschio 211	R	9.942	SLV 3	Si
Maschio 212	PF SLU	6.828	SLU 40	Si

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 212	V SLU	13.93	SLU 78	Si
Maschio 212	PF	0.962	SLV 5	No
Maschio 212	V	6.24	SLV 5	Si
Maschio 212	PFFP	1.684	SLV 5	Si
Maschio 212	R	5.8	SLV 15	Si
Maschio 213	PF SLU	1.557	SLU 60	Si
Maschio 213	V SLU	32.863	SLU 69	Si
Maschio 213	PF	0	SLV 10	No
Maschio 213	V	13.362	SLV 12	Si
Maschio 213	PFFP	0	SLV 9	No
Maschio 213	R	5.964	SLV 3	Si
Maschio 214	PF SLU	6.582	SLU 8	Si
Maschio 214	V SLU	16.525	SLU 81	Si
Maschio 214	PF	0.751	SLV 12	No
Maschio 214	V	5.451	SLV 8	Si
Maschio 214	PFFP	1.392	SLV 11	Si
Maschio 214	R	5.192	SLV 14	Si
Maschio 215	PF SLU	6.191	SLU 60	Si
Maschio 215	V SLU	13.073	SLU 70	Si
Maschio 215	PF	2.184	SLV 9	Si
Maschio 215	V	6.853	SLV 9	Si
Maschio 215	PFFP	1.059	SLV 15	Si
Maschio 215	R	6.667	SLV 1	Si
Maschio 216	PF SLU	1.228	SLU 52	Si
Maschio 216	V SLU	11.975	SLU 52	Si
Maschio 216	PF	0	SLV 9	No
Maschio 216	V	5.155	SLV 13	Si
Maschio 216	PFFP	1.079	SLV 4	Si
Maschio 216	R	5.788	SLV 4	Si
Maschio 217	PF SLU	2.131	SLU 51	Si
Maschio 217	V SLU	21.862	SLU 51	Si
Maschio 217	PF	1.046	SLV 10	Si
Maschio 217	V	5.97	SLV 5	Si
Maschio 217	PFFP	0.955	SLV 10	No
Maschio 217	R	6.631	SLV 16	Si
Maschio 219	PF SLU	6.627	SLU 81	Si
Maschio 219	V SLU	5.733	SLU 82	Si
Maschio 219	PF	1.802	SLV 15	Si
Maschio 219	V	2.726	SLV 15	Si
Maschio 219	PFFP	0	SLV 16	No
Maschio 219	R	8.257	SLV 2	Si
Maschio 220	PF SLU	5.995	SLU 38	Si
Maschio 220	V SLU	20.964	SLU 81	Si
Maschio 220	PF	2.34	SLV 11	Si
Maschio 220	V	10.703	SLV 11	Si
Maschio 220	PFFP	0.633	SLV 12	No
Maschio 220	R	12.43	SLV 2	Si
Maschio 222	PF SLU	5.403	SLU 81	Si
Maschio 222	V SLU	4.007	SLU 81	Si
Maschio 222	PF	3.295	SLV 15	Si
Maschio 222	V	2.753	SLV 15	Si
Maschio 222	PFFP	1.116	SLV 8	Si
Maschio 222	R	7.552	SLV 1	Si
Maschio 224	PF SLU	3.752	SLU 77	Si
Maschio 224	V SLU	12.162	SLU 77	Si
Maschio 224	PF	0.067	SLV 5	No
Maschio 224	V	6.111	SLV 11	Si
Maschio 224	PFFP	0.438	SLV 5	No
Maschio 224	R	12.211	SLV 16	Si
Maschio 225	PF SLU	2.646	SLU 80	Si
Maschio 225	V SLU	12.183	SLU 78	Si
Maschio 225	PF	1.264	SLV 13	Si
Maschio 225	V	4.337	SLV 10	Si
Maschio 225	PFFP	1.405	SLV 11	Si
Maschio 225	R	9.239	SLV 2	Si
Maschio 226	PF SLU	5.341	SLU 78	Si
Maschio 226	V SLU	9.557	SLU 78	Si
Maschio 226	PF	0	SLD 1	No
Maschio 226	V	3.2	SLV 1	Si
Maschio 226	PFFP	0	SLV 10	No
Maschio 226	R	4.01	SLV 16	Si
Maschio 227	PF SLU	17.908	SLU 38	Si
Maschio 227	V SLU	46.425	SLU 84	Si
Maschio 227	PF	3.219	SLV 1	Si
Maschio 227	V	6.56	SLV 1	Si
Maschio 227	PFFP	2.463	SLV 10	Si
Maschio 227	R	5.743	SLV 3	Si
Maschio 228	PF SLU	12.446	SLU 81	Si
Maschio 228	V SLU	25.456	SLU 81	Si
Maschio 228	PF	2.338	SLV 3	Si
Maschio 228	V	6.377	SLV 3	Si
Maschio 228	PFFP	2.283	SLV 1	Si
Maschio 228	R	6.184	SLV 16	Si
Maschio 229	PF SLU	4.628	SLU 80	Si
Maschio 229	V SLU	10.871	SLU 80	Si
Maschio 229	PF	0	SLV 9	No
Maschio 229	V	4.825	SLV 14	Si
Maschio 229	PFFP	0	SLV 14	No

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 229	R	4.012	SLV 3	Si
Maschio 230	PF SLU	5	SLU 58	Si
Maschio 230	V SLU	29.863	SLU 35	Si
Maschio 230	PF	1.778	SLV 9	Si
Maschio 230	V	18.231	SLV 14	Si
Maschio 230	PFFP	1.869	SLV 9	Si
Maschio 230	R	5.1	SLV 4	Si
Maschio 231	PF SLU	22.819	SLU 40	Si
Maschio 231	V SLU	12.753	SLU 82	Si
Maschio 231	PF	2.093	SLV 15	Si
Maschio 231	V	5.79	SLV 13	Si
Maschio 231	PFFP	3.925	SLV 11	Si
Maschio 231	R	2.389	SLV 2	Si
Maschio 232	PF SLU	10.279	SLU 23	Si
Maschio 232	V SLU	25.707	SLU 78	Si
Maschio 232	PF	0.213	SLV 12	No
Maschio 232	V	7.186	SLV 6	Si
Maschio 232	PFFP	3.057	SLV 8	Si
Maschio 232	R	1.58	SLV 9	Si
Maschio 233	PF SLU	2.436	SLU 40	Si
Maschio 233	V SLU	7.756	SLU 78	Si
Maschio 233	PF	0.56	SLV 2	No
Maschio 233	V	5.942	SLV 1	Si
Maschio 233	PFFP	3.745	SLV 6	Si
Maschio 233	R	2.319	SLV 15	Si
Maschio 234	PF SLU	3.498	SLU 40	Si
Maschio 234	V SLU	16.017	SLU 82	Si
Maschio 234	PF	0.994	SLV 1	No
Maschio 234	V	5.686	SLV 1	Si
Maschio 234	PFFP	3.473	SLV 2	Si
Maschio 234	R	2.546	SLV 16	Si
Maschio 235	PF SLU	8.342	SLU 27	Si
Maschio 235	V SLU	25.814	SLU 35	Si
Maschio 235	PF	3.586	SLV 16	Si
Maschio 235	V	25.072	SLV 16	Si
Maschio 235	PFFP	1.944	SLV 1	Si
Maschio 235	R	7.159	SLV 4	Si
Maschio 236	PF SLU	2.04	SLU 78	Si
Maschio 236	V SLU	19.678	SLU 69	Si
Maschio 236	PF	0	SLD 2	No
Maschio 236	V	7.875	SLV 7	Si
Maschio 236	PFFP	1.292	SLV 8	Si
Maschio 236	R	9.255	SLV 15	Si
Maschio 239	PF SLU	4.743	SLU 77	Si
Maschio 239	V SLU	8.908	SLU 77	Si
Maschio 239	PF	1.913	SLV 6	Si
Maschio 239	V	7.709	SLV 7	Si
Maschio 239	PFFP	0.788	SLV 6	No
Maschio 239	R	10.447	SLV 15	Si
Maschio 241	PF SLU	1.32	SLU 40	Si
Maschio 241	V SLU	5.761	SLU 82	Si
Maschio 241	PF	0.189	SLV 4	No
Maschio 241	V	3.11	SLV 2	Si
Maschio 241	PFFP	0	SLV 11	No
Maschio 241	R	7.435	SLV 2	Si
Maschio 242	PF SLU	3.725	SLU 72	Si
Maschio 242	V SLU	34.157	SLU 36	Si
Maschio 242	PF	1.868	SLV 5	Si
Maschio 242	V	8.625	SLV 5	Si
Maschio 242	PFFP	0.991	SLV 3	No
Maschio 242	R	10.409	SLV 13	Si
Maschio 243	PF SLU	6.976	SLU 82	Si
Maschio 243	V SLU	5.897	SLU 82	Si
Maschio 243	PF	0.092	SLV 2	No
Maschio 243	V	1.908	SLV 2	Si
Maschio 243	PFFP	0	SLV 6	No
Maschio 243	R	7.37	SLV 13	Si
Maschio 244	PF SLU	1.7	SLU 50	Si
Maschio 244	V SLU	10.295	SLU 50	Si
Maschio 244	PF	1.562	SLV 1	Si
Maschio 244	V	8.687	SLV 9	Si
Maschio 244	PFFP	1.927	SLV 1	Si
Maschio 244	R	5.082	SLV 3	Si
Maschio 246	PF SLU	1.453	SLU 52	Si
Maschio 246	V SLU	13.052	SLU 73	Si
Maschio 246	PF	0	SLV 1	No
Maschio 246	V	4.303	SLV 6	Si
Maschio 246	PFFP	0	SLV 11	No
Maschio 246	R	5.138	SLV 11	Si
Maschio 247	PF SLU	4.609	SLU 60	Si
Maschio 247	V SLU	12.491	SLU 65	Si
Maschio 247	PF	2.683	SLV 2	Si
Maschio 247	V	6.596	SLV 6	Si
Maschio 247	PFFP	1.06	SLV 4	Si
Maschio 247	R	6.669	SLV 14	Si
Maschio 248	PF SLU	8.959	SLU 44	Si
Maschio 248	V SLU	25.919	SLU 41	Si
Maschio 248	PF	0.966	SLV 11	No

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 248	V	5.718	SLV 11	Si
Maschio 248	PFFP	1.086	SLV 11	Si
Maschio 248	R	5.735	SLV 1	Si
Maschio 249	PF SLU	3.375	SLU 60	Si
Maschio 249	V SLU	36.139	SLU 43	Si
Maschio 249	PF	0.475	SLV 1	No
Maschio 249	V	15.1	SLV 7	Si
Maschio 249	PFFP	0	SLV 1	No
Maschio 249	R	4.707	SLV 16	Si
Maschio 250	PF SLU	3.481	SLU 38	Si
Maschio 250	V SLU	12.807	SLU 78	Si
Maschio 250	PF	1.87	SLV 10	Si
Maschio 250	V	7.279	SLV 10	Si
Maschio 250	PFFP	1.415	SLV 10	Si
Maschio 250	R	5.922	SLV 4	Si
Maschio 251	PF SLU	36.305	SLU 9	Si
Maschio 251	V SLU	87.215	SLU 27	Si
Maschio 251	PF	4.574	SLV 8	Si
Maschio 251	V	4.919	SLV 6	Si
Maschio 251	PFFP	1.692	SLV 14	Si
Maschio 251	R	9.675	SLV 16	Si
Maschio 254	PF SLU	5.437	SLU 22	Si
Maschio 254	V SLU	6.482	SLU 81	Si
Maschio 254	PF	2.806	SLV 13	Si
Maschio 254	V	4.412	SLV 13	Si
Maschio 254	PFFP	1.86	SLV 8	Si
Maschio 254	R	9.143	SLV 2	Si
Maschio 255	PF SLU	5.993	SLU 65	Si
Maschio 255	V SLU	13.792	SLU 81	Si
Maschio 255	PF	2.624	SLV 2	Si
Maschio 255	V	5.339	SLV 2	Si
Maschio 255	PFFP	1.838	SLV 7	Si
Maschio 255	R	9.109	SLV 13	Si
Maschio 260	PF SLU	3.867	SLU 83	Si
Maschio 260	V SLU	4.23	SLU 84	Si
Maschio 260	PF	0	SLV 4	No
Maschio 260	V	1.975	SLV 2	Si
Maschio 260	PFFP	0	SLV 12	No
Maschio 260	R	1.392	SLV 6	Si
Maschio 261	PF SLU	2.895	SLU 84	Si
Maschio 261	V SLU	2.633	SLU 84	Si
Maschio 261	PF	0	SLV 7	No
Maschio 261	V	1.762	SLV 13	Si
Maschio 261	PFFP	0	SLV 12	No
Maschio 261	R	1.359	SLV 13	Si
Maschio 264	PF SLU	8.829	SLU 84	Si
Maschio 264	V SLU	4.163	SLU 84	Si
Maschio 264	PF	0	SLV 8	No
Maschio 264	V	1.917	SLV 13	Si
Maschio 264	PFFP	2.502	SLV 8	Si
Maschio 264	R	1.263	SLV 2	Si
Maschio 265	PF SLU	3.195	SLU 84	Si
Maschio 265	V SLU	4.397	SLU 83	Si
Maschio 265	PF	0	SLV 11	No
Maschio 265	V	1.902	SLV 15	Si
Maschio 265	PFFP	1.86	SLV 11	Si
Maschio 265	R	1.157	SLV 13	Si
Maschio 270	PF SLU	5.46	SLU 83	Si
Maschio 270	V SLU	4.017	SLU 84	Si
Maschio 270	PF	0	SLV 15	No
Maschio 270	V	2.028	SLV 13	Si
Maschio 270	PFFP	3.257	SLV 8	Si
Maschio 270	R	1.49	SLV 2	Si
Maschio 271	PF SLU	4.773	SLU 83	Si
Maschio 271	V SLU	5.153	SLU 83	Si
Maschio 271	PF	0	SLV 4	No
Maschio 271	V	2.167	SLV 15	Si
Maschio 271	PFFP	2.394	SLV 11	Si
Maschio 271	R	1.361	SLV 13	Si
Maschio 277	PF SLU	4.774	SLU 81	Si
Maschio 277	V SLU	5.098	SLU 83	Si
Maschio 277	PF	0	SLD 13	No
Maschio 277	V	2.553	SLV 15	Si
Maschio 277	PFFP	1.24	SLV 15	Si
Maschio 277	R	3.915	SLV 13	Si
Maschio 278	PF SLU	4.641	SLU 81	Si
Maschio 278	V SLU	8.658	SLU 80	Si
Maschio 278	PF	0	SLD 2	No
Maschio 278	V	2.547	SLV 15	Si
Maschio 278	PFFP	1.378	SLV 4	Si
Maschio 278	R	4.262	SLV 2	Si
Maschio 282	PF SLU	3.677	SLU 83	Si
Maschio 282	V SLU	2.342	SLU 83	Si
Maschio 282	PF	2.105	SLV 11	Si
Maschio 282	V	1.433	SLV 11	Si
Maschio 282	PFFP	2.617	SLV 3	Si
Maschio 282	R	0.545	SLV 14	No

Verifica maschi in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
1	PF	1.179	SLV 12	0.285	1.166	751	1.207	Si
	V	3.589	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.524	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.571	SLV 1	0.362	1.483	1618	1.653	Si
2	PF	0.927	SLV 9	0.226	0.924	385	0.917	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.054	SLV 9	0.257	1.05	549	1.061	Si
	R	1.698	SLV 4	0.362	1.483	1618	1.653	Si
3	PF	0.983	SLV 9	0.24	0.982	453	0.981	No
	V	2.27	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	0.914	SLV 9	0.223	0.911	370	0.903	No
	R	1.824	SLV 8	0.362	1.483	1618	1.653	Si
4	PF	1.084	SLV 9	0.263	1.078	594	1.096	Si
	V	2.643	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1.195	SLV 9	0.288	1.181	780	1.226	Si
	R	1.818	SLV 8	0.362	1.483	1618	1.653	Si
6	PF	1.17	SLV 9	0.283	1.158	736	1.197	Si
	V	2.438	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	2.283	SLV 9	0.362	1.483	1618	1.653	Si
	R	1.374	SLV 4	0.329	1.346	1175	1.45	Si
8	PF	1.083	SLV 12	0.263	1.077	593	1.095	Si
	V	1.735	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	0.939	SLV 12	0.229	0.936	398	0.93	No
	R	2.315	SLV 5	0.362	1.483	1618	1.653	Si
9	PF	1.286	SLV 12	0.309	1.265	958	1.333	Si
	V	0.748	SLV 13	0.181	0.74	213	0.72	No
	PFFP	1.13	SLV 12	0.274	1.121	668	1.15	Si
	R	1.869	SLV 5	0.362	1.483	1618	1.653	Si
10	PF	1.408	SLV 8	0.337	1.377	1268	1.496	Si
	V	2.497	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.533	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.75	SLV 5	0.181	0.741	214	0.721	No
12	PF	1.342	SLV 12	0.322	1.317	1092	1.407	Si
	V	1.796	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	1.928	SLV 12	0.362	1.483	1618	1.653	Si
	R	2.077	SLV 5	0.362	1.483	1618	1.653	Si
13	PF	1.06	SLV 9	0.258	1.056	559	1.069	Si
	V	2.358	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	0.917	SLV 9	0.223	0.914	374	0.907	No
	R	1.742	SLV 8	0.362	1.483	1618	1.653	Si
15	PF	0.484	SLV 11	0.115	0.471	73	0.464	No
	V	1.733	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.635	SLV 11	0.151	0.619	140	0.606	No
	R	2.103	SLV 6	0.362	1.483	1618	1.653	Si
16	PF	1.208	SLV 9	0.291	1.192	804	1.241	Si
	V	1.919	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	2.279	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.633	SLV 8	0.362	1.483	1618	1.653	Si
17	PF	0.773	SLV 8	0.187	0.766	234	0.748	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.981	SLV 8	0.239	0.979	449	0.977	No
	R	1.567	SLV 9	0.362	1.483	1618	1.653	Si
18	PF	0.758	SLV 8	0.183	0.75	221	0.731	No
	V	0.426	SLV 8	0.104	0.424	56	0.416	No
	PFFP	1.036	SLV 8	0.253	1.034	524	1.041	Si
	R	2.122	SLV 9	0.362	1.483	1618	1.653	Si
19	PF	1.56	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.44	SLV 8	0.344	1.407	1359	1.539	Si
	PFFP	2.873	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.66	SLV 9	0.362	1.483	1618	1.653	Si
21	PF	2.728	SLV 6	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.307	SLV 10	0.362	1.483	1618	1.653	Si
	R	3.127	SLV 7	0.362	1.483	1618	1.653	Si
22	PF	1.025	SLV 10	0.25	1.024	509	1.029	Si
	V	1.604	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1.052	SLV 9	0.256	1.049	547	1.06	Si
	R	1.473	SLV 7	0.351	1.437	1457	1.583	Si
23	PF	2.449	SLV 16	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.942	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.622	SLV 1	0.362	1.483	1618	1.653	Si
24	PF	2.042	SLV 9	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.4	SLV 3	0.335	1.37	1245	1.484	Si
26	PF	1.528	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	4.044	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.15	SLV 15	0.278	1.139	701	1.173	Si
27	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.707	SLV 14	0.362	1.483	1618	1.653	Si
28	PF	2.142	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.367	SLV 14	0.327	1.34	1157	1.441	Si
29	PF	2.604	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.406	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.817	SLV 14	0.362	1.483	1618	1.653	Si
30	PF	0.663	SLV 11	0.158	0.646	155	0.632	No
	V	3.618	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.981	SLV 11	0.239	0.979	449	0.977	No
	R	1.505	SLV 6	0.358	1.466	1557	1.627	Si
31	PF	0.729	SLV 11	0.175	0.718	198	0.699	No
	V	0.759	SLV 11	0.184	0.751	222	0.732	No
	PFFP	1.025	SLV 11	0.25	1.024	509	1.029	Si
	R	2.129	SLV 6	0.362	1.483	1618	1.653	Si
32	PF	1.284	SLV 11	0.309	1.263	954	1.331	Si
	V	1.394	SLV 11	0.333	1.364	1229	1.477	Si
	PFFP	1.575	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.5	SLV 10	0.357	1.462	1541	1.62	Si
34	PF	1.667	SLV 10	0.362	1.483	1618	1.653	Si
	V	1.591	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.801	SLV 14	0.362	1.483	1618	1.653	Si
35	PF	1.069	SLV 5	0.26	1.064	572	1.079	Si
	V	1.758	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.045	SLV 6	0.255	1.042	537	1.052	Si
	R	1.274	SLV 11	0.306	1.254	934	1.319	Si
36	PF	1.083	SLV 6	0.263	1.077	593	1.095	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.055	SLV 5	0.257	1.051	551	1.063	Si
	R	1.981	SLV 7	0.362	1.483	1618	1.653	Si
38	PF	1.167	SLV 6	0.282	1.155	730	1.193	Si
	V	1.736	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.721	SLV 5	0.362	1.483	1618	1.653	Si
	R	1.802	SLV 11	0.362	1.483	1618	1.653	Si
40	PF	0.365	SLV 8	0.09	0.368	40	0.363	No
	V	1.554	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	0.641	SLV 8	0.153	0.625	143	0.611	No
	R	2.032	SLV 9	0.362	1.483	1618	1.653	Si
42	PF	1.361	SLV 7	0.326	1.334	1141	1.432	Si
	V	1.721	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.718	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.646	SLV 10	0.362	1.483	1618	1.653	Si
43	PF	1.302	SLV 11	0.313	1.28	994	1.354	Si
	V	1.195	SLV 15	0.288	1.181	780	1.226	Si
	PFFP	1.59	SLV 8	0.362	1.483	1618	1.653	Si
	R	3.192	SLV 10	0.362	1.483	1618	1.653	Si
44	PF	1.265	SLV 7	0.304	1.245	915	1.308	Si
	V	1.155	SLV 11	0.279	1.144	709	1.178	Si
	PFFP	1.318	SLV 7	0.316	1.294	1033	1.375	Si
	R	3.98	SLV 3	0.362	1.483	1618	1.653	Si
46	PF	1.482	SLV 7	0.353	1.445	1485	1.596	Si
	V	2.017	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.032	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.647	SLV 10	0.362	1.483	1618	1.653	Si
47	PF	1.163	SLV 6	0.281	1.151	723	1.188	Si
	V	3.087	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.758	SLV 6	0.362	1.483	1618	1.653	Si
	R	1.325	SLV 15	0.318	1.301	1050	1.384	Si
49	PF	1.196	SLV 7	0.289	1.182	782	1.227	Si
	V	0.999	SLV 2	0.244	0.999	473	0.998	No
	PFFP	0.991	SLV 7	0.242	0.991	463	0.99	No
	R	1.918	SLV 10	0.362	1.483	1618	1.653	Si
50	PF	1.183	SLV 7	0.286	1.17	759	1.212	Si
	V	1.771	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.052	SLV 7	0.256	1.049	547	1.06	Si
	R	2.703	SLV 10	0.362	1.483	1618	1.653	Si
51	PF	0.802	SLV 5	0.194	0.794	258	0.779	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.081	SLV 6	0.263	1.075	590	1.093	Si
	R	1.906	SLV 12	0.362	1.483	1618	1.653	Si
52	PF	0.95	SLV 6	0.232	0.948	412	0.943	No
	V	1.952	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	0.954	SLV 6	0.233	0.952	416	0.947	No
	R	1.784	SLV 11	0.362	1.483	1618	1.653	Si
53	PF	1.649	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.06	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.108	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.904	SLV 13	0.362	1.483	1618	1.653	Si
54	PF	1.389	SLV 9	0.332	1.36	1215	1.47	Si
	V	2.087	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.931	SLV 15	0.362	1.483	1618	1.653	Si
	R	1.213	SLV 1	0.292	1.197	813	1.247	Si
55	PF	0.829	SLV 5	0.201	0.822	282	0.808	No
	V	3.842	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.931	SLV 9	0.227	0.928	389	0.921	No
	R	1.366	SLV 4	0.327	1.339	1154	1.439	Si
56	PF	1.062	SLV 9	0.258	1.058	561	1.071	Si
	V	2.323	SLV 16	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.08	SLV 9	0.262	1.074	588	1.091	Si
	R	1.244	SLV 16	0.299	1.226	873	1.283	Si
57	PF	0.591	SLV 8	0.14	0.574	118	0.565	No
	V	2.458	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	0.912	SLV 12	0.222	0.909	369	0.902	No
	R	1.26	SLV 1	0.303	1.241	905	1.303	Si
58	PF	1.112	SLV 8	0.27	1.104	638	1.129	Si
	V	2.486	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.26	SLV 12	0.303	1.241	905	1.303	Si
	R	1.537	SLV 1	0.362	1.483	1618	1.653	Si
59	PF	0.733	SLV 15	0.177	0.723	201	0.703	No
	V	2.674	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.319	SLV 12	0.316	1.295	1035	1.376	Si
	R	1.24	SLV 2	0.299	1.222	865	1.279	Si
60	PF	1.71	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.995	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.63	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.799	SLV 4	0.193	0.792	255	0.775	No
61	PF	0.439	SLV 5	0.106	0.433	59	0.425	No
	V	1.144	SLV 1	0.277	1.134	691	1.166	Si
	PFFP	1.016	SLV 9	0.248	1.015	496	1.018	Si
	R	0.947	SLV 16	0.231	0.945	408	0.94	No
62	PF	1.12	SLV 8	0.272	1.112	651	1.138	Si
	V	3.002	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.096	SLV 11	0.266	1.09	613	1.11	Si
	R	1.353	SLV 13	0.324	1.327	1120	1.421	Si
63	PF	1.178	SLV 12	0.285	1.165	750	1.206	Si
	V	3.93	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	1.23	SLV 12	0.296	1.213	845	1.266	Si
	R	1.097	SLV 1	0.266	1.09	615	1.112	Si
66	PF	0.801	SLV 11	0.194	0.793	257	0.777	No
	V	3.922	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.999	SLV 8	0.244	0.999	474	0.999	No
	R	1.496	SLV 2	0.356	1.458	1529	1.615	Si
70	PF	1.273	SLV 5	0.306	1.253	931	1.318	Si
	V	2.075	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.274	SLV 9	0.306	1.254	934	1.319	Si
	R	0.85	SLV 4	0.206	0.844	303	0.832	No
71	PF	0.878	SLV 8	0.213	0.873	331	0.862	No
	V	2.368	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.069	SLV 8	0.26	1.064	572	1.079	Si
	R	1.449	SLV 9	0.346	1.415	1385	1.551	Si
72	PF	1.032	SLV 8	0.252	1.03	518	1.036	Si
	V	2.58	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.307	SLV 8	0.314	1.284	1006	1.36	Si
	R	1.611	SLV 9	0.362	1.483	1618	1.653	Si
73	PF	1.696	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.662	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	2.584	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.063	SLV 13	0.259	1.059	563	1.072	Si
74	PF	1.002	SLV 14	0.245	1.002	477	1.002	Si
	V	2.013	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.313	SLV 10	0.315	1.29	1021	1.369	Si
	R	0.938	SLV 3	0.228	0.935	397	0.929	No
75	PF	1.257	SLV 10	0.302	1.238	899	1.299	Si
	V	2.289	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.527	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.079	SLV 3	0.262	1.073	587	1.091	Si
76	PF	1.13	SLV 10	0.274	1.121	668	1.15	Si
	V	2.544	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.373	SLV 5	0.329	1.345	1173	1.449	Si
	R	1.126	SLV 16	0.273	1.117	661	1.145	Si
77	PF	0.812	SLV 1	0.197	0.805	267	0.79	No
	V	1.98	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	1.32	SLV 1	0.317	1.296	1038	1.378	Si
	R	0.988	SLV 16	0.241	0.988	459	0.986	No
78	PF	2.253	SLV 16	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.29	SLV 16	0.362	1.483	1618	1.653	Si
	R	0.994	SLV 1	0.243	0.993	466	0.992	No
79	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.044	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.919	SLV 3	0.224	0.916	376	0.909	No
80	PF	3.399	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.559	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.093	SLV 16	0.265	1.086	608	1.107	Si
81	PF	2.543	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.431	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.091	SLV 13	0.265	1.085	605	1.104	Si
82	PF	0.869	SLV 11	0.211	0.864	322	0.853	No
	V	2.202	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.04	SLV 7	0.253	1.037	530	1.046	Si
	R	1.442	SLV 10	0.344	1.408	1364	1.541	Si
83	PF	0.982	SLV 7	0.239	0.98	450	0.978	No
	V	2.225	SLV 11	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.151	SLV 8	0.279	1.14	702	1.174	Si
	R	1.633	SLV 10	0.362	1.483	1618	1.653	Si
85	PF	1.864	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.836	SLV 11	0.203	0.829	289	0.816	No
	PFFP	2.34	SLV 7	0.362	1.483	1618	1.653	Si
	R	2.052	SLV 10	0.362	1.483	1618	1.653	Si
86	PF	1.469	SLV 11	0.35	1.433	1445	1.578	Si
	V	1.784	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.918	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.351	SLV 14	0.324	1.325	1115	1.419	Si
87	PF	0.711	SLV 10	0.171	0.699	186	0.681	No
	V	0.866	SLV 11	0.21	0.86	318	0.848	No
	PFFP	1.91	SLV 2	0.362	1.483	1618	1.653	Si
	R	0.909	SLV 15	0.221	0.905	364	0.897	No
89	PF	1.301	SLV 6	0.312	1.279	992	1.352	Si
	V	1.425	SLV 10	0.34	1.393	1316	1.519	Si
	PFFP	1.59	SLV 6	0.362	1.483	1618	1.653	Si
	R	1.12	SLV 3	0.272	1.112	651	1.138	Si
93	PF	0.734	SLV 4	0.177	0.725	202	0.704	No
	V	2.129	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.111	SLV 11	0.27	1.103	637	1.128	Si
	R	1.31	SLV 13	0.314	1.287	1013	1.364	Si
94	PF	0.912	SLV 11	0.222	0.909	369	0.902	No
	V	2.124	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.066	SLV 8	0.259	1.062	567	1.075	Si
	R	1.358	SLV 2	0.325	1.331	1133	1.428	Si
96	PF	1.367	SLV 7	0.327	1.34	1157	1.441	Si
	V	3.301	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.718	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.989	SLV 14	0.242	0.988	460	0.987	No
97	PF	1.47	SLV 6	0.35	1.434	1448	1.579	Si
	V	2.593	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.634	SLV 6	0.362	1.483	1618	1.653	Si
	R	0.84	SLV 15	0.204	0.835	294	0.821	No
99	PF	0.857	SLV 4	0.208	0.852	310	0.839	No
	V	2.54	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.198	SLV 7	0.289	1.183	785	1.229	Si
	R	1.331	SLV 13	0.319	1.306	1065	1.392	Si
100	PF	1.045	SLV 11	0.255	1.042	537	1.052	Si
	V	2.528	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.171	SLV 7	0.283	1.158	737	1.197	Si
	R	1.519	SLV 14	0.362	1.48	1606	1.648	Si
101	PF	0.674	SLV 11	0.161	0.66	162	0.643	No
	V	2.467	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.994	SLV 7	0.243	0.993	466	0.992	No
	R	1.384	SLV 14	0.331	1.355	1202	1.463	Si
102	PF	1.067	SLV 6	0.26	1.062	569	1.077	Si
	V	2.453	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	1.045	SLV 6	0.255	1.042	537	1.052	Si
	R	1.307	SLV 15	0.314	1.284	1006	1.36	Si
103	PF	0.8	SLV 6	0.194	0.793	257	0.777	No
	V	3.91	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	0.876	SLV 6	0.213	0.871	329	0.86	No
	R	1.337	SLV 15	0.321	1.312	1080	1.4	Si
104	PF	1.691	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.464	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	2.107	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.219	SLV 15	0.294	1.203	824	1.253	Si
105	PF	2.279	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.619	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	2.309	SLV 16	0.362	1.483	1618	1.653	Si
	R	1.579	SLV 3	0.362	1.483	1618	1.653	Si
106	PF	0.856	SLV 5	0.208	0.851	309	0.838	No
	V	3.243	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.312	SLV 9	0.315	1.289	1018	1.367	Si
	R	1.731	SLV 3	0.362	1.483	1618	1.653	Si
107	PF	1.003	SLV 5	0.245	1.003	479	1.003	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.069	SLV 5	0.26	1.064	572	1.079	Si
	R	1.297	SLV 16	0.311	1.275	982	1.347	Si
108	PF	0.957	SLV 8	0.233	0.955	420	0.951	No
	V	3.184	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.278	SLV 11	0.307	1.257	941	1.324	Si
	R	1.508	SLV 2	0.359	1.469	1567	1.631	Si
109	PF	1.577	SLV 8	0.362	1.483	1618	1.653	Si
	V	3.454	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.298	SLV 12	0.312	1.276	985	1.349	Si
	R	1.718	SLV 1	0.362	1.483	1618	1.653	Si
110	PF	0.793	SLV 15	0.192	0.785	250	0.769	No
	V	2.826	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.361	SLV 11	0.326	1.334	1141	1.432	Si
	R	1.562	SLV 2	0.362	1.483	1618	1.653	Si
111	PF	1.896	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.814	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.483	SLV 9	0.353	1.446	1488	1.597	Si
	R	1.072	SLV 4	0.261	1.067	577	1.083	Si
112	PF	0.476	SLV 5	0.113	0.463	70	0.456	No
	V	2.64	SLV 5	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	0.916	SLV 5	0.223	0.913	373	0.906	No
	R	1.04	SLV 3	0.253	1.037	530	1.046	Si
113	PF	0.66	SLV 15	0.157	0.642	153	0.628	No
	V	2.605	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.005	SLV 11	0.245	1.005	481	1.005	Si
	R	1.473	SLV 13	0.351	1.437	1457	1.583	Si
114	PF	1.424	SLV 12	0.34	1.392	1313	1.517	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.195	SLV 12	0.288	1.181	780	1.226	Si
	R	1.424	SLV 1	0.34	1.392	1313	1.517	Si
117	PF	0.459	SLV 15	0.108	0.442	63	0.437	No
	V	2.643	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.253	SLV 8	0.302	1.234	891	1.294	Si
	R	1.51	SLV 2	0.359	1.471	1573	1.634	Si
121	PF	0.723	SLV 5	0.174	0.711	193	0.691	No
	V	2.684	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.923	SLV 5	0.225	0.92	380	0.913	No
	R	1.146	SLV 4	0.277	1.136	694	1.168	Si
122	PF	1.274	SLV 8	0.306	1.254	934	1.319	Si
	V	2.419	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.439	SLV 8	0.343	1.406	1356	1.537	Si
	R	1.785	SLV 9	0.362	1.483	1618	1.653	Si
123	PF	1.298	SLV 8	0.312	1.276	985	1.349	Si
	V	3.093	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.507	SLV 11	0.359	1.468	1564	1.63	Si
	R	2.03	SLV 9	0.362	1.483	1618	1.653	Si
125	PF	1.905	SLV 12	0.362	1.483	1618	1.653	Si
	V	2.068	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	2.422	SLV 12	0.362	1.483	1618	1.653	Si
	R	1.863	SLV 1	0.362	1.483	1618	1.653	Si
126	PF	3.18	SLV 12	0.362	1.483	1618	1.653	Si
	V	2.279	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.3	SLV 1	0.312	1.278	990	1.351	Si
127	PF	1.019	SLV 16	0.249	1.018	500	1.021	Si
	V	3.578	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1.399	SLV 14	0.334	1.369	1243	1.484	Si
	R	1.3	SLV 3	0.312	1.278	990	1.351	Si
128	PF	2.285	SLV 14	0.362	1.483	1618	1.653	Si
	V	2.233	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.128	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.354	SLV 3	0.324	1.328	1123	1.423	Si
129	PF	2.091	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.126	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	2.471	SLV 5	0.362	1.483	1618	1.653	Si
	R	1.381	SLV 16	0.33	1.353	1194	1.459	Si
130	PF	0.775	SLV 3	0.187	0.767	235	0.749	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.03	SLV 3	0.251	1.028	515	1.034	Si
	R	1.263	SLV 16	0.304	1.243	911	1.306	Si
131	PF	2.252	SLV 13	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.271	SLV 13	0.362	1.483	1618	1.653	Si
	R	1.238	SLV 3	0.298	1.22	861	1.276	Si
132	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.971	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.128	SLV 1	0.273	1.119	664	1.147	Si
133	PF	0.841	SLV 6	0.204	0.835	294	0.821	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.804	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.287	SLV 15	0.309	1.266	960	1.334	Si
134	PF	2.221	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.153	SLV 15	0.279	1.142	706	1.176	Si
135	PF	2.057	SLV 2	0.362	1.483	1618	1.653	Si
	V	3.402	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.184	SLV 15	0.286	1.17	760	1.213	Si
136	PF	2.785	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.474	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.344	SLV 15	0.322	1.318	1097	1.409	Si
137	PF	1.187	SLV 7	0.287	1.173	765	1.216	Si
	V	2.572	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.358	SLV 7	0.325	1.331	1133	1.428	Si
	R	1.763	SLV 10	0.362	1.483	1618	1.653	Si
138	PF	1.228	SLV 11	0.296	1.211	841	1.264	Si
	V	2.671	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.493	SLV 8	0.356	1.455	1520	1.611	Si
	R	1.975	SLV 10	0.362	1.483	1618	1.653	Si
139	PF	1.753	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.257	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.835	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.283	SLV 14	0.308	1.262	952	1.33	Si
140	PF	0.767	SLV 10	0.186	0.759	229	0.741	No
	V	1.487	SLV 10	0.354	1.45	1500	1.602	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.886	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.07	SLV 2	0.26	1.065	574	1.081	Si
142	PF	0.712	SLV 10	0.171	0.699	186	0.681	No
	V	2.363	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.204	SLV 10	0.29	1.189	796	1.236	Si
	R	1.383	SLV 15	0.331	1.354	1199	1.462	Si
146	PF	0.895	SLV 4	0.218	0.891	350	0.882	No
	V	2.112	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.303	SLV 11	0.313	1.281	997	1.355	Si
	R	1.388	SLV 13	0.332	1.359	1212	1.468	Si
148	PF	1.918	SLV 7	0.362	1.483	1618	1.653	Si
	V	3.769	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.055	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.247	SLV 14	0.3	1.228	878	1.286	Si
149	PF	0.743	SLV 4	0.18	0.735	210	0.716	No
	V	2.121	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.21	SLV 8	0.292	1.194	808	1.243	Si
	R	1.485	SLV 2	0.354	1.448	1494	1.6	Si
150	PF	1.967	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.801	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.68	SLV 6	0.362	1.483	1618	1.653	Si
	R	1.129	SLV 15	0.274	1.12	666	1.149	Si
152	PF	0.711	SLV 2	0.171	0.699	186	0.681	No
	V	2.531	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.248	SLV 8	0.3	1.23	881	1.288	Si
	R	1.592	SLV 13	0.362	1.483	1618	1.653	Si
153	PF	1.416	SLV 11	0.338	1.385	1290	1.506	Si
	V	3.209	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.325	SLV 7	0.318	1.301	1050	1.384	Si
	R	1.706	SLV 14	0.362	1.483	1618	1.653	Si
154	PF	1.022	SLV 11	0.249	1.021	505	1.025	Si
	V	3.138	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.309	SLV 8	0.314	1.286	1011	1.363	Si
	R	1.536	SLV 13	0.362	1.483	1618	1.653	Si
155	PF	1.093	SLV 10	0.265	1.086	608	1.107	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.072	SLV 10	0.261	1.067	577	1.083	Si
	R	1.296	SLV 3	0.311	1.274	980	1.346	Si
156	PF	0.977	SLV 10	0.238	0.975	444	0.973	No
	V	3.857	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.126	SLV 6	0.273	1.117	661	1.145	Si
	R	1.669	SLV 16	0.362	1.483	1618	1.653	Si
157	PF	2.383	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.484	SLV 6	0.354	1.447	1491	1.598	Si
	PFFP	2.37	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.603	SLV 16	0.362	1.483	1618	1.653	Si
158	PF	3.407	SLV 16	0.362	1.483	1618	1.653	Si
	V	2.13	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	2.533	SLV 16	0.362	1.483	1618	1.653	Si
	R	2.594	SLV 3	0.362	1.483	1618	1.653	Si
159	PF	1.006	SLV 5	0.246	1.006	483	1.007	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.812	SLV 10	0.362	1.483	1618	1.653	Si
	R	2.355	SLV 1	0.362	1.483	1618	1.653	Si
160	PF	1.306	SLV 5	0.314	1.283	1004	1.359	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.286	SLV 5	0.309	1.265	958	1.333	Si
	R	1.977	SLV 8	0.362	1.483	1618	1.653	Si
161	PF	1.159	SLV 8	0.28	1.148	717	1.184	Si
	V	4.005	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.644	SLV 15	0.362	1.483	1618	1.653	Si
	R	2.097	SLV 4	0.362	1.483	1618	1.653	Si
162	PF	1.785	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.351	SLV 12	0.324	1.325	1115	1.419	Si
	R	2.416	SLV 1	0.362	1.483	1618	1.653	Si
163	PF	0.605	SLV 13	0.143	0.587	124	0.577	No
	V	3.654	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.215	SLV 15	0.293	1.199	817	1.249	Si
	R	1.988	SLV 2	0.362	1.483	1618	1.653	Si
164	PF	2.015	SLV 10	0.362	1.483	1618	1.653	Si
	V	3.974	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.192	SLV 10	0.288	1.178	774	1.222	Si
	R	1.429	SLV 3	0.341	1.397	1327	1.524	Si
165	PF	0.598	SLV 10	0.142	0.58	121	0.571	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.996	SLV 10	0.243	0.995	469	0.995	No
	R	1.437	SLV 1	0.343	1.404	1350	1.535	Si
166	PF	0.51	SLV 15	0.12	0.493	82	0.487	No
	V	3.253	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.837	SLV 15	0.203	0.83	290	0.817	No
	R	1.878	SLV 13	0.362	1.483	1618	1.653	Si
167	PF	1.353	SLV 12	0.324	1.327	1120	1.421	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.939	SLV 12	0.229	0.936	398	0.93	No
	R	2	SLV 1	0.362	1.483	1618	1.653	Si
170	PF	0.659	SLV 15	0.157	0.642	153	0.628	No
	V	3.445	SLV 15	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.338	SLV 8	0.321	1.313	1082	1.401	Si
	R	2.064	SLV 2	0.362	1.483	1618	1.653	Si
174	PF	0.788	SLV 5	0.191	0.78	246	0.764	No
	V	3.985	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	0.692	SLV 5	0.166	0.678	173	0.661	No
	R	1.861	SLV 16	0.362	1.483	1618	1.653	Si
175	PF	1.657	SLV 8	0.362	1.483	1618	1.653	Si
	V	3.531	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	2.064	SLV 8	0.362	1.483	1618	1.653	Si
	R	2.497	SLV 5	0.362	1.483	1618	1.653	Si
176	PF	1.853	SLV 8	0.362	1.483	1618	1.653	Si
	V	3.499	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	2.109	SLV 11	0.362	1.483	1618	1.653	Si
	R	3.469	SLV 6	0.362	1.483	1618	1.653	Si
178	PF	1.945	SLV 11	0.362	1.483	1618	1.653	Si
	V	2.506	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.041	SLV 11	0.362	1.483	1618	1.653	Si
	R	2.399	SLV 1	0.362	1.483	1618	1.653	Si
179	PF	1.897	SLV 12	0.362	1.483	1618	1.653	Si
	V	2.755	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	2.479	SLV 12	0.362	1.483	1618	1.653	Si
	R	1.506	SLV 1	0.358	1.467	1560	1.628	Si
180	PF	1.636	SLV 14	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.819	SLV 14	0.362	1.483	1618	1.653	Si
	R	2.035	SLV 11	0.362	1.483	1618	1.653	Si
181	PF	2.507	SLV 14	0.362	1.483	1618	1.653	Si
	V	2.857	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.591	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.833	SLV 3	0.362	1.483	1618	1.653	Si
182	PF	2.075	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.999	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	2.761	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.775	SLV 16	0.362	1.483	1618	1.653	Si
183	PF	1.327	SLV 1	0.318	1.303	1055	1.387	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.678	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.378	SLV 16	0.362	1.483	1618	1.653	Si
184	PF	1.949	SLV 13	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.862	SLV 13	0.362	1.483	1618	1.653	Si
	R	1.682	SLV 4	0.362	1.483	1618	1.653	Si
185	PF	2.696	SLV 16	0.362	1.483	1618	1.653	Si
	V	3.732	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	3.351	SLV 12	0.362	1.483	1618	1.653	Si
	R	1.376	SLV 1	0.329	1.348	1180	1.452	Si
186	PF	0.594	SLV 11	0.141	0.576	119	0.567	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.785	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.884	SLV 15	0.362	1.483	1618	1.653	Si
187	PF	1.432	SLV 1	0.342	1.399	1336	1.528	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.283	SLV 15	0.308	1.262	952	1.33	Si
188	PF	1.433	SLV 1	0.342	1.4	1339	1.529	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.535	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.536	SLV 15	0.362	1.483	1618	1.653	Si
189	PF	2.428	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.935	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.797	SLV 15	0.362	1.483	1618	1.653	Si
190	PF	1.64	SLV 11	0.362	1.483	1618	1.653	Si
	V	3.239	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.945	SLV 7	0.362	1.483	1618	1.653	Si
	R	2.416	SLV 10	0.362	1.483	1618	1.653	Si
191	PF	1.755	SLV 11	0.362	1.483	1618	1.653	Si
	V	3.616	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.152	SLV 8	0.362	1.483	1618	1.653	Si
	R	3.3	SLV 10	0.362	1.483	1618	1.653	Si
192	PF	2.002	SLV 7	0.362	1.483	1618	1.653	Si
	V	3.025	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.738	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.74	SLV 14	0.362	1.483	1618	1.653	Si
193	PF	1.638	SLV 7	0.362	1.483	1618	1.653	Si
	V	3.067	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.955	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.58	SLV 14	0.362	1.483	1618	1.653	Si
195	PF	0.829	SLV 10	0.201	0.822	282	0.808	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.899	SLV 10	0.219	0.895	353	0.885	No
	R	2.044	SLV 15	0.362	1.483	1618	1.653	Si
199	PF	0.745	SLV 4	0.18	0.736	211	0.717	No
	V	2.788	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.248	SLV 11	0.3	1.23	881	1.288	Si
	R	1.927	SLV 13	0.362	1.483	1618	1.653	Si
201	PF	2.721	SLV 7	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.596	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.707	SLV 13	0.362	1.483	1618	1.653	Si
202	PF	0.503	SLV 2	0.118	0.485	79	0.479	No
	V	2.5	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.995	SLV 4	0.243	0.995	468	0.994	No
	R	1.862	SLV 2	0.362	1.483	1618	1.653	Si
203	PF	1.812	SLV 5	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.417	SLV 5	0.339	1.386	1293	1.508	Si
	R	1.47	SLV 16	0.35	1.434	1448	1.579	Si
205	PF	0.557	SLV 2	0.132	0.539	102	0.532	No
	V	3.05	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.193	SLV 4	0.288	1.179	776	1.223	Si
	R	1.919	SLV 15	0.362	1.483	1618	1.653	Si
206	PF	1.331	SLV 11	0.319	1.306	1065	1.392	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.346	SLV 7	0.323	1.32	1102	1.412	Si
	R	2.332	SLV 14	0.362	1.483	1618	1.653	Si
207	PF	1.267	SLV 11	0.305	1.247	919	1.311	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.749	SLV 8	0.362	1.483	1618	1.653	Si
	R	2.283	SLV 13	0.362	1.483	1618	1.653	Si
208	PF	1.611	SLV 10	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.614	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.907	SLV 15	0.362	1.483	1618	1.653	Si
209	PF	1.181	SLV 10	0.285	1.168	755	1.209	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.671	SLV 5	0.362	1.483	1618	1.653	Si
	R	2.414	SLV 16	0.362	1.483	1618	1.653	Si
210	PF	3.912	SLV 5	0.362	1.483	1618	1.653	Si
	V	2.174	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	2.636	SLV 1	0.362	1.483	1618	1.653	Si
	R	2.652	SLV 15	0.362	1.483	1618	1.653	Si
211	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.618	SLV 4	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
212	PF	0.978	SLV 5	0.239	0.977	446	0.975	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.478	SLV 5	0.352	1.441	1473	1.59	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
213	PF	0.255	SLV 14	0.059	0.242	14	0.236	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.78	SLV 14	0.189	0.773	239	0.755	No
	R	3.022	SLV 3	0.362	1.483	1618	1.653	Si
214	PF	0.886	SLV 12	0.215	0.881	340	0.872	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.249	SLV 11	0.301	1.23	883	1.289	Si
	R	3.68	SLV 14	0.362	1.483	1618	1.653	Si
215	PF	1.788	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.043	SLV 15	0.254	1.04	534	1.049	Si
	R	3.795	SLV 1	0.362	1.483	1618	1.653	Si
216	PF	0.182	SLV 13	0.041	0.169	6	0.167	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.049	SLV 4	0.255	1.046	542	1.056	Si
	R	2.917	SLV 8	0.362	1.483	1618	1.653	Si
217	PF	1.041	SLV 10	0.254	1.038	531	1.047	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.968	SLV 9	0.236	0.967	434	0.964	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
219	PF	1.08	SLV 15	0.262	1.074	588	1.091	Si
	V	3.188	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.33	SLV 15	0.078	0.318	28	0.313	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
220	PF	1.629	SLV 11	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.741	SLV 12	0.179	0.731	207	0.711	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
222	PF	1.245	SLV 11	0.3	1.227	875	1.285	Si
	V	3.442	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.047	SLV 8	0.255	1.044	540	1.054	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
224	PF	0.767	SLV 5	0.186	0.759	229	0.741	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.675	SLV 5	0.161	0.66	162	0.643	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
225	PF	1.289	SLV 13	0.31	1.268	965	1.337	Si
	V	3.738	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.209	SLV 11	0.292	1.193	806	1.242	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
226	PF	0.413	SLV 5	0.1	0.41	52	0.404	No
	V	3.754	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.344	SLV 5	0.086	0.351	36	0.347	No
	R	2.523	SLV 16	0.362	1.483	1618	1.653	Si
227	PF	2.859	SLV 14	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	2.127	SLV 10	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
228	PF	2.072	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.011	SLV 1	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
229	PF	0.658	SLV 10	0.156	0.64	152	0.627	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.466	SLV 10	0.112	0.457	68	0.451	No
	R	2.204	SLV 3	0.362	1.483	1618	1.653	Si
230	PF	1.215	SLV 9	0.293	1.199	817	1.249	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.152	SLV 9	0.279	1.141	704	1.175	Si
	R	3.5	SLV 7	0.362	1.483	1618	1.653	Si
231	PF	1.51	SLV 15	0.359	1.471	1573	1.634	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.952	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.968	SLV 2	0.362	1.483	1618	1.653	Si
232	PF	0.6	SLV 6	0.142	0.583	122	0.573	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.358	SLV 8	0.325	1.331	1133	1.428	Si
	R	1.351	SLV 9	0.324	1.325	1115	1.419	Si
233	PF	0.721	SLV 1	0.173	0.71	192	0.69	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.725	SLV 6	0.362	1.483	1618	1.653	Si
	R	1.831	SLV 15	0.362	1.483	1618	1.653	Si
234	PF	0.993	SLV 1	0.243	0.993	465	0.991	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.808	SLV 2	0.362	1.483	1618	1.653	Si
	R	2.013	SLV 16	0.362	1.483	1618	1.653	Si
235	PF	2.42	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.205	SLV 1	0.291	1.19	798	1.237	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
236	PF	0.639	SLV 2	0.152	0.623	142	0.61	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.172	SLV 8	0.283	1.16	739	1.199	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
239	PF	1.13	SLV 6	0.274	1.121	668	1.15	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.875	SLV 6	0.212	0.87	328	0.859	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
241	PF	0.318	SLV 2	0.074	0.303	25	0.299	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.916	SLV 11	0.223	0.913	373	0.906	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
242	PF	2.362	SLV 5	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.992	SLV 3	0.242	0.992	464	0.99	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
243	PF	0.899	SLV 2	0.219	0.895	353	0.885	No
	V	2.216	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.32	SLV 2	0.075	0.308	26	0.304	No
	R	4.026	SLV 13	0.362	1.483	1618	1.653	Si
244	PF	2.572	SLV 5	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.261	SLV 1	0.303	1.242	907	1.304	Si
	R	3.111	SLV 3	0.362	1.483	1618	1.653	Si
246	PF	0.219	SLV 6	0.057	0.234	13	0.229	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.637	SLV 11	0.152	0.621	141	0.608	No
	R	2.638	SLV 11	0.362	1.483	1618	1.653	Si
247	PF	1.489	SLV 11	0.355	1.452	1507	1.605	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.045	SLV 4	0.255	1.042	537	1.052	Si
	R	3.783	SLV 14	0.362	1.483	1618	1.653	Si
248	PF	0.983	SLV 11	0.24	0.982	453	0.981	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.05	SLV 11	0.256	1.047	544	1.057	Si
	R	3.383	SLV 1	0.362	1.483	1618	1.653	Si
249	PF	0.635	SLV 1	0.151	0.619	140	0.606	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.903	SLV 1	0.22	0.899	358	0.891	No
	R	2.662	SLV 16	0.362	1.483	1618	1.653	Si
250	PF	1.419	SLV 10	0.339	1.387	1298	1.51	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.279	SLV 10	0.307	1.258	944	1.325	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
251	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.622	SLV 14	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
254	PF	2.677	SLV 15	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.56	SLV 8	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
255	PF	2.094	SLV 4	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.534	SLV 7	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
260	PF	0.692	SLV 8	0.166	0.678	173	0.661	No
	V	2.246	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.835	SLV 8	0.202	0.828	288	0.815	No
	R	1.254	SLV 6	0.302	1.235	892	1.295	Si
261	PF	0.465	SLV 11	0.111	0.454	67	0.448	No
	V	2.081	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.828	SLV 11	0.201	0.821	281	0.806	No
	R	1.247	SLV 9	0.3	1.228	878	1.286	Si
264	PF	0.687	SLV 15	0.164	0.673	170	0.656	No
	V	2.143	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.116	SLV 8	0.271	1.108	645	1.134	Si
	R	1.184	SLV 2	0.286	1.17	760	1.213	Si
265	PF	0.684	SLV 11	0.163	0.669	168	0.653	No
	V	1.825	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.063	SLV 11	0.259	1.059	563	1.072	Si
	R	1.111	SLV 13	0.27	1.103	637	1.128	Si
270	PF	0.521	SLV 15	0.123	0.503	86	0.496	No
	V	2.206	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.349	SLV 8	0.323	1.323	1110	1.416	Si
	R	1.319	SLV 2	0.316	1.295	1035	1.376	Si
271	PF	0.617	SLV 15	0.147	0.6	131	0.59	No
	V	1.99	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.207	SLV 11	0.291	1.191	802	1.24	Si
	R	1.244	SLV 13	0.299	1.226	873	1.283	Si
277	PF	0.294	SLV 15	0.069	0.281	21	0.278	No
	V	2.938	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.145	SLV 15	0.277	1.134	692	1.167	Si
	R	3.275	SLV 13	0.362	1.483	1618	1.653	Si
278	PF	0.437	SLV 15	0.103	0.42	55	0.413	No
	V	2.553	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.216	SLV 4	0.293	1.2	818	1.25	Si
	R	3.578	SLV 2	0.362	1.483	1618	1.653	Si
282	PF	2.564	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.615	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.143	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.584	SLV 13	0.139	0.567	115	0.559	No

Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
2	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.496	SLV 12	0.118	0.482	78	0.477	No
4	F	0.114	SLV 8	0.031	0.127	3	0.125	No
	V	0.268	SLV 8	0.069	0.281	21	0.278	No
6	F	2.715	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.288	SLV 9	0.073	0.298	24	0.294	No
8	F	3.653	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.602	SLV 4	0.143	0.585	123	0.575	No
11	F	3.296	SLV 16	0.362	1.483	1618	1.653	Si
	V	0.668	SLV 16	0.159	0.652	158	0.637	No
21	F	3.717	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.799	SLV 3	0.193	0.792	255	0.775	No
23	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.344	SLV 3	0.322	1.318	1097	1.409	Si
25	F	0.331	SLV 7	0.082	0.337	33	0.335	No
	V	0.313	SLV 7	0.078	0.318	28	0.313	No
26	F	1.432	SLV 13	0.342	1.399	1336	1.528	Si
	V	1.444	SLV 13	0.345	1.41	1370	1.544	Si
27	F	0.107	SLV 11	0.026	0.107	2	0.106	No
	V	0.316	SLV 11	0.079	0.323	30	0.322	No
28	F	2.239	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.397	SLV 15	0.094	0.384	44	0.377	No
30	F	3.583	SLV 6	0.362	1.483	1618	1.653	Si
	V	0.421	SLV 6	0.102	0.417	54	0.41	No
32	F	3.663	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.489	SLV 7	0.116	0.477	75	0.469	No
34	F	1.532	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.504	SLV 16	0.358	1.465	1554	1.626	Si
35	F	1.972	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.462	SLV 12	0.11	0.451	66	0.445	No
36	F	1.53	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.383	SLV 4	0.331	1.354	1199	1.462	Si
37	F	1.952	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.672	SLV 9	0.161	0.658	161	0.642	No
39	F	2.842	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.549	SLV 9	0.129	0.53	98	0.524	No
40	F	1.544	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.242	SLV 13	0.299	1.224	868	1.28	Si
41	F	2.704	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.316	SLV 9	0.316	1.292	1028	1.372	Si
42	F	2.147	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.7	SLV 12	0.168	0.687	178	0.669	No
44	F	3.04	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.134	SLV 13	0.275	1.124	674	1.154	Si
46	F	1.128	SLV 12	0.273	1.119	664	1.147	Si
	V	0.35	SLV 12	0.087	0.355	37	0.351	No
47	F	1.053	SLV 16	0.256	1.05	549	1.061	Si

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	0.908	SLV 16	0.221	0.904	363	0.896	No
48	F	1.908	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.337	SLV 16	0.079	0.323	30	0.322	No
49	F	1.36	SLV 14	0.326	1.333	1138	1.431	Si
	V	0.889	SLV 3	0.216	0.885	343	0.875	No
50	F	1.168	SLV 3	0.282	1.156	732	1.194	Si
	V	0.624	SLV 3	0.148	0.606	134	0.595	No
51	F	1.355	SLV 3	0.325	1.329	1125	1.424	Si
	V	1.113	SLV 3	0.27	1.105	640	1.13	Si
52	F	1.155	SLV 3	0.279	1.144	709	1.178	Si
	V	0.753	SLV 3	0.182	0.744	217	0.725	No
53	F	1.346	SLV 13	0.323	1.32	1102	1.412	Si
	V	0.241	SLV 13	0.055	0.226	12	0.221	No
54	F	0.83	SLV 13	0.201	0.823	283	0.809	No
	V	0.641	SLV 15	0.153	0.625	143	0.611	No
55	F	2.15	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.391	SLV 4	0.092	0.376	42	0.37	No
57	F	1.47	SLV 2	0.35	1.434	1448	1.579	Si
	V	0.625	SLV 2	0.148	0.606	134	0.595	No
59	F	1.605	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.881	SLV 15	0.214	0.877	335	0.867	No
60	F	2.575	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.72	SLV 6	0.173	0.708	191	0.688	No
64	F	2.473	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.423	SLV 6	0.103	0.42	55	0.413	No
65	F	2.062	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.401	SLV 15	0.335	1.371	1248	1.486	Si
66	F	1.465	SLV 2	0.349	1.43	1433	1.573	Si
	V	0.976	SLV 2	0.238	0.975	443	0.972	No
67	F	2.477	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.575	SLV 7	0.362	1.483	1618	1.653	Si
68	F	2.665	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.629	SLV 7	0.15	0.612	137	0.601	No
69	F	3.3	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.947	SLV 12	0.231	0.945	408	0.94	No
70	F	3.69	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.846	SLV 12	0.205	0.841	300	0.828	No
71	F	1.884	SLV 4	0.362	1.483	1618	1.653	Si
	V	1.341	SLV 9	0.321	1.316	1090	1.406	Si
72	F	1.697	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.272	SLV 4	0.306	1.252	929	1.317	Si
73	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.644	SLV 13	0.153	0.627	144	0.613	No
74	F	3.559	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.993	SLV 2	0.362	1.483	1618	1.653	Si
75	F	1.978	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.886	SLV 13	0.215	0.881	340	0.872	No
76	F	3.487	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.509	SLV 4	0.359	1.47	1570	1.633	Si
77	F	2.641	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.193	SLV 12	0.288	1.179	776	1.223	Si
79	F	1.942	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.804	SLV 13	0.195	0.797	260	0.781	No
81	F	1.372	SLV 12	0.328	1.344	1170	1.447	Si
	V	0.552	SLV 12	0.131	0.535	100	0.528	No
82	F	1.521	SLV 1	0.362	1.482	1612	1.65	Si
	V	0.982	SLV 16	0.239	0.98	450	0.978	No
83	F	2.416	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.674	SLV 16	0.161	0.66	162	0.643	No
84	F	1.403	SLV 3	0.335	1.373	1253	1.488	Si
	V	0.77	SLV 3	0.186	0.763	232	0.745	No
85	F	1.507	SLV 14	0.359	1.468	1564	1.63	Si
	V	0.708	SLV 3	0.17	0.696	184	0.678	No
86	F	1.753	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.201	SLV 3	0.29	1.186	791	1.233	Si
87	F	1.521	SLV 3	0.362	1.482	1612	1.65	Si
	V	1.087	SLV 3	0.264	1.081	599	1.1	Si
88	F	1.579	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.523	SLV 13	0.124	0.506	87	0.499	No
89	F	1.105	SLV 2	0.268	1.097	627	1.121	Si
	V	1.005	SLV 13	0.245	1.005	481	1.005	Si
90	F	1.213	SLV 6	0.292	1.197	813	1.247	Si
	V	0.791	SLV 6	0.192	0.784	249	0.767	No
91	F	2.821	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.149	SLV 1	0.278	1.138	699	1.172	Si
92	F	2.32	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.977	SLV 1	0.238	0.975	444	0.973	No
94	F	1.634	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.682	SLV 2	0.163	0.667	167	0.651	No
96	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.672	SLV 7	0.161	0.658	161	0.642	No
97	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.063	SLV 12	0.362	1.483	1618	1.653	Si
98	F	1.45	SLV 2	0.346	1.416	1388	1.552	Si
	V	0.623	SLV 6	0.148	0.606	134	0.595	No
99	F	2.218	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.161	SLV 15	0.281	1.15	720	1.186	Si
100	F	1000	SLV 1	0.362	1.483	1618	1.653	Si

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	0.521	SLV 2	0.123	0.503	86	0.496	No
101	F	2.39	SLV 2	0.362	1.483	1618	1.653	Si
	V	2.571	SLV 2	0.362	1.483	1618	1.653	Si
102	F	1.985	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.305	SLV 2	0.313	1.282	1002	1.358	Si
103	F	1.908	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.995	SLV 2	0.243	0.995	468	0.994	No
104	F	3.375	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.162	SLV 7	0.281	1.15	721	1.187	Si
105	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.92	SLV 7	0.224	0.917	377	0.91	No
106	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.651	SLV 12	0.362	1.483	1618	1.653	Si
107	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.838	SLV 12	0.362	1.483	1618	1.653	Si
108	F	2.606	SLV 4	0.362	1.483	1618	1.653	Si
	V	1.694	SLV 9	0.362	1.483	1618	1.653	Si
109	F	2.357	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.804	SLV 9	0.362	1.483	1618	1.653	Si
110	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.19	SLV 13	0.287	1.176	771	1.22	Si
111	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.269	SLV 4	0.362	1.483	1618	1.653	Si
112	F	2.413	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.352	SLV 13	0.324	1.326	1117	1.42	Si
113	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.184	SLV 4	0.362	1.483	1618	1.653	Si
114	F	3.721	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.883	SLV 11	0.362	1.483	1618	1.653	Si
116	F	3.498	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.066	SLV 13	0.259	1.062	567	1.075	Si
118	F	1.685	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.712	SLV 12	0.171	0.699	186	0.681	No
119	F	3.323	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.276	SLV 1	0.307	1.255	938	1.322	Si
120	F	2.192	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.415	SLV 16	0.338	1.384	1287	1.505	Si
121	F	1.958	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.121	SLV 3	0.272	1.112	653	1.139	Si
122	F	2.123	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.187	SLV 3	0.287	1.173	765	1.216	Si
123	F	2.496	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.875	SLV 3	0.362	1.483	1618	1.653	Si
124	F	2.838	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.735	SLV 3	0.362	1.483	1618	1.653	Si
125	F	2.286	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.862	SLV 9	0.209	0.856	315	0.845	No
126	F	1.378	SLV 15	0.33	1.35	1186	1.455	Si
	V	1.307	SLV 13	0.314	1.284	1006	1.36	Si
127	F	1.431	SLV 6	0.342	1.398	1333	1.527	Si
	V	0.964	SLV 6	0.235	0.962	428	0.958	No
128	F	3.647	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.616	SLV 1	0.362	1.483	1618	1.653	Si
129	F	3.408	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.733	SLV 1	0.362	1.483	1618	1.653	Si
131	F	2.095	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.876	SLV 2	0.213	0.871	329	0.86	No
133	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	4.041	SLV 12	0.362	1.483	1618	1.653	Si
134	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
135	F	1.569	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.939	SLV 6	0.229	0.936	398	0.93	No
136	F	2.721	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.627	SLV 15	0.362	1.483	1618	1.653	Si
137	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.187	SLV 2	0.287	1.173	765	1.216	Si
138	F	3.646	SLV 2	0.362	1.483	1618	1.653	Si
	V	3.189	SLV 13	0.362	1.483	1618	1.653	Si
139	F	2.364	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.808	SLV 2	0.362	1.483	1618	1.653	Si
140	F	2.461	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.724	SLV 6	0.362	1.483	1618	1.653	Si
141	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.923	SLV 7	0.362	1.483	1618	1.653	Si
142	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.144	SLV 7	0.362	1.483	1618	1.653	Si
143	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.004	SLV 12	0.362	1.483	1618	1.653	Si
144	F	2.101	SLV 9	0.362	1.483	1618	1.653	Si
	V	3.371	SLV 9	0.362	1.483	1618	1.653	Si
145	F	3.556	SLV 8	0.362	1.483	1618	1.653	Si
	V	2.364	SLV 9	0.362	1.483	1618	1.653	Si
146	F	1.66	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.225	SLV 9	0.362	1.483	1618	1.653	Si
147	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.517	SLV 13	0.362	1.483	1618	1.653	Si
148	F	0.949	SLV 5	0.231	0.947	411	0.942	No

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	Verifica
	V	1.872	SLV 5	0.362	1.483	1618	1.653	Si
149	F	3.337	SLV 13	0.362	1.483	1618	1.653	Si
	V	2.112	SLV 13	0.362	1.483	1618	1.653	Si
150	F	3.326	SLV 13	0.362	1.483	1618	1.653	Si
	V	3.424	SLV 4	0.362	1.483	1618	1.653	Si
151	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.567	SLV 11	0.362	1.483	1618	1.653	Si
152	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.692	SLV 13	0.362	1.483	1618	1.653	Si
153	F	2.12	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.226	SLV 12	0.295	1.209	838	1.262	Si
154	F	2.55	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.164	SLV 1	0.362	1.483	1618	1.653	Si
155	F	2.13	SLV 16	0.362	1.483	1618	1.653	Si
	V	3.309	SLV 1	0.362	1.483	1618	1.653	Si
156	F	3.186	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.038	SLV 3	0.362	1.483	1618	1.653	Si
157	F	1.503	SLV 3	0.358	1.464	1551	1.624	Si
	V	2.282	SLV 3	0.362	1.483	1618	1.653	Si
158	F	3.529	SLV 3	0.362	1.483	1618	1.653	Si
	V	3.108	SLV 3	0.362	1.483	1618	1.653	Si
159	F	3.453	SLV 3	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
160	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.937	SLV 7	0.362	1.483	1618	1.653	Si
161	F	1.972	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.889	SLV 2	0.362	1.483	1618	1.653	Si
162	F	1.751	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.978	SLV 6	0.362	1.483	1618	1.653	Si
163	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.516	SLV 1	0.362	1.483	1618	1.653	Si
164	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
165	F	3.792	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.794	SLV 2	0.362	1.483	1618	1.653	Si
166	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
167	F	0.547	SLV 3	0.129	0.528	97	0.521	No
	V	0.593	SLV 10	0.141	0.576	119	0.567	No
168	F	2.355	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.512	SLV 2	0.36	1.473	1580	1.637	Si
169	F	2.232	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.156	SLV 11	0.362	1.483	1618	1.653	Si
170	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.301	SLV 2	0.362	1.483	1618	1.653	Si
171	F	1.019	SLV 10	0.249	1.018	500	1.021	Si
	V	2.104	SLV 10	0.362	1.483	1618	1.653	Si
172	F	3.978	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.397	SLV 6	0.362	1.483	1618	1.653	Si
173	F	1.836	SLV 10	0.362	1.483	1618	1.653	Si
	V	1.827	SLV 6	0.362	1.483	1618	1.653	Si
174	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.725	SLV 7	0.362	1.483	1618	1.653	Si
175	F	2.769	SLV 6	0.362	1.483	1618	1.653	Si
	V	3.971	SLV 11	0.362	1.483	1618	1.653	Si
181	F	1.641	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.918	SLV 13	0.224	0.915	375	0.908	No
182	F	0.512	SLV 13	0.12	0.493	82	0.487	No
	V	0.683	SLV 13	0.163	0.669	168	0.653	No
183	F	1.244	SLV 15	0.299	1.226	873	1.283	Si
	V	0.98	SLV 13	0.239	0.979	448	0.976	No
184	F	0.849	SLV 15	0.206	0.843	302	0.831	No
	V	0.932	SLV 15	0.227	0.929	390	0.922	No
185	F	1.562	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.294	SLV 15	0.311	1.272	975	1.343	Si
186	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.321	SLV 15	0.362	1.483	1618	1.653	Si

Periodi di ritorno e accelerazioni di aggancio per gli Stati Limite

S. L.	TR,C	PGA,C	TR,Rif	PGA,Rif	Tipo rottura
Stato limite di salvaguardia della vita	2	0.026	475	0.244	flessione trave connessione in muratura

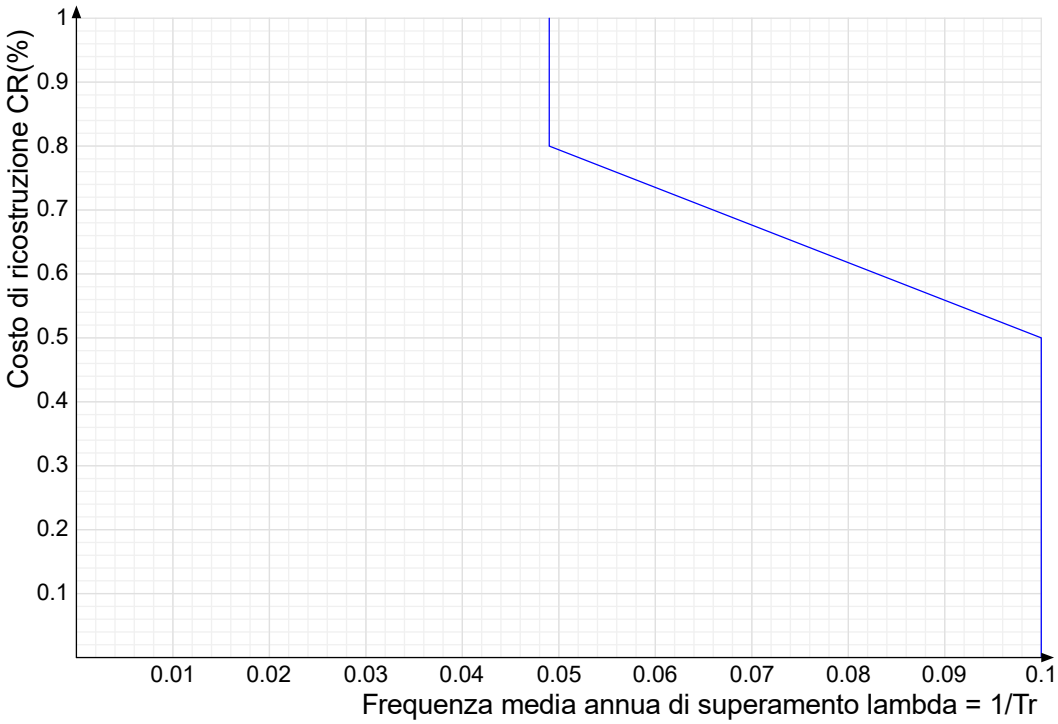
Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
2	475	8.215	G	10.678	F	flessione trave connessione in muratura

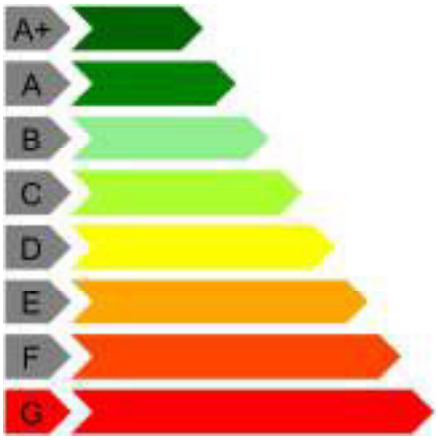
Coefficienti λ relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

λ,SLR	λ,SLC	λ,SLV	λ,SLD	λ,SLO	λ,SLID
0.049	0.049	0.1	0.1	0.1	0.1

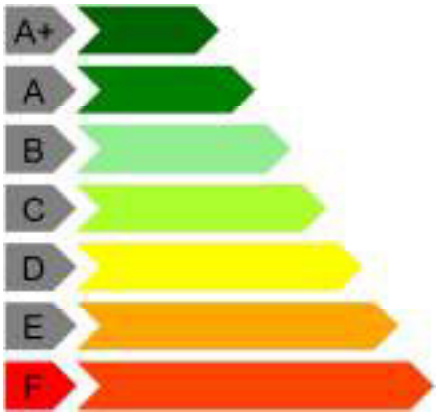
Andamento della curva che individua il PAM (Perdita Annuale Media Attesa)



Classe PAM



Classe IS-V



1.6 Verifiche maschi in muratura

Le unità di misura elencate nel capitolo sono in [m, daN, s] ove non espressamente specificato.

X ini.: *coordinate del punto iniziale del maschio. [m]*
Y ini.: *coordinate del punto iniziale del maschio. [m]*
X fin.: *coordinate del punto finale del maschio. [m]*
Y fin.: *coordinate del punto finale del maschio. [m]*
Quota i.: *livello o falda inferiore.*
Quota.s: *livello o falda superiore.*
l: *lunghezza del maschio. [m]*
Sp.: *spessore. [m]*
h netta: *altezza netta (a filo solai). [m]*
h ini.: *altezza nel modello al punto iniziale. [m]*
h fin.: *altezza nel modello al punto finale. [m]*
a: *distanza tra irrigidimenti laterali. [m]*
a.s.,sx: *lunghezza di appoggio del solaio di sinistra. [m]*
a.s.,dx: *lunghezza di appoggio del solaio di destra. [m]*
fb: *resistenza normalizzata a compressione verticale dei blocchi. [daN/m²]*
fk: *resistenza caratteristica a compressione della muratura utilizzata. [daN/m²]*
fvk0: *resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]*
fmedio: *resistenza media a compressione della muratura utilizzata. [daN/m²]*
τ0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]*
fv0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]*
μ: *coefficiente di attrito [C8.7.1.17].*
φ: *coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.*
fv,lim: *valore massimo della resistenza a taglio che può essere impiegata nel calcolo. [daN/m²]*
E: *modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]*
G: *modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]*
FC: *fattore di confidenza della muratura.*
Materiale: *descrizione del materiale.*
Fu Verticale: *carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]*
Fu Orizzontale: *carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]*
tfv: *spessore di calcolo equivalente verticale di uno strato di rinforzo.*
tfo: *spessore di calcolo equivalente orizzontale di uno strato di rinforzo.*
E: *modulo di elasticità longitudinale. [daN/m²]*
εu: *dilatazione a rottura.*
Tipo fibra: *natura della fibra.*
materiale: *materiale fibra del rinforzo.*
lato applicazione: *lato di applicazione del rinforzo.*
esposizione: *condizione di esposizione secondo CNR-DT 215 §3.2.*
ancoraggio verticale iniziale: *grado di ancoraggio iniziale dei rinforzi verticali.*
ancoraggio verticale finale: *grado di ancoraggio finale dei rinforzi verticali.*
ancoraggio orizzontale iniziale: *grado di ancoraggio iniziale dei rinforzi orizzontali.*
ancoraggio orizzontale finale: *grado di ancoraggio finale dei rinforzi orizzontali.*
strati: *numero strati del rinforzo.*
verifica taglio: *tipo di verifica a taglio.*
εlim,conv / ε,CNR DT-200: *dati relativi ai parametri per il calcolo della deformazione di progetto.*
αt: *coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a tagliosecondo CNR-DT 215 §4.1.1.*
α: *coeffiicente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.*
εlim,conv: *deformazione limite convenzionale del rinforzo FRCM.*
ε,fd: *deformazione di progetto del rinforzo FRCM ovvero CRM.*
γF,d: *fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.*

connettori: *presenza di connettori per la prevenzione del distacco del rinforzo.*
tipo di muratura: *tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.*
CRM / Fibrenet?: *dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.*
CRM: *stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.*
intonaco: *materiale intonaco FRCM ovvero CRM.*
spessore intonaco: *spessore intonaco. [m]*
tipo blocco fibrenet: *tipo blocco muratura per verifica a tglio tipo Fibrenet.*
Comb.: *combinazione.*
Quota: *quota della sezione di verifica. [m]*
M: *momento flettente nel piano. [daN*m]*
N: *sforzo normale. [daN]*
εm: *deformazione della muratura.*
εm_: *deformazione elastica della muratura.*
εmu: *deformazione ultima della muratura.*
df: *distanza tra il lembo compresso e la fibra tesa più lontana. [m]*
M0d: *momento resistente della sezione non rinforzata. [daN*m]*
M1d: *momento resistente della sezione rinforzata. [daN*m]*
MRd: *momento resistente della sezione. [daN*m]*
c.s.: *coefficiente di sicurezza.*
incremento > 50%: *incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.*
Verifica: *stato di verifica.*
Nmur: *aliquota di sforzo normale recepito dalla sola muratura. [daN]*
V: *taglio nel piano. [daN]*
df: *distanza tra lembo compresso e baricentro dell'armatura tesa. [m]*
l': *lunghezza della parte compressa della parete. [m]*
σN: *tensione media nella zona compressa. [daN/m²]*
fvd: *resistenza a taglio di calcolo. [daN/m²]*
Vt: *resistenza a taglio della muratura non rinforzata. [daN]*
Vt,f: *resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]*
Vt,c: *resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]*
Vt,c int.: *contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]*
Vt,R: *resistenza a taglio della sezione rinforzata. [daN]*
res. > 50%: *incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.*
fd: *resistenza a compressione di calcolo. [daN/m²]*
Sa: *accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.*
σ0: *tensione media di compressione. [daN/m²]*
M: *momento flettente fuori piano. [daN*m]*
Mc: *momento di collasso per azioni perpendicolari al piano. [daN*m]*
Coeff.s.: *coefficiente di sicurezza.*
N top: *sforzo normale in sommità. [daN]*
N base: *sforzo normale al piede. [daN]*
V orto: *taglio fuori piano. [daN]*
α0: *moltiplicatore secondo [C8.7.1.1].*
M*: *massa partecipante al cinematismo. [daN/(m/s²)]*
e*: *frazione di massa partecipante della muratura [C8.7.1.5].*
a0*: *accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [m/s²]*
aLim: *accelerazione limite [C7.2.11]. [m/s²]*
Stato limite: *pF_SLU=Presso flessione per azioni non sismiche; V_SLU=Taglio per azioni non sismiche; PF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche; PFFP_SLV=Presso flessione fuori piano per azioni sismiche; R_SLV=Ribaltamento per azioni sismiche.*
Sa: *accelerazione massima adimensionalizzata rispetto a quella di gravità.*

Maschio 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.603	1.574	-24.603	-3.284	L2	L4	4.857	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	-1.95	-28558.45	-75108	-0.0000779	0.0004492	0.0035	4.8573	131111.8	162138.04	162138.04	5.68	No	Si
SLU 81	0.15	-18865.79	-85826	-0.0000773	0.0004492	0.0035	4.8573	141456.39	178319.15	178319.15	9.45	No	Si
SLU 74	-1.95	-28067.9	-73523	-0.0000763	0.0004492	0.0035	4.8573	129404.78	159687.5	159687.5	5.69	No	Si
SLU 74	0.15	-18710.14	-84211	-0.0000759	0.0004492	0.0035	4.8573	140031.92	176003.76	176003.76	9.41	No	Si
SLU 84	-1.95	-28489.79	-76053	-0.0000786	0.0004492	0.0035	4.8573	132108.14	163599.57	163599.57	5.74	No	Si
SLU 84	0.15	-19258.08	-87028	-0.0000786	0.0004492	0.0035	4.8573	142486.32	180043.29	180043.29	9.35	No	Si
SLU 78	-1.95	-27999.24	-74468	-0.0000769	0.0004492	0.0035	4.8573	130428.37	161149.03	161149.03	5.76	No	Si
SLU 78	0.15	-19102.44	-85413	-0.0000772	0.0004492	0.0035	4.8573	141097.14	177727.89	177727.89	9.3	No	Si
SLU 83	-1.95	-28953.08	-75815	-0.0000789	0.0004492	0.0035	4.8573	131858.54	163231.19	163231.19	5.64	No	Si
SLU 83	0.15	-19195.46	-86790	-0.0000783	0.0004492	0.0035	4.8573	142284.42	179701.81	179701.81	9.36	No	Si
SLU 77	-1.95	-28462.53	-74230	-0.0000772	0.0004492	0.0035	4.8573	130171.9	160780.65	160780.65	5.65	No	Si
SLU 77	0.15	-19039.81	-85175	-0.0000769	0.0004492	0.0035	4.8573	140888.25	177386.41	177386.41	9.32	No	Si
SLU 80	-1.95	-27811.31	-74070	-0.0000765	0.0004492	0.0035	4.8573	129999.41	160533.71	160533.71	5.77	No	Si
SLU 80	0.15	-18994.24	-84856	-0.0000766	0.0004492	0.0035	4.8573	140606.01	176927.67	176927.67	9.31	No	Si
SLU 82	-1.95	-28095.16	-75346	-0.0000777	0.0004492	0.0035	4.8573	131364.46	162506.42	162506.42	5.78	No	Si
SLU 82	0.15	-18928.42	-86064	-0.0000775	0.0004492	0.0035	4.8573	141662.47	178660.64	178660.64	9.44	No	Si
SLU 79	-1.95	-28274.6	-73832	-0.0000767	0.0004492	0.0035	4.8573	129741.22	160165.33	160165.33	5.66	No	Si
SLU 79	0.15	-18931.61	-84617	-0.0000764	0.0004492	0.0035	4.8573	140394.7	176586.19	176586.19	9.33	No	Si
SLU 75	-1.95	-27604.61	-73761	-0.000076	0.0004492	0.0035	4.8573	129664.31	160055.88	160055.88	5.8	No	Si
SLU 75	0.15	-18772.77	-84449	-0.0000761	0.0004492	0.0035	4.8573	140244.99	176345.24	176345.24	9.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	-1.95	-38242.36	-44536	-0.0000622	0.0006738	0.0035	4.8573		112140.95	112140.95	2.93		Si
SLD 7	0.15	-27804.87	-43942	-0.0000528	0.0006738	0.0035	4.8573		110922.2	110922.2	3.99		Si
SLV 11	-1.95	-42770.6	-24523	-0.000079	0.0006738	0.0035	3.8858		69834.9	69834.9	1.63		Si
SLV 11	0.15	-32144.25	-18120	-0.0000603	0.0006738	0.0035	3.8858		55609.77	55609.77	1.73		Si
SLV 8	-1.95	-50979.37	-39832	-0.0000767	0.0006738	0.0035	4.8573		102485.02	102485.02	2.01		Si
SLV 8	0.15	-36776.93	-33702	-0.0000551	0.0006738	0.0035	4.8573		89613.55	89613.55	2.44		Si
SLV 15	-1.95	-15021.05	-19390	-0.0000252	0.0006738	0.0035	4.8573		58468.19	58468.19	3.89		Si
SLV 15	0.15	-11785.62	-21235	-0.0000237	0.0006738	0.0035	4.8573		62574.62	62574.62	5.31		Si
SLV 16	-1.95	-16981.35	-18666	-0.0000264	0.0006738	0.0035	4.8573		56837.33	56837.33	3.35		Si
SLV 16	0.15	-11994.46	-19266	-0.0000226	0.0006738	0.0035	4.8573		58189.97	58189.97	4.85		Si
SLV 12	-1.95	-44090.41	-24035	-0.0000893	0.0006738	0.0035	3.8858		68783.89	68783.89	1.56		Si
SLV 12	0.15	-32284.86	-16795	-0.0000719	0.0006738	0.0035	3.8858		52626.54	52626.54	1.63		Si
SLD 11	-1.95	-33828.05	-34409	-0.0000519	0.0006738	0.0035	4.8573		91137.05	91137.05	2.69		Si
SLD 11	0.15	-24919.94	-33120	-0.0000428	0.0006738	0.0035	4.8573		88359.36	88359.36	3.55		Si
SLD 8	-1.95	-39072.62	-44229	-0.0000628	0.0006738	0.0035	4.8573		111511.09	111511.09	2.85		Si
SLD 8	0.15	-27893.32	-43108	-0.0000523	0.0006738	0.0035	4.8573		109210.92	109210.92	3.92		Si
SLD 12	-1.95	-34658.31	-34102	-0.0000527	0.0006738	0.0035	4.8573		90475.89	90475.89	2.61		Si
SLD 12	0.15	-25008.39	-32286	-0.0000423	0.0006738	0.0035	4.8573		86563.01	86563.01	3.46		Si
SLV 7	-1.95	-49659.57	-40320	-0.0000745	0.0006738	0.0035	4.8573		103486.26	103486.26	2.08		Si
SLV 7	0.15	-36636.33	-35027	-0.0000554	0.0006738	0.0035	4.8573		92469.11	92469.11	2.52		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-1.95	-27811.31	-74070	-59256	3666	4.8573	4.8573	-27110	10833	36328	81562	78551	24772	103323	No	28.18	Si
SLU 80	0.15	-18994.24	-84856	-67884	3066	4.8573	4.8573	-31057	10833	39779	81562	78551	24772	103323	No	33.7	Si
SLU 83	-1.95	-28953.08	-75815	-60652	3410	4.8573	4.8573	-27749	10833	36887	81562	78551	24772	103323	No	30.3	Si
SLU 83	0.15	-19195.46	-86790	-69432	2794	4.8573	4.8573	-31765	10833	40398	81562	78551	24772	103323	No	36.98	Si
SLU 68	-1.95	-24603.89	-67246	-53797	3445	4.8573	4.8573	-24612	10833	34145	81562	78551	24772	103323	No	29.99	Si
SLU 68	0.15	-17321.45	-76732	-61386	2901	4.8573	4.8573	-28084	10833	37180	81562	78551	24772	103323	No	35.62	Si
SLU 76	-1.95	-27107.82	-73522	-58818	3826	4.8573	4.8573	-26909	10833	36153	81562	78551	24772	103323	No	27.01	Si
SLU 76	0.15	-18706.32	-84050	-67240	3231	4.8573	4.8573	-30763	10833	39522	81562	78551	24772	103323	No	31.98	Si
SLU 55	-1.95	-23649.81	-65931	-52744	3410	4.8573	4.8573	-24131	10833	33724	81562	78551	24772	103323	No	30.3	Si
SLU 55	0.15	-16551.29	-74992	-59994	2876	4.8573	4.8573	-27447	10833	36623	81562	78551	24772	103323	No	35.93	Si
SLU 73	-1.95	-26713.19	-72815	-58252	3754	4.8573	4.8573	-26651	10833	35927	81562	78551	24772	103323	No	27.52	Si
SLU 73	0.15	-18376.65	-83086	-66469	3165	4.8573	4.8573	-30410	10833	39213	81562	78551	24772	103323	No	32.65	Si
SLU 82	-1.95	-28095.16	-75346	-60277	3686	4.8573	4.8573	-27577	10833	36737	81562	78551	24772	103323	No	28.03	Si
SLU 82	0.15	-18928.42	-86064	-68851	3075	4.8573	4.8573	-31500	10833	40166	81562	78551	24772	103323	No	33.6	Si
SLU 84	-1.95	-28489.79	-76053	-60843	3757	4.8573	4.8573	-27836	10833	36963	81562	78551	24772	103323	No	27.5	Si
SLU 84	0.15	-19258.08	-87028	-69622	3141	4.8573	4.8573	-31852	10833	40474	81562	78551	24772	103323	No	32.9	Si
SLU 75	-1.95	-27604.61	-73761	-59009	3618	4.8573	4.8573	-26997	10833	36229	81562	78551	24772	103323	No	28.56	Si
SLU 75	0.15	-18772.77	-84449	-67560	3020	4.8573	4.8573	-30909	10833	39649	81562	78551	24772	103323	No	34.22	Si
SLU 78	-1.95	-27999.24	-74468	-59575	3690	4.8573	4.8573	-27256	10833	36456	81562	78551	24772	103323	No	28	Si
SLU 78	0.15	-19102.44	-85413	-68331	3086	4.8573	4.8573	-31262	10833	39958	81562	78551	24772	103323	No	33.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	-1.95	-3685.44	-67904	-54324	16200	4.8573	4.8573	-24853	16250	40669	81562	117827	24772	122230		7.55	Si
SLD 5	0.15	-816.32	-83871	-67096	15865	4.8573	4.8573	-30697	16250	45778	81562	117827	24772	127339		8.03	Si
SLV 12	-1.95	-44090.41	-24035	-19228	-20488	3.8858	1.7827	0	0	0	81562	94261	19818	81562		3.98	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.15	-32284.86	-16795	-13436	-21057	3.8858	1.5191	0	0	0	81562	94261	19818	81562		3.87	Si
SLV 8	-1.95	-50979.37	-39832	-31865	-21158	4.8573	3.4463	-20729	16250	31686	81562	117827	24772	113247		5.35	Si
SLV 8	0.15	-36776.93	-33702	-26961	-21379	4.8573	4.0122	-15029	15506	29724	81562	117827	24772	111286		5.21	Si
SLV 7	-1.95	-49659.57	-40320	-32256	-18896	4.8573	3.591	-20135	16250	31842	81562	117827	24772	113403		6	Si
SLV 7	0.15	-36636.33	-35027	-28021	-19125	4.8573	4.1481	-15110	15522	30148	81562	117827	24772	111710		5.84	Si
SLV 10	-1.95	11315.82	-61687	-49349	23230	4.8573	4.8573	-22578	16250	38679	81562	117827	24772	120241		5.18	Si
SLV 10	0.15	10811.61	-81130	-64904	22628	4.8573	4.8573	-29694	16250	44901	81562	117827	24772	126462		5.59	Si
SLV 9	-1.95	12635.63	-62174	-49740	25493	4.8573	4.8573	-22756	16250	38835	81562	117827	24772	120397		4.72	Si
SLV 9	0.15	10952.22	-82455	-65964	24883	4.8573	4.8573	-30179	16250	45325	81562	117827	24772	126886		5.1	Si
SLV 6	-1.95	4426.86	-77483	-61987	22560	4.8573	4.8573	-28359	16250	43734	81562	117827	24772	125295		5.55	Si
SLV 6	0.15	6319.54	-98036	-78429	22306	4.8573	4.8573	-35882	16250	50310	81562	117827	24772	131872		5.91	Si
SLV 11	-1.95	-42770.6	-24523	-19618	-18226	3.8858	2.0536	0	0	0	81562	94261	19818	81562		4.48	Si
SLV 11	0.15	-32144.25	-18120	-14496	-18802	3.8858	1.9641	0	0	0	81562	94261	19818	81562		4.34	Si
SLV 5	-1.95	5746.66	-77971	-62377	24822	4.8573	4.8573	-28538	16250	43890	81562	117827	24772	125451		5.05	Si
SLV 5	0.15	6460.15	-99361	-79489	24560	4.8573	4.8573	-36367	16250	50734	81562	117827	24772	132296		5.39	Si
SLD 9	-1.95	728.87	-57777	-46222	16636	4.8573	4.8573	-21147	16250	37428	81562	117827	24772	118990		7.15	Si
SLD 9	0.15	2068.61	-73048	-58439	16084	4.8573	4.8573	-26736	16250	42315	81562	117827	24772	123876		7.7	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-18607	0.24	281.45	3992.17	5389.44	4690.8	16.67	Si
SLV 12	-19680	0.24	281.45	4210.42	5643.03	4926.72	17.51	Si
SLV 15	-20068	0.24	281.45	4289.13	5734.13	5011.63	17.81	Si
SLV 11	-20663	0.24	281.45	4409.44	5873.52	5141.48	18.27	Si
SLV 14	-34244	0.24	281.45	7046.31	9043.93	8045.12	28.58	Si
SLV 13	-35705	0.24	281.45	7317.61	9383.6	8350.6	29.67	Si
SLV 8	-36031	0.24	281.45	7377.9	9459.5	8418.7	29.91	Si
SLV 7	-37015	0.24	281.45	7558.85	9687.92	8623.38	30.64	Si
SLV 10	-71803	0.24	281.45	13259.99	17567.77	15413.88	54.77	Si
SLV 9	-72786	0.24	281.45	13401.41	17785.22	15593.32	55.4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-93990	-83341	476	0.361	10376.1	0.976	5.37178	2.92742	Si
SLV 2	-92113	-82616	469	0.366	10184.9	0.976	5.4542	2.92742	Si
SLV 5	-97613	-77971	754	0.348	10745.2	0.977	5.1831	2.58905	Si
SLV 6	-96349	-77483	749	0.352	10616.5	0.976	5.23383	2.58905	Si
SLV 3	-74089	-72045	237	0.433	8349.3	0.97	6.48078	2.92742	Si
SLV 4	-72212	-71321	231	0.441	8158.2	0.97	6.61253	2.92742	Si
SLV 9	-81081	-62174	753	0.399	9061.4	0.973	5.95659	2.58905	Si
SLV 10	-79818	-61687	749	0.403	8932.7	0.972	6.02919	2.58905	Si
SLV 13	-38884	-30685	476	0.705	4768.1	0.951	10.77038	2.92742	Si
SLV 14	-37007	-29961	469	0.732	4577.5	0.949	11.215	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.638	SLU 83	Si
V_SLU	27.008	SLU 76	Si
PF_SLV	1.56	SLV 12	Si
V_SLV	3.873	SLV 12	Si
PFFP_SLV	16.667	SLV 16	Si
R_SLV	1.835	SLV 1	Si

Maschio 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.603	5.876	-24.603	2.374	L2	L4	3.503	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	-1.95	-3587.94	-36640	-0.0000404	0.0004492	0.0035	3.5027	51961.99	63065.53	63065.53	17.58	No	Si
SLU 49	0.15	-10085.48	-33308	-0.000048	0.0004492	0.0035	3.5027	48245.38	58559.53	58559.53	5.81	No	Si
SLU 72	-1.95	-4320.71	-41280	-0.0000463	0.0004492	0.0035	3.5027	56801.03	69034.45	69034.45	15.98	No	Si
SLU 72	0.15	-11195.51	-38347	-0.000055	0.0004492	0.0035	3.5027	53787.48	65307.34	65307.34	5.83	No	Si
SLU 70	-1.95	-4363.67	-41565	-0.0000466	0.0004492	0.0035	3.5027	57084.95	69395.9	69395.9	15.9	No	Si
SLU 70	0.15	-11282.78	-38698	-0.0000555	0.0004492	0.0035	3.5027	54156.73	65753.82	65753.82	5.83	No	Si
SLU 65	-1.95	-4007.11	-39944	-0.0000444	0.0004492	0.0035	3.5027	55447.73	67336.71	67336.71	16.8	No	Si
SLU 65	0.15	-10800.83	-36650	-0.0000526	0.0004492	0.0035	3.5027	51972.36	63078.45	63078.45	5.84	No	Si
SLU 44	-1.95	-3231.38	-35019	-0.0000382	0.0004492	0.0035	3.5027	50179.6	60873.98	60873.98	18.84	No	Si
SLU 44	0.15	-9603.53	-31259	-0.0000452	0.0004492	0.0035	3.5027	45860.14	55789.23	55789.23	5.81	No	Si
SLU 51	-1.95	-3544.98	-36356	-0.0000401	0.0004492	0.0035	3.5027	51652.59	62680.85	62680.85	17.68	No	Si
SLU 51	0.15	-9998.21	-32956	-0.0000475	0.0004492	0.0035	3.5027	47841.67	58084.35	58084.35	5.81	No	Si
SLU 67	-1.95	-4274.82	-40985	-0.0000459	0.0004492	0.0035	3.5027	56504.29	68658.67	68658.67	16.06	No	Si
SLU 67	0.15	-11073.88	-37992	-0.0000544	0.0004492	0.0035	3.5027	53412.6	64856.8	64856.8	5.86	No	Si
SLU 46	-1.95	-3499.09	-36060	-0.0000397	0.0004492	0.0035	3.5027	51329.35	62280.92	62280.92	17.8	No	Si
SLU 46	0.15	-9876.58	-32602	-0.000047	0.0004492	0.0035	3.5027	47432.02	57604.85	57604.85	5.83	No	Si
SLU 68	-1.95	-4095.97	-40524	-0.0000451	0.0004492	0.0035	3.5027	56039.38	68073.94	68073.94	16.62	No	Si
SLU 68	0.15	-11009.74	-37356	-0.0000537	0.0004492	0.0035	3.5027	52733.74	64033.12	64033.12	5.82	No	Si
SLU 47	-1.95	-3320.24	-35600	-0.0000389	0.0004492	0.0035	3.5027	50823.22	61658.6	61658.6	18.57	No	Si
SLU 47	0.15	-9812.44	-31965	-0.0000462	0.0004492	0.0035	3.5027	46690.74	56743.9	56743.9	5.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-1.95	7754.29	-8397	-0.0000217	0.0006738	0.0035	3.5027		15533.79	15533.79	2		Si
SLV 10	0.15	-1312.25	2970	-0.0006552	0.0006738	0.0035	2.8022		0	0	0		No
SLD 13	-1.95	243.38	-17675	-0.0000166	0.0006738	0.0035	3.5027		30667.18	30667.18	126.01		Si
SLD 13	0.15	-5404.42	-13063	-0.0000205	0.0006738	0.0035	3.5027		29140.83	29140.83	5.39		Si
SLD 9	-1.95	4022.6	-16612	-0.0000216	0.0006738	0.0035	3.5027		28961.97	28961.97	7.2		Si
SLD 9	0.15	-4063.7	-8009	-0.0000137	0.0006738	0.0035	3.5027		20873.28	20873.28	5.14		Si
SLV 5	-1.95	7272.65	-17116	-0.0000272	0.0006738	0.0035	3.5027		29772.53	29772.53	4.09		Si
SLV 5	0.15	-3309.93	-4697	-0.0000095	0.0006738	0.0035	3.5027		15364.43	15364.43	4.64		Si
SLV 14	-1.95	1339.83	-10634	-0.0000118	0.0006738	0.0035	3.5027		19240.64	19240.64	14.36		Si
SLV 14	0.15	-3366.59	-6200	-0.0000109	0.0006738	0.0035	3.5027		17873.8	17873.8	5.31		Si
SLV 15	-1.95	-4184.24	-20993	-0.000026	0.0006738	0.0035	3.5027		41681.32	41681.32	9.96		Si
SLV 15	0.15	-7315.04	-20727	-0.0000307	0.0006738	0.0035	3.5027		41269.29	41269.29	5.64		Si
SLV 6	-1.95	6615.38	-17517	-0.0000266	0.0006738	0.0035	3.5027		30417.13	30417.13	4.6		Si
SLV 6	0.15	-3035.99	-6138	-0.0000103	0.0006738	0.0035	3.5027		17771.89	17771.89	5.85		Si
SLV 9	-1.95	8411.56	-7996	-0.0000245	0.0006738	0.0035	3.5027		14864.05	14864.05	1.77		Si
SLV 9	0.15	-1586.19	4411	-0.0013578	0.0006738	0.0035	2.8022		0	0	0		No
SLV 12	-1.95	-13913.42	-44911	-0.000065	0.0006738	0.0035	3.5027		76755.53	76755.53	5.52		Si
SLV 12	0.15	-13117.49	-52591	-0.0000713	0.0006738	0.0035	3.5027		86971.94	86971.94	6.63		Si
SLV 13	-1.95	2316.07	-10039	-0.0000128	0.0006738	0.0035	3.5027		18253.77	18253.77	7.88		Si
SLV 13	0.15	-3773.47	-4059	-0.0000105	0.0006738	0.0035	3.5027		14296.85	14296.85	3.79		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	-1.95	-4567.49	-41829	-33463	-1281	3.5027	3.5027	-21230	10833	22490	81562	56646	17864	74510	No	58.15	Si
SLU 69	0.15	-11248.08	-39126	-31301	-1019	3.5027	3.5027	-19858	10833	21625	81562	56646	17864	74510	No	73.15	Si
SLU 81	-1.95	-5082.7	-45544	-36435	-1256	3.5027	3.5027	-23115	10833	23679	81562	56646	17864	74510	No	59.32	Si
SLU 81	0.15	-11808.04	-42805	-34244	-965	3.5027	3.5027	-21725	10833	22802	81562	56646	17864	74510	No	77.23	Si
SLU 71	-1.95	-4524.52	-41544	-33235	-1245	3.5027	3.5027	-21085	10833	22399	81562	56646	17864	74510	No	59.85	Si
SLU 71	0.15	-11160.81	-38775	-31020	-983	3.5027	3.5027	-19680	10833	21513	81562	56646	17864	74510	No	75.77	Si
SLU 79	-1.95	-5039.64	-45156	-36125	-1325	3.5027	3.5027	-22919	10833	23555	81562	56646	17864	74510	No	56.25	Si
SLU 79	0.15	-11906.34	-42584	-34067	-1039	3.5027	3.5027	-21613	10833	22732	81562	56646	17864	74510	No	71.74	Si
SLU 66	-1.95	-4478.63	-41248	-32999	-1230	3.5027	3.5027	-20935	10833	22304	81562	56646	17864	74510	No	60.57	Si
SLU 66	0.15	-11039.17	-38420	-30736	-970	3.5027	3.5027	-19500	10833	21399	81562	56646	17864	74510	No	76.83	Si
SLU 74	-1.95	-4993.75	-44860	-35888	-1310	3.5027	3.5027	-22768	10833	23460	81562	56646	17864	74510	No	56.89	Si
SLU 74	0.15	-11784.71	-42229	-33784	-1025	3.5027	3.5027	-21433	10833	22618	81562	56646	17864	74510	No	72.69	Si
SLU 35	-1.95	-4463.1	-38557	-30845	-1243	3.5027	3.5027	-19569	10833	21443	81562	56646	17864	74510	No	59.92	Si
SLU 35	0.15	-10106.53	-36979	-29583	-1001	3.5027	3.5027	-18768	10833	20938	81562	56646	17864	74510	No	74.47	Si
SLU 83	-1.95	-5171.55	-46124	-36899	-1307	3.5027	3.5027	-23410	10833	23865	81562	56646	17864	74510	No	56.99	Si
SLU 83	0.15	-12016.95	-43511	-34808	-1014	3.5027	3.5027	-22083	10833	23028	81562	56646	17864	74510	No	73.51	Si
SLU 37	-1.95	-4420.14	-38272	-30618	-1207	3.5027	3.5027	-19425	10833	21352	81562	56646	17864	74510	No	61.73	Si
SLU 37	0.15	-10019.26	-36628	-29302	-965	3.5027	3.5027	-18590	10812	20826	81562	56646	17864	74510	No	77.19	Si
SLU 77	-1.95	-5082.61	-45441	-36352	-1361	3.5027	3.5027	-23063	10833	23646	81562	56646	17864	74510	No	54.74	Si
SLU 77	0.15	-11993.61	-42935	-34348	-1074	3.5027	3.5027	-21792	10833	22844	81562	56646	17864	74510	No	69.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-1.95	-13256.15	-44510	-35608	-11288	3.5027	3.5027	-22591	16250	27901	81562	84968	17864	102832		9.11	Si
SLV 11	0.15	-13391.43	-51150	-40920	-10679	3.5027	3.5027	-25961	16250	30026	81562	84968	17864	102832		9.63	Si
SLD 8	-1.95	-10663.38	-45415	-36332	-7813	3.5027	3.5027	-23050	16250	28191	81562	84968	17864	102832		13.16	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	0.15	-12363.72	-49279	-39423	-7614	3.5027	3.5027	-25011	16250	29427	81562	84968	17864	102832		13.51	Si
SLV 9	-1.95	8411.56	-7996	-6397	10447	3.5027	2.0983	-4058	13312	16217	81562	84968	17864	97779		9.36	Si
SLV 9	0.15	-1586.19	4411	3529	10626	2.8022	3.5027	0	0	0	81562	67975	14291	81562		7.68	Si
SLD 12	-1.95	-9930.83	-39570	-31656	-8120	3.5027	3.5027	-20083	16250	26320	81562	84968	17864	102832		12.66	Si
SLD 12	0.15	-11263.66	-43449	-34759	-7683	3.5027	3.5027	-22052	16250	27561	81562	84968	17864	102832		13.39	Si
SLV 5	-1.95	7272.65	-17116	-13693	10928	3.5027	3.5027	-8687	14237	22441	81562	84968	17864	102832		9.41	Si
SLV 5	0.15	-3309.93	-4697	-3758	10716	3.5027	3.14	-2660	13032	18415	81562	84968	17864	99976		9.33	Si
SLV 8	-1.95	-15052.33	-54031	-43225	-12120	3.5027	3.5027	-27423	16250	30948	81562	84968	17864	102832		8.48	Si
SLV 8	0.15	-14841.23	-61700	-49360	-11904	3.5027	3.5027	-31315	16250	33401	81562	84968	17864	102832		8.64	Si
SLV 7	-1.95	-14395.06	-53630	-42904	-10807	3.5027	3.5027	-27220	16250	30819	81562	84968	17864	102832		9.51	Si
SLV 7	0.15	-15115.17	-60258	-48207	-10589	3.5027	3.5027	-30584	16250	32940	81562	84968	17864	102832		9.71	Si
SLV 10	-1.95	7754.29	-8397	-6718	9134	3.5027	2.4838	-4262	13352	16345	81562	84968	17864	97907		10.72	Si
SLV 10	0.15	-1312.25	2970	2376	9311	2.8022	3.5027	0	0	0	81562	67975	14291	81562		8.76	Si
SLV 12	-1.95	-13913.42	-44911	-35929	-12601	3.5027	3.5027	-22794	16250	28029	81562	84968	17864	102832		8.16	Si
SLV 12	0.15	-13117.49	-52591	-42073	-11994	3.5027	3.5027	-26692	16250	30487	81562	84968	17864	102832		8.57	Si
SLV 6	-1.95	6615.38	-17517	-14014	9615	3.5027	3.5027	-8891	14278	22506	81562	84968	17864	102832		10.69	Si
SLV 6	0.15	-3035.99	-6138	-4911	9402	3.5027	3.5027	-3116	13123	20685	81562	84968	17864	102247		10.88	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-961	0.24	202.96	215.55	923.44	569.49	2.81	Si
SLV 10	-1931	0.24	202.96	431.53	1162.69	797.11	3.93	Si
SLV 13	-6617	0.24	202.96	1454.69	2293.5	1874.1	9.23	Si
SLV 14	-8057	0.24	202.96	1762.27	2637.41	2199.84	10.84	Si
SLV 5	-9887	0.24	202.96	2148.4	3072.48	2610.44	12.86	Si
SLV 6	-10856	0.24	202.96	2350.9	3301.92	2826.41	13.93	Si
SLV 15	-20592	0.24	202.96	4302.91	5590.42	4946.67	24.37	Si
SLV 16	-22032	0.24	202.96	4579.14	5925.62	5252.38	25.88	Si
SLD 9	-11568	0.1	83.98	2498.62	3470.28	2984.45	35.54	Si
SLD 10	-12178	0.1	83.98	2624.58	3614.58	3119.58	37.15	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-52745	-51989	1175	0.419	5951.4	0.97	6.27952	2.92742	Si
SLV 8	-61640	-54031	856	0.379	6857.2	0.974	5.6513	2.58905	Si
SLV 3	-50620	-51393	1156	0.433	5735.1	0.969	6.48693	2.92742	Si
SLV 7	-60209	-53630	844	0.385	6711.5	0.973	5.75518	2.58905	Si
SLV 12	-52833	-44911	386	0.433	5960.4	0.97	6.48035	2.58905	Si
SLV 11	-51402	-44510	374	0.442	5814.7	0.97	6.62332	2.58905	Si
SLV 2	-36016	-41035	975	0.565	4249	0.959	8.55273	2.92742	Si
SLV 1	-33892	-40439	956	0.592	4033	0.957	8.98832	2.92742	Si
SLV 16	-23389	-21589	-393	0.809	2966.4	0.944	12.45331	2.92742	Si
SLV 15	-21264	-20993	-412	0.87	2751.1	0.94	13.44115	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.783	SLU 47	Si
V_SLU	54.744	SLU 77	Si
PF_SLV	0	SLV 9	No
V_SLV	7.676	SLV 9	Si
PFFP_SLV	2.806	SLV 9	Si
R_SLV	2.145	SLV 4	Si

Maschio 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.863	5.876	-24.603	5.876	L2	L4	1.74	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	0.05	-1768.91	-21960	-0.0000583	0.0003743	0.0035	1.74	13842.3	15993.9	15993.9	9.04	No	Si
SLU 74	0.45	789.35	-19259	-0.0000449	0.0003743	0.0035	1.74	12707.53	13700.1	13700.1	17.36	No	Si
SLU 42	0.05	-1624.3	-19632	-0.0000519	0.0003743	0.0035	1.74	12873.48	14755.25	14755.25	9.08	No	Si
SLU 42	0.45	532	-17415	-0.000039	0.0003743	0.0035	1.74	11841.16	12778.64	12778.64	24.02	No	Si
SLU 41	0.05	-1647.66	-19818	-0.0000525	0.0003743	0.0035	1.74	12955.47	14853.81	14853.81	9.02	No	Si
SLU 41	0.45	549.65	-17557	-0.0000395	0.0003743	0.0035	1.74	11910.5	12848.97	12848.97	23.38	No	Si
SLU 84	0.05	-1847.44	-22614	-0.0000604	0.0003743	0.0035	1.74	14093.25	16325.81	16325.81	8.84	No	Si
SLU 84	0.45	716.73	-19933	-0.0000459	0.0003743	0.0035	1.74	13005.74	14041.33	14041.33	19.59	No	Si
SLU 39	0.05	-1644.95	-19522	-0.0000518	0.0003743	0.0035	1.74	12824.93	14696.71	14696.71	8.93	No	Si
SLU 39	0.45	512.75	-17305	-0.0000387	0.0003743	0.0035	1.74	11787.18	12724.27	12724.27	24.82	No	Si
SLU 40	0.05	-1621.59	-19335	-0.0000512	0.0003743	0.0035	1.74	12741.73	14587.95	14587.95	9	No	Si
SLU 40	0.45	495.1	-17163	-0.0000382	0.0003743	0.0035	1.74	11717.06	12632.21	12632.21	25.51	No	Si
SLU 82	0.05	-1844.74	-22318	-0.0000597	0.0003743	0.0035	1.74	13980.79	16176.53	16176.53	8.77	No	Si
SLU 82	0.45	679.83	-19682	-0.0000451	0.0003743	0.0035	1.74	12895.49	13913.57	13913.57	20.47	No	Si
SLU 73	0.05	-1723.27	-21208	-0.0000562	0.0003743	0.0035	1.74	13542.41	15597.26	15597.26	9.05	No	Si
SLU 73	0.45	705.66	-18649	-0.000043	0.0003743	0.0035	1.74	12429.01	13393.21	13393.21	18.98	No	Si
SLU 83	0.05	-1870.8	-22801	-0.000061	0.0003743	0.0035	1.74	14163.1	16418.06	16418.06	8.78	No	Si
SLU 83	0.45	734.38	-20075	-0.0000463	0.0003743	0.0035	1.74	13067.28	14113.49	14113.49	19.22	No	Si
SLU 81	0.05	-1868.1	-22505	-0.0000603	0.0003743	0.0035	1.74	14051.84	16270.89	16270.89	8.71	No	Si
SLU 81	0.45	697.48	-19824	-0.0000455	0.0003743	0.0035	1.74	12957.8	13985.55	13985.55	20.05	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	0.05	-2936.97	-14182	-0.0000484	0.0005615	0.0035	1.74		11987.65	11987.65	4.08		Si
SLV 15	0.45	271.12	-11147	-0.0000237	0.0005615	0.0035	1.74		9138.08	9138.08	33.7		Si
SLV 16	0.05	-3360.68	-15387	-0.0000539	0.0005615	0.0035	1.74		12832.47	12832.47	3.82		Si
SLV 16	0.45	400.35	-11948	-0.0000262	0.0005615	0.0035	1.74		9728.22	9728.22	24.3		Si
SLV 9	0.05	-1034.77	-149	-0.0004276	0.0005615	0.0035	1.392		983.79	983.79	0.95		No
SLV 9	0.45	-1622.5	-660	-0.0004715	0.0005615	0.0035	1.392		1419.45	1419.45	0.87		No
SLD 13	0.05	-2062.55	-9439	-0.0000325	0.0005615	0.0035	1.74		8494.07	8494.07	4.12		Si
SLD 13	0.45	-337.01	-7783	-0.0000174	0.0005615	0.0035	1.74		7219.69	7219.69	21.42		Si
SLV 14	0.05	-3034.18	-7550	-0.0000368	0.0005615	0.0035	1.74		7038.59	7038.59	2.32		Si
SLV 14	0.45	-757.61	-5591	-0.0000159	0.0005615	0.0035	1.74		5494.7	5494.7	7.25		Si
SLV 5	0.05	48.67	-2507	-0.0000052	0.0005615	0.0035	1.74		2298.06	2298.06	47.21		Si
SLV 5	0.45	-1113.21	-3364	-0.000014	0.0005615	0.0035	1.74		3681.03	3681.03	3.31		Si
SLD 14	0.05	-2333.26	-10209	-0.0000359	0.0005615	0.0035	1.74		9078.73	9078.73	3.89		Si
SLD 14	0.45	-254.45	-8295	-0.0000179	0.0005615	0.0035	1.74		7616.43	7616.43	29.93		Si
SLV 13	0.05	-2610.47	-6345	-0.0000314	0.0005615	0.0035	1.74		6086.96	6086.96	2.33		Si
SLV 13	0.45	-886.83	-4790	-0.0000152	0.0005615	0.0035	1.74		4849.67	4849.67	5.47		Si
SLV 6	0.05	-236.6	-3319	-0.000008	0.0005615	0.0035	1.74		3644.05	3644.05	15.4		Si
SLV 6	0.45	-1026.2	-3903	-0.0000144	0.0005615	0.0035	1.74		4124.91	4124.91	4.02		Si
SLV 10	0.05	-1320.04	-961	-0.0002395	0.0005615	0.0035	1.392		1675.06	1675.06	1.27		Si
SLV 10	0.45	-1535.5	-1199	-0.0002585	0.0005615	0.0035	1.392		1875.69	1875.69	1.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	-1844.74	-22318	-19838	-10863	1.74	1.74	-25336	10323	8083	28547	23447	4437	27884	No	2.57	Si
SLU 82	0.45	679.83	-19682	-17495	-10703	1.74	1.74	-22343	9924	7770	28547	23447	4437	27884	No	2.61	Si
SLU 83	0.05	-1870.8	-22801	-20267	-11259	1.74	1.74	-25884	10396	8140	28547	23447	4437	27884	No	2.48	Si
SLU 83	0.45	734.38	-20075	-17845	-11095	1.74	1.74	-22790	9983	7817	28547	23447	4437	27884	No	2.51	Si
SLU 78	0.05	-1748.25	-22070	-19618	-11083	1.74	1.74	-25054	10285	8053	28547	23447	4437	27884	No	2.52	Si
SLU 78	0.45	808.6	-19369	-17217	-10922	1.74	1.74	-21989	9876	7733	28547	23447	4437	27884	No	2.55	Si
SLU 84	0.05	-1847.44	-22614	-20102	-11060	1.74	1.74	-25673	10367	8118	28547	23447	4437	27884	No	2.52	Si
SLU 84	0.45	716.73	-19933	-17719	-10897	1.74	1.74	-22629	9962	7800	28547	23447	4437	27884	No	2.56	Si
SLU 75	0.05	-1745.54	-21773	-19354	-10887	1.74	1.74	-24718	10240	8018	28547	23447	4437	27884	No	2.56	Si
SLU 75	0.45	771.7	-19117	-16993	-10729	1.74	1.74	-21703	9838	7703	28547	23447	4437	27884	No	2.6	Si
SLU 79	0.05	-1767.61	-22112	-19655	-11180	1.74	1.74	-25102	10291	8058	28547	23447	4437	27884	No	2.49	Si
SLU 79	0.45	808.89	-19389	-17235	-11019	1.74	1.74	-22011	9879	7735	28547	23447	4437	27884	No	2.53	Si
SLU 80	0.05	-1744.25	-21925	-19489	-10980	1.74	1.74	-24890	10263	8036	28547	23447	4437	27884	No	2.54	Si
SLU 80	0.45	791.23	-19247	-17109	-10820	1.74	1.74	-21850	9858	7719	28547	23447	4437	27884	No	2.58	Si
SLU 74	0.05	-1768.91	-21960	-19520	-11087	1.74	1.74	-24930	10268	8040	28547	23447	4437	27884	No	2.51	Si
SLU 74	0.45	789.35	-19259	-17119	-10927	1.74	1.74	-21864	9860	7720	28547	23447	4437	27884	No	2.55	Si
SLU 77	0.05	-1771.61	-22256	-19783	-11283	1.74	1.74	-25266	10313	8075	28547	23447	4437	27884	No	2.47	Si
SLU 77	0.45	826.25	-19511	-17343	-11121	1.74	1.74	-22150	9898	7750	28547	23447	4437	27884	No	2.51	Si
SLU 81	0.05	-1868.1	-22505	-20004	-11063	1.74	1.74	-25548	10351	8105	28547	23447	4437	27884	No	2.52	Si
SLU 81	0.45	697.48	-19824	-17621	-10902	1.74	1.74	-22504	9945	7787	28547	23447	4437	27884	No	2.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	0.05	-1959.34	-22432	-19940	-16476	1.74	1.74	-25466	15510	12144	28547	35170	4437	39607		2.4	Si
SLD 12	0.45	1653.26	-18801	-16712	-16256	1.74	1.74	-21344	14685	11499	28547	35170	4437	39607		2.44	Si
SLV 12	0.05	-2408.37	-27084	-24075	-21768	1.74	1.74	-30747	16250	12724	28547	35170	4437	39607		1.82	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.45	2324.37	-22388	-19901	-21467	1.74	1.74	-25416	15500	12136	28547	35170	4437	39607		1.85	Si
SLV 8	0.05	-1324.93	-29442	-26171	-20984	1.74	1.74	-33424	16250	12724	28547	35170	4437	39607		1.89	Si
SLV 8	0.45	2833.66	-25092	-22304	-20816	1.74	1.74	-28485	16114	12617	28547	35170	4437	39607		1.9	Si
SLV 16	0.05	-3360.68	-15387	-13677	-14033	1.74	1.74	-17468	13910	10892	28547	35170	4437	39438		2.81	Si
SLV 16	0.45	400.35	-11948	-10620	-13662	1.74	1.74	-13564	13129	10280	28547	35170	4437	38827		2.84	Si
SLV 11	0.05	-2123.1	-26273	-23354	-20245	1.74	1.74	-29826	16250	12724	28547	35170	4437	39607		1.96	Si
SLV 11	0.45	2237.36	-21849	-19421	-19948	1.74	1.74	-24804	15377	12040	28547	35170	4437	39607		1.99	Si
SLV 7	0.05	-1039.66	-28631	-25449	-19460	1.74	1.74	-32502	16250	12724	28547	35170	4437	39607		2.04	Si
SLV 7	0.45	2746.66	-24553	-21825	-19297	1.74	1.74	-27873	15991	12521	28547	35170	4437	39607		2.05	Si
SLD 7	0.05	-1105.57	-23440	-20836	-15031	1.74	1.74	-26610	15739	12323	28547	35170	4437	39607		2.63	Si
SLD 7	0.45	1926.17	-20174	-17932	-14881	1.74	1.74	-22902	14997	11743	28547	35170	4437	39607		2.66	Si
SLD 8	0.05	-1285.03	-23950	-21289	-15990	1.74	1.74	-27189	15855	12414	28547	35170	4437	39607		2.48	Si
SLD 8	0.45	1980.9	-20513	-18234	-15836	1.74	1.74	-23287	15074	11803	28547	35170	4437	39607		2.5	Si
SLD 11	0.05	-1779.88	-21922	-19486	-15517	1.74	1.74	-24887	15394	12053	28547	35170	4437	39607		2.55	Si
SLD 11	0.45	1598.53	-18462	-16410	-15301	1.74	1.74	-20958	14608	11438	28547	35170	4437	39607		2.59	Si
SLV 15	0.05	-2936.97	-14182	-12606	-11770	1.74	1.74	-16100	13637	10677	28547	35170	4437	39224		3.33	Si
SLV 15	0.45	271.12	-11147	-9909	-11406	1.74	1.74	-12655	12948	10138	28547	35170	4437	38685		3.39	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.24	0	200	100.82	0	0	No, Trazione
SLV 9	179667	0.24	0	805	100.82	0	0	No, Trazione
SLV 5	179667	0.24	2853	-2234	100.82	493.29	4.89	Si
SLV 6	179667	0.24	3626	-2839	100.82	623.71	6.19	Si
SLV 13	179667	0.24	5421	-4244	100.82	921.09	9.14	Si
SLV 14	179667	0.24	6569	-5143	100.82	1107.5	10.98	Si
SLV 15	179667	0.24	14990	-11737	100.82	2381.7	23.62	Si
SLV 16	179667	0.24	16139	-12637	100.82	2542.76	25.22	Si
SLV 1	179667	0.24	18359	-14375	100.82	2845.53	28.22	Si
SLV 2	179667	0.24	19507	-15274	100.82	2997.66	29.73	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-24110	-27392	1090	0.427	2743.5	0.968	6.40384	2.58905	Si
SLV 7	-23492	-27071	1058	0.436	2680.5	0.967	6.55204	2.58905	Si
SLV 4	-19583	-23146	868	0.509	2282.8	0.962	7.68631	2.92742	Si
SLV 12	-21682	-23889	969	0.467	2496.3	0.965	7.02999	2.58905	Si
SLV 3	-18665	-22670	821	0.53	2189.3	0.961	8.01914	2.92742	Si
SLV 11	-21063	-23568	938	0.478	2433.4	0.964	7.21175	2.58905	Si
SLV 2	-13146	-15937	551	0.712	1628.5	0.949	10.90064	2.92742	Si
SLV 1	-12227	-15461	504	0.756	1535.3	0.946	11.61013	2.92742	Si
SLV 16	-11488	-11469	466	0.796	1460.3	0.944	12.25571	2.92742	Si
SLV 15	-10569	-10993	419	0.852	1367.2	0.94	13.1679	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.71	SLU 81	Si
V_SLU	2.471	SLU 77	Si
PF_SLV	0.875	SLV 9	No
V_SLV	1.819	SLV 12	Si
PFFP_SLV	0	SLV 10	No
R_SLV	2.473	SLV 8	Si

Maschio 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.876	-21.863	5.876	L2	L4	2.245	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	0.05	-4871.36	-20241	-0.0000527	0.0003743	0.0035	2.245	18249.27	20646.48	20646.48	4.24	No	Si
SLU 47	0.45	-3443.49	-20580	-0.000047	0.0003743	0.0035	2.245	18478.84	20915.33	20915.33	6.07	No	Si
SLU 69	0.05	-5724.93	-24969	-0.0000648	0.0003743	0.0035	2.245	21223.93	24248.56	24248.56	4.24	No	Si
SLU 69	0.45	-4204.41	-25521	-0.000059	0.0003743	0.0035	2.245	21539.26	24631.79	24631.79	5.86	No	Si
SLU 51	0.05	-5025.36	-20746	-0.0000542	0.0003743	0.0035	2.245	18590.59	21047.73	21047.73	4.19	No	Si
SLU 51	0.45	-3600.08	-21113	-0.0000486	0.0003743	0.0035	2.245	18834.71	21340.39	21340.39	5.93	No	Si
SLU 71	0.05	-5672.24	-24788	-0.0000643	0.0003743	0.0035	2.245	21119.01	24115.38	24115.38	4.25	No	Si
SLU 71	0.45	-4150.35	-25329	-0.0000584	0.0003743	0.0035	2.245	21430.44	24499.29	24499.29	5.9	No	Si
SLU 49	0.05	-5078.05	-20928	-0.0000548	0.0003743	0.0035	2.245	18711.49	21192.07	21192.07	4.17	No	Si
SLU 49	0.45	-3654.14	-21305	-0.0000492	0.0003743	0.0035	2.245	18961.17	21491.71	21491.71	5.88	No	Si
SLU 50	0.05	-5105.78	-20942	-0.0000549	0.0003743	0.0035	2.245	18721	21203.48	21203.48	4.15	No	Si
SLU 50	0.45	-3670.16	-21321	-0.0000493	0.0003743	0.0035	2.245	18971.83	21504.44	21504.44	5.86	No	Si
SLU 46	0.05	-4977.66	-20552	-0.0000537	0.0003743	0.0035	2.245	18460.13	20893.25	20893.25	4.2	No	Si
SLU 46	0.45	-3544.27	-20910	-0.000048	0.0003743	0.0035	2.245	18700.09	21178.41	21178.41	5.98	No	Si
SLU 48	0.05	-5158.47	-21123	-0.0000555	0.0003743	0.0035	2.245	18841.13	21348.16	21348.16	4.14	No	Si
SLU 48	0.45	-3724.22	-21513	-0.0000498	0.0003743	0.0035	2.245	19097.42	21654.36	21654.36	5.81	No	Si
SLU 45	0.05	-5058.08	-20748	-0.0000544	0.0003743	0.0035	2.245	18591.36	21048.65	21048.65	4.16	No	Si
SLU 45	0.45	-3614.35	-21118	-0.0000487	0.0003743	0.0035	2.245	18838.14	21344.54	21344.54	5.91	No	Si
SLU 43	0.05	-4905.01	-20191	-0.0000527	0.0003743	0.0035	2.245	18215.43	20607.27	20607.27	4.2	No	Si
SLU 43	0.45	-3450.42	-20532	-0.000047	0.0003743	0.0035	2.245	18446.56	20877.27	20877.27	6.05	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	0.05	2041.94	-7270	-0.0000192	0.0005615	0.0035	2.245		8119.58	8119.58	3.98		Si
SLV 6	0.45	2269.94	-6040	-0.0000182	0.0005615	0.0035	2.245		6833.73	6833.73	3.01		Si
SLD 16	0.05	-6751.55	-17985	-0.0000557	0.0005615	0.0035	2.245		19621.01	19621.01	2.91		Si
SLD 16	0.45	-4199.16	-19293	-0.0000471	0.0005615	0.0035	2.245		20801.54	20801.54	4.95		Si
SLV 12	0.05	-10947.04	-29892	-0.0000943	0.0005615	0.0035	2.245		29802.3	29802.3	2.72		Si
SLV 12	0.45	-8382.11	-32097	-0.0000868	0.0005615	0.0035	2.245		31508.07	31508.07	3.76		Si
SLV 10	0.05	883.97	-4502	-0.0000103	0.0005615	0.0035	2.245		5205.24	5205.24	5.89		Si
SLV 10	0.45	2085.94	-3772	-0.0000149	0.0005615	0.0035	2.245		4425.26	4425.26	2.12		Si
SLV 16	0.05	-8294.16	-17800	-0.0000631	0.0005615	0.0035	2.245		19453.18	19453.18	2.35		Si
SLV 16	0.45	-4970.32	-19611	-0.0000509	0.0005615	0.0035	2.245		21087.63	21087.63	4.24		Si
SLV 11	0.05	-10382.4	-29790	-0.0000916	0.0005615	0.0035	2.245		29721.27	29721.27	2.86		Si
SLV 11	0.45	-8228.15	-31795	-0.0000856	0.0005615	0.0035	2.245		31274.32	31274.32	3.8		Si
SLV 9	0.05	1448.62	-4400	-0.0000124	0.0005615	0.0035	2.245		5096.07	5096.07	3.52		Si
SLV 9	0.45	2239.9	-3470	-0.0000163	0.0005615	0.0035	2.245		4099.08	4099.08	1.83		Si
SLV 14	0.05	-4744.85	-10183	-0.0000353	0.0005615	0.0035	2.245		12111.34	12111.34	2.55		Si
SLV 14	0.45	-1829.91	-11114	-0.0000243	0.0005615	0.0035	2.245		13035.58	13035.58	7.12		Si
SLV 5	0.05	2606.58	-7168	-0.0000213	0.0005615	0.0035	2.245		8013.79	8013.79	3.07		Si
SLV 5	0.45	2423.9	-5738	-0.0000184	0.0005615	0.0035	2.245		6516.4	6516.4	2.69		Si
SLV 15	0.05	-7455.49	-17649	-0.0000585	0.0005615	0.0035	2.245		19314.77	19314.77	2.59		Si
SLV 15	0.45	-4741.65	-19163	-0.0000492	0.0005615	0.0035	2.245		20684.73	20684.73	4.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.05	-5920.96	-28641	-25459	-8049	2.245	2.245	-25200	10305	12893	28547	30251	5725	35976	No	4.47	Si
SLU 84	0.45	-4275.89	-29331	-26072	-8692	2.245	2.245	-25808	10385	13103	28547	30251	5725	35976	No	4.14	Si
SLU 81	0.05	-5901	-28461	-25299	-8082	2.245	2.245	-25042	10283	12838	28547	30251	5725	35976	No	4.45	Si
SLU 81	0.45	-4236.1	-29145	-25906	-8719	2.245	2.245	-25643	10364	13046	28547	30251	5725	35976	No	4.13	Si
SLU 83	0.05	-6001.38	-28836	-25632	-8105	2.245	2.245	-25372	10327	12952	28547	30251	5725	35976	No	4.44	Si
SLU 83	0.45	-4345.97	-29539	-26257	-8752	2.245	2.245	-25991	10410	13166	28547	30251	5725	35976	No	4.11	Si
SLU 82	0.05	-5820.57	-28266	-25125	-8026	2.245	2.245	-24870	10260	12778	28547	30251	5725	35976	No	4.48	Si
SLU 82	0.45	-4166.02	-28937	-25721	-8658	2.245	2.245	-25460	10339	12983	28547	30251	5725	35976	No	4.16	Si
SLU 74	0.05	-5925.21	-27691	-24614	-7898	2.245	2.245	-24364	10193	12603	28547	30251	5725	35976	No	4.55	Si
SLU 74	0.45	-4308.39	-28350	-25200	-8527	2.245	2.245	-24944	10270	12804	28547	30251	5725	35976	No	4.22	Si
SLU 75	0.05	-5844.79	-27495	-24440	-7843	2.245	2.245	-24192	10170	12544	28547	30251	5725	35976	No	4.59	Si
SLU 75	0.45	-4238.31	-28142	-25015	-8467	2.245	2.245	-24761	10246	12741	28547	30251	5725	35976	No	4.25	Si
SLU 78	0.05	-5945.18	-27870	-24774	-7866	2.245	2.245	-24522	10214	12658	28547	30251	5725	35976	No	4.57	Si
SLU 78	0.45	-4348.18	-28536	-25365	-8501	2.245	2.245	-25108	10292	12861	28547	30251	5725	35976	No	4.23	Si
SLU 79	0.05	-5972.91	-27885	-24786	-7899	2.245	2.245	-24535	10216	12662	28547	30251	5725	35976	No	4.55	Si
SLU 79	0.45	-4364.19	-28552	-25380	-8533	2.245	2.245	-25122	10294	12866	28547	30251	5725	35976	No	4.22	Si
SLU 77	0.05	-6025.6	-28066	-24947	-7921	2.245	2.245	-24694	10237	12718	28547	30251	5725	35976	No	4.54	Si
SLU 77	0.45	-4418.26	-28744	-25550	-8561	2.245	2.245	-25291	10317	12924	28547	30251	5725	35976	No	4.2	Si
SLU 80	0.05	-5892.49	-27689	-24613	-7843	2.245	2.245	-24363	10193	12603	28547	30251	5725	35976	No	4.59	Si
SLU 80	0.45	-4294.11	-28344	-25195	-8473	2.245	2.245	-24939	10270	12802	28547	30251	5725	35976	No	4.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.05	-8294.16	-17800	-15823	-14306	2.245	1.9696	-18014	14019	12426	28547	45377	5725	40973		2.86	Si
SLV 16	0.45	-4970.32	-19611	-17432	-14712	2.245	2.245	-17255	13868	14010	28547	45377	5725	42556		2.89	Si
SLD 13	0.05	-4005.08	-13136	-11676	-8782	2.245	2.245	-11558	12728	12859	28547	45377	5725	41405		4.71	Si
SLD 13	0.45	-2108.5	-13696	-12174	-9045	2.245	2.245	-12051	12827	12958	28547	45377	5725	41505		4.59	Si
SLD 14	0.05	-4540.91	-13233	-11763	-10248	2.245	2.245	-11643	12745	12876	28547	45377	5725	41423		4.04	Si
SLD 14	0.45	-2254.6	-13982	-12429	-10518	2.245	2.245	-12303	12877	13009	28547	45377	5725	41556		3.95	Si
SLV 12	0.05	-10947.04	-29892	-26571	-10800	2.245	2.245	-26301	15677	15838	28547	45377	5725	44384		4.11	Si
SLV 12	0.45	-8382.11	-32097	-28530	-11586	2.245	2.245	-28241	16065	16229	28547	45377	5725	44776		3.86	Si
SLD 16	0.05	-6751.55	-17985	-15987	-11132	2.245	2.2413	-15824	13582	13698	28547	45377	5725	42245		3.79	Si
SLD 16	0.45	-4199.16	-19293	-17149	-11551	2.245	2.245	-16975	13812	13953	28547	45377	5725	42500		3.68	Si
SLV 13	0.05	-3906.18	-10031	-8917	-10605	2.245	2.1993	-8826	12182	12056	28547	45377	5725	40603		3.83	Si
SLV 13	0.45	-1601.23	-10665	-9480	-10762	2.245	2.245	-9384	12293	12420	28547	45377	5725	40966		3.81	Si
SLV 14	0.05	-4744.85	-10183	-9052	-12900	2.245	1.9697	-10263	12469	11052	28547	45377	5725	39599		3.07	Si
SLV 14	0.45	-1829.91	-11114	-9879	-13068	2.245	2.245	-9779	12372	12499	28547	45377	5725	41046		3.14	Si
SLV 15	0.05	-7455.49	-17649	-15688	-12011	2.245	2.1002	-16730	13763	13007	28547	45377	5725	41553		3.46	Si
SLV 15	0.45	-4741.65	-19163	-17034	-12407	2.245	2.245	-16861	13789	13930	28547	45377	5725	42477		3.42	Si
SLD 15	0.05	-6215.72	-17888	-15900	-9666	2.245	2.245	-15739	13564	13703	28547	45377	5725	42250		4.37	Si
SLD 15	0.45	-4053.05	-19007	-16895	-10077	2.245	2.245	-16723	13761	13902	28547	45377	5725	42449		4.21	Si
SLV 11	0.05	-10382.4	-29790	-26480	-9255	2.245	2.245	-26211	15659	15819	28547	45377	5725	44366		4.79	Si
SLV 11	0.45	-8228.15	-31795	-28262	-10033	2.245	2.245	-27975	16012	16176	28547	45377	5725	44722		4.46	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	4102	-4144	130.08	907.34	6.98	Si
SLV 10	179667	0.24	4296	-4340	130.08	949.13	7.3	Si
SLV 5	179667	0.24	7500	-7577	130.08	1621.17	12.46	Si
SLV 6	179667	0.24	7695	-7774	130.08	1660.99	12.77	Si
SLV 13	179667	0.24	11079	-11192	130.08	2335.56	17.95	Si
SLV 14	179667	0.24	11368	-11484	130.08	2391.59	18.39	Si
SLV 15	179667	0.24	20498	-20708	130.08	4033.89	31.01	Si
SLV 16	179667	0.24	20787	-21000	130.08	4081.82	31.38	Si
SLV 1	179667	0.24	22407	-22637	130.08	4345.99	33.41	Si
SLV 2	179667	0.24	22696	-22929	130.08	4392.28	33.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-31262	-47326	1692	0.416	3555.4	0.968	6.25202	2.58905	Si
SLV 7	-31075	-46964	1683	0.419	3536.4	0.968	6.28472	2.58905	Si
SLV 12	-28942	-43041	1555	0.445	3319.3	0.966	6.69947	2.58905	Si
SLV 11	-28755	-42679	1546	0.448	3300.3	0.966	6.73743	2.58905	Si
SLV 4	-24777	-39932	1343	0.508	2895.5	0.962	7.6824	2.92742	Si
SLV 3	-24500	-39395	1330	0.513	2867.3	0.961	7.75842	2.92742	Si
SLV 16	-17044	-25649	888	0.7	2109.6	0.949	10.71798	2.92742	Si
SLV 2	-16861	-29235	905	0.705	2091	0.949	10.79843	2.92742	Si
SLV 15	-16767	-25112	875	0.709	2081.5	0.948	10.8715	2.92742	Si
SLV 1	-16583	-28698	892	0.715	2062.8	0.948	10.95471	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.138	SLU 48	Si
V_SLU	4.111	SLU 83	Si
PF_SLV	1.83	SLV 9	Si
V_SLV	2.864	SLV 16	Si
PFFP_SLV	6.975	SLV 9	Si
R_SLV	2.415	SLV 8	Si

Maschio 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	2.071	-19.618	4.851	L2	L4	2.78	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	-1.95	-1295.3	-90391	-0.0001887	0.0004492	0.0035	2.78	14195.66	68076.5	68076.5	52.56	No	Si
SLU 77	0.05	5751.87	-86103	-0.0002021	0.0004492	0.0035	2.78	18557.88	66786.69	66786.69	11.61	No	Si
SLU 82	-1.95	-2127.4	-90818	-0.0001945	0.0004492	0.0035	2.78	13733.6	68145.75	68145.75	32.03	No	Si
SLU 82	0.05	5726.22	-86530	-0.0002031	0.0004492	0.0035	2.78	18145.79	66812.32	66812.32	11.67	No	Si
SLU 78	-1.95	-1883.6	-90063	-0.0001911	0.0004492	0.0035	2.78	14546.74	68023.37	68023.37	36.11	No	Si
SLU 78	0.05	5826.32	-85776	-0.0002016	0.0004492	0.0035	2.78	18870.63	66767.03	66767.03	11.46	No	Si
SLU 75	-1.95	-1987.48	-89001	-0.0001889	0.0004492	0.0035	2.78	15664.97	67851.1	67851.1	34.14	No	Si
SLU 75	0.05	5735.49	-84713	-0.0001982	0.0004492	0.0035	2.78	19864.59	66652.92	66652.92	11.62	No	Si
SLU 76	-1.95	-2408.92	-88241	-0.0001892	0.0004492	0.0035	2.78	16445.33	67727.98	67727.98	28.12	No	Si
SLU 76	0.05	5745.47	-83954	-0.0001962	0.0004492	0.0035	2.78	20556.13	66423.21	66423.21	11.56	No	Si
SLU 84	-1.95	-2023.52	-91880	-0.0001968	0.0004492	0.0035	2.78	12562.69	68159.55	68159.55	33.68	No	Si
SLU 84	0.05	5817.05	-87593	-0.0002066	0.0004492	0.0035	2.78	17099.15	66876.07	66876.07	11.5	No	Si
SLU 83	-1.95	-1435.22	-92208	-0.0001943	0.0004492	0.0035	2.78	12195.38	68151.67	68151.67	47.49	No	Si
SLU 83	0.05	5742.6	-87921	-0.0002071	0.0004492	0.0035	2.78	16770.16	66895.73	66895.73	11.65	No	Si
SLU 80	-1.95	-1912.84	-89522	-0.0001899	0.0004492	0.0035	2.78	15119.9	67935.66	67935.66	35.52	No	Si
SLU 80	0.05	5786.67	-85235	-0.0001999	0.0004492	0.0035	2.78	19380.53	66734.58	66734.58	11.53	No	Si
SLU 79	-1.95	-1324.54	-89850	-0.0001874	0.0004492	0.0035	2.78	14773.66	67988.79	67988.79	51.33	No	Si
SLU 79	0.05	5712.22	-85562	-0.0002004	0.0004492	0.0035	2.78	19072.61	66754.24	66754.24	11.69	No	Si
SLU 70	-1.95	-1867.75	-82081	-0.0001705	0.0004492	0.0035	2.78	22193.93	66729.25	66729.25	35.73	No	Si
SLU 70	0.05	5543.49	-77794	-0.000179	0.0004492	0.0035	2.78	25584.24	64559.91	64559.91	11.65	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.95	32920.97	-80886	-0.0003013	0.0006738	0.0035	2.78		76240.73	76240.73	2.32		Si
SLV 12	0.05	2005.95	-77680	-0.0001498	0.0006738	0.0035	2.78		74436.94	74436.94	37.11		Si
SLV 10	-1.95	-35045.14	-36203	-0.0003151	0.0006738	0.0035	2.224		46709.49	46709.49	1.33		Si
SLV 10	0.05	4228.04	-32891	-0.0000724	0.0006738	0.0035	2.78		39400.93	39400.93	9.32		Si
SLV 7	-1.95	32546.85	-86500	-0.0003145	0.0006738	0.0035	2.78		79399.56	79399.56	2.44		Si
SLV 7	0.05	3803.21	-83264	-0.0001696	0.0006738	0.0035	2.78		77578.76	77578.76	20.4		Si
SLD 10	-1.95	-22306.71	-45636	-0.0001704	0.0006738	0.0035	2.78		55369.89	55369.89	2.48		Si
SLD 10	0.05	4157.94	-42351	-0.0000896	0.0006738	0.0035	2.78		49093.72	49093.72	11.81		Si
SLD 9	-1.95	-22941.99	-45420	-0.000173	0.0006738	0.0035	2.78		55179	55179	2.41		Si
SLD 9	0.05	4252.15	-42135	-0.0000895	0.0006738	0.0035	2.78		48872.7	48872.7	11.49		Si
SLV 11	-1.95	31911.1	-80543	-0.0002954	0.0006738	0.0035	2.78		76047.79	76047.79	2.38		Si
SLV 11	0.05	2155.71	-77337	-0.0001498	0.0006738	0.0035	2.78		74244	74244	34.44		Si
SLV 9	-1.95	-36055.01	-35860	-0.0003493	0.0006738	0.0035	2.224		46366.23	46366.23	1.29		Si
SLV 9	0.05	4377.81	-32548	-0.0000724	0.0006738	0.0035	2.78		39049.58	39049.58	8.92		Si
SLV 6	-1.95	-34409.39	-42160	-0.0002618	0.0006738	0.0035	2.224		52293.6	52293.6	1.52		Si
SLV 6	0.05	5875.54	-38818	-0.0000897	0.0006738	0.0035	2.78		45473.71	45473.71	7.74		Si
SLV 8	-1.95	33556.72	-86843	-0.0003206	0.0006738	0.0035	2.78		79562.53	79562.53	2.37		Si
SLV 8	0.05	3653.45	-83607	-0.0001696	0.0006738	0.0035	2.78		77771.7	77771.7	21.29		Si
SLV 5	-1.95	-35419.26	-41817	-0.0002771	0.0006738	0.0035	2.224		51990.16	51990.16	1.47		Si
SLV 5	0.05	6025.3	-38475	-0.0000897	0.0006738	0.0035	2.78		45122.36	45122.36	7.49		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	-1.95	-2764.33	-77913	-56664	-3979	2.78	2.78	-67943	10833	27483	81562	29972	14178	44150	No	11.1	Si
SLU 55	0.05	5281.83	-73736	-53626	-3979	2.78	2.78	-64300	10833	26267	81562	29972	14178	44150	No	11.1	Si
SLU 76	-1.95	-2408.92	-88241	-64175	-4032	2.78	2.78	-76949	10833	30487	81562	29972	14178	44150	No	10.95	Si
SLU 76	0.05	5745.47	-83954	-61057	-4032	2.78	2.78	-73210	10833	29240	81562	29972	14178	44150	No	10.95	Si
SLU 65	-1.95	-2496.95	-79197	-57598	-3889	2.78	2.78	-69062	10833	27856	81562	29972	14178	44150	No	11.35	Si
SLU 65	0.05	5371.81	-74910	-54480	-3889	2.78	2.78	-65323	10833	26609	81562	29972	14178	44150	No	11.35	Si
SLU 52	-1.95	-2868.21	-76851	-55891	-3985	2.78	2.78	-67016	10833	27173	81562	29972	14178	44150	No	11.08	Si
SLU 52	0.05	5191	-72673	-52853	-3985	2.78	2.78	-63373	10833	25958	81562	29972	14178	44150	No	11.08	Si
SLU 47	-1.95	-2748.48	-69932	-50859	-3829	2.78	2.78	-60982	10833	25161	81562	29972	14178	44150	No	11.53	Si
SLU 47	0.05	4999	-65754	-47821	-3829	2.78	2.78	-57339	10833	23945	81562	29972	14178	44150	No	11.53	Si
SLU 84	-1.95	-2023.52	-91880	-66822	-3875	2.78	2.78	-80122	10833	31546	81562	29972	14178	44150	No	11.39	Si
SLU 84	0.05	5817.05	-87593	-63704	-3875	2.78	2.78	-76384	10833	30298	81562	29972	14178	44150	No	11.39	Si
SLU 44	-1.95	-2852.36	-68869	-50087	-3836	2.78	2.78	-60056	10833	24852	81562	29972	14178	44150	No	11.51	Si
SLU 44	0.05	4908.17	-64692	-47048	-3836	2.78	2.78	-56413	10833	23636	81562	29972	14178	44150	No	11.51	Si
SLU 73	-1.95	-2512.8	-87179	-63403	-4039	2.78	2.78	-76023	10833	30178	81562	29972	14178	44150	No	10.93	Si
SLU 73	0.05	5654.64	-82891	-60285	-4039	2.78	2.78	-72284	10833	28931	81562	29972	14178	44150	No	10.93	Si
SLU 82	-1.95	-2127.4	-90818	-66049	-3882	2.78	2.78	-79196	10833	31237	81562	29972	14178	44150	No	11.37	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	5726.22	-86530	-62931	-3882	2.78	2.78	-75457	10833	29989	81562	29972	14178	44150	No	11.37	Si
SLU 68	-1.95	-2393.07	-80260	-58371	-3883	2.78	2.78	-69989	10833	28165	81562	29972	14178	44150	No	11.37	Si
SLU 68	0.05	5462.64	-75972	-55252	-3883	2.78	2.78	-66250	10833	26918	81562	29972	14178	44150	No	11.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	-1.95	32546.85	-86500	-62909	14633	2.78	2.78	-75430	16250	32389	81562	44958	14178	59136		4.04	Si
SLV 7	0.05	3803.21	-83264	-60556	14682	2.78	2.78	-72609	16250	31448	81562	44958	14178	59136		4.03	Si
SLV 10	-1.95	-35045.14	-36203	-26330	-19828	2.224	1.266	0	0	0	81562	35966	11342	47309		2.39	Si
SLV 10	0.05	4228.04	-32891	-23921	-19877	2.78	2.78	-28682	16250	16795	81562	44958	14178	59136		2.98	Si
SLV 8	-1.95	33556.72	-86843	-63158	15213	2.78	2.78	-75729	16250	32489	81562	44958	14178	59136		3.89	Si
SLV 8	0.05	3653.45	-83607	-60805	15261	2.78	2.78	-72908	16250	31548	81562	44958	14178	59136		3.87	Si
SLV 12	-1.95	32920.97	-80886	-58826	15741	2.78	2.78	-70535	16250	30756	81562	44958	14178	59136		3.76	Si
SLV 12	0.05	2005.95	-77680	-56495	15765	2.78	2.78	-67740	16250	29824	81562	44958	14178	59136		3.75	Si
SLV 11	-1.95	31911.1	-80543	-58577	15161	2.78	2.78	-70236	16250	30657	81562	44958	14178	59136		3.9	Si
SLV 11	0.05	2155.71	-77337	-56245	15185	2.78	2.78	-67441	16250	29724	81562	44958	14178	59136		3.89	Si
SLD 9	-1.95	-22941.99	-45420	-33033	-13676	2.78	2.6547	-42361	16250	20439	81562	44958	14178	59136		4.32	Si
SLD 9	0.05	4252.15	-42135	-30644	-13703	2.78	2.78	-36743	16250	19484	81562	44958	14178	59136		4.32	Si
SLV 6	-1.95	-34409.39	-42160	-30662	-20357	2.224	1.7215	0	0	0	81562	35966	11342	47309		2.32	Si
SLV 6	0.05	5875.54	-38818	-28231	-20381	2.78	2.78	-33850	16250	18519	81562	44958	14178	59136		2.9	Si
SLD 5	-1.95	-22533.24	-49237	-35809	-14014	2.78	2.78	-42936	16250	21550	81562	44958	14178	59136		4.22	Si
SLD 5	0.05	5309.82	-45933	-33406	-14026	2.78	2.78	-40055	16250	20589	81562	44958	14178	59136		4.22	Si
SLV 5	-1.95	-35419.26	-41817	-30412	-20937	2.224	1.629	0	0	0	81562	35966	11342	47309		2.26	Si
SLV 5	0.05	6025.3	-38475	-27982	-20961	2.78	2.78	-33551	16250	18419	81562	44958	14178	59136		2.82	Si
SLV 9	-1.95	-36055.01	-35860	-26080	-20408	2.224	1.1537	0	0	0	81562	35966	11342	47309		2.32	Si
SLV 9	0.05	4377.81	-32548	-23672	-20457	2.78	2.78	-28383	16250	16695	81562	44958	14178	59136		2.89	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-33695	0.24	111.25	3940.09	5731.32	4835.71	43.47	Si
SLV 10	-34038	0.24	111.25	3968.74	5783.76	4876.25	43.83	Si
SLV 5	-39620	0.24	111.25	4402.62	6613.96	5508.29	49.51	Si
SLV 6	-39963	0.24	111.25	4427.27	6664.28	5545.78	49.85	Si
SLV 13	-42390	0.24	111.25	4595.14	7014.2	5804.67	52.18	Si
SLV 14	-42899	0.24	111.25	4628.91	7084.6	5856.75	52.64	Si
SLV 15	-55839	0.24	111.25	5316.14	8743.53	7029.83	63.19	Si
SLV 16	-56349	0.24	111.25	5336.46	8803.08	7069.77	63.55	Si
SLV 1	-62142	0.24	111.25	5531.83	9455.16	7493.49	67.35	Si
SLV 2	-62651	0.24	111.25	5545.85	9510.28	7528.07	67.67	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-54863	-78236	-173	0.331	5895	0.984	4.89038	3.32286	Si
SLV 3	-54457	-77727	-173	0.333	5853.6	0.983	4.92007	3.32286	Si
SLV 8	-61354	-86843	-55	0.305	6556.5	0.985	4.49589	2.7479	Si
SLV 7	-61080	-86500	-55	0.306	6528.6	0.985	4.51202	2.7479	Si
SLV 2	-44929	-64832	-170	0.389	4882.8	0.98	5.76707	3.32286	Si
SLV 12	-57040	-80886	48	0.323	6116.9	0.984	4.76961	2.7479	Si
SLV 11	-56766	-80543	48	0.324	6089	0.984	4.78824	2.7479	Si
SLV 1	-44522	-64322	-170	0.392	4841.3	0.98	5.81103	3.32286	Si
SLV 16	-40484	-58381	172	0.424	4429.9	0.978	6.29395	3.32286	Si
SLV 15	-40077	-57871	172	0.427	4388.4	0.978	6.34784	3.32286	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.46	SLU 78	Si
V_SLU	10.932	SLU 73	Si
PF_SLV	1.286	SLV 9	Si
V_SLV	2.26	SLV 5	Si
PFFP_SLV	43.466	SLV 9	Si
R_SLV	1.472	SLV 4	Si

Maschio 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.573	-3.284	-24.603	-3.284	L2	L4	2.03	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	0.05	-4551.82	-19405	-0.0000579	0.0003743	0.0035	2.03	15586.38	17667.84	17667.84	3.88	No	Si
SLU 80	0.45	-355.54	-13618	-0.000025	0.0003743	0.0035	2.03	11798.41	13334.7	13334.7	37.51	No	Si
SLU 78	0.05	-4571.83	-19495	-0.0000582	0.0003743	0.0035	2.03	15639.49	17733.21	17733.21	3.88	No	Si
SLU 78	0.45	-351.17	-13676	-0.0000251	0.0003743	0.0035	2.03	11840.05	13381.2	13381.2	38.1	No	Si
SLU 73	0.05	-4586.77	-19358	-0.000058	0.0003743	0.0035	2.03	15558.93	17634.18	17634.18	3.84	No	Si
SLU 73	0.45	-440.33	-13628	-0.0000255	0.0003743	0.0035	2.03	11805.2	13342.27	13342.27	30.3	No	Si
SLU 82	0.05	-4688.55	-20074	-0.0000599	0.0003743	0.0035	2.03	15977.66	18133	18133	3.87	No	Si
SLU 82	0.45	-420.07	-14189	-0.0000263	0.0003743	0.0035	2.03	12204.44	13789.52	13789.52	32.83	No	Si
SLU 55	0.05	-4082.76	-17139	-0.000051	0.0003743	0.0035	2.03	14190.04	16037.13	16037.13	3.93	No	Si
SLU 55	0.45	-328.13	-11908	-0.0000218	0.0003743	0.0035	2.03	10538.77	11967.03	11967.03	36.47	No	Si
SLU 84	0.05	-4721.81	-20209	-0.0000604	0.0003743	0.0035	2.03	16055.34	18223.15	18223.15	3.86	No	Si
SLU 84	0.45	-414.61	-14275	-0.0000265	0.0003743	0.0035	2.03	12264.93	13856.86	13856.86	33.42	No	Si
SLU 76	0.05	-4620.03	-19493	-0.0000584	0.0003743	0.0035	2.03	15638.72	17732.25	17732.25	3.84	No	Si
SLU 76	0.45	-434.87	-13713	-0.0000256	0.0003743	0.0035	2.03	11866.75	13411.08	13411.08	30.84	No	Si
SLU 65	0.05	-4112.53	-17165	-0.0000512	0.0003743	0.0035	2.03	14207.15	16057.08	16057.08	3.9	No	Si
SLU 65	0.45	-315.24	-11895	-0.0000218	0.0003743	0.0035	2.03	10529.46	11957.03	11957.03	37.93	No	Si
SLU 68	0.05	-4145.79	-17300	-0.0000516	0.0003743	0.0035	2.03	14293.4	16157.7	16157.7	3.9	No	Si
SLU 68	0.45	-309.77	-11981	-0.0000219	0.0003743	0.0035	2.03	10594.25	12026.62	12026.62	38.82	No	Si
SLU 75	0.05	-4538.57	-19360	-0.0000577	0.0003743	0.0035	2.03	15559.71	17635.14	17635.14	3.89	No	Si
SLU 75	0.45	-356.63	-13590	-0.000025	0.0003743	0.0035	2.03	11778.43	13312.42	13312.42	37.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	0.05	-4605.57	-13192	-0.0000455	0.0005615	0.0035	2.03		13429.76	13429.76	2.92		Si
SLD 13	0.45	-528.98	-8841	-0.0000174	0.0005615	0.0035	2.03		9558.07	9558.07	18.07		Si
SLV 14	0.05	-4948.8	-12601	-0.0000465	0.0005615	0.0035	2.03		12917.63	12917.63	2.61		Si
SLV 14	0.45	-727.64	-8421	-0.0000176	0.0005615	0.0035	2.03		9169.85	9169.85	12.6		Si
SLV 9	0.05	-6363.17	-22963	-0.0000725	0.0005615	0.0035	2.03		21361.65	21361.65	3.36		Si
SLV 9	0.45	-276.9	-15267	-0.0000271	0.0005615	0.0035	2.03		15194.94	15194.94	54.87		Si
SLV 16	0.05	-3307.16	-6158	-0.0000292	0.0005615	0.0035	2.03		7079.51	7079.51	2.14		Si
SLV 16	0.45	-758.84	-4257	-0.0000108	0.0005615	0.0035	2.03		5274.36	5274.36	6.95		Si
SLV 15	0.05	-3920.9	-6964	-0.0000351	0.0005615	0.0035	2.03		7824.17	7824.17	2		Si
SLV 15	0.45	-814.39	-4659	-0.0000117	0.0005615	0.0035	2.03		5658.64	5658.64	6.95		Si
SLD 15	0.05	-3581.91	-9175	-0.0000334	0.0005615	0.0035	2.03		9860.9	9860.9	2.75		Si
SLD 15	0.45	-543.54	-6241	-0.000013	0.0005615	0.0035	2.03		7157.65	7157.65	13.17		Si
SLD 14	0.05	-4213.45	-12678	-0.0000426	0.0005615	0.0035	2.03		12985	12985	3.08		Si
SLD 14	0.45	-493.49	-8584	-0.0000168	0.0005615	0.0035	2.03		9321.25	9321.25	18.89		Si
SLV 11	0.05	-891.04	-1485	-0.000008	0.0005615	0.0035	1.624		2579.95	2579.95	2.9		Si
SLV 11	0.45	-380.91	-1388	-0.0000041	0.0005615	0.0035	2.03		2484.13	2484.13	6.52		Si
SLD 16	0.05	-3189.79	-8661	-0.0000304	0.0005615	0.0035	2.03		9392.25	9392.25	2.94		Si
SLD 16	0.45	-508.04	-5985	-0.0000124	0.0005615	0.0035	2.03		6916.28	6916.28	13.61		Si
SLV 13	0.05	-5562.54	-13407	-0.0000515	0.0005615	0.0035	2.03		13611.47	13611.47	2.45		Si
SLV 13	0.45	-783.19	-8823	-0.0000186	0.0005615	0.0035	2.03		9541.63	9541.63	12.18		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.05	-4721.81	-20209	-17964	-18396	2.03	2.03	-19665	9566	8975	28547	27354	5177	32531	No	1.77	Si
SLU 84	0.45	-414.61	-14275	-12688	-17361	2.03	2.03	-13890	8796	8036	28547	27354	5177	32531	No	1.87	Si
SLU 80	0.05	-4551.82	-19405	-17249	-18052	2.03	2.03	-18882	9462	8753	28547	27354	5177	32531	No	1.8	Si
SLU 80	0.45	-355.54	-13618	-12105	-17023	2.03	2.03	-13251	8711	7958	28547	27354	5177	32531	No	1.91	Si
SLU 78	0.05	-4571.83	-19495	-17329	-18179	2.03	2.03	-18969	9474	8778	28547	27354	5177	32531	No	1.79	Si
SLU 78	0.45	-351.17	-13676	-12157	-17143	2.03	2.03	-13308	8719	7965	28547	27354	5177	32531	No	1.9	Si
SLU 83	0.05	-4569.62	-19874	-17666	-18351	2.03	2.03	-19339	9523	8882	28547	27354	5177	32531	No	1.77	Si
SLU 83	0.45	-303.81	-14003	-12447	-17307	2.03	2.03	-13625	8761	8003	28547	27354	5177	32531	No	1.88	Si
SLU 74	0.05	-4386.37	-19024	-16910	-17934	2.03	2.03	-18512	9413	8648	28547	27354	5177	32531	No	1.81	Si
SLU 74	0.45	-245.83	-13318	-11839	-16901	2.03	2.03	-12960	8672	7922	28547	27354	5177	32531	No	1.92	Si
SLU 75	0.05	-4538.57	-19360	-17209	-17979	2.03	2.03	-18838	9456	8740	28547	27354	5177	32531	No	1.81	Si
SLU 75	0.45	-356.63	-13590	-12080	-16956	2.03	2.03	-13224	8708	7954	28547	27354	5177	32531	No	1.92	Si
SLU 82	0.05	-4688.55	-20074	-17844	-18196	2.03	2.03	-19534	9549	8937	28547	27354	5177	32531	No	1.79	Si
SLU 82	0.45	-420.07	-14189	-12612	-17174	2.03	2.03	-13806	8785	8025	28547	27354	5177	32531	No	1.89	Si
SLU 79	0.05	-4399.63	-19069	-16950	-18006	2.03	2.03	-18555	9418	8660	28547	27354	5177	32531	No	1.81	Si
SLU 79	0.45	-244.74	-13346	-11863	-16969	2.03	2.03	-12987	8676	7926	28547	27354	5177	32531	No	1.92	Si
SLU 77	0.05	-4419.63	-19159	-17030	-18134	2.03	2.03	-18643	9430	8685	28547	27354	5177	32531	No	1.79	Si
SLU 77	0.45	-240.37	-13404	-11915	-17088	2.03	2.03	-13043	8684	7932	28547	27354	5177	32531	No	1.9	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.05	-4536.36	-19739	-17546	-18150	2.03	2.03	-19207	9505	8845	28547	27354	5177	32531	No	1.79	Si
SLU 81	0.45	-309.27	-13917	-12371	-17119	2.03	2.03	-13542	8750	7993	28547	27354	5177	32531	No	1.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	0.05	-5080.52	-24281	-21583	-28056	2.03	2.03	-23627	15142	13832	28547	41031	5177	42379		1.51	Si
SLV 6	0.45	155.47	-16412	-14588	-26626	2.03	2.03	-15970	13611	12433	28547	41031	5177	40980		1.54	Si
SLV 10	0.05	-5949.96	-22421	-19929	-28764	2.03	2.03	-21817	14780	13502	28547	41031	5177	42048		1.46	Si
SLV 10	0.45	-239.5	-14996	-13330	-27038	2.03	2.03	-14592	13335	12182	28547	41031	5177	40728		1.51	Si
SLV 5	0.05	-5493.73	-24823	-22065	-29619	2.03	2.03	-24154	15248	13929	28547	41031	5177	42475		1.43	Si
SLV 5	0.45	118.07	-16682	-14829	-28063	2.03	2.03	-16233	13663	12481	28547	41031	5177	41028		1.46	Si
SLD 10	0.05	-4835.48	-18820	-16729	-22651	2.03	2.03	-18313	14079	12861	28547	41031	5177	41408		1.83	Si
SLD 10	0.45	-198.43	-12701	-11290	-21302	2.03	2.03	-12359	12889	11774	28547	41031	5177	40320		1.89	Si
SLD 9	0.05	-5095.42	-19161	-17032	-23634	2.03	2.03	-18645	14146	12922	28547	41031	5177	41469		1.75	Si
SLD 9	0.45	-221.96	-12872	-11441	-22206	2.03	2.03	-12525	12922	11804	28547	41031	5177	40350		1.82	Si
SLD 6	0.05	-4288.34	-19994	-17772	-22207	2.03	2.03	-19455	14308	13070	28547	41031	5177	41617		1.87	Si
SLD 6	0.45	45.05	-13594	-12083	-21038	2.03	2.03	-13227	13062	11932	28547	41031	5177	40479		1.92	Si
SLV 13	0.05	-5562.54	-13407	-11917	-19890	2.03	1.8003	-14818	13380	10840	28547	41031	5177	39387		1.98	Si
SLV 13	0.45	-783.19	-8823	-7843	-18291	2.03	2.03	-8585	12134	11084	28547	41031	5177	39631		2.17	Si
SLV 9	0.05	-6363.17	-22963	-20411	-30327	2.03	2.03	-22344	14886	13598	28547	41031	5177	42144		1.39	Si
SLV 9	0.45	-276.9	-15267	-13570	-28475	2.03	2.03	-14855	13388	12230	28547	41031	5177	40776		1.43	Si
SLD 5	0.05	-4548.28	-20335	-18076	-23190	2.03	2.03	-19787	14374	13131	28547	41031	5177	41677		1.8	Si
SLD 5	0.45	21.52	-13764	-12234	-21942	2.03	2.03	-13393	13095	11963	28547	41031	5177	40509		1.85	Si
SLV 14	0.05	-4948.8	-12601	-11201	-17568	2.03	1.8669	-13412	13099	11004	28547	41031	5177	39551		2.25	Si
SLV 14	0.45	-727.64	-8421	-7485	-16157	2.03	2.03	-8194	12056	11013	28547	41031	5177	39559		2.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	0	-138	117.62	0	0	No, e>t/2
SLV 12	179667	0.24	0	297	117.62	0	0	No, Trazione
SLV 8	179667	0.24	2720	-2485	117.62	549.06	4.67	Si
SLV 7	179667	0.24	3196	-2920	117.62	643.22	5.47	Si
SLV 16	179667	0.24	4674	-4270	117.62	931.37	7.92	Si
SLV 15	179667	0.24	5382	-4917	117.62	1067.28	9.07	Si
SLV 14	179667	0.24	12104	-11057	117.62	2290.6	19.47	Si
SLV 13	179667	0.24	12812	-11703	117.62	2412.35	20.51	Si
SLV 4	179667	0.24	14824	-13542	117.62	2751.12	23.39	Si
SLV 3	179667	0.24	15532	-14188	117.62	2867.69	24.38	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-17117	-29691	1201	0.625	2080.7	0.953	9.53226	2.58905	Si
SLV 6	-16771	-29293	1173	0.636	2045.6	0.952	9.71206	2.58905	Si
SLV 1	-13585	-24698	1058	0.755	1722.2	0.944	11.61912	2.92742	Si
SLV 9	-15736	-25951	986	0.678	1940.5	0.95	10.38289	2.58905	Si
SLV 10	-15390	-25552	958	0.692	1905.4	0.949	10.59474	2.58905	Si
SLV 2	-13071	-24106	1017	0.78	1670.1	0.943	12.02682	2.92742	Si
SLV 3	-9104	-16595	715	1.052	1269	0.928	16.46564	2.92742	Si
SLV 13	-8981	-12229	342	1.096	1256.6	0.928	17.16801	2.92742	Si
SLV 4	-8590	-16003	674	1.102	1217.3	0.926	17.2927	2.92742	Si
SLV 14	-8468	-11637	301	1.148	1204.9	0.925	18.04069	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.838	SLU 76	Si
V_SLU	1.768	SLU 84	Si
PF_SLV	1.996	SLV 15	Si
V_SLV	1.39	SLV 9	Si
PFFP_SLV	0	SLV 12	No
R_SLV	3.682	SLV 5	Si

Maschio 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.273	-3.284	-21.573	-3.284	L2	L4	3.3	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	0.05	-22769.59	-32839	-0.000084	0.0003743	0.0035	3.3	42415.66	48228.11	48228.11	2.12	No	Si
SLU 71	0.45	-14940.53	-31660	-0.000064	0.0003743	0.0035	3.3	41299.36	46891.93	46891.93	3.14	No	Si
SLU 48	0.05	-20373.22	-28350	-0.0000735	0.0003743	0.0035	3.3	38005.94	43044.71	43044.71	2.11	No	Si
SLU 48	0.45	-13393.37	-27189	-0.0000555	0.0003743	0.0035	3.3	36793.63	41639.15	41639.15	3.11	No	Si
SLU 66	0.05	-22720.69	-32776	-0.0000838	0.0003743	0.0035	3.3	42356.61	48157.64	48157.64	2.12	No	Si
SLU 66	0.45	-14900.68	-31596	-0.0000639	0.0003743	0.0035	3.3	41238.68	46817.74	46817.74	3.14	No	Si
SLU 50	0.05	-20212.7	-28159	-0.0000729	0.0003743	0.0035	3.3	37808.49	42817.74	42817.74	2.12	No	Si
SLU 50	0.45	-13274.96	-26997	-0.000055	0.0003743	0.0035	3.3	36591.34	41402.68	41402.68	3.12	No	Si
SLU 45	0.05	-20163.79	-28096	-0.0000727	0.0003743	0.0035	3.3	37742.98	42742.39	42742.39	2.12	No	Si
SLU 45	0.45	-13235.11	-26934	-0.0000549	0.0003743	0.0035	3.3	36524.22	41324.51	41324.51	3.12	No	Si
SLU 77	0.05	-24983.89	-37370	-0.0000943	0.0003743	0.0035	3.3	46419.9	53140.92	53140.92	2.13	No	Si
SLU 77	0.45	-16431.94	-36190	-0.0000727	0.0003743	0.0035	3.3	45420.28	51887.46	51887.46	3.16	No	Si
SLU 64	0.05	-22350.73	-32331	-0.0000823	0.0003743	0.0035	3.3	41938.18	47658.17	47658.17	2.13	No	Si
SLU 64	0.45	-14624.01	-31151	-0.0000627	0.0003743	0.0035	3.3	40808.78	46296.22	46296.22	3.17	No	Si
SLU 79	0.05	-24823.37	-37179	-0.0000937	0.0003743	0.0035	3.3	46260.07	52940.26	52940.26	2.13	No	Si
SLU 79	0.45	-16313.53	-35999	-0.0000722	0.0003743	0.0035	3.3	45255.54	51681.24	51681.24	3.17	No	Si
SLU 43	0.05	-19793.83	-27650	-0.0000713	0.0003743	0.0035	3.3	37279.05	42208.23	42208.23	2.13	No	Si
SLU 43	0.45	-12958.44	-26489	-0.0000538	0.0003743	0.0035	3.3	36049	40775	40775	3.15	No	Si
SLU 69	0.05	-22930.12	-33031	-0.0000846	0.0003743	0.0035	3.3	42593.58	48440.38	48440.38	2.11	No	Si
SLU 69	0.45	-15058.94	-31851	-0.0000645	0.0003743	0.0035	3.3	41482.2	47113.54	47113.54	3.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	0.05	-32050.28	-41072	-0.0001144	0.0005615	0.0035	3.3		61045.92	61045.92	1.9		Si
SLV 10	0.45	-20846.15	-40113	-0.000084	0.0005615	0.0035	3.3		59900.43	59900.43	2.87		Si
SLD 16	0.05	-17312.46	-19784	-0.0000592	0.0005615	0.0035	3.3		33207.58	33207.58	1.92		Si
SLD 16	0.45	-8781.59	-19059	-0.0000364	0.0005615	0.0035	3.3		32157.57	32157.57	3.66		Si
SLD 13	0.05	-23823.52	-26714	-0.0000833	0.0005615	0.0035	3.3		42830.87	42830.87	1.8		Si
SLD 13	0.45	-12962.87	-25939	-0.000052	0.0005615	0.0035	3.3		41786.83	41786.83	3.22		Si
SLV 9	0.05	-33424.96	-41626	-0.0001196	0.0005615	0.0035	3.3		61709.24	61709.24	1.85		Si
SLV 9	0.45	-21318.15	-40667	-0.0000856	0.0005615	0.0035	3.3		60561.4	60561.4	2.84		Si
SLD 15	0.05	-18616.97	-20310	-0.0000645	0.0005615	0.0035	3.3		33970.33	33970.33	1.82		Si
SLD 15	0.45	-9229.5	-19585	-0.0000378	0.0005615	0.0035	3.3		32918.27	32918.27	3.57		Si
SLD 14	0.05	-22519.01	-26188	-0.000078	0.0005615	0.0035	3.3		42123.36	42123.36	1.87		Si
SLD 14	0.45	-12514.96	-25413	-0.0000505	0.0005615	0.0035	3.3		41056.29	41056.29	3.28		Si
SLV 16	0.05	-17300.74	-16691	-0.0000633	0.0005615	0.0035	2.64		28749.38	28749.38	1.66		Si
SLV 16	0.45	-7259.02	-16085	-0.0000303	0.0005615	0.0035	3.3		27882.93	27882.93	3.84		Si
SLV 13	0.05	-27703.31	-27786	-0.0001021	0.0005615	0.0035	2.64		44256.03	44256.03	1.6		Si
SLV 13	0.45	-13963.65	-27100	-0.0000552	0.0005615	0.0035	3.3		43348.43	43348.43	3.1		Si
SLV 15	0.05	-19342.54	-17513	-0.0000753	0.0005615	0.0035	2.64		29930.14	29930.14	1.55		Si
SLV 15	0.45	-7960.09	-16908	-0.0000325	0.0005615	0.0035	3.3		29060.99	29060.99	3.65		Si
SLV 14	0.05	-25661.51	-26963	-0.0000919	0.0005615	0.0035	2.64		43164.78	43164.78	1.68		Si
SLV 14	0.45	-13262.58	-26278	-0.0000529	0.0005615	0.0035	3.3		42244.26	42244.26	3.19		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.05	-24885.84	-37945	-33729	-21759	3.3	2.9825	-25671	10367	20640	28547	44467	8415	49186	No	2.26	Si
SLU 78	0.45	-16154.5	-36765	-32680	-21759	3.3	3.3	-22007	9879	20220	28547	44467	8415	48767	No	2.24	Si
SLU 84	0.05	-25396.07	-39359	-34986	-22255	3.3	3.0143	-26365	10460	21143	28547	44467	8415	49689	No	2.23	Si
SLU 84	0.45	-16466.25	-38180	-33937	-22255	3.3	3.3	-22853	9992	20723	28547	44467	8415	49270	No	2.21	Si
SLU 81	0.05	-25284.68	-38530	-34249	-21678	3.3	2.9813	-26088	10423	20848	28547	44467	8415	49394	No	2.28	Si
SLU 81	0.45	-16585.44	-37351	-33201	-21678	3.3	3.3	-22357	9925	20428	28547	44467	8415	48975	No	2.26	Si
SLU 76	0.05	-24450.51	-37883	-33674	-21824	3.3	3.0137	-25356	10325	20618	28547	44467	8415	49164	No	2.25	Si
SLU 76	0.45	-15692.86	-36703	-32625	-21824	3.3	3.3	-21970	9874	20198	28547	44467	8415	48745	No	2.23	Si
SLU 77	0.05	-24983.89	-37370	-33218	-21310	3.3	2.9443	-25608	10359	20435	28547	44467	8415	48982	No	2.3	Si
SLU 77	0.45	-16431.94	-36190	-32169	-21310	3.3	3.3	-21663	9833	20016	28547	44467	8415	48562	No	2.28	Si
SLU 75	0.05	-24676.4	-37691	-33503	-21631	3.3	2.9859	-25465	10340	20549	28547	44467	8415	49096	No	2.27	Si
SLU 75	0.45	-15996.24	-36511	-32454	-21631	3.3	3.3	-21855	9858	20130	28547	44467	8415	48676	No	2.25	Si
SLU 83	0.05	-25494.12	-38785	-34475	-21806	3.3	2.978	-26295	10450	20938	28547	44467	8415	49485	No	2.27	Si
SLU 83	0.45	-16743.7	-37605	-33427	-21806	3.3	3.3	-22509	9946	20519	28547	44467	8415	49065	No	2.25	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.05	-25186.63	-39105	-34760	-22127	3.3	3.0178	-26159	10432	21052	28547	44467	8415	49599	No	2.24	Si
SLU 82	0.45	-16307.99	-37925	-33711	-22127	3.3	3.3	-22701	9971	20633	28547	44467	8415	49179	No	2.22	Si
SLU 80	0.05	-24725.31	-37754	-33559	-21653	3.3	2.9853	-25514	10346	20572	28547	44467	8415	49118	No	2.27	Si
SLU 80	0.45	-16036.09	-36574	-32510	-21653	3.3	3.3	-21892	9863	20152	28547	44467	8415	48699	No	2.25	Si
SLU 73	0.05	-24241.08	-37628	-33447	-21696	3.3	3.0173	-25150	10298	20527	28547	44467	8415	49074	No	2.26	Si
SLU 73	0.45	-15534.6	-36448	-32399	-21696	3.3	3.3	-21817	9853	20108	28547	44467	8415	48654	No	2.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.05	-19342.54	-17513	-15567	-27173	2.64	1.6367	0	0	0	28547	53361	6732	28547		1.05	Si
SLV 15	0.45	-7960.09	-16908	-15029	-27050	3.3	3.3	-10121	12441	18475	28547	66701	8415	47021		1.74	Si
SLV 9	0.05	-33424.96	-41626	-37001	-30020	3.3	2.5411	-32937	16250	25523	28547	66701	8415	54069		1.8	Si
SLV 9	0.45	-21318.15	-40667	-36148	-29973	3.3	3.3	-24342	15285	25182	28547	66701	8415	53728		1.79	Si
SLD 14	0.05	-22519.01	-26188	-23278	-24305	3.3	2.3703	-22069	14831	20034	28547	66701	8415	48581		2	Si
SLD 14	0.45	-12514.96	-25413	-22590	-24233	3.3	3.3	-15212	13459	19987	28547	66701	8415	48533		2	Si
SLD 15	0.05	-18616.97	-20310	-18053	-22703	3.3	2.2001	-18399	14097	17944	28547	66701	8415	46491		2.05	Si
SLD 15	0.45	-9229.5	-19585	-17408	-22638	3.3	3.3	-11723	12761	18950	28547	66701	8415	47497		2.1	Si
SLD 13	0.05	-23823.52	-26714	-23746	-26447	3.3	2.2746	-23476	15112	20221	28547	66701	8415	48768		1.84	Si
SLD 13	0.45	-12962.87	-25939	-23057	-26375	3.3	3.3	-15527	13522	20080	28547	66701	8415	48627		1.84	Si
SLV 13	0.05	-27703.31	-27786	-24699	-33163	2.64	1.9589	0	0	0	28547	53361	6732	28547		0.86	No
SLV 13	0.45	-13963.65	-27100	-24089	-33035	3.3	3.3	-16222	13661	20358	28547	66701	8415	48905		1.48	Si
SLV 16	0.05	-17300.74	-16691	-14836	-23821	2.64	1.8403	0	0	0	28547	53361	6732	28547		1.2	Si
SLV 16	0.45	-7259.02	-16085	-14298	-23698	3.3	3.3	-9628	12342	18328	28547	66701	8415	46875		1.98	Si
SLD 9	0.05	-27332.77	-35379	-31448	-24360	3.3	2.6323	-26918	15800	23302	28547	66701	8415	51848		2.13	Si
SLD 9	0.45	-17525.23	-34439	-30613	-24330	3.3	3.3	-20615	14540	22968	28547	66701	8415	51514		2.12	Si
SLV 10	0.05	-32050.28	-41072	-36508	-27763	3.3	2.609	-31614	16250	25326	28547	66701	8415	53872		1.94	Si
SLV 10	0.45	-20846.15	-40113	-35656	-27716	3.3	3.3	-24011	15219	24985	28547	66701	8415	53531		1.93	Si
SLV 14	0.05	-25661.51	-26963	-23967	-29811	2.64	2.0948	0	0	0	28547	53361	6732	28547		0.96	No
SLV 14	0.45	-13262.58	-26278	-23358	-29683	3.3	3.3	-15729	13563	20140	28547	66701	8415	48687		1.64	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.24	2200	-3267	191.21	724.52	3.79	Si
SLV 11	179667	0.24	2545	-3780	191.21	836.23	4.37	Si
SLV 8	179667	0.24	3437	-5104	191.21	1122.45	5.87	Si
SLV 7	179667	0.24	3782	-5616	191.21	1232.29	6.44	Si
SLV 16	179667	0.24	8441	-12534	191.21	2664.38	13.93	Si
SLV 15	179667	0.24	8953	-13296	191.21	2816.11	14.73	Si
SLV 4	179667	0.24	12563	-18656	191.21	3852.21	20.15	Si
SLV 3	179667	0.24	13075	-19417	191.21	3994.7	20.89	Si
SLV 14	179667	0.24	15098	-22421	191.21	4545.93	23.77	Si
SLV 13	179667	0.24	15611	-23182	191.21	4682.74	24.49	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-34584	-41943	5002	0.449	4069.4	0.96	6.8	2.58905	Si
SLV 6	-34182	-41470	4922	0.455	4028.6	0.96	6.8931	2.58905	Si
SLV 9	-33176	-38490	4803	0.469	3926.2	0.959	7.10308	2.58905	Si
SLV 10	-32774	-38017	4723	0.475	3885.4	0.958	7.20338	2.58905	Si
SLV 1	-26999	-32756	3826	0.578	3298.5	0.952	8.82744	2.92742	Si
SLV 2	-26403	-32053	3708	0.592	3238	0.951	9.045	2.92742	Si
SLV 13	-22305	-21245	3162	0.693	2822.2	0.945	10.6659	2.92742	Si
SLV 14	-21710	-20542	3045	0.712	2761.7	0.944	10.97081	2.92742	Si
SLV 3	-19007	-21329	2602	0.807	2488	0.938	12.50078	2.92742	Si
SLV 4	-18411	-20627	2484	0.832	2427.7	0.937	12.90546	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.113	SLU 69	Si
V_SLU	2.214	SLU 84	Si
PF_SLV	1.547	SLV 15	Si
V_SLV	0.861	SLV 13	No
PFFP_SLV	3.789	SLV 12	Si
R_SLV	2.626	SLV 5	Si

Maschio 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.523	-3.284	-17.273	-3.284	L2	L4	0.75	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.05	1410.06	-24374	-0.0002142	0.0003743	0.0035	0.75	2656.64	4397.83	4397.83	3.12	No	Si
SLU 81	0.45	1300.72	-22230	-0.0001884	0.0003743	0.0035	0.75	2943.11	4425.9	4425.9	3.4	No	Si
SLU 77	0.05	1395.27	-23718	-0.0002071	0.0003743	0.0035	0.75	2755	4406.39	4406.39	3.16	No	Si
SLU 77	0.45	1253.53	-21638	-0.0001808	0.0003743	0.0035	0.75	3004.54	4413.95	4413.95	3.52	No	Si
SLU 82	0.05	1403.5	-24450	-0.0002146	0.0003743	0.0035	0.75	2644.59	4396.83	4396.83	3.13	No	Si
SLU 82	0.45	1310.95	-22340	-0.0001899	0.0003743	0.0035	0.75	2930.82	4424.45	4424.45	3.38	No	Si
SLU 74	0.05	1380.9	-23539	-0.0002046	0.0003743	0.0035	0.75	2780.19	4408.73	4408.73	3.19	No	Si
SLU 74	0.45	1247.11	-21475	-0.0001791	0.0003743	0.0035	0.75	3020.12	4402.27	4402.27	3.53	No	Si
SLU 78	0.05	1388.7	-23794	-0.0002074	0.0003743	0.0035	0.75	2744.04	4405.39	4405.39	3.17	No	Si
SLU 78	0.45	1263.75	-21748	-0.0001822	0.0003743	0.0035	0.75	2993.68	4421.88	4421.88	3.5	No	Si
SLU 83	0.05	1424.42	-24553	-0.0002168	0.0003743	0.0035	0.75	2628.18	4395.5	4395.5	3.09	No	Si
SLU 83	0.45	1307.14	-22393	-0.0001901	0.0003743	0.0035	0.75	2924.85	4423.76	4423.76	3.38	No	Si
SLU 75	0.05	1374.34	-23615	-0.0002049	0.0003743	0.0035	0.75	2769.53	4407.73	4407.73	3.21	No	Si
SLU 75	0.45	1257.33	-21585	-0.0001805	0.0003743	0.0035	0.75	3009.65	4410.16	4410.16	3.51	No	Si
SLU 84	0.05	1417.86	-24629	-0.0002172	0.0003743	0.0035	0.75	2615.83	4394.5	4394.5	3.1	No	Si
SLU 84	0.45	1317.37	-22503	-0.0001917	0.0003743	0.0035	0.75	2912.17	4422.31	4422.31	3.36	No	Si
SLU 79	0.05	1388.24	-23603	-0.0002056	0.0003743	0.0035	0.75	2771.27	4407.89	4407.89	3.18	No	Si
SLU 79	0.45	1247.24	-21514	-0.0001794	0.0003743	0.0035	0.75	3016.47	4405.04	4405.04	3.53	No	Si
SLU 80	0.05	1381.67	-23679	-0.000206	0.0003743	0.0035	0.75	2760.5	4406.89	4406.89	3.19	No	Si
SLU 80	0.45	1257.47	-21624	-0.0001809	0.0003743	0.0035	0.75	3005.91	4412.94	4412.94	3.51	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	0.05	1602.02	-17580	-0.0001532	0.0005615	0.0035	0.75		4898.56	4898.56	3.06		Si
SLV 4	0.45	292.72	-11381	-0.0000648	0.0005615	0.0035	0.75		3558.61	3558.61	12.16		Si
SLV 7	0.05	1108.87	-8331	-0.0000813	0.0005615	0.0035	0.75		2711.43	2711.43	2.45		Si
SLV 7	0.45	140.85	-4844	-0.0000272	0.0005615	0.0035	0.75		1714.54	1714.54	12.17		Si
SLD 4	0.05	1371.51	-17063	-0.0001401	0.0005615	0.0035	0.75		4799.48	4799.48	3.5		Si
SLD 4	0.45	492.72	-12567	-0.0000788	0.0005615	0.0035	0.75		3824.84	3824.84	7.76		Si
SLV 3	0.05	1495.88	-17284	-0.0001468	0.0005615	0.0035	0.75		4845.5	4845.5	3.24		Si
SLV 3	0.45	387.66	-12025	-0.0000718	0.0005615	0.0035	0.75		3709.25	3709.25	9.57		Si
SLV 12	0.05	829.05	-6094	-0.0000592	0.0005615	0.0035	0.75		2098.14	2098.14	2.53		Si
SLV 12	0.45	260.35	-4320	-0.0000292	0.0005615	0.0035	0.75		1545.29	1545.29	5.94		Si
SLD 7	0.05	1056.75	-11254	-0.0000944	0.0005615	0.0035	0.75		3528.08	3528.08	3.34		Si
SLD 7	0.45	401.75	-8502	-0.0000546	0.0005615	0.0035	0.75		2758.36	2758.36	6.87		Si
SLV 8	0.05	1180.34	-8531	-0.0000854	0.0005615	0.0035	0.75		2766.24	2766.24	2.34		Si
SLV 8	0.45	76.92	-4410	-0.0000228	0.0005615	0.0035	0.75		1574.74	1574.74	20.47		Si
SLD 12	0.05	876.83	-9820	-0.0000797	0.0005615	0.0035	0.75		3123.91	3123.91	3.56		Si
SLD 12	0.45	478.34	-8173	-0.0000559	0.0005615	0.0035	0.75		2668.06	2668.06	5.58		Si
SLD 8	0.05	1101.7	-11380	-0.0000969	0.0005615	0.0035	0.75		3558.32	3558.32	3.23		Si
SLD 8	0.45	361.53	-8229	-0.0000518	0.0005615	0.0035	0.75		2683.45	2683.45	7.42		Si
SLV 11	0.05	757.59	-5895	-0.0000553	0.0005615	0.0035	0.75		2041.49	2041.49	2.69		Si
SLV 11	0.45	324.27	-4754	-0.0000336	0.0005615	0.0035	0.75		1685.46	1685.46	5.2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.05	1381.67	-23679	-21048	5209	0.75	0.75	-62364	10833	6696	28547	10106	1912	12019	No	2.31	Si
SLU 80	0.45	1257.47	-21624	-19221	1062	0.75	0.75	-56952	10833	6209	28547	10106	1912	12019	No	11.32	Si
SLU 79	0.05	1388.24	-23603	-20980	5236	0.75	0.75	-62163	10833	6678	28547	10106	1912	12019	No	2.3	Si
SLU 79	0.45	1247.24	-21514	-19123	1102	0.75	0.75	-56661	10833	6182	28547	10106	1912	12019	No	10.91	Si
SLU 83	0.05	1424.42	-24553	-21825	5466	0.75	0.75	-64667	10833	6903	28547	10106	1912	12019	No	2.2	Si
SLU 83	0.45	1307.14	-22393	-19905	1132	0.75	0.75	-58978	10833	6391	28547	10106	1912	12019	No	10.61	Si
SLU 77	0.05	1395.27	-23718	-21082	5254	0.75	0.75	-62466	10833	6705	28547	10106	1912	12019	No	2.29	Si
SLU 77	0.45	1253.53	-21638	-19234	1102	0.75	0.75	-56989	10833	6212	28547	10106	1912	12019	No	10.91	Si
SLU 82	0.05	1403.5	-24450	-21734	5390	0.75	0.75	-64396	10833	6879	28547	10106	1912	12019	No	2.23	Si
SLU 82	0.45	1310.95	-22340	-19858	1081	0.75	0.75	-58839	10833	6378	28547	10106	1912	12019	No	11.12	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.05	1374.34	-23615	-20991	5179	0.75	0.75	-62196	10833	6681	28547	10106	1912	12019	No	2.32	Si
SLU 75	0.45	1257.33	-21585	-19187	1050	0.75	0.75	-56850	10833	6199	28547	10106	1912	12019	No	11.45	Si
SLU 84	0.05	1417.86	-24629	-21893	5439	0.75	0.75	-64868	10833	6921	28547	10106	1912	12019	No	2.21	Si
SLU 84	0.45	1317.37	-22503	-20003	1092	0.75	0.75	-59268	10833	6417	28547	10106	1912	12019	No	11	Si
SLU 78	0.05	1388.7	-23794	-21150	5228	0.75	0.75	-62667	10833	6723	28547	10106	1912	12019	No	2.3	Si
SLU 78	0.45	1263.75	-21748	-19332	1062	0.75	0.75	-57279	10833	6238	28547	10106	1912	12019	No	11.32	Si
SLU 74	0.05	1380.9	-23539	-20923	5205	0.75	0.75	-61995	10833	6662	28547	10106	1912	12019	No	2.31	Si
SLU 74	0.45	1247.11	-21475	-19089	1090	0.75	0.75	-56559	10833	6173	28547	10106	1912	12019	No	11.02	Si
SLU 81	0.05	1410.06	-24374	-21666	5417	0.75	0.75	-64195	10833	6860	28547	10106	1912	12019	No	2.22	Si
SLU 81	0.45	1300.72	-22230	-19760	1121	0.75	0.75	-58548	10833	6352	28547	10106	1912	12019	No	10.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	0.05	1597.31	-22859	-20319	8945	0.75	0.75	-60204	16250	7043	28547	15159	1912	17072		1.91	Si
SLV 2	0.45	674.4	-17355	-15427	2152	0.75	0.75	-45710	16250	5738	28547	15159	1912	17072		7.93	Si
SLD 2	0.05	1368.11	-20347	-18086	6980	0.75	0.75	-53589	16250	6448	28547	15159	1912	17072		2.45	Si
SLD 2	0.45	730.74	-16288	-14478	1660	0.75	0.75	-42899	16250	5485	28547	15159	1912	17072		10.28	Si
SLV 4	0.05	1602.02	-17580	-15627	8504	0.75	0.75	-46301	16250	5792	28547	15159	1912	17072		2.01	Si
SLV 4	0.45	292.72	-11381	-10116	3139	0.75	0.75	-29974	16250	5484	28547	15159	1912	17072		5.44	Si
SLV 5	0.05	1093.18	-25927	-23046	5430	0.75	0.75	-68285	16250	7770	28547	15159	1912	17072		3.14	Si
SLV 5	0.45	1413.13	-24759	-22008	-512	0.75	0.75	-65209	16250	7493	28547	15159	1912	17072		33.32	Si
SLD 3	0.05	1303.7	-16874	-14999	6210	0.75	0.75	-44441	16250	5624	28547	15159	1912	17072		2.75	Si
SLD 3	0.45	553.38	-12978	-11536	2019	0.75	0.75	-34181	16250	5484	28547	15159	1912	17072		8.45	Si
SLD 1	0.05	1300.29	-20158	-17918	6477	0.75	0.75	-53091	16250	6403	28547	15159	1912	17072		2.64	Si
SLD 1	0.45	791.4	-16700	-14844	1403	0.75	0.75	-43982	16250	5583	28547	15159	1912	17072		12.16	Si
SLV 3	0.05	1495.88	-17284	-15363	7716	0.75	0.75	-45521	16250	5721	28547	15159	1912	17072		2.21	Si
SLV 3	0.45	387.66	-12025	-10689	2737	0.75	0.75	-31670	16250	5484	28547	15159	1912	17072		6.24	Si
SLV 1	0.05	1491.17	-22562	-20056	8157	0.75	0.75	-59424	16250	6973	28547	15159	1912	17072		2.09	Si
SLV 1	0.45	769.35	-17999	-15999	1749	0.75	0.75	-47405	16250	5891	28547	15159	1912	17072		9.76	Si
SLV 6	0.05	1164.65	-26126	-23223	5960	0.75	0.75	-68810	16250	7817	28547	15159	1912	17072		2.86	Si
SLV 6	0.45	1349.21	-24326	-21623	-242	0.75	0.75	-64068	16250	7391	28547	15159	1912	17072		70.65	Si
SLD 4	0.05	1371.51	-17063	-15167	6713	0.75	0.75	-44939	16250	5669	28547	15159	1912	17072		2.54	Si
SLD 4	0.45	492.72	-12567	-11171	2276	0.75	0.75	-33098	16250	5484	28547	15159	1912	17072		7.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	15916	-5372	43.46	1082.64	24.91	Si
SLV 12	179667	0.24	16148	-5450	43.46	1096.6	25.23	Si
SLV 7	179667	0.24	19769	-6672	43.46	1306.87	30.07	Si
SLV 8	179667	0.24	20002	-6751	43.46	1319.94	30.37	Si
SLV 15	179667	0.24	29635	-10002	43.46	1813.69	41.74	Si
SLV 16	179667	0.24	29980	-10118	43.46	1829.69	42.1	Si
SLV 3	179667	0.24	42479	-14336	43.46	2328.47	53.58	Si
SLV 4	179667	0.24	42824	-14453	43.46	2340.05	53.85	Si
SLV 13	179667	0.24	45295	-15287	43.46	2419.43	55.67	Si
SLV 14	179667	0.24	45641	-15404	43.46	2430.05	55.92	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-21502	-33601	3772	0.109	2314.3	0.983	1.60723	2.58905	No
SLV 9	-21113	-33780	3751	0.11	2274.6	0.983	1.62788	2.58905	No
SLV 6	-21199	-33408	3693	0.113	2283.3	0.983	1.66493	2.58905	No
SLV 10	-20809	-33587	3672	0.114	2243.7	0.983	1.68694	2.58905	No
SLV 1	-16088	-24546	2716	0.179	1762.6	0.978	2.65383	2.92742	No
SLV 2	-15637	-24260	2599	0.188	1716.7	0.977	2.79848	2.92742	No
SLV 13	-14791	-25145	2646	0.191	1630.5	0.976	2.84023	2.92742	No
SLV 14	-14340	-24858	2529	0.202	1584.5	0.976	3.00322	2.92742	Si
SLV 3	-10995	-16925	1773	0.299	1243.9	0.969	4.47587	2.92742	Si
SLV 4	-10544	-16638	1657	0.317	1198	0.968	4.76183	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.086	SLU 83	Si
V_SLU	2.199	SLU 83	Si
PF_SLV	2.344	SLV 8	Si
V_SLV	1.909	SLV 2	Si
PFFP_SLV	24.913	SLV 11	Si
R_SLV	0.621	SLV 5	No

Maschio 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.448	1.141	-18.448	-3.284	L2	L4	4.425	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	-1.95	10599.99	-93011	-0.0001266	0.0004492	0.0035	4.425	87784.64	142985.3	142985.3	13.49	No	Si
SLU 69	0.67	16395.88	-41462	-0.0000702	0.0004492	0.0035	4.425	68285.71	78721.25	78721.25	4.8	No	Si
SLU 82	-1.95	13009.96	-104226	-0.000147	0.0004492	0.0035	4.425	82425.14	152497.21	152497.21	11.72	No	Si
SLU 82	0.67	18035.76	-46427	-0.0000788	0.0004492	0.0035	4.425	73318.25	86630.88	86630.88	4.8	No	Si
SLU 66	-1.95	10638.81	-92178	-0.0001255	0.0004492	0.0035	4.425	88045.64	142279.28	142279.28	13.37	No	Si
SLU 66	0.67	16278.88	-41014	-0.0000695	0.0004492	0.0035	4.425	67798.32	78007.22	78007.22	4.79	No	Si
SLU 74	-1.95	11830.8	-101169	-0.0001403	0.0004492	0.0035	4.425	84226.39	149904.23	149904.23	12.67	No	Si
SLU 74	0.67	17714.18	-45255	-0.0000768	0.0004492	0.0035	4.425	72190.84	84763.64	84763.64	4.79	No	Si
SLU 83	-1.95	12314.81	-104525	-0.0001461	0.0004492	0.0035	4.425	82235.56	152750.44	152750.44	12.4	No	Si
SLU 83	0.67	18199.96	-46780	-0.0000795	0.0004492	0.0035	4.425	73650.87	87193.96	87193.96	4.79	No	Si
SLU 77	-1.95	11791.98	-102001	-0.0001415	0.0004492	0.0035	4.425	83761.21	150610.25	150610.25	12.77	No	Si
SLU 77	0.67	17831.18	-45703	-0.0000776	0.0004492	0.0035	4.425	72626.38	85477.67	85477.67	4.79	No	Si
SLU 75	-1.95	12487.13	-101703	-0.0001423	0.0004492	0.0035	4.425	83930.23	150357.02	150357.02	12.04	No	Si
SLU 75	0.67	17666.98	-45349	-0.0000769	0.0004492	0.0035	4.425	72283.38	84914.59	84914.59	4.81	No	Si
SLU 81	-1.95	12353.63	-103692	-0.000145	0.0004492	0.0035	4.425	82758.05	152044.42	152044.42	12.31	No	Si
SLU 81	0.67	18082.95	-46332	-0.0000787	0.0004492	0.0035	4.425	73228.5	86479.93	86479.93	4.78	No	Si
SLU 64	-1.95	10650.79	-90848	-0.0001237	0.0004492	0.0035	4.425	88423.29	141151.63	141151.63	13.25	No	Si
SLU 64	0.67	16032.53	-40274	-0.0000682	0.0004492	0.0035	4.425	66981.33	76827.9	76827.9	4.79	No	Si
SLU 79	-1.95	11765.14	-101504	-0.0001407	0.0004492	0.0035	4.425	84041.28	150188.62	150188.62	12.77	No	Si
SLU 79	0.67	17701.83	-45411	-0.000077	0.0004492	0.0035	4.425	72343.19	85012.38	85012.38	4.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	-1.95	49529.91	-109703	-0.0002089	0.0006738	0.0035	4.425		176350.65	176350.65	3.56		Si
SLV 5	0.67	20309.69	-47405	-0.0000813	0.0006738	0.0035	4.425		91847.1	91847.1	4.52		Si
SLV 13	-1.95	23690.75	-67359	-0.0001102	0.0006738	0.0035	4.425		123971.93	123971.93	5.23		Si
SLV 13	0.67	17573.84	-31184	-0.0000588	0.0006738	0.0035	4.425		64895.33	64895.33	3.69		Si
SLV 12	-1.95	-32833.21	-30684	-0.0000858	0.0006738	0.0035	4.425		72810.52	72810.52	2.22		Si
SLV 12	0.67	4401.21	-14764	-0.0000217	0.0006738	0.0035	4.425		33058.43	33058.43	7.51		Si
SLV 11	-1.95	-31780.39	-31514	-0.0000835	0.0006738	0.0035	4.425		74362.63	74362.63	2.34		Si
SLV 11	0.67	4915.05	-15350	-0.000023	0.0006738	0.0035	4.425		34243.8	34243.8	6.97		Si
SLV 8	-1.95	-34134.48	-39039	-0.0000936	0.0006738	0.0035	4.425		87800.23	87800.23	2.57		Si
SLV 8	0.67	3009.88	-17595	-0.0000227	0.0006738	0.0035	4.425		38754.32	38754.32	12.88		Si
SLV 7	-1.95	-33081.66	-39870	-0.0000925	0.0006738	0.0035	4.425		89275	89275	2.7		Si
SLV 7	0.67	3523.72	-18181	-0.0000241	0.0006738	0.0035	4.425		39920.65	39920.65	11.33		Si
SLV 9	-1.95	50831.18	-101347	-0.0001994	0.0006738	0.0035	4.425		167588.49	167588.49	3.3		Si
SLV 9	0.67	21701.03	-44574	-0.0000802	0.0006738	0.0035	4.425		87288.62	87288.62	4.02		Si
SLV 10	-1.95	49778.36	-100516	-0.0001964	0.0006738	0.0035	4.425		166550.16	166550.16	3.35		Si
SLV 10	0.67	21187.18	-43987	-0.0000787	0.0006738	0.0035	4.425		86344.81	86344.81	4.08		Si
SLV 14	-1.95	22126.99	-66125	-0.0001062	0.0006738	0.0035	4.425		121985.35	121985.35	5.51		Si
SLV 14	0.67	16810.64	-30313	-0.0000567	0.0006738	0.0035	4.425		63276.03	63276.03	3.76		Si
SLV 6	-1.95	48477.09	-108872	-0.0002058	0.0006738	0.0035	4.425		175622.25	175622.25	3.62		Si
SLV 6	0.67	19795.85	-46819	-0.0000799	0.0006738	0.0035	4.425		90903.28	90903.28	4.59		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	-1.95	11765.14	-101504	-73821	-7289	4.425	4.425	-55609	10833	37196	81562	47707	22567	70275	No	9.64	Si
SLU 79	0.67	17701.83	-45411	-33026	-12491	4.425	4.425	-24878	10833	20879	81562	47707	22567	70275	No	5.63	Si
SLU 74	-1.95	11830.8	-101169	-73577	-7259	4.425	4.425	-55425	10833	37098	81562	47707	22567	70275	No	9.68	Si
SLU 74	0.67	17714.18	-45255	-32912	-12448	4.425	4.425	-24793	10833	20833	81562	47707	22567	70275	No	5.65	Si
SLU 81	-1.95	12353.63	-103692	-75413	-7272	4.425	4.425	-56808	10833	37832	81562	47707	22567	70275	No	9.66	Si
SLU 81	0.67	18082.95	-46332	-33696	-12575	4.425	4.425	-25383	10833	21146	81562	47707	22567	70275	No	5.59	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	-1.95	11791.98	-102001	-74183	-7330	4.425	4.425	-55882	10833	37341	81562	47707	22567	70275	No	9.59	Si
SLU 77	0.67	17831.18	-45703	-33238	-12568	4.425	4.425	-25038	10833	20963	81562	47707	22567	70275	No	5.59	Si
SLU 82	-1.95	13009.96	-104226	-75801	-6675	4.425	4.425	-57101	10833	37988	81562	47707	22567	70275	No	10.53	Si
SLU 82	0.67	18035.76	-46427	-33765	-11979	4.425	4.425	-25435	10833	21174	81562	47707	22567	70275	No	5.87	Si
SLU 78	-1.95	12448.31	-102535	-74571	-6733	4.425	4.425	-56174	10833	37496	81562	47707	22567	70275	No	10.44	Si
SLU 78	0.67	17783.98	-45797	-33307	-11972	4.425	4.425	-25090	10833	20991	81562	47707	22567	70275	No	5.87	Si
SLU 80	-1.95	12421.48	-102038	-74209	-6692	4.425	4.425	-55902	10833	37351	81562	47707	22567	70275	No	10.5	Si
SLU 80	0.67	17654.63	-45505	-33095	-11895	4.425	4.425	-24930	10833	20906	81562	47707	22567	70275	No	5.91	Si
SLU 83	-1.95	12314.81	-104525	-76018	-7342	4.425	4.425	-57264	10833	38075	81562	47707	22567	70275	No	9.57	Si
SLU 83	0.67	18199.96	-46780	-34022	-12694	4.425	4.425	-25628	10833	21277	81562	47707	22567	70275	No	5.54	Si
SLU 75	-1.95	12487.13	-101703	-73966	-6662	4.425	4.425	-55718	10833	37254	81562	47707	22567	70275	No	10.55	Si
SLU 75	0.67	17666.98	-45349	-32981	-11852	4.425	4.425	-24845	10833	20861	81562	47707	22567	70275	No	5.93	Si
SLU 84	-1.95	12971.15	-105059	-76406	-6745	4.425	4.425	-57557	10833	38230	81562	47707	22567	70275	No	10.42	Si
SLU 84	0.67	18152.76	-46875	-34091	-12098	4.425	4.425	-25680	10833	21304	81562	47707	22567	70275	No	5.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	-1.95	-32833.21	-30684	-22315	-44227	4.425	3.4273	-21907	16250	20429	81562	71561	22567	94128		2.13	Si
SLV 12	0.67	4401.21	-14764	-10737	-45194	4.425	4.425	-8088	14118	18741	81562	71561	22567	94128		2.08	Si
SLV 9	-1.95	50831.18	-101347	-73707	33032	4.425	4.425	-55523	16250	40985	81562	71561	22567	94128		2.85	Si
SLV 9	0.67	21701.03	-44574	-32417	27173	4.425	4.425	-24420	16250	24469	81562	71561	22567	94128		3.46	Si
SLV 7	-1.95	-33081.66	-39870	-28996	-42330	4.425	4.1483	-23539	16250	23101	81562	71561	22567	94128		2.22	Si
SLV 7	0.67	3523.72	-18181	-13223	-43721	4.425	4.425	-9961	14492	19238	81562	71561	22567	94128		2.15	Si
SLV 8	-1.95	-34134.48	-39039	-28392	-43468	4.425	4.0144	-23803	16250	22859	81562	71561	22567	94128		2.17	Si
SLV 8	0.67	3009.88	-17595	-12796	-44768	4.425	4.425	-9640	14428	19153	81562	71561	22567	94128		2.1	Si
SLV 5	-1.95	49529.91	-109703	-79784	33791	4.425	4.425	-60101	16250	43415	81562	71561	22567	94128		2.79	Si
SLV 5	0.67	20309.69	-47405	-34476	27599	4.425	4.425	-25971	16250	25293	81562	71561	22567	94128		3.41	Si
SLV 10	-1.95	49778.36	-100516	-73103	31894	4.425	4.425	-55068	16250	40743	81562	71561	22567	94128		2.95	Si
SLV 10	0.67	21187.18	-43987	-31991	26125	4.425	4.425	-24099	16250	24299	81562	71561	22567	94128		3.6	Si
SLD 8	-1.95	-18130.56	-50868	-36995	-29027	4.425	4.425	-27868	16250	26300	81562	71561	22567	94128		3.24	Si
SLD 8	0.67	6514.68	-22696	-16506	-31197	4.425	4.425	-12434	14987	19895	81562	71561	22567	94128		3.02	Si
SLV 11	-1.95	-31780.39	-31514	-22920	-43089	4.425	3.6122	-21353	16250	20670	81562	71561	22567	94128		2.18	Si
SLV 11	0.67	4915.05	-15350	-11164	-44147	4.425	4.425	-8409	14182	18826	81562	71561	22567	94128		2.13	Si
SLV 6	-1.95	48477.09	-108872	-79179	32653	4.425	4.425	-59646	16250	43173	81562	71561	22567	94128		2.88	Si
SLV 6	0.67	19795.85	-46819	-34050	26552	4.425	4.425	-25650	16250	25122	81562	71561	22567	94128		3.55	Si
SLD 12	-1.95	-17295.09	-45514	-33101	-29510	4.425	4.425	-24935	16250	24743	81562	71561	22567	94128		3.19	Si
SLD 12	0.67	7413.65	-20888	-15191	-31471	4.425	4.425	-11443	14789	19632	81562	71561	22567	94128		2.99	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-24621	0.24	177.09	3319.47	4604.31	3961.89	22.37	Si
SLV 11	-25325	0.24	177.09	3403.35	4716.42	4059.89	22.93	Si
SLV 8	-30048	0.24	177.09	3950.62	5466.19	4708.41	26.59	Si
SLV 7	-30752	0.24	177.09	4029.79	5576.33	4803.06	27.12	Si
SLV 16	-33989	0.24	177.09	4386.1	6083.4	5234.75	29.56	Si
SLV 15	-35034	0.24	177.09	4498.4	6247.3	5372.85	30.34	Si
SLV 14	-47591	0.24	177.09	5742.36	8189.04	6965.7	39.34	Si
SLV 13	-48637	0.24	177.09	5837.13	8349.07	7093.1	40.05	Si
SLV 4	-52079	0.24	177.09	6139.76	8876.37	7508.06	42.4	Si
SLV 3	-53124	0.24	177.09	6228.75	9036.51	7632.63	43.1	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-40622	-95211	1716	0.59	4625.5	0.968	8.86254	3.32286	Si
SLV 2	-39752	-93977	1676	0.602	4536.8	0.967	9.04446	3.32286	Si
SLV 5	-47405	-109703	1994	0.513	5316.1	0.972	7.67479	2.7479	Si
SLV 6	-46819	-108872	1967	0.519	5256.4	0.971	7.76527	2.7479	Si
SLV 9	-44574	-101347	1863	0.543	5027.7	0.97	8.13339	2.7479	Si
SLV 10	-43987	-100516	1836	0.55	4968	0.97	8.2353	2.7479	Si
SLV 3	-31855	-74261	1341	0.734	3733.3	0.961	11.1094	3.32286	Si
SLV 13	-31184	-67359	1278	0.75	3665.1	0.96	11.34532	3.32286	Si
SLV 4	-30985	-73027	1301	0.753	3644.8	0.96	11.3988	3.32286	Si
SLV 14	-30313	-66125	1238	0.769	3576.5	0.959	11.64705	3.32286	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.782	SLU 81	Si
V_SLU	5.536	SLU 83	Si
PF_SLV	2.218	SLV 12	Si
V_SLV	2.083	SLV 12	Si
PFFP_SLV	22.373	SLV 12	Si
R_SLV	2.667	SLV 1	Si

Maschio 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.693	6.576	-17.813	6.576	L2	L4	1.88	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.05	-2168.52	-21848	-0.000055	0.0003743	0.0035	1.88	15327.54	17505.97	17505.97	8.07	No	Si
SLU 84	0.45	-6164.05	-21983	-0.0000812	0.0003743	0.0035	1.88	15390.2	17586.8	17586.8	2.85	No	Si
SLU 80	0.05	-2116.72	-21354	-0.0000536	0.0003743	0.0035	1.88	15096.37	17213.43	17213.43	8.13	No	Si
SLU 80	0.45	-6027.65	-21499	-0.0000792	0.0003743	0.0035	1.88	15164.55	17298.8	17298.8	2.87	No	Si
SLU 77	0.05	-2139.5	-21698	-0.0000545	0.0003743	0.0035	1.88	15258.02	17417.07	17417.07	8.14	No	Si
SLU 77	0.45	-6121.85	-21848	-0.0000806	0.0003743	0.0035	1.88	15327.54	17505.97	17505.97	2.86	No	Si
SLU 75	0.05	-2090.87	-21177	-0.0000531	0.0003743	0.0035	1.88	15012.09	17108.91	17108.91	8.18	No	Si
SLU 75	0.45	-5973.34	-21311	-0.0000784	0.0003743	0.0035	1.88	15075.98	17188.03	17188.03	2.88	No	Si
SLU 78	0.05	-2135.67	-21525	-0.0000541	0.0003743	0.0035	1.88	15177.25	17314.78	17314.78	8.11	No	Si
SLU 78	0.45	-6077.85	-21677	-0.0000799	0.0003743	0.0035	1.88	15248.11	17404.45	17404.45	2.86	No	Si
SLU 74	0.05	-2094.7	-21350	-0.0000535	0.0003743	0.0035	1.88	15094.17	17210.69	17210.69	8.22	No	Si
SLU 74	0.45	-6017.34	-21482	-0.0000791	0.0003743	0.0035	1.88	15156.78	17289.03	17289.03	2.87	No	Si
SLU 83	0.05	-2172.35	-22020	-0.0000554	0.0003743	0.0035	1.88	15407.1	17608.71	17608.71	8.11	No	Si
SLU 83	0.45	-6208.05	-22154	-0.0000819	0.0003743	0.0035	1.88	15468.49	17688.75	17688.75	2.85	No	Si
SLU 82	0.05	-2123.72	-21499	-0.000054	0.0003743	0.0035	1.88	15164.83	17299.15	17299.15	8.15	No	Si
SLU 82	0.45	-6059.54	-21618	-0.0000797	0.0003743	0.0035	1.88	15220.52	17369.44	17369.44	2.87	No	Si
SLU 81	0.05	-2127.55	-21672	-0.0000544	0.0003743	0.0035	1.88	15245.7	17401.4	17401.4	8.18	No	Si
SLU 81	0.45	-6103.54	-21789	-0.0000804	0.0003743	0.0035	1.88	15300.17	17470.87	17470.87	2.86	No	Si
SLU 79	0.05	-2120.55	-21527	-0.000054	0.0003743	0.0035	1.88	15177.79	17315.47	17315.47	8.17	No	Si
SLU 79	0.45	-6071.65	-21669	-0.0000799	0.0003743	0.0035	1.88	15244.65	17400.06	17400.06	2.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	0.05	-4976.29	-10549	-0.000052	0.0005615	0.0035	1.88		10117.68	10117.68	2.03		Si
SLV 1	0.45	-4068.53	-12542	-0.0000468	0.0005615	0.0035	1.88		11730.51	11730.51	2.88		Si
SLV 8	0.05	-3146.44	-27300	-0.0000705	0.0005615	0.0035	1.88		22327.12	22327.12	7.1		Si
SLV 8	0.45	-7909.55	-28284	-0.0001027	0.0005615	0.0035	1.88		22947.88	22947.88	2.9		Si
SLV 7	0.05	-3563.56	-26773	-0.000072	0.0005615	0.0035	1.88		21987.9	21987.9	6.17		Si
SLV 7	0.45	-7862.97	-28007	-0.0001018	0.0005615	0.0035	1.88		22778.41	22778.41	2.9		Si
SLV 4	0.05	-4898.18	-18829	-0.0000642	0.0005615	0.0035	1.88		16531.64	16531.64	3.38		Si
SLV 4	0.45	-6234.19	-20738	-0.0000763	0.0005615	0.0035	1.88		17907.64	17907.64	2.87		Si
SLV 6	0.05	-1341.64	-2307	-0.0000144	0.0005615	0.0035	1.504		3014.07	3014.07	2.25		Si
SLV 6	0.45	-921.3	-2334	-0.0000096	0.0005615	0.0035	1.88		3038.89	3038.89	3.3		Si
SLV 3	0.05	-5517.73	-18047	-0.0000664	0.0005615	0.0035	1.88		15967.67	15967.67	2.89		Si
SLV 3	0.45	-6165	-20327	-0.000075	0.0005615	0.0035	1.88		17615.07	17615.07	2.86		Si
SLV 5	0.05	-1758.77	-1780	-0.0001222	0.0005615	0.0035	1.504		2537.31	2537.31	1.44		Si
SLV 5	0.45	-874.72	-2058	-0.0000089	0.0005615	0.0035	1.88		2789.07	2789.07	3.19		Si
SLD 3	0.05	-4035.92	-16726	-0.0000548	0.0005615	0.0035	1.88		14973.1	14973.1	3.71		Si
SLD 3	0.45	-5401.66	-18199	-0.000066	0.0005615	0.0035	1.88		16077.44	16077.44	2.98		Si
SLV 2	0.05	-4356.75	-11332	-0.0000469	0.0005615	0.0035	1.88		10765.92	10765.92	2.47		Si
SLV 2	0.45	-4137.71	-12953	-0.000048	0.0005615	0.0035	1.88		12055	12055	2.91		Si
SLV 10	0.05	788.04	-2179	-0.0000084	0.0005615	0.0035	1.88		2211.41	2211.41	2.81		Si
SLV 10	0.45	-270.54	-1075	-0.0000034	0.0005615	0.0035	1.88		1895.13	1895.13	7		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	0.05	-2120.55	-21527	-19135	7938	1.88	1.88	-22618	9960	8426	28547	25333	4794	30127	No	3.8	Si
SLU 79	0.45	-6071.65	-21669	-19262	8263	1.88	1.88	-22768	9980	8451	28547	25333	4794	30127	No	3.65	Si
SLU 84	0.05	-2168.52	-21848	-19420	8064	1.88	1.88	-22955	10005	8496	28547	25333	4794	30127	No	3.74	Si
SLU 84	0.45	-6164.05	-21983	-19541	8392	1.88	1.88	-23098	10024	8531	28547	25333	4794	30127	No	3.59	Si
SLU 80	0.05	-2116.72	-21354	-18981	7835	1.88	1.88	-22437	9936	8406	28547	25333	4794	30127	No	3.85	Si
SLU 80	0.45	-6027.65	-21499	-19110	8156	1.88	1.88	-22588	9956	8423	28547	25333	4794	30127	No	3.69	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.05	-2090.87	-21177	-18824	7789	1.88	1.88	-22251	9911	8385	28547	25333	4794	30127	No	3.87	Si
SLU 75	0.45	-5973.34	-21311	-18943	8107	1.88	1.88	-22392	9930	8401	28547	25333	4794	30127	No	3.72	Si
SLU 77	0.05	-2139.5	-21698	-19287	7998	1.88	1.88	-22798	9984	8458	28547	25333	4794	30127	No	3.77	Si
SLU 77	0.45	-6121.85	-21848	-19420	8327	1.88	1.88	-22955	10005	8496	28547	25333	4794	30127	No	3.62	Si
SLU 78	0.05	-2135.67	-21525	-19134	7895	1.88	1.88	-22617	9960	8426	28547	25333	4794	30127	No	3.82	Si
SLU 78	0.45	-6077.85	-21677	-19268	8220	1.88	1.88	-22776	9981	8453	28547	25333	4794	30127	No	3.67	Si
SLU 83	0.05	-2172.35	-22020	-19573	8167	1.88	1.88	-23136	10029	8540	28547	25333	4794	30127	No	3.69	Si
SLU 83	0.45	-6208.05	-22154	-19693	8498	1.88	1.88	-23277	10048	8574	28547	25333	4794	30127	No	3.55	Si
SLU 81	0.05	-2127.55	-21672	-19264	8060	1.88	1.88	-22770	9980	8451	28547	25333	4794	30127	No	3.74	Si
SLU 81	0.45	-6103.54	-21789	-19368	8385	1.88	1.88	-22893	9997	8481	28547	25333	4794	30127	No	3.59	Si
SLU 74	0.05	-2094.7	-21350	-18977	7892	1.88	1.88	-22432	9935	8405	28547	25333	4794	30127	No	3.82	Si
SLU 74	0.45	-6017.34	-21482	-19095	8214	1.88	1.88	-22571	9954	8421	28547	25333	4794	30127	No	3.67	Si
SLU 82	0.05	-2123.72	-21499	-19110	7957	1.88	1.88	-22589	9956	8423	28547	25333	4794	30127	No	3.79	Si
SLU 82	0.45	-6059.54	-21618	-19216	8279	1.88	1.88	-22714	9973	8437	28547	25333	4794	30127	No	3.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	0.05	920.51	-16890	-15014	14181	1.88	1.88	-17747	13966	11815	28547	38000	4794	40362		2.85	Si
SLD 16	0.45	-4038.82	-15731	-13983	14419	1.88	1.88	-16528	13722	11609	28547	38000	4794	40156		2.78	Si
SLV 14	0.05	2742.22	-10905	-9693	15173	1.88	1.88	-11458	12708	10751	28547	38000	4794	39298		2.59	Si
SLV 14	0.45	-1968.52	-8755	-7782	15180	1.88	1.88	-9199	12256	10369	28547	38000	4794	38916		2.56	Si
SLV 11	0.05	-1433.87	-26645	-23685	14415	1.88	1.88	-27996	16016	13549	28547	38000	4794	42096		2.92	Si
SLV 11	0.45	-7212.22	-26748	-23776	14995	1.88	1.88	-28104	16037	13568	28547	38000	4794	42114		2.81	Si
SLD 15	0.05	524.68	-16391	-14569	12526	1.88	1.88	-17221	13861	11726	28547	38000	4794	40273		3.22	Si
SLD 15	0.45	-3994.62	-15468	-13750	12758	1.88	1.88	-16253	13667	11562	28547	38000	4794	40109		3.14	Si
SLV 12	0.05	-1016.75	-27172	-24153	16159	1.88	1.88	-28550	16127	13643	28547	38000	4794	42190		2.61	Si
SLV 12	0.45	-7258.8	-27024	-24022	16746	1.88	1.88	-28394	16096	13617	28547	38000	4794	42163		2.52	Si
SLD 12	0.05	-1138.97	-22364	-19879	12139	1.88	1.88	-23498	15116	12788	28547	38000	4794	41335		3.41	Si
SLD 12	0.45	-6048.63	-22298	-19820	12591	1.88	1.88	-23428	15102	12777	28547	38000	4794	41323		3.28	Si
SLD 14	0.05	1260.41	-12227	-10868	11640	1.88	1.88	-12847	12986	10986	28547	38000	4794	39533		3.4	Si
SLD 14	0.45	-2731.85	-10883	-9674	11728	1.88	1.88	-11435	12704	10747	28547	38000	4794	39294		3.35	Si
SLV 15	0.05	1581.23	-17621	-15663	16653	1.88	1.88	-18514	14119	11945	28547	38000	4794	40492		2.43	Si
SLV 15	0.45	-3995.81	-16129	-14337	16887	1.88	1.88	-16947	13806	11680	28547	38000	4794	40226		2.38	Si
SLV 13	0.05	2122.67	-10123	-8998	12583	1.88	1.88	-10636	12544	10612	28547	38000	4794	39159		3.11	Si
SLV 13	0.45	-1899.33	-8345	-7417	12580	1.88	1.88	-8768	12170	10296	28547	38000	4794	38843		3.09	Si
SLV 16	0.05	2200.78	-18403	-16358	19243	1.88	1.88	-19336	14284	12084	28547	38000	4794	40631		2.11	Si
SLV 16	0.45	-4064.99	-16540	-14702	19487	1.88	1.88	-17378	13892	11753	28547	38000	4794	40299		2.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.24	0	129	108.93	0	0	No, Trazione
SLV 5	179667	0.24	0	82	108.93	0	0	No, Trazione
SLV 6	179667	0.24	0	-303	108.93	0	0	No, e>t/2
SLV 9	179667	0.24	0	514	108.93	0	0	No, Trazione
SLV 13	179667	0.24	8047	-6808	108.93	1451.06	13.32	Si
SLV 14	179667	0.24	8724	-7380	108.93	1565.67	14.37	Si
SLV 1	179667	0.24	9747	-8246	108.93	1736.89	15.94	Si
SLV 2	179667	0.24	10423	-8818	108.93	1848.64	16.97	Si
SLV 15	179667	0.24	16070	-13595	108.93	2737.03	25.13	Si
SLV 16	179667	0.24	16746	-14167	108.93	2838.12	26.05	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-27438	-16437	-1585	0.397	3105.5	0.969	5.94632	2.58905	Si
SLV 7	-27064	-16337	-1567	0.401	3067.4	0.969	6.01769	2.58905	Si
SLV 12	-26484	-15508	-1514	0.41	3008.4	0.968	6.14559	2.58905	Si
SLV 11	-26110	-15408	-1496	0.414	2970.3	0.968	6.22217	2.58905	Si
SLV 4	-19581	-10764	-1184	0.528	2306	0.96	8.00107	2.92742	Si
SLV 3	-19026	-10615	-1158	0.541	2249.5	0.959	8.20504	2.92742	Si
SLV 16	-16402	-7668	-947	0.618	1982.8	0.954	9.41142	2.92742	Si
SLV 15	-15847	-7518	-921	0.636	1926.4	0.953	9.69848	2.92742	Si
SLV 2	-11815	-4952	-766	0.807	1517.4	0.942	12.46079	2.92742	Si
SLV 1	-11260	-4802	-739	0.84	1461.1	0.94	12.98427	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.849	SLU 83	Si
V_SLU	3.545	SLU 83	Si
PF_SLV	1.443	SLV 5	Si
V_SLV	2.068	SLV 16	Si
PFFP_SLV	0	SLV 10	No
R_SLV	2.297	SLV 8	Si

Maschio 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-16.928	-4.709	L2	L4	3.165	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.95	-4071.04	-10834	-0.00002	0.0003743	0.0035	3.165	15863.72	18948.74	18948.74	4.65	No	Si
SLU 83	0.67	-15811.02	-25313	-0.000063	0.0003743	0.0035	3.165	33064.84	37535.42	37535.42	2.37	No	Si
SLU 80	-1.95	-4003.08	-10674	-0.0000197	0.0003743	0.0035	3.165	15647.92	18721.65	18721.65	4.68	No	Si
SLU 80	0.67	-15399.48	-24678	-0.0000612	0.0003743	0.0035	3.165	32406.37	36798.32	36798.32	2.39	No	Si
SLU 78	-1.95	-4017.46	-10714	-0.0000198	0.0003743	0.0035	3.165	15702.55	18779.06	18779.06	4.67	No	Si
SLU 78	0.67	-15528.09	-24804	-0.0000617	0.0003743	0.0035	3.165	32538.23	36944.82	36944.82	2.38	No	Si
SLU 73	-1.95	-4001.11	-10713	-0.0000197	0.0003743	0.0035	3.165	15700.22	18776.6	18776.6	4.69	No	Si
SLU 73	0.67	-15392.67	-24402	-0.0000609	0.0003743	0.0035	3.165	32117.77	36479.57	36479.57	2.37	No	Si
SLU 61	-1.95	-3695.67	-10045	-0.0000183	0.0003743	0.0035	3.165	14794.73	17832.53	17832.53	4.83	No	Si
SLU 61	0.67	-14404.9	-22646	-0.0000566	0.0003743	0.0035	3.165	30240.3	34375.53	34375.53	2.39	No	Si
SLU 75	-1.95	-4006.49	-10654	-0.0000197	0.0003743	0.0035	3.165	15621.06	18693.45	18693.45	4.67	No	Si
SLU 75	0.67	-15428.65	-24551	-0.0000612	0.0003743	0.0035	3.165	32274.35	36652.18	36652.18	2.38	No	Si
SLU 84	-1.95	-4100.99	-11073	-0.0000203	0.0003743	0.0035	3.165	16185.26	19288.78	19288.78	4.7	No	Si
SLU 84	0.67	-16099.13	-25658	-0.0000642	0.0003743	0.0035	3.165	33418.76	37937.41	37937.41	2.36	No	Si
SLU 76	-1.95	-4012.08	-10773	-0.0000198	0.0003743	0.0035	3.165	15781.63	18862.25	18862.25	4.7	No	Si
SLU 76	0.67	-15492.11	-24655	-0.0000615	0.0003743	0.0035	3.165	32382.48	36771.83	36771.83	2.37	No	Si
SLU 82	-1.95	-4090.02	-11013	-0.0000202	0.0003743	0.0035	3.165	16104.24	19202.91	19202.91	4.7	No	Si
SLU 82	0.67	-15999.69	-25405	-0.0000637	0.0003743	0.0035	3.165	33159.58	37642.63	37642.63	2.35	No	Si
SLU 81	-1.95	-4060.06	-10774	-0.0000199	0.0003743	0.0035	3.165	15782.38	18863.04	18863.04	4.65	No	Si
SLU 81	0.67	-15711.59	-25060	-0.0000624	0.0003743	0.0035	3.165	32803.76	37241.5	37241.5	2.37	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	-1.95	-3013.25	1941	0.1502652	0.0005615	0.0035	2.532		0	0	0		No
SLD 12	0.67	988.99	-4515	-0.0000068	0.0005615	0.0035	3.165		7498.72	7498.72	7.58		Si
SLV 16	-1.95	-6639.87	-2195	-0.0004494	0.0005615	0.0035	2.532		6322.59	6322.59	0.95		No
SLV 16	0.67	-808.44	-7226	-0.0000093	0.0005615	0.0035	3.165		13929.19	13929.19	17.23		Si
SLD 7	-1.95	-1603.64	1644	0.1262956	0.0005615	0.0035	2.532		0	0	0		No
SLD 7	0.67	-449.31	-5766	-0.000007	0.0005615	0.0035	3.165		11744.22	11744.22	26.14		Si
SLV 7	-1.95	-893.13	6998	0.5297421	0.0005615	0.0035	2.532		0	0	0		No
SLV 7	0.67	5515.88	672	0.0014023	0.0005615	0.0035	2.532		0	0	0		No
SLV 11	-1.95	-3520.02	7361	0.5610275	0.0005615	0.0035	2.532		0	0	0		No
SLV 11	0.67	8426.71	3124	0.2092328	0.0005615	0.0035	2.532		0	0	0		No
SLD 11	-1.95	-3281.86	1879	0.1457743	0.0005615	0.0035	2.532		0	0	0		No
SLD 11	0.67	1410.3	-4198	-0.0000073	0.0005615	0.0035	3.165		7015.31	7015.31	4.97		Si
SLV 12	-1.95	-3093.02	7459	0.5679024	0.0005615	0.0035	2.532		0	0	0		No
SLV 12	0.67	7756.98	2620	0.1715023	0.0005615	0.0035	2.532		0	0	0		No
SLV 8	-1.95	-466.13	7096	0.5365224	0.0005615	0.0035	2.532		0	0	0		No
SLV 8	0.67	4846.15	168	-0.0149527	0.0005615	0.0035	3.165		0	0	0		No
SLV 15	-1.95	-7274.09	-2341	-0.0005131	0.0005615	0.0035	2.532		6548.18	6548.18	0.9		No
SLV 15	0.67	186.31	-6477	-0.0000073	0.0005615	0.0035	3.165		10473.36	10473.36	56.22		Si
SLD 8	-1.95	-1335.02	1706	0.1306853	0.0005615	0.0035	2.532		0	0	0		No
SLD 8	0.67	-870.61	-6083	-0.0000082	0.0005615	0.0035	3.165		12219.61	12219.61	14.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-1.95	-4060.06	-10774	-9576	8279	3.165	3.165	-6724	7841	11167	28547	42648	8071	39714	No	4.8	Si
SLU 81	0.67	-15711.59	-25060	-22276	4368	3.165	2.8666	-17474	9274	15766	28547	42648	8071	44313	No	10.15	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.95	-4090.02	-11013	-9789	8357	3.165	3.165	-6873	7861	11196	28547	42648	8071	39742	No	4.76	Si
SLU 82	0.67	-15999.69	-25405	-22582	4399	3.165	2.8581	-17804	9318	15889	28547	42648	8071	44435	No	10.1	Si
SLU 75	-1.95	-4006.49	-10654	-9470	7992	3.165	3.165	-6649	7831	11153	28547	42648	8071	39700	No	4.97	Si
SLU 75	0.67	-15428.65	-24551	-21824	4125	3.165	2.8622	-17140	9230	15585	28547	42648	8071	44132	No	10.7	Si
SLU 78	-1.95	-4017.46	-10714	-9524	8083	3.165	3.165	-6687	7836	11160	28547	42648	8071	39707	No	4.91	Si
SLU 78	0.67	-15528.09	-24804	-22048	4179	3.165	2.8694	-17276	9248	15675	28547	42648	8071	44222	No	10.58	Si
SLU 80	-1.95	-4003.08	-10674	-9488	8018	3.165	3.165	-6662	7833	11156	28547	42648	8071	39702	No	4.95	Si
SLU 80	0.67	-15399.48	-24678	-21936	4131	3.165	2.8754	-17152	9231	15630	28547	42648	8071	44177	No	10.69	Si
SLU 77	-1.95	-3987.51	-10475	-9311	8004	3.165	3.165	-6538	7816	11132	28547	42648	8071	39679	No	4.96	Si
SLU 77	0.67	-15239.99	-24459	-21742	4148	3.165	2.8783	-16982	9209	15553	28547	42648	8071	44099	No	10.63	Si
SLU 83	-1.95	-4071.04	-10834	-9630	8370	3.165	3.165	-6762	7846	11175	28547	42648	8071	39721	No	4.75	Si
SLU 83	0.67	-15811.02	-25313	-22500	4421	3.165	2.8736	-17641	9297	15856	28547	42648	8071	44403	No	10.04	Si
SLU 76	-1.95	-4012.08	-10773	-9576	7980	3.165	3.165	-6724	7841	11167	28547	42648	8071	39714	No	4.98	Si
SLU 76	0.67	-15492.11	-24655	-21915	4098	3.165	2.8624	-17212	9239	15622	28547	42648	8071	44169	No	10.78	Si
SLU 84	-1.95	-4100.99	-11073	-9843	8448	3.165	3.165	-6911	7866	11203	28547	42648	8071	39750	No	4.71	Si
SLU 84	0.67	-16099.13	-25658	-22807	4453	3.165	2.8651	-17940	9336	15979	28547	42648	8071	44525	No	10	Si
SLU 79	-1.95	-3973.13	-10434	-9275	7940	3.165	3.165	-6512	7813	11127	28547	42648	8071	39674	No	5	Si
SLU 79	0.67	-15111.37	-24333	-21629	4100	3.165	2.8844	-16857	9192	15508	28547	42648	8071	44054	No	10.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	-1.95	-2566.71	-21863	-19434	17374	3.165	3.165	-13645	13146	18723	28547	63973	8071	47269		2.72	Si
SLV 5	0.67	-28195.18	-35284	-31363	15372	3.165	2.3502	-30132	16250	22829	28547	63973	8071	51376		3.34	Si
SLV 6	-1.95	-2139.71	-21765	-19346	19065	3.165	3.165	-13583	13133	18705	28547	63973	8071	47252		2.48	Si
SLV 6	0.67	-28864.91	-35787	-31811	17849	3.165	2.3278	-30869	16250	23008	28547	63973	8071	51555		2.89	Si
SLV 15	-1.95	-7274.09	-2341	-2081	-11469	2.532	0	0	0	0	28547	51178	6457	28547		2.49	Si
SLV 15	0.67	186.31	-6477	-5758	-20397	3.165	3.165	-4043	11225	15987	28547	63973	8071	44534		2.18	Si
SLV 3	-1.95	1482.21	-3551	-3157	13890	3.165	3.165	-2216	10860	15467	28547	63973	8071	44014		3.17	Si
SLV 3	0.67	-9516.45	-14651	-13023	16828	3.165	2.7989	-10392	12495	15737	28547	63973	8071	44284		2.63	Si
SLV 2	-1.95	1614.36	-12063	-10722	21917	3.165	3.165	-7528	11922	16980	28547	63973	8071	45527		2.08	Si
SLV 2	0.67	-20624.51	-26186	-23276	25571	3.165	2.3847	-21934	14804	19595	28547	63973	8071	48141		1.88	Si
SLV 11	-1.95	-3520.02	7361	6543	-8617	2.532	3.165	0	0	0	28547	51178	6457	28547		3.31	Si
SLV 11	0.67	8426.71	3124	2777	-12675	2.532	0	0	0	0	28547	51178	6457	28547		2.25	Si
SLV 16	-1.95	-6639.87	-2195	-1951	-8957	2.532	0	0	0	0	28547	51178	6457	28547		3.19	Si
SLV 16	0.67	-808.44	-7226	-6423	-16718	3.165	3.165	-4510	11319	16120	28547	63973	8071	44667		2.67	Si
SLD 2	-1.95	13.35	-10245	-9106	15839	3.165	3.165	-6394	11695	16657	28547	63973	8071	45204		2.85	Si
SLD 2	0.67	-16782.9	-22541	-20037	17242	3.165	2.5139	-17866	13990	18299	28547	63973	8071	46845		2.72	Si
SLV 1	-1.95	980.14	-12210	-10853	19405	3.165	3.165	-7620	11941	17007	28547	63973	8071	45553		2.35	Si
SLV 1	0.67	-19629.77	-25438	-22611	21892	3.165	2.4325	-20864	14590	19329	28547	63973	8071	47875		2.19	Si
SLV 4	-1.95	2116.43	-3404	-3026	16402	3.165	2.8825	-2125	10842	14063	28547	63973	8071	42609		2.6	Si
SLV 4	0.67	-10511.19	-15399	-13688	20507	3.165	2.6998	-11329	12682	15760	28547	63973	8071	44306		2.16	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	0	4196	183.39	0	0	No, Trazione
SLV 12	179667	0.24	0	5305	183.39	0	0	No, Trazione
SLV 11	179667	0.24	0	5500	183.39	0	0	No, Trazione
SLV 7	179667	0.24	0	4392	183.39	0	0	No, Trazione
SLV 15	179667	0.24	2993	-4263	183.39	940.43	5.13	Si
SLV 16	179667	0.24	3197	-4553	183.39	1003.04	5.47	Si
SLV 3	179667	0.24	5587	-7958	183.39	1725.03	9.41	Si
SLV 4	179667	0.24	5791	-8248	183.39	1785.41	9.74	Si
SLV 13	179667	0.24	9676	-13781	183.39	2904.21	15.84	Si
SLV 14	179667	0.24	9879	-14071	183.39	2961.11	16.15	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-35787	-21765	649	0.531	4169.2	0.962	8.01705	2.58905	Si
SLV 5	-35284	-21863	640	0.537	4118	0.962	8.11175	2.58905	Si
SLV 10	-33335	-21402	599	0.562	3919.8	0.96	8.50601	2.58905	Si
SLV 9	-32832	-21500	590	0.569	3868.6	0.96	8.61434	2.58905	Si
SLV 2	-26186	-12063	431	0.683	3193.1	0.952	10.42321	2.92742	Si
SLV 1	-25438	-12210	417	0.699	3117.1	0.951	10.67855	2.92742	Si
SLV 14	-18012	-10853	264	0.919	2364.2	0.938	14.23941	2.92742	Si
SLV 13	-17264	-11000	250	0.95	2288.5	0.936	14.74451	2.92742	Si
SLV 4	-15399	-3404	192	1.039	2100.1	0.932	16.20674	2.92742	Si
SLV 3	-14651	-3551	179	1.079	2024.6	0.929	16.87295	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.353	SLU 82	Si
V_SLU	4.705	SLU 84	Si
PF_SLV	0	SLD 7	No
V_SLV	1.883	SLV 2	Si

Stato limite	Coeff.s.	Comb.	Verifica
PFFP_SLV	0	SLV 12	No
R_SLV	3.097	SLV 6	Si

Maschio 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.071	-15.058	6.351	L2	L4	4.28	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	-1.95	10111.52	-86428	-0.0001219	0.0004492	0.0035	4.28	83066.14	130835.85	130835.85	12.94	No	Si
SLU 37	0.05	2446.01	-79175	-0.0000976	0.0004492	0.0035	4.28	83928.2	124807.76	124807.76	51.02	No	Si
SLU 83	-1.95	11260.77	-104128	-0.0001502	0.0004492	0.0035	4.28	74937.6	145437.31	145437.31	12.92	No	Si
SLU 83	0.05	2600.35	-94906	-0.0001194	0.0004492	0.0035	4.28	80239.02	137830.06	137830.06	53	No	Si
SLU 74	-1.95	10978.65	-100837	-0.0001446	0.0004492	0.0035	4.28	77095.81	142722.43	142722.43	13	No	Si
SLU 74	0.05	2658.82	-91689	-0.000115	0.0004492	0.0035	4.28	81542.62	135176.2	135176.2	50.84	No	Si
SLU 79	-1.95	11251.55	-101415	-0.000146	0.0004492	0.0035	4.28	76737.95	143199.51	143199.51	12.73	No	Si
SLU 79	0.05	2749.57	-92274	-0.000116	0.0004492	0.0035	4.28	81326.66	135658.59	135658.59	49.34	No	Si
SLU 77	-1.95	11413.65	-102016	-0.0001473	0.0004492	0.0035	4.28	76356.71	143694.89	143694.89	12.59	No	Si
SLU 77	0.05	2828.98	-92868	-0.000117	0.0004492	0.0035	4.28	81097.63	136148.83	136148.83	48.13	No	Si
SLU 41	-1.95	10120.73	-89140	-0.0001258	0.0004492	0.0035	4.28	82374.95	133073.65	133073.65	13.15	No	Si
SLU 41	0.05	2296.8	-81807	-0.0001008	0.0004492	0.0035	4.28	83781.21	127024.45	127024.45	55.31	No	Si
SLU 71	-1.95	10215.05	-92335	-0.0001306	0.0004492	0.0035	4.28	81303.6	135708.89	135708.89	13.29	No	Si
SLU 71	0.05	2700.69	-83381	-0.0001037	0.0004492	0.0035	4.28	83603.1	128322.35	128322.35	47.51	No	Si
SLU 69	-1.95	10377.15	-92936	-0.0001318	0.0004492	0.0035	4.28	81071.12	136204.28	136204.28	13.13	No	Si
SLU 69	0.05	2780.1	-83975	-0.0001047	0.0004492	0.0035	4.28	83518.25	128812.59	128812.59	46.33	No	Si
SLU 32	-1.95	9838.61	-85849	-0.0001206	0.0004492	0.0035	4.28	83187.53	130358.77	130358.77	13.25	No	Si
SLU 32	0.05	2355.26	-78590	-0.0000967	0.0004492	0.0035	4.28	83935.19	124109.81	124109.81	52.69	No	Si
SLU 35	-1.95	10273.61	-87028	-0.0001231	0.0004492	0.0035	4.28	82930.43	131331.24	131331.24	12.78	No	Si
SLU 35	0.05	2525.43	-79769	-0.0000986	0.0004492	0.0035	4.28	83911.54	125343.22	125343.22	49.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	-1.95	79595.81	-95921	-0.0002611	0.0006738	0.0035	4.28		154292.06	154292.06	1.94		Si
SLV 8	0.05	17753.54	-91941	-0.0001368	0.0006738	0.0035	4.28		149460.52	149460.52	8.42		Si
SLD 11	-1.95	53464.62	-83157	-0.000189	0.0006738	0.0035	4.28		138798.04	138798.04	2.6		Si
SLD 11	0.05	11113.58	-79542	-0.0001094	0.0006738	0.0035	4.28		134409.92	134409.92	12.09		Si
SLV 7	-1.95	78767.03	-96010	-0.0002591	0.0006738	0.0035	4.28		154399.96	154399.96	1.96		Si
SLV 7	0.05	17650.64	-91917	-0.0001366	0.0006738	0.0035	4.28		149432.33	149432.33	8.47		Si
SLD 12	-1.95	53985.99	-83101	-0.0001899	0.0006738	0.0035	4.28		138730.17	138730.17	2.57		Si
SLD 12	0.05	11178.31	-79556	-0.0001095	0.0006738	0.0035	4.28		134427.65	134427.65	12.03		Si
SLV 10	-1.95	-64701.31	-42471	-0.0002405	0.0006738	0.0035	3.424		89789.28	89789.28	1.39		Si
SLV 10	0.05	-14205.73	-32838	-0.0000583	0.0006738	0.0035	4.28		73500.4	73500.4	5.17		Si
SLV 12	-1.95	82363.97	-91542	-0.0002637	0.0006738	0.0035	4.28		148976.82	148976.82	1.81		Si
SLV 12	0.05	16933.67	-90014	-0.0001329	0.0006738	0.0035	4.28		147122.11	147122.11	8.69		Si
SLV 9	-1.95	-65530.09	-42560	-0.0002486	0.0006738	0.0035	3.424		89934.24	89934.24	1.37		Si
SLV 9	0.05	-14308.64	-32815	-0.0000585	0.0006738	0.0035	4.28		73460.45	73460.45	5.13		Si
SLV 11	-1.95	81535.19	-91631	-0.0002615	0.0006738	0.0035	4.28		149084.72	149084.72	1.83		Si
SLV 11	0.05	16830.76	-89991	-0.0001327	0.0006738	0.0035	4.28		147093.92	147093.92	8.74		Si
SLV 6	-1.95	-67469.47	-46850	-0.0002334	0.0006738	0.0035	3.424		96930.44	96930.44	1.44		Si
SLV 6	0.05	-13385.86	-34765	-0.0000592	0.0006738	0.0035	4.28		76814.28	76814.28	5.74		Si
SLV 5	-1.95	-68298.25	-46939	-0.0002399	0.0006738	0.0035	3.424		97075.41	97075.41	1.42		Si
SLV 5	0.05	-13488.76	-34741	-0.0000594	0.0006738	0.0035	4.28		76774.33	76774.33	5.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	-1.95	11260.77	-104128	-75730	-24385	4.28	4.28	-58979	10833	37708	81562	46144	21828	67972	No	2.79	Si
SLU 83	0.05	2600.35	-94906	-69023	-24381	4.28	4.28	-53756	10833	35025	81562	46144	21828	67972	No	2.79	Si
SLU 80	-1.95	10039.85	-101080	-73513	-24364	4.28	4.28	-57253	10833	36821	81562	46144	21828	67972	No	2.79	Si
SLU 80	0.05	2552.29	-91861	-66808	-24360	4.28	4.28	-52031	10833	34140	81562	46144	21828	67972	No	2.79	Si
SLU 82	-1.95	9614.06	-102614	-74629	-24712	4.28	4.28	-58122	10833	37268	81562	46144	21828	67972	No	2.75	Si
SLU 82	0.05	2232.91	-93314	-67865	-24711	4.28	4.28	-52854	10833	34562	81562	46144	21828	67972	No	2.75	Si
SLU 76	-1.95	8797.05	-99678	-72493	-24518	4.28	4.28	-56459	10833	36413	81562	46144	21828	67972	No	2.77	Si
SLU 76	0.05	2250.61	-90407	-65750	-24517	4.28	4.28	-51207	10833	33716	81562	46144	21828	67972	No	2.77	Si
SLU 78	-1.95	10201.94	-101681	-73950	-24501	4.28	4.28	-57593	10833	36996	81562	46144	21828	67972	No	2.77	Si
SLU 78	0.05	2631.7	-92455	-67240	-24496	4.28	4.28	-52368	10833	34312	81562	46144	21828	67972	No	2.77	Si
SLU 84	-1.95	10049.06	-103793	-75486	-24904	4.28	4.28	-58790	10833	37611	81562	46144	21828	67972	No	2.73	Si
SLU 84	0.05	2403.07	-94493	-68722	-24900	4.28	4.28	-53522	10833	34905	81562	46144	21828	67972	No	2.73	Si
SLU 81	-1.95	10825.77	-102949	-74872	-24193	4.28	4.28	-58312	10833	37365	81562	46144	21828	67972	No	2.81	Si
SLU 81	0.05	2430.19	-93727	-68165	-24191	4.28	4.28	-53088	10833	34682	81562	46144	21828	67972	No	2.81	Si
SLU 77	-1.95	11413.65	-102016	-74193	-23982	4.28	4.28	-57783	10833	37094	81562	46144	21828	67972	No	2.83	Si
SLU 77	0.05	2828.98	-92868	-67541	-23976	4.28	4.28	-52602	10833	34433	81562	46144	21828	67972	No	2.83	Si
SLU 73	-1.95	8362.05	-98499	-71636	-24326	4.28	4.28	-55791	10833	36071	81562	46144	21828	67972	No	2.79	Si
SLU 73	0.05	2080.44	-89228	-64893	-24328	4.28	4.28	-50540	10833	33373	81562	46144	21828	67972	No	2.79	Si
SLU 75	-1.95	9766.94	-100502	-73092	-24309	4.28	4.28	-56926	10833	36653	81562	46144	21828	67972	No	2.8	Si
SLU 75	0.05	2461.54	-91276	-66383	-24306	4.28	4.28	-51700	10833	33969	81562	46144	21828	67972	No	2.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	-1.95	-39920.27	-55380	-40276	-34780	4.28	4.2575	-31368	16250	27236	81562	69216	21828	91044		2.62	Si
SLD 5	0.05	-7733.41	-45199	-32872	-34960	4.28	4.28	-25601	16250	24274	81562	69216	21828	91044		2.6	Si
SLV 10	-1.95	-64701.31	-42471	-30888	-43419	3.424	1.8497	0	0	0	81562	55372	17462	72835		1.68	Si
SLV 10	0.05	-14205.73	-32838	-23882	-43712	4.28	4.28	-18600	16220	20826	81562	69216	21828	91044		2.08	Si
SLV 1	-1.95	-20256.03	-69244	-50359	-28522	4.28	4.28	-39220	16250	31269	81562	69216	21828	91044		3.19	Si
SLV 1	0.05	-1658.42	-56995	-41451	-28633	4.28	4.28	-32283	16250	27706	81562	69216	21828	91044		3.18	Si
SLD 10	-1.95	-37626.9	-52520	-38196	-33338	4.28	4.2707	-29748	16250	26404	81562	69216	21828	91044		2.73	Si
SLD 10	0.05	-8190.32	-43980	-31985	-33513	4.28	4.28	-24911	16250	23920	81562	69216	21828	91044		2.72	Si
SLV 9	-1.95	-65530.09	-42560	-30953	-43795	3.424	1.8009	0	0	0	81562	55372	17462	72835		1.66	Si
SLV 9	0.05	-14308.64	-32815	-23865	-44086	4.28	4.28	-18587	16217	20823	81562	69216	21828	91044		2.07	Si
SLV 2	-1.95	-19025.04	-69112	-50263	-27964	4.28	4.28	-39146	16250	31230	81562	69216	21828	91044		3.26	Si
SLV 2	0.05	-1505.57	-57029	-41476	-28077	4.28	4.28	-32302	16250	27716	81562	69216	21828	91044		3.24	Si
SLV 5	-1.95	-68298.25	-46939	-34137	-45681	3.424	2.0548	0	0	0	81562	55372	17462	72835		1.59	Si
SLV 5	0.05	-13488.76	-34741	-25266	-45983	4.28	4.28	-19678	16250	21232	81562	69216	21828	91044		1.98	Si
SLD 6	-1.95	-39398.9	-55324	-40236	-34543	4.28	4.28	-31336	16250	27220	81562	69216	21828	91044		2.64	Si
SLD 6	0.05	-7668.67	-45214	-32883	-34725	4.28	4.28	-25610	16250	24279	81562	69216	21828	91044		2.62	Si
SLD 9	-1.95	-38148.27	-52576	-38237	-33574	4.28	4.2433	-29780	16250	26420	81562	69216	21828	91044		2.71	Si
SLD 9	0.05	-8255.06	-43965	-31975	-33748	4.28	4.28	-24903	16250	23915	81562	69216	21828	91044		2.7	Si
SLV 6	-1.95	-67469.47	-46850	-34073	-45305	3.424	2.0996	0	0	0	81562	55372	17462	72835		1.61	Si
SLV 6	0.05	-13385.86	-34765	-25283	-45609	4.28	4.28	-19691	16250	21239	81562	69216	21828	91044		2	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-37028	0.24	171.28	4680.3	6526.75	5603.52	32.72	Si
SLV 9	-37058	0.24	171.28	4683.37	6531.4	5607.39	32.74	Si
SLV 6	-40006	0.24	171.28	4980.72	6990.25	5985.49	34.95	Si
SLV 5	-40035	0.24	171.28	4983.68	6994.9	5989.29	34.97	Si
SLV 14	-51973	0.24	171.28	6074.26	8825.34	7449.8	43.49	Si
SLV 13	-52018	0.24	171.28	6077.98	8832.15	7455.06	43.52	Si
SLV 2	-61898	0.24	171.28	6842.64	10298.13	8570.39	50.04	Si
SLV 1	-61943	0.24	171.28	6845.8	10304.63	8575.21	50.06	Si
SLV 16	-67767	0.24	171.28	7237.93	11125.14	9181.54	53.6	Si
SLV 15	-67812	0.24	171.28	7240.75	11131.26	9186	53.63	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-63651	-83833	-110	0.419	6955	0.979	6.21764	3.32286	Si
SLV 3	-63621	-83965	-108	0.419	6951.8	0.979	6.22057	3.32286	Si
SLV 8	-78993	-95921	21	0.352	8518.1	0.983	5.20995	2.7479	Si
SLV 7	-78972	-96010	22	0.352	8516	0.983	5.21084	2.7479	Si
SLV 12	-77522	-91542	118	0.356	8368.3	0.982	5.27338	2.7479	Si
SLV 11	-77502	-91631	119	0.356	8366.2	0.982	5.2743	2.7479	Si
SLV 16	-58750	-69237	214	0.446	6455.6	0.977	6.62917	3.32286	Si
SLV 15	-58720	-69369	216	0.446	6452.5	0.977	6.63164	3.32286	Si
SLV 2	-49027	-69112	-125	0.52	5465.2	0.973	7.76466	3.32286	Si
SLV 1	-48997	-69244	-123	0.52	5462.1	0.973	7.76935	3.32286	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.59	SLU 77	Si
V_SLU	2.729	SLU 84	Si
PF_SLV	1.372	SLV 9	Si
V_SLV	1.594	SLV 5	Si
PFFP_SLV	32.715	SLV 10	Si
R_SLV	1.871	SLV 4	Si

Maschio 17

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-13.763	-3.034	L2	L3	1.675	0.3	1.95	1.95	1.95			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	-1.95	9387.21	-26463	-0.0002425	0.0003743	0.0035	1.675	10698.88	14207.67	14207.67	1.51	No	Si
SLU 80	0	1275.65	-28422	-0.0001147	0.0003743	0.0035	1.675	10579.41	14533.82	14533.82	11.39	No	Si
SLU 79	-1.95	9340.58	-26226	-0.0002403	0.0003743	0.0035	1.675	10704.82	14169.29	14169.29	1.52	No	Si
SLU 79	0	1267.35	-28180	-0.0001135	0.0003743	0.0035	1.675	10600.97	14492.63	14492.63	11.44	No	Si
SLU 82	-1.95	9615.92	-27185	-0.000252	0.0003743	0.0035	1.675	10669.47	14325.96	14325.96	1.49	No	Si
SLU 82	0	1351.56	-29243	-0.0001193	0.0003743	0.0035	1.675	10492.01	14675.35	14675.35	10.86	No	Si
SLU 78	-1.95	9428.43	-26584	-0.0002442	0.0003743	0.0035	1.675	10695.14	14227.37	14227.37	1.51	No	Si
SLU 78	0	1280.67	-28577	-0.0001154	0.0003743	0.0035	1.675	10564.64	14560.23	14560.23	11.37	No	Si
SLU 77	-1.95	9381.79	-26347	-0.0002419	0.0003743	0.0035	1.675	10702.02	14188.86	14188.86	1.51	No	Si
SLU 77	0	1272.36	-28335	-0.0001142	0.0003743	0.0035	1.675	10587.43	14518.88	14518.88	11.41	No	Si
SLU 81	-1.95	9569.28	-26948	-0.0002497	0.0003743	0.0035	1.675	10681.02	14286.84	14286.84	1.49	No	Si
SLU 81	0	1343.25	-29001	-0.0001181	0.0003743	0.0035	1.675	10520.07	14633.31	14633.31	10.89	No	Si
SLU 83	-1.95	9638.87	-27140	-0.0002525	0.0003743	0.0035	1.675	10671.83	14318.45	14318.45	1.49	No	Si
SLU 83	0	1352.36	-29250	-0.0001193	0.0003743	0.0035	1.675	10491.16	14676.58	14676.58	10.85	No	Si
SLU 76	-1.95	9348.72	-26429	-0.0002413	0.0003743	0.0035	1.675	10699.84	14202.21	14202.21	1.52	No	Si
SLU 76	0	1272.09	-28334	-0.0001142	0.0003743	0.0035	1.675	10587.44	14518.86	14518.86	11.41	No	Si
SLU 75	-1.95	9358.84	-26392	-0.0002414	0.0003743	0.0035	1.675	10700.85	14196.21	14196.21	1.52	No	Si
SLU 75	0	1271.56	-28328	-0.0001142	0.0003743	0.0035	1.675	10588.07	14517.68	14517.68	11.42	No	Si
SLU 84	-1.95	9685.5	-27377	-0.0002549	0.0003743	0.0035	1.675	10658.79	14357.77	14357.77	1.48	No	Si
SLU 84	0	1360.66	-29492	-0.0001205	0.0003743	0.0035	1.675	10461.11	14718.88	14718.88	10.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	-1.95	2895.45	-2111	-0.0110179	0.0005615	0.0035	1.34		1893.96	1893.96	0.65		No
SLV 12	0	216.53	-1427	-0.0000065	0.0005615	0.0035	1.675		1343.13	1343.13	6.2		Si
SLV 4	-1.95	6134.83	-11064	-0.0001424	0.0005615	0.0035	1.675		8218.85	8218.85	1.34		Si
SLV 4	0	989.57	-10989	-0.0000443	0.0005615	0.0035	1.675		8171.31	8171.31	8.26		Si
SLD 12	-1.95	4240.07	-8139	-0.0000898	0.0005615	0.0035	1.675		6408.11	6408.11	1.51		Si
SLD 12	0	443.06	-8133	-0.0000293	0.0005615	0.0035	1.675		6403.82	6403.82	14.45		Si
SLV 3	-1.95	6106.96	-11430	-0.0001367	0.0005615	0.0035	1.675		8448.95	8448.95	1.38		Si
SLV 3	0	978.48	-11584	-0.0000461	0.0005615	0.0035	1.675		8546.56	8546.56	8.73		Si
SLD 7	-1.95	4485.43	-7565	-0.0001097	0.0005615	0.0035	1.675		6022.05	6022.05	1.34		Si
SLD 7	0	559.97	-7461	-0.0000284	0.0005615	0.0035	1.675		5947.95	5947.95	10.62		Si
SLD 11	-1.95	4228.27	-8294	-0.0000883	0.0005615	0.0035	1.675		6502.49	6502.49	1.54		Si
SLD 11	0	438.37	-8385	-0.00003	0.0005615	0.0035	1.675		6558.01	6558.01	14.96		Si
SLV 11	-1.95	2876.69	-2357	-0.0091371	0.0005615	0.0035	1.34		2089.86	2089.86	0.73		No
SLV 11	0	209.06	-1828	-0.0000076	0.0005615	0.0035	1.675		1667.77	1667.77	7.98		Si
SLD 8	-1.95	4497.24	-7410	-0.0001144	0.0005615	0.0035	1.675		5911.5	5911.5	1.31		Si
SLD 8	0	564.66	-7209	-0.0000277	0.0005615	0.0035	1.675		5767.59	5767.59	10.21		Si
SLV 7	-1.95	3278.44	-1221	-0.0210139	0.0005615	0.0035	1.34		1175.89	1175.89	0.36		No
SLV 7	0	400.21	-391	-0.0003076	0.0005615	0.0035	1.34		497.38	497.38	1.24		Si
SLV 8	-1.95	3297.21	-975	-0.0231583	0.0005615	0.0035	1.34		976.11	976.11	0.3		No
SLV 8	0	407.68	10	-0.0027822	0.0005615	0.0035	1.34		164.39	164.39	0.4		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.95	9358.84	-26392	-22225	6149	1.675	1.4487	-44229	10833	9714	21410	15047	4271	19318	No	3.14	Si
SLU 75	0	1271.56	-28328	-23855	5628	1.675	1.675	-47472	10833	10274	21410	15047	4271	19318	No	3.43	Si
SLU 80	-1.95	9387.21	-26463	-22285	6160	1.675	1.4483	-44347	10833	9734	21410	15047	4271	19318	No	3.14	Si
SLU 80	0	1275.65	-28422	-23934	5643	1.675	1.675	-47631	10833	10301	21410	15047	4271	19318	No	3.42	Si
SLU 78	-1.95	9428.43	-26584	-22387	6180	1.675	1.4485	-44550	10833	9769	21410	15047	4271	19318	No	3.13	Si
SLU 78	0	1280.67	-28577	-24065	5662	1.675	1.675	-47890	10833	10346	21410	15047	4271	19318	No	3.41	Si
SLU 77	-1.95	9381.79	-26347	-22187	6215	1.675	1.4442	-44153	10833	9701	21410	15047	4271	19318	No	3.11	Si
SLU 77	0	1272.36	-28335	-23861	5682	1.675	1.675	-47484	10833	10276	21410	15047	4271	19318	No	3.4	Si
SLU 81	-1.95	9569.28	-26948	-22693	6293	1.675	1.4472	-45160	10833	9875	21410	15047	4271	19318	No	3.07	Si
SLU 81	0	1343.25	-29001	-24422	5703	1.675	1.675	-48601	10833	10469	21410	15047	4271	19318	No	3.39	Si
SLU 82	-1.95	9615.92	-27185	-22893	6259	1.675	1.4513	-45558	10833	9943	21410	15047	4271	19318	No	3.09	Si
SLU 82	0	1351.56	-29243	-24626	5684	1.675	1.675	-49006	10833	10539	21410	15047	4271	19318	No	3.4	Si
SLU 84	-1.95	9685.5	-27377	-23054	6290	1.675	1.4512	-45879	10833	9999	21410	15047	4271	19318	No	3.07	Si
SLU 84	0	1360.66	-29492	-24835	5717	1.675	1.675	-49424	10833	10611	21410	15047	4271	19318	No	3.38	Si
SLU 74	-1.95	9312.21	-26155	-22025	6183	1.675	1.4444	-43831	10833	9645	21410	15047	4271	19318	No	3.12	Si
SLU 74	0	1263.26	-28086	-23651	5648	1.675	1.675	-47067	10833	10204	21410	15047	4271	19318	No	3.42	Si
SLU 83	-1.95	9638.87	-27140	-22854	6324	1.675	1.447	-45481	10833	9930	21410	15047	4271	19318	No	3.05	Si
SLU 83	0	1352.36	-29250	-24632	5737	1.675	1.675	-49018	10833	10541	21410	15047	4271	19318	No	3.37	Si
SLU 79	-1.95	9340.58	-26226	-22085	6195	1.675	1.444	-43950	10833	9666	21410	15047	4271	19318	No	3.12	Si
SLU 79	0	1267.35	-28180	-23731	5663	1.675	1.675	-47225	10833	10231	21410	15047	4271	19318	No	3.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	-1.95	7514.86	-20023	-16861	6051	1.675	1.3865	-33554	16250	8910	21410	22571	4271	26842		4.44	Si
SLD 1	0	1112.68	-21214	-17865	5578	1.675	1.675	-35551	16250	9255	21410	22571	4271	26842		4.81	Si
SLD 3	-1.95	6253.75	-13898	-11704	6475	1.675	1.1626	-23291	15075	7138	21410	22571	4271	26842		4.15	Si
SLD 3	0	922.51	-14399	-12125	5903	1.675	1.675	-24130	15243	7659	21410	22571	4271	26842		4.55	Si
SLD 2	-1.95	7532.67	-19789	-16665	6280	1.675	1.3706	-33163	16250	8842	21410	22571	4271	26842		4.27	Si
SLD 2	0	1119.76	-20834	-17544	5815	1.675	1.675	-34914	16250	9145	21410	22571	4271	26842		4.62	Si
SLV 2	-1.95	8161.43	-20900	-17600	7304	1.675	1.341	-35025	16250	9164	21410	22571	4271	26842		3.67	Si
SLV 2	0	1295.62	-21937	-18473	6764	1.675	1.675	-36762	16250	9464	21410	22571	4271	26842		3.97	Si
SLV 1	-1.95	8133.56	-21265	-17908	6944	1.675	1.3651	-35637	16250	9269	21410	22571	4271	26842		3.87	Si
SLV 1	0	1284.54	-22532	-18974	6392	1.675	1.675	-37760	16250	9636	21410	22571	4271	26842		4.2	Si
SLD 4	-1.95	6271.56	-13665	-11507	6705	1.675	1.1357	-22900	14997	7071	21410	22571	4271	26842		4	Si
SLD 4	0	929.59	-14019	-11805	6140	1.675	1.675	-23493	15115	7595	21410	22571	4271	26842		4.37	Si
SLV 3	-1.95	6106.96	-11430	-9625	7620	1.675	0.9096	-19154	14247	6424	21410	22571	4271	26842		3.52	Si
SLV 3	0	978.48	-11584	-9755	6912	1.675	1.675	-19413	14299	7185	21410	22571	4271	26842		3.88	Si
SLV 7	-1.95	3278.44	-1221	-1028	6355	1.34	0	0	0	0	21410	18056	3417	21410		3.37	Si
SLV 7	0	400.21	-391	-329	5664	1.34	0	0	0	0	21410	18056	3417	21410		3.78	Si
SLV 8	-1.95	3297.21	-975	-821	6597	1.34	0	0	0	0	21410	18056	3417	21410		3.25	Si
SLV 8	0	407.68	10	8	5915	1.34	0	0	0	0	21410	18056	3417	21410		3.62	Si
SLV 4	-1.95	6134.83	-11064	-9317	7980	1.675	0.8491	-18542	14125	6318	21410	22571	4271	26842		3.36	Si
SLV 4	0	989.57	-10989	-9254	7283	1.675	1.675	-18415	14100	7085	21410	22571	4271	26842		3.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.975 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	0	-218	37.13	0	0	No, e>t/2
SLV 8	179667	0.24	0	125	37.13	0	0	No, Trazione
SLV 12	179667	0.24	2355	-1184	37.13	174.8	4.71	Si
SLV 11	179667	0.24	3038	-1527	37.13	224.42	6.04	Si
SLV 4	179667	0.24	21942	-11026	37.13	1416.25	38.14	Si
SLV 3	179667	0.24	22955	-11535	37.13	1470.19	39.59	Si
SLV 16	179667	0.24	30620	-15387	37.13	1845.23	49.69	Si
SLV 15	179667	0.24	31634	-15896	37.13	1890.49	50.91	Si
SLV 2	179667	0.24	43707	-21963	37.13	2351.57	63.33	Si
SLV 1	179667	0.24	44721	-22472	37.13	2383.73	64.2	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.975 Wa = 0.05 Ta = 0.0212

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-38321	-35143	-13	0.318	4041.7	0.989	4.67697	2.48639	Si
SLV 10	-37921	-34897	-16	0.321	4000.9	0.989	4.71314	2.48639	Si
SLV 5	-36884	-34007	-23	0.327	3895.2	0.989	4.80995	2.48639	Si
SLV 6	-36483	-33761	-26	0.33	3854.4	0.989	4.84897	2.48639	Si
SLV 13	-27323	-25054	5	0.413	2920.7	0.985	6.08902	2.7506	Si
SLV 14	-26727	-24688	1	0.42	2860.1	0.985	6.19983	2.7506	Si
SLV 1	-22532	-21265	-28	0.48	2432.6	0.982	7.10896	2.7506	Si
SLV 2	-21937	-20900	-32	0.491	2371.9	0.982	7.26547	2.7506	Si
SLV 15	-16375	-15218	11	0.625	1805.2	0.976	9.3103	2.7506	Si
SLV 16	-15779	-14853	7	0.645	1744.6	0.976	9.61316	2.7506	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.482	SLU 84	Si
V_SLU	3.055	SLU 83	Si
PF_SLV	0.296	SLV 8	No
V_SLV	3.245	SLV 8	Si
PFFP_SLV	0	SLV 8	No
R_SLV	1.881	SLV 9	Si

Maschio 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.709	-13.763	-3.034	L3	L4	1.675	0.3	0.67	0.67	0.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	0	6409.29	-34691	-0.0002286	0.0003743	0.0035	1.675	9352.9	15471.55	15471.55	2.41	No	Si
SLU 82	0.67	1522.9	-34667	-0.000147	0.0003743	0.0035	1.675	9359.98	15472.21	15472.21	10.16	No	Si
SLU 80	0	6314.18	-33853	-0.0002215	0.0003743	0.0035	1.675	9591.37	15464.22	15464.22	2.45	No	Si
SLU 80	0.67	1491.87	-33819	-0.0001424	0.0003743	0.0035	1.675	9600.3	15461.8	15461.8	10.36	No	Si
SLU 75	0	6286.86	-33729	-0.0002202	0.0003743	0.0035	1.675	9624.55	15454.87	15454.87	2.46	No	Si
SLU 75	0.67	1485.35	-33692	-0.0001416	0.0003743	0.0035	1.675	9634.33	15451.58	15451.58	10.4	No	Si
SLU 83	0	6499.27	-34761	-0.0002307	0.0003743	0.0035	1.675	9331.9	15469.63	15469.63	2.38	No	Si
SLU 83	0.67	1516.42	-34778	-0.0001474	0.0003743	0.0035	1.675	9326.6	15469.14	15469.14	10.2	No	Si
SLU 81	0	6437.2	-34443	-0.0002275	0.0003743	0.0035	1.675	9425.72	15478.41	15478.41	2.4	No	Si
SLU 81	0.67	1499.08	-34450	-0.0001455	0.0003743	0.0035	1.675	9423.76	15478.22	15478.22	10.33	No	Si
SLU 79	0	6342.09	-33605	-0.0002204	0.0003743	0.0035	1.675	9657.4	15435.76	15435.76	2.43	No	Si
SLU 79	0.67	1468.05	-33602	-0.000141	0.0003743	0.0035	1.675	9658.07	15435.3	15435.3	10.51	No	Si
SLU 74	0	6314.77	-33482	-0.0002191	0.0003743	0.0035	1.675	9689.58	15413.46	15413.46	2.44	No	Si
SLU 74	0.67	1461.53	-33475	-0.0001402	0.0003743	0.0035	1.675	9691.19	15412.33	15412.33	10.55	No	Si
SLU 77	0	6376.83	-33799	-0.0002222	0.0003743	0.0035	1.675	9605.76	15460.28	15460.28	2.42	No	Si
SLU 77	0.67	1478.88	-33804	-0.0001421	0.0003743	0.0035	1.675	9604.5	15460.64	15460.64	10.45	No	Si
SLU 84	0	6471.36	-35008	-0.0002318	0.0003743	0.0035	1.675	9256.51	15462.88	15462.88	2.39	No	Si
SLU 84	0.67	1540.24	-34995	-0.0001488	0.0003743	0.0035	1.675	9260.48	15463.23	15463.23	10.04	No	Si
SLU 78	0	6348.93	-34047	-0.0002233	0.0003743	0.0035	1.675	9538.16	15477.28	15477.28	2.44	No	Si
SLU 78	0.67	1502.7	-34021	-0.0001435	0.0003743	0.0035	1.675	9545.31	15475.66	15475.66	10.3	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	0	4893.13	-11332	-0.0000982	0.0005615	0.0035	1.675		8387.18	8387.18	1.71		Si
SLD 11	0.67	907.97	-11405	-0.0000447	0.0005615	0.0035	1.675		8433.21	8433.21	9.29		Si
SLD 12	0	4963.22	-11050	-0.0001002	0.0005615	0.0035	1.675		8209.76	8209.76	1.65		Si
SLD 12	0.67	832.5	-11237	-0.0000433	0.0005615	0.0035	1.675		8327.79	8327.79	10		Si
SLV 8	0	5915.9	-1813	-0.041209	0.0005615	0.0035	1.34		1655.73	1655.73	0.28		No
SLV 8	0.67	226.04	-3120	-0.0000116	0.0005615	0.0035	1.675		2691.22	2691.22	11.91		Si
SLV 7	0	5804.49	-2261	-0.0366309	0.0005615	0.0035	1.34		2013.26	2013.26	0.35		No
SLV 7	0.67	346.02	-3385	-0.0000137	0.0005615	0.0035	1.675		2899.52	2899.52	8.38		Si
SLV 4	0	5859.78	-13323	-0.0001198	0.0005615	0.0035	1.675		9655.92	9655.92	1.65		Si
SLV 4	0.67	-93.06	-15233	-0.0000479	0.0005615	0.0035	1.675		11533.73	11533.73	123.94		Si
SLD 7	0	5289.51	-10061	-0.000115	0.0005615	0.0035	1.675		7591.21	7591.21	1.44		Si
SLD 7	0.67	579.69	-10745	-0.000039	0.0005615	0.0035	1.675		8018.42	8018.42	13.83		Si
SLD 8	0	5359.59	-9779	-0.0001209	0.0005615	0.0035	1.675		7416.25	7416.25	1.38		Si
SLD 8	0.67	504.21	-10578	-0.0000376	0.0005615	0.0035	1.675		7913.76	7913.76	15.7		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	0	5185.14	-4244	-0.017023	0.0005615	0.0035	1.34		3563.36	3563.36	0.69		No
SLV 11	0.67	859.47	-4413	-0.0000223	0.0005615	0.0035	1.675		3693.41	3693.41	4.3		Si
SLV 12	0	5296.55	-3796	-0.0210192	0.0005615	0.0035	1.34		3218.01	3218.01	0.61		No
SLV 12	0.67	739.49	-4147	-0.0000202	0.0005615	0.0035	1.675		3488.9	3488.9	4.72		Si
SLV 3	0	5694.31	-13988	-0.0001159	0.0005615	0.0035	1.675		10085.72	10085.72	1.77		Si
SLV 3	0.67	85.15	-15627	-0.0000491	0.0005615	0.0035	1.675		11157.6	11157.6	131.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	0	6342.09	-33605	-28299	14152	1.675	1.675	-56316	10833	13738	4758	15047	4271	18496	No	1.31	Si
SLU 79	0.67	1468.05	-33602	-28297	14248	1.675	1.675	-56312	10833	13737	4758	15047	4271	18495	No	1.3	Si
SLU 83	0	6499.27	-34761	-29272	14477	1.675	1.675	-58253	10833	14127	4758	15047	4271	18885	No	1.3	Si
SLU 83	0.67	1516.42	-34778	-29287	14592	1.675	1.675	-58283	10833	14133	4758	15047	4271	18891	No	1.29	Si
SLU 74	0	6314.77	-33482	-28195	14097	1.675	1.675	-56109	10833	13697	4758	15047	4271	18454	No	1.31	Si
SLU 74	0.67	1461.53	-33475	-28190	14192	1.675	1.675	-56099	10833	13694	4758	15047	4271	18452	No	1.3	Si
SLU 80	0	6314.18	-33853	-28507	14010	1.675	1.675	-56731	10833	13822	4758	15047	4271	18579	No	1.33	Si
SLU 80	0.67	1491.87	-33819	-28480	14123	1.675	1.675	-56676	10833	13810	4758	15047	4271	18568	No	1.31	Si
SLU 78	0	6348.93	-34047	-28671	14079	1.675	1.675	-57057	10833	13887	4758	15047	4271	18645	No	1.32	Si
SLU 78	0.67	1502.7	-34021	-28649	14193	1.675	1.675	-57013	10833	13878	4758	15047	4271	18636	No	1.31	Si
SLU 77	0	6376.83	-33799	-28462	14221	1.675	1.675	-56642	10833	13804	4758	15047	4271	18561	No	1.31	Si
SLU 77	0.67	1478.88	-33804	-28466	14318	1.675	1.675	-56650	10833	13805	4758	15047	4271	18563	No	1.3	Si
SLU 81	0	6437.2	-34443	-29005	14352	1.675	1.675	-57721	10833	14020	4758	15047	4271	18778	No	1.31	Si
SLU 81	0.67	1499.08	-34450	-29010	14466	1.675	1.675	-57732	10833	14023	4758	15047	4271	18780	No	1.3	Si
SLU 69	0	5865.27	-30362	-25568	13172	1.675	1.675	-50881	10833	12646	4758	15047	4271	17403	No	1.32	Si
SLU 69	0.67	1325.53	-30294	-25511	13221	1.675	1.675	-50767	10833	12623	4758	15047	4271	17381	No	1.31	Si
SLU 82	0	6409.29	-34691	-29213	14210	1.675	1.675	-58136	10833	14104	4758	15047	4271	18862	No	1.33	Si
SLU 82	0.67	1522.9	-34667	-29193	14341	1.675	1.675	-58096	10833	14096	4758	15047	4271	18854	No	1.31	Si
SLU 84	0	6471.36	-35008	-29481	14335	1.675	1.675	-58668	10833	14211	4758	15047	4271	18969	No	1.32	Si
SLU 84	0.67	1540.24	-34995	-29470	14467	1.675	1.675	-58646	10833	14206	4758	15047	4271	18964	No	1.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	0	5915.9	-1813	-1527	17323	1.34	0	0	0	0	4758	18056	3417	4758		0.27	No
SLV 8	0.67	226.04	-3120	-2627	15670	1.675	1.675	-5228	11462	5760	4758	22571	4271	10518		0.67	No
SLD 11	0	4893.13	-11332	-9542	12996	1.675	1.2171	-18990	14215	7445	4758	22571	4271	12203		0.94	No
SLD 11	0.67	907.97	-11405	-9604	12024	1.675	1.675	-19112	14239	7470	4758	22571	4271	12228		1.02	Si
SLV 12	0	5296.55	-3796	-3197	15302	1.34	0	0	0	0	4758	18056	3417	4758		0.31	No
SLV 12	0.67	739.49	-4147	-3493	13637	1.675	1.675	-6950	11807	5933	4758	22571	4271	10691		0.78	No
SLD 8	0	5359.59	-9779	-8235	14536	1.675	0.8683	-16388	13694	6922	4758	22571	4271	11680		0.8	No
SLD 8	0.67	504.21	-10578	-8908	13568	1.675	1.675	-17727	13962	7191	4758	22571	4271	11949		0.88	No
SLD 7	0	5289.51	-10061	-8472	14291	1.675	0.9353	-16860	13789	7017	4758	22571	4271	11775		0.82	No
SLD 7	0.67	579.69	-10745	-9049	13326	1.675	1.675	-18007	14018	7248	4758	22571	4271	12006		0.9	No
SLD 12	0	4963.22	-11050	-9305	13241	1.675	1.165	-18518	14120	7350	4758	22571	4271	12108		0.91	No
SLD 12	0.67	832.5	-11237	-9463	12265	1.675	1.675	-18832	14183	7414	4758	22571	4271	12171		0.99	No
SLV 11	0	5185.14	-4244	-3574	14911	1.34	0	0	0	0	4758	18056	3417	4758		0.32	No
SLV 11	0.67	859.47	-4413	-3716	13252	1.675	1.675	-7396	11896	5978	4758	22571	4271	10735		0.81	No
SLV 7	0	5804.49	-2261	-1904	16932	1.34	0	0	0	0	4758	18056	3417	4758		0.28	No
SLV 7	0.67	346.02	-3385	-2851	15286	1.675	1.675	-5673	11551	5805	4758	22571	4271	10562		0.69	No
SLV 4	0	5859.78	-13323	-11219	15437	1.675	1.193	-22327	14882	8116	4758	22571	4271	12874		0.83	No
SLV 4	0.67	-93.06	-15233	-12828	14989	1.675	1.675	-25528	15522	8759	4758	22571	4271	13517		0.9	No
SLV 3	0	5694.31	-13988	-11779	14857	1.675	1.2912	-23441	15105	8340	4758	22571	4271	13098		0.88	No
SLV 3	0.67	85.15	-15627	-13160	14417	1.675	1.675	-26189	15654	8892	4758	22571	4271	13650		0.95	No

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.335 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.25	1535	-771	4.51	114.52	25.38	Si
SLV 7	179667	0.25	1994	-1002	4.51	148.31	32.87	Si
SLV 12	179667	0.25	3518	-1768	4.51	259.09	57.41	Si
SLV 11	179667	0.25	3977	-1999	4.51	291.98	64.7	Si
SLV 4	179667	0.25	26131	-13131	4.51	1632.58	361.78	Si
SLV 3	179667	0.25	26812	-13473	4.51	1666.15	369.22	Si
SLV 16	179667	0.25	32743	-16453	4.51	1938.85	429.65	Si
SLV 15	179667	0.25	33424	-16796	4.51	1967.96	436.1	Si
SLV 2	179667	0.25	49292	-24769	4.51	2516.17	557.58	Si
SLV 1	179667	0.25	49973	-25112	4.51	2534.15	561.56	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.335 Wa = 0.05 Ta = 0.0025

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-42633	-44049	399	0.435	4392.2	0.997	6.34839	2.47107	Si
SLV 10	-42367	-43601	399	0.437	4365.1	0.996	6.36775	2.47107	Si
SLV 5	-41605	-42066	366	0.441	4287.4	0.996	6.43603	2.47107	Si
SLV 6	-41339	-41618	366	0.443	4260.4	0.996	6.45643	2.47107	Si
SLV 13	-30519	-32539	318	0.521	3157.5	0.995	7.60911	2.49935	Si
SLV 14	-30125	-31874	317	0.525	3117.2	0.995	7.66593	2.49935	Si
SLV 1	-27093	-25929	208	0.562	2808.2	0.995	8.21529	2.49935	Si
SLV 2	-26699	-25264	208	0.567	2768	0.994	8.28826	2.49935	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-19054	-20598	215	0.702	1988.7	0.992	10.28635	2.49935	Si
SLV 16	-18659	-19932	214	0.712	1948.5	0.992	10.43392	2.49935	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.38	SLU 83	Si
V_SLU	1.295	SLU 83	Si
PF_SLV	0.28	SLV 8	No
V_SLV	0.275	SLV 8	No
PFFP_SLV	25.378	SLV 8	Si
R_SLV	2.569	SLV 9	Si

Maschio 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-3.034	-13.763	1.141	L2	L4	4.175	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	-1.95	23199.49	-78882	-0.000166	0.0003743	0.0035	4.175	62804.81	93484.97	93484.97	4.03	No	Si
SLU 80	0.67	2664.99	-79259	-0.0001174	0.0003743	0.0035	4.175	62615.88	93646.41	93646.41	35.14	No	Si
SLU 77	-1.95	23824.67	-79134	-0.0001681	0.0003743	0.0035	4.175	62679.09	93592.77	93592.77	3.93	No	Si
SLU 77	0.67	2712.19	-79469	-0.0001178	0.0003743	0.0035	4.175	62508.7	93736.53	93736.53	34.56	No	Si
SLU 83	-1.95	24191.69	-81048	-0.0001731	0.0003743	0.0035	4.175	61655.59	94421.11	94421.11	3.9	No	Si
SLU 83	0.67	2745.03	-81481	-0.0001215	0.0003743	0.0035	4.175	61407.32	94610.76	94610.76	34.47	No	Si
SLU 79	-1.95	23654.51	-78714	-0.0001668	0.0003743	0.0035	4.175	62887.55	93413.19	93413.19	3.95	No	Si
SLU 79	0.67	2687.15	-78982	-0.0001169	0.0003743	0.0035	4.175	62754.93	93527.93	93527.93	34.81	No	Si
SLU 84	-1.95	23736.67	-81216	-0.0001723	0.0003743	0.0035	4.175	61560.01	94494.58	94494.58	3.98	No	Si
SLU 84	0.67	2722.87	-81758	-0.0001219	0.0003743	0.0035	4.175	61245.66	94732.22	94732.22	34.79	No	Si
SLU 74	-1.95	23456.09	-78367	-0.0001656	0.0003743	0.0035	4.175	63055.29	93265.52	93265.52	3.98	No	Si
SLU 74	0.67	2615	-78562	-0.000116	0.0003743	0.0035	4.175	62961.65	93348.32	93348.32	35.7	No	Si
SLU 78	-1.95	23369.65	-79302	-0.0001673	0.0003743	0.0035	4.175	62594.04	93664.85	93664.85	4.01	No	Si
SLU 78	0.67	2690.03	-79745	-0.0001183	0.0003743	0.0035	4.175	62365.26	93855.59	93855.59	34.89	No	Si
SLU 82	-1.95	23368.1	-80450	-0.0001697	0.0003743	0.0035	4.175	61988.45	94160.45	94160.45	4.03	No	Si
SLU 82	0.67	2625.68	-80851	-0.0001201	0.0003743	0.0035	4.175	61766.56	94335.05	94335.05	35.93	No	Si
SLU 75	-1.95	23001.08	-78535	-0.0001648	0.0003743	0.0035	4.175	62974.45	93337.05	93337.05	4.06	No	Si
SLU 75	0.67	2592.84	-78838	-0.0001164	0.0003743	0.0035	4.175	62826.41	93466.3	93466.3	36.05	No	Si
SLU 81	-1.95	23823.11	-80282	-0.0001705	0.0003743	0.0035	4.175	62079.82	94087.53	94087.53	3.95	No	Si
SLU 81	0.67	2647.83	-80574	-0.0001196	0.0003743	0.0035	4.175	61920.01	94214.67	94214.67	35.58	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	-1.95	32686.45	-45264	-0.0001184	0.0005615	0.0035	4.175		77954.53	77954.53	2.38		Si
SLD 8	0.67	5873.37	-40910	-0.0000614	0.0005615	0.0035	4.175		72364.66	72364.66	12.32		Si
SLD 12	-1.95	33123.5	-46029	-0.0001204	0.0005615	0.0035	4.175		78887.82	78887.82	2.38		Si
SLD 12	0.67	6473.97	-41648	-0.0000635	0.0005615	0.0035	4.175		73489.9	73489.9	11.35		Si
SLV 8	-1.95	42811.3	-39896	-0.0001434	0.0005615	0.0035	4.175		70698.89	70698.89	1.65		Si
SLV 8	0.67	8544.54	-33185	-0.0000561	0.0005615	0.0035	4.175		59843.71	59843.71	7		Si
SLD 7	-1.95	32577.07	-45316	-0.0001183	0.0005615	0.0035	4.175		78017.77	78017.77	2.39		Si
SLD 7	0.67	5864.9	-41038	-0.0000616	0.0005615	0.0035	4.175		72575.27	72575.27	12.37		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	-1.95	25374.48	-51968	-0.0001139	0.0005615	0.0035	4.175		86217.98	86217.98	3.4		Si
SLV 16	0.67	5368.71	-49454	-0.000072	0.0005615	0.0035	4.175		83096.5	83096.5	15.48		Si
SLV 15	-1.95	25116.23	-52091	-0.0001135	0.0005615	0.0035	4.175		86370.67	86370.67	3.44		Si
SLV 15	0.67	5348.7	-49756	-0.0000723	0.0005615	0.0035	4.175		83470.25	83470.25	15.61		Si
SLV 7	-1.95	42637.44	-39979	-0.0001427	0.0005615	0.0035	4.175		70834.26	70834.26	1.66		Si
SLV 7	0.67	8531.07	-33388	-0.0000563	0.0005615	0.0035	4.175		60168.16	60168.16	7.05		Si
SLV 11	-1.95	43317.92	-41174	-0.0001452	0.0005615	0.0035	4.175		72800.4	72800.4	1.68		Si
SLV 11	0.67	9466.53	-34536	-0.0000596	0.0005615	0.0035	4.175		62006.07	62006.07	6.55		Si
SLV 12	-1.95	43491.79	-41092	-0.0001459	0.0005615	0.0035	4.175		72664.37	72664.37	1.67		Si
SLV 12	0.67	9480	-34333	-0.0000593	0.0005615	0.0035	4.175		61680.05	61680.05	6.51		Si
SLD 11	-1.95	33014.13	-46081	-0.0001202	0.0005615	0.0035	4.175		78951.24	78951.24	2.39		Si
SLD 11	0.67	6465.49	-41776	-0.0000637	0.0005615	0.0035	4.175		73663.3	73663.3	11.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-1.95	23823.11	-80282	-67606	7642	4.175	4.175	-53976	10833	33071	28547	37505	10646	48152	No	6.3	Si
SLU 81	0.67	2647.83	-80574	-67852	11308	4.175	4.175	-54173	10833	33169	28547	37505	10646	48152	No	4.26	Si
SLU 74	-1.95	23456.09	-78367	-65994	7548	4.175	4.175	-52690	10833	32426	28547	37505	10646	48152	No	6.38	Si
SLU 74	0.67	2615	-78562	-66157	11106	4.175	4.175	-52820	10833	32491	28547	37505	10646	48152	No	4.34	Si
SLU 84	-1.95	23736.67	-81216	-68392	7298	4.175	4.175	-54605	10833	33385	28547	37505	10646	48152	No	6.6	Si
SLU 84	0.67	2722.87	-81758	-68849	10925	4.175	4.175	-54969	10833	33568	28547	37505	10646	48152	No	4.41	Si
SLU 75	-1.95	23001.08	-78535	-66135	7114	4.175	4.175	-52802	10833	32482	28547	37505	10646	48152	No	6.77	Si
SLU 75	0.67	2592.84	-78838	-66390	10610	4.175	4.175	-53006	10833	32584	28547	37505	10646	48152	No	4.54	Si
SLU 83	-1.95	24191.69	-81048	-68251	7732	4.175	4.175	-54492	10833	33329	28547	37505	10646	48152	No	6.23	Si
SLU 83	0.67	2745.03	-81481	-68616	11422	4.175	4.175	-54783	10833	33475	28547	37505	10646	48152	No	4.22	Si
SLU 80	-1.95	23199.49	-78882	-66427	7159	4.175	4.175	-53036	10833	32599	28547	37505	10646	48152	No	6.73	Si
SLU 80	0.67	2664.99	-79259	-66744	10661	4.175	4.175	-53289	10833	32726	28547	37505	10646	48152	No	4.52	Si
SLU 82	-1.95	23368.1	-80450	-67747	7208	4.175	4.175	-54089	10833	33127	28547	37505	10646	48152	No	6.68	Si
SLU 82	0.67	2625.68	-80851	-68085	10811	4.175	4.175	-54359	10833	33262	28547	37505	10646	48152	No	4.45	Si
SLU 78	-1.95	23369.65	-79302	-66781	7205	4.175	4.175	-53318	10833	32741	28547	37505	10646	48152	No	6.68	Si
SLU 78	0.67	2690.03	-79745	-67154	10724	4.175	4.175	-53616	10833	32890	28547	37505	10646	48152	No	4.49	Si
SLU 77	-1.95	23824.67	-79134	-66639	7639	4.175	4.175	-53205	10833	32684	28547	37505	10646	48152	No	6.3	Si
SLU 77	0.67	2712.19	-79469	-66921	11220	4.175	4.175	-53430	10833	32797	28547	37505	10646	48152	No	4.29	Si
SLU 79	-1.95	23654.51	-78714	-66285	7593	4.175	4.175	-52923	10833	32543	28547	37505	10646	48152	No	6.34	Si
SLU 79	0.67	2687.15	-78982	-66512	11157	4.175	4.175	-53103	10833	32633	28547	37505	10646	48152	No	4.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	-1.95	32686.45	-45264	-38117	19712	4.175	4.0961	-30433	16250	24290	28547	56258	10646	52837		2.68	Si
SLD 8	0.67	5873.37	-40910	-34450	24184	4.175	4.175	-27505	15918	22824	28547	56258	10646	51370		2.12	Si
SLD 7	-1.95	32577.07	-45316	-38161	19592	4.175	4.1058	-30468	16250	24308	28547	56258	10646	52855		2.7	Si
SLD 7	0.67	5864.9	-41038	-34558	24001	4.175	4.175	-27591	15935	22867	28547	56258	10646	51414		2.14	Si
SLD 12	-1.95	33123.5	-46029	-38762	18929	4.175	4.1037	-30947	16250	24548	28547	56258	10646	53095		2.8	Si
SLD 12	0.67	6473.97	-41648	-35072	22804	4.175	4.175	-28002	16017	23073	28547	56258	10646	51619		2.26	Si
SLV 7	-1.95	42637.44	-39979	-33666	28273	4.175	3.063	-26879	15792	22510	28547	56258	10646	51057		1.81	Si
SLV 7	0.67	8531.07	-33388	-28116	33850	4.175	4.175	-22448	14906	20290	28547	56258	10646	48837		1.44	Si
SLV 12	-1.95	43491.79	-41092	-34604	27240	4.175	3.0873	-27628	15942	22885	28547	56258	10646	51432		1.89	Si
SLV 12	0.67	9480	-34333	-28912	31987	4.175	4.175	-23083	15033	20609	28547	56258	10646	49155		1.54	Si
SLV 8	-1.95	42811.3	-39896	-33597	28462	4.175	3.0433	-26824	15781	22482	28547	56258	10646	51029		1.79	Si
SLV 8	0.67	8544.54	-33185	-27945	34141	4.175	4.175	-22311	14879	20222	28547	56258	10646	48768		1.43	Si
SLD 11	-1.95	33014.13	-46081	-38805	18810	4.175	4.1132	-30982	16250	24566	28547	56258	10646	53112		2.82	Si
SLD 11	0.67	6465.49	-41776	-35180	22620	4.175	4.175	-28088	16034	23116	28547	56258	10646	51662		2.28	Si
SLV 11	-1.95	43317.92	-41174	-34673	27050	4.175	3.1063	-27683	15953	22913	28547	56258	10646	51460		1.9	Si
SLV 11	0.67	9466.53	-34536	-29083	31695	4.175	4.175	-23220	15061	20677	28547	56258	10646	49224		1.55	Si
SLV 4	-1.95	23106.2	-47982	-40406	14217	4.175	4.175	-32260	16250	25206	28547	56258	10646	53752		3.78	Si
SLV 4	0.67	2250.52	-45626	-38422	19120	4.175	4.175	-30676	16250	24412	28547	56258	10646	52959		2.77	Si
SLV 3	-1.95	22847.96	-48105	-40509	13936	4.175	4.175	-32343	16250	25247	28547	56258	10646	53794		3.86	Si
SLV 3	0.67	2230.51	-45928	-38676	18687	4.175	4.175	-30879	16250	24514	28547	56258	10646	53061		2.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	30014	-37593	167.08	4530.66	27.12	Si
SLV 7	179667	0.24	30143	-37755	167.08	4545.39	27.2	Si
SLV 12	179667	0.24	30887	-38686	167.08	4629.29	27.71	Si
SLV 11	179667	0.24	31017	-38848	167.08	4643.73	27.79	Si
SLV 4	179667	0.24	38857	-48668	167.08	5442.79	32.58	Si
SLV 3	179667	0.24	39049	-48909	167.08	5460.47	32.68	Si
SLV 16	179667	0.24	41768	-52314	167.08	5700.93	34.12	Si
SLV 15	179667	0.24	41960	-52554	167.08	5717.23	34.22	Si
SLV 2	179667	0.24	47337	-59289	167.08	6136.75	36.73	Si
SLV 1	179667	0.24	47529	-59530	167.08	6150.42	36.81	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-61610	-60235	663	0.413	6735.5	0.979	6.13059	3.32286	Si
SLV 14	-61308	-60112	662	0.415	6704.7	0.979	6.15636	3.32286	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-74051	-68321	624	0.356	8003.1	0.982	5.26755	2.7479	Si
SLV 10	-73848	-68238	623	0.357	7982.4	0.982	5.27971	2.7479	Si
SLV 5	-72903	-67125	462	0.363	7886.1	0.982	5.36746	2.7479	Si
SLV 6	-72700	-67042	461	0.363	7865.4	0.982	5.38007	2.7479	Si
SLV 1	-57782	-56248	124	0.444	6345.5	0.977	6.60372	3.32286	Si
SLV 2	-57480	-56126	122	0.446	6314.7	0.977	6.63358	3.32286	Si
SLV 15	-49756	-52091	535	0.495	5527.9	0.974	7.38758	3.32286	Si
SLV 16	-49454	-51968	533	0.498	5497.1	0.974	7.42672	3.32286	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.903	SLU 83	Si
V_SLU	4.216	SLU 83	Si
PF_SLV	1.651	SLV 8	Si
V_SLV	1.428	SLV 8	Si
PFFP_SLV	27.117	SLV 8	Si
R_SLV	1.845	SLV 13	Si

Maschio 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.778	3.316	-13.858	3.316	L2	L4	4.08	0.2	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	-1.95	-8992.7	-47265	-0.0001059	0.0004492	0.0035	4.08	50712.61	83161.06	83161.06	9.25	No	Si
SLU 69	0.05	-1761.33	-30063	-0.0000544	0.0004492	0.0035	4.08	42836.46	60987.52	60987.52	34.63	No	Si
SLU 72	-1.95	-8858.6	-46878	-0.0001048	0.0004492	0.0035	4.08	50668.56	82729.47	82729.47	9.34	No	Si
SLU 72	0.05	-1647.65	-29826	-0.0000537	0.0004492	0.0035	4.08	42644.08	60636.15	60636.15	36.8	No	Si
SLU 71	-1.95	-8906.9	-47020	-0.0001052	0.0004492	0.0035	4.08	50685.44	82887.82	82887.82	9.31	No	Si
SLU 71	0.05	-1726.11	-29916	-0.000054	0.0004492	0.0035	4.08	42717.13	60769.08	60769.08	35.21	No	Si
SLU 66	-1.95	-8849.8	-46790	-0.0001046	0.0004492	0.0035	4.08	50657.64	82630.98	82630.98	9.34	No	Si
SLU 66	0.05	-1685.81	-29780	-0.0000537	0.0004492	0.0035	4.08	42605.62	60566.42	60566.42	35.93	No	Si
SLU 79	-1.95	-9486.2	-52366	-0.0001176	0.0004492	0.0035	4.08	50720.29	88735.25	88735.25	9.35	No	Si
SLU 79	0.05	-1572.47	-34173	-0.0000612	0.0004492	0.0035	4.08	45819.66	66737.86	66737.86	42.44	No	Si
SLU 48	-1.95	-8121.8	-40934	-0.0000912	0.0004492	0.0035	4.08	49221.97	75635.76	75635.76	9.31	No	Si
SLU 48	0.05	-1734.54	-25360	-0.0000461	0.0004492	0.0035	4.08	38575.34	53990.11	53990.11	31.13	No	Si
SLU 70	-1.95	-8944.4	-47123	-0.0001055	0.0004492	0.0035	4.08	50697.16	83002.7	83002.7	9.28	No	Si
SLU 70	0.05	-1682.87	-29973	-0.000054	0.0004492	0.0035	4.08	42763.95	60854.59	60854.59	36.16	No	Si
SLU 49	-1.95	-8073.5	-40791	-0.0000908	0.0004492	0.0035	4.08	49169.71	75464.15	75464.15	9.35	No	Si
SLU 49	0.05	-1656.07	-25270	-0.0000458	0.0004492	0.0035	4.08	38485.63	53857.18	53857.18	32.52	No	Si
SLU 78	-1.95	-9523.7	-52469	-0.0001179	0.0004492	0.0035	4.08	50709.47	88840.52	88840.52	9.33	No	Si
SLU 78	0.05	-1529.23	-34231	-0.0000612	0.0004492	0.0035	4.08	45856.47	66818	66818	43.69	No	Si
SLU 77	-1.95	-9572	-52611	-0.0001183	0.0004492	0.0035	4.08	50693.84	88985.62	88985.62	9.3	No	Si
SLU 77	0.05	-1607.7	-34320	-0.0000616	0.0004492	0.0035	4.08	45913.42	66942.6	66942.6	41.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	-1.95	-21493.36	-35711	-0.0001135	0.0006738	0.0035	4.08		71500.47	71500.47	3.33		Si
SLV 15	0.05	-1540.14	-26084	-0.0000462	0.0006738	0.0035	4.08		56527.38	56527.38	36.7		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	-1.95	-16381.28	-35557	-0.0001	0.0006738	0.0035	4.08		71274.14	71274.14	4.35		Si
SLD 16	0.05	-1291.34	-24863	-0.0000435	0.0006738	0.0035	4.08		54526.63	54526.63	42.22		Si
SLD 14	-1.95	-15193.55	-31871	-0.0000903	0.0006738	0.0035	4.08		65681.6	65681.6	4.32		Si
SLD 14	0.05	546.75	-22581	-0.0000379	0.0006738	0.0035	4.08		43519.44	43519.44	79.6		Si
SLV 14	-1.95	-19998.79	-29704	-0.0000987	0.0006738	0.0035	4.08		62314.13	62314.13	3.12		Si
SLV 14	0.05	1518.71	-22444	-0.00004	0.0006738	0.0035	4.08		43288.27	43288.27	28.5		Si
SLD 15	-1.95	-16118.99	-35616	-0.0000994	0.0006738	0.0035	4.08		71360.97	71360.97	4.43		Si
SLD 15	0.05	-1359.74	-24846	-0.0000436	0.0006738	0.0035	4.08		54499	54499	40.08		Si
SLV 11	-1.95	-13884.78	-44603	-0.0001101	0.0006738	0.0035	4.08		84165.31	84165.31	6.06		Si
SLV 11	0.05	-5772.17	-29311	-0.0000621	0.0006738	0.0035	4.08		61703.98	61703.98	10.69		Si
SLV 16	-1.95	-21903.88	-35619	-0.0001144	0.0006738	0.0035	4.08		71364.57	71364.57	3.26		Si
SLV 16	0.05	-1433.08	-26110	-0.0000459	0.0006738	0.0035	4.08		56570.62	56570.62	39.47		Si
SLV 12	-1.95	-14161.17	-44541	-0.0001107	0.0006738	0.0035	4.08		84079.11	84079.11	5.94		Si
SLV 12	0.05	-5700.08	-29329	-0.000062	0.0006738	0.0035	4.08		61731.59	61731.59	10.83		Si
SLV 13	-1.95	-19588.27	-29796	-0.0000978	0.0006738	0.0035	4.08		62457.91	62457.91	3.19		Si
SLV 13	0.05	1411.64	-22418	-0.0000397	0.0006738	0.0035	4.08		43243.48	43243.48	30.63		Si
SLD 13	-1.95	-14931.27	-31930	-0.0000898	0.0006738	0.0035	4.08		65773.46	65773.46	4.41		Si
SLD 13	0.05	478.35	-22564	-0.0000377	0.0006738	0.0035	4.08		43490.83	43490.83	90.92		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.95	-9380.8	-51994	-33276	10385	4.08	4.08	-40779	10833	18024	81562	29325	20808	50133	No	4.83	Si
SLU 75	0.05	-1453.71	-33948	-21727	10115	4.08	4.08	-26626	10833	13404	81562	29325	20808	50133	No	4.96	Si
SLU 83	-1.95	-9591.58	-54181	-34676	10698	4.08	4.08	-42495	10833	18584	81562	29325	20808	50133	No	4.69	Si
SLU 83	0.05	-1431.11	-35715	-22858	10419	4.08	4.08	-28012	10833	13857	81562	29325	20808	50133	No	4.81	Si
SLU 78	-1.95	-9523.7	-52469	-33580	10548	4.08	4.08	-41152	10833	18145	81562	29325	20808	50133	No	4.75	Si
SLU 78	0.05	-1529.23	-34231	-21908	10274	4.08	4.08	-26848	10833	13477	81562	29325	20808	50133	No	4.88	Si
SLU 79	-1.95	-9486.2	-52366	-33514	10542	4.08	4.08	-41071	10833	18119	81562	29325	20808	50133	No	4.76	Si
SLU 79	0.05	-1572.47	-34173	-21871	10268	4.08	4.08	-26803	10833	13462	81562	29325	20808	50133	No	4.88	Si
SLU 81	-1.95	-9448.68	-53706	-34372	10536	4.08	4.08	-42122	10833	18462	81562	29325	20808	50133	No	4.76	Si
SLU 81	0.05	-1355.59	-35432	-22676	10260	4.08	4.08	-27790	10833	13784	81562	29325	20808	50133	No	4.89	Si
SLU 80	-1.95	-9437.9	-52224	-33423	10473	4.08	4.08	-40960	10833	18083	81562	29325	20808	50133	No	4.79	Si
SLU 80	0.05	-1494.01	-34084	-21814	10201	4.08	4.08	-26733	10833	13439	81562	29325	20808	50133	No	4.91	Si
SLU 84	-1.95	-9543.28	-54039	-34585	10629	4.08	4.08	-42384	10833	18547	81562	29325	20808	50133	No	4.72	Si
SLU 84	0.05	-1352.65	-35626	-22800	10352	4.08	4.08	-27942	10833	13834	81562	29325	20808	50133	No	4.84	Si
SLU 82	-1.95	-9400.38	-53564	-34281	10467	4.08	4.08	-42011	10833	18426	81562	29325	20808	50133	No	4.79	Si
SLU 82	0.05	-1277.13	-35343	-22619	10193	4.08	4.08	-27720	10833	13761	81562	29325	20808	50133	No	4.92	Si
SLU 74	-1.95	-9429.1	-52136	-33367	10454	4.08	4.08	-40891	10833	18060	81562	29325	20808	50133	No	4.8	Si
SLU 74	0.05	-1532.18	-34037	-21784	10182	4.08	4.08	-26696	10833	13427	81562	29325	20808	50133	No	4.92	Si
SLU 77	-1.95	-9572	-52611	-33671	10617	4.08	4.08	-41264	10833	18182	81562	29325	20808	50133	No	4.72	Si
SLU 77	0.05	-1607.7	-34320	-21965	10341	4.08	4.08	-26918	10833	13499	81562	29325	20808	50133	No	4.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	-1.95	1719.82	-39217	-25099	15744	4.08	4.08	-30758	16250	17110	81562	43988	20808	64796		4.12	Si
SLD 4	0.05	-2801.96	-22955	-14691	15548	4.08	4.08	-18004	16101	13138	81562	43988	20808	64796		4.17	Si
SLV 4	-1.95	6376.82	-41351	-26465	20552	4.08	4.08	-32432	16250	17656	81562	43988	20808	64796		3.15	Si
SLV 4	0.05	-3735.26	-23101	-14785	20354	4.08	4.08	-18118	16124	13157	81562	43988	20808	64796		3.18	Si
SLD 3	-1.95	1982.11	-39276	-25137	15987	4.08	4.08	-30805	16250	17125	81562	43988	20808	64796		4.05	Si
SLD 3	0.05	-2870.37	-22938	-14681	15790	4.08	4.08	-17991	16098	13136	81562	43988	20808	64796		4.1	Si
SLV 2	-1.95	8281.91	-35436	-22679	17796	4.08	4.08	-27793	16250	16142	81562	43988	20808	64796		3.64	Si
SLV 2	0.05	-783.47	-19435	-12439	17672	4.08	4.08	-15244	15549	12688	81562	43988	20808	64796		3.67	Si
SLV 8	-1.95	-5676.96	-46260	-29607	15360	4.08	4.08	-36283	16250	18913	81562	43988	20808	64796		4.22	Si
SLV 8	0.05	-6390.74	-28426	-18193	15057	4.08	4.08	-22295	16250	14348	81562	43988	20808	64796		4.3	Si
SLV 7	-1.95	-5400.57	-46323	-29646	15616	4.08	4.08	-36331	16250	18929	81562	43988	20808	64796		4.15	Si
SLV 7	0.05	-6462.82	-28408	-18181	15312	4.08	4.08	-22281	16250	14343	81562	43988	20808	64796		4.23	Si
SLD 1	-1.95	3169.83	-35590	-22778	14265	4.08	4.08	-27914	16250	16181	81562	43988	20808	64796		4.54	Si
SLD 1	0.05	-1032.28	-20656	-13220	14114	4.08	4.08	-16201	15740	12844	81562	43988	20808	64796		4.59	Si
SLV 1	-1.95	8692.43	-35529	-22738	18176	4.08	4.08	-27866	16250	16166	81562	43988	20808	64796		3.56	Si
SLV 1	0.05	-890.54	-19409	-12422	18051	4.08	4.08	-15223	15545	12684	81562	43988	20808	64796		3.59	Si
SLV 3	-1.95	6787.35	-41443	-26524	20932	4.08	4.08	-32505	16250	17680	81562	43988	20808	64796		3.1	Si
SLV 3	0.05	-3842.32	-23075	-14768	20733	4.08	4.08	-18098	16120	13154	81562	43988	20808	64796		3.13	Si
SLD 2	-1.95	2907.55	-35531	-22740	14022	4.08	4.08	-27867	16250	16166	81562	43988	20808	64796		4.62	Si
SLD 2	0.05	-963.87	-20673	-13231	13872	4.08	4.08	-16214	15743	12846	81562	43988	20808	64796		4.67	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.06 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-20417	0.24	111.96	1763.01	2691.29	2227.15	19.89	Si
SLV 9	-20422	0.24	111.96	1763.37	2691.84	2227.6	19.9	Si
SLV 6	-20427	0.24	111.96	1763.74	2692.4	2228.07	19.9	Si
SLV 5	-20432	0.24	111.96	1764.1	2692.95	2228.52	19.9	Si
SLV 14	-25595	0.24	111.96	2121.49	3259.96	2690.73	24.03	Si
SLV 13	-25603	0.24	111.96	2121.98	3260.77	2691.38	24.04	Si
SLV 2	-25629	0.24	111.96	2123.7	3263.63	2693.66	24.06	Si
SLV 1	-25636	0.24	111.96	2124.18	3264.44	2694.31	24.06	Si
SLV 16	-30045	0.24	111.96	2400.9	3737.82	3069.36	27.41	Si
SLV 15	-30052	0.24	111.96	2401.34	3738.61	3069.97	27.42	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.04 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-19304	-41443	25	1.12	2266.6	0.96	16.94905	4.05539	Si
SLV 4	-19263	-41351	25	1.122	2262.5	0.96	16.98134	4.05539	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-18666	-35711	15	1.154	2201.8	0.959	17.48194	4.05539	Si
SLV 16	-18626	-35619	15	1.156	2197.7	0.959	17.51634	4.05539	Si
SLV 7	-23289	-46323	75	0.947	2672.2	0.966	14.2489	3.01163	Si
SLV 8	-23262	-46260	75	0.948	2669.4	0.966	14.2641	3.01163	Si
SLV 11	-23098	-44603	72	0.954	2652.7	0.966	14.35852	3.01163	Si
SLV 12	-23071	-44541	72	0.955	2649.9	0.966	14.37397	3.01163	Si
SLV 1	-15691	-35529	-21	1.342	1899.3	0.954	20.45504	4.05539	Si
SLV 2	-15650	-35436	-21	1.345	1895.2	0.954	20.50266	4.05539	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.248	SLU 69	Si
V_SLU	4.686	SLU 83	Si
PF_SLV	3.116	SLV 14	Si
V_SLV	3.096	SLV 3	Si
PFFP_SLV	19.892	SLV 10	Si
R_SLV	4.179	SLV 3	Si

Maschio 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.813	6.576	-12.888	6.576	L2	L4	3.925	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	0.05	2218.89	-47181	-0.000046	0.0003743	0.0035	3.925	68298.4	73967.81	73967.81	33.34	No	Si
SLU 31	0.45	-517.75	-53760	-0.00005	0.0003743	0.0035	3.925	73962.5	86362.47	86362.47	166.8	No	Si
SLU 39	0.05	2417.38	-50455	-0.0000495	0.0003743	0.0035	3.925	71235.9	77792.99	77792.99	32.18	No	Si
SLU 39	0.45	-410.42	-57374	-0.0000534	0.0003743	0.0035	3.925	76671.61	90097.31	90097.31	219.53	No	Si
SLU 82	0.05	2638.39	-57646	-0.000057	0.0003743	0.0035	3.925	76864.05	86368.52	86368.52	32.74	No	Si
SLU 82	0.45	-768.36	-65665	-0.0000624	0.0003743	0.0035	3.925	81809.95	97002.28	97002.28	126.25	No	Si
SLU 41	0.05	2356.75	-51360	-0.0000503	0.0003743	0.0035	3.925	72005.85	78857.92	78857.92	33.46	No	Si
SLU 41	0.45	-515.86	-58398	-0.0000546	0.0003743	0.0035	3.925	77387.8	90923.57	90923.57	176.25	No	Si
SLU 40	0.05	2450.08	-50000	-0.0000491	0.0003743	0.0035	3.925	70841.27	77258.14	77258.14	31.53	No	Si
SLU 40	0.45	-364.68	-56914	-0.0000529	0.0003743	0.0035	3.925	76343.08	89699.02	89699.02	245.96	No	Si
SLU 19	0.05	2008.44	-42261	-0.0000409	0.0003743	0.0035	3.925	63445.75	68310.97	68310.97	34.01	No	Si
SLU 19	0.45	-515.56	-48183	-0.0000445	0.0003743	0.0035	3.925	69222.28	79989.1	79989.1	155.15	No	Si
SLU 84	0.05	2577.77	-58550	-0.0000578	0.0003743	0.0035	3.925	77492.07	87462.41	87462.41	33.93	No	Si
SLU 84	0.45	-873.8	-66690	-0.0000636	0.0003743	0.0035	3.925	82340.72	97890.23	97890.23	112.03	No	Si
SLU 73	0.05	2407.2	-54826	-0.0000538	0.0003743	0.0035	3.925	74791.7	82978.64	82978.64	34.47	No	Si
SLU 73	0.45	-921.42	-62511	-0.0000594	0.0003743	0.0035	3.925	80031.88	94317.56	94317.56	102.36	No	Si
SLU 42	0.05	2389.45	-50904	-0.0000499	0.0003743	0.0035	3.925	71620.23	78320.95	78320.95	32.78	No	Si
SLU 42	0.45	-470.13	-57939	-0.0000541	0.0003743	0.0035	3.925	77069.54	90552.17	90552.17	192.61	No	Si
SLU 81	0.05	2605.69	-58101	-0.0000574	0.0003743	0.0035	3.925	77182.64	86919.03	86919.03	33.36	No	Si
SLU 81	0.45	-814.09	-66124	-0.0000629	0.0003743	0.0035	3.925	82050.74	97399.4	97399.4	119.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	0.05	16744.44	-26048	-0.0000453	0.0005615	0.0035	3.925		47984.99	47984.99	2.87		Si
SLV 14	0.45	3210.59	-30232	-0.0000307	0.0005615	0.0035	3.925		54360.64	54360.64	16.93		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	0.05	-12939.76	-30639	-0.0000444	0.0005615	0.0035	3.925		59062.09	59062.09	4.56		Si
SLV 1	0.45	-3900.05	-36180	-0.0000371	0.0005615	0.0035	3.925		67832.3	67832.3	17.39		Si
SLD 14	0.05	11223.58	-30573	-0.000042	0.0005615	0.0035	3.925		54855.07	54855.07	4.89		Si
SLD 14	0.45	1688.02	-35177	-0.0000331	0.0005615	0.0035	3.925		61570.48	61570.48	36.47		Si
SLD 13	0.05	9737.3	-30519	-0.0000399	0.0005615	0.0035	3.925		54776.79	54776.79	5.63		Si
SLD 13	0.45	1450.79	-35141	-0.0000328	0.0005615	0.0035	3.925		61518.11	61518.11	42.4		Si
SLV 13	0.05	14418.13	-25963	-0.0000421	0.0005615	0.0035	3.925		47844.16	47844.16	3.32		Si
SLV 13	0.45	2839.28	-30176	-0.0000302	0.0005615	0.0035	3.925		54279.55	54279.55	19.12		Si
SLV 15	0.05	13468.02	-45715	-0.0000593	0.0005615	0.0035	3.925		77199.95	77199.95	5.73		Si
SLV 15	0.45	1513.4	-50847	-0.0000473	0.0005615	0.0035	3.925		84941.15	84941.15	56.13		Si
SLV 2	0.05	-10613.46	-30723	-0.0000413	0.0005615	0.0035	3.925		59200.51	59200.51	5.58		Si
SLV 2	0.45	-3528.73	-36236	-0.0000366	0.0005615	0.0035	3.925		67919.44	67919.44	19.25		Si
SLV 16	0.05	15794.33	-45799	-0.0000626	0.0005615	0.0035	3.925		77326.63	77326.63	4.9		Si
SLV 16	0.45	1884.71	-50903	-0.0000479	0.0005615	0.0035	3.925		85025.98	85025.98	45.11		Si
SLV 10	0.05	7897.6	-4627	-0.0000414	0.0005615	0.0035	3.925		9710.11	9710.11	1.23		Si
SLV 10	0.45	2338.03	-8208	-0.0000101	0.0005615	0.0035	3.925		16453.97	16453.97	7.04		Si
SLV 9	0.05	6331.37	-4570	-0.0000178	0.0005615	0.0035	3.925		9601.96	9601.96	1.52		Si
SLV 9	0.45	2088.03	-8171	-0.0000097	0.0005615	0.0035	3.925		16383.74	16383.74	7.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	0.05	1622.95	-51981	-46205	3722	3.925	3.925	-26160	10432	26984	28547	52889	10009	55531	No	14.92	Si
SLU 69	0.45	-1683.98	-59201	-52623	3730	3.925	3.925	-29794	10833	29551	28547	52889	10009	58098	No	15.58	Si
SLU 49	0.05	1214.01	-43786	-38921	3489	3.925	3.925	-22036	9883	24071	28547	52889	10009	52617	No	15.08	Si
SLU 49	0.45	-1789.13	-50010	-44453	3495	3.925	3.925	-25168	10300	26283	28547	52889	10009	54830	No	15.69	Si
SLU 72	0.05	1673.83	-51069	-45395	3653	3.925	3.925	-25701	10371	26660	28547	52889	10009	55206	No	15.11	Si
SLU 72	0.45	-1591.1	-58220	-51751	3660	3.925	3.925	-29300	10833	29202	28547	52889	10009	57749	No	15.78	Si
SLU 67	0.05	1716.28	-50621	-44997	3641	3.925	3.925	-25476	10341	26501	28547	52889	10009	55047	No	15.12	Si
SLU 67	0.45	-1532.8	-57717	-51304	3649	3.925	3.925	-29047	10817	29023	28547	52889	10009	57570	No	15.78	Si
SLU 70	0.05	1655.65	-51525	-45800	3691	3.925	3.925	-25931	10402	26822	28547	52889	10009	55369	No	15	Si
SLU 70	0.45	-1638.25	-58741	-52215	3699	3.925	3.925	-29562	10833	29388	28547	52889	10009	57934	No	15.66	Si
SLU 45	0.05	1241.94	-43338	-38522	3469	3.925	3.925	-21810	9852	23911	28547	52889	10009	52458	No	15.12	Si
SLU 45	0.45	-1729.41	-49445	-43951	3476	3.925	3.925	-24884	10262	26082	28547	52889	10009	54629	No	15.72	Si
SLU 50	0.05	1199.49	-43786	-38921	3480	3.925	3.925	-22036	9883	24070	28547	52889	10009	52617	No	15.12	Si
SLU 50	0.45	-1787.71	-49948	-44398	3487	3.925	3.925	-25137	10296	26261	28547	52889	10009	54808	No	15.72	Si
SLU 66	0.05	1683.58	-51077	-45401	3672	3.925	3.925	-25705	10372	26663	28547	52889	10009	55209	No	15.03	Si
SLU 66	0.45	-1578.54	-58176	-51712	3680	3.925	3.925	-29278	10833	29187	28547	52889	10009	57733	No	15.69	Si
SLU 71	0.05	1641.13	-51525	-45800	3683	3.925	3.925	-25930	10402	26822	28547	52889	10009	55368	No	15.03	Si
SLU 71	0.45	-1636.84	-58679	-52159	3691	3.925	3.925	-29531	10833	29366	28547	52889	10009	57912	No	15.69	Si
SLU 48	0.05	1181.31	-44242	-39326	3519	3.925	3.925	-22265	9913	24233	28547	52889	10009	52779	No	15	Si
SLU 48	0.45	-1834.86	-50469	-44861	3526	3.925	3.925	-25399	10331	26447	28547	52889	10009	54993	No	15.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	0.05	10648.03	-42886	-38121	21350	3.925	3.925	-21583	14733	28002	28547	79334	10009	56548		2.65	Si
SLD 16	0.45	882.48	-48067	-42727	21154	3.925	3.925	-24191	15255	29844	28547	79334	10009	58390		2.76	Si
SLV 4	0.05	-11563.57	-50475	-44867	-20564	3.925	3.925	-25402	15497	30700	28547	79334	10009	59247		2.88	Si
SLV 4	0.45	-4854.61	-56907	-50584	-20582	3.925	3.925	-28639	16144	32987	28547	79334	10009	61533		2.99	Si
SLV 15	0.05	13468.02	-45715	-40635	27010	3.925	3.925	-23007	15018	29008	28547	79334	10009	57554		2.13	Si
SLV 15	0.45	1513.4	-50847	-45198	26686	3.925	3.925	-25590	15535	30832	28547	79334	10009	59379		2.23	Si
SLV 1	0.05	-12939.76	-30639	-27235	-26485	3.925	3.925	-15420	13501	23845	28547	79334	10009	52392		1.98	Si
SLV 1	0.45	-3900.05	-36180	-32160	-26147	3.925	3.925	-18208	14058	25617	28547	79334	10009	54164		2.07	Si
SLV 16	0.05	15794.33	-45799	-40710	31911	3.925	3.925	-23049	15026	29038	28547	79334	10009	57584		1.8	Si
SLV 16	0.45	1884.71	-50903	-45247	31585	3.925	3.925	-25618	15540	30852	28547	79334	10009	59399		1.88	Si
SLV 13	0.05	14418.13	-25963	-23078	25990	3.925	3.925	-13066	13030	23014	28547	79334	10009	51561		1.98	Si
SLV 13	0.45	2839.28	-30176	-26823	26020	3.925	3.925	-15187	13454	23763	28547	79334	10009	52310		2.01	Si
SLD 14	0.05	11223.58	-30573	-27176	20722	3.925	3.925	-15386	13494	23834	28547	79334	10009	52380		2.53	Si
SLD 14	0.45	1688.02	-35177	-31268	20751	3.925	3.925	-17703	13957	25261	28547	79334	10009	53807		2.59	Si
SLV 3	0.05	-13889.88	-50391	-44792	-25465	3.925	3.925	-25360	15489	30670	28547	79334	10009	59217		2.33	Si
SLV 3	0.45	-5225.93	-56851	-50534	-25481	3.925	3.925	-28611	16139	32967	28547	79334	10009	61513		2.41	Si
SLV 14	0.05	16744.44	-26048	-23153	30891	3.925	3.925	-13109	13038	23029	28547	79334	10009	51576		1.67	Si
SLV 14	0.45	3210.59	-30232	-26873	30919	3.925	3.925	-15215	13460	23773	28547	79334	10009	52320		1.69	Si
SLV 2	0.05	-10613.46	-30723	-27310	-21584	3.925	3.925	-15462	13509	23860	28547	79334	10009	52407		2.43	Si
SLV 2	0.45	-3528.73	-36236	-32210	-21249	3.925	3.925	-18236	14064	25637	28547	79334	10009	54184		2.55	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.24	1570	-2773	227.43	617.51	2.72	Si
SLV 10	179667	0.24	1631	-2881	227.43	641.39	2.82	Si
SLV 5	179667	0.24	2375	-4196	227.43	929.31	4.09	Si
SLV 6	179667	0.24	2437	-4304	227.43	952.93	4.19	Si
SLV 13	179667	0.24	13175	-23270	227.43	4784.06	21.04	Si
SLV 14	179667	0.24	13266	-23431	227.43	4814.01	21.17	Si
SLV 1	179667	0.24	15859	-28012	227.43	5648.11	24.83	Si
SLV 2	179667	0.24	15951	-28173	227.43	5676.79	24.96	Si
SLV 15	179667	0.24	23940	-42284	227.43	8022.47	35.27	Si
SLV 16	179667	0.24	24031	-42445	227.43	8047.32	35.38	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-74689	-64470	-5181	0.304	8256.1	0.976	4.53318	2.58905	Si
SLV 7	-74661	-64277	-5183	0.304	8253.3	0.976	4.53391	2.58905	Si
SLV 12	-73156	-63001	-5020	0.311	8100	0.975	4.63071	2.58905	Si
SLV 11	-73128	-62808	-5023	0.311	8097.1	0.975	4.6315	2.58905	Si
SLV 4	-53214	-44819	-3974	0.407	6069.3	0.967	6.11535	2.92742	Si
SLV 3	-53173	-44532	-3978	0.407	6065.1	0.967	6.11803	2.92742	Si
SLV 16	-48103	-39923	-3440	0.449	5549.1	0.965	6.76043	2.92742	Si
SLV 15	-48062	-39636	-3443	0.449	5544.9	0.965	6.76391	2.92742	Si
SLV 2	-33268	-26467	-2780	0.61	4040.5	0.953	9.30561	2.92742	Si
SLV 1	-33227	-26180	-2784	0.611	4036.4	0.953	9.31342	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	31.533	SLU 40	Si
V_SLU	14.92	SLU 69	Si
PF_SLV	1.23	SLV 10	Si
V_SLV	1.67	SLV 14	Si
PFFP_SLV	2.715	SLV 9	Si
R_SLV	1.751	SLV 8	Si

Maschio 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.638	1.141	-24.603	1.141	L2	L4	4.965	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	-1.95	-47693.61	-131345	-0.0001395	0.0004492	0.0035	4.965	169187.46	238624.63	238624.63	5	No	Si
SLU 73	0.15	-6825.65	-112405	-0.0000845	0.0004492	0.0035	4.965	164150.29	219910.88	219910.88	32.22	No	Si
SLU 82	-1.95	-49494.17	-136387	-0.0001459	0.0004492	0.0035	4.965	169428.91	243237.69	243237.69	4.91	No	Si
SLU 82	0.15	-7373.07	-117357	-0.0000888	0.0004492	0.0035	4.965	166097.1	225828.6	225828.6	30.63	No	Si
SLU 80	-1.95	-48368.54	-134001	-0.0001426	0.0004492	0.0035	4.965	169372.29	241054.57	241054.57	4.98	No	Si
SLU 80	0.15	-6880.32	-114850	-0.0000864	0.0004492	0.0035	4.965	165167.12	222904.5	222904.5	32.4	No	Si
SLU 76	-1.95	-48108.44	-132700	-0.0001412	0.0004492	0.0035	4.965	169297.83	239864.89	239864.89	4.99	No	Si
SLU 76	0.15	-6882.79	-113668	-0.0000855	0.0004492	0.0035	4.965	164689.23	221457.6	221457.6	32.18	No	Si
SLU 78	-1.95	-48636.01	-134742	-0.0001435	0.0004492	0.0035	4.965	169400.97	241732.67	241732.67	4.97	No	Si
SLU 78	0.15	-6909.3	-115532	-0.000087	0.0004492	0.0035	4.965	165431.54	223740.07	223740.07	32.38	No	Si
SLU 83	-1.95	-49676.92	-137660	-0.0001472	0.0004492	0.0035	4.965	169416.76	244402.09	244402.09	4.92	No	Si
SLU 83	0.15	-7340.8	-118498	-0.0000897	0.0004492	0.0035	4.965	166482.4	226872.18	226872.18	30.91	No	Si
SLU 84	-1.95	-49908.99	-137743	-0.0001475	0.0004492	0.0035	4.965	169414.94	244477.94	244477.94	4.9	No	Si
SLU 84	0.15	-7430.22	-118620	-0.0000899	0.0004492	0.0035	4.965	166522.3	226984.02	226984.02	30.55	No	Si
SLU 75	-1.95	-48221.18	-133386	-0.0001419	0.0004492	0.0035	4.965	169340.94	240492.42	240492.42	4.99	No	Si
SLU 75	0.15	-6852.16	-114269	-0.000086	0.0004492	0.0035	4.965	164935.41	222193.35	222193.35	32.43	No	Si
SLU 81	-1.95	-49262.1	-136304	-0.0001456	0.0004492	0.0035	4.965	169428.68	243161.83	243161.83	4.94	No	Si
SLU 81	0.15	-7283.66	-117235	-0.0000887	0.0004492	0.0035	4.965	166054.4	225716.75	225716.75	30.99	No	Si
SLU 77	-1.95	-48403.93	-134659	-0.0001432	0.0004492	0.0035	4.965	169398.25	241656.82	241656.82	4.99	No	Si
SLU 77	0.15	-6819.89	-115410	-0.0000868	0.0004492	0.0035	4.965	165384.78	223590.35	223590.35	32.79	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	-1.95	-42723.51	-74133	-0.0000848	0.0006738	0.0035	4.965		173886.12	173886.12	4.07		Si
SLD 16	0.15	-6993.3	-60377	-0.0000454	0.0006738	0.0035	4.965		147607.37	147607.37	21.11		Si
SLV 15	-1.95	-48145.07	-64190	-0.0000822	0.0006738	0.0035	4.965		155156.74	155156.74	3.22		Si
SLV 15	0.15	-9040.29	-51411	-0.000041	0.0006738	0.0035	4.965		129773.53	129773.53	14.36		Si
SLD 13	-1.95	-48857.61	-77385	-0.0000924	0.0006738	0.0035	4.965		179966.78	179966.78	3.68		Si
SLD 13	0.15	-9592.62	-64458	-0.0000503	0.0006738	0.0035	4.965		155662.08	155662.08	16.23		Si
SLD 14	-1.95	-48514.97	-77151	-0.0000919	0.0006738	0.0035	4.965		179550.2	179550.2	3.7		Si
SLD 14	0.15	-9211.67	-63905	-0.0000496	0.0006738	0.0035	4.965		154620.06	154620.06	16.79		Si
SLV 9	-1.95	-54529.79	-92501	-0.0001085	0.0006738	0.0035	4.965		206590.15	206590.15	3.79		Si
SLV 9	0.15	-12180.46	-80182	-0.0000634	0.0006738	0.0035	4.965		184940.98	184940.98	15.18		Si
SLD 15	-1.95	-43066.15	-74368	-0.0000853	0.0006738	0.0035	4.965		174327.38	174327.38	4.05		Si
SLD 15	0.15	-7374.25	-60931	-0.0000461	0.0006738	0.0035	4.965		148707.68	148707.68	20.17		Si
SLV 16	-1.95	-47608.78	-63823	-0.0000815	0.0006738	0.0035	4.965		154461.19	154461.19	3.24		Si
SLV 16	0.15	-8444.03	-50545	-0.0000399	0.0006738	0.0035	4.965		128027.32	128027.32	15.16		Si
SLV 14	-1.95	-56910.52	-68669	-0.0000928	0.0006738	0.0035	4.965		163592.73	163592.73	2.87		Si
SLV 14	0.15	-11996.11	-56221	-0.0000467	0.0006738	0.0035	4.965		139340.68	139340.68	11.62		Si
SLV 13	-1.95	-57446.81	-69035	-0.0000935	0.0006738	0.0035	4.965		164283.39	164283.39	2.86		Si
SLV 13	0.15	-12592.36	-57087	-0.0000477	0.0006738	0.0035	4.965		141062.87	141062.87	11.2		Si
SLV 10	-1.95	-54168.72	-92254	-0.000108	0.0006738	0.0035	4.965		206177.18	206177.18	3.81		Si
SLV 10	0.15	-11779.02	-79599	-0.0000627	0.0006738	0.0035	4.965		183904.35	183904.35	15.61		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	-1.95	-47989.11	-133303	-106643	-29029	4.965	4.965	-47731	10833	55562	81562	80293	25322	105615	No	3.64	Si
SLU 74	0.15	-6762.75	-114147	-91317	-29383	4.965	4.965	-40872	10833	49432	81562	80293	25322	105615	No	3.59	Si
SLU 84	-1.95	-49908.99	-137743	-110194	-29561	4.965	4.965	-49321	10833	56983	81562	80293	25322	105615	No	3.57	Si
SLU 84	0.15	-7430.22	-118620	-94896	-29926	4.965	4.965	-42473	10833	50864	81562	80293	25322	105615	No	3.53	Si
SLU 77	-1.95	-48403.93	-134659	-107727	-29308	4.965	4.965	-48216	10833	55996	81562	80293	25322	105615	No	3.6	Si
SLU 77	0.15	-6819.89	-115410	-92328	-29665	4.965	4.965	-41324	10833	49836	81562	80293	25322	105615	No	3.56	Si
SLU 79	-1.95	-48136.47	-133918	-107134	-29126	4.965	4.965	-47951	10833	55759	81562	80293	25322	105615	No	3.63	Si
SLU 79	0.15	-6790.91	-114728	-91782	-29481	4.965	4.965	-41080	10833	49618	81562	80293	25322	105615	No	3.58	Si
SLU 78	-1.95	-48636.01	-134742	-107794	-29314	4.965	4.965	-48246	10833	56022	81562	80293	25322	105615	No	3.6	Si
SLU 78	0.15	-6909.3	-115532	-92426	-29672	4.965	4.965	-41368	10833	49876	81562	80293	25322	105615	No	3.56	Si
SLU 80	-1.95	-48368.54	-134001	-107201	-29132	4.965	4.965	-47981	10833	55785	81562	80293	25322	105615	No	3.63	Si
SLU 80	0.15	-6880.32	-114850	-91880	-29488	4.965	4.965	-41123	10833	49657	81562	80293	25322	105615	No	3.58	Si
SLU 83	-1.95	-49676.92	-137660	-110128	-29554	4.965	4.965	-49291	10833	56956	81562	80293	25322	105615	No	3.57	Si
SLU 83	0.15	-7340.8	-118498	-94798	-29918	4.965	4.965	-42430	10833	50824	81562	80293	25322	105615	No	3.53	Si
SLU 81	-1.95	-49262.1	-136304	-109044	-29276	4.965	4.965	-48805	10833	56522	81562	80293	25322	105615	No	3.61	Si
SLU 81	0.15	-7283.66	-117235	-93788	-29636	4.965	4.965	-41977	10833	50420	81562	80293	25322	105615	No	3.56	Si
SLU 75	-1.95	-48221.18	-133386	-106709	-29036	4.965	4.965	-47761	10833	55589	81562	80293	25322	105615	No	3.64	Si
SLU 75	0.15	-6852.16	-114269	-91415	-29390	4.965	4.965	-40915	10833	49471	81562	80293	25322	105615	No	3.59	Si
SLU 82	-1.95	-49494.17	-136387	-109110	-29282	4.965	4.965	-48835	10833	56549	81562	80293	25322	105615	No	3.61	Si
SLU 82	0.15	-7373.07	-117357	-93886	-29644	4.965	4.965	-42021	10833	50459	81562	80293	25322	105615	No	3.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	-1.95	-48514.97	-77151	-61721	-26194	4.965	4.965	-27625	16250	44047	81562	120440	25322	125609		4.8	Si
SLD 14	0.15	-9211.67	-63905	-51124	-25972	4.965	4.965	-22882	16250	39809	81562	120440	25322	121371		4.67	Si
SLV 16	-1.95	-47608.78	-63823	-51059	-28455	4.965	4.965	-22853	16250	39783	81562	120440	25322	121344		4.26	Si
SLV 16	0.15	-8444.03	-50545	-40436	-27702	4.965	4.965	-18098	16120	36015	81562	120440	25322	117577		4.24	Si
SLV 14	-1.95	-56910.52	-68669	-54935	-29596	4.965	4.9612	-24588	16250	41333	81562	120440	25322	122895		4.15	Si
SLV 14	0.15	-11996.11	-56221	-44977	-28923	4.965	4.965	-20131	16250	37350	81562	120440	25322	118912		4.11	Si
SLV 13	-1.95	-57446.81	-69035	-55228	-28937	4.965	4.9511	-24719	16250	41451	81562	120440	25322	123012		4.25	Si
SLV 13	0.15	-12592.36	-57087	-45670	-28264	4.965	4.965	-20441	16250	37627	81562	120440	25322	119189		4.22	Si
SLV 15	-1.95	-48145.07	-64190	-51352	-27797	4.965	4.965	-22984	16250	39900	81562	120440	25322	121462		4.37	Si
SLV 15	0.15	-9040.29	-51411	-41129	-27044	4.965	4.965	-18408	16182	36154	81562	120440	25322	117715		4.35	Si
SLD 16	-1.95	-42723.51	-74133	-59307	-25475	4.965	4.965	-26544	16250	43082	81562	120440	25322	124643		4.89	Si
SLD 16	0.15	-6993.3	-60377	-48302	-25205	4.965	4.965	-21619	16250	38680	81562	120440	25322	120242		4.77	Si
SLD 13	-1.95	-48857.61	-77385	-61908	-25774	4.965	4.965	-27709	16250	44122	81562	120440	25322	125684		4.88	Si
SLD 13	0.15	-9592.62	-64458	-51567	-25552	4.965	4.965	-23080	16250	39986	81562	120440	25322	121548		4.76	Si
SLV 9	-1.95	-54529.79	-92501	-74001	-24746	4.965	4.965	-33121	16250	48959	81562	120440	25322	130521		5.27	Si
SLV 9	0.15	-12180.46	-80182	-64146	-24838	4.965	4.965	-28710	16250	45017	81562	120440	25322	126579		5.1	Si
SLD 15	-1.95	-43066.15	-74368	-59494	-25055	4.965	4.965	-26628	16250	43157	81562	120440	25322	124718		4.98	Si
SLD 15	0.15	-7374.25	-60931	-48744	-24785	4.965	4.965	-21817	16250	38857	81562	120440	25322	120419		4.86	Si
SLV 10	-1.95	-54168.72	-92254	-73803	-25189	4.965	4.965	-33033	16250	48880	81562	120440	25322	130442		5.18	Si
SLV 10	0.15	-11779.02	-79599	-63679	-25281	4.965	4.965	-28501	16250	44831	81562	120440	25322	126392		5	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-55722	0.24	292.37	10831.35	14032.86	12432.1	42.52	Si
SLV 15	-56430	0.24	292.37	10947.11	14193.51	12570.31	42.99	Si
SLV 14	-61247	0.24	292.37	11719.48	15286.15	13502.81	46.18	Si
SLV 13	-61956	0.24	292.37	11830.94	15444.54	13637.74	46.65	Si
SLV 12	-66170	0.24	292.37	12482.49	16375.26	14428.87	49.35	Si
SLV 11	-66647	0.24	292.37	12555.01	16480.64	14517.82	49.66	Si
SLV 8	-80552	0.24	292.37	14559.04	19516.34	17037.69	58.27	Si
SLV 7	-81029	0.24	292.37	14624.02	19615.84	17119.93	58.56	Si
SLV 10	-84589	0.24	292.37	15100.96	20358.26	17729.61	60.64	Si
SLV 9	-85066	0.24	292.37	15163.83	20457.78	17810.8	60.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-98333	-120101	-232	0.357	10836.3	0.976	5.31648	2.92742	Si
SLV 2	-97383	-119734	-231	0.36	10739.5	0.976	5.35511	2.92742	Si
SLV 3	-92110	-115255	-149	0.375	10202.4	0.975	5.5953	2.92742	Si
SLV 4	-91159	-114889	-148	0.378	10105.6	0.975	5.63928	2.92742	Si
SLV 5	-90219	-107821	-207	0.381	10009.8	0.975	5.67421	2.58905	Si
SLV 6	-89579	-107574	-207	0.383	9944.6	0.974	5.70487	2.58905	Si
SLV 9	-77174	-92501	-102	0.428	8681.3	0.971	6.41236	2.58905	Si
SLV 10	-76534	-92254	-102	0.431	8616.1	0.971	6.45394	2.58905	Si
SLV 7	-69474	-91670	72	0.464	7897.4	0.968	6.96581	2.58905	Si
SLV 8	-68835	-91423	73	0.467	7832.2	0.968	7.01645	2.58905	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.898	SLU 84	Si
V_SLU	3.529	SLU 84	Si
PF_SLV	2.86	SLV 13	Si
V_SLV	4.111	SLV 14	Si
PFFP_SLV	42.522	SLV 16	Si
R_SLV	1.816	SLV 1	Si

Maschio 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-14.963	1.141	-18.838	1.141	L2	L4	3.875	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	-1.95	-18261.86	-143762	-0.0001702	0.0004492	0.0035	3.875	90599.27	167498.18	167498.18	9.17	No	Si
SLU 84	0.15	-11226.95	-151163	-0.0001665	0.0004492	0.0035	3.875	85090.08	169240.2	169240.2	15.07	No	Si
SLU 82	-1.95	-18170.39	-142163	-0.000168	0.0004492	0.0035	3.875	91658.17	167121.99	167121.99	9.2	No	Si
SLU 82	0.15	-10986.32	-149410	-0.0001639	0.0004492	0.0035	3.875	86484.3	168827.8	168827.8	15.37	No	Si
SLU 73	-1.95	-17690.32	-136240	-0.0001599	0.0004492	0.0035	3.875	95177.57	164609.56	164609.56	9.31	No	Si
SLU 73	0.15	-10203.41	-142956	-0.0001546	0.0004492	0.0035	3.875	91138.81	167308.56	167308.56	16.4	No	Si
SLU 77	-1.95	-17430.64	-141001	-0.0001652	0.0004492	0.0035	3.875	92398.89	166848.49	166848.49	9.57	No	Si
SLU 77	0.15	-11338.61	-147655	-0.0001624	0.0004492	0.0035	3.875	87825.27	168414.59	168414.59	14.85	No	Si
SLU 83	-1.95	-17940.2	-144219	-0.0001702	0.0004492	0.0035	3.875	90287.81	167605.79	167605.79	9.34	No	Si
SLU 83	0.15	-11572.38	-151350	-0.0001674	0.0004492	0.0035	3.875	84937.88	169284.24	169284.24	14.63	No	Si
SLU 78	-1.95	-17752.3	-140544	-0.0001653	0.0004492	0.0035	3.875	92683.61	166725.85	166725.85	9.39	No	Si
SLU 78	0.15	-10993.19	-147468	-0.0001615	0.0004492	0.0035	3.875	87964.89	168370.55	168370.55	15.32	No	Si
SLU 81	-1.95	-17848.74	-142621	-0.000168	0.0004492	0.0035	3.875	91359.99	167229.61	167229.61	9.37	No	Si
SLU 81	0.15	-11331.75	-149598	-0.0001647	0.0004492	0.0035	3.875	86338.07	168871.84	168871.84	14.9	No	Si
SLU 76	-1.95	-17781.78	-137838	-0.000162	0.0004492	0.0035	3.875	94290.85	165395.37	165395.37	9.3	No	Si
SLU 76	0.15	-10444.04	-144708	-0.0001571	0.0004492	0.0035	3.875	89950.26	167720.96	167720.96	16.06	No	Si
SLU 75	-1.95	-17660.84	-138946	-0.0001631	0.0004492	0.0035	3.875	93648.98	165940.04	165940.04	9.4	No	Si
SLU 75	0.15	-10752.56	-145716	-0.0001589	0.0004492	0.0035	3.875	89241.38	167958.15	167958.15	15.62	No	Si
SLU 80	-1.95	-17658.8	-139741	-0.0001641	0.0004492	0.0035	3.875	93174.42	166331.05	166331.05	9.42	No	Si
SLU 80	0.15	-10914.95	-146585	-0.0001603	0.0004492	0.0035	3.875	88615.15	168162.72	168162.72	15.41	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	-1.95	-34498.72	-83367	-0.0001212	0.0006738	0.0035	3.875		139811.24	139811.24	4.05		Si
SLD 14	0.15	-870.86	-87515	-0.0000769	0.0006738	0.0035	3.875		144942.84	144942.84	166.44		Si
SLV 16	-1.95	-36072.69	-92184	-0.0001322	0.0006738	0.0035	3.875		150465.72	150465.72	4.17		Si
SLV 16	0.15	-9861.32	-86903	-0.0000891	0.0006738	0.0035	3.875		144185.83	144185.83	14.62		Si
SLV 13	-1.95	-47847.22	-75827	-0.000133	0.0006738	0.0035	3.875		130225.81	130225.81	2.72		Si
SLV 13	0.15	3144.39	-81025	-0.0000742	0.0006738	0.0035	3.875		130222.51	130222.51	41.41		Si
SLD 10	-1.95	-29335.85	-77015	-0.0001076	0.0006738	0.0035	3.875		131791.32	131791.32	4.49		Si
SLD 10	0.15	6676.08	-89958	-0.0000874	0.0006738	0.0035	3.875		140912.19	140912.19	21.11		Si
SLV 14	-1.95	-47340.04	-76346	-0.0001328	0.0006738	0.0035	3.875		130910.17	130910.17	2.77		Si
SLV 14	0.15	2993.01	-80814	-0.0000738	0.0006738	0.0035	3.875		129925.75	129925.75	43.41		Si
SLD 13	-1.95	-34822.77	-83035	-0.0001213	0.0006738	0.0035	3.875		139400.77	139400.77	4		Si
SLD 13	0.15	-774.15	-87649	-0.0000769	0.0006738	0.0035	3.875		145109.17	145109.17	187.44		Si
SLV 9	-1.95	-39928.29	-65541	-0.0001116	0.0006738	0.0035	3.875		116393.12	116393.12	2.92		Si
SLV 9	0.15	15274.7	-84596	-0.0000947	0.0006738	0.0035	3.875		135056.24	135056.24	8.84		Si
SLV 15	-1.95	-36579.88	-91665	-0.0001324	0.0006738	0.0035	3.875		149865.14	149865.14	4.1		Si
SLV 15	0.15	-9709.94	-87113	-0.0000891	0.0006738	0.0035	3.875		144446.18	144446.18	14.88		Si
SLV 10	-1.95	-39586.82	-65891	-0.0001114	0.0006738	0.0035	3.875		116882.08	116882.08	2.95		Si
SLV 10	0.15	15172.78	-84454	-0.0000944	0.0006738	0.0035	3.875		134901.53	134901.53	8.89		Si
SLD 9	-1.95	-29550.66	-76795	-0.0001076	0.0006738	0.0035	3.875		131501.47	131501.47	4.45		Si
SLD 9	0.15	6740.19	-90047	-0.0000876	0.0006738	0.0035	3.875		141009.52	141009.52	20.92		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	-1.95	-17752.3	-140544	-112435	6134	3.875	3.875	-64479	10833	55046	81562	62666	19763	82429	No	13.44	Si
SLU 78	0.15	-10993.19	-147468	-117974	6278	3.875	3.875	-67656	10833	57261	81562	62666	19763	82429	No	13.13	Si
SLU 80	-1.95	-17658.8	-139741	-111793	6105	3.875	3.875	-64111	10833	54789	81562	62666	19763	82429	No	13.5	Si
SLU 80	0.15	-10914.95	-146585	-117268	6249	3.875	3.875	-67250	10833	56978	81562	62666	19763	82429	No	13.19	Si
SLU 84	-1.95	-18261.86	-143762	-115009	6352	3.875	3.875	-65955	10833	56075	81562	62666	19763	82429	No	12.98	Si
SLU 84	0.15	-11226.95	-151163	-120930	6500	3.875	3.875	-69351	10833	58443	81562	62666	19763	82429	No	12.68	Si
SLU 75	-1.95	-17660.84	-138946	-111157	6005	3.875	3.875	-63746	10833	54534	81562	62666	19763	82429	No	13.73	Si
SLU 75	0.15	-10752.56	-145716	-116573	6148	3.875	3.875	-66852	10833	56700	81562	62666	19763	82429	No	13.41	Si
SLU 79	-1.95	-17337.14	-140198	-112159	6119	3.875	3.875	-64320	10833	54935	81562	62666	19763	82429	No	13.47	Si
SLU 79	0.15	-11260.38	-146772	-117418	6261	3.875	3.875	-67336	10833	57038	81562	62666	19763	82429	No	13.17	Si
SLU 83	-1.95	-17940.2	-144219	-115375	6365	3.875	3.875	-66165	10833	56221	81562	62666	19763	82429	No	12.95	Si
SLU 83	0.15	-11572.38	-151350	-121080	6512	3.875	3.875	-69436	10833	58503	81562	62666	19763	82429	No	12.66	Si
SLU 82	-1.95	-18170.39	-142163	-113731	6223	3.875	3.875	-65222	10833	55564	81562	62666	19763	82429	No	13.25	Si
SLU 82	0.15	-10986.32	-149410	-119528	6370	3.875	3.875	-68547	10833	57883	81562	62666	19763	82429	No	12.94	Si
SLU 77	-1.95	-17430.64	-141001	-112801	6147	3.875	3.875	-64689	10833	55192	81562	62666	19763	82429	No	13.41	Si
SLU 77	0.15	-11338.61	-147655	-118124	6290	3.875	3.875	-67741	10833	57321	81562	62666	19763	82429	No	13.1	Si
SLU 81	-1.95	-17848.74	-142621	-114096	6236	3.875	3.875	-65432	10833	55710	81562	62666	19763	82429	No	13.22	Si
SLU 81	0.15	-11331.75	-149598	-119678	6382	3.875	3.875	-68633	10833	57943	81562	62666	19763	82429	No	12.92	Si
SLU 74	-1.95	-17339.18	-139403	-111523	6018	3.875	3.875	-63956	10833	54680	81562	62666	19763	82429	No	13.7	Si
SLU 74	0.15	-11097.98	-145903	-116722	6160	3.875	3.875	-66938	10833	56760	81562	62666	19763	82429	No	13.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	-1.95	10525.43	-107806	-86245	16650	3.875	3.875	-49460	16250	49606	81562	93999	19763	113762		6.83	Si
SLD 3	0.15	-13965.14	-111010	-88808	16710	3.875	3.875	-50929	16250	50631	81562	93999	19763	113762		6.81	Si
SLV 13	-1.95	-47847.22	-75827	-60662	-15601	3.875	3.875	-34788	16250	39374	81562	93999	19763	113762		7.29	Si
SLV 13	0.15	3144.39	-81025	-64820	-15436	3.875	3.875	-37173	16250	41037	81562	93999	19763	113762		7.37	Si
SLV 1	-1.95	12099.4	-98989	-79192	23291	3.875	3.875	-45415	16250	46785	81562	93999	19763	113762		4.88	Si
SLV 1	0.15	-4974.68	-111621	-89297	23377	3.875	3.875	-51210	16250	50827	81562	93999	19763	113762		4.87	Si
SLD 1	-1.95	3500.57	-97939	-78351	16304	3.875	3.875	-44932	16250	46449	81562	93999	19763	113762		6.98	Si
SLD 1	0.15	-5955.81	-107215	-85772	16396	3.875	3.875	-49188	16250	49417	81562	93999	19763	113762		6.94	Si
SLV 4	-1.95	23873.93	-115346	-92277	23499	3.875	3.875	-52919	16250	52019	81562	93999	19763	113762		4.84	Si
SLV 4	0.15	-17980.38	-117500	-94000	23531	3.875	3.875	-53907	16250	52708	81562	93999	19763	113762		4.83	Si
SLV 3	-1.95	23366.75	-114827	-91862	23838	3.875	3.875	-52681	16250	51853	81562	93999	19763	113762		4.77	Si
SLV 3	0.15	-17829.01	-117710	-94168	23874	3.875	3.875	-54003	16250	52776	81562	93999	19763	113762		4.77	Si
SLD 2	-1.95	3824.61	-98270	-78616	16087	3.875	3.875	-45085	16250	46555	81562	93999	19763	113762		7.07	Si
SLD 2	0.15	-6052.52	-107080	-85664	16177	3.875	3.875	-49127	16250	49374	81562	93999	19763	113762		7.03	Si
SLV 2	-1.95	12606.59	-99509	-79607	22952	3.875	3.875	-45653	16250	46951	81562	93999	19763	113762		4.96	Si
SLV 2	0.15	-5126.06	-111411	-89129	23034	3.875	3.875	-51113	16250	50760	81562	93999	19763	113762		4.94	Si
SLV 14	-1.95	-47340.04	-76346	-61077	-15940	3.875	3.875	-35026	16250	39540	81562	93999	19763	113762		7.14	Si
SLV 14	0.15	2993.01	-80814	-64652	-15779	3.875	3.875	-37076	16250	40969	81562	93999	19763	113762		7.21	Si
SLD 4	-1.95	10849.47	-108138	-86510	16433	3.875	3.875	-49612	16250	49713	81562	93999	19763	113762		6.92	Si
SLD 4	0.15	-14061.85	-110875	-88700	16490	3.875	3.875	-50867	16250	50588	81562	93999	19763	113762		6.9	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-77117	0.24	228.19	13164.58	18106.99	15635.78	68.52	Si
SLV 10	-77144	0.24	228.19	13167.63	18112.18	15639.91	68.54	Si
SLV 13	-77500	0.24	228.19	13209.03	18182.64	15695.84	68.79	Si
SLV 14	-77539	0.24	228.19	13213.55	18190.35	15701.95	68.81	Si
SLV 5	-85279	0.24	228.19	14067.88	19646.36	16857.12	73.87	Si
SLV 6	-85306	0.24	228.19	14070.64	19651.27	16860.95	73.89	Si
SLV 15	-85996	0.24	228.19	14142.68	19780.18	16961.43	74.33	Si
SLV 16	-86035	0.24	228.19	14146.73	19787.47	16967.1	74.36	Si
SLV 1	-104707	0.24	228.19	15840.6	22986.03	19413.32	85.08	Si
SLV 2	-104746	0.24	228.19	15843.63	22992.17	19417.9	85.1	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-103930	-114827	-46	0.29	11227.1	0.982	4.29448	2.92742	Si
SLV 4	-103731	-115346	-50	0.291	11206.8	0.982	4.2996	2.92742	Si
SLV 1	-100131	-98989	60	0.297	10840	0.981	4.40543	2.92742	Si
SLV 2	-99932	-99509	56	0.298	10819.7	0.981	4.41219	2.92742	Si
SLV 7	-96917	-125282	-201	0.303	10512.4	0.981	4.48704	2.58905	Si
SLV 8	-96783	-125632	-204	0.303	10498.8	0.981	4.49099	2.58905	Si
SLV 11	-87134	-118334	-227	0.326	9515.7	0.979	4.83682	2.58905	Si
SLV 12	-87000	-118683	-230	0.326	9502.1	0.979	4.84173	2.58905	Si
SLV 5	-84254	-72490	152	0.334	9222.3	0.978	4.96888	2.58905	Si
SLV 15	-71322	-91665	-134	0.377	7904.9	0.975	5.6251	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.172	SLU 84	Si
V_SLU	12.658	SLU 83	Si
PF_SLV	2.722	SLV 13	Si
V_SLV	4.765	SLV 3	Si
PFFP_SLV	68.522	SLV 9	Si
R_SLV	1.467	SLV 3	Si

Maschio 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.238	1.141	-12.613	1.141	L2	L4	0.375	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	-1.95	-154.69	-14337	-0.0001725	0.0004492	0.0035	0.375	819.03	1570.32	1570.32	10.15	No	Si
SLU 77	0.21	549.7	-14789	-0.0002632	0.0004492	0.0035	0.375	784.09	1577.04	1577.04	2.87	No	Si
SLU 78	-1.95	-154.41	-14280	-0.0001717	0.0004492	0.0035	0.375	823.2	1568.12	1568.12	10.16	No	Si
SLU 78	0.21	549.73	-14788	-0.0002632	0.0004492	0.0035	0.375	784.1	1577.04	1577.04	2.87	No	Si
SLU 84	-1.95	-159.22	-14660	-0.0001777	0.0004492	0.0035	0.375	794.42	1582.75	1582.75	9.94	No	Si
SLU 84	0.21	565.45	-15223	-0.0002745	0.0004492	0.0035	0.375	746.95	1582.65	1582.65	2.8	No	Si
SLU 74	-1.95	-152.53	-14178	-0.00017	0.0004492	0.0035	0.375	830.46	1564.2	1564.2	10.26	No	Si
SLU 74	0.21	543.38	-14619	-0.0002588	0.0004492	0.0035	0.375	797.63	1574.86	1574.86	2.9	No	Si
SLU 83	-1.95	-159.5	-14717	-0.0001785	0.0004492	0.0035	0.375	789.85	1584.95	1584.95	9.94	No	Si
SLU 83	0.21	565.43	-15224	-0.0002744	0.0004492	0.0035	0.375	746.93	1582.65	1582.65	2.8	No	Si
SLU 75	-1.95	-152.25	-14120	-0.0001692	0.0004492	0.0035	0.375	834.47	1561.99	1561.99	10.26	No	Si
SLU 75	0.21	543.4	-14619	-0.0002588	0.0004492	0.0035	0.375	797.64	1574.85	1574.85	2.9	No	Si
SLU 79	-1.95	-153.4	-14256	-0.0001712	0.0004492	0.0035	0.375	824.9	1567.21	1567.21	10.22	No	Si
SLU 79	0.21	546.38	-14701	-0.0002609	0.0004492	0.0035	0.375	791.17	1575.91	1575.91	2.88	No	Si
SLU 80	-1.95	-153.12	-14199	-0.0001704	0.0004492	0.0035	0.375	828.98	1565	1565	10.22	No	Si
SLU 80	0.21	546.41	-14701	-0.0002609	0.0004492	0.0035	0.375	791.18	1575.91	1575.91	2.88	No	Si
SLU 81	-1.95	-157.34	-14558	-0.000176	0.0004492	0.0035	0.375	802.39	1578.83	1578.83	10.03	No	Si
SLU 81	0.21	559.11	-15054	-0.00027	0.0004492	0.0035	0.375	761.81	1580.47	1580.47	2.83	No	Si
SLU 82	-1.95	-157.06	-14501	-0.0001752	0.0004492	0.0035	0.375	806.79	1576.62	1576.62	10.04	No	Si
SLU 82	0.21	559.13	-15054	-0.00027	0.0004492	0.0035	0.375	761.83	1580.46	1580.46	2.83	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	-1.95	-634.86	-13221	-0.0002296	0.0006738	0.0035	0.375		1786.87	1786.87	2.81		Si
SLV 15	0.21	528.29	-12946	-0.0002078	0.0006738	0.0035	0.375		1734.52	1734.52	3.28		Si
SLV 3	-1.95	416.15	-8311	-0.0001381	0.0006738	0.0035	0.375		1264.92	1264.92	3.04		Si
SLV 3	0.21	213.63	-7041	-0.0000942	0.0006738	0.0035	0.375		1118.78	1118.78	5.24		Si
SLV 2	-1.95	433.5	-6132	-0.0001193	0.0006738	0.0035	0.375		990.43	990.43	2.28		Si
SLV 2	0.21	207.58	-6839	-0.0000913	0.0006738	0.0035	0.375		1093.99	1093.99	5.27		Si
SLD 15	-1.95	-444.55	-11919	-0.0001818	0.0006738	0.0035	0.375		1678.22	1678.22	3.78		Si
SLD 15	0.21	470.38	-11845	-0.0001853	0.0006738	0.0035	0.375		1643.89	1643.89	3.49		Si
SLV 16	-1.95	-635.56	-13193	-0.0002294	0.0006738	0.0035	0.375		1784.9	1784.9	2.81		Si
SLV 16	0.21	528.06	-12910	-0.0002073	0.0006738	0.0035	0.375		1731.53	1731.53	3.28		Si
SLV 1	-1.95	434.19	-6161	-0.0001197	0.0006738	0.0035	0.375		994.64	994.64	2.29		Si
SLV 1	0.21	207.81	-6876	-0.0000917	0.0006738	0.0035	0.375		1099.3	1099.3	5.29		Si
SLD 16	-1.95	-445	-11901	-0.0001816	0.0006738	0.0035	0.375		1676.49	1676.49	3.77		Si
SLD 16	0.21	470.23	-11822	-0.000185	0.0006738	0.0035	0.375		1641.98	1641.98	3.49		Si
SLV 13	-1.95	-616.82	-11071	-0.000201	0.0006738	0.0035	0.375		1598.22	1598.22	2.59		Si
SLV 13	0.21	522.47	-12781	-0.0002048	0.0006738	0.0035	0.375		1720.91	1720.91	3.29		Si
SLV 14	-1.95	-617.52	-11042	-0.0002008	0.0006738	0.0035	0.375		1595.5	1595.5	2.58		Si
SLV 14	0.21	522.24	-12744	-0.0002044	0.0006738	0.0035	0.375		1717.93	1717.93	3.29		Si
SLV 4	-1.95	415.46	-8282	-0.0001377	0.0006738	0.0035	0.375		1261.61	1261.61	3.04		Si
SLV 4	0.21	213.4	-7005	-0.0000938	0.0006738	0.0035	0.375		1114.6	1114.6	5.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	-1.95	-131.51	-12553	-10043	-34	0.375	0.375	-59511	10833	3328	81562	6064	1912	7977	No	235.02	Si
SLU 68	0.21	480.92	-12916	-10333	-210	0.375	0.375	-61231	10833	3405	81562	6064	1912	7977	No	38	Si
SLU 69	-1.95	-135.42	-12889	-10311	-39	0.375	0.375	-61103	10833	3399	81562	6064	1912	7977	No	205.23	Si
SLU 69	0.21	490.51	-13173	-10539	-215	0.375	0.375	-62452	10833	3460	81562	6064	1912	7977	No	37.18	Si
SLU 80	-1.95	-153.12	-14199	-11359	-41	0.375	0.375	-67312	10833	3679	81562	6064	1912	7977	No	194.46	Si
SLU 80	0.21	546.41	-14701	-11761	-208	0.375	0.375	-69692	10833	3786	81562	6064	1912	7977	No	38.29	Si
SLU 66	-1.95	-133.26	-12730	-10184	-38	0.375	0.375	-60348	10833	3365	81562	6064	1912	7977	No	211.69	Si
SLU 66	0.21	484.19	-13004	-10403	-211	0.375	0.375	-61649	10833	3424	81562	6064	1912	7977	No	37.73	Si
SLU 67	-1.95	-132.98	-12672	-10138	-36	0.375	0.375	-60076	10833	3353	81562	6064	1912	7977	No	222.51	Si
SLU 67	0.21	484.22	-13004	-10403	-212	0.375	0.375	-61648	10833	3424	81562	6064	1912	7977	No	37.72	Si
SLU 71	-1.95	-134.13	-12808	-10246	-38	0.375	0.375	-60719	10833	3382	81562	6064	1912	7977	No	208.92	Si
SLU 71	0.21	487.2	-13086	-10469	-213	0.375	0.375	-62036	10833	3441	81562	6064	1912	7977	No	37.46	Si
SLU 77	-1.95	-154.69	-14337	-11470	-44	0.375	0.375	-67968	10833	3708	81562	6064	1912	7977	No	183.21	Si
SLU 77	0.21	549.7	-14789	-11831	-210	0.375	0.375	-70109	10833	3805	81562	6064	1912	7977	No	38.01	Si
SLU 70	-1.95	-135.14	-12832	-10265	-37	0.375	0.375	-60831	10833	3387	81562	6064	1912	7977	No	215.39	Si
SLU 70	0.21	490.54	-13173	-10539	-215	0.375	0.375	-62451	10833	3460	81562	6064	1912	7977	No	37.17	Si
SLU 78	-1.95	-154.41	-14280	-11424	-42	0.375	0.375	-67696	10833	3696	81562	6064	1912	7977	No	191.26	Si
SLU 78	0.21	549.73	-14788	-11831	-210	0.375	0.375	-70108	10833	3805	81562	6064	1912	7977	No	38	Si
SLU 72	-1.95	-133.85	-12751	-10201	-36	0.375	0.375	-60448	10833	3370	81562	6064	1912	7977	No	219.46	Si
SLU 72	0.21	487.22	-13086	-10468	-213	0.375	0.375	-62035	10833	3441	81562	6064	1912	7977	No	37.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	-1.95	-635.56	-13193	-10554	-575	0.375	0.375	-62543	16250	3789	81562	9097	1912	11009		19.15	Si
SLV 16	0.21	528.06	-12910	-10328	202	0.375	0.375	-61201	16250	3729	81562	9097	1912	11009		54.5	Si
SLV 3	-1.95	416.15	-8311	-6649	448	0.375	0.375	-39399	16250	2748	81562	9097	1912	11009		24.58	Si
SLV 3	0.21	213.63	-7041	-5633	-503	0.375	0.375	-33379	16250	2742	81562	9097	1912	11009		21.88	Si
SLV 1	-1.95	434.19	-6161	-4929	521	0.375	0.3511	-29206	16250	2567	81562	9097	1912	11009		21.14	Si
SLV 1	0.21	207.81	-6876	-5500	-509	0.375	0.375	-32595	16250	2742	81562	9097	1912	11009		21.61	Si
SLD 1	-1.95	243.63	-7452	-5962	323	0.375	0.375	-35330	16250	2742	81562	9097	1912	11009		34.12	Si
SLD 1	0.21	265.64	-7963	-6371	-382	0.375	0.375	-37753	16250	2742	81562	9097	1912	11009		28.85	Si
SLD 2	-1.95	243.19	-7434	-5947	322	0.375	0.375	-35243	16250	2742	81562	9097	1912	11009		34.18	Si
SLD 2	0.21	265.49	-7940	-6352	-385	0.375	0.375	-37643	16250	2742	81562	9097	1912	11009		28.61	Si
SLV 13	-1.95	-616.82	-11071	-8857	-501	0.375	0.375	-52486	16250	3337	81562	9097	1912	11009		21.97	Si
SLV 13	0.21	522.47	-12781	-10224	201	0.375	0.375	-60589	16250	3701	81562	9097	1912	11009		54.82	Si
SLV 2	-1.95	433.5	-6132	-4906	520	0.375	0.3504	-29070	16250	2562	81562	9097	1912	11009		21.18	Si
SLV 2	0.21	207.58	-6839	-5471	-514	0.375	0.375	-32423	16250	2742	81562	9097	1912	11009		21.4	Si
SLV 4	-1.95	415.46	-8282	-6626	447	0.375	0.375	-39263	16250	2742	81562	9097	1912	11009		24.63	Si
SLV 4	0.21	213.4	-7005	-5604	-508	0.375	0.375	-33207	16250	2742	81562	9097	1912	11009		21.66	Si
SLV 14	-1.95	-617.52	-11042	-8834	-502	0.375	0.375	-52349	16250	3330	81562	9097	1912	11009		21.93	Si
SLV 14	0.21	522.24	-12744	-10195	196	0.375	0.375	-60417	16250	3694	81562	9097	1912	11009		56.22	Si
SLV 15	-1.95	-634.86	-13221	-10577	-574	0.375	0.375	-62679	16250	3795	81562	9097	1912	11009		19.18	Si
SLV 15	0.21	528.29	-12946	-10357	207	0.375	0.375	-61373	16250	3737	81562	9097	1912	11009		53.18	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-9257	0.24	22.08	1459.42	2060.64	1760.03	79.7	Si
SLV 1	-9294	0.24	22.08	1462.75	2066.86	1764.81	79.92	Si
SLV 4	-9606	0.24	22.08	1490.04	2119.23	1804.63	81.72	Si
SLV 3	-9643	0.24	22.08	1493.18	2125.45	1809.32	81.93	Si
SLV 6	-10758	0.24	22.08	1578.6	2305.34	1941.97	87.94	Si
SLV 5	-10783	0.24	22.08	1580.3	2309.25	1944.78	88.07	Si
SLV 8	-11921	0.24	22.08	1648.38	2475.8	2062.09	93.38	Si
SLV 7	-11946	0.24	22.08	1649.67	2479.23	2064.45	93.49	Si
SLV 10	-12388	0.24	22.08	1670.9	2539.82	2105.36	95.34	Si
SLV 9	-12413	0.24	22.08	1672.01	2543.17	2107.59	95.44	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-13471	-13221	48	0.237	1434.3	0.986	3.48937	2.92742	Si
SLV 16	-13400	-13193	48	0.238	1427	0.986	3.50111	2.92742	Si
SLV 13	-13182	-11071	45	0.24	1404.8	0.986	3.54089	2.92742	Si
SLV 14	-13110	-11042	45	0.241	1397.6	0.986	3.55317	2.92742	Si
SLV 11	-10427	-14006	33	0.281	1124.2	0.983	4.1495	2.58905	Si
SLV 12	-10379	-13987	33	0.281	1119.3	0.983	4.16264	2.58905	Si
SLV 9	-9463	-6839	23	0.301	1025.9	0.981	4.45276	2.58905	Si
SLV 10	-9415	-6820	23	0.302	1021	0.981	4.46871	2.58905	Si
SLV 7	-7539	-12533	18	0.353	829.9	0.977	5.25678	2.58905	Si
SLV 8	-7492	-12514	18	0.355	825	0.977	5.28169	2.58905	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.799	SLU 84	Si
V_SLU	37.17	SLU 70	Si
PF_SLV	2.285	SLV 2	Si
V_SLV	19.149	SLV 16	Si
PFFP_SLV	79.703	SLV 2	Si
R_SLV	1.192	SLV 15	Si

Maschio 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.428	1.141	-11.238	1.141	L2	L4	3.81	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.95	-14476.63	-144287	-0.0001679	0.0004492	0.0035	3.81	85551.99	162724.35	162724.35	11.24	No	Si
SLU 83	0.21	-12092.22	-127502	-0.0001429	0.0004492	0.0035	3.81	95060.72	156112.09	156112.09	12.91	No	Si
SLU 76	-1.95	-14079.91	-138382	-0.0001597	0.0004492	0.0035	3.81	89480.89	161288.98	161288.98	11.46	No	Si
SLU 76	0.21	-11690.71	-122286	-0.0001361	0.0004492	0.0035	3.81	96972.04	153630.44	153630.44	13.14	No	Si
SLU 81	-1.95	-14374.42	-142753	-0.0001658	0.0004492	0.0035	3.81	86633.45	162379.63	162379.63	11.3	No	Si
SLU 81	0.21	-11996.23	-126066	-0.0001411	0.0004492	0.0035	3.81	95636.04	155429.17	155429.17	12.96	No	Si
SLU 78	-1.95	-14182.63	-140862	-0.000163	0.0004492	0.0035	3.81	87908.16	161954.52	161954.52	11.42	No	Si
SLU 78	0.21	-11842.63	-124474	-0.0001389	0.0004492	0.0035	3.81	96230.52	154671.45	154671.45	13.06	No	Si
SLU 75	-1.95	-14080.42	-139328	-0.0001609	0.0004492	0.0035	3.81	88894.1	161609.79	161609.79	11.48	No	Si
SLU 75	0.21	-11746.64	-123038	-0.0001371	0.0004492	0.0035	3.81	96726.8	153988.52	153988.52	13.11	No	Si
SLU 84	-1.95	-14574.01	-144073	-0.0001678	0.0004492	0.0035	3.81	85705.52	162676.23	162676.23	11.16	No	Si
SLU 84	0.21	-12104.45	-127498	-0.000143	0.0004492	0.0035	3.81	95062.44	156110.11	156110.11	12.9	No	Si
SLU 73	-1.95	-13977.7	-136849	-0.0001577	0.0004492	0.0035	3.81	90397.68	160559.33	160559.33	11.49	No	Si
SLU 73	0.21	-11594.72	-120850	-0.0001343	0.0004492	0.0035	3.81	97411.2	152947.52	152947.52	13.19	No	Si
SLU 80	-1.95	-14117.2	-140059	-0.0001619	0.0004492	0.0035	3.81	88429.86	161773.98	161773.98	11.46	No	Si
SLU 80	0.21	-11778.56	-123724	-0.0001379	0.0004492	0.0035	3.81	96494.46	154314.68	154314.68	13.1	No	Si
SLU 82	-1.95	-14471.8	-142539	-0.0001657	0.0004492	0.0035	3.81	86781.01	162331.5	162331.5	11.22	No	Si
SLU 82	0.21	-12008.45	-126062	-0.0001411	0.0004492	0.0035	3.81	95637.65	155427.19	155427.19	12.94	No	Si
SLU 77	-1.95	-14085.25	-141076	-0.0001631	0.0004492	0.0035	3.81	87767.13	162002.64	162002.64	11.5	No	Si
SLU 77	0.21	-11830.4	-124478	-0.0001389	0.0004492	0.0035	3.81	96229.03	154673.42	154673.42	13.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	-1.95	-35117.7	-104599	-0.0001469	0.0006738	0.0035	3.81		160891.23	160891.23	4.58		Si
SLV 15	0.21	-4577.51	-85377	-0.0000818	0.0006738	0.0035	3.81		139437.99	139437.99	30.46		Si
SLV 13	-1.95	-38730.18	-97384	-0.000145	0.0006738	0.0035	3.81		153244.72	153244.72	3.96		Si
SLV 13	0.21	-5813.47	-85475	-0.0000837	0.0006738	0.0035	3.81		139557.58	139557.58	24.01		Si
SLV 9	-1.95	-23844.04	-85331	-0.0001103	0.0006738	0.0035	3.81		139382.75	139382.75	5.85		Si
SLV 9	0.21	-9328.44	-84451	-0.0000879	0.0006738	0.0035	3.81		138317.61	138317.61	14.83		Si
SLV 14	-1.95	-39087.1	-97647	-0.0001459	0.0006738	0.0035	3.81		153542.95	153542.95	3.93		Si
SLV 14	0.21	-5459.8	-85845	-0.0000835	0.0006738	0.0035	3.81		140005.53	140005.53	25.64		Si
SLV 10	-1.95	-24084.34	-85508	-0.0001108	0.0006738	0.0035	3.81		139597.74	139597.74	5.8		Si
SLV 10	0.21	-9090.33	-84700	-0.0000878	0.0006738	0.0035	3.81		138619.19	138619.19	15.25		Si
SLD 15	-1.95	-26005.56	-101407	-0.0001296	0.0006738	0.0035	3.81		157537.5	157537.5	6.06		Si
SLD 15	0.21	-5883.92	-84849	-0.0000832	0.0006738	0.0035	3.81		138799.74	138799.74	23.59		Si
SLV 16	-1.95	-35474.62	-104863	-0.0001478	0.0006738	0.0035	3.81		161168.36	161168.36	4.54		Si
SLV 16	0.21	-4223.83	-85746	-0.0000816	0.0006738	0.0035	3.81		139885.93	139885.93	33.12		Si
SLD 16	-1.95	-26233.6	-101576	-0.0001301	0.0006738	0.0035	3.81		157714.56	157714.56	6.01		Si
SLD 16	0.21	-5657.95	-85086	-0.0000831	0.0006738	0.0035	3.81		139085.93	139085.93	24.58		Si
SLD 13	-1.95	-28262.04	-96915	-0.0001285	0.0006738	0.0035	3.81		152714.45	152714.45	5.4		Si
SLD 13	0.21	-6657.56	-84909	-0.0000844	0.0006738	0.0035	3.81		138871.53	138871.53	20.86		Si
SLD 14	-1.95	-28490.07	-97083	-0.000129	0.0006738	0.0035	3.81		152904.99	152904.99	5.37		Si
SLD 14	0.21	-6431.59	-85145	-0.0000843	0.0006738	0.0035	3.81		139157.73	139157.73	21.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	-1.95	-11889.81	-119870	-95896	1345	3.81	3.81	-55932	10833	48261	81562	61615	19431	81046	No	60.27	Si
SLU 36	0.21	-10219.45	-106574	-85259	567	3.81	3.81	-49728	10833	44007	81562	61615	19431	81046	No	142.84	Si
SLU 23	-1.95	-10380.5	-102913	-82330	1421	3.81	3.81	-48020	10833	42835	81562	61615	19431	81046	No	57.04	Si
SLU 23	0.21	-8987.16	-90796	-72637	576	3.81	3.81	-42366	10833	38958	81562	61615	19431	81046	No	140.74	Si
SLU 73	-1.95	-13977.7	-136849	-109479	1412	3.81	3.81	-63855	10833	53694	81562	61615	19431	81046	No	57.39	Si
SLU 73	0.21	-11594.72	-120850	-96680	477	3.81	3.81	-56390	10833	48575	81562	61615	19431	81046	No	169.91	Si
SLU 34	-1.95	-11787.09	-117390	-93912	1424	3.81	3.81	-54775	10833	47468	81562	61615	19431	81046	No	56.9	Si
SLU 34	0.21	-10067.54	-104386	-83509	674	3.81	3.81	-48707	10833	43306	81562	61615	19431	81046	No	120.27	Si
SLU 26	-1.95	-10482.71	-104446	-83557	1425	3.81	3.81	-48736	10833	43326	81562	61615	19431	81046	No	56.88	Si
SLU 26	0.21	-9083.15	-92232	-73785	569	3.81	3.81	-43036	10833	39417	81562	61615	19431	81046	No	142.53	Si
SLU 68	-1.95	-12775.52	-125439	-100351	1417	3.81	3.81	-58531	10833	50043	81562	61615	19431	81046	No	57.2	Si
SLU 68	0.21	-10706.33	-110131	-88105	365	3.81	3.81	-51388	10833	45145	81562	61615	19431	81046	No	222.32	Si
SLU 76	-1.95	-14079.91	-138382	-110706	1416	3.81	3.81	-64570	10833	54185	81562	61615	19431	81046	No	57.22	Si
SLU 76	0.21	-11690.71	-122286	-97829	470	3.81	3.81	-57060	10833	49034	81562	61615	19431	81046	No	172.53	Si
SLU 31	-1.95	-11684.88	-115857	-92685	1420	3.81	3.81	-54060	10833	46977	81562	61615	19431	81046	No	57.07	Si
SLU 31	0.21	-9971.55	-102951	-82360	681	3.81	3.81	-48038	10833	42847	81562	61615	19431	81046	No	119	Si
SLU 28	-1.95	-10585.43	-106926	-85541	1345	3.81	3.81	-49892	10833	44119	81562	61615	19431	81046	No	60.25	Si
SLU 28	0.21	-9235.06	-94420	-75536	462	3.81	3.81	-44057	10833	40117	81562	61615	19431	81046	No	175.35	Si
SLU 65	-1.95	-12673.31	-123905	-99124	1413	3.81	3.81	-57815	10833	49552	81562	61615	19431	81046	No	57.36	Si
SLU 65	0.21	-10610.33	-108696	-86957	372	3.81	3.81	-50718	10833	44686	81562	61615	19431	81046	No	217.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	-1.95	-39087.1	-97647	-78118	-16383	3.81	3.81	-45563	16250	46102	81562	92422	19431	111853		6.83	Si
SLV 14	0.21	-5459.8	-85845	-68676	-10463	3.81	3.81	-40056	16250	42326	81562	92422	19431	111853		10.69	Si
SLV 16	-1.95	-35474.62	-104863	-83890	-21345	3.81	3.81	-48930	16250	48411	81562	92422	19431	111853		5.24	Si
SLV 16	0.21	-4223.83	-85746	-68597	-15728	3.81	3.81	-40010	16250	42294	81562	92422	19431	111853		7.11	Si
SLV 13	-1.95	-38730.18	-97384	-77907	-16067	3.81	3.81	-45440	16250	46018	81562	92422	19431	111853		6.96	Si
SLV 13	0.21	-5813.47	-85475	-68380	-10202	3.81	3.81	-39883	16250	42207	81562	92422	19431	111853		10.96	Si
SLV 3	-1.95	19622.33	-94091	-75273	17960	3.81	3.81	-43904	16250	44964	81562	92422	19431	111853		6.23	Si
SLV 3	0.21	-10665.48	-81948	-65559	10510	3.81	3.81	-38238	16250	41079	81562	92422	19431	111853		10.64	Si
SLV 2	-1.95	15652.93	-87140	-69712	22606	3.81	3.81	-40660	16250	42740	81562	92422	19431	111853		4.95	Si
SLV 2	0.21	-11547.77	-82417	-65934	15514	3.81	3.81	-38457	16250	41229	81562	92422	19431	111853		7.21	Si
SLV 5	-1.95	-7422.03	-82179	-65743	15014	3.81	3.81	-38345	16250	41152	81562	92422	19431	111853		7.45	Si
SLV 5	0.21	-11154.84	-83423	-66738	12784	3.81	3.81	-38926	16250	41551	81562	92422	19431	111853		8.75	Si
SLV 15	-1.95	-35117.7	-104599	-83679	-21029	3.81	3.81	-48807	16250	48327	81562	92422	19431	111853		5.32	Si
SLV 15	0.21	-4577.51	-85377	-68301	-15467	3.81	3.81	-39837	16250	42176	81562	92422	19431	111853		7.23	Si
SLD 1	-1.95	6768.82	-90163	-72130	14899	3.81	3.81	-42071	16250	43707	81562	92422	19431	111853		7.51	Si
SLD 1	0.21	-10467.32	-82708	-66166	10060	3.81	3.81	-38592	16250	41322	81562	92422	19431	111853		11.12	Si
SLV 1	-1.95	16009.85	-86876	-69501	22922	3.81	3.81	-40537	16250	42656	81562	92422	19431	111853		4.88	Si
SLV 1	0.21	-11901.45	-82047	-65638	15775	3.81	3.81	-38284	16250	41110	81562	92422	19431	111853		7.09	Si
SLV 4	-1.95	19265.4	-94355	-75484	17644	3.81	3.81	-44027	16250	45049	81562	92422	19431	111853		6.34	Si
SLV 4	0.21	-10311.8	-82318	-65855	10249	3.81	3.81	-38410	16250	41197	81562	92422	19431	111853		10.91	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-83820	0.24	224.36	13828.83	19320.99	16574.91	73.88	Si
SLV 6	-84019	0.24	224.36	13849.75	19358.26	16604	74.01	Si
SLV 1	-85366	0.24	224.36	13989.44	19606.02	16797.73	74.87	Si
SLV 2	-85663	0.24	224.36	14019.84	19658.46	16839.15	75.05	Si
SLV 9	-86226	0.24	224.36	14077.24	19758.07	16917.65	75.4	Si
SLV 10	-86425	0.24	224.36	14097.47	19793.37	16945.42	75.53	Si
SLV 3	-89139	0.24	224.36	14366.95	20273.46	17320.2	77.2	Si
SLV 4	-89436	0.24	224.36	14395.74	20325.9	17360.82	77.38	Si
SLV 13	-93386	0.24	224.36	14767.48	21024.01	17895.75	79.76	Si
SLV 14	-93683	0.24	224.36	14794.47	21073.53	17934	79.93	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-80853	-97647	118	0.341	8865.1	0.978	5.06313	2.92742	Si
SLV 13	-80408	-97384	116	0.342	8819.7	0.978	5.08416	2.92742	Si
SLV 2	-79932	-87140	99	0.344	8771.3	0.978	5.10925	2.92742	Si
SLV 1	-79487	-86876	96	0.345	8725.9	0.977	5.13076	2.92742	Si
SLV 16	-78785	-104863	11	0.348	8654.4	0.977	5.17962	2.92742	Si
SLV 15	-78340	-104599	8	0.35	8609.1	0.977	5.20183	2.92742	Si
SLV 4	-77864	-94355	-8	0.351	8560.6	0.977	5.22531	2.92742	Si
SLV 3	-77419	-94091	-11	0.353	8515.3	0.977	5.24697	2.92742	Si
SLV 10	-82870	-85508	236	0.333	9070.6	0.978	4.95265	2.58905	Si
SLV 6	-82594	-82356	231	0.334	9042.4	0.978	4.96569	2.58905	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.162	SLU 84	Si
V_SLU	56.88	SLU 26	Si
PF_SLV	3.928	SLV 14	Si
V_SLV	4.88	SLV 1	Si
PFFP_SLV	73.877	SLV 5	Si
R_SLV	1.73	SLV 14	Si

Maschio 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.988	1.141	-6.528	1.141	L2	L4	0.54	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	-1.95	768.91	-25364	-0.0002704	0.0004492	0.0035	0.54	998.14	3334.11	3334.11	4.34	No	Si
SLU 75	0.15	-805.97	-33498	-0.0004233	0.0004492	0.0035	0.54	0	2927.45	2927.45	3.63	No	Si
SLU 81	-1.95	792.48	-26024	-0.0002818	0.0004492	0.0035	0.54	868.02	3333.49	3333.49	4.21	No	Si
SLU 81	0.15	-824.53	-34265	-0.0004544	0.0004492	0.0035	0.54	0	2842.59	2842.59	3.45	No	Si
SLU 77	-1.95	788.59	-25749	-0.0002778	0.0004492	0.0035	0.54	923.22	3338.75	3338.75	4.23	No	Si
SLU 77	0.15	-813.66	-33763	-0.0004336	0.0004492	0.0035	0.54	0	2898.12	2898.12	3.56	No	Si
SLU 74	-1.95	779.4	-25482	-0.0002732	0.0004492	0.0035	0.54	975.39	3335.54	3335.54	4.28	No	Si
SLU 74	0.15	-805.59	-33415	-0.0004207	0.0004492	0.0035	0.54	0	2936.58	2936.58	3.65	No	Si
SLU 82	-1.95	781.99	-25905	-0.000279	0.0004492	0.0035	0.54	891.93	3337.64	3337.64	4.27	No	Si
SLU 82	0.15	-824.91	-34347	-0.0004578	0.0004492	0.0035	0.54	0	2833.46	2833.46	3.43	No	Si
SLU 79	-1.95	783.49	-25599	-0.0002752	0.0004492	0.0035	0.54	952.59	3336.95	3336.95	4.26	No	Si
SLU 79	0.15	-809.19	-33568	-0.0004261	0.0004492	0.0035	0.54	0	2919.7	2919.7	3.61	No	Si
SLU 83	-1.95	801.67	-26290	-0.0002866	0.0004492	0.0035	0.54	813.23	3324.14	3324.14	4.15	No	Si
SLU 83	0.15	-832.59	-34612	-0.0004716	0.0004492	0.0035	0.54	0	2804.13	2804.13	3.37	No	Si
SLU 80	-1.95	773	-25481	-0.0002724	0.0004492	0.0035	0.54	975.59	3335.52	3335.52	4.32	No	Si
SLU 80	0.15	-809.57	-33650	-0.0004289	0.0004492	0.0035	0.54	0	2910.57	2910.57	3.6	No	Si
SLU 78	-1.95	778.1	-25630	-0.0002749	0.0004492	0.0035	0.54	946.54	3337.32	3337.32	4.29	No	Si
SLU 78	0.15	-814.04	-33845	-0.0004364	0.0004492	0.0035	0.54	0	2888.99	2888.99	3.55	No	Si
SLU 84	-1.95	791.18	-26172	-0.0002837	0.0004492	0.0035	0.54	837.71	3328.29	3328.29	4.21	No	Si
SLU 84	0.15	-832.97	-34695	-0.0004755	0.0004492	0.0035	0.54	0	2795	2795	3.36	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.95	1342.71	-16090	-0.0002073	0.0006738	0.0035	0.54		3283.55	3283.55	2.45		Si
SLV 3	0.15	-1133.43	-16235	-0.0001915	0.0006738	0.0035	0.54		3386.34	3386.34	2.99		Si
SLD 4	-1.95	1027.5	-16433	-0.0001846	0.0006738	0.0035	0.54		3336.88	3336.88	3.25		Si
SLD 4	0.15	-916.23	-18814	-0.0001943	0.0006738	0.0035	0.54		3698.9	3698.9	4.04		Si
SLD 3	-1.95	1050.38	-16598	-0.0001877	0.0006738	0.0035	0.54		3362.55	3362.55	3.2		Si
SLD 3	0.15	-926.91	-18663	-0.000194	0.0006738	0.0035	0.54		3680.59	3680.59	3.97		Si
SLV 4	-1.95	1306.9	-15832	-0.0002023	0.0006738	0.0035	0.54		3243.38	3243.38	2.48		Si
SLV 4	0.15	-1116.71	-16471	-0.000192	0.0006738	0.0035	0.54		3414.99	3414.99	3.06		Si
SLV 7	-1.95	1350.79	-23056	-0.0002679	0.0006738	0.0035	0.54		4073.05	4073.05	3.02		Si
SLV 7	0.15	-698.16	-15924	-0.0001545	0.0006738	0.0035	0.54		3348.65	3348.65	4.8		Si
SLD 7	-1.95	1047.08	-20974	-0.000223	0.0006738	0.0035	0.54		3860.36	3860.36	3.69		Si
SLD 7	0.15	-647.11	-18521	-0.0001701	0.0006738	0.0035	0.54		3663.46	3663.46	5.66		Si
SLV 1	-1.95	969.37	-12219	-0.0001481	0.0006738	0.0035	0.54		2680.84	2680.84	2.77		Si
SLV 1	0.15	-1154.38	-19473	-0.0002196	0.0006738	0.0035	0.54		3778.75	3778.75	3.27		Si
SLD 1	-1.95	817.79	-14187	-0.0001509	0.0006738	0.0035	0.54		2987.31	2987.31	3.65		Si
SLD 1	0.15	-939.89	-20680	-0.0002115	0.0006738	0.0035	0.54		3895.42	3895.42	4.14		Si
SLV 8	-1.95	1326.68	-22882	-0.0002642	0.0006738	0.0035	0.54		4061.98	4061.98	3.06		Si
SLV 8	0.15	-686.9	-16083	-0.0001548	0.0006738	0.0035	0.54		3367.94	3367.94	4.9		Si
SLV 2	-1.95	933.56	-11960	-0.0001434	0.0006738	0.0035	0.54		2640.67	2640.67	2.83		Si
SLV 2	0.15	-1137.65	-19709	-0.0002201	0.0006738	0.0035	0.54		3807.41	3807.41	3.35		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.95	768.91	-25364	-20291	827	0.54	0.54	-83503	10833	6347	81562	8733	2754	11487	No	13.9	Si
SLU 75	0.15	-805.97	-33498	-26798	697	0.54	0.54	-110281	10833	8082	81562	8733	2754	11487	No	16.49	Si
SLU 80	-1.95	773	-25481	-20385	830	0.54	0.54	-83889	10833	6372	81562	8733	2754	11487	No	13.83	Si
SLU 80	0.15	-809.57	-33650	-26920	700	0.54	0.54	-110783	10833	8114	81562	8733	2754	11487	No	16.4	Si
SLU 84	-1.95	791.18	-26172	-20937	853	0.54	0.54	-86162	10833	6519	81562	8733	2754	11487	No	13.47	Si
SLU 84	0.15	-832.97	-34695	-27756	719	0.54	0.54	-114221	10833	8337	81562	8733	2754	11487	No	15.98	Si
SLU 83	-1.95	801.67	-26290	-21032	857	0.54	0.54	-86551	10833	6544	81562	8733	2754	11487	No	13.4	Si
SLU 83	0.15	-832.59	-34612	-27690	723	0.54	0.54	-113949	10833	8319	81562	8733	2754	11487	No	15.89	Si
SLU 77	-1.95	788.59	-25749	-20599	840	0.54	0.54	-84769	10833	6429	81562	8733	2754	11487	No	13.68	Si
SLU 77	0.15	-813.66	-33763	-27010	709	0.54	0.54	-111153	10833	8138	81562	8733	2754	11487	No	16.21	Si
SLU 82	-1.95	781.99	-25905	-20724	844	0.54	0.54	-85285	10833	6462	81562	8733	2754	11487	No	13.61	Si
SLU 82	0.15	-824.91	-34347	-27478	711	0.54	0.54	-113077	10833	8263	81562	8733	2754	11487	No	16.15	Si
SLU 78	-1.95	778.1	-25630	-20504	835	0.54	0.54	-84380	10833	6403	81562	8733	2754	11487	No	13.75	Si
SLU 78	0.15	-814.04	-33845	-27076	704	0.54	0.54	-111425	10833	8156	81562	8733	2754	11487	No	16.31	Si
SLU 79	-1.95	783.49	-25599	-20480	835	0.54	0.54	-84278	10833	6397	81562	8733	2754	11487	No	13.76	Si
SLU 79	0.15	-809.19	-33568	-26854	705	0.54	0.54	-110511	10833	8097	81562	8733	2754	11487	No	16.3	Si
SLU 74	-1.95	779.4	-25482	-20386	831	0.54	0.54	-83892	10833	6372	81562	8733	2754	11487	No	13.83	Si
SLU 74	0.15	-805.59	-33415	-26732	701	0.54	0.54	-110009	10833	8064	81562	8733	2754	11487	No	16.38	Si
SLU 81	-1.95	792.48	-26024	-20819	848	0.54	0.54	-85674	10833	6487	81562	8733	2754	11487	No	13.54	Si
SLU 81	0.15	-824.53	-34265	-27412	715	0.54	0.54	-112805	10833	8245	81562	8733	2754	11487	No	16.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	-1.95	933.56	-11960	-9568	955	0.54	0.54	-39376	16250	3955	81562	13099	2754	15853		16.6	Si
SLV 2	0.15	-1137.65	-19709	-15767	958	0.54	0.54	-64887	16250	5608	81562	13099	2754	15853		16.54	Si
SLV 8	-1.95	1326.68	-22882	-18306	945	0.54	0.54	-75332	16250	6285	81562	13099	2754	15853		16.77	Si
SLV 8	0.15	-686.9	-16083	-12866	901	0.54	0.54	-52948	16250	4835	81562	13099	2754	15853		17.59	Si
SLV 4	-1.95	1306.9	-15832	-12666	1100	0.54	0.54	-52123	16250	4781	81562	13099	2754	15853		14.41	Si
SLV 4	0.15	-1116.71	-16471	-13177	1114	0.54	0.54	-54226	16250	4917	81562	13099	2754	15853		14.24	Si
SLV 7	-1.95	1350.79	-23056	-18445	961	0.54	0.54	-75904	16250	6322	81562	13099	2754	15853		16.5	Si
SLV 7	0.15	-698.16	-15924	-12739	918	0.54	0.54	-52424	16250	4801	81562	13099	2754	15853		17.27	Si
SLD 2	-1.95	794.91	-14022	-11218	826	0.54	0.54	-46164	16250	4395	81562	13099	2754	15853		19.19	Si
SLD 2	0.15	-929.2	-20831	-16665	790	0.54	0.54	-68578	16250	5847	81562	13099	2754	15853		20.07	Si
SLV 3	-1.95	1342.71	-16090	-12872	1124	0.54	0.54	-52973	16250	4836	81562	13099	2754	15853		14.11	Si
SLV 3	0.15	-1133.43	-16235	-12988	1138	0.54	0.54	-53447	16250	4867	81562	13099	2754	15853		13.93	Si
SLD 1	-1.95	817.79	-14187	-11350	841	0.54	0.54	-46707	16250	4430	81562	13099	2754	15853		18.85	Si
SLD 1	0.15	-939.89	-20680	-16544	805	0.54	0.54	-68081	16250	5815	81562	13099	2754	15853		19.68	Si
SLV 1	-1.95	969.37	-12219	-9775	978	0.54	0.54	-40226	16250	4010	81562	13099	2754	15853		16.2	Si
SLV 1	0.15	-1154.38	-19473	-15578	983	0.54	0.54	-64108	16250	5558	81562	13099	2754	15853		16.13	Si
SLD 3	-1.95	1050.38	-16598	-13278	932	0.54	0.54	-54643	16250	4945	81562	13099	2754	15853		17.02	Si
SLD 3	0.15	-926.91	-18663	-14930	902	0.54	0.54	-61441	16250	5385	81562	13099	2754	15853		17.57	Si
SLD 4	-1.95	1027.5	-16433	-13146	917	0.54	0.54	-54101	16250	4909	81562	13099	2754	15853		17.3	Si
SLD 4	0.15	-916.23	-18814	-15051	887	0.54	0.54	-61939	16250	5417	81562	13099	2754	15853		17.88	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-14847	0.24	31.8	2226.94	3237.03	2731.99	85.92	Si
SLV 4	-14881	0.24	31.8	2229.49	3242.39	2735.94	86.04	Si
SLV 1	-15128	0.24	31.8	2247.64	3281.25	2764.45	86.94	Si
SLV 2	-15162	0.24	31.8	2250.09	3286.6	2768.35	87.06	Si
SLV 7	-17199	0.24	31.8	2375.39	3587.42	2981.41	93.76	Si
SLV 8	-17222	0.24	31.8	2376.56	3590.51	2983.53	93.83	Si
SLV 5	-18137	0.24	31.8	2418.98	3712.41	3065.7	96.41	Si
SLV 6	-18160	0.24	31.8	2419.94	3715.29	3067.61	96.47	Si
SLV 11	-19492	0.24	31.8	2466.27	3875.4	3170.84	99.72	Si
SLV 12	-19515	0.24	31.8	2466.92	3877.75	3172.33	99.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-14847	-19076	5	0.285	1601.6	0.982	4.22232	2.92742	Si
SLV 13	-14715	-19334	5	0.287	1588.2	0.982	4.24867	2.92742	Si
SLV 16	-13101	-22948	13	0.31	1423.7	0.98	4.60112	2.92742	Si
SLV 15	-12969	-23206	13	0.313	1410.3	0.98	4.63469	2.92742	Si
SLV 10	-15165	-12110	2	0.282	1634	0.983	4.16429	2.58905	Si
SLV 9	-15076	-12284	2	0.283	1625	0.983	4.18127	2.58905	Si
SLV 6	-13710	-9976	7	0.301	1485.8	0.981	4.4618	2.58905	Si
SLV 5	-13621	-10149	7	0.303	1476.7	0.981	4.48245	2.58905	Si
SLV 2	-9998	-11960	21	0.376	1107.6	0.975	5.59724	2.92742	Si
SLV 1	-9866	-12219	21	0.379	1094.1	0.975	5.65389	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.355	SLU 84	Si
V_SLU	13.404	SLU 83	Si
PF_SLV	2.445	SLV 3	Si
V_SLV	13.934	SLV 3	Si
PFFP_SLV	85.915	SLV 3	Si
R_SLV	1.442	SLV 14	Si

Maschio 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-5.088	1.141	L2	L4	4.965	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.95	44005.8	-139261	-0.0001429	0.0004492	0.0035	4.965	169359.66	237959.63	237959.63	5.41	No	Si
SLU 83	0.15	7071.69	-110995	-0.0000836	0.0004492	0.0035	4.965	163514.13	206928.34	206928.34	29.26	No	Si
SLU 79	-1.95	42676.58	-135413	-0.0001381	0.0004492	0.0035	4.965	169418.31	234287.15	234287.15	5.49	No	Si
SLU 79	0.15	6732.35	-107283	-0.0000804	0.0004492	0.0035	4.965	161667.11	201795.28	201795.28	29.97	No	Si
SLU 78	-1.95	42875.7	-136119	-0.0001389	0.0004492	0.0035	4.965	169427.71	234960.57	234960.57	5.48	No	Si
SLU 78	0.15	6745.19	-107899	-0.0000809	0.0004492	0.0035	4.965	161991.21	202647.76	202647.76	30.04	No	Si
SLU 74	-1.95	42501.18	-134914	-0.0001375	0.0004492	0.0035	4.965	169406.18	233810.4	233810.4	5.5	No	Si
SLU 74	0.15	6612.82	-106845	-0.00008	0.0004492	0.0035	4.965	161432.8	201190.02	201190.02	30.42	No	Si
SLU 80	-1.95	42655.52	-135357	-0.000138	0.0004492	0.0035	4.965	169417.18	234233.86	234233.86	5.49	No	Si
SLU 80	0.15	6732.85	-107251	-0.0000804	0.0004492	0.0035	4.965	161650.05	201750.91	201750.91	29.97	No	Si
SLU 82	-1.95	43589.17	-137944	-0.0001413	0.0004492	0.0035	4.965	169410.03	236702.88	236702.88	5.43	No	Si
SLU 82	0.15	6940.32	-109876	-0.0000826	0.0004492	0.0035	4.965	162984.04	205381.86	205381.86	29.59	No	Si
SLU 77	-1.95	42896.76	-136175	-0.000139	0.0004492	0.0035	4.965	169428.07	235013.86	235013.86	5.48	No	Si
SLU 77	0.15	6744.69	-107931	-0.000081	0.0004492	0.0035	4.965	162007.89	202692.13	202692.13	30.05	No	Si
SLU 75	-1.95	42480.13	-134858	-0.0001374	0.0004492	0.0035	4.965	169404.55	233757.11	233757.11	5.5	No	Si
SLU 75	0.15	6613.31	-106813	-0.00008	0.0004492	0.0035	4.965	161415.49	201145.65	201145.65	30.42	No	Si
SLU 81	-1.95	43610.22	-138000	-0.0001414	0.0004492	0.0035	4.965	169408.53	236756.17	236756.17	5.43	No	Si
SLU 81	0.15	6939.82	-109908	-0.0000827	0.0004492	0.0035	4.965	162999.57	205426.23	205426.23	29.6	No	Si
SLU 84	-1.95	43984.74	-139205	-0.0001428	0.0004492	0.0035	4.965	169362.44	237906.33	237906.33	5.41	No	Si
SLU 84	0.15	7072.19	-110963	-0.0000836	0.0004492	0.0035	4.965	163499.24	206883.96	206883.96	29.25	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	-1.95	46147.44	-70371	-0.000085	0.0006738	0.0035	4.965		153200.95	153200.95	3.32		Si
SLV 3	0.15	1349.44	-52041	-0.0000352	0.0006738	0.0035	4.965		119666.63	119666.63	88.68		Si
SLV 6	-1.95	34176.94	-84048	-0.0000847	0.0006738	0.0035	4.965		178028.35	178028.35	5.21		Si
SLV 6	0.15	3496.54	-65646	-0.0000461	0.0006738	0.0035	4.965		144622.95	144622.95	41.36		Si
SLV 5	-1.95	34391.88	-84175	-0.000085	0.0006738	0.0035	4.965		178260.59	178260.59	5.18		Si
SLV 5	0.15	3239.53	-65574	-0.0000459	0.0006738	0.0035	4.965		144492.83	144492.83	44.6		Si
SLD 1	-1.95	40287.08	-77930	-0.0000855	0.0006738	0.0035	4.965		166923.03	166923.03	4.14		Si
SLD 1	0.15	2350.59	-59169	-0.0000408	0.0006738	0.0035	4.965		132865.22	132865.22	56.52		Si
SLV 2	-1.95	45847.79	-68944	-0.0000837	0.0006738	0.0035	4.965		150610.79	150610.79	3.29		Si
SLV 2	0.15	1717.44	-51715	-0.0000352	0.0006738	0.0035	4.965		118997.87	118997.87	69.29		Si
SLD 3	-1.95	40277.43	-78697	-0.000086	0.0006738	0.0035	4.965		168315.84	168315.84	4.18		Si
SLD 3	0.15	2359.88	-59436	-0.000041	0.0006738	0.0035	4.965		133350.91	133350.91	56.51		Si
SLD 2	-1.95	40083.11	-77809	-0.0000852	0.0006738	0.0035	4.965		166702.65	166702.65	4.16		Si
SLD 2	0.15	2594.48	-59237	-0.000041	0.0006738	0.0035	4.965		132988.71	132988.71	51.26		Si
SLV 4	-1.95	45828.2	-70181	-0.0000846	0.0006738	0.0035	4.965		152856.01	152856.01	3.34		Si
SLV 4	0.15	1731.17	-52147	-0.0000355	0.0006738	0.0035	4.965		119885.48	119885.48	69.25		Si
SLD 4	-1.95	40073.47	-78576	-0.0000858	0.0006738	0.0035	4.965		168095.46	168095.46	4.19		Si
SLD 4	0.15	2603.77	-59504	-0.0000412	0.0006738	0.0035	4.965		133474.39	133474.39	51.26		Si
SLV 1	-1.95	46167.03	-69134	-0.0000841	0.0006738	0.0035	4.965		150955.73	150955.73	3.27		Si
SLV 1	0.15	1335.71	-51609	-0.0000349	0.0006738	0.0035	4.965		118779.02	118779.02	88.93		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	-1.95	42480.13	-134858	-107886	35978	4.965	4.965	-48288	10833	56060	81562	80293	25322	105615	No	2.94	Si
SLU 75	0.15	6613.31	-106813	-85450	36570	4.965	4.965	-38246	10833	47086	81562	80293	25322	105615	No	2.89	Si
SLU 78	-1.95	42875.7	-136119	-108895	36306	4.965	4.965	-48739	10833	56463	81562	80293	25322	105615	No	2.91	Si
SLU 78	0.15	6745.19	-107899	-86319	36904	4.965	4.965	-38635	10833	47433	81562	80293	25322	105615	No	2.86	Si
SLU 81	-1.95	43610.22	-138000	-110400	36408	4.965	4.965	-49413	10833	57065	81562	80293	25322	105615	No	2.9	Si
SLU 81	0.15	6939.82	-109908	-87927	37012	4.965	4.965	-39354	10833	48076	81562	80293	25322	105615	No	2.85	Si
SLU 74	-1.95	42501.18	-134914	-107931	36016	4.965	4.965	-48308	10833	56077	81562	80293	25322	105615	No	2.93	Si
SLU 74	0.15	6612.82	-106845	-85476	36609	4.965	4.965	-38257	10833	47096	81562	80293	25322	105615	No	2.88	Si
SLU 79	-1.95	42676.58	-135413	-108331	36114	4.965	4.965	-48486	10833	56237	81562	80293	25322	105615	No	2.92	Si
SLU 79	0.15	6732.35	-107283	-85826	36709	4.965	4.965	-38414	10833	47236	81562	80293	25322	105615	No	2.88	Si
SLU 83	-1.95	44005.8	-139261	-111408	36736	4.965	4.965	-49864	10833	57468	81562	80293	25322	105615	No	2.87	Si
SLU 83	0.15	7071.69	-110995	-88796	37345	4.965	4.965	-39743	10833	48424	81562	80293	25322	105615	No	2.83	Si
SLU 82	-1.95	43589.17	-137944	-110355	36370	4.965	4.965	-49393	10833	57047	81562	80293	25322	105615	No	2.9	Si
SLU 82	0.15	6940.32	-109876	-87901	36973	4.965	4.965	-39343	10833	48066	81562	80293	25322	105615	No	2.86	Si
SLU 80	-1.95	42655.52	-135357	-108286	36076	4.965	4.965	-48466	10833	56219	81562	80293	25322	105615	No	2.93	Si
SLU 80	0.15	6732.85	-107251	-85801	36670	4.965	4.965	-38402	10833	47226	81562	80293	25322	105615	No	2.88	Si
SLU 84	-1.95	43984.74	-139205	-111364	36698	4.965	4.965	-49844	10833	57450	81562	80293	25322	105615	No	2.88	Si
SLU 84	0.15	7072.19	-110963	-88770	37307	4.965	4.965	-39732	10833	48413	81562	80293	25322	105615	No	2.83	Si
SLU 77	-1.95	42896.76	-136175	-108940	36344	4.965	4.965	-48759	10833	56481	81562	80293	25322	105615	No	2.91	Si
SLU 77	0.15	6744.69	-107931	-86345	36942	4.965	4.965	-38646	10833	47443	81562	80293	25322	105615	No	2.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	-1.95	40073.47	-78576	-62861	30411	4.965	4.965	-28135	16250	44503	81562	120440	25322	126065		4.15	Si
SLD 4	0.15	2603.77	-59504	-47603	30207	4.965	4.965	-21306	16250	38401	81562	120440	25322	119962		3.97	Si
SLV 2	-1.95	45847.79	-68944	-55155	32457	4.965	4.965	-24686	16250	41421	81562	120440	25322	122983		3.79	Si
SLV 2	0.15	1717.44	-51715	-41372	31628	4.965	4.965	-18517	16203	36203	81562	120440	25322	117764		3.72	Si
SLV 3	-1.95	46147.44	-70371	-56297	33978	4.965	4.965	-25197	16250	41878	81562	120440	25322	123439		3.63	Si
SLV 3	0.15	1349.44	-52041	-41633	33164	4.965	4.965	-18634	16227	36255	81562	120440	25322	117816		3.55	Si
SLV 8	-1.95	34111.63	-88170	-70536	29017	4.965	4.965	-31570	16250	47573	81562	120440	25322	129135		4.45	Si
SLV 8	0.15	3542.31	-67085	-53668	29077	4.965	4.965	-24021	16250	40826	81562	120440	25322	122388		4.21	Si
SLV 7	-1.95	34326.56	-88298	-70639	29475	4.965	4.965	-31616	16250	47614	81562	120440	25322	129176		4.38	Si
SLV 7	0.15	3285.3	-67013	-53611	29538	4.965	4.965	-23995	16250	40803	81562	120440	25322	122365		4.14	Si
SLD 3	-1.95	40277.43	-78697	-62958	30847	4.965	4.965	-28178	16250	44542	81562	120440	25322	126104		4.09	Si
SLD 3	0.15	2359.88	-59436	-47549	30644	4.965	4.965	-21282	16250	38379	81562	120440	25322	119941		3.91	Si
SLD 2	-1.95	40083.11	-77809	-62247	29886	4.965	4.965	-27860	16250	44258	81562	120440	25322	125819		4.21	Si
SLD 2	0.15	2594.48	-59237	-47389	29674	4.965	4.965	-21210	16250	38315	81562	120440	25322	119877		4.04	Si
SLV 4	-1.95	45828.2	-70181	-56145	33297	4.965	4.965	-25129	16250	41817	81562	120440	25322	123379		3.71	Si
SLV 4	0.15	1731.17	-52147	-41718	32480	4.965	4.965	-18672	16234	36272	81562	120440	25322	117833		3.63	Si
SLV 1	-1.95	46167.03	-69134	-55307	33138	4.965	4.965	-24754	16250	41482	81562	120440	25322	123044		3.71	Si
SLV 1	0.15	1335.71	-51609	-41287	32313	4.965	4.965	-18479	16196	36186	81562	120440	25322	117747		3.64	Si
SLD 1	-1.95	40287.08	-77930	-62344	30321	4.965	4.965	-27904	16250	44297	81562	120440	25322	125858		4.15	Si
SLD 1	0.15	2350.59	-59169	-47335	30112	4.965	4.965	-21186	16250	38293	81562	120440	25322	119855		3.98	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-57670	0.24	292.37	11148.31	14474.61	12811.46	43.82	Si
SLV 1	-57683	0.24	292.37	11150.4	14477.55	12813.97	43.83	Si
SLV 4	-58378	0.24	292.37	11262.48	14635.21	12948.84	44.29	Si
SLV 3	-58391	0.24	292.37	11264.56	14638.15	12951.36	44.3	Si
SLV 6	-72148	0.24	292.37	13373.15	17696.07	15534.61	53.13	Si
SLV 5	-72156	0.24	292.37	13374.42	17698	15536.21	53.14	Si
SLV 8	-74508	0.24	292.37	13714.03	18217.83	15965.93	54.61	Si
SLV 7	-74517	0.24	292.37	13715.28	18219.76	15967.52	54.61	Si
SLV 10	-85264	0.24	292.37	15189.84	20499.07	17844.46	61.03	Si
SLV 9	-85272	0.24	292.37	15190.98	20500.9	17845.94	61.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-84024	-116131	-197	0.401	9378.9	0.973	5.99057	2.92742	Si
SLV 13	-83893	-116321	-198	0.402	9365.5	0.973	5.99758	2.92742	Si
SLV 16	-83843	-117368	-25	0.404	9360.4	0.973	6.02939	2.92742	Si
SLV 15	-83712	-117558	-25	0.404	9347.1	0.973	6.03648	2.92742	Si
SLV 10	-72570	-98204	-320	0.446	8212.5	0.969	6.68436	2.58905	Si
SLV 9	-72481	-98332	-321	0.446	8203.5	0.969	6.6906	2.58905	Si
SLV 12	-71966	-102326	256	0.45	8151.1	0.969	6.74055	2.58905	Si
SLV 11	-71878	-102454	255	0.45	8142	0.969	6.74714	2.58905	Si
SLV 6	-62589	-84048	-252	0.5	7196.5	0.965	7.52398	2.58905	Si
SLV 5	-62501	-84175	-253	0.5	7187.5	0.965	7.53229	2.58905	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.407	SLU 83	Si
V_SLU	2.828	SLU 83	Si
PF_SLV	3.27	SLV 1	Si
V_SLV	3.552	SLV 3	Si
PFFP_SLV	43.819	SLV 2	Si
R_SLV	2.046	SLV 14	Si

Maschio 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.709	-11.013	-3.381	L2	Z medio 0 cm	1.328	0.3	1.948	1.95	1.947			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	-1.95	8975.65	-27706	-0.000959	0.0003743	0.0035	1.3279	5829.35	9739.6	9739.6	1.09	No	Si
SLU 75	0	293.46	-23234	-0.0001072	0.0003743	0.0035	1.3279	6589.43	9233.48	9233.48	31.46	No	Si
SLU 82	-1.95	9220.27	-28496	-0.0013814	0.0003743	0.0035	1.3279	5627.24	9716.76	9716.76	1.05	No	Si
SLU 82	0	305.29	-23915	-0.0001111	0.0003743	0.0035	1.3279	6515.94	9322.06	9322.06	30.54	No	Si
SLU 78	-1.95	9043.5	-27899	-0.0010519	0.0003743	0.0035	1.3279	5781.85	9733.94	9733.94	1.08	No	Si
SLU 78	0	296.21	-23421	-0.0001082	0.0003743	0.0035	1.3279	6570.79	9257.57	9257.57	31.25	No	Si
SLU 83	-1.95	9239.03	-28425	-0.0014209	0.0003743	0.0035	1.3279	5646.11	9718.77	9718.77	1.05	No	Si
SLU 83	0	306.19	-23909	-0.0001111	0.0003743	0.0035	1.3279	6516.68	9321.24	9321.24	30.44	No	Si
SLU 77	-1.95	8994.41	-27636	-0.000981	0.0003743	0.0035	1.3279	5846.39	9741.68	9741.68	1.08	No	Si
SLU 77	0	294.36	-23227	-0.0001071	0.0003743	0.0035	1.3279	6590.04	9232.67	9232.67	31.36	No	Si
SLU 76	-1.95	8966.95	-27752	-0.0009488	0.0003743	0.0035	1.3279	5818.26	9738.26	9738.26	1.09	No	Si
SLU 76	0	291.98	-23236	-0.0001071	0.0003743	0.0035	1.3279	6589.2	9233.78	9233.78	31.62	No	Si
SLU 84	-1.95	9288.11	-28688	-0.0015502	0.0003743	0.0035	1.3279	5574.76	9711.31	9711.31	1.05	No	Si
SLU 84	0	308.04	-24102	-0.0001121	0.0003743	0.0035	1.3279	6493.13	9346.7	9346.7	30.34	No	Si
SLU 81	-1.95	9171.19	-28232	-0.0012723	0.0003743	0.0035	1.3279	5696.93	9724.29	9724.29	1.06	No	Si
SLU 81	0	303.44	-23722	-0.00011	0.0003743	0.0035	1.3279	6538.31	9296.76	9296.76	30.64	No	Si
SLU 80	-1.95	9002.07	-27769	-0.0009932	0.0003743	0.0035	1.3279	5814.02	9737.75	9737.75	1.08	No	Si
SLU 80	0	293.51	-23294	-0.0001075	0.0003743	0.0035	1.3279	6583.53	9241.26	9241.26	31.49	No	Si
SLU 79	-1.95	8952.99	-27506	-0.0009281	0.0003743	0.0035	1.3279	5877.44	9745.53	9745.53	1.09	No	Si
SLU 79	0	291.66	-23101	-0.0001064	0.0003743	0.0035	1.3279	6601.97	9216.47	9216.47	31.6	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	-1.95	2492.19	-953	-0.0279207	0.0005615	0.0035	1.0623		717.63	717.63	0.29		No
SLV 8	0	-41.05	-813	-0.0000037	0.0005615	0.0035	1.3279		1010.77	1010.77	24.62		Si
SLD 11	-1.95	4080.91	-7049	-0.000367	0.0005615	0.0035	1.3279		4344.58	4344.58	1.06		Si
SLD 11	0	-49.63	-5479	-0.0000216	0.0005615	0.0035	1.3279		3845.73	3845.73	77.48		Si
SLD 12	-1.95	4079.86	-7219	-0.0003061	0.0005615	0.0035	1.3279		4425.94	4425.94	1.08		Si
SLD 12	0	-34.23	-5727	-0.0000222	0.0005615	0.0035	1.3279		3988.21	3988.21	116.52		Si
SLD 8	-1.95	3885.76	-7777	-0.0001775	0.0005615	0.0035	1.3279		4693.83	4693.83	1.21		Si
SLD 8	0	46.07	-6498	-0.0000254	0.0005615	0.0035	1.3279		4055.18	4055.18	88.02		Si
SLV 12	-1.95	2795.56	-83	-0.042212	0.0005615	0.0035	1.0623		151.76	151.76	0.05		No
SLV 12	0	-167.77	389	0.05095	0.0005615	0.0035	1.0623		0	0	0		No
SLV 16	-1.95	5634.43	-12187	-0.0002388	0.0005615	0.0035	1.3279		6882.07	6882.07	1.22		Si
SLV 16	0	-94.82	-9387	-0.0000377	0.0005615	0.0035	1.3279		5965.41	5965.41	62.91		Si
SLV 11	-1.95	2797.24	188	-0.0452006	0.0005615	0.0035	1.0623		0	0	0		No
SLV 11	0	-192.25	783	0.1016638	0.0005615	0.0035	1.0623		0	0	0		No
SLV 15	-1.95	5636.91	-11785	-0.0002542	0.0005615	0.0035	1.3279		6677.25	6677.25	1.18		Si
SLV 15	0	-131.19	-8802	-0.000036	0.0005615	0.0035	1.3279		5664.59	5664.59	43.18		Si
SLD 7	-1.95	3886.81	-7607	-0.0001881	0.0005615	0.0035	1.3279		4611.84	4611.84	1.19		Si
SLD 7	0	30.67	-6250	-0.0000242	0.0005615	0.0035	1.3279		3917.6	3917.6	127.73		Si
SLV 7	-1.95	2493.86	-682	-0.0308038	0.0005615	0.0035	1.0623		542.27	542.27	0.22		No
SLV 7	0	-65.54	-419	-0.0000026	0.0005615	0.0035	1.3279		757.16	757.16	11.55		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	-1.95	8952.99	-27506	-23163	10628	1.3279	1.0154	-58143	10833	7622	21410	11929	3386	15315	No	1.44	Si
SLU 79	0	291.66	-23101	-19454	9654	1.3279	1.3279	-48833	10833	6610	21410	11929	3386	15315	No	1.59	Si
SLU 83	-1.95	9239.03	-28425	-23937	10960	1.3279	1.0168	-60087	10833	7833	21410	11929	3386	15315	No	1.4	Si
SLU 83	0	306.19	-23909	-20134	9941	1.3279	1.3279	-50540	10833	6796	21410	11929	3386	15315	No	1.54	Si
SLU 81	-1.95	9171.19	-28232	-23775	10881	1.3279	1.0173	-59679	10833	7788	21410	11929	3386	15315	No	1.41	Si
SLU 81	0	303.44	-23722	-19976	9860	1.3279	1.3279	-50145	10833	6753	21410	11929	3386	15315	No	1.55	Si
SLU 74	-1.95	8926.57	-27443	-23110	10593	1.3279	1.016	-58011	10833	7607	21410	11929	3386	15315	No	1.45	Si
SLU 74	0	291.61	-23041	-19403	9614	1.3279	1.3279	-48705	10833	6596	21410	11929	3386	15315	No	1.59	Si
SLU 77	-1.95	8994.41	-27636	-23272	10672	1.3279	1.0155	-58418	10833	7651	21410	11929	3386	15315	No	1.44	Si
SLU 77	0	294.36	-23227	-19560	9695	1.3279	1.3279	-49100	10833	6639	21410	11929	3386	15315	No	1.58	Si
SLU 80	-1.95	9002.07	-27769	-23385	10630	1.3279	1.0193	-58700	10833	7682	21410	11929	3386	15315	No	1.44	Si
SLU 80	0	293.51	-23294	-19616	9653	1.3279	1.3279	-49241	10833	6655	21410	11929	3386	15315	No	1.59	Si
SLU 84	-1.95	9288.11	-28688	-24159	10962	1.3279	1.0206	-60643	10833	7893	21410	11929	3386	15315	No	1.4	Si
SLU 84	0	308.04	-24102	-20296	9940	1.3279	1.3279	-50948	10833	6840	21410	11929	3386	15315	No	1.54	Si
SLU 75	-1.95	8975.65	-27706	-23332	10596	1.3279	1.02	-58567	10833	7668	21410	11929	3386	15315	No	1.45	Si
SLU 75	0	293.46	-23234	-19565	9613	1.3279	1.3279	-49113	10833	6641	21410	11929	3386	15315	No	1.59	Si
SLU 82	-1.95	9220.27	-28496	-23996	10883	1.3279	1.0212	-60236	10833	7849	21410	11929	3386	15315	No	1.41	Si
SLU 82	0	305.29	-23915	-20139	9859	1.3279	1.3279	-50553	10833	6797	21410	11929	3386	15315	No	1.55	Si
SLU 78	-1.95	9043.5	-27899	-23494	10674	1.3279	1.0194	-58975	10833	7712	21410	11929	3386	15315	No	1.43	Si
SLU 78	0	296.21	-23421	-19723	9694	1.3279	1.3279	-49508	10833	6684	21410	11929	3386	15315	No	1.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	-1.95	7764.71	-23375	-19684	9982	1.3279	0.9953	-49411	16250	7327	21410	17894	3386	21280		2.13	Si
SLV 14	0	89.32	-18887	-15904	9273	1.3279	1.3279	-39924	16250	6474	21410	17894	3386	21280		2.29	Si
SLD 13	-1.95	7183.03	-21456	-18068	9217	1.3279	0.9875	-45355	16250	6886	21410	17894	3386	21280		2.31	Si
SLD 13	0	102.41	-17332	-14596	8561	1.3279	1.3279	-36638	16250	6474	21410	17894	3386	21280		2.49	Si
SLV 15	-1.95	5636.91	-11785	-9924	9610	1.3279	0.5569	-24911	15399	4666	21410	17894	3386	21280		2.21	Si
SLV 15	0	-131.19	-8802	-7412	9550	1.3279	1.3279	-18606	14138	5632	21410	17894	3386	21280		2.23	Si
SLV 13	-1.95	7767.19	-22973	-19345	10259	1.3279	0.9775	-48561	16250	7234	21410	17894	3386	21280		2.07	Si
SLV 13	0	52.96	-18301	-15411	9607	1.3279	1.3279	-38686	16250	6474	21410	17894	3386	21280		2.22	Si
SLV 9	-1.95	9898.18	-37106	-31247	9280	1.3279	1.1916	-78437	16250	10479	21410	17894	3386	21280		2.29	Si
SLV 9	0	421.57	-30881	-26005	7717	1.3279	1.3279	-65278	16250	9050	21410	17894	3386	21280		2.76	Si
SLV 12	-1.95	2795.56	-83	-70	6931	1.0623	0	0	0	0	21410	14315	2709	17024		2.46	Si
SLV 12	0	-167.77	389	327	7304	1.0623	0.6977	0	0	0	21410	14315	2709	17024		2.33	Si
SLV 16	-1.95	5634.43	-12187	-10263	9333	1.3279	0.6049	-25761	15569	4758	21410	17894	3386	21280		2.28	Si
SLV 16	0	-94.82	-9387	-7905	9217	1.3279	1.3279	-19843	14385	5731	21410	17894	3386	21280		2.31	Si
SLV 10	-1.95	9896.5	-37377	-31475	9094	1.3279	1.1975	-79009	16250	10541	21410	17894	3386	21280		2.34	Si
SLV 10	0	446.05	-31275	-26337	7493	1.3279	1.3279	-66111	16250	9140	21410	17894	3386	21280		2.84	Si
SLV 11	-1.95	2797.24	188	158	7117	1.0623	0	0	0	0	21410	14315	2709	17024		2.39	Si
SLV 11	0	-192.25	783	659	7529	1.0623	1.2553	0	0	0	21410	14315	2709	17024		2.26	Si
SLD 14	-1.95	7181.44	-21713	-18285	9040	1.3279	0.9996	-45898	16250	6945	21410	17894	3386	21280		2.35	Si
SLD 14	0	125.65	-17706	-14911	8348	1.3279	1.3279	-37429	16250	6474	21410	17894	3386	21280		2.55	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.977 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	0	110	29.39	0	0	No, Trazione
SLV 12	179667	0.24	502	-200	29.39	29.88	1.02	Si
SLV 7	179667	0.24	2037	-812	29.39	120.11	4.09	Si
SLV 8	179667	0.24	2816	-1122	29.39	165.18	5.62	Si
SLV 15	179667	0.24	23625	-9412	29.39	1193.34	40.61	Si
SLV 16	179667	0.24	24782	-9872	29.39	1240.56	42.21	Si
SLV 3	179667	0.24	31340	-12485	29.39	1488.43	50.65	Si
SLV 4	179667	0.24	32497	-12946	29.39	1528.66	52.02	Si
SLV 13	179667	0.24	46589	-18560	29.39	1934.67	65.83	Si
SLV 14	179667	0.24	47746	-19021	29.39	1961.1	66.73	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.977 Wa = 0.05 Ta = 0.0211

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-32477	-38247	-78	0.301	3417.8	0.99	4.42074	2.48573	Si
SLV 5	-32083	-37976	-77	0.304	3377.6	0.99	4.46169	2.48573	Si
SLV 10	-31275	-37377	-74	0.31	3295.3	0.989	4.54805	2.48573	Si
SLV 9	-30881	-37106	-72	0.313	3255.1	0.989	4.59218	2.48573	Si
SLV 2	-22892	-26274	-61	0.393	2440.9	0.986	5.79181	2.74937	Si
SLV 1	-22306	-25872	-58	0.401	2381.2	0.985	5.91418	2.74937	Si
SLV 14	-18887	-23375	-47	0.458	2032.7	0.983	6.7737	2.74937	Si
SLV 13	-18301	-22973	-44	0.47	1973	0.983	6.95302	2.74937	Si
SLV 4	-13393	-15086	-41	0.607	1472.9	0.977	9.03294	2.74937	Si
SLV 3	-12807	-14684	-38	0.63	1413.3	0.976	9.38678	2.74937	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.046	SLU 84	Si
V_SLU	1.397	SLU 84	Si
PF_SLV	0	SLV 11	No
V_SLV	2.074	SLV 13	Si
PFFP_SLV	0	SLV 11	No
R_SLV	1.778	SLV 6	Si

Maschio 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.709	-11.013	-3.381	Z medio 0 cm	L4	1.328	0.3	0.672	0.67	0.673			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0	2251.97	-25279	-0.0001649	0.0003743	0.0035	1.3279	6323.13	9504.26	9504.26	4.22	No	Si
SLU 83	0.67	-668.52	-25722	-0.0001295	0.0003743	0.0035	1.3279	6247.32	9712.84	9712.84	14.53	No	Si
SLU 75	0	2149.28	-24566	-0.0001578	0.0003743	0.0035	1.3279	6431.53	9408.56	9408.56	4.38	No	Si
SLU 75	0.67	-626.55	-24941	-0.000124	0.0003743	0.0035	1.3279	6376.62	9619.83	9619.83	15.35	No	Si
SLU 80	0	2159.88	-24632	-0.0001585	0.0003743	0.0035	1.3279	6422.18	9417.45	9417.45	4.36	No	Si
SLU 80	0.67	-630.33	-25016	-0.0001246	0.0003743	0.0035	1.3279	6364.97	9628.68	9628.68	15.28	No	Si
SLU 82	0	2211.97	-25265	-0.0001638	0.0003743	0.0035	1.3279	6325.36	9502.51	9502.51	4.3	No	Si
SLU 82	0.67	-643.7	-25663	-0.0001286	0.0003743	0.0035	1.3279	6257.85	9706.01	9706.01	15.08	No	Si
SLU 77	0	2189.28	-24579	-0.0001589	0.0003743	0.0035	1.3279	6429.62	9410.39	9410.39	4.3	No	Si
SLU 77	0.67	-651.37	-25000	-0.000125	0.0003743	0.0035	1.3279	6367.5	9626.77	9626.77	14.78	No	Si
SLU 78	0	2169.3	-24768	-0.0001596	0.0003743	0.0035	1.3279	6402.47	9435.82	9435.82	4.35	No	Si
SLU 78	0.67	-632.21	-25160	-0.0001254	0.0003743	0.0035	1.3279	6342.39	9645.58	9645.58	15.26	No	Si
SLU 84	0	2231.99	-25468	-0.0001656	0.0003743	0.0035	1.3279	6291.66	9528.54	9528.54	4.27	No	Si
SLU 84	0.67	-649.36	-25882	-0.00013	0.0003743	0.0035	1.3279	6218.44	9731.35	9731.35	14.99	No	Si
SLU 74	0	2169.27	-24377	-0.0001571	0.0003743	0.0035	1.3279	6457.43	9383.29	9383.29	4.33	No	Si
SLU 74	0.67	-645.71	-24781	-0.0001236	0.0003743	0.0035	1.3279	6400.59	9601.3	9601.3	14.87	No	Si
SLU 81	0	2231.95	-25077	-0.0001631	0.0003743	0.0035	1.3279	6355.58	9477.73	9477.73	4.25	No	Si
SLU 81	0.67	-662.86	-25503	-0.0001281	0.0003743	0.0035	1.3279	6285.59	9686.64	9686.64	14.61	No	Si
SLU 79	0	2179.87	-24443	-0.0001578	0.0003743	0.0035	1.3279	6448.48	9392.14	9392.14	4.31	No	Si
SLU 79	0.67	-649.48	-24857	-0.0001241	0.0003743	0.0035	1.3279	6389.33	9610.06	9610.06	14.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0	2223	-877	-0.0245998	0.0005615	0.0035	1.0623		668.54	668.54	0.3		No
SLV 8	0.67	-546.61	-873	-0.0000531	0.0005615	0.0035	1.0623		1049.26	1049.26	1.92		Si
SLV 16	0	2828.99	-9927	-0.0000916	0.0005615	0.0035	1.3279		5744.86	5744.86	2.03		Si
SLV 16	0.67	-1199.06	-11694	-0.0000669	0.0005615	0.0035	1.3279		7110.97	7110.97	5.93		Si
SLV 15	0	2983.16	-9301	-0.000095	0.0005615	0.0035	1.3279		5435.92	5435.92	1.82		Si
SLV 15	0.67	-1330.33	-11325	-0.0000677	0.0005615	0.0035	1.3279		6930.78	6930.78	5.21		Si
SLV 7	0	2326.8	-456	-0.0307078	0.0005615	0.0035	1.0623		395.06	395.06	0.17		No
SLV 7	0.67	-634.99	-624	-0.0002327	0.0005615	0.0035	1.0623		889.6	889.6	1.4		Si
SLD 12	0	2359.93	-6073	-0.0000762	0.0005615	0.0035	1.3279		3817.37	3817.37	1.62		Si
SLD 12	0.67	-781.95	-6751	-0.0000392	0.0005615	0.0035	1.3279		4562.65	4562.65	5.83		Si
SLD 7	0	2012.01	-6630	-0.0000629	0.0005615	0.0035	1.3279		4126.87	4126.87	2.05		Si
SLD 7	0.67	-566.16	-6812	-0.0000357	0.0005615	0.0035	1.3279		4596.94	4596.94	8.12		Si
SLD 8	0	1946.71	-6895	-0.0000617	0.0005615	0.0035	1.3279		4268.64	4268.64	2.19		Si
SLD 8	0.67	-510.57	-6968	-0.0000353	0.0005615	0.0035	1.3279		4685.33	4685.33	9.18		Si
SLV 11	0	2973.78	828	-0.044537	0.0005615	0.0035	1.0623		0	0	0		No
SLV 11	0.67	-1058.85	-285	-0.0008782	0.0005615	0.0035	1.0623		670.38	670.38	0.63		No
SLV 12	0	2869.98	407	-0.0481836	0.0005615	0.0035	1.0623		0	0	0		No
SLV 12	0.67	-970.47	-534	-0.0005859	0.0005615	0.0035	1.0623		831.41	831.41	0.86		No
SLD 11	0	2425.23	-5808	-0.0000818	0.0005615	0.0035	1.3279		3666.07	3666.07	1.51		Si
SLD 11	0.67	-837.55	-6594	-0.0000396	0.0005615	0.0035	1.3279		4474.6	4474.6	5.34		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0	2231.95	-25077	-21117	7231	1.3279	1.3279	-53008	10833	10364	4758	11929	3386	15122	No	2.09	Si
SLU 81	0.67	-662.86	-25503	-21476	8995	1.3279	1.3279	-53910	10833	10508	4758	11929	3386	15266	No	1.7	Si
SLU 77	0	2189.28	-24579	-20699	7108	1.3279	1.3279	-51958	10833	10197	4758	11929	3386	14955	No	2.1	Si
SLU 77	0.67	-651.37	-25000	-21053	8842	1.3279	1.3279	-52847	10833	10339	4758	11929	3386	15096	No	1.71	Si
SLU 79	0	2179.87	-24443	-20584	7081	1.3279	1.3279	-51670	10833	10151	4758	11929	3386	14909	No	2.11	Si
SLU 79	0.67	-649.48	-24857	-20932	8805	1.3279	1.3279	-52544	10833	10290	4758	11929	3386	15048	No	1.71	Si
SLU 78	0	2169.3	-24768	-20857	7020	1.3279	1.3279	-52356	10833	10260	4758	11929	3386	15018	No	2.14	Si
SLU 78	0.67	-632.21	-25160	-21187	8765	1.3279	1.3279	-53184	10833	10392	4758	11929	3386	15150	No	1.73	Si
SLU 84	0	2231.99	-25468	-21446	7205	1.3279	1.3279	-53835	10833	10496	4758	11929	3386	15254	No	2.12	Si
SLU 84	0.67	-649.36	-25882	-21796	8996	1.3279	1.3279	-54711	10833	10636	4758	11929	3386	15315	No	1.7	Si
SLU 80	0	2159.88	-24632	-20743	6993	1.3279	1.3279	-52069	10833	10215	4758	11929	3386	14972	No	2.14	Si
SLU 80	0.67	-630.33	-25016	-21066	8728	1.3279	1.3279	-52881	10833	10344	4758	11929	3386	15102	No	1.73	Si
SLU 83	0	2251.97	-25279	-21288	7293	1.3279	1.3279	-53436	10833	10432	4758	11929	3386	15190	No	2.08	Si
SLU 83	0.67	-668.52	-25722	-21661	9074	1.3279	1.3279	-54374	10833	10582	4758	11929	3386	15315	No	1.69	Si
SLU 74	0	2169.27	-24377	-20528	7046	1.3279	1.3279	-51530	10833	10129	4758	11929	3386	14886	No	2.11	Si
SLU 74	0.67	-645.71	-24781	-20868	8763	1.3279	1.3279	-52383	10833	10265	4758	11929	3386	15022	No	1.71	Si
SLU 75	0	2149.28	-24566	-20687	6957	1.3279	1.3279	-51929	10833	10192	4758	11929	3386	14950	No	2.15	Si
SLU 75	0.67	-626.55	-24941	-21003	8686	1.3279	1.3279	-52721	10833	10318	4758	11929	3386	15076	No	1.74	Si
SLU 82	0	2211.97	-25265	-21276	7143	1.3279	1.3279	-53407	10833	10428	4758	11929	3386	15186	No	2.13	Si
SLU 82	0.67	-643.7	-25663	-21611	8917	1.3279	1.3279	-54248	10833	10562	4758	11929	3386	15315	No	1.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	0	2012.01	-6630	-5583	6766	1.3279	1.0814	-14014	13219	5110	4758	17894	3386	9867		1.46	Si
SLD 7	0.67	-566.16	-6812	-5736	7305	1.3279	1.3279	-14399	13297	5297	4758	17894	3386	10055		1.38	Si
SLV 16	0	2828.99	-9927	-8360	9343	1.3279	1.1369	-20984	14613	6220	4758	17894	3386	10978		1.18	Si
SLV 16	0.67	-1199.06	-11694	-9848	10133	1.3279	1.3279	-24720	15361	6816	4758	17894	3386	11573		1.14	Si
SLD 15	0	2442	-12082	-10174	8093	1.3279	1.3279	-25540	15525	6946	4758	17894	3386	11704		1.45	Si
SLD 15	0.67	-1013.91	-13455	-11331	9009	1.3279	1.3279	-28442	16105	7409	4758	17894	3386	12166		1.35	Si
SLD 11	0	2425.23	-5808	-4891	8133	1.3279	0.7391	-12277	12872	4833	4758	17894	3386	9591		1.18	Si
SLD 11	0.67	-837.55	-6594	-5553	8638	1.3279	1.3279	-13940	13205	5260	4758	17894	3386	10018		1.16	Si
SLV 15	0	2983.16	-9301	-7833	9901	1.3279	1.0297	-19662	14349	6010	4758	17894	3386	10767		1.09	Si
SLV 15	0.67	-1330.33	-11325	-9537	10659	1.3279	1.3279	-23939	15204	6691	4758	17894	3386	11449		1.07	Si
SLV 8	0	2223	-877	-739	7496	1.0623	0	0	0	0	4758	14315	2709	4758		0.63	No
SLV 8	0.67	-546.61	-873	-735	7662	1.0623	0.1135	0	0	0	4758	14315	2709	4758		0.62	No
SLV 11	0	2973.78	828	697	10008	1.0623	0	0	0	0	4758	14315	2709	4758		0.48	No
SLV 11	0.67	-1058.85	-285	-240	10098	1.0623	0	0	0	0	4758	14315	2709	4758		0.47	No
SLV 7	0	2326.8	-456	-384	7872	1.0623	0	0	0	0	4758	14315	2709	4758		0.6	No
SLV 7	0.67	-634.99	-624	-526	8016	1.0623	0	0	0	0	4758	14315	2709	4758		0.59	No
SLD 12	0	2359.93	-6073	-5114	7896	1.3279	0.8261	-12837	12984	4922	4758	17894	3386	9680		1.23	Si
SLD 12	0.67	-781.95	-6751	-5685	8415	1.3279	1.3279	-14271	13271	5287	4758	17894	3386	10044		1.19	Si
SLV 12	0	2869.98	407	342	9632	1.0623	0	0	0	0	4758	14315	2709	4758		0.49	No
SLV 12	0.67	-970.47	-534	-449	9744	1.0623	0	0	0	0	4758	14315	2709	4758		0.49	No

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.335 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.25	1153	-459	3.6	68.37	19.02	Si
SLV 12	179667	0.25	1767	-704	3.6	104.39	29.04	Si
SLV 7	179667	0.25	2030	-809	3.6	119.67	33.28	Si
SLV 8	179667	0.25	2644	-1053	3.6	155.27	43.19	Si
SLV 15	179667	0.25	28486	-11348	3.6	1384.71	385.14	Si
SLV 16	179667	0.25	29399	-11712	3.6	1418.58	394.56	Si
SLV 3	179667	0.25	31409	-12513	3.6	1490.86	414.67	Si
SLV 4	179667	0.25	32322	-12876	3.6	1522.65	423.51	Si
SLV 13	179667	0.25	52920	-21082	3.6	2066.47	574.77	Si
SLV 14	179667	0.25	53833	-21445	3.6	2082.89	579.33	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.335 Wa = 0.05 Ta = 0.0025

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-33719	-34388	152	0.44	3474.1	0.996	6.41841	2.47121	Si
SLV 5	-33470	-33967	151	0.442	3448.7	0.996	6.44211	2.47121	Si
SLV 10	-33380	-33105	153	0.442	3439.5	0.996	6.44987	2.47121	Si
SLV 9	-33131	-32683	153	0.444	3414.1	0.996	6.47405	2.47121	Si
SLV 2	-22679	-24259	107	0.546	2348.7	0.995	7.98278	2.49963	Si
SLV 1	-22310	-23634	106	0.552	2311.1	0.995	8.06128	2.49963	Si
SLV 14	-21548	-19980	112	0.563	2233.5	0.995	8.22652	2.49963	Si
SLV 13	-21179	-19355	111	0.569	2195.8	0.994	8.31342	2.49963	Si
SLV 4	-12825	-14206	70	0.793	1344.3	0.991	11.62792	2.49963	Si
SLV 3	-12456	-13580	70	0.81	1306.6	0.991	11.87499	2.49963	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.22	SLU 83	Si
V_SLU	1.688	SLU 83	Si
PF_SLV	0	SLV 11	No
V_SLV	0.471	SLV 11	No
PFFP_SLV	19.016	SLV 11	Si
R_SLV	2.597	SLV 6	Si

Maschio 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-3.381	-11.013	-0.354	L2	Z medio 33 cm	3.027	0.3	2.283	1.947	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	-1.95	9893.36	-78064	-0.0002218	0.0003743	0.0035	3.0271	18393.52	49301.36	49301.36	4.98	No	Si
SLU 79	0	709.07	-69922	-0.0001464	0.0003743	0.0035	3.0271	25794.49	49991.42	49991.42	70.5	No	Si
SLU 75	-1.95	9650.07	-78233	-0.000221	0.0003743	0.0035	3.0271	18216.6	49287.96	49287.96	5.11	No	Si
SLU 75	0	584.15	-69927	-0.0001458	0.0003743	0.0035	3.0271	25790.89	49991	49991	85.58	No	Si
SLU 74	-1.95	9764.95	-77754	-0.0002199	0.0003743	0.0035	3.0271	18715.06	49326	49326	5.05	No	Si
SLU 74	0	654.18	-69621	-0.0001453	0.0003743	0.0035	3.0271	26026.73	50018.67	50018.67	76.46	No	Si
SLU 82	-1.95	9829.75	-80298	-0.00023	0.0003743	0.0035	3.0271	15982.77	48750.14	48750.14	4.96	No	Si
SLU 82	0	514.54	-71789	-0.0001507	0.0003743	0.0035	3.0271	24289.06	49825.28	49825.28	96.84	No	Si
SLU 80	-1.95	9778.48	-78543	-0.0002229	0.0003743	0.0035	3.0271	17890.2	49263.52	49263.52	5.04	No	Si
SLU 80	0	639.03	-70228	-0.0001469	0.0003743	0.0035	3.0271	25555.63	49963.87	49963.87	78.19	No	Si
SLU 77	-1.95	9954.7	-78444	-0.0002236	0.0003743	0.0035	3.0271	17994.69	49271.31	49271.31	4.95	No	Si
SLU 77	0	720.51	-70306	-0.0001476	0.0003743	0.0035	3.0271	25494.14	49956.86	49956.86	69.34	No	Si
SLU 81	-1.95	9944.63	-79819	-0.0002289	0.0003743	0.0035	3.0271	16513.64	48968.42	48968.42	4.92	No	Si
SLU 81	0	584.57	-71483	-0.0001502	0.0003743	0.0035	3.0271	24543.56	49852.18	49852.18	85.28	No	Si
SLU 78	-1.95	9839.82	-78924	-0.0002248	0.0003743	0.0035	3.0271	17485.4	49233.71	49233.71	5	No	Si
SLU 78	0	650.47	-70612	-0.0001481	0.0003743	0.0035	3.0271	25251.44	49929.47	49929.47	76.76	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.95	10134.38	-80510	-0.0002328	0.0003743	0.0035	3.0271	15746.59	48653.92	48653.92	4.8	No	Si
SLU 83	0	650.9	-72169	-0.0001525	0.0003743	0.0035	3.0271	23969.18	49792.09	49792.09	76.5	No	Si
SLU 84	-1.95	10019.5	-80989	-0.000234	0.0003743	0.0035	3.0271	15204.89	48435.26	48435.26	4.83	No	Si
SLU 84	0	580.86	-72475	-0.000153	0.0003743	0.0035	3.0271	23707.82	49765.47	49765.47	85.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	-1.95	10780.81	-32712	-0.0000946	0.0005615	0.0035	3.0271		40904.3	40904.3	3.79		Si
SLD 11	0	4336.21	-32585	-0.0000712	0.0005615	0.0035	3.0271		40792.4	40792.4	9.41		Si
SLV 11	-1.95	13315.97	-19958	-0.0000818	0.0005615	0.0035	3.0271		26788.67	26788.67	2.01		Si
SLV 11	0	6722.1	-23298	-0.0000624	0.0005615	0.0035	3.0271		30589.76	30589.76	4.55		Si
SLV 15	-1.95	9492.41	-43706	-0.0001118	0.0005615	0.0035	3.0271		50841.01	50841.01	5.36		Si
SLV 15	0	2958.86	-39990	-0.0000803	0.0005615	0.0035	3.0271		47424.2	47424.2	16.03		Si
SLV 16	-1.95	9316.42	-44117	-0.0001119	0.0005615	0.0035	3.0271		51221.67	51221.67	5.5		Si
SLV 16	0	2712.04	-40515	-0.0000804	0.0005615	0.0035	3.0271		47903.31	47903.31	17.66		Si
SLD 12	-1.95	10706.27	-32886	-0.0000946	0.0005615	0.0035	3.0271		41057.47	41057.47	3.83		Si
SLD 12	0	4231.67	-32808	-0.0000713	0.0005615	0.0035	3.0271		40988.08	40988.08	9.69		Si
SLV 8	-1.95	12644.93	-20061	-0.0000786	0.0005615	0.0035	3.0271		26904.38	26904.38	2.13		Si
SLV 8	0	6181.4	-23834	-0.0000615	0.0005615	0.0035	3.0271		31206.02	31206.02	5.05		Si
SLD 8	-1.95	10354.23	-32774	-0.0000931	0.0005615	0.0035	3.0271		40958.17	40958.17	3.96		Si
SLD 8	0	3992.2	-32925	-0.0000707	0.0005615	0.0035	3.0271		41091.54	41091.54	10.29		Si
SLV 12	-1.95	13197.48	-20235	-0.0000815	0.0005615	0.0035	3.0271		27100.57	27100.57	2.05		Si
SLV 12	0	6555.93	-23652	-0.0000625	0.0005615	0.0035	3.0271		30996.24	30996.24	4.73		Si
SLD 7	-1.95	10428.77	-32600	-0.0000931	0.0005615	0.0035	3.0271		40805.08	40805.08	3.91		Si
SLD 7	0	4096.74	-32703	-0.0000706	0.0005615	0.0035	3.0271		40895.74	40895.74	9.98		Si
SLV 7	-1.95	12763.42	-19784	-0.0000789	0.0005615	0.0035	3.0271		26592.8	26592.8	2.08		Si
SLV 7	0	6347.58	-23480	-0.0000615	0.0005615	0.0035	3.0271		30799.11	30799.11	4.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	-1.95	10019.5	-80989	-68201	6436	3.0271	3.0271	-75101	10833	31651	23789	27193	7719	34912	No	5.42	Si
SLU 84	0	580.86	-72475	-61031	11343	3.0271	3.0271	-67206	10833	28783	23789	27193	7719	34912	No	3.08	Si
SLU 78	-1.95	9839.82	-78924	-66462	6311	3.0271	3.0271	-73186	10833	30955	23789	27193	7719	34912	No	5.53	Si
SLU 78	0	650.47	-70612	-59463	11081	3.0271	3.0271	-65479	10833	28156	23789	27193	7719	34912	No	3.15	Si
SLU 74	-1.95	9764.95	-77754	-65477	6569	3.0271	3.0271	-72101	10833	30561	23789	27193	7719	34912	No	5.32	Si
SLU 74	0	654.18	-69621	-58628	11313	3.0271	3.0271	-64560	10833	27822	23789	27193	7719	34912	No	3.09	Si
SLU 81	-1.95	9944.63	-79819	-67216	6693	3.0271	3.0271	-74016	10833	31257	23789	27193	7719	34912	No	5.22	Si
SLU 81	0	584.57	-71483	-60197	11576	3.0271	3.0271	-66287	10833	28449	23789	27193	7719	34912	No	3.02	Si
SLU 82	-1.95	9829.75	-80298	-67620	6341	3.0271	3.0271	-74461	10833	31418	23789	27193	7719	34912	No	5.51	Si
SLU 82	0	514.54	-71789	-60454	11214	3.0271	3.0271	-66570	10833	28552	23789	27193	7719	34912	No	3.11	Si
SLU 83	-1.95	10134.38	-80510	-67797	6788	3.0271	3.0271	-74657	10833	31490	23789	27193	7719	34912	No	5.14	Si
SLU 83	0	650.9	-72169	-60774	11705	3.0271	3.0271	-66922	10833	28680	23789	27193	7719	34912	No	2.98	Si
SLU 75	-1.95	9650.07	-78233	-65881	6216	3.0271	3.0271	-72546	10833	30723	23789	27193	7719	34912	No	5.62	Si
SLU 75	0	584.15	-69927	-58886	10952	3.0271	3.0271	-64843	10833	27925	23789	27193	7719	34912	No	3.19	Si
SLU 77	-1.95	9954.7	-78444	-66058	6664	3.0271	3.0271	-72741	10833	30794	23789	27193	7719	34912	No	5.24	Si
SLU 77	0	720.51	-70306	-59205	11443	3.0271	3.0271	-65195	10833	28053	23789	27193	7719	34912	No	3.05	Si
SLU 79	-1.95	9893.36	-78064	-65738	6622	3.0271	3.0271	-72389	10833	30666	23789	27193	7719	34912	No	5.27	Si
SLU 79	0	709.07	-69922	-58882	11377	3.0271	3.0271	-64839	10833	27923	23789	27193	7719	34912	No	3.07	Si
SLU 80	-1.95	9778.48	-78543	-66142	6269	3.0271	3.0271	-72833	10833	30827	23789	27193	7719	34912	No	5.57	Si
SLU 80	0	639.03	-70228	-59139	11016	3.0271	3.0271	-65123	10833	28027	23789	27193	7719	34912	No	3.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	-1.95	12763.42	-19784	-16660	22388	3.0271	2.6052	-18346	14086	13221	23789	40790	7719	37010		1.65	Si
SLV 7	0	6347.58	-23480	-19773	25689	3.0271	3.0271	-21773	14771	14466	23789	40790	7719	38255		1.49	Si
SLD 7	-1.95	10428.77	-32600	-27452	15592	3.0271	3.0271	-30230	16250	17538	23789	40790	7719	41327		2.65	Si
SLD 7	0	4096.74	-32703	-27539	18894	3.0271	3.0271	-30325	16250	17573	23789	40790	7719	41362		2.19	Si
SLD 12	-1.95	10706.27	-32886	-27694	16387	3.0271	3.0271	-30496	16250	17635	23789	40790	7719	41423		2.53	Si
SLD 12	0	4231.67	-32808	-27627	19768	3.0271	3.0271	-30423	16250	17608	23789	40790	7719	41397		2.09	Si
SLV 16	-1.95	9316.42	-44117	-37151	12274	3.0271	3.0271	-40909	16250	21417	23789	40790	7719	45206		3.68	Si
SLV 16	0	2712.04	-40515	-34118	15832	3.0271	3.0271	-37569	16250	20204	23789	40790	7719	43993		2.78	Si
SLV 8	-1.95	12644.93	-20061	-16893	22220	3.0271	2.6496	-18602	14137	13315	23789	40790	7719	37103		1.67	Si
SLV 8	0	6181.4	-23834	-20071	25482	3.0271	3.0271	-22101	14837	14585	23789	40790	7719	38374		1.51	Si
SLV 11	-1.95	13315.97	-19958	-16807	23798	3.0271	2.539	-18507	14118	13280	23789	40790	7719	37069		1.56	Si
SLV 11	0	6722.1	-23298	-19620	27266	3.0271	3.0271	-21605	14738	14405	23789	40790	7719	38194		1.4	Si
SLD 11	-1.95	10780.81	-32712	-27547	16493	3.0271	3.0271	-30334	16250	17576	23789	40790	7719	41365		2.51	Si
SLD 11	0	4336.21	-32585	-27440	19898	3.0271	3.0271	-30216	16250	17533	23789	40790	7719	41322		2.08	Si
SLV 15	-1.95	9492.41	-43706	-36805	12525	3.0271	3.0271	-40529	16250	21279	23789	40790	7719	45068		3.6	Si
SLV 15	0	2958.86	-39990	-33675	16139	3.0271	3.0271	-37082	16250	20027	23789	40790	7719	43816		2.71	Si
SLV 12	-1.95	13197.48	-20235	-17040	23629	3.0271	2.5839	-18763	14169	13373	23789	40790	7719	37162		1.57	Si
SLV 12	0	6555.93	-23652	-19917	27060	3.0271	3.0271	-21932	14803	14524	23789	40790	7719	38313		1.42	Si
SLD 8	-1.95	10354.23	-32774	-27599	15486	3.0271	3.0271	-30391	16250	17597	23789	40790	7719	41385		2.67	Si
SLD 8	0	3992.2	-32925	-27726	18764	3.0271	3.0271	-30531	16250	17648	23789	40790	7719	41436		2.21	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.977 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.24	21135	-19193	92.01	2480.55	26.96	Si
SLV 7	179667	0.24	21410	-19443	92.01	2507.53	27.25	Si
SLV 12	179667	0.24	21526	-19549	92.01	2518.97	27.38	Si
SLV 8	179667	0.24	21801	-19798	92.01	2545.76	27.67	Si
SLV 15	179667	0.24	44856	-40735	92.01	4315.53	46.9	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.24	45437	-41263	92.01	4347.9	47.25	Si
SLV 3	179667	0.24	45771	-41566	92.01	4366.22	47.45	Si
SLV 4	179667	0.24	46353	-42094	92.01	4397.64	47.8	Si
SLV 6	179667	0.24	90762	-82423	92.01	5015.67	54.51	Si
SLV 10	179667	0.24	90487	-82174	92.01	5022.66	54.59	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.977 Wa = 0.05 Ta = 0.029

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-72193	-87698	70	0.296	7645.7	0.988	4.35453	2.57809	Si
SLV 6	-72375	-87524	1	0.296	7664.3	0.988	4.35983	2.57809	Si
SLV 9	-71840	-87422	71	0.297	7609.7	0.988	4.37094	2.57809	Si
SLV 5	-72022	-87248	1	0.297	7628.2	0.988	4.37623	2.57809	Si
SLV 2	-55684	-63776	-86	0.362	5963.2	0.985	5.34032	2.96893	Si
SLV 14	-55077	-64356	145	0.364	5901.3	0.984	5.37243	2.96893	Si
SLV 1	-55159	-63365	-85	0.365	5909.7	0.984	5.38144	2.96893	Si
SLV 13	-54552	-63945	146	0.367	5847.8	0.984	5.41399	2.96893	Si
SLV 4	-41122	-43537	-91	0.462	4479.3	0.98	6.85324	2.96893	Si
SLV 16	-40515	-44117	140	0.466	4417.4	0.979	6.92218	2.96893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.801	SLU 83	Si
V_SLU	2.983	SLU 83	Si
PF_SLV	2.012	SLV 11	Si
V_SLV	1.401	SLV 11	Si
PFFP_SLV	26.96	SLV 11	Si
R_SLV	1.689	SLV 10	Si

Maschio 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-0.354	-11.013	1.141	L2	L4	1.495	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	-1.95	-38.58	-34750	-0.000145	0.0003743	0.0035	1.495	6207.5	12382.83	12382.83	320.94	No	Si
SLU 80	0.67	1306.71	-31892	-0.0001541	0.0003743	0.0035	1.495	7189.28	12334.03	12334.03	9.44	No	Si
SLU 82	-1.95	-76.44	-35361	-0.0001492	0.0003743	0.0035	1.495	5963.19	12384.6	12384.6	162.03	No	Si
SLU 82	0.67	1336.71	-32443	-0.0001578	0.0003743	0.0035	1.495	7020.67	12311.22	12311.22	9.21	No	Si
SLU 77	-1.95	73.87	-35031	-0.0001473	0.0003743	0.0035	1.495	6096.91	12209.69	12209.69	165.28	No	Si
SLU 77	0.67	1278.47	-32082	-0.0001546	0.0003743	0.0035	1.495	7132.24	12326.11	12326.11	9.64	No	Si
SLU 78	-1.95	-31.61	-34947	-0.0001459	0.0003743	0.0035	1.495	6130.18	12383.22	12383.22	391.71	No	Si
SLU 78	0.67	1313.23	-32085	-0.0001553	0.0003743	0.0035	1.495	7131.3	12325.99	12325.99	9.39	No	Si
SLU 76	-1.95	-116.14	-34320	-0.0001441	0.0003743	0.0035	1.495	6372.32	12382.58	12382.58	106.62	No	Si
SLU 76	0.67	1315.38	-31508	-0.0001521	0.0003743	0.0035	1.495	7300.62	12350.13	12350.13	9.39	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.95	36.29	-35819	-0.000151	0.0003743	0.0035	1.495	5771.88	12180.54	12180.54	335.69	No	Si
SLU 83	0.67	1316.45	-32826	-0.0001596	0.0003743	0.0035	1.495	6897.93	12295.64	12295.64	9.34	No	Si
SLU 84	-1.95	-69.2	-35735	-0.0001512	0.0003743	0.0035	1.495	5807.31	12386.5	12386.5	178.99	No	Si
SLU 84	0.67	1351.2	-32829	-0.0001604	0.0003743	0.0035	1.495	6896.92	12295.52	12295.52	9.1	No	Si
SLU 73	-1.95	-123.37	-33946	-0.0001422	0.0003743	0.0035	1.495	6510.86	12383.03	12383.03	100.37	No	Si
SLU 73	0.67	1300.88	-31123	-0.0001497	0.0003743	0.0035	1.495	7407.7	12366.51	12366.51	9.51	No	Si
SLU 81	-1.95	29.05	-35444	-0.0001487	0.0003743	0.0035	1.495	5928.79	12194.28	12194.28	419.75	No	Si
SLU 81	0.67	1301.95	-32440	-0.0001571	0.0003743	0.0035	1.495	7021.65	12311.34	12311.34	9.46	No	Si
SLU 75	-1.95	-38.85	-34573	-0.000144	0.0003743	0.0035	1.495	6276.4	12382.63	12382.63	318.76	No	Si
SLU 75	0.67	1298.73	-31700	-0.0001528	0.0003743	0.0035	1.495	7245.67	12342.07	12342.07	9.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	-1.95	-6167.19	-20236	-0.0001704	0.0005615	0.0035	1.495		12307.19	12307.19	2		Si
SLV 6	0.67	2755.99	-21744	-0.0001192	0.0005615	0.0035	1.495		12451.36	12451.36	4.52		Si
SLV 5	-1.95	-6138.01	-20199	-0.0001696	0.0005615	0.0035	1.495		12294.45	12294.45	2		Si
SLV 5	0.67	2729.99	-21662	-0.0001185	0.0005615	0.0035	1.495		12414.78	12414.78	4.55		Si
SLV 11	-1.95	6302.58	-27531	-0.0002035	0.0005615	0.0035	1.495		14499.13	14499.13	2.3		Si
SLV 11	0.67	-1048.26	-21606	-0.0000925	0.0005615	0.0035	1.495		12785.62	12785.62	12.2		Si
SLV 9	-1.95	-6261.64	-19289	-0.0001699	0.0005615	0.0035	1.495		11932.58	11932.58	1.91		Si
SLV 9	0.67	2333.14	-21780	-0.0001128	0.0005615	0.0035	1.495		12467.7	12467.7	5.34		Si
SLV 10	-1.95	-6290.82	-19325	-0.0001707	0.0005615	0.0035	1.495		11949.34	11949.34	1.9		Si
SLV 10	0.67	2359.14	-21862	-0.0001136	0.0005615	0.0035	1.495		12504.33	12504.33	5.3		Si
SLD 9	-1.95	-3876.28	-21018	-0.0001336	0.0005615	0.0035	1.495		12578.88	12578.88	3.25		Si
SLD 9	0.67	1769.14	-21738	-0.000104	0.0005615	0.0035	1.495		12448.92	12448.92	7.04		Si
SLD 10	-1.95	-3894.64	-21041	-0.000134	0.0005615	0.0035	1.495		12587.02	12587.02	3.23		Si
SLD 10	0.67	1785.5	-21790	-0.0001045	0.0005615	0.0035	1.495		12471.95	12471.95	6.99		Si
SLV 7	-1.95	6426.21	-28441	-0.0002102	0.0005615	0.0035	1.495		14774.73	14774.73	2.3		Si
SLV 7	0.67	-651.42	-21487	-0.000086	0.0005615	0.0035	1.495		12743.74	12743.74	19.56		Si
SLV 12	-1.95	6273.41	-27568	-0.0002031	0.0005615	0.0035	1.495		14510.28	14510.28	2.31		Si
SLV 12	0.67	-1022.26	-21688	-0.0000924	0.0005615	0.0035	1.495		12814.63	12814.63	12.54		Si
SLV 8	-1.95	6397.03	-28478	-0.0002098	0.0005615	0.0035	1.495		14785.98	14785.98	2.31		Si
SLV 8	0.67	-625.41	-21569	-0.000086	0.0005615	0.0035	1.495		12772.68	12772.68	20.42		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	-1.95	-69.2	-35735	-30093	3569	1.495	1.495	-67096	10833	9464	28547	13430	3812	17242	No	4.83	Si
SLU 84	0.67	1351.2	-32829	-27645	-3174	1.495	1.495	-61640	10833	8811	28547	13430	3812	17242	No	5.43	Si
SLU 69	-1.95	128.44	-31859	-26829	3551	1.495	1.495	-59819	10833	8593	28547	13430	3812	17242	No	4.86	Si
SLU 69	0.67	1140.82	-28996	-24418	-2383	1.495	1.495	-54443	10833	7951	28547	13430	3812	17242	No	7.24	Si
SLU 78	-1.95	-31.61	-34947	-29429	3555	1.495	1.495	-65616	10833	9287	28547	13430	3812	17242	No	4.85	Si
SLU 78	0.67	1313.23	-32085	-27019	-3015	1.495	1.495	-60243	10833	8644	28547	13430	3812	17242	No	5.72	Si
SLU 77	-1.95	73.87	-35031	-29499	3787	1.495	1.495	-65773	10833	9306	28547	13430	3812	17242	No	4.55	Si
SLU 77	0.67	1278.47	-32082	-27017	-2780	1.495	1.495	-60237	10833	8643	28547	13430	3812	17242	No	6.2	Si
SLU 71	-1.95	121.47	-31663	-26663	3519	1.495	1.495	-59450	10833	8549	28547	13430	3812	17242	No	4.9	Si
SLU 71	0.67	1134.29	-28803	-24255	-2379	1.495	1.495	-54080	10833	7907	28547	13430	3812	17242	No	7.25	Si
SLU 79	-1.95	66.9	-34834	-29334	3755	1.495	1.495	-65404	10833	9261	28547	13430	3812	17242	No	4.59	Si
SLU 79	0.67	1271.95	-31889	-26854	-2776	1.495	1.495	-59874	10833	8600	28547	13430	3812	17242	No	6.21	Si
SLU 81	-1.95	29.05	-35444	-29848	3747	1.495	1.495	-66550	10833	9399	28547	13430	3812	17242	No	4.6	Si
SLU 81	0.67	1301.95	-32440	-27318	-2931	1.495	1.495	-60910	10833	8724	28547	13430	3812	17242	No	5.88	Si
SLU 80	-1.95	-38.58	-34750	-29264	3522	1.495	1.495	-65247	10833	9243	28547	13430	3812	17242	No	4.9	Si
SLU 80	0.67	1306.71	-31892	-26856	-3011	1.495	1.495	-59880	10833	8601	28547	13430	3812	17242	No	5.73	Si
SLU 83	-1.95	36.29	-35819	-30163	3801	1.495	1.495	-67253	10833	9483	28547	13430	3812	17242	No	4.54	Si
SLU 83	0.67	1316.45	-32826	-27643	-2939	1.495	1.495	-61634	10833	8810	28547	13430	3812	17242	No	5.87	Si
SLU 74	-1.95	66.64	-34656	-29184	3733	1.495	1.495	-65070	10833	9222	28547	13430	3812	17242	No	4.62	Si
SLU 74	0.67	1263.97	-31697	-26692	-2773	1.495	1.495	-59513	10833	8557	28547	13430	3812	17242	No	6.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	-1.95	6397.03	-28478	-23981	15203	1.495	1.495	-53470	16250	8554	28547	20145	3812	23957		1.58	Si
SLV 8	0.67	-625.41	-21569	-18163	10895	1.495	1.495	-40498	16250	7288	28547	20145	3812	23957		2.2	Si
SLD 11	-1.95	3951.26	-26144	-22016	10972	1.495	1.495	-49088	16250	8030	28547	20145	3812	23957		2.18	Si
SLD 11	0.67	-332.07	-21633	-18218	6791	1.495	1.495	-40619	16250	7288	28547	20145	3812	23957		3.53	Si
SLV 5	-1.95	-6138.01	-20199	-17009	-10720	1.495	1.3309	-43681	16250	6695	28547	20145	3812	23957		2.23	Si
SLV 5	0.67	2729.99	-21662	-18241	-15619	1.495	1.495	-40672	16250	7288	28547	20145	3812	23957		1.53	Si
SLV 12	-1.95	6273.41	-27568	-23215	15960	1.495	1.495	-51761	16250	8349	28547	20145	3812	23957		1.5	Si
SLV 12	0.67	-1022.26	-21688	-18263	11916	1.495	1.495	-40721	16250	7288	28547	20145	3812	23957		2.01	Si
SLV 10	-1.95	-6290.82	-19325	-16274	-10028	1.495	1.266	-43938	16250	6499	28547	20145	3812	23957		2.39	Si
SLV 10	0.67	2359.14	-21862	-18410	-14694	1.495	1.495	-41049	16250	7288	28547	20145	3812	23957		1.63	Si
SLV 7	-1.95	6426.21	-28441	-23950	15268	1.495	1.495	-53400	16250	8546	28547	20145	3812	23957		1.57	Si
SLV 7	0.67	-651.42	-21487	-18094	10991	1.495	1.495	-40344	16250	7288	28547	20145	3812	23957		2.18	Si
SLV 6	-1.95	-6167.19	-20236	-17040	-10785	1.495	1.3282	-43853	16250	6703	28547	20145	3812	23957		2.22	Si
SLV 6	0.67	2755.99	-21744	-18311	-15715	1.495	1.495	-40826	16250	7288	28547	20145	3812	23957		1.52	Si
SLV 11	-1.95	6302.58	-27531	-23184	16025	1.495	1.495	-51692	16250	8341	28547	20145	3812	23957		1.5	Si
SLV 11	0.67	-1048.26	-21606	-18194	12012	1.495	1.495	-40567	16250	7288	28547	20145	3812	23957		1.99	Si
SLV 9	-1.95	-6261.64	-19289	-16243	-9963	1.495	1.2686	-43757	16250	6490	28547	20145	3812	23957		2.4	Si
SLV 9	0.67	2333.14	-21780	-18341	-14598	1.495	1.495	-40895	16250	7288	28547	20145	3812	23957		1.64	Si
SLD 12	-1.95	3932.9	-26167	-22035	10931	1.495	1.495	-49131	16250	8035	28547	20145	3812	23957		2.19	Si
SLD 12	0.67	-315.72	-21685	-18261	6730	1.495	1.495	-40716	16250	7288	28547	20145	3812	23957		3.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.24	52014	-23328	59.83	2307.43	38.57	Si
SLV 16	179667	0.24	52223	-23422	59.83	2311.89	38.64	Si
SLV 13	179667	0.24	52435	-23517	59.83	2316.39	38.72	Si
SLV 11	179667	0.24	52473	-23534	59.83	2317.19	38.73	Si
SLV 12	179667	0.24	52614	-23597	59.83	2320.15	38.78	Si
SLV 14	179667	0.24	52644	-23611	59.83	2320.78	38.79	Si
SLV 7	179667	0.24	53260	-23887	59.83	2333.47	39	Si
SLV 8	179667	0.24	53400	-23950	59.83	2336.32	39.05	Si
SLV 9	179667	0.24	53879	-24165	59.83	2345.9	39.21	Si
SLV 10	179667	0.24	54019	-24228	59.83	2348.68	39.26	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-21960	-21157	285	0.412	2401.5	0.979	6.12399	3.32286	Si
SLV 16	-21907	-23630	288	0.413	2396.1	0.979	6.13451	3.32286	Si
SLV 13	-21838	-21103	285	0.414	2389	0.978	6.15282	3.32286	Si
SLV 15	-21785	-23575	288	0.415	2383.7	0.978	6.16347	3.32286	Si
SLV 2	-21564	-24191	-55	0.429	2361.2	0.978	6.36953	3.32286	Si
SLV 4	-21512	-26664	-52	0.43	2355.8	0.978	6.38447	3.32286	Si
SLV 1	-21442	-24136	-55	0.431	2348.8	0.978	6.40001	3.32286	Si
SLV 3	-21390	-26609	-52	0.432	2343.4	0.978	6.4151	3.32286	Si
SLV 10	-21862	-19325	163	0.419	2391.6	0.978	6.22604	2.7479	Si
SLV 9	-21780	-19289	163	0.42	2383.2	0.978	6.24588	2.7479	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.1	SLU 84	Si
V_SLU	4.536	SLU 83	Si
PF_SLV	1.899	SLV 10	Si
V_SLV	1.495	SLV 11	Si
PFFP_SLV	38.567	SLV 15	Si
R_SLV	1.843	SLV 14	Si

Maschio 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.888	6.576	-7.963	6.576	L2	L4	3.925	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	0.05	1296.85	-57184	-0.0000545	0.0003743	0.0035	3.925	76536.78	85812.08	85812.08	66.17	No	Si
SLU 49	0.45	2889.23	-61274	-0.0000611	0.0003743	0.0035	3.925	79275.36	90548.07	90548.07	31.34	No	Si
SLU 47	0.05	1140.22	-55071	-0.0000522	0.0003743	0.0035	3.925	74978.04	83271.24	83271.24	73.03	No	Si
SLU 47	0.45	2676.03	-58999	-0.0000584	0.0003743	0.0035	3.925	77796.78	88006.25	88006.25	32.89	No	Si
SLU 50	0.05	1300.38	-57217	-0.0000546	0.0003743	0.0035	3.925	76559.81	85850.94	85850.94	66.02	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	0.45	2899.93	-61279	-0.0000611	0.0003743	0.0035	3.925	79278.97	90553.71	90553.71	31.23	No	Si
SLU 6	0.05	1083.44	-47672	-0.0000448	0.0003743	0.0035	3.925	68753.89	74539.4	74539.4	68.8	No	Si
SLU 6	0.45	2345.53	-51090	-0.00005	0.0003743	0.0035	3.925	71778.07	78539.84	78539.84	33.48	No	Si
SLU 45	0.05	1284.96	-56721	-0.0000541	0.0003743	0.0035	3.925	76203.43	85254.36	85254.36	66.35	No	Si
SLU 45	0.45	2854.91	-60743	-0.0000605	0.0003743	0.0035	3.925	78940.63	90018.4	90018.4	31.53	No	Si
SLU 43	0.05	1165.4	-55028	-0.0000522	0.0003743	0.0035	3.925	74945.55	83220.06	83220.06	71.41	No	Si
SLU 43	0.45	2689.11	-58906	-0.0000584	0.0003743	0.0035	3.925	77733.92	87893.32	87893.32	32.68	No	Si
SLU 69	0.05	1352.19	-67503	-0.0000652	0.0003743	0.0035	3.925	82745.9	95503.29	95503.29	70.63	No	Si
SLU 69	0.45	2982.19	-72371	-0.0000729	0.0003743	0.0035	3.925	84868.34	99385.69	99385.69	33.33	No	Si
SLU 46	0.05	1229.36	-56090	-0.0000533	0.0003743	0.0035	3.925	75741.95	84496.1	84496.1	68.73	No	Si
SLU 46	0.45	2783.82	-60087	-0.0000597	0.0003743	0.0035	3.925	78518.06	89330.46	89330.46	32.09	No	Si
SLU 48	0.05	1352.45	-57815	-0.0000553	0.0003743	0.0035	3.925	76983.19	86573.34	86573.34	64.01	No	Si
SLU 48	0.45	2960.32	-61930	-0.0000619	0.0003743	0.0035	3.925	79680.93	91117.65	91117.65	30.78	No	Si
SLU 51	0.05	1244.78	-56586	-0.0000539	0.0003743	0.0035	3.925	76105.16	85091.63	85091.63	68.36	No	Si
SLU 51	0.45	2828.83	-60623	-0.0000603	0.0003743	0.0035	3.925	78864.08	89895.75	89895.75	31.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	0.05	-11162.58	-33470	-0.0000445	0.0005615	0.0035	3.925		63628.53	63628.53	5.7		Si
SLV 2	0.45	-1830.24	-35912	-0.000034	0.0005615	0.0035	3.925		67415.65	67415.65	36.83		Si
SLV 5	0.05	-6197.29	-4223	-0.0000191	0.0005615	0.0035	3.14		12696.32	12696.32	2.05		Si
SLV 5	0.45	-2707.06	-5406	-0.0000081	0.0005615	0.0035	3.925		14927.15	14927.15	5.51		Si
SLV 6	0.05	-5001.24	-3895	-0.0000128	0.0005615	0.0035	3.14		12078.34	12078.34	2.42		Si
SLV 6	0.45	-2573.15	-5102	-0.0000077	0.0005615	0.0035	3.925		14355.07	14355.07	5.58		Si
SLV 15	0.05	12826.66	-66017	-0.0000781	0.0005615	0.0035	3.925		104574.42	104574.42	8.15		Si
SLV 15	0.45	5830.19	-70699	-0.0000725	0.0005615	0.0035	3.925		110014.45	110014.45	18.87		Si
SLV 10	0.05	2220.82	-5428	-0.0000075	0.0005615	0.0035	3.925		11229.59	11229.59	5.06		Si
SLV 10	0.45	-899.98	-6916	-0.0000071	0.0005615	0.0035	3.925		17751.87	17751.87	19.72		Si
SLV 16	0.05	14603.14	-65531	-0.0000802	0.0005615	0.0035	3.925		104011.81	104011.81	7.12		Si
SLV 16	0.45	6029.09	-70246	-0.0000723	0.0005615	0.0035	3.925		109486.29	109486.29	18.16		Si
SLV 13	0.05	11134.5	-39066	-0.0000497	0.0005615	0.0035	3.925		67297.78	67297.78	6.04		Si
SLV 13	0.45	3548.09	-42412	-0.0000423	0.0005615	0.0035	3.925		72262.21	72262.21	20.37		Si
SLD 14	0.05	8593.11	-42845	-0.0000497	0.0005615	0.0035	3.925		72907.08	72907.08	8.48		Si
SLD 14	0.45	3185.3	-46307	-0.0000454	0.0005615	0.0035	3.925		78088.89	78088.89	24.52		Si
SLV 14	0.05	12910.98	-38580	-0.0000517	0.0005615	0.0035	3.925		66578.61	66578.61	5.16		Si
SLV 14	0.45	3746.99	-41959	-0.0000422	0.0005615	0.0035	3.925		71588.37	71588.37	19.11		Si
SLV 1	0.05	-12939.06	-33957	-0.0000474	0.0005615	0.0035	3.925		64380.72	64380.72	4.98		Si
SLV 1	0.45	-2029.14	-36365	-0.0000347	0.0005615	0.0035	3.925		68120.9	68120.9	33.57		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	0.05	1165.4	-55028	-48914	-1573	3.925	3.925	-27694	10637	28067	28547	52889	10009	56614	No	35.98	Si
SLU 43	0.45	2689.11	-58906	-52360	-1422	3.925	3.925	-29645	10833	29446	28547	52889	10009	57993	No	40.78	Si
SLU 44	0.05	1072.73	-53976	-47979	-1524	3.925	3.925	-27164	10566	27693	28547	52889	10009	56240	No	36.91	Si
SLU 44	0.45	2570.61	-57812	-51388	-1375	3.925	3.925	-29094	10824	29057	28547	52889	10009	57604	No	41.9	Si
SLU 49	0.05	1296.85	-57184	-50831	-1669	3.925	3.925	-28779	10782	28834	28547	52889	10009	57381	No	34.38	Si
SLU 49	0.45	2889.23	-61274	-54465	-1511	3.925	3.925	-30837	10833	30288	28547	52889	10009	58835	No	38.92	Si
SLU 47	0.05	1140.22	-55071	-48952	-1585	3.925	3.925	-27715	10640	28083	28547	52889	10009	56629	No	35.72	Si
SLU 47	0.45	2676.03	-58999	-52443	-1433	3.925	3.925	-29692	10833	29479	28547	52889	10009	58026	No	40.48	Si
SLU 71	0.05	1300.12	-66904	-59471	-1486	3.925	3.925	-33671	10833	32290	28547	52889	10009	60837	No	40.95	Si
SLU 71	0.45	2921.8	-71721	-63752	-1305	3.925	3.925	-36094	10833	34002	28547	52889	10009	62549	No	47.92	Si
SLU 48	0.05	1352.45	-57815	-51391	-1699	3.925	3.925	-29096	10824	29058	28547	52889	10009	57605	No	33.91	Si
SLU 48	0.45	2960.32	-61930	-55049	-1540	3.925	3.925	-31167	10833	30521	28547	52889	10009	59068	No	38.36	Si
SLU 46	0.05	1229.36	-56090	-49858	-1607	3.925	3.925	-28228	10708	28445	28547	52889	10009	56992	No	35.46	Si
SLU 46	0.45	2783.82	-60087	-53410	-1453	3.925	3.925	-30239	10833	29866	28547	52889	10009	58413	No	40.2	Si
SLU 51	0.05	1244.78	-56586	-50298	-1667	3.925	3.925	-28477	10741	28621	28547	52889	10009	57168	No	34.3	Si
SLU 51	0.45	2828.83	-60623	-53887	-1511	3.925	3.925	-30509	10833	30057	28547	52889	10009	58603	No	38.79	Si
SLU 50	0.05	1300.38	-57217	-50859	-1697	3.925	3.925	-28795	10784	28846	28547	52889	10009	57392	No	33.83	Si
SLU 50	0.45	2899.93	-61279	-54471	-1539	3.925	3.925	-30840	10833	30290	28547	52889	10009	58837	No	38.22	Si
SLU 45	0.05	1284.96	-56721	-50419	-1637	3.925	3.925	-28546	10751	28669	28547	52889	10009	57216	No	34.95	Si
SLU 45	0.45	2854.91	-60743	-53994	-1481	3.925	3.925	-30570	10833	30099	28547	52889	10009	58646	No	39.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0.05	-9470.41	-60422	-53708	-22367	3.925	3.925	-30408	16250	34236	28547	79334	10009	62783		2.81	Si
SLV 4	0.45	451.85	-64199	-57066	-22330	3.925	3.925	-32309	16250	35579	28547	79334	10009	64126		2.87	Si
SLV 3	0.05	-11246.89	-60908	-54141	-26324	3.925	3.925	-30653	16250	34409	28547	79334	10009	62956		2.39	Si
SLV 3	0.45	252.96	-64652	-57468	-26286	3.925	3.925	-32537	16250	35740	28547	79334	10009	64287		2.45	Si
SLV 2	0.05	-11162.58	-33470	-29751	-21498	3.925	3.925	-16844	13786	24654	28547	79334	10009	53201		2.47	Si
SLV 2	0.45	-1830.24	-35912	-31922	-21090	3.925	3.925	-18073	14031	25522	28547	79334	10009	54069		2.56	Si
SLV 14	0.05	12910.98	-38580	-34293	24335	3.925	3.925	-19416	14300	26471	28547	79334	10009	55017		2.26	Si
SLV 14	0.45	3746.99	-41959	-37297	24564	3.925	3.925	-21117	14640	27672	28547	79334	10009	56219		2.29	Si
SLD 3	0.05	-6929.03	-56643	-50349	-17159	3.925	3.925	-28506	16118	32893	28547	79334	10009	61440		3.58	Si
SLD 3	0.45	814.65	-60304	-53603	-17094	3.925	3.925	-30349	16250	34195	28547	79334	10009	62741		3.67	Si
SLD 1	0.05	-7970.01	-39850	-35422	-16623	3.925	3.925	-20055	14428	26922	28547	79334	10009	55469		3.34	Si
SLD 1	0.45	-593.16	-42678	-37936	-16318	3.925	3.925	-21478	14712	27928	28547	79334	10009	56474		3.46	Si
SLV 13	0.05	11134.5	-39066	-34726	20379	3.925	3.925	-19661	14349	26644	28547	79334	10009	55190		2.71	Si
SLV 13	0.45	3548.09	-42412	-37699	20609	3.925	3.925	-21344	14686	27833	28547	79334	10009	56380		2.74	Si
SLV 1	0.05	-12939.06	-33957	-30184	-25454	3.925	3.925	-17089	13835	24827	28547	79334	10009	53374		2.1	Si
SLV 1	0.45	-2029.14	-36365	-32324	-25045	3.925	3.925	-18301	14077	25683	28547	79334	10009	54230		2.17	Si
SLV 15	0.05	12826.66	-66017	-58682	19509	3.925	3.925	-33224	16250	36226	28547	79334	10009	64772		3.32	Si
SLV 15	0.45	5830.19	-70699	-62843	19368	3.925	3.925	-35580	16250	37890	28547	79334	10009	66437		3.43	Si
SLV 16	0.05	14603.14	-65531	-58250	23466	3.925	3.925	-32979	16250	36053	28547	79334	10009	64599		2.75	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.45	6029.09	-70246	-62441	23324	3.925	3.925	-35352	16250	37729	28547	79334	10009	66276		2.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	1650	-2914	227.43	648.65	2.85	Si
SLV 5	179667	0.24	1788	-3158	227.43	702.2	3.09	Si
SLV 10	179667	0.24	2611	-4611	227.43	1019.82	4.48	Si
SLV 9	179667	0.24	2749	-4855	227.43	1072.69	4.72	Si
SLV 2	179667	0.24	16087	-28414	227.43	5719.76	25.15	Si
SLV 1	179667	0.24	16292	-28776	227.43	5783.88	25.43	Si
SLV 14	179667	0.24	19290	-34071	227.43	6697.68	29.45	Si
SLV 13	179667	0.24	19495	-34433	227.43	6758.38	29.72	Si
SLV 4	179667	0.24	29452	-52019	227.43	9447.11	41.54	Si
SLV 3	179667	0.24	29657	-52381	227.43	9496.98	41.76	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-97219	-69320	-5986	0.248	10551.5	0.981	3.67266	2.58905	Si
SLV 12	-96886	-69317	-5978	0.248	10517.5	0.981	3.68196	2.58905	Si
SLV 7	-95816	-66657	-5812	0.252	10408.6	0.98	3.7331	2.58905	Si
SLV 8	-95483	-66654	-5804	0.252	10374.6	0.98	3.74274	2.58905	Si
SLV 15	-66680	-49492	-4409	0.34	7440.4	0.973	5.07635	2.92742	Si
SLV 16	-66185	-49488	-4397	0.342	7390	0.973	5.10644	2.92742	Si
SLV 3	-62005	-40616	-3829	0.367	6964.3	0.971	5.48507	2.92742	Si
SLV 4	-61510	-40612	-3817	0.369	6913.9	0.971	5.52051	2.92742	Si
SLV 13	-39032	-29834	-2882	0.538	4626.4	0.958	8.15668	2.92742	Si
SLV 14	-38537	-29830	-2870	0.543	4576.1	0.958	8.24385	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	30.78	SLU 48	Si
V_SLU	33.828	SLU 50	Si
PF_SLV	2.049	SLV 5	Si
V_SLV	2.097	SLV 1	Si
PFFP_SLV	2.852	SLV 6	Si
R_SLV	1.419	SLV 11	Si

Maschio 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.963	6.576	-5.308	6.576	L2	L4	1.655	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	0.05	-1306.04	-17599	-0.0000481	0.0003743	0.0035	1.655	11182.8	12699.84	12699.84	9.72	No	Si
SLU 80	0.45	113.54	-16990	-0.0000371	0.0003743	0.0035	1.655	10909.11	11750.09	11750.09	103.49	No	Si
SLU 78	0.05	-1315.28	-17732	-0.0000485	0.0003743	0.0035	1.655	11241.57	12771.51	12771.51	9.71	No	Si
SLU 78	0.45	111.06	-17123	-0.0000373	0.0003743	0.0035	1.655	10969.64	11813.69	11813.69	106.37	No	Si
SLU 79	0.05	-1317	-17748	-0.0000485	0.0003743	0.0035	1.655	11249.03	12780.62	12780.62	9.7	No	Si
SLU 79	0.45	116.92	-17140	-0.0000374	0.0003743	0.0035	1.655	10977.32	11821.8	11821.8	101.11	No	Si
SLU 70	0.05	-1226.14	-16140	-0.000044	0.0003743	0.0035	1.655	10512.88	11889.23	11889.23	9.7	No	Si
SLU 70	0.45	96.94	-15532	-0.0000337	0.0003743	0.0035	1.655	10219.82	10930.99	10930.99	112.76	No	Si
SLU 77	0.05	-1326.24	-17881	-0.0000489	0.0003743	0.0035	1.655	11307.36	12852	12852	9.69	No	Si
SLU 77	0.45	114.45	-17273	-0.0000377	0.0003743	0.0035	1.655	11037.42	11885.49	11885.49	103.85	No	Si
SLU 74	0.05	-1302.57	-17623	-0.0000481	0.0003743	0.0035	1.655	11193.47	12712.83	12712.83	9.76	No	Si
SLU 74	0.45	111.19	-17014	-0.0000371	0.0003743	0.0035	1.655	10920.09	11761.6	11761.6	105.78	No	Si
SLU 71	0.05	-1227.87	-16157	-0.0000441	0.0003743	0.0035	1.655	10520.92	11898.56	11898.56	9.69	No	Si
SLU 71	0.45	102.8	-15549	-0.0000337	0.0003743	0.0035	1.655	10228.09	10942.05	10942.05	106.44	No	Si
SLU 66	0.05	-1213.43	-16031	-0.0000437	0.0003743	0.0035	1.655	10460.99	11829.23	11829.23	9.75	No	Si
SLU 66	0.45	97.07	-15423	-0.0000334	0.0003743	0.0035	1.655	10166.49	10859.91	10859.91	111.88	No	Si
SLU 72	0.05	-1216.9	-16007	-0.0000437	0.0003743	0.0035	1.655	10449.49	11815.99	11815.99	9.71	No	Si
SLU 72	0.45	99.41	-15399	-0.0000334	0.0003743	0.0035	1.655	10154.67	10844.22	10844.22	109.08	No	Si
SLU 69	0.05	-1237.1	-16290	-0.0000445	0.0003743	0.0035	1.655	10583.87	11971.98	11971.98	9.68	No	Si
SLU 69	0.45	100.32	-15682	-0.000034	0.0003743	0.0035	1.655	10292.8	11028.97	11028.97	109.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	0.05	-2687.98	-8839	-0.0000386	0.0005615	0.0035	1.655		7512.25	7512.25	2.79		Si
SLV 1	0.45	291.16	-8301	-0.0000192	0.0005615	0.0035	1.655		6627.42	6627.42	22.76		Si
SLD 1	0.05	-2033.72	-10024	-0.000036	0.0005615	0.0035	1.655		8375.56	8375.56	4.12		Si
SLD 1	0.45	216.09	-9525	-0.0000212	0.0005615	0.0035	1.655		7517.55	7517.55	34.79		Si
SLD 3	0.05	-2275.68	-13875	-0.0000463	0.0005615	0.0035	1.655		11033.61	11033.61	4.85		Si
SLD 3	0.45	319.98	-13394	-0.0000302	0.0005615	0.0035	1.655		10074.66	10074.66	31.48		Si
SLD 2	0.05	-1821.98	-9636	-0.0000336	0.0005615	0.0035	1.655		8092.49	8092.49	4.44		Si
SLD 2	0.45	152.94	-9136	-0.0000199	0.0005615	0.0035	1.655		7236.19	7236.19	47.32		Si
SLV 5	0.05	-909.15	-1790	-0.0000125	0.0005615	0.0035	1.324		2140.31	2140.31	2.35		Si
SLV 5	0.45	-94.35	-1261	-0.0000032	0.0005615	0.0035	1.655		1716.89	1716.89	18.2		Si
SLV 3	0.05	-3077.48	-15024	-0.0000551	0.0005615	0.0035	1.655		11802.27	11802.27	3.84		Si
SLV 3	0.45	457.71	-14514	-0.0000337	0.0005615	0.0035	1.655		10763.8	10763.8	23.52		Si
SLV 2	0.05	-2356.57	-8231	-0.0000346	0.0005615	0.0035	1.655		7069.92	7069.92	3		Si
SLV 2	0.45	192.31	-7693	-0.0000172	0.0005615	0.0035	1.655		6178.07	6178.07	32.13		Si
SLV 6	0.05	-686.02	-1381	-0.0000093	0.0005615	0.0035	1.324		1813.37	1813.37	2.64		Si
SLV 6	0.45	-160.9	-851	-0.0000029	0.0005615	0.0035	1.655		1387.95	1387.95	8.63		Si
SLV 4	0.05	-2746.06	-14416	-0.0000511	0.0005615	0.0035	1.655		11394.69	11394.69	4.15		Si
SLV 4	0.45	358.86	-13906	-0.0000316	0.0005615	0.0035	1.655		10389.21	10389.21	28.95		Si
SLV 10	0.05	402.79	-1610	-0.0000062	0.0005615	0.0035	1.655		1477.86	1477.86	3.67		Si
SLV 10	0.45	-310.95	-1115	-0.0000045	0.0005615	0.0035	1.655		1599.69	1599.69	5.14		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.05	-1307.87	-17913	-15923	-3628	1.655	1.655	-21380	9795	7295	28547	22301	4220	26521	No	7.31	Si
SLU 81	0.45	116.47	-17305	-15382	-3628	1.655	1.655	-20654	9698	7223	28547	22301	4220	26521	No	7.31	Si
SLU 78	0.05	-1315.28	-17732	-15761	-3633	1.655	1.655	-21163	9766	7273	28547	22301	4220	26521	No	7.3	Si
SLU 78	0.45	111.06	-17123	-15221	-3633	1.655	1.655	-20437	9669	7201	28547	22301	4220	26521	No	7.3	Si
SLU 75	0.05	-1291.61	-17473	-15531	-3566	1.655	1.655	-20854	9725	7243	28547	22301	4220	26521	No	7.44	Si
SLU 75	0.45	107.81	-16865	-14991	-3566	1.655	1.655	-20128	9628	7171	28547	22301	4220	26521	No	7.44	Si
SLU 74	0.05	-1302.57	-17623	-15665	-3602	1.655	1.655	-21033	9749	7260	28547	22301	4220	26521	No	7.36	Si
SLU 74	0.45	111.19	-17014	-15124	-3602	1.655	1.655	-20307	9652	7188	28547	22301	4220	26521	No	7.36	Si
SLU 84	0.05	-1320.58	-18022	-16019	-3660	1.655	1.655	-21510	9812	7308	28547	22301	4220	26521	No	7.25	Si
SLU 84	0.45	116.34	-17414	-15479	-3660	1.655	1.655	-20784	9716	7236	28547	22301	4220	26521	No	7.25	Si
SLU 83	0.05	-1331.54	-18172	-16153	-3696	1.655	1.655	-21689	9836	7326	28547	22301	4220	26521	No	7.18	Si
SLU 83	0.45	119.72	-17564	-15612	-3696	1.655	1.655	-20963	9739	7253	28547	22301	4220	26521	No	7.18	Si
SLU 77	0.05	-1326.24	-17881	-15895	-3669	1.655	1.655	-21342	9790	7291	28547	22301	4220	26521	No	7.23	Si
SLU 77	0.45	114.45	-17273	-15354	-3669	1.655	1.655	-20616	9693	7219	28547	22301	4220	26521	No	7.23	Si
SLU 80	0.05	-1306.04	-17599	-15643	-3617	1.655	1.655	-21005	9745	7258	28547	22301	4220	26521	No	7.33	Si
SLU 80	0.45	113.54	-16990	-15103	-3617	1.655	1.655	-20279	9648	7186	28547	22301	4220	26521	No	7.33	Si
SLU 79	0.05	-1317	-17748	-15776	-3652	1.655	1.655	-21183	9769	7275	28547	22301	4220	26521	No	7.26	Si
SLU 79	0.45	116.92	-17140	-15236	-3652	1.655	1.655	-20458	9672	7203	28547	22301	4220	26521	No	7.26	Si
SLU 82	0.05	-1296.91	-17763	-15789	-3593	1.655	1.655	-21201	9771	7277	28547	22301	4220	26521	No	7.38	Si
SLU 82	0.45	113.08	-17155	-15249	-3593	1.655	1.655	-20475	9674	7205	28547	22301	4220	26521	No	7.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0.05	-2746.06	-14416	-12814	-7721	1.655	1.655	-17206	13858	10321	28547	33452	4220	37672		4.88	Si
SLV 4	0.45	358.86	-13906	-12361	-7772	1.655	1.655	-16597	13736	10230	28547	33452	4220	37672		4.85	Si
SLV 3	0.05	-3077.48	-15024	-13354	-8796	1.655	1.655	-17931	14003	10429	28547	33452	4220	37672		4.28	Si
SLV 3	0.45	457.71	-14514	-12901	-8847	1.655	1.655	-17323	13881	10338	28547	33452	4220	37672		4.26	Si
SLD 3	0.05	-2275.68	-13875	-12333	-6507	1.655	1.655	-16560	13729	10224	28547	33452	4220	37672		5.79	Si
SLD 3	0.45	319.98	-13394	-11906	-6543	1.655	1.655	-15986	13614	10139	28547	33452	4220	37672		5.76	Si
SLV 2	0.05	-2356.57	-8231	-7316	-6292	1.655	1.6235	-9824	12381	9046	28547	33452	4220	37592		5.97	Si
SLV 2	0.45	192.31	-7693	-6838	-6155	1.655	1.655	-9182	12253	9125	28547	33452	4220	37672		6.12	Si
SLV 1	0.05	-2687.98	-8839	-7857	-7368	1.655	1.5701	-10549	12527	8851	28547	33452	4220	37397		5.08	Si
SLV 1	0.45	291.16	-8301	-7379	-7231	1.655	1.655	-9908	12398	9234	28547	33452	4220	37672		5.21	Si
SLV 7	0.05	-2207.47	-22407	-19917	-6753	1.655	1.655	-26744	15765	11741	28547	33452	4220	37672		5.58	Si
SLV 7	0.45	460.81	-21970	-19529	-7053	1.655	1.655	-26222	15661	11664	28547	33452	4220	37672		5.34	Si
SLD 4	0.05	-2063.94	-13486	-11988	-5820	1.655	1.655	-16096	13636	10155	28547	33452	4220	37672		6.47	Si
SLD 4	0.45	256.83	-13005	-11560	-5856	1.655	1.655	-15522	13521	10070	28547	33452	4220	37672		6.43	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	0.05	-1719.74	-18479	-16426	-5173	1.655	1.655	-22055	14828	11043	28547	33452	4220	37672		7.28	Si
SLD 7	0.45	317.48	-18036	-16032	-5366	1.655	1.655	-21527	14722	10964	28547	33452	4220	37672		7.02	Si
SLV 8	0.05	-1984.34	-21998	-19554	-6029	1.655	1.655	-26255	15668	11669	28547	33452	4220	37672		6.25	Si
SLV 8	0.45	394.26	-21561	-19165	-6329	1.655	1.655	-25734	15563	11591	28547	33452	4220	37672		5.95	Si
SLD 1	0.05	-2033.72	-10024	-8910	-5617	1.655	1.655	-11964	12809	9540	28547	33452	4220	37672		6.71	Si
SLD 1	0.45	216.09	-9525	-8466	-5533	1.655	1.655	-11368	12690	9451	28547	33452	4220	37672		6.81	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.24	1309	-975	95.9	217.41	2.27	Si
SLV 6	179667	0.24	1354	-1009	95.9	224.94	2.35	Si
SLV 9	179667	0.24	3873	-2884	95.9	632.51	6.6	Si
SLV 10	179667	0.24	3919	-2918	95.9	639.79	6.67	Si
SLV 1	179667	0.24	6179	-4602	95.9	993.48	10.36	Si
SLV 2	179667	0.24	6247	-4652	95.9	1003.94	10.47	Si
SLV 3	179667	0.24	12927	-9627	95.9	1982.78	20.68	Si
SLV 4	179667	0.24	12995	-9678	95.9	1992.24	20.78	Si
SLV 13	179667	0.24	14726	-10967	95.9	2229.68	23.25	Si
SLV 14	179667	0.24	14794	-11018	95.9	2238.87	23.35	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-20603	-17350	-725	0.476	2372.4	0.965	7.16742	2.58905	Si
SLV 11	-20458	-21665	-667	0.481	2357.6	0.965	7.24693	2.58905	Si
SLV 8	-20140	-17914	-706	0.485	2325.2	0.964	7.30994	2.58905	Si
SLV 12	-19994	-22229	-648	0.49	2310.4	0.964	7.39218	2.58905	Si
SLV 3	-14022	-6329	-549	0.65	1703.2	0.953	9.91148	2.92742	Si
SLV 4	-13333	-7166	-520	0.677	1633.2	0.951	10.35218	2.92742	Si
SLV 15	-13536	-20712	-355	0.68	1653.8	0.952	10.39174	2.92742	Si
SLV 16	-12848	-21550	-326	0.71	1583.9	0.95	10.87114	2.92742	Si
SLV 1	-8139	-1314	-335	1.007	1106.9	0.932	15.6992	2.92742	Si
SLV 13	-7653	-15697	-141	1.075	1057.9	0.929	16.80758	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.677	SLU 69	Si
V_SLU	7.176	SLU 83	Si
PF_SLV	2.354	SLV 5	Si
V_SLV	4.258	SLV 3	Si
PFFP_SLV	2.267	SLV 5	Si
R_SLV	2.768	SLV 7	Si

Maschio 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.778	2.071	-9.778	6.351	L2	L4	4.28	0.2	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	-1.95	13586.18	-79034	-0.0001767	0.0004492	0.0035	4.28	41329.61	112566.38	112566.38	8.29	No	Si
SLU 80	0.05	-25756.23	-61619	-0.0001729	0.0004492	0.0035	4.28	54178.79	104119.12	104119.12	4.04	No	Si
SLU 84	-1.95	13660.19	-81322	-0.0001822	0.0004492	0.0035	4.28	38719.31	114453.62	114453.62	8.38	No	Si
SLU 84	0.05	-26430.97	-63578	-0.0001792	0.0004492	0.0035	4.28	53352.78	105617.73	105617.73	4	No	Si
SLU 82	-1.95	13282.96	-80454	-0.000179	0.0004492	0.0035	4.28	39735.12	113737.43	113737.43	8.56	No	Si
SLU 82	0.05	-26117.52	-62848	-0.0001767	0.0004492	0.0035	4.28	53678.77	105059.6	105059.6	4.02	No	Si
SLU 74	-1.95	14234.73	-78979	-0.0001785	0.0004492	0.0035	4.28	41389.4	112521.26	112521.26	7.9	No	Si
SLU 74	0.05	-25683.94	-61625	-0.0001727	0.0004492	0.0035	4.28	54176.32	104124.06	104124.06	4.05	No	Si
SLU 78	-1.95	13730.95	-79495	-0.0001782	0.0004492	0.0035	4.28	40820.73	112946.76	112946.76	8.23	No	Si
SLU 78	0.05	-25916.21	-61990	-0.0001742	0.0004492	0.0035	4.28	54034.41	104402.93	104402.93	4.03	No	Si
SLU 83	-1.95	14541.22	-81674	-0.0001856	0.0004492	0.0035	4.28	38298.22	114744.31	114744.31	7.89	No	Si
SLU 83	0.05	-26512.15	-63943	-0.0001802	0.0004492	0.0035	4.28	53181.49	105896.99	105896.99	3.99	No	Si
SLU 81	-1.95	14163.98	-80806	-0.0001825	0.0004492	0.0035	4.28	39326.54	114028.12	114028.12	8.05	No	Si
SLU 81	0.05	-26198.7	-63214	-0.0001777	0.0004492	0.0035	4.28	53518.38	105338.86	105338.86	4.02	No	Si
SLU 79	-1.95	14467.2	-79387	-0.0001801	0.0004492	0.0035	4.28	40941.5	112857.07	112857.07	7.8	No	Si
SLU 79	0.05	-25837.41	-61984	-0.0001739	0.0004492	0.0035	4.28	54036.77	104398.39	104398.39	4.04	No	Si
SLU 75	-1.95	13353.71	-78627	-0.0001751	0.0004492	0.0035	4.28	41771.63	112230.57	112230.57	8.4	No	Si
SLU 75	0.05	-25602.76	-61260	-0.0001717	0.0004492	0.0035	4.28	54312.98	103844.8	103844.8	4.06	No	Si
SLU 77	-1.95	14611.97	-79848	-0.0001816	0.0004492	0.0035	4.28	40425.97	113237.45	113237.45	7.75	No	Si
SLU 77	0.05	-25997.39	-62355	-0.0001752	0.0004492	0.0035	4.28	53886.85	104682.19	104682.19	4.03	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-1.95	-45141.16	-31606	-0.0002148	0.0006738	0.0035	3.424		69340.61	69340.61	1.54		Si
SLV 10	0.05	-12661.25	-17423	-0.0000546	0.0006738	0.0035	4.28		44656.7	44656.7	3.53		Si
SLD 8	-1.95	43298.24	-68264	-0.0002212	0.0006738	0.0035	4.28		111847.74	111847.74	2.58		Si
SLD 8	0.05	-20761.4	-57022	-0.0001418	0.0006738	0.0035	4.28		106494.88	106494.88	5.13		Si
SLD 7	-1.95	43722.46	-68138	-0.000222	0.0006738	0.0035	4.28		111694.49	111694.49	2.55		Si
SLD 7	0.05	-20766.36	-57074	-0.0001419	0.0006738	0.0035	4.28		106561.3	106561.3	5.13		Si
SLV 6	-1.95	-43334.38	-26266	-0.0002608	0.0006738	0.0035	3.424		60361.84	60361.84	1.39		Si
SLV 6	0.05	-12739.57	-16558	-0.0000534	0.0006738	0.0035	4.28		43069.41	43069.41	3.38		Si
SLV 5	-1.95	-42660.02	-26066	-0.0002512	0.0006738	0.0035	3.424		60016.73	60016.73	1.41		Si
SLV 5	0.05	-12747.45	-16641	-0.0000536	0.0006738	0.0035	4.28		43226.95	43226.95	3.39		Si
SLV 12	-1.95	61854	-82190	-0.0003049	0.0006738	0.0035	4.28		127059.34	127059.34	2.05		Si
SLV 12	0.05	-22551.95	-67033	-0.000165	0.0006738	0.0035	4.28		118673.52	118673.52	5.26		Si
SLV 9	-1.95	-44466.81	-31405	-0.0002092	0.0006738	0.0035	3.424		69013.45	69013.45	1.55		Si
SLV 9	0.05	-12669.12	-17506	-0.0000547	0.0006738	0.0035	4.28		44806.82	44806.82	3.54		Si
SLV 7	-1.95	64335.15	-76650	-0.0003029	0.0006738	0.0035	4.28		122020.57	122020.57	1.9		Si
SLV 7	0.05	-22638.15	-66250	-0.0001637	0.0006738	0.0035	4.28		117748.7	117748.7	5.2		Si
SLV 11	-1.95	62528.36	-81989	-0.0003067	0.0006738	0.0035	4.28		126888.14	126888.14	2.03		Si
SLV 11	0.05	-22559.82	-67116	-0.0001652	0.0006738	0.0035	4.28		118771.68	118771.68	5.26		Si
SLV 8	-1.95	63660.79	-76851	-0.0003008	0.0006738	0.0035	4.28		122264.19	122264.19	1.92		Si
SLV 8	0.05	-22630.28	-66167	-0.0001636	0.0006738	0.0035	4.28		117650.55	117650.55	5.2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-1.95	14163.98	-80806	-51716	-17973	4.28	4.28	-60416	10833	25630	81562	30762	21828	52590	No	2.93	Si
SLU 81	0.05	-26198.7	-63214	-40457	-16825	4.28	4.28	-47262	10833	21127	81562	30762	21828	52590	No	3.13	Si
SLU 84	-1.95	13660.19	-81322	-52046	-18508	4.28	4.28	-60801	10833	25762	81562	30762	21828	52590	No	2.84	Si
SLU 84	0.05	-26430.97	-63578	-40690	-17350	4.28	4.28	-47535	10833	21220	81562	30762	21828	52590	No	3.03	Si
SLU 80	-1.95	13586.18	-79034	-50582	-18065	4.28	4.28	-59091	10833	25177	81562	30762	21828	52590	No	2.91	Si
SLU 80	0.05	-25756.23	-61619	-39436	-16934	4.28	4.28	-46070	10833	20719	81562	30762	21828	52590	No	3.11	Si
SLU 76	-1.95	12621.59	-77931	-49876	-18216	4.28	4.28	-58266	10833	24894	81562	30762	21828	52590	No	2.89	Si
SLU 76	0.05	-25388.66	-60646	-38813	-17112	4.28	4.28	-45343	10833	20470	81562	30762	21828	52590	No	3.07	Si
SLU 73	-1.95	12244.35	-77063	-49320	-18093	4.28	4.28	-57617	10833	24672	81562	30762	21828	52590	No	2.91	Si
SLU 73	0.05	-25075.21	-59916	-38346	-17008	4.28	4.28	-44797	10833	20283	81562	30762	21828	52590	No	3.09	Si
SLU 78	-1.95	13730.95	-79495	-50877	-18175	4.28	4.28	-59436	10833	25295	81562	30762	21828	52590	No	2.89	Si
SLU 78	0.05	-25916.21	-61990	-39673	-17032	4.28	4.28	-46348	10833	20814	81562	30762	21828	52590	No	3.09	Si
SLU 75	-1.95	13353.71	-78627	-50321	-18051	4.28	4.28	-58787	10833	25073	81562	30762	21828	52590	No	2.91	Si
SLU 75	0.05	-25602.76	-61260	-39206	-16929	4.28	4.28	-45802	10833	20627	81562	30762	21828	52590	No	3.11	Si
SLU 77	-1.95	14611.97	-79848	-51102	-17763	4.28	4.28	-59699	10833	25385	81562	30762	21828	52590	No	2.96	Si
SLU 77	0.05	-25997.39	-62355	-39907	-16611	4.28	4.28	-46621	10833	20907	81562	30762	21828	52590	No	3.17	Si
SLU 83	-1.95	14541.22	-81674	-52272	-18096	4.28	4.28	-61065	10833	25853	81562	30762	21828	52590	No	2.91	Si
SLU 83	0.05	-26512.15	-63943	-40924	-16928	4.28	4.28	-47808	10833	21314	81562	30762	21828	52590	No	3.11	Si
SLU 82	-1.95	13282.96	-80454	-51490	-18385	4.28	4.28	-60152	10833	25540	81562	30762	21828	52590	No	2.86	Si
SLU 82	0.05	-26117.52	-62848	-40223	-17246	4.28	4.28	-46989	10833	21033	81562	30762	21828	52590	No	3.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	-1.95	-42660.02	-26066	-16682	-34098	3.424	1.5101	0	0	0	81562	36915	17462	54377		1.59	Si
SLV 5	0.05	-12747.45	-16641	-10650	-34098	4.28	4.1219	-12995	15099	12447	81562	46144	21828	67972		1.99	Si
SLV 9	-1.95	-44466.81	-31405	-20099	-35986	3.424	2.1723	0	0	0	81562	36915	17462	54377		1.51	Si
SLV 9	0.05	-12669.12	-17506	-11204	-35713	4.28	4.2489	-13089	15118	12847	81562	46144	21828	67972		1.9	Si
SLV 14	-1.95	-9964.4	-55589	-35577	-22830	4.28	4.28	-41562	16250	21647	81562	46144	21828	67972		2.98	Si
SLV 14	0.05	-16029.7	-35776	-22897	-21808	4.28	4.28	-26748	16250	16576	81562	46144	21828	67972		3.12	Si
SLD 6	-1.95	-23366.3	-36713	-23496	-26246	4.28	4.28	-27449	16250	16815	81562	46144	21828	67972		2.59	Si
SLD 6	0.05	-14590.86	-26047	-16670	-25969	4.28	4.28	-19474	16250	14085	81562	46144	21828	67972		2.62	Si
SLV 10	-1.95	-45141.16	-31606	-20228	-36526	3.424	2.1353	0	0	0	81562	36915	17462	54377		1.49	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.05	-12661.25	-17423	-11151	-36260	4.28	4.24	-13027	15105	12809	81562	46144	21828	67972		1.87	Si
SLV 13	-1.95	-8962.79	-55290	-35386	-22029	4.28	4.28	-41339	16250	21571	81562	46144	21828	67972		3.09	Si
SLV 13	0.05	-16041.4	-35899	-22976	-20996	4.28	4.28	-26841	16250	16607	81562	46144	21828	67972		3.24	Si
SLD 5	-1.95	-22942.08	-36586	-23415	-25907	4.28	4.28	-27354	16250	16783	81562	46144	21828	67972		2.62	Si
SLD 5	0.05	-14595.81	-26099	-16703	-25625	4.28	4.28	-19513	16250	14098	81562	46144	21828	67972		2.65	Si
SLD 10	-1.95	-24528.48	-40118	-25675	-27445	4.28	4.28	-29995	16250	17687	81562	46144	21828	67972		2.48	Si
SLD 10	0.05	-14533.04	-26600	-17024	-27004	4.28	4.28	-19888	16250	14227	81562	46144	21828	67972		2.52	Si
SLD 9	-1.95	-24104.26	-39992	-25595	-27105	4.28	4.28	-29900	16250	17655	81562	46144	21828	67972		2.51	Si
SLD 9	0.05	-14537.99	-26652	-17057	-26660	4.28	4.28	-19927	16250	14240	81562	46144	21828	67972		2.55	Si
SLV 6	-1.95	-43334.38	-26266	-16811	-34638	3.424	1.4706	0	0	0	81562	36915	17462	54377		1.57	Si
SLV 6	0.05	-12739.57	-16558	-10597	-34645	4.28	4.1118	-12961	15092	12411	81562	46144	21828	67972		1.96	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.06 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-19464	0.24	117.45	1704.94	2607.36	2156.15	18.36	Si
SLV 6	-19475	0.24	117.45	1705.74	2608.52	2157.13	18.37	Si
SLV 9	-22205	0.24	117.45	1906.21	2909.76	2407.99	20.5	Si
SLV 10	-22215	0.24	117.45	1906.96	2910.92	2408.94	20.51	Si
SLV 1	-33793	0.24	117.45	2651.44	4163.94	3407.69	29.01	Si
SLV 2	-33809	0.24	117.45	2652.33	4165.61	3408.97	29.03	Si
SLV 13	-42929	0.24	117.45	3118.22	5132.96	4125.59	35.13	Si
SLV 14	-42944	0.24	117.45	3118.93	5134.57	4126.75	35.14	Si
SLV 3	-48818	0.24	117.45	3362.77	5737.99	4550.38	38.74	Si
SLV 4	-48834	0.24	117.45	3363.36	5739.6	4551.48	38.75	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.04 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-38452	-70466	1178	0.605	4230.9	0.977	9.00104	4.05539	Si
SLV 16	-38356	-70764	1173	0.606	4221.2	0.977	9.02341	4.05539	Si
SLV 11	-50546	-81989	1452	0.469	5463.2	0.982	6.94746	3.01163	Si
SLV 12	-50482	-82190	1448	0.47	5456.6	0.982	6.95644	3.01163	Si
SLV 3	-37098	-52667	813	0.634	4093	0.976	9.43888	4.05539	Si
SLV 4	-37002	-52965	808	0.636	4083.3	0.976	9.46313	4.05539	Si
SLV 7	-50140	-76650	1342	0.475	5421.8	0.982	7.02918	3.01163	Si
SLV 8	-50076	-76851	1339	0.475	5415.2	0.982	7.03833	3.01163	Si
SLV 13	-27665	-55290	833	0.823	3132.4	0.969	12.33387	4.05539	Si
SLV 14	-27570	-55589	828	0.825	3122.7	0.969	12.37563	4.05539	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.994	SLU 83	Si
V_SLU	2.841	SLU 84	Si
PF_SLV	1.393	SLV 6	Si
V_SLV	1.489	SLV 10	Si
PFFP_SLV	18.358	SLV 5	Si
R_SLV	2.22	SLV 15	Si

Maschio 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.848	-4.709	-11.013	-4.709	L2	L4	3.165	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	-1.95	6290.32	-10767	-0.0000246	0.0003743	0.0035	3.165	15774.11	16534.83	16534.83	2.63	No	Si
SLU 52	0.67	15677.39	-24443	-0.0000619	0.0003743	0.0035	3.165	32160.57	33452.63	33452.63	2.13	No	Si
SLU 63	-1.95	6502.3	-11135	-0.0000255	0.0003743	0.0035	3.165	16268.27	17049.1	17049.1	2.62	No	Si
SLU 63	0.67	16438.77	-25794	-0.0000653	0.0003743	0.0035	3.165	33558.27	35069.54	35069.54	2.13	No	Si
SLU 73	-1.95	6967.55	-11802	-0.0000272	0.0003743	0.0035	3.165	17156.18	17977.96	17977.96	2.58	No	Si
SLU 73	0.67	17420.5	-27459	-0.0000696	0.0003743	0.0035	3.165	35225.62	37079.25	37079.25	2.13	No	Si
SLU 61	-1.95	6483.48	-11079	-0.0000254	0.0003743	0.0035	3.165	16193.39	16971.05	16971.05	2.62	No	Si
SLU 61	0.67	16312.24	-25517	-0.0000647	0.0003743	0.0035	3.165	33274.46	34736.36	34736.36	2.13	No	Si
SLU 76	-1.95	6986.37	-11858	-0.0000273	0.0003743	0.0035	3.165	17230.18	18055.29	18055.29	2.58	No	Si
SLU 76	0.67	17547.03	-27737	-0.0000703	0.0003743	0.0035	3.165	35497.66	37416.13	37416.13	2.13	No	Si
SLU 75	-1.95	6957.91	-11724	-0.0000271	0.0003743	0.0035	3.165	17053.23	17869.92	17869.92	2.57	No	Si
SLU 75	0.67	17470.55	-27621	-0.0000699	0.0003743	0.0035	3.165	35384.51	37275.69	37275.69	2.13	No	Si
SLU 78	-1.95	6976.73	-11780	-0.0000272	0.0003743	0.0035	3.165	17127.32	17947.66	17947.66	2.57	No	Si
SLU 78	0.67	17597.08	-27899	-0.0000706	0.0003743	0.0035	3.165	35655.57	37612.91	37612.91	2.14	No	Si
SLU 82	-1.95	7160.71	-12114	-0.000028	0.0003743	0.0035	3.165	17568.42	18409.89	18409.89	2.57	No	Si
SLU 82	0.67	18055.35	-28533	-0.0000725	0.0003743	0.0035	3.165	36268.81	38385.81	38385.81	2.13	No	Si
SLU 84	-1.95	7179.53	-12170	-0.0000281	0.0003743	0.0035	3.165	17642.04	18487.35	18487.35	2.58	No	Si
SLU 84	0.67	18181.88	-28811	-0.0000731	0.0003743	0.0035	3.165	36534.34	38724.89	38724.89	2.13	No	Si
SLU 81	-1.95	7078.02	-11848	-0.0000275	0.0003743	0.0035	3.165	17217.27	18041.8	18041.8	2.55	No	Si
SLU 81	0.67	17742.57	-28152	-0.0000712	0.0003743	0.0035	3.165	35901.18	37920.78	37920.78	2.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	-1.95	-1458.6	7576	0.5742922	0.0005615	0.0035	2.532		0	0	0		No
SLV 11	0.67	-2643.39	-1159	-0.0001226	0.0005615	0.0035	2.532		4728.2	4728.2	1.79		Si
SLD 12	-1.95	1195.62	1637	0.1212048	0.0005615	0.0035	2.532		0	0	0		No
SLD 12	0.67	2357.35	-7422	-0.0000126	0.0005615	0.0035	3.165		11889.07	11889.07	5.04		Si
SLV 3	-1.95	7605.35	-1784	-0.0125707	0.0005615	0.0035	3.165		3298.24	3298.24	0.43		No
SLV 3	0.67	1296.22	-7848	-0.000011	0.0005615	0.0035	3.165		12527.63	12527.63	9.66		Si
SLV 4	-1.95	8318.02	-1976	-0.0136964	0.0005615	0.0035	3.165		3596.22	3596.22	0.43		No
SLV 4	0.67	279.98	-7124	-0.0000081	0.0005615	0.0035	3.165		11443.62	11443.62	40.87		Si
SLV 7	-1.95	1266.17	8367	0.6295286	0.0005615	0.0035	2.532		0	0	0		No
SLV 7	0.67	-6211.24	1989	0.1562514	0.0005615	0.0035	2.532		0	0	0		No
SLD 8	-1.95	2936.7	2148	0.155538	0.0005615	0.0035	2.532		0	0	0		No
SLD 8	0.67	70.04	-5401	-0.0000059	0.0005615	0.0035	3.165		8852.01	8852.01	126.39		Si
SLD 11	-1.95	893.78	1718	0.128028	0.0005615	0.0035	2.532		0	0	0		No
SLD 11	0.67	2787.76	-7728	-0.0000138	0.0005615	0.0035	3.165		12348.13	12348.13	4.43		Si
SLV 12	-1.95	-978.78	7446	0.5637595	0.0005615	0.0035	2.532		0	0	0		No
SLV 12	0.67	-3327.59	-671	-0.0002811	0.0005615	0.0035	2.532		3973.6	3973.6	1.19		Si
SLD 7	-1.95	2634.86	2230	0.1626285	0.0005615	0.0035	2.532		0	0	0		No
SLD 7	0.67	500.45	-5708	-0.0000071	0.0005615	0.0035	3.165		9317.61	9317.61	18.62		Si
SLV 8	-1.95	1745.99	8238	0.6188816	0.0005615	0.0035	2.532		0	0	0		No
SLV 8	0.67	-6895.44	2477	0.194041	0.0005615	0.0035	2.532		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.95	7160.71	-12114	-10768	-6032	3.165	2.9741	-7560	7952	11163	28547	42648	8071	39710	No	6.58	Si
SLU 82	0.67	18055.35	-28533	-25363	-9835	3.165	2.8492	-17808	9319	17001	28547	42648	8071	45548	No	4.63	Si
SLU 80	-1.95	6950.07	-11736	-10432	-5874	3.165	2.9709	-7325	7921	11029	28547	42648	8071	39576	No	6.74	Si
SLU 80	0.67	17465.03	-27760	-24676	-9585	3.165	2.8601	-17325	9255	16726	28547	42648	8071	45273	No	4.72	Si
SLU 84	-1.95	7179.53	-12170	-10817	-6138	3.165	2.9776	-7595	7957	11183	28547	42648	8071	39730	No	6.47	Si
SLU 84	0.67	18181.88	-28811	-25610	-9988	3.165	2.8543	-17981	9342	17100	28547	42648	8071	45646	No	4.57	Si
SLU 77	-1.95	6894.05	-11514	-10235	-5915	3.165	2.9513	-7186	7903	10950	28547	42648	8071	39497	No	6.68	Si
SLU 77	0.67	17284.29	-27518	-24460	-9652	3.165	2.8631	-17174	9234	16640	28547	42648	8071	45186	No	4.68	Si
SLU 81	-1.95	7078.02	-11848	-10531	-6019	3.165	2.9553	-7394	7930	11069	28547	42648	8071	39615	No	6.58	Si
SLU 81	0.67	17742.57	-28152	-25024	-9824	3.165	2.8568	-17570	9287	16865	28547	42648	8071	45412	No	4.62	Si
SLU 74	-1.95	6875.23	-11458	-10185	-5809	3.165	2.9474	-7151	7898	10930	28547	42648	8071	39477	No	6.8	Si
SLU 74	0.67	17157.76	-27240	-24213	-9499	3.165	2.8579	-17001	9211	16541	28547	42648	8071	45088	No	4.75	Si
SLU 83	-1.95	7096.84	-11904	-10581	-6125	3.165	2.9589	-7429	7935	11089	28547	42648	8071	39635	No	6.47	Si
SLU 83	0.67	17869.09	-28429	-25271	-9978	3.165	2.8619	-17743	9310	16964	28547	42648	8071	45511	No	4.56	Si
SLU 79	-1.95	6867.38	-11470	-10196	-5861	3.165	2.9514	-7159	7899	10935	28547	42648	8071	39481	No	6.74	Si
SLU 79	0.67	17152.25	-27379	-24337	-9574	3.165	2.8681	-17087	9223	16591	28547	42648	8071	45137	No	4.71	Si
SLU 75	-1.95	6957.91	-11724	-10421	-5822	3.165	2.9671	-7317	7920	11025	28547	42648	8071	39571	No	6.8	Si
SLU 75	0.67	17470.55	-27621	-24552	-9509	3.165	2.85	-17239	9243	16677	28547	42648	8071	45223	No	4.76	Si
SLU 78	-1.95	6976.73	-11780	-10471	-5928	3.165	2.9707	-7352	7925	11045	28547	42648	8071	39591	No	6.68	Si
SLU 78	0.67	17597.08	-27899	-24799	-9663	3.165	2.8553	-17412	9266	16776	28547	42648	8071	45322	No	4.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	-1.95	2568.06	-11717	-10415	-13436	3.165	3.165	-7313	11879	16919	28547	63973	8071	45465		3.38	Si
SLD 13	0.67	18872.36	-25643	-22794	-20638	3.165	2.5396	-16004	13617	19402	28547	63973	8071	47948		2.32	Si
SLV 16	-1.95	-764.57	-4614	-4101	-14396	3.165	3.165	-2880	10993	15656	28547	63973	8071	44203		3.07	Si
SLV 16	0.67	12172.81	-17618	-15660	-22125	3.165	2.6747	-10995	12616	16548	28547	63973	8071	45095		2.04	Si
SLV 4	-1.95	8318.02	-1976	-1756	11245	3.165	0	0	16250	10987	28547	63973	8071	39534		3.52	Si
SLV 4	0.67	279.98	-7124	-6333	16109	3.165	3.165	-4446	11306	16102	28547	63973	8071	44649		2.77	Si
SLV 9	-1.95	7903.39	-24154	-21470	-12028	3.165	3.165	-15075	13432	19130	28547	63973	8071	47677		3.96	Si
SLV 9	0.67	30224.99	-39421	-35041	-18355	3.165	2.4473	-24603	15337	24300	28547	63973	8071	52847		2.88	Si
SLV 15	-1.95	-1477.23	-4421	-3930	-16759	3.165	3.165	-2759	10969	15622	28547	63973	8071	44169		2.64	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.67	13189.05	-18341	-16304	-25654	3.165	2.5902	-11447	12706	16806	28547	63973	8071	45352		1.77	Si
SLD 15	-1.95	822.39	-5782	-5139	-12106	3.165	3.165	-3609	11138	15864	28547	63973	8071	44410		3.67	Si
SLD 15	0.67	12730.83	-18498	-16443	-18723	3.165	2.6829	-11545	12726	16861	28547	63973	8071	45408		2.43	Si
SLD 14	-1.95	3023.38	-11840	-10524	-11926	3.165	3.165	-7389	11895	16941	28547	63973	8071	45487		3.81	Si
SLD 14	0.67	18223.08	-25181	-22383	-18383	3.165	2.5764	-15715	13560	19237	28547	63973	8071	47784		2.6	Si
SLV 14	-1.95	2044.03	-14133	-12563	-16532	3.165	3.165	-8821	12181	17348	28547	63973	8071	45895		2.78	Si
SLV 14	0.67	22033.33	-29097	-25864	-25199	3.165	2.4758	-18159	14049	20629	28547	63973	8071	49176		1.95	Si
SLD 16	-1.95	1277.71	-5905	-5249	-10596	3.165	3.165	-3685	11154	15886	28547	63973	8071	44432		4.19	Si
SLD 16	0.67	12081.56	-18036	-16032	-16468	3.165	2.7379	-11256	12668	16697	28547	63973	8071	45244		2.75	Si
SLV 13	-1.95	1331.36	-13940	-12392	-18895	3.165	3.165	-8700	12157	17314	28547	63973	8071	45861		2.43	Si
SLV 13	0.67	23049.56	-29820	-26507	-28728	3.165	2.4287	-18611	14139	20887	28547	63973	8071	49433		1.72	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	0	5722	183.39	0	0	No, Trazione
SLV 7	179667	0.24	0	5640	183.39	0	0	No, Trazione
SLV 12	179667	0.24	0	4442	183.39	0	0	No, Trazione
SLV 11	179667	0.24	0	4360	183.39	0	0	No, Trazione
SLV 4	179667	0.24	3155	-4494	183.39	990.25	5.4	Si
SLV 3	179667	0.24	3241	-4616	183.39	1016.49	5.54	Si
SLV 16	179667	0.24	6150	-8759	183.39	1891.43	10.31	Si
SLV 15	179667	0.24	6235	-8881	183.39	1916.6	10.45	Si
SLV 2	179667	0.24	10214	-14547	183.39	3054.14	16.65	Si
SLV 1	179667	0.24	10299	-14669	183.39	3077.84	16.78	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-39421	-24154	527	0.496	4539	0.965	7.46725	2.58905	Si
SLV 10	-38934	-24284	518	0.501	4489.4	0.965	7.54441	2.58905	Si
SLV 5	-36273	-23363	470	0.53	4218.7	0.963	7.99948	2.58905	Si
SLV 6	-35786	-23492	461	0.536	4169.1	0.962	8.08985	2.58905	Si
SLV 13	-29820	-13940	407	0.618	3562.4	0.956	9.39191	2.92742	Si
SLV 14	-29097	-14133	394	0.63	3488.9	0.956	9.58683	2.92742	Si
SLV 1	-19327	-11303	217	0.873	2497.3	0.941	13.48327	2.92742	Si
SLV 2	-18603	-11495	203	0.899	2424	0.939	13.9157	2.92742	Si
SLV 15	-18341	-4421	246	0.907	2397.5	0.939	14.04565	2.92742	Si
SLV 16	-17618	-4614	232	0.936	2324.3	0.937	14.51927	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.126	SLU 82	Si
V_SLU	4.561	SLU 83	Si
PF_SLV	0	SLD 7	No
V_SLV	1.721	SLV 13	Si
PFFP_SLV	0	SLV 12	No
R_SLV	2.884	SLV 9	Si

Maschio 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.498	-3.284	L2	Z medio 5 cm	0.755	0.45	2	2	2			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.95	-3228.12	-31284	-0.0006716	0.0003743	0.0035	0.755	1128.68	4096.26	4096.26	1.27	No	Si
SLU 83	0.05	-620.38	-17433	-0.0001165	0.0003743	0.0035	0.755	3264.26	4221.32	4221.32	6.8	No	Si
SLU 80	-1.95	-3159.6	-30466	-0.0005553	0.0003743	0.0035	0.755	1371.24	4163.15	4163.15	1.32	No	Si
SLU 80	0.05	-595.59	-16791	-0.0001113	0.0003743	0.0035	0.755	3261.69	4147.13	4147.13	6.96	No	Si
SLU 82	-1.95	-3245.62	-31280	-0.0006836	0.0003743	0.0035	0.755	1130.14	4096.65	4096.65	1.26	No	Si
SLU 82	0.05	-622.48	-17418	-0.0001165	0.0003743	0.0035	0.755	3264.3	4220.4	4220.4	6.78	No	Si
SLU 75	-1.95	-3158.68	-30411	-0.0005508	0.0003743	0.0035	0.755	1387.03	4167.65	4167.65	1.32	No	Si
SLU 75	0.05	-594.67	-16778	-0.0001112	0.0003743	0.0035	0.755	3261.55	4145.36	4145.36	6.97	No	Si
SLU 73	-1.95	-3150.37	-30208	-0.0005333	0.0003743	0.0035	0.755	1444.86	4184.3	4184.3	1.33	No	Si
SLU 73	0.05	-592.17	-16647	-0.0001102	0.0003743	0.0035	0.755	3259.88	4127.39	4127.39	6.97	No	Si
SLU 77	-1.95	-3141.19	-30416	-0.0005439	0.0003743	0.0035	0.755	1385.66	4167.26	4167.26	1.33	No	Si
SLU 77	0.05	-592.57	-16793	-0.0001111	0.0003743	0.0035	0.755	3261.71	4147.41	4147.41	7	No	Si
SLU 81	-1.95	-3212.46	-31093	-0.0006395	0.0003743	0.0035	0.755	1186.78	4111.91	4111.91	1.28	No	Si
SLU 81	0.05	-616.77	-17332	-0.0001157	0.0003743	0.0035	0.755	3264.45	4215.11	4215.11	6.83	No	Si
SLU 76	-1.95	-3166.04	-30399	-0.0005531	0.0003743	0.0035	0.755	1390.46	4168.63	4168.63	1.32	No	Si
SLU 76	0.05	-595.78	-16748	-0.000111	0.0003743	0.0035	0.755	3261.19	4141.16	4141.16	6.95	No	Si
SLU 78	-1.95	-3174.35	-30603	-0.0005725	0.0003743	0.0035	0.755	1331.78	4151.99	4151.99	1.31	No	Si
SLU 78	0.05	-598.29	-16879	-0.000112	0.0003743	0.0035	0.755	3262.57	4159.21	4159.21	6.95	No	Si
SLU 84	-1.95	-3261.29	-31471	-0.0007214	0.0003743	0.0035	0.755	1071.27	4080.01	4080.01	1.25	No	Si
SLU 84	0.05	-626.09	-17518	-0.0001173	0.0003743	0.0035	0.755	3263.92	4226.63	4226.63	6.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	-1.95	-3751.74	-33111	-0.0003864	0.0005615	0.0035	0.755		6493.35	6493.35	1.73		Si
SLV 9	0.05	-850.28	-19108	-0.0001283	0.0005615	0.0035	0.755		5274.39	5274.39	6.2		Si
SLD 6	-1.95	-3535.42	-28787	-0.0003302	0.0005615	0.0035	0.755		6337.25	6337.25	1.79		Si
SLD 6	0.05	-608.62	-15782	-0.0000997	0.0005615	0.0035	0.755		4665.89	4665.89	7.67		Si
SLD 5	-1.95	-3464.72	-28646	-0.0003245	0.0005615	0.0035	0.755		6327.1	6327.1	1.83		Si
SLD 5	0.05	-609.78	-15686	-0.0000993	0.0005615	0.0035	0.755		4648.97	4648.97	7.62		Si
SLV 2	-1.95	-3633.1	-25147	-0.0003092	0.0005615	0.0035	0.755		6074.91	6074.91	1.67		Si
SLV 2	0.05	-331.29	-12395	-0.0000709	0.0005615	0.0035	0.755		3945.08	3945.08	11.91		Si
SLD 1	-1.95	-2990.52	-23359	-0.0002556	0.0005615	0.0035	0.755		5852.24	5852.24	1.96		Si
SLD 1	0.05	-353.82	-11825	-0.0000689	0.0005615	0.0035	0.755		3806.06	3806.06	10.76		Si
SLV 5	-1.95	-4237.42	-33289	-0.0004271	0.0005615	0.0035	0.755		6494.95	6494.95	1.53		Si
SLV 5	0.05	-741.45	-18339	-0.0001193	0.0005615	0.0035	0.755		5130.55	5130.55	6.92		Si
SLV 1	-1.95	-3466.17	-24815	-0.0002951	0.0005615	0.0035	0.755		6042.33	6042.33	1.74		Si
SLV 1	0.05	-334.02	-12170	-0.0000699	0.0005615	0.0035	0.755		3890.14	3890.14	11.65		Si
SLV 10	-1.95	-3864.13	-33334	-0.000397	0.0005615	0.0035	0.755		6495.36	6495.36	1.68		Si
SLV 10	0.05	-848.44	-19259	-0.0001291	0.0005615	0.0035	0.755		5303.01	5303.01	6.25		Si
SLV 6	-1.95	-4349.81	-33512	-0.00044	0.0005615	0.0035	0.755		6496.97	6496.97	1.49		Si
SLV 6	0.05	-739.61	-18491	-0.0001201	0.0005615	0.0035	0.755		5158.8	5158.8	6.98		Si
SLD 2	-1.95	-3097.17	-23571	-0.0002633	0.0005615	0.0035	0.755		5880.26	5880.26	1.9		Si
SLD 2	0.05	-352.08	-11969	-0.0000695	0.0005615	0.0035	0.755		3841.22	3841.22	10.91		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	-1.95	-3212.46	-31093	-27638	-6529	0.755	0.755	-90478	10833	8460	21410	10174	1925	12099	No	1.85	Si
SLU 81	0.05	-616.77	-17332	-15406	2536	0.755	0.755	-45347	10833	5199	21410	10174	1925	12099	No	4.77	Si
SLU 83	-1.95	-3228.12	-31284	-27808	-6554	0.755	0.755	-91655	10833	8506	21410	10174	1925	12099	No	1.85	Si
SLU 83	0.05	-620.38	-17433	-15496	2559	0.755	0.755	-45610	10833	5222	21410	10174	1925	12099	No	4.73	Si
SLU 82	-1.95	-3245.62	-31280	-27804	-6626	0.755	0.755	-92069	10833	8505	21410	10174	1925	12099	No	1.83	Si
SLU 82	0.05	-622.48	-17418	-15483	2530	0.755	0.755	-45571	10833	5219	21410	10174	1925	12099	No	4.78	Si
SLU 80	-1.95	-3159.6	-30466	-27081	-6445	0.755	0.755	-86835	10833	8312	21410	10174	1925	12099	No	1.88	Si
SLU 80	0.05	-595.59	-16791	-14926	2457	0.755	0.755	-43931	10833	5070	21410	10174	1925	12099	No	4.92	Si
SLU 75	-1.95	-3158.68	-30411	-27032	-6453	0.755	0.755	-86616	10833	8299	21410	10174	1925	12099	No	1.87	Si
SLU 75	0.05	-594.67	-16778	-14914	2443	0.755	0.755	-43897	10833	5067	21410	10174	1925	12099	No	4.95	Si
SLU 76	-1.95	-3166.04	-30399	-27021	-6485	0.755	0.755	-86729	10833	8296	21410	10174	1925	12099	No	1.87	Si
SLU 76	0.05	-595.78	-16748	-14887	2429	0.755	0.755	-43817	10833	5060	21410	10174	1925	12099	No	4.98	Si
SLU 84	-1.95	-3261.29	-31471	-27974	-6652	0.755	0.755	-93293	10833	8550	21410	10174	1925	12099	No	1.82	Si
SLU 84	0.05	-626.09	-17518	-15572	2554	0.755	0.755	-45834	10833	5243	21410	10174	1925	12099	No	4.74	Si
SLU 78	-1.95	-3174.35	-30603	-27202	-6478	0.755	0.755	-87659	10833	8344	21410	10174	1925	12099	No	1.87	Si
SLU 78	0.05	-598.29	-16879	-15003	2467	0.755	0.755	-44160	10833	5091	21410	10174	1925	12099	No	4.9	Si
SLU 77	-1.95	-3141.19	-30416	-27036	-6380	0.755	0.755	-86263	10833	8300	21410	10174	1925	12099	No	1.9	Si
SLU 77	0.05	-592.57	-16793	-14927	2473	0.755	0.755	-43936	10833	5071	21410	10174	1925	12099	No	4.89	Si
SLU 73	-1.95	-3150.37	-30208	-26851	-6460	0.755	0.755	-85716	10833	8250	21410	10174	1925	12099	No	1.87	Si
SLU 73	0.05	-592.17	-16647	-14798	2406	0.755	0.755	-43554	10833	5036	21410	10174	1925	12099	No	5.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	-1.95	-3466.17	-24815	-22058	-8098	0.755	0.7135	-72102	16250	7517	21410	15260	1925	17186		2.12	Si
SLV 1	0.05	-334.02	-12170	-10818	105	0.755	0.755	-31840	16250	5521	21410	15260	1925	17186		162.92	Si
SLV 9	-1.95	-3751.74	-33111	-29432	-8443	0.755	0.755	-86628	16250	9484	21410	15260	1925	17186		2.04	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0.05	-850.28	-19108	-16985	2486	0.755	0.755	-49991	16250	6165	21410	15260	1925	17186		6.91	Si
SLV 6	-1.95	-4349.81	-33512	-29788	-10316	0.755	0.7431	-96333	16250	9579	21410	15260	1925	17186		1.67	Si
SLV 6	0.05	-739.61	-18491	-16436	1282	0.755	0.755	-48378	16250	6018	21410	15260	1925	17186		13.41	Si
SLV 5	-1.95	-4237.42	-33289	-29590	-9925	0.755	0.7506	-87093	16250	9526	21410	15260	1925	17186		1.73	Si
SLV 5	0.05	-741.45	-18339	-16302	1440	0.755	0.755	-47981	16250	5982	21410	15260	1925	17186		11.93	Si
SLD 10	-1.95	-3226.25	-28683	-25496	-7169	0.755	0.755	-75042	16250	8434	21410	15260	1925	17186		2.4	Si
SLD 10	0.05	-678.09	-16274	-14466	2086	0.755	0.755	-42577	16250	5521	21410	15260	1925	17186		8.24	Si
SLV 2	-1.95	-3633.1	-25147	-22353	-8680	0.755	0.6991	-74764	16250	7596	21410	15260	1925	17186		1.98	Si
SLV 2	0.05	-331.29	-12395	-11018	-130	0.755	0.755	-32430	16250	5521	21410	15260	1925	17186		131.73	Si
SLD 5	-1.95	-3464.72	-28646	-25463	-7866	0.755	0.755	-74948	16250	8426	21410	15260	1925	17186		2.18	Si
SLD 5	0.05	-609.78	-15686	-13943	1517	0.755	0.755	-41040	16250	5521	21410	15260	1925	17186		11.33	Si
SLV 10	-1.95	-3864.13	-33334	-29630	-8835	0.755	0.755	-87213	16250	9537	21410	15260	1925	17186		1.95	Si
SLV 10	0.05	-848.44	-19259	-17119	2328	0.755	0.755	-50388	16250	6201	21410	15260	1925	17186		7.38	Si
SLD 2	-1.95	-3097.17	-23571	-20952	-7119	0.755	0.7383	-61669	16250	7223	21410	15260	1925	17186		2.41	Si
SLD 2	0.05	-352.08	-11969	-10640	515	0.755	0.755	-31316	16250	5521	21410	15260	1925	17186		33.36	Si
SLD 6	-1.95	-3535.42	-28787	-25588	-8112	0.755	0.755	-75315	16250	8459	21410	15260	1925	17186		2.12	Si
SLD 6	0.05	-608.62	-15782	-14028	1417	0.755	0.755	-41290	16250	5521	21410	15260	1925	17186		12.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.95 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.24	19421	-6598	25.49	1295.8	50.83	Si
SLV 7	179667	0.24	19809	-6730	25.49	1317.83	51.7	Si
SLV 12	179667	0.24	24150	-8205	25.49	1554.16	60.97	Si
SLV 11	179667	0.24	24537	-8337	25.49	1574.35	61.76	Si
SLV 4	179667	0.24	30369	-10318	25.49	1859.86	72.96	Si
SLV 3	179667	0.24	30945	-10514	25.49	1886.22	73.99	Si
SLV 2	179667	0.24	44563	-15140	25.49	2412.51	94.64	Si
SLV 1	179667	0.24	45139	-15336	25.49	2430.68	95.35	Si
SLV 16	179667	0.24	46132	-15673	25.49	2461.22	96.55	Si
SLV 15	179667	0.24	46708	-15869	25.49	2478.49	97.23	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.95 Wa = 0.08 Ta = 0.0148

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-19259	-33334	-260	0.316	2057.2	0.985	4.6654	2.41934	Si
SLV 9	-19108	-33111	-252	0.318	2041.8	0.985	4.69474	2.41934	Si
SLV 6	-18491	-33512	-268	0.324	1978.9	0.985	4.78283	2.41934	Si
SLV 5	-18339	-33289	-260	0.326	1963.5	0.985	4.81432	2.41934	Si
SLV 14	-14957	-24555	-159	0.379	1618.8	0.981	5.61382	2.59403	Si
SLV 13	-14731	-24223	-148	0.384	1595.8	0.981	5.6842	2.59403	Si
SLV 2	-12395	-25147	-186	0.43	1357.8	0.978	6.38273	2.59403	Si
SLV 1	-12170	-24815	-174	0.436	1334.8	0.978	6.48131	2.59403	Si
SLV 16	-10468	-17161	-79	0.494	1161.5	0.975	7.37192	2.59403	Si
SLV 15	-10243	-16829	-67	0.503	1138.6	0.974	7.50939	2.59403	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.251	SLU 84	Si
V_SLU	1.819	SLU 84	Si
PF_SLV	1.494	SLV 6	Si
V_SLV	1.666	SLV 6	Si
PFFP_SLV	50.831	SLV 8	Si
R_SLV	1.928	SLV 10	Si

Maschio 43

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.503	-3.284	Z medio 5 cm	Z medio 45 cm	0.75	0.45	0.4	0.4	0.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	0.05	1381.47	-21792	-0.0001892	0.0003743	0.0035	0.75	2989.31	4424.79	4424.79	3.2	No	Si
SLU 77	0.45	971.32	-18570	-0.0001425	0.0003743	0.0035	0.75	3200.3	4194.57	4194.57	4.32	No	Si
SLU 78	0.05	1375.3	-21876	-0.0001896	0.0003743	0.0035	0.75	2980.79	4428.65	4428.65	3.22	No	Si
SLU 78	0.45	980.4	-18675	-0.0001437	0.0003743	0.0035	0.75	3197.01	4201.91	4201.91	4.29	No	Si
SLU 83	0.05	1413.66	-22583	-0.0001979	0.0003743	0.0035	0.75	2902.86	4421.27	4421.27	3.13	No	Si
SLU 83	0.45	1020.61	-19257	-0.0001499	0.0003743	0.0035	0.75	3174.32	4243.1	4243.1	4.16	No	Si
SLU 74	0.05	1368.09	-21648	-0.0001872	0.0003743	0.0035	0.75	3003.57	4414.68	4414.68	3.23	No	Si
SLU 74	0.45	968.77	-18457	-0.0001415	0.0003743	0.0035	0.75	3203.59	4186.64	4186.64	4.32	No	Si
SLU 79	0.05	1374.82	-21681	-0.0001879	0.0003743	0.0035	0.75	3000.36	4417.04	4417.04	3.21	No	Si
SLU 79	0.45	966.37	-18462	-0.0001414	0.0003743	0.0035	0.75	3203.46	4186.97	4186.97	4.33	No	Si
SLU 81	0.05	1400.28	-22439	-0.0001959	0.0003743	0.0035	0.75	2919.61	4423.16	4423.16	3.16	No	Si
SLU 81	0.45	1018.06	-19143	-0.0001489	0.0003743	0.0035	0.75	3179.32	4235.03	4235.03	4.16	No	Si
SLU 80	0.05	1368.65	-21765	-0.0001883	0.0003743	0.0035	0.75	2992.05	4423.06	4423.06	3.23	No	Si
SLU 80	0.45	975.45	-18566	-0.0001426	0.0003743	0.0035	0.75	3200.42	4194.29	4194.29	4.3	No	Si
SLU 84	0.05	1407.49	-22667	-0.0001983	0.0003743	0.0035	0.75	2892.9	4420.16	4420.16	3.14	No	Si
SLU 84	0.45	1029.69	-19361	-0.0001511	0.0003743	0.0035	0.75	3169.47	4250.56	4250.56	4.13	No	Si
SLU 82	0.05	1394.11	-22523	-0.0001963	0.0003743	0.0035	0.75	2909.91	4422.06	4422.06	3.17	No	Si
SLU 82	0.45	1027.14	-19248	-0.0001502	0.0003743	0.0035	0.75	3174.72	4242.47	4242.47	4.13	No	Si
SLU 75	0.05	1361.92	-21732	-0.0001876	0.0003743	0.0035	0.75	2995.32	4420.7	4420.7	3.25	No	Si
SLU 75	0.45	977.85	-18561	-0.0001427	0.0003743	0.0035	0.75	3200.56	4193.96	4193.96	4.29	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	0.05	1138.91	-7364	-0.0000787	0.0005615	0.0035	0.75		2447.23	2447.23	2.15		Si
SLV 12	0.45	-37.96	-3599	-0.0000177	0.0005615	0.0035	0.75		1400.02	1400.02	36.89		Si
SLD 12	0.05	1071.22	-10155	-0.0000892	0.0005615	0.0035	0.75		3217.75	3217.75	3		Si
SLD 12	0.45	218.36	-6960	-0.0000402	0.0005615	0.0035	0.75		2337.59	2337.59	10.71		Si
SLV 7	0.05	851.17	-5420	-0.0000576	0.0005615	0.0035	0.75		1897.51	1897.51	2.23		Si
SLV 7	0.45	76.86	-2950	-0.0000161	0.0005615	0.0035	0.75		1087.85	1087.85	14.15		Si
SLV 15	0.05	1604.66	-15540	-0.0001411	0.0005615	0.0035	0.75		4464.82	4464.82	2.78		Si
SLV 15	0.45	139.78	-10030	-0.0000521	0.0005615	0.0035	0.75		3182.75	3182.75	22.77		Si
SLD 15	0.05	1369.14	-15288	-0.0001297	0.0005615	0.0035	0.75		4409.94	4409.94	3.22		Si
SLD 15	0.45	326.04	-10970	-0.000064	0.0005615	0.0035	0.75		3447.75	3447.75	10.57		Si
SLD 7	0.05	886.09	-8910	-0.0000754	0.0005615	0.0035	0.75		2870.81	2870.81	3.24		Si
SLD 7	0.45	291.5	-6546	-0.0000409	0.0005615	0.0035	0.75		2224.55	2224.55	7.63		Si
SLV 11	0.05	1206.15	-7396	-0.0000825	0.0005615	0.0035	0.75		2456.01	2456.01	2.04		Si
SLV 11	0.45	-90.04	-3273	-0.0000181	0.0005615	0.0035	0.75		1289.18	1289.18	14.32		Si
SLV 16	0.05	1504.8	-15492	-0.0001366	0.0005615	0.0035	0.75		4454.37	4454.37	2.96		Si
SLV 16	0.45	217.14	-10515	-0.0000575	0.0005615	0.0035	0.75		3319.15	3319.15	15.29		Si
SLD 11	0.05	1113.52	-10175	-0.0000909	0.0005615	0.0035	0.75		3223.45	3223.45	2.89		Si
SLD 11	0.45	185.59	-6755	-0.0000379	0.0005615	0.0035	0.75		2282.02	2282.02	12.3		Si
SLV 8	0.05	783.93	-5387	-0.0000543	0.0005615	0.0035	0.75		1887.32	1887.32	2.41		Si
SLV 8	0.45	128.95	-3277	-0.0000195	0.0005615	0.0035	0.75		1198.75	1198.75	9.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0.05	1407.49	-22667	-20148	5955	0.75	0.75	-59699	10833	9684	2379	10106	1912	12019	No	2.02	Si
SLU 84	0.45	1029.69	-19361	-17210	2190	0.75	0.75	-50993	10833	8508	2379	10106	1912	10887	No	4.97	Si
SLU 77	0.05	1381.47	-21792	-19371	5803	0.75	0.75	-57394	10833	9373	2379	10106	1912	11751	No	2.03	Si
SLU 77	0.45	971.32	-18570	-16507	2175	0.75	0.75	-48909	10833	8227	2379	10106	1912	10606	No	4.88	Si
SLU 79	0.05	1374.82	-21681	-19272	5781	0.75	0.75	-57102	10833	9333	2379	10106	1912	11712	No	2.03	Si
SLU 79	0.45	966.37	-18462	-16410	2171	0.75	0.75	-48623	10833	8189	2379	10106	1912	10567	No	4.87	Si
SLU 82	0.05	1394.11	-22523	-20020	5892	0.75	0.75	-59319	10833	9633	2379	10106	1912	12011	No	2.04	Si
SLU 82	0.45	1027.14	-19248	-17109	2164	0.75	0.75	-50694	10833	8468	2379	10106	1912	10847	No	5.01	Si
SLU 74	0.05	1368.09	-21648	-19243	5740	0.75	0.75	-57015	10833	9321	2379	10106	1912	11700	No	2.04	Si
SLU 74	0.45	968.77	-18457	-16406	2149	0.75	0.75	-48610	10833	8187	2379	10106	1912	10566	No	4.92	Si
SLU 80	0.05	1368.65	-21765	-19346	5753	0.75	0.75	-57322	10833	9363	2379	10106	1912	11742	No	2.04	Si
SLU 80	0.45	975.45	-18566	-16503	2133	0.75	0.75	-48898	10833	8226	2379	10106	1912	10605	No	4.97	Si
SLU 81	0.05	1400.28	-22439	-19946	5920	0.75	0.75	-59099	10833	9603	2379	10106	1912	11982	No	2.02	Si
SLU 81	0.45	1018.06	-19143	-17016	2201	0.75	0.75	-50419	10833	8431	2379	10106	1912	10810	No	4.91	Si
SLU 75	0.05	1361.92	-21732	-19317	5712	0.75	0.75	-57236	10833	9351	2379	10106	1912	11730	No	2.05	Si
SLU 75	0.45	977.85	-18561	-16499	2112	0.75	0.75	-48886	10833	8224	2379	10106	1912	10603	No	5.02	Si
SLU 78	0.05	1375.3	-21876	-19445	5775	0.75	0.75	-57615	10833	9402	2379	10106	1912	11781	No	2.04	Si
SLU 78	0.45	980.4	-18675	-16600	2138	0.75	0.75	-49184	10833	8264	2379	10106	1912	10643	No	4.98	Si
SLU 83	0.05	1413.66	-22583	-20074	5983	0.75	0.75	-59478	10833	9654	2379	10106	1912	12019	No	2.01	Si
SLU 83	0.45	1020.61	-19257	-17117	2227	0.75	0.75	-50718	10833	8471	2379	10106	1912	10850	No	4.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.05	1577.29	-20537	-18255	9083	0.75	0.75	-54090	16250	9739	2379	15159	1912	12118		1.33	Si
SLV 13	0.45	514.49	-15567	-13837	3285	0.75	0.75	-41000	16250	7972	2379	15159	1912	10351		3.15	Si
SLV 11	0.05	1206.15	-7396	-6575	6081	0.75	0.6358	-19480	14313	5067	2379	15159	1912	7446		1.22	Si
SLV 11	0.45	-90.04	-3273	-2909	3917	0.75	0.75	-8619	12141	4097	2379	15159	1912	6476		1.65	Si
SLV 16	0.05	1504.8	-15492	-13771	8598	0.75	0.75	-40803	16250	7945	2379	15159	1912	10324		1.2	Si
SLV 16	0.45	217.14	-10515	-9347	3851	0.75	0.75	-27694	15956	6176	2379	15159	1912	8555		2.22	Si
SLD 13	0.05	1351.59	-18401	-16357	7229	0.75	0.75	-48464	16250	8979	2379	15159	1912	11358		1.57	Si
SLD 13	0.45	559.47	-14420	-12818	2650	0.75	0.75	-37979	16250	7564	2379	15159	1912	9943		3.75	Si
SLV 15	0.05	1604.66	-15540	-13814	9340	0.75	0.75	-40929	16250	7962	2379	15159	1912	10341		1.11	Si
SLV 15	0.45	139.78	-10030	-8915	4278	0.75	0.75	-26416	15700	6003	2379	15159	1912	8382		1.96	Si
SLV 14	0.05	1477.42	-20489	-18213	8340	0.75	0.75	-53964	16250	9722	2379	15159	1912	12101		1.45	Si
SLV 14	0.45	591.85	-16052	-14269	2858	0.75	0.75	-42278	16250	8144	2379	15159	1912	10523		3.68	Si
SLV 12	0.05	1138.91	-7364	-6546	5581	0.75	0.661	-19395	14296	5055	2379	15159	1912	7434		1.33	Si
SLV 12	0.45	-37.96	-3599	-3199	3630	0.75	0.75	-9480	12313	4156	2379	15159	1912	6534		1.8	Si
SLD 11	0.05	1113.52	-10175	-9044	5291	0.75	0.75	-26798	15776	6055	2379	15159	1912	8434		1.59	Si
SLD 11	0.45	185.59	-6755	-6004	3016	0.75	0.75	-17790	13975	4839	2379	15159	1912	7217		2.39	Si
SLD 16	0.05	1305.33	-15258	-13562	6913	0.75	0.75	-40185	16250	7862	2379	15159	1912	10241		1.48	Si
SLD 16	0.45	375.46	-11280	-10027	2996	0.75	0.75	-29709	16250	6448	2379	15159	1912	8827		2.95	Si
SLD 15	0.05	1369.14	-15288	-13590	7387	0.75	0.75	-40265	16250	7873	2379	15159	1912	10252		1.39	Si
SLD 15	0.45	326.04	-10970	-9751	3268	0.75	0.75	-28893	16195	6337	2379	15159	1912	8716		2.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.25 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.25	13884	-4686	1.04	958.48	925.9	Si
SLV 7	179667	0.25	13905	-4693	1.04	959.76	927.14	Si
SLV 12	179667	0.25	18437	-6223	1.04	1231.05	1189.21	Si
SLV 11	179667	0.25	18458	-6230	1.04	1232.24	1190.35	Si
SLV 4	179667	0.25	23392	-7895	1.04	1504.23	1453.1	Si
SLV 3	179667	0.25	23422	-7905	1.04	1505.84	1454.65	Si
SLV 2	179667	0.25	36098	-12183	1.04	2093.26	2022.11	Si
SLV 1	179667	0.25	36129	-12193	1.04	2094.48	2023.29	Si
SLV 16	179667	0.25	38569	-13017	1.04	2189.13	2114.72	Si
SLV 15	179667	0.25	38599	-13027	1.04	2190.28	2115.83	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.25 Wa = 0.08 Ta = 0.0006

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-22057	-24021	-2677	0.635	2267	0.997	9.25131	2.43826	Si
SLV 6	-21734	-22044	-2639	0.638	2234.1	0.997	9.29259	2.43826	Si
SLV 9	-21730	-24053	-2625	0.638	2233.7	0.997	9.3019	2.43826	Si
SLV 5	-21407	-22077	-2587	0.641	2200.8	0.997	9.34456	2.43826	Si
SLV 14	-16052	-20489	-1872	0.711	1654.9	0.996	10.37868	2.44483	Si
SLV 13	-15567	-20537	-1795	0.721	1605.5	0.996	10.51844	2.44483	Si
SLV 2	-14977	-13900	-1745	0.73	1545.3	0.996	10.65873	2.44483	Si
SLV 1	-14491	-13948	-1668	0.741	1495.8	0.996	10.81815	2.44483	Si
SLV 16	-10515	-15492	-1132	0.859	1090.5	0.994	12.54759	2.44483	Si
SLV 15	-10030	-15540	-1056	0.88	1041	0.994	12.86827	2.44483	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.128	SLU 83	Si
V_SLU	2.009	SLU 83	Si
PF_SLV	2.036	SLV 11	Si
V_SLV	1.107	SLV 15	Si
PFFP_SLV	925.901	SLV 8	Si
R_SLV	3.794	SLV 10	Si

Maschio 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.498	-3.284	Z medio 45 cm	L4	0.755	0.45	0.22	0.22	0.22			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	0.45	468.07	-17162	-0.0001078	0.0003743	0.0035	0.755	3264.27	4144.79	4144.79	8.86	No	Si
SLU 73	0.67	-179.04	-17026	-0.0000938	0.0003743	0.0035	0.755	3263.67	4179.62	4179.62	23.34	No	Si
SLU 83	0.45	489.23	-17954	-0.0001137	0.0003743	0.0035	0.755	3259.72	4199.12	4199.12	8.58	No	Si
SLU 83	0.67	-197.16	-17825	-0.0000994	0.0003743	0.0035	0.755	3261.4	4245.85	4245.85	21.54	No	Si
SLU 76	0.45	469.45	-17273	-0.0001085	0.0003743	0.0035	0.755	3264.46	4152.35	4152.35	8.85	No	Si
SLU 76	0.67	-181.72	-17138	-0.0000946	0.0003743	0.0035	0.755	3264.19	4195.15	4195.15	23.09	No	Si
SLU 84	0.45	492.62	-18043	-0.0001145	0.0003743	0.0035	0.755	3258.35	4205.31	4205.31	8.54	No	Si
SLU 84	0.67	-192.84	-17915	-0.0000998	0.0003743	0.0035	0.755	3260.27	4251.54	4251.54	22.05	No	Si
SLU 78	0.45	470.95	-17427	-0.0001095	0.0003743	0.0035	0.755	3264.27	4162.85	4162.85	8.84	No	Si
SLU 78	0.67	-187.44	-17293	-0.0000958	0.0003743	0.0035	0.755	3264.46	4212.68	4212.68	22.47	No	Si
SLU 81	0.45	487.86	-17843	-0.000113	0.0003743	0.0035	0.755	3261.19	4191.43	4191.43	8.59	No	Si
SLU 81	0.67	-194.48	-17713	-0.0000986	0.0003743	0.0035	0.755	3262.55	4238.8	4238.8	21.8	No	Si
SLU 75	0.45	469.57	-17316	-0.0001088	0.0003743	0.0035	0.755	3264.46	4155.26	4155.26	8.85	No	Si
SLU 75	0.67	-184.77	-17181	-0.000095	0.0003743	0.0035	0.755	3264.32	4201.15	4201.15	22.74	No	Si
SLU 80	0.45	468.56	-17325	-0.0001088	0.0003743	0.0035	0.755	3264.45	4155.86	4155.86	8.87	No	Si
SLU 80	0.67	-187.27	-17190	-0.0000951	0.0003743	0.0035	0.755	3264.34	4202.38	4202.38	22.44	No	Si
SLU 82	0.45	491.24	-17932	-0.0001137	0.0003743	0.0035	0.755	3260.03	4197.6	4197.6	8.54	No	Si
SLU 82	0.67	-190.16	-17803	-0.000099	0.0003743	0.0035	0.755	3261.65	4244.46	4244.46	22.32	No	Si
SLU 77	0.45	467.56	-17338	-0.0001088	0.0003743	0.0035	0.755	3264.44	4156.76	4156.76	8.89	No	Si
SLU 77	0.67	-191.76	-17203	-0.0000954	0.0003743	0.0035	0.755	3264.37	4204.21	4204.21	21.92	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	0.45	18.91	-3818	-0.0000179	0.0005615	0.0035	0.755		1390.18	1390.18	73.51		Si
SLV 12	0.67	-384.13	-3646	-0.0000302	0.0005615	0.0035	0.755		1425.36	1425.36	3.71		Si
SLV 3	0.45	347.08	-8056	-0.0000499	0.0005615	0.0035	0.755		2656.54	2656.54	7.65		Si
SLV 3	0.67	27.83	-7897	-0.0000372	0.0005615	0.0035	0.755		2612.88	2612.88	93.88		Si
SLV 2	0.45	540.14	-13393	-0.0000843	0.0005615	0.0035	0.755		4035.96	4035.96	7.47		Si
SLV 2	0.67	195.37	-13276	-0.0000701	0.0005615	0.0035	0.755		4010.77	4010.77	20.53		Si
SLV 4	0.45	380.7	-8419	-0.000053	0.0005615	0.0035	0.755		2756.84	2756.84	7.24		Si
SLV 4	0.67	76.84	-8264	-0.0000408	0.0005615	0.0035	0.755		2713.87	2713.87	35.32		Si
SLV 15	0.45	85.1	-9997	-0.0000495	0.0005615	0.0035	0.755		3196.93	3196.93	37.57		Si
SLV 15	0.67	-456.29	-9882	-0.0000631	0.0005615	0.0035	0.755		3307.52	3307.52	7.25		Si
SLV 8	0.45	97.5	-3236	-0.000018	0.0005615	0.0035	0.755		1193.76	1193.76	12.24		Si
SLV 8	0.67	-238.89	-3050	-0.0000222	0.0005615	0.0035	0.755		1221.7	1221.7	5.11		Si
SLV 11	0.45	-3.73	-3573	-0.0000162	0.0005615	0.0035	0.755		1400.84	1400.84	375.89		Si
SLV 11	0.67	-417.13	-3399	-0.0000303	0.0005615	0.0035	0.755		1341.18	1341.18	3.22		Si
SLV 1	0.45	506.52	-13030	-0.000081	0.0005615	0.0035	0.755		3957.69	3957.69	7.81		Si
SLV 1	0.67	146.36	-12910	-0.0000663	0.0005615	0.0035	0.755		3931.9	3931.9	26.86		Si
SLV 7	0.45	74.87	-2991	-0.0000161	0.0005615	0.0035	0.755		1109.84	1109.84	14.82		Si
SLV 7	0.67	-271.89	-2803	-0.0000223	0.0005615	0.0035	0.755		1137.08	1137.08	4.18		Si
SLD 11	0.45	115.32	-6640	-0.0000345	0.0005615	0.0035	0.755		2268.58	2268.58	19.67		Si
SLD 11	0.67	-310.46	-6486	-0.000041	0.0005615	0.0035	0.755		2335.09	2335.09	7.52		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.45	470.95	-17427	-15491	2692	0.755	0.755	-45594	10833	7832	0	10174	1925	7832	No	2.91	Si
SLU 78	0.67	-187.44	-17293	-15371	2814	0.755	0.755	-45243	10833	7784	0	10174	1925	7784	No	2.77	Si
SLU 84	0.45	492.62	-18043	-16039	2798	0.755	0.755	-47207	10833	8051	0	10174	1925	8051	No	2.88	Si
SLU 84	0.67	-192.84	-17915	-15924	2927	0.755	0.755	-46870	10833	8005	0	10174	1925	8005	No	2.74	Si
SLU 80	0.45	468.56	-17325	-15400	2682	0.755	0.755	-45327	10833	7795	0	10174	1925	7795	No	2.91	Si
SLU 80	0.67	-187.27	-17190	-15280	2804	0.755	0.755	-44974	10833	7747	0	10174	1925	7747	No	2.76	Si
SLU 77	0.45	467.56	-17338	-15411	2697	0.755	0.755	-45361	10833	7800	0	10174	1925	7800	No	2.89	Si
SLU 77	0.67	-191.76	-17203	-15292	2819	0.755	0.755	-45008	10833	7752	0	10174	1925	7752	No	2.75	Si
SLU 75	0.45	469.57	-17316	-15392	2675	0.755	0.755	-45304	10833	7792	0	10174	1925	7792	No	2.91	Si
SLU 75	0.67	-184.77	-17181	-15272	2797	0.755	0.755	-44951	10833	7744	0	10174	1925	7744	No	2.77	Si
SLU 82	0.45	491.24	-17932	-15940	2781	0.755	0.755	-46916	10833	8011	0	10174	1925	8011	No	2.88	Si
SLU 82	0.67	-190.16	-17803	-15825	2909	0.755	0.755	-46578	10833	7965	0	10174	1925	7965	No	2.74	Si
SLU 74	0.45	466.18	-17227	-15313	2681	0.755	0.755	-45070	10833	7760	0	10174	1925	7760	No	2.9	Si
SLU 74	0.67	-189.09	-17091	-15192	2802	0.755	0.755	-44716	10833	7712	0	10174	1925	7712	No	2.75	Si
SLU 81	0.45	487.86	-17843	-15861	2787	0.755	0.755	-46683	10833	7980	0	10174	1925	7980	No	2.86	Si
SLU 81	0.67	-194.48	-17713	-15745	2915	0.755	0.755	-46343	10833	7933	0	10174	1925	7933	No	2.72	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	0.45	465.18	-17235	-15320	2687	0.755	0.755	-45093	10833	7763	0	10174	1925	7763	No	2.89	Si
SLU 79	0.67	-191.59	-17100	-15200	2809	0.755	0.755	-44739	10833	7715	0	10174	1925	7715	No	2.75	Si
SLU 83	0.45	489.23	-17954	-15959	2803	0.755	0.755	-46974	10833	8019	0	10174	1925	8019	No	2.86	Si
SLU 83	0.67	-197.16	-17825	-15844	2932	0.755	0.755	-46635	10833	7973	0	10174	1925	7973	No	2.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	0.45	97.5	-3236	-2876	1475	0.755	0.755	-8466	12110	4114	0	15260	1925	4114		2.79	Si
SLV 8	0.67	-238.89	-3050	-2711	1518	0.755	0.755	-7980	12013	4081	0	15260	1925	4081		2.69	Si
SLV 15	0.45	85.1	-9997	-8886	2349	0.755	0.755	-26154	15647	6008	0	15260	1925	6008		2.56	Si
SLV 15	0.67	-456.29	-9882	-8784	2463	0.755	0.755	-25855	15588	5967	0	15260	1925	5967		2.42	Si
SLV 7	0.45	74.87	-2991	-2659	1526	0.755	0.755	-7826	11982	4071	0	15260	1925	4071		2.67	Si
SLV 7	0.67	-271.89	-2803	-2492	1572	0.755	0.755	-7334	11883	4037	0	15260	1925	4037		2.57	Si
SLV 12	0.45	18.91	-3818	-3394	1798	0.755	0.755	-9990	12415	4218	0	15260	1925	4218		2.35	Si
SLV 12	0.67	-384.13	-3646	-3241	1864	0.755	0.755	-9539	12324	4187	0	15260	1925	4187		2.25	Si
SLD 12	0.45	129.56	-6794	-6039	1808	0.755	0.755	-17774	13972	4869	0	15260	1925	4869		2.69	Si
SLD 12	0.67	-289.7	-6641	-5903	1881	0.755	0.755	-17376	13892	4815	0	15260	1925	4815		2.56	Si
SLD 15	0.45	169.25	-10651	-9468	2160	0.755	0.755	-27867	15990	6240	0	15260	1925	6240		2.89	Si
SLD 15	0.67	-338.64	-10534	-9363	2262	0.755	0.755	-27559	15929	6198	0	15260	1925	6198		2.74	Si
SLD 7	0.45	165.15	-6267	-5570	1633	0.755	0.755	-16395	13696	4681	0	15260	1925	4681		2.87	Si
SLD 7	0.67	-217.07	-6106	-5428	1692	0.755	0.755	-15975	13612	4625	0	15260	1925	4625		2.73	Si
SLV 16	0.45	118.73	-10360	-9209	2273	0.755	0.755	-27106	15838	6137	0	15260	1925	6137		2.7	Si
SLV 16	0.67	-407.28	-10249	-9110	2384	0.755	0.755	-26815	15780	6097	0	15260	1925	6097		2.56	Si
SLV 11	0.45	-3.73	-3573	-3176	1849	0.755	0.755	-9349	12287	4174	0	15260	1925	4174		2.26	Si
SLV 11	0.67	-417.13	-3399	-3021	1918	0.755	0.755	-8893	12195	4143	0	15260	1925	4143		2.16	Si
SLD 11	0.45	115.32	-6640	-5902	1840	0.755	0.755	-17371	13891	4814	0	15260	1925	4814		2.62	Si
SLD 11	0.67	-310.46	-6486	-5765	1914	0.755	0.755	-16969	13810	4759	0	15260	1925	4759		2.49	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.56 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.26	8210	-2789	0.32	593.88	1835.04	Si
SLV 8	179667	0.26	8934	-3035	0.32	643	1986.79	Si
SLV 11	179667	0.26	9967	-3386	0.32	712.17	2200.52	Si
SLV 12	179667	0.26	10690	-3632	0.32	760.01	2348.34	Si
SLV 3	179667	0.26	23150	-7865	0.32	1501.43	4639.25	Si
SLV 4	179667	0.26	24225	-8231	0.32	1558.11	4814.38	Si
SLV 15	179667	0.26	29005	-9854	0.32	1796.12	5549.83	Si
SLV 16	179667	0.26	30080	-10220	0.32	1846.5	5705.5	Si
SLV 1	179667	0.26	37863	-12864	0.32	2176.78	6726.01	Si
SLV 2	179667	0.26	38938	-13229	0.32	2217.62	6852.22	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.56 Wa = 0.08 Ta = 0.0002

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-20355	-20399	-1966	1.137	2085.3	0.998	16.55867	2.47735	Si
SLV 9	-20108	-20154	-1926	1.141	2060.1	0.998	16.60854	2.47735	Si
SLV 6	-19760	-19817	-1956	1.141	2024.5	0.998	16.61722	2.47735	Si
SLV 5	-19513	-19572	-1915	1.145	1999.4	0.998	16.66935	2.47735	Si
SLV 14	-15262	-15334	-1356	1.215	1566	0.998	17.70295	2.47936	Si
SLV 13	-14895	-14971	-1296	1.224	1528.6	0.998	17.831	2.47936	Si
SLV 2	-13276	-13393	-1321	1.247	1363.7	0.997	18.16383	2.47936	Si
SLV 1	-12910	-13030	-1261	1.258	1326.3	0.997	18.32458	2.47936	Si
SLV 16	-10249	-10360	-814	1.362	1055.1	0.997	19.85262	2.47936	Si
SLV 15	-9882	-9997	-754	1.38	1017.7	0.997	20.12493	2.47936	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.537	SLU 84	Si
V_SLU	2.719	SLU 83	Si
PF_SLV	3.215	SLV 11	Si
V_SLV	2.16	SLV 11	Si
PFFP_SLV	1835.04	SLV 7	Si
R_SLV	6.684	SLV 10	Si

Maschio 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.268	1.141	-6.268	-3.284	L2	L4	4.425	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	-1.95	16512.11	-111293	-0.0001643	0.0004492	0.0035	4.425	77285.89	157733.53	157733.53	9.55	No	Si
SLU 73	0.67	15880.85	-61015	-0.0000934	0.0004492	0.0035	4.425	84215.29	107731.01	107731.01	6.78	No	Si
SLU 74	-1.95	15319.37	-111925	-0.0001629	0.0004492	0.0035	4.425	76759.98	158027.23	158027.23	10.32	No	Si
SLU 74	0.67	16132.94	-61619	-0.0000946	0.0004492	0.0035	4.425	84541.5	108473.64	108473.64	6.72	No	Si
SLU 82	-1.95	16671.22	-115197	-0.0001707	0.0004492	0.0035	4.425	73862.44	159548.04	159548.04	9.57	No	Si
SLU 82	0.67	16477.8	-63346	-0.0000974	0.0004492	0.0035	4.425	85418.56	110595.3	110595.3	6.71	No	Si
SLU 81	-1.95	15969.24	-114715	-0.0001685	0.0004492	0.0035	4.425	74307.42	159324.11	159324.11	9.98	No	Si
SLU 81	0.67	16522.61	-63148	-0.0000972	0.0004492	0.0035	4.425	85322.06	110351.86	110351.86	6.68	No	Si
SLU 75	-1.95	16021.35	-112407	-0.0001651	0.0004492	0.0035	4.425	76351.67	158251.16	158251.16	9.88	No	Si
SLU 75	0.67	16088.14	-61817	-0.0000948	0.0004492	0.0035	4.425	84646.26	108717.07	108717.07	6.76	No	Si
SLU 83	-1.95	15903.44	-115571	-0.0001697	0.0004492	0.0035	4.425	73512.56	159721.92	159721.92	10.04	No	Si
SLU 83	0.67	16556.86	-63683	-0.000098	0.0004492	0.0035	4.425	85580.25	111009.38	111009.38	6.7	No	Si
SLU 79	-1.95	15210.55	-112202	-0.0001631	0.0004492	0.0035	4.425	76526.09	158155.93	158155.93	10.4	No	Si
SLU 79	0.67	16024.02	-61755	-0.0000946	0.0004492	0.0035	4.425	84613.34	108640.31	108640.31	6.78	No	Si
SLU 78	-1.95	15955.56	-113263	-0.0001662	0.0004492	0.0035	4.425	75610.72	158648.96	158648.96	9.94	No	Si
SLU 78	0.67	16122.38	-62352	-0.0000955	0.0004492	0.0035	4.425	84923.87	109374.59	109374.59	6.78	No	Si
SLU 84	-1.95	16605.42	-116053	-0.0001719	0.0004492	0.0035	4.425	73056.33	159945.85	159945.85	9.63	No	Si
SLU 84	0.67	16512.05	-63881	-0.0000981	0.0004492	0.0035	4.425	85673.86	111252.81	111252.81	6.74	No	Si
SLU 77	-1.95	15253.58	-112781	-0.0001641	0.0004492	0.0035	4.425	76030.27	158425.03	158425.03	10.39	No	Si
SLU 77	0.67	16167.19	-62154	-0.0000954	0.0004492	0.0035	4.425	84822	109131.15	109131.15	6.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	-1.95	39094.93	-95833	-0.0001717	0.0006738	0.0035	4.425		160696.16	160696.16	4.11		Si
SLD 6	0.67	20015.82	-57134	-0.0000922	0.0006738	0.0035	4.425		107509.91	107509.91	5.37		Si
SLD 10	-1.95	40254.48	-100646	-0.0001801	0.0006738	0.0035	4.425		166711.71	166711.71	4.14		Si
SLD 10	0.67	19510.04	-59376	-0.0000941	0.0006738	0.0035	4.425		111119.74	111119.74	5.7		Si
SLV 8	-1.95	-35178.91	-41808	-0.0000981	0.0006738	0.0035	4.425		92634.58	92634.58	2.63		Si
SLV 8	0.67	-1335.76	-16025	-0.0000186	0.0006738	0.0035	4.425		44698.53	44698.53	33.46		Si
SLV 10	-1.95	58022.24	-114405	-0.0002309	0.0006738	0.0035	4.425		180473.49	180473.49	3.11		Si
SLV 10	0.67	24540.58	-69640	-0.0001143	0.0006738	0.0035	4.425		127644	127644	5.2		Si
SLV 6	-1.95	56198.86	-106890	-0.0002167	0.0006738	0.0035	4.425		173884.76	173884.76	3.09		Si
SLV 6	0.67	25335.41	-66068	-0.0001112	0.0006738	0.0035	4.425		121892.24	121892.24	4.81		Si
SLV 5	-1.95	55066.55	-106109	-0.0002136	0.0006738	0.0035	4.425		173200.23	173200.23	3.15		Si
SLV 5	0.67	24722.27	-65218	-0.0001092	0.0006738	0.0035	4.425		120524.88	120524.88	4.88		Si
SLV 12	-1.95	-33355.53	-49323	-0.0001036	0.0006738	0.0035	4.425		105274.94	105274.94	3.16		Si
SLV 12	0.67	-2130.59	-19597	-0.0000236	0.0006738	0.0035	4.425		51705.8	51705.8	24.27		Si
SLV 7	-1.95	-36311.22	-41027	-0.0000995	0.0006738	0.0035	4.425		91321.32	91321.32	2.51		Si
SLV 7	0.67	-1948.9	-15175	-0.0000186	0.0006738	0.0035	4.425		43027.59	43027.59	22.08		Si
SLV 9	-1.95	56889.93	-113624	-0.0002277	0.0006738	0.0035	4.425		179788.97	179788.97	3.16		Si
SLV 9	0.67	23927.43	-68791	-0.0001123	0.0006738	0.0035	4.425		126276.65	126276.65	5.28		Si
SLV 11	-1.95	-34487.84	-48542	-0.0001045	0.0006738	0.0035	4.425		103961.69	103961.69	3.01		Si
SLV 11	0.67	-2743.74	-18748	-0.0000235	0.0006738	0.0035	4.425		50039.98	50039.98	18.24		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	-1.95	15253.58	-112781	-82022	-5221	4.425	4.425	-61787	10833	40476	81562	47707	22567	70275	No	13.46	Si
SLU 77	0.67	16167.19	-62154	-45203	-9473	4.425	4.425	-34051	10833	25749	81562	47707	22567	70275	No	7.42	Si
SLU 81	-1.95	15969.24	-114715	-83429	-5210	4.425	4.425	-62847	10833	41039	81562	47707	22567	70275	No	13.49	Si
SLU 81	0.67	16522.61	-63148	-45926	-9528	4.425	4.425	-34596	10833	26038	81562	47707	22567	70275	No	7.38	Si
SLU 79	-1.95	15210.55	-112202	-81601	-5189	4.425	4.425	-61470	10833	40308	81562	47707	22567	70275	No	13.54	Si
SLU 79	0.67	16024.02	-61755	-44913	-9411	4.425	4.425	-33832	10833	25633	81562	47707	22567	70275	No	7.47	Si
SLU 78	-1.95	15955.56	-113263	-82373	-4693	4.425	4.425	-62051	10833	40616	81562	47707	22567	70275	No	14.97	Si
SLU 78	0.67	16122.38	-62352	-45347	-8947	4.425	4.425	-34160	10833	25807	81562	47707	22567	70275	No	7.85	Si
SLU 83	-1.95	15903.44	-115571	-84052	-5242	4.425	4.425	-63316	10833	41288	81562	47707	22567	70275	No	13.41	Si
SLU 83	0.67	16556.86	-63683	-46315	-9592	4.425	4.425	-34889	10833	26194	81562	47707	22567	70275	No	7.33	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.95	16671.22	-115197	-83780	-4682	4.425	4.425	-63111	10833	41179	81562	47707	22567	70275	No	15.01	Si
SLU 82	0.67	16477.8	-63346	-46070	-9002	4.425	4.425	-34704	10833	26096	81562	47707	22567	70275	No	7.81	Si
SLU 74	-1.95	15319.37	-111925	-81400	-5189	4.425	4.425	-61318	10833	40227	81562	47707	22567	70275	No	13.54	Si
SLU 74	0.67	16132.94	-61619	-44814	-9409	4.425	4.425	-33758	10833	25594	81562	47707	22567	70275	No	7.47	Si
SLU 69	-1.95	13790.35	-102922	-74852	-5022	4.425	4.425	-56386	10833	37608	81562	47707	22567	70275	No	13.99	Si
SLU 69	0.67	14844	-56407	-41023	-8900	4.425	4.425	-30903	10833	24077	81562	47707	22567	70275	No	7.9	Si
SLU 84	-1.95	16605.42	-116053	-84402	-4714	4.425	4.425	-63580	10833	41428	81562	47707	22567	70275	No	14.91	Si
SLU 84	0.67	16512.05	-63881	-46459	-9066	4.425	4.425	-34997	10833	26251	81562	47707	22567	70275	No	7.75	Si
SLU 80	-1.95	15912.53	-112684	-81952	-4661	4.425	4.425	-61734	10833	40448	81562	47707	22567	70275	No	15.08	Si
SLU 80	0.67	15979.22	-61953	-45057	-8885	4.425	4.425	-33941	10833	25691	81562	47707	22567	70275	No	7.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	-1.95	58022.24	-114405	-83204	31709	4.425	4.425	-62677	16250	44783	81562	71561	22567	94128		2.97	Si
SLV 10	0.67	24540.58	-69640	-50647	26284	4.425	4.425	-38152	16250	31761	81562	71561	22567	94128		3.58	Si
SLV 7	-1.95	-36311.22	-41027	-29838	-39221	4.425	3.9823	-25225	16250	23438	81562	71561	22567	94128		2.4	Si
SLV 7	0.67	-1948.9	-15175	-11037	-39636	4.425	4.425	-8314	14163	18801	81562	71561	22567	94128		2.37	Si
SLV 12	-1.95	-33355.53	-49323	-35871	-37950	4.425	4.425	-27022	16250	25851	81562	71561	22567	94128		2.48	Si
SLV 12	0.67	-2130.59	-19597	-14253	-38854	4.425	4.425	-10736	14647	19444	81562	71561	22567	94128		2.42	Si
SLV 11	-1.95	-34487.84	-48542	-35303	-39014	4.425	4.425	-26594	16250	25624	81562	71561	22567	94128		2.41	Si
SLV 11	0.67	-2743.74	-18748	-13635	-39846	4.425	4.425	-10271	14554	19321	81562	71561	22567	94128		2.36	Si
SLD 7	-1.95	-18543.45	-54786	-39845	-25841	4.425	4.425	-30015	16250	27440	81562	71561	22567	94128		3.64	Si
SLD 7	0.67	3081.63	-25439	-18501	-27210	4.425	4.425	-13937	15287	20294	81562	71561	22567	94128		3.46	Si
SLV 5	-1.95	55066.55	-106109	-77170	30438	4.425	4.425	-58132	16250	42370	81562	71561	22567	94128		3.09	Si
SLV 5	0.67	24722.27	-65218	-47431	25502	4.425	4.425	-35730	16250	30475	81562	71561	22567	94128		3.69	Si
SLD 11	-1.95	-17383.91	-59600	-43345	-25718	4.425	4.425	-32652	16250	28840	81562	71561	22567	94128		3.66	Si
SLD 11	0.67	2575.86	-27682	-20132	-27338	4.425	4.425	-15165	15533	20620	81562	71561	22567	94128		3.44	Si
SLV 9	-1.95	56889.93	-113624	-82636	30644	4.425	4.425	-62249	16250	44556	81562	71561	22567	94128		3.07	Si
SLV 9	0.67	23927.43	-68791	-50030	25292	4.425	4.425	-37687	16250	31514	81562	71561	22567	94128		3.72	Si
SLV 6	-1.95	56198.86	-106890	-77738	31502	4.425	4.425	-58560	16250	42597	81562	71561	22567	94128		2.99	Si
SLV 6	0.67	25335.41	-66068	-48049	26494	4.425	4.425	-36195	16250	30722	81562	71561	22567	94128		3.55	Si
SLV 8	-1.95	-35178.91	-41808	-30406	-38156	4.425	4.1132	-24906	16250	23665	81562	71561	22567	94128		2.47	Si
SLV 8	0.67	-1335.76	-16025	-11654	-38644	4.425	4.425	-8779	14256	18925	81562	71561	22567	94128		2.44	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-31559	0.24	177.09	4119.79	5702.61	4911.2	27.73	Si
SLV 8	-32308	0.24	177.09	4202.66	5819.96	5011.31	28.3	Si
SLV 11	-37951	0.24	177.09	4804.7	6702.21	5753.46	32.49	Si
SLV 12	-38700	0.24	177.09	4881.68	6818.76	5850.22	33.04	Si
SLV 3	-42180	0.24	177.09	5230.09	7360.4	6295.25	35.55	Si
SLV 4	-43292	0.24	177.09	5338.37	7531.06	6434.71	36.34	Si
SLV 1	-57831	0.24	177.09	6612.81	9751.14	8181.98	46.2	Si
SLV 2	-58944	0.24	177.09	6699.61	9913.65	8306.63	46.91	Si
SLV 15	-63487	0.24	177.09	7038.18	10577.49	8807.83	49.74	Si
SLV 16	-64600	0.24	177.09	7117.22	10740.14	8928.68	50.42	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-56499	-100583	-1696	0.449	6242.3	0.976	6.6824	3.32286	Si
SLV 10	-69640	-114405	-1989	0.374	7581	0.98	5.54633	2.7479	Si
SLV 9	-68791	-113624	-1965	0.378	7494.5	0.98	5.6082	2.7479	Si
SLV 13	-55238	-99423	-1659	0.458	6113.8	0.975	6.82119	3.32286	Si
SLV 6	-66068	-106890	-1826	0.393	7217	0.979	5.82968	2.7479	Si
SLV 5	-65218	-106109	-1801	0.397	7130.5	0.979	5.89843	2.7479	Si
SLV 2	-44590	-75533	-1151	0.558	5029.5	0.97	8.3542	3.32286	Si
SLV 1	-43329	-74374	-1114	0.572	4901	0.97	8.57608	3.32286	Si
SLV 16	-41487	-81058	-1276	0.59	4713.4	0.968	8.85069	3.32286	Si
SLV 15	-40225	-79899	-1239	0.606	4585	0.968	9.10371	3.32286	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.679	SLU 81	Si
V_SLU	7.326	SLU 83	Si
PF_SLV	2.515	SLV 7	Si
V_SLV	2.362	SLV 11	Si
PFFP_SLV	27.733	SLV 7	Si
R_SLV	2.011	SLV 14	Si

Maschio 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	2.071	-5.158	6.101	L2	L4	4.03	0.3	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.95	-34082.37	-109629	-0.0002305	0.0004492	0.0035	4.03	56966.83	137482.53	137482.53	4.03	No	Si
SLU 83	0.15	2268.99	-103448	-0.0001409	0.0004492	0.0035	4.03	62476.62	131617.23	131617.23	58.01	No	Si
SLU 75	-1.95	-33591.37	-105750	-0.0002214	0.0004492	0.0035	4.03	60546.61	135571.46	135571.46	4.04	No	Si
SLU 75	0.15	2465.11	-99569	-0.0001352	0.0004492	0.0035	4.03	65402.31	129932.99	129932.99	52.71	No	Si
SLU 73	-1.95	-33609.35	-103436	-0.0002169	0.0004492	0.0035	4.03	62486.34	134431.6	134431.6	4	No	Si
SLU 73	0.15	2361.4	-97255	-0.0001314	0.0004492	0.0035	4.03	66951.9	128409.22	128409.22	54.38	No	Si
SLU 81	-1.95	-33866.26	-108290	-0.0002272	0.0004492	0.0035	4.03	58248.73	136822.96	136822.96	4.04	No	Si
SLU 81	0.15	2136.48	-102109	-0.0001385	0.0004492	0.0035	4.03	63532.77	131035.94	131035.94	61.33	No	Si
SLU 82	-1.95	-34439.46	-107787	-0.0002277	0.0004492	0.0035	4.03	58717.71	136575.15	136575.15	3.97	No	Si
SLU 82	0.15	2252.44	-101606	-0.0001379	0.0004492	0.0035	4.03	63916.93	130817.55	130817.55	58.08	No	Si
SLU 84	-1.95	-34655.57	-109126	-0.000231	0.0004492	0.0035	4.03	57454.18	137234.72	137234.72	3.96	No	Si
SLU 84	0.15	2384.94	-102945	-0.0001404	0.0004492	0.0035	4.03	62879.16	131398.84	131398.84	55.1	No	Si
SLU 76	-1.95	-33825.46	-104775	-0.0002201	0.0004492	0.0035	4.03	61381.73	135091.17	135091.17	3.99	No	Si
SLU 76	0.15	2493.91	-98594	-0.0001338	0.0004492	0.0035	4.03	66073.04	129460.14	129460.14	51.91	No	Si
SLU 80	-1.95	-33659.44	-106449	-0.000223	0.0004492	0.0035	4.03	59931.65	135915.95	135915.95	4.04	No	Si
SLU 80	0.15	2549.11	-100268	-0.0001365	0.0004492	0.0035	4.03	64905.25	130236.59	130236.59	51.09	No	Si
SLU 77	-1.95	-33234.29	-107592	-0.0002242	0.0004492	0.0035	4.03	58898.1	136478.84	136478.84	4.11	No	Si
SLU 77	0.15	2481.66	-101411	-0.0001382	0.0004492	0.0035	4.03	64064.37	130732.67	130732.67	52.68	No	Si
SLU 78	-1.95	-33807.48	-107089	-0.0002246	0.0004492	0.0035	4.03	59357.5	136231.04	136231.04	4.03	No	Si
SLU 78	0.15	2597.61	-100908	-0.0001376	0.0004492	0.0035	4.03	64438.95	130514.28	130514.28	50.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	-1.95	-42234.34	-75273	-0.000174	0.0006738	0.0035	4.03		127496.69	127496.69	3.02		Si
SLV 13	0.15	574.8	-70583	-0.0000859	0.0006738	0.0035	4.03		114150.14	114150.14	198.59		Si
SLD 6	-1.95	-42410.32	-48480	-0.0001399	0.0006738	0.0035	4.03		92423.39	92423.39	2.18		Si
SLD 6	0.15	2718.09	-43612	-0.0000561	0.0006738	0.0035	4.03		76765.75	76765.75	28.24		Si
SLV 6	-1.95	-54194.05	-33762	-0.0002898	0.0006738	0.0035	3.224		69863.74	69863.74	1.29		Si
SLV 6	0.15	3306.85	-28740	-0.0000391	0.0006738	0.0035	4.03		54463.62	54463.62	16.47		Si
SLD 5	-1.95	-41365.55	-49127	-0.0001378	0.0006738	0.0035	4.03		93360.07	93360.07	2.26		Si
SLD 5	0.15	2725.7	-44258	-0.0000569	0.0006738	0.0035	4.03		77722.58	77722.58	28.51		Si
SLV 14	-1.95	-44701.13	-73747	-0.0001767	0.0006738	0.0035	4.03		125672.14	125672.14	2.81		Si
SLV 14	0.15	556.84	-69057	-0.0000839	0.0006738	0.0035	4.03		112391.83	112391.83	201.84		Si
SLD 9	-1.95	-45349.85	-53762	-0.0001528	0.0006738	0.0035	4.03		99987.5	99987.5	2.2		Si
SLD 9	0.15	2155.34	-48928	-0.0000616	0.0006738	0.0035	4.03		84634.64	84634.64	39.27		Si
SLV 9	-1.95	-58757.48	-42020	-0.0002379	0.0006738	0.0035	3.224		82815.8	82815.8	1.41		Si
SLV 9	0.15	2436.05	-37063	-0.0000476	0.0006738	0.0035	4.03		67072.29	67072.29	27.53		Si
SLV 5	-1.95	-52533.24	-34789	-0.0002387	0.0006738	0.0035	3.224		71526.42	71526.42	1.36		Si
SLV 5	0.15	3318.94	-29767	-0.0000404	0.0006738	0.0035	4.03		56190.07	56190.07	16.93		Si
SLV 10	-1.95	-60418.28	-40992	-0.0002685	0.0006738	0.0035	3.224		81239.97	81239.97	1.34		Si
SLV 10	0.15	2423.96	-36035	-0.0000463	0.0006738	0.0035	4.03		65551.28	65551.28	27.04		Si
SLD 10	-1.95	-46394.62	-53115	-0.0001544	0.0006738	0.0035	4.03		99105.46	99105.46	2.14		Si
SLD 10	0.15	2147.73	-48282	-0.0000608	0.0006738	0.0035	4.03		83677.81	83677.81	38.96		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.95	-34439.46	-107787	-78391	-17483	4.03	4.03	-64839	10833	38339	81562	43448	20553	64001	No	3.66	Si
SLU 82	0.15	2252.44	-101606	-73896	-17483	4.03	4.03	-61121	10833	36541	81562	43448	20553	64001	No	3.66	Si
SLU 84	-1.95	-34655.57	-109126	-79364	-17649	4.03	4.03	-65645	10833	38729	81562	43448	20553	64001	No	3.63	Si
SLU 84	0.15	2384.94	-102945	-74869	-17649	4.03	4.03	-61927	10833	36931	81562	43448	20553	64001	No	3.63	Si
SLU 76	-1.95	-33825.46	-104775	-76200	-17306	4.03	4.03	-63027	10833	37463	81562	43448	20553	64001	No	3.7	Si
SLU 76	0.15	2493.91	-98594	-71705	-17306	4.03	4.03	-59309	10833	35665	81562	43448	20553	64001	No	3.7	Si
SLU 75	-1.95	-33591.37	-105750	-76909	-17181	4.03	4.03	-63614	10833	37746	81562	43448	20553	64001	No	3.73	Si
SLU 75	0.15	2465.11	-99569	-72414	-17181	4.03	4.03	-59896	10833	35948	81562	43448	20553	64001	No	3.73	Si
SLU 78	-1.95	-33807.48	-107089	-77883	-17347	4.03	4.03	-64419	10833	38136	81562	43448	20553	64001	No	3.69	Si
SLU 78	0.15	2597.61	-100908	-73388	-17347	4.03	4.03	-60701	10833	36338	81562	43448	20553	64001	No	3.69	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	-1.95	-33659.44	-106449	-77418	-17253	4.03	4.03	-64034	10833	37950	81562	43448	20553	64001	No	3.71	Si
SLU 80	0.15	2549.11	-100268	-72922	-17253	4.03	4.03	-60316	10833	36152	81562	43448	20553	64001	No	3.71	Si
SLU 77	-1.95	-33234.29	-107592	-78249	-17019	4.03	4.03	-64722	10833	38282	81562	43448	20553	64001	No	3.76	Si
SLU 77	0.15	2481.66	-101411	-73753	-17019	4.03	4.03	-61004	10833	36484	81562	43448	20553	64001	No	3.76	Si
SLU 83	-1.95	-34082.37	-109629	-79730	-17321	4.03	4.03	-65947	10833	38875	81562	43448	20553	64001	No	3.69	Si
SLU 83	0.15	2268.99	-103448	-75235	-17321	4.03	4.03	-62229	10833	37077	81562	43448	20553	64001	No	3.69	Si
SLU 81	-1.95	-33866.26	-108290	-78757	-17155	4.03	4.03	-65142	10833	38485	81562	43448	20553	64001	No	3.73	Si
SLU 81	0.15	2136.48	-102109	-74261	-17155	4.03	4.03	-61424	10833	36687	81562	43448	20553	64001	No	3.73	Si
SLU 73	-1.95	-33609.35	-103436	-75226	-17140	4.03	4.03	-62222	10833	37073	81562	43448	20553	64001	No	3.73	Si
SLU 73	0.15	2361.4	-97255	-70731	-17140	4.03	4.03	-58504	10833	35275	81562	43448	20553	64001	No	3.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.95	-42234.34	-75273	-54744	-20423	4.03	4.03	-45281	16250	32373	81562	65173	20553	85726		4.2	Si
SLV 13	0.15	574.8	-70583	-51333	-20400	4.03	4.03	-42459	16250	31009	81562	65173	20553	85726		4.2	Si
SLD 10	-1.95	-46394.62	-53115	-38629	-23248	4.03	3.4246	-38060	16250	25927	81562	65173	20553	85726		3.69	Si
SLD 10	0.15	2147.73	-48282	-35114	-23232	4.03	4.03	-29044	16250	24521	81562	65173	20553	85726		3.69	Si
SLV 10	-1.95	-60418.28	-40992	-29813	-30188	3.224	1.6233	0	0	0	81562	52138	16442	68581		2.27	Si
SLV 10	0.15	2423.96	-36035	-26207	-30150	4.03	4.03	-21677	16250	20959	81562	65173	20553	85726		2.84	Si
SLV 6	-1.95	-54194.05	-33762	-24554	-27676	3.224	1.2294	0	0	0	81562	52138	16442	68581		2.48	Si
SLV 6	0.15	3306.85	-28740	-20902	-27645	4.03	4.03	-17288	15958	19293	81562	65173	20553	85726		3.1	Si
SLD 9	-1.95	-45349.85	-53762	-39099	-22754	4.03	3.5144	-37772	16250	26115	81562	65173	20553	85726		3.77	Si
SLD 9	0.15	2155.34	-48928	-35584	-22738	4.03	4.03	-29433	16250	24709	81562	65173	20553	85726		3.77	Si
SLD 5	-1.95	-41365.55	-49127	-35728	-21143	4.03	3.5189	-34271	16250	24767	81562	65173	20553	85726		4.05	Si
SLD 5	0.15	2725.7	-44258	-32188	-21133	4.03	4.03	-26623	16250	23351	81562	65173	20553	85726		4.06	Si
SLV 5	-1.95	-52533.24	-34789	-25301	-26891	3.224	1.5149	0	0	0	81562	52138	16442	68581		2.55	Si
SLV 5	0.15	3318.94	-29767	-21649	-26860	4.03	4.03	-17906	16081	19442	81562	65173	20553	85726		3.19	Si
SLD 6	-1.95	-42410.32	-48480	-35258	-21637	4.03	3.4206	-34726	16250	24579	81562	65173	20553	85726		3.96	Si
SLD 6	0.15	2718.09	-43612	-31718	-21626	4.03	4.03	-26235	16250	23163	81562	65173	20553	85726		3.96	Si
SLV 9	-1.95	-58757.48	-42020	-30560	-29403	3.224	1.85	0	0	0	81562	52138	16442	68581		2.33	Si
SLV 9	0.15	2436.05	-37063	-26955	-29365	4.03	4.03	-22295	16250	21258	81562	65173	20553	85726		2.92	Si
SLV 14	-1.95	-44701.13	-73747	-53634	-21589	4.03	4.03	-44363	16250	31929	81562	65173	20553	85726		3.97	Si
SLV 14	0.15	556.84	-69057	-50223	-21566	4.03	4.03	-41541	16250	30565	81562	65173	20553	85726		3.97	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-30408	0.24	161.28	3935.26	5455.25	4695.25	29.11	Si
SLV 5	-31435	0.24	161.28	4046.38	5616.33	4831.36	29.96	Si
SLV 10	-37722	0.24	161.28	4695.07	6596.05	5645.56	35.01	Si
SLV 9	-38750	0.24	161.28	4796.02	6755.57	5775.79	35.81	Si
SLV 2	-46445	0.24	161.28	5506.51	7933.35	6719.93	41.67	Si
SLV 1	-47971	0.24	161.28	5637.9	8167.15	6902.53	42.8	Si
SLV 4	-67719	0.24	161.28	7053.53	11010.96	9032.25	56	Si
SLV 3	-69246	0.24	161.28	7140.96	11210.14	9175.55	56.89	Si
SLV 14	-70826	0.24	161.28	7228.18	11416.42	9322.3	57.8	Si
SLV 13	-72352	0.24	161.28	7309.19	11615.63	9462.41	58.67	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.05 Ta = 0.0382

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-84141	-96332	102	0.318	9015.3	0.984	4.69739	3.32286	Si
SLV 16	-82790	-94806	101	0.322	8877.7	0.984	4.75944	3.32286	Si
SLV 11	-97927	-112215	66	0.283	10420.4	0.986	4.16705	2.7479	Si
SLV 12	-97018	-111188	65	0.285	10327.7	0.986	4.19791	2.7479	Si
SLV 7	-91216	-104984	22	0.299	9736.4	0.986	4.41522	2.7479	Si
SLV 8	-90306	-103957	21	0.302	9643.7	0.985	4.45079	2.7479	Si
SLV 13	-65422	-75273	89	0.39	7108	0.98	5.77991	3.32286	Si
SLV 14	-64072	-73747	88	0.397	6970.4	0.98	5.88187	3.32286	Si
SLV 3	-61768	-72230	-45	0.409	6735.6	0.979	6.07529	3.32286	Si
SLV 4	-60418	-70703	-46	0.417	6598	0.979	6.18917	3.32286	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.96	SLU 84	Si
V_SLU	3.626	SLU 84	Si
PF_SLV	1.289	SLV 6	Si
V_SLV	2.272	SLV 10	Si
PFFP_SLV	29.113	SLV 6	Si
R_SLV	1.414	SLV 15	Si

Maschio 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.503	-3.284	-3.403	-3.284	L2	L4	3.1	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	0.05	-15690.44	-26172	-0.0000659	0.0003743	0.0035	3.1	33090.92	37654.1	37654.1	2.4	No	Si
SLU 50	0.45	-10640.95	-25052	-0.0000522	0.0003743	0.0035	3.1	31981.75	36375.63	36375.63	3.42	No	Si
SLU 71	0.05	-17709.11	-30527	-0.0000763	0.0003743	0.0035	3.1	37146.5	42408.12	42408.12	2.39	No	Si
SLU 71	0.45	-11965.78	-29391	-0.0000607	0.0003743	0.0035	3.1	36128.63	41181.31	41181.31	3.44	No	Si
SLU 77	0.05	-19491.97	-34776	-0.0000862	0.0003743	0.0035	3.1	40704.42	46753.16	46753.16	2.4	No	Si
SLU 77	0.45	-13159.01	-33640	-0.000069	0.0003743	0.0035	3.1	39791.9	45601.87	45601.87	3.47	No	Si
SLU 66	0.05	-17734.27	-30526	-0.0000764	0.0003743	0.0035	3.1	37145.93	42407.43	42407.43	2.39	No	Si
SLU 66	0.45	-11962.14	-29390	-0.0000607	0.0003743	0.0035	3.1	36128.05	41180.62	41180.62	3.44	No	Si
SLU 45	0.05	-15715.6	-26171	-0.000066	0.0003743	0.0035	3.1	33090.3	37653.36	37653.36	2.4	No	Si
SLU 45	0.45	-10637.3	-25052	-0.0000521	0.0003743	0.0035	3.1	31981.11	36374.9	36374.9	3.42	No	Si
SLU 48	0.05	-15824.73	-26357	-0.0000665	0.0003743	0.0035	3.1	33271.52	37866.9	37866.9	2.39	No	Si
SLU 48	0.45	-10739.95	-25237	-0.0000526	0.0003743	0.0035	3.1	32166.87	36585.82	36585.82	3.41	No	Si
SLU 69	0.05	-17843.4	-30712	-0.0000769	0.0003743	0.0035	3.1	37309.52	42606.78	42606.78	2.39	No	Si
SLU 69	0.45	-12064.79	-29576	-0.0000612	0.0003743	0.0035	3.1	36296.24	41380.1	41380.1	3.43	No	Si
SLU 79	0.05	-19357.68	-34591	-0.0000856	0.0003743	0.0035	3.1	40557.8	46565.34	46565.34	2.41	No	Si
SLU 79	0.45	-13060	-33455	-0.0000686	0.0003743	0.0035	3.1	39640.69	45415.48	45415.48	3.48	No	Si
SLU 74	0.05	-19382.84	-34590	-0.0000857	0.0003743	0.0035	3.1	40557.29	46564.68	46564.68	2.4	No	Si
SLU 74	0.45	-13056.35	-33455	-0.0000686	0.0003743	0.0035	3.1	39640.17	45414.83	45414.83	3.48	No	Si
SLU 64	0.05	-17490.85	-30156	-0.0000753	0.0003743	0.0035	3.1	36817.07	42006	42006	2.4	No	Si
SLU 64	0.45	-11760.48	-29020	-0.0000598	0.0003743	0.0035	3.1	35790	40783.31	40783.31	3.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.05	-26837.54	-39203	-0.0001093	0.0005615	0.0035	3.1		54757.56	54757.56	2.04		Si
SLV 5	0.45	-18048.64	-38422	-0.0000841	0.0005615	0.0035	3.1		53893.32	53893.32	2.99		Si
SLD 2	0.05	-19801.4	-25280	-0.0000776	0.0005615	0.0035	3.1		38233.61	38233.61	1.93		Si
SLD 2	0.45	-11137.18	-24233	-0.0000512	0.0005615	0.0035	3.1		36885.21	36885.21	3.31		Si
SLV 6	0.05	-28067.8	-39713	-0.0001141	0.0005615	0.0035	3.1		55323.42	55323.42	1.97		Si
SLV 6	0.45	-18470.6	-38932	-0.0000857	0.0005615	0.0035	3.1		54457.41	54457.41	2.95		Si
SLV 4	0.05	-16049.43	-16448	-0.0000668	0.0005615	0.0035	2.48		26621.52	26621.52	1.66		Si
SLV 4	0.45	-6929.94	-15151	-0.0000314	0.0005615	0.0035	3.1		24881.44	24881.44	3.59		Si
SLV 3	0.05	-14222.12	-15690	-0.0000564	0.0005615	0.0035	2.48		25606.85	25606.85	1.8		Si
SLV 3	0.45	-6303.2	-14393	-0.0000292	0.0005615	0.0035	3.1		23821.11	23821.11	3.78		Si
SLV 2	0.05	-23466.66	-26497	-0.0000951	0.0005615	0.0035	2.48		39763.39	39763.39	1.69		Si
SLV 2	0.45	-12394.38	-25320	-0.0000552	0.0005615	0.0035	3.1		38283.58	38283.58	3.09		Si
SLV 1	0.05	-21639.35	-25739	-0.000086	0.0005615	0.0035	3.1		38813.35	38813.35	1.79		Si
SLV 1	0.45	-11767.64	-24562	-0.0000529	0.0005615	0.0035	3.1		37311.29	37311.29	3.17		Si
SLD 4	0.05	-15180.76	-19018	-0.0000587	0.0005615	0.0035	3.1		30084.89	30084.89	1.98		Si
SLD 4	0.45	-7740.85	-17891	-0.0000363	0.0005615	0.0035	3.1		28561.97	28561.97	3.69		Si
SLD 3	0.05	-14013.3	-18533	-0.0000539	0.0005615	0.0035	3.1		29429.53	29429.53	2.1		Si
SLD 3	0.45	-7340.43	-17406	-0.0000349	0.0005615	0.0035	3.1		27909.56	27909.56	3.8		Si
SLD 1	0.05	-18633.94	-24796	-0.0000728	0.0005615	0.0035	3.1		37615.51	37615.51	2.02		Si
SLD 1	0.45	-10736.75	-23749	-0.0000497	0.0005615	0.0035	3.1		36258.01	36258.01	3.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.05	-19845.95	-35962	-31966	-16334	3.1	2.9944	-24198	10171	19501	28547	41773	7905	48048	No	2.94	Si
SLU 81	0.45	-13323.65	-34826	-30956	-16334	3.1	3.1	-22191	9903	19098	28547	41773	7905	47644	No	2.92	Si
SLU 78	0.05	-19392.38	-35319	-31394	-16253	3.1	3.0028	-23688	10103	19273	28547	41773	7905	47819	No	2.94	Si
SLU 78	0.45	-12902.41	-34183	-30385	-16253	3.1	3.1	-21781	9849	18869	28547	41773	7905	47415	No	2.92	Si
SLU 82	0.05	-19746.36	-36504	-32448	-16727	3.1	3.0272	-24300	10184	19694	28547	41773	7905	48241	No	2.88	Si
SLU 82	0.45	-13067.05	-35369	-31439	-16727	3.1	3.1	-22537	9949	19290	28547	41773	7905	47837	No	2.86	Si
SLU 76	0.05	-19082.57	-35310	-31387	-16411	3.1	3.0287	-23474	10074	19270	28547	41773	7905	47816	No	2.91	Si
SLU 76	0.45	-12529.69	-34174	-30377	-16411	3.1	3.1	-21776	9848	18866	28547	41773	7905	47412	No	2.89	Si
SLU 84	0.05	-19855.49	-36690	-32613	-16743	3.1	3.0265	-24432	10202	19760	28547	41773	7905	48307	No	2.89	Si
SLU 84	0.45	-13169.7	-35554	-31604	-16743	3.1	3.1	-22655	9965	19356	28547	41773	7905	47903	No	2.86	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.05	-19258.09	-35134	-31230	-16165	3.1	3.0056	-23538	10083	19207	28547	41773	7905	47754	No	2.95	Si
SLU 80	0.45	-12803.41	-33998	-30220	-16165	3.1	3.1	-21663	9833	18803	28547	41773	7905	47350	No	2.93	Si
SLU 73	0.05	-18973.44	-35124	-31222	-16395	3.1	3.0295	-23342	10057	19204	28547	41773	7905	47750	No	2.91	Si
SLU 73	0.45	-12427.04	-33988	-30212	-16395	3.1	3.1	-21657	9832	18800	28547	41773	7905	47346	No	2.89	Si
SLU 75	0.05	-19283.25	-35133	-31229	-16237	3.1	3.0034	-23555	10085	19207	28547	41773	7905	47753	No	2.94	Si
SLU 75	0.45	-12799.76	-33997	-30220	-16237	3.1	3.1	-21663	9833	18803	28547	41773	7905	47349	No	2.92	Si
SLU 83	0.05	-19955.08	-36147	-32131	-16350	3.1	2.9939	-24331	10189	19567	28547	41773	7905	48114	No	2.94	Si
SLU 83	0.45	-13426.3	-35012	-31121	-16350	3.1	3.1	-22309	9919	19164	28547	41773	7905	47710	No	2.92	Si
SLU 74	0.05	-19382.84	-34590	-30747	-15845	3.1	2.9689	-23458	10072	19014	28547	41773	7905	47560	No	3	Si
SLU 74	0.45	-13056.35	-33455	-29737	-15845	3.1	3.1	-21317	9787	18610	28547	41773	7905	47157	No	2.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	0.05	-18633.94	-24796	-22041	-20262	3.1	2.3955	-20650	14547	18889	28547	62659	7905	47436		2.34	Si
SLD 1	0.45	-10736.75	-23749	-21110	-20192	3.1	3.1	-15133	13443	18753	28547	62659	7905	47300		2.34	Si
SLV 5	0.05	-26837.54	-39203	-34847	-21546	3.1	2.5963	-30309	16250	24012	28547	62659	7905	52558		2.44	Si
SLV 5	0.45	-18048.64	-38422	-34153	-21489	3.1	3.1	-24482	15313	23734	28547	62659	7905	52280		2.43	Si
SLV 3	0.05	-14222.12	-15690	-13946	-21140	2.48	1.9306	0	0	0	28547	50127	6324	28547		1.35	Si
SLV 3	0.45	-6303.2	-14393	-12793	-21030	3.1	3.1	-9171	12251	17090	28547	62659	7905	45637		2.17	Si
SLD 3	0.05	-14013.3	-18533	-16474	-17506	3.1	2.3816	-15480	13513	16663	28547	62659	7905	45209		2.58	Si
SLD 3	0.45	-7340.43	-17406	-15472	-17446	3.1	3.1	-11091	12635	17626	28547	62659	7905	46172		2.65	Si
SLD 2	0.05	-19801.4	-25280	-22471	-22180	3.1	2.3002	-21952	14807	19061	28547	62659	7905	47608		2.15	Si
SLD 2	0.45	-11137.18	-24233	-21541	-22109	3.1	3.1	-15441	13505	18839	28547	62659	7905	47386		2.14	Si
SLV 2	0.05	-23466.66	-26497	-23553	-28560	2.48	1.9931	0	0	0	28547	50127	6324	28547		1	No
SLV 2	0.45	-12394.38	-25320	-22506	-28436	3.1	3.1	-16134	13643	19075	28547	62659	7905	47622		1.67	Si
SLV 1	0.05	-21639.35	-25739	-22879	-25559	3.1	2.1279	-24188	15255	19225	28547	62659	7905	47771		1.87	Si
SLV 1	0.45	-11767.64	-24562	-21833	-25435	3.1	3.1	-15651	13547	18898	28547	62659	7905	47444		1.87	Si
SLV 6	0.05	-28067.8	-39713	-35301	-23567	3.1	2.5297	-31531	16250	24193	28547	62659	7905	52740		2.24	Si
SLV 6	0.45	-18470.6	-38932	-34606	-23510	3.1	3.1	-24807	15378	23915	28547	62659	7905	52462		2.23	Si
SLV 4	0.05	-16049.43	-16448	-14620	-24142	2.48	1.7226	0	0	0	28547	50127	6324	28547		1.18	Si
SLV 4	0.45	-6929.94	-15151	-13467	-24031	3.1	3.1	-9654	12347	17225	28547	62659	7905	45771		1.9	Si
SLD 4	0.05	-15180.76	-19018	-16904	-19424	3.1	2.2552	-16794	13776	16835	28547	62659	7905	45381		2.34	Si
SLD 4	0.45	-7740.85	-17891	-15903	-19364	3.1	3.1	-11400	12697	17712	28547	62659	7905	46258		2.39	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	0	-650	179.62	0	0	No, e>t/2
SLV 8	179667	0.24	719	-1003	179.62	224.67	1.25	Si
SLV 11	179667	0.24	2213	-3088	179.62	684.69	3.81	Si
SLV 12	179667	0.24	2466	-3441	179.62	761.65	4.24	Si
SLV 3	179667	0.24	6650	-9277	179.62	1996.43	11.11	Si
SLV 4	179667	0.24	7026	-9801	179.62	2103.79	11.71	Si
SLV 15	179667	0.24	12474	-17402	179.62	3595.56	20.02	Si
SLV 16	179667	0.24	12850	-17926	179.62	3693.92	20.56	Si
SLV 1	179667	0.24	13751	-19182	179.62	3927.34	21.86	Si
SLV 2	179667	0.24	14126	-19706	179.62	4023.74	22.4	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-31051	-41093	-4418	0.473	3676.7	0.958	7.16448	2.58905	Si
SLV 9	-30672	-40695	-4349	0.479	3638.1	0.958	7.26371	2.58905	Si
SLV 6	-29924	-37689	-4262	0.49	3562	0.957	7.44432	2.58905	Si
SLV 5	-29545	-37290	-4192	0.497	3523.5	0.957	7.5504	2.58905	Si
SLV 14	-23699	-32381	-3269	0.62	2929.7	0.949	9.49899	2.92742	Si
SLV 13	-23137	-31789	-3166	0.636	2872.6	0.948	9.74171	2.92742	Si
SLV 2	-19941	-21032	-2747	0.729	2548.5	0.943	11.24401	2.92742	Si
SLV 1	-19379	-20440	-2644	0.75	2491.5	0.942	11.57366	2.92742	Si
SLV 16	-16192	-21426	-2113	0.886	2168.9	0.934	13.77596	2.92742	Si
SLV 15	-15629	-20834	-2011	0.915	2112.1	0.933	14.2522	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.388	SLU 69	Si
V_SLU	2.86	SLU 82	Si
PF_SLV	1.659	SLV 4	Si
V_SLV	1	SLV 2	No
PFFP_SLV	0	SLV 7	No
R_SLV	2.767	SLV 10	Si

Maschio 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.403	-3.284	0.102	-3.284	L2	L4	2.505	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.05	-5754.5	-22895	-0.0000521	0.0003743	0.0035	2.505	22955.08	26128.13	26128.13	4.54	No	Si
SLU 83	0.45	-3871.7	-16194	-0.0000354	0.0003743	0.0035	2.505	17421.34	19876	19876	5.13	No	Si
SLU 34	0.05	-5055.49	-19339	-0.0000442	0.0003743	0.0035	2.505	20140.19	22901.36	22901.36	4.53	No	Si
SLU 34	0.45	-3532.54	-13939	-0.000031	0.0003743	0.0035	2.505	15338.5	17598.53	17598.53	4.98	No	Si
SLU 31	0.05	-5033.47	-19236	-0.0000439	0.0003743	0.0035	2.505	20054.62	22807.63	22807.63	4.53	No	Si
SLU 31	0.45	-3521.78	-13878	-0.0000308	0.0003743	0.0035	2.505	15280.26	17536.03	17536.03	4.98	No	Si
SLU 76	0.05	-5808.78	-22432	-0.0000515	0.0003743	0.0035	2.505	22604.86	25730.18	25730.18	4.43	No	Si
SLU 76	0.45	-3948.95	-15932	-0.0000353	0.0003743	0.0035	2.505	17184.81	19619.23	19619.23	4.97	No	Si
SLU 82	0.05	-5935.06	-23166	-0.0000531	0.0003743	0.0035	2.505	23158.78	26363.01	26363.01	4.44	No	Si
SLU 82	0.45	-4055.06	-16508	-0.0000365	0.0003743	0.0035	2.505	17702.04	20177.8	20177.8	4.98	No	Si
SLU 78	0.05	-5721.49	-22399	-0.0000512	0.0003743	0.0035	2.505	22579.17	25701.27	25701.27	4.49	No	Si
SLU 78	0.45	-3843.85	-15812	-0.0000347	0.0003743	0.0035	2.505	17076.16	19500.54	19500.54	5.07	No	Si
SLU 75	0.05	-5699.47	-22296	-0.0000509	0.0003743	0.0035	2.505	22500.48	25612.97	25612.97	4.49	No	Si
SLU 75	0.45	-3833.08	-15751	-0.0000346	0.0003743	0.0035	2.505	17020.43	19439.64	19439.64	5.07	No	Si
SLU 73	0.05	-5786.76	-22330	-0.0000513	0.0003743	0.0035	2.505	22526.25	25641.84	25641.84	4.43	No	Si
SLU 73	0.45	-3938.19	-15871	-0.0000352	0.0003743	0.0035	2.505	17129.24	19558.53	19558.53	4.97	No	Si
SLU 80	0.05	-5695.74	-22286	-0.0000509	0.0003743	0.0035	2.505	22492.63	25604.18	25604.18	4.5	No	Si
SLU 80	0.45	-3830.3	-15744	-0.0000346	0.0003743	0.0035	2.505	17013.89	19432.5	19432.5	5.07	No	Si
SLU 84	0.05	-5957.08	-23269	-0.0000534	0.0003743	0.0035	2.505	23235.51	26452.16	26452.16	4.44	No	Si
SLU 84	0.45	-4065.82	-16569	-0.0000366	0.0003743	0.0035	2.505	17756.76	20237.02	20237.02	4.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	0.05	-4505.05	-8008	-0.0000263	0.0005615	0.0035	2.505		11423.18	11423.18	2.54		Si
SLV 3	0.45	-1754.42	-5623	-0.0000132	0.0005615	0.0035	2.505		8638.02	8638.02	4.92		Si
SLV 8	0.05	-1523.33	-2824	-0.0000088	0.0005615	0.0035	2.505		5302.45	5302.45	3.48		Si
SLV 8	0.45	-1026.95	-2573	-0.0000067	0.0005615	0.0035	2.505		4998.22	4998.22	4.87		Si
SLD 2	0.05	-5701.42	-15388	-0.0000398	0.0005615	0.0035	2.505		19646.26	19646.26	3.45		Si
SLD 2	0.45	-2482.54	-10356	-0.0000221	0.0005615	0.0035	2.505		14081.4	14081.4	5.67		Si
SLV 1	0.05	-6299.32	-14877	-0.0000411	0.0005615	0.0035	2.505		19087.06	19087.06	3.03		Si
SLV 1	0.45	-2529.67	-9929	-0.0000216	0.0005615	0.0035	2.505		13597.15	13597.15	5.38		Si
SLV 6	0.05	-7504.25	-25720	-0.000061	0.0005615	0.0035	2.505		30194.22	30194.22	4.02		Si
SLV 6	0.45	-3611.11	-16926	-0.000035	0.0005615	0.0035	2.505		21297.46	21297.46	5.9		Si
SLD 3	0.05	-4197.22	-10547	-0.000028	0.0005615	0.0035	2.505		14299.28	14299.28	3.41		Si
SLD 3	0.45	-1977.49	-7359	-0.0000163	0.0005615	0.0035	2.505		10671.51	10671.51	5.4		Si
SLD 1	0.05	-5317.85	-14832	-0.0000377	0.0005615	0.0035	2.505		19037.98	19037.98	3.58		Si
SLD 1	0.45	-2465.13	-10049	-0.0000216	0.0005615	0.0035	2.505		13733.24	13733.24	5.57		Si
SLV 2	0.05	-6899.68	-15747	-0.0000444	0.0005615	0.0035	2.505		20034.38	20034.38	2.9		Si
SLV 2	0.45	-2556.93	-10409	-0.0000224	0.0005615	0.0035	2.505		14141.99	14141.99	5.53		Si
SLV 4	0.05	-5105.4	-8879	-0.0000297	0.0005615	0.0035	2.505		12408.39	12408.39	2.43		Si
SLV 4	0.45	-1781.68	-6103	-0.0000139	0.0005615	0.0035	2.505		9202.36	9202.36	5.16		Si
SLD 4	0.05	-4580.79	-11103	-0.00003	0.0005615	0.0035	2.505		14932.88	14932.88	3.26		Si
SLD 4	0.45	-1994.91	-7665	-0.0000168	0.0005615	0.0035	2.505		11026.32	11026.32	5.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.05	-5699.47	-22296	-19819	-18979	2.505	2.505	-17581	9289	12768	28547	33755	6388	40143	No	2.12	Si
SLU 75	0.45	-3833.08	-15751	-14001	-19026	2.505	2.505	-12420	8600	10543	28547	33755	6388	39089	No	2.05	Si
SLU 79	0.05	-5493.16	-21911	-19477	-18948	2.505	2.505	-17278	9248	12637	28547	33755	6388	40143	No	2.12	Si
SLU 79	0.45	-3636.18	-15369	-13661	-18995	2.505	2.505	-12119	8560	10413	28547	33755	6388	38959	No	2.05	Si
SLU 82	0.05	-5935.06	-23166	-20592	-19306	2.505	2.505	-18268	9380	13063	28547	33755	6388	40143	No	2.08	Si
SLU 82	0.45	-4055.06	-16508	-14674	-19354	2.505	2.505	-13017	8680	10800	28547	33755	6388	39347	No	2.03	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.05	-5695.74	-22286	-19809	-18969	2.505	2.505	-17573	9288	12764	28547	33755	6388	40143	No	2.12	Si
SLU 80	0.45	-3830.3	-15744	-13994	-19015	2.505	2.505	-12415	8600	10540	28547	33755	6388	39087	No	2.06	Si
SLU 74	0.05	-5496.9	-21921	-19486	-18958	2.505	2.505	-17286	9249	12640	28547	33755	6388	40143	No	2.12	Si
SLU 74	0.45	-3638.96	-15376	-13668	-19006	2.505	2.505	-12125	8561	10415	28547	33755	6388	38962	No	2.05	Si
SLU 77	0.05	-5518.91	-22024	-19577	-19093	2.505	2.505	-17367	9260	12675	28547	33755	6388	40143	No	2.1	Si
SLU 77	0.45	-3649.73	-15437	-13722	-19141	2.505	2.505	-12173	8568	10436	28547	33755	6388	38983	No	2.04	Si
SLU 84	0.05	-5957.08	-23269	-20684	-19441	2.505	2.505	-18349	9391	13098	28547	33755	6388	40143	No	2.06	Si
SLU 84	0.45	-4065.82	-16569	-14728	-19489	2.505	2.505	-13066	8687	10821	28547	33755	6388	39367	No	2.02	Si
SLU 78	0.05	-5721.49	-22399	-19910	-19114	2.505	2.505	-17663	9299	12803	28547	33755	6388	40143	No	2.1	Si
SLU 78	0.45	-3843.85	-15812	-14055	-19161	2.505	2.505	-12469	8607	10563	28547	33755	6388	39110	No	2.04	Si
SLU 83	0.05	-5754.5	-22895	-20351	-19420	2.505	2.505	-18053	9352	12971	28547	33755	6388	40143	No	2.07	Si
SLU 83	0.45	-3871.7	-16194	-14395	-19469	2.505	2.505	-12770	8647	10693	28547	33755	6388	39240	No	2.02	Si
SLU 81	0.05	-5732.48	-22792	-20259	-19285	2.505	2.505	-17972	9341	12936	28547	33755	6388	40143	No	2.08	Si
SLU 81	0.45	-3860.94	-16133	-14340	-19334	2.505	2.505	-12722	8641	10673	28547	33755	6388	39219	No	2.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	0.05	-5340.44	-22779	-20248	-23340	2.505	2.505	-17962	14009	15792	28547	50632	6388	44338		1.9	Si
SLD 10	0.45	-3238.2	-15268	-13572	-23350	2.505	2.505	-12040	12825	14457	28547	50632	6388	43003		1.84	Si
SLD 9	0.05	-5086.17	-22410	-19920	-22306	2.505	2.505	-17672	13951	15726	28547	50632	6388	44273		1.98	Si
SLD 9	0.45	-3226.65	-15065	-13391	-22315	2.505	2.505	-11880	12793	14420	28547	50632	6388	42967		1.93	Si
SLV 2	0.05	-6899.68	-15747	-13998	-21320	2.505	2.4431	-12811	12979	14269	28547	50632	6388	42815		2.01	Si
SLV 2	0.45	-2556.93	-10409	-9252	-21581	2.505	2.505	-8208	12058	13593	28547	50632	6388	42139		1.95	Si
SLD 5	0.05	-5826.35	-21263	-18901	-23065	2.505	2.505	-16767	13770	15522	28547	50632	6388	44069		1.91	Si
SLD 5	0.45	-3139.1	-14223	-12642	-23152	2.505	2.505	-11215	12660	14271	28547	50632	6388	42817		1.85	Si
SLV 9	0.05	-5908.05	-26935	-23942	-27767	2.505	2.505	-21239	14665	16939	28547	50632	6388	45485		1.64	Si
SLV 9	0.45	-3724.91	-17950	-15956	-27757	2.505	2.505	-14155	13248	14933	28547	50632	6388	43480		1.57	Si
SLV 1	0.05	-6299.32	-14877	-13224	-18877	2.505	2.4872	-11731	12763	14285	28547	50632	6388	42831		2.27	Si
SLV 1	0.45	-2529.67	-9929	-8826	-19137	2.505	2.505	-7830	11983	13507	28547	50632	6388	42054		2.2	Si
SLV 5	0.05	-7100.05	-25134	-22341	-28988	2.505	2.505	-19819	14380	16326	28547	50632	6388	44873		1.55	Si
SLV 5	0.45	-3592.75	-16603	-14758	-29111	2.505	2.505	-13092	13035	14694	28547	50632	6388	43240		1.49	Si
SLD 6	0.05	-6080.62	-21632	-19228	-24100	2.505	2.505	-17058	13828	15588	28547	50632	6388	44134		1.83	Si
SLD 6	0.45	-3150.65	-14426	-12823	-24187	2.505	2.505	-11375	12692	14307	28547	50632	6388	42853		1.77	Si
SLV 10	0.05	-6312.25	-27521	-24463	-29411	2.505	2.505	-21701	14757	17138	28547	50632	6388	45684		1.55	Si
SLV 10	0.45	-3743.26	-18273	-16243	-29403	2.505	2.505	-14409	13299	14991	28547	50632	6388	43537		1.48	Si
SLV 6	0.05	-7504.25	-25720	-22862	-30633	2.505	2.505	-20281	14473	16526	28547	50632	6388	45072		1.47	Si
SLV 6	0.45	-3611.11	-16926	-15045	-30757	2.505	2.505	-13347	13086	14751	28547	50632	6388	43298		1.41	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.24	1294	-1459	145.15	325.43	2.24	Si
SLV 8	179667	0.24	1778	-2004	145.15	445.75	3.07	Si
SLV 11	179667	0.24	3848	-4338	145.15	951.44	6.55	Si
SLV 12	179667	0.24	4332	-4884	145.15	1067.65	7.36	Si
SLV 3	179667	0.24	6271	-7069	145.15	1525.25	10.51	Si
SLV 4	179667	0.24	6990	-7880	145.15	1691.79	11.66	Si
SLV 1	179667	0.24	13192	-14871	145.15	3056.91	21.06	Si
SLV 2	179667	0.24	13911	-15681	145.15	3206.92	22.09	Si
SLV 15	179667	0.24	14785	-16667	145.15	3386.92	23.33	Si
SLV 16	179667	0.24	15504	-17477	145.15	3533.13	24.34	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-17304	-28267	-892	0.757	2180	0.945	11.64433	2.58905	Si
SLV 9	-16905	-27999	-866	0.773	2139.5	0.945	11.88634	2.58905	Si
SLV 6	-16247	-24451	-1003	0.789	2072.9	0.943	12.16174	2.58905	Si
SLV 5	-15848	-24183	-978	0.806	2032.4	0.942	12.42962	2.58905	Si
SLV 14	-13567	-24485	-449	0.94	1801.5	0.936	14.5894	2.92742	Si
SLV 13	-12974	-24087	-410	0.974	1741.6	0.934	15.1593	2.92742	Si
SLV 2	-10045	-11765	-820	1.147	1446.2	0.924	18.04781	2.92742	Si
SLV 1	-9453	-11367	-781	1.202	1386.7	0.921	18.96567	2.92742	Si
SLV 16	-9224	-17372	-175	1.275	1363.8	0.92	20.13166	2.92742	Si
SLV 15	-8632	-16974	-136	1.34	1304.4	0.917	21.23261	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.43	SLU 76	Si
V_SLU	2.015	SLU 83	Si
PF_SLV	2.43	SLV 4	Si
V_SLV	1.408	SLV 6	Si
PFFP_SLV	2.242	SLV 7	Si
R_SLV	4.498	SLV 10	Si

Maschio 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.008	5.876	-2.914	5.876	L2	L4	2.094	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	0.05	-3677.87	-19380	-0.0000508	0.0003743	0.0035	2.0941	16192.44	18288.15	18288.15	4.97	No	Si
SLU 48	0.45	-1642.57	-18550	-0.0000391	0.0003743	0.0035	2.0941	15666.94	17668.76	17668.76	10.76	No	Si
SLU 51	0.05	-3549.89	-18999	-0.0000494	0.0003743	0.0035	2.0941	15953.22	18003.19	18003.19	5.07	No	Si
SLU 51	0.45	-1533.44	-18169	-0.0000379	0.0003743	0.0035	2.0941	15420.82	17386.77	17386.77	11.34	No	Si
SLU 69	0.05	-4108.52	-22986	-0.0000597	0.0003743	0.0035	2.0941	18301.17	20836.67	20836.67	5.07	No	Si
SLU 69	0.45	-1888.47	-22147	-0.0000468	0.0003743	0.0035	2.0941	17835.81	20260.06	20260.06	10.73	No	Si
SLU 66	0.05	-4007.15	-22610	-0.0000585	0.0003743	0.0035	2.0941	18094.13	20583.97	20583.97	5.14	No	Si
SLU 66	0.45	-1804.3	-21770	-0.0000457	0.0003743	0.0035	2.0941	17621.87	19993.6	19993.6	11.08	No	Si
SLU 46	0.05	-3502.08	-18799	-0.0000488	0.0003743	0.0035	2.0941	15826.51	17854.29	17854.29	5.1	No	Si
SLU 46	0.45	-1497.71	-17969	-0.0000373	0.0003743	0.0035	2.0941	15290.49	17239.44	17239.44	11.51	No	Si
SLU 49	0.05	-3603.45	-19176	-0.00005	0.0003743	0.0035	2.0941	16064.88	18135.56	18135.56	5.03	No	Si
SLU 49	0.45	-1581.88	-18346	-0.0000384	0.0003743	0.0035	2.0941	15535.69	17517.76	17517.76	11.07	No	Si
SLU 50	0.05	-3624.31	-19203	-0.0000502	0.0003743	0.0035	2.0941	16081.56	18155.43	18155.43	5.01	No	Si
SLU 50	0.45	-1594.13	-18373	-0.0000385	0.0003743	0.0035	2.0941	15552.85	17537.42	17537.42	11	No	Si
SLU 70	0.05	-4034.09	-22783	-0.000059	0.0003743	0.0035	2.0941	18189.65	20700.41	20700.41	5.13	No	Si
SLU 70	0.45	-1827.78	-21943	-0.0000461	0.0003743	0.0035	2.0941	17720.56	20115.88	20115.88	11.01	No	Si
SLU 71	0.05	-4054.95	-22809	-0.0000591	0.0003743	0.0035	2.0941	18204.24	20718.22	20718.22	5.11	No	Si
SLU 71	0.45	-1840.03	-21970	-0.0000462	0.0003743	0.0035	2.0941	17735.64	20134.66	20134.66	10.94	No	Si
SLU 45	0.05	-3576.51	-19003	-0.0000496	0.0003743	0.0035	2.0941	15955.74	18006.16	18006.16	5.03	No	Si
SLU 45	0.45	-1558.4	-18173	-0.000038	0.0003743	0.0035	2.0941	15423.41	17389.71	17389.71	11.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	0.05	41.21	-5609	-0.0000092	0.0005615	0.0035	2.0941		5913.42	5913.42	143.5		Si
SLV 2	0.45	2741.65	-4792	-0.0000228	0.0005615	0.0035	2.0941		5105.89	5105.89	1.86		Si
SLD 6	0.05	1058.81	-7215	-0.0000165	0.0005615	0.0035	2.0941		7475.18	7475.18	7.06		Si
SLD 6	0.45	2186.1	-6186	-0.0000201	0.0005615	0.0035	2.0941		6474.77	6474.77	2.96		Si
SLV 9	0.05	2741.05	-5605	-0.0000227	0.0005615	0.0035	2.0941		5909.92	5909.92	2.16		Si
SLV 9	0.45	2938.04	-4366	-0.0000264	0.0005615	0.0035	2.0941		4684.4	4684.4	1.59		Si
SLD 5	0.05	1012.26	-7039	-0.000016	0.0005615	0.0035	2.0941		7305.16	7305.16	7.22		Si
SLD 5	0.45	2371.33	-6010	-0.0000208	0.0005615	0.0035	2.0941		6303.7	6303.7	2.66		Si
SLV 10	0.05	2815.05	-5885	-0.0000234	0.0005615	0.0035	2.0941		6181.88	6181.88	2.2		Si
SLV 10	0.45	2643.59	-4646	-0.0000219	0.0005615	0.0035	2.0941		4961.12	4961.12	1.88		Si
SLV 7	0.05	-8646.56	-28093	-0.0000902	0.0005615	0.0035	2.0941		26030.71	26030.71	3.01		Si
SLV 7	0.45	-5114.73	-28045	-0.0000722	0.0005615	0.0035	2.0941		25995.99	25995.99	5.08		Si
SLV 8	0.05	-8572.56	-28372	-0.0000903	0.0005615	0.0035	2.0941		26232.91	26232.91	3.06		Si
SLV 8	0.45	-5409.18	-28324	-0.0000742	0.0005615	0.0035	2.0941		26198.13	26198.13	4.84		Si
SLV 6	0.05	3472.22	-1363	-0.0110035	0.0005615	0.0035	1.6753		1650.44	1650.44	0.48		No
SLV 6	0.45	4288.35	-127	-0.0251404	0.0005615	0.0035	1.6753		376.41	376.41	0.09		No
SLV 1	0.05	-68.71	-5194	-0.0000087	0.0005615	0.0035	2.0941		6359.55	6359.55	92.56		Si
SLV 1	0.45	3179	-4377	-0.000031	0.0005615	0.0035	2.0941		4694.88	4694.88	1.48		Si
SLV 5	0.05	3398.22	-1084	-0.0123398	0.0005615	0.0035	1.6753		1363.96	1363.96	0.4		No
SLV 5	0.45	4582.8	153	-0.0292391	0.0005615	0.0035	1.6753		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.05	-4145.57	-25460	-22631	-5884	2.0941	2.0941	-24016	10147	10861	28547	28218	5340	33557	No	5.7	Si
SLU 80	0.45	-1792.28	-24621	-21885	-5884	2.0941	2.0941	-23224	10041	10622	28547	28218	5340	33557	No	5.7	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.05	-4273.55	-25841	-22970	-5931	2.0941	2.0941	-24375	10194	10969	28547	28218	5340	33557	No	5.66	Si
SLU 77	0.45	-1901.42	-25002	-22224	-5931	2.0941	2.0941	-23584	10089	10730	28547	28218	5340	33557	No	5.66	Si
SLU 84	0.05	-4114.94	-26307	-23384	-6004	2.0941	2.0941	-24815	10253	11101	28547	28218	5340	33557	No	5.59	Si
SLU 84	0.45	-1713.66	-25467	-22638	-6004	2.0941	2.0941	-24023	10148	10863	28547	28218	5340	33557	No	5.59	Si
SLU 75	0.05	-4097.77	-25260	-22454	-5854	2.0941	2.0941	-23828	10121	10804	28547	28218	5340	33557	No	5.73	Si
SLU 75	0.45	-1756.55	-24421	-21708	-5854	2.0941	2.0941	-23036	10016	10566	28547	28218	5340	33557	No	5.73	Si
SLU 74	0.05	-4172.19	-25464	-22635	-5888	2.0941	2.0941	-24020	10147	10862	28547	28218	5340	33557	No	5.7	Si
SLU 74	0.45	-1817.25	-24625	-21889	-5888	2.0941	2.0941	-23228	10042	10623	28547	28218	5340	33557	No	5.7	Si
SLU 83	0.05	-4189.36	-26510	-23565	-6038	2.0941	2.0941	-25007	10279	11159	28547	28218	5340	33557	No	5.56	Si
SLU 83	0.45	-1774.35	-25671	-22819	-6038	2.0941	2.0941	-24215	10173	10921	28547	28218	5340	33557	No	5.56	Si
SLU 79	0.05	-4219.99	-25664	-22812	-5918	2.0941	2.0941	-24208	10172	10919	28547	28218	5340	33557	No	5.67	Si
SLU 79	0.45	-1852.98	-24824	-22066	-5918	2.0941	2.0941	-23417	10067	10680	28547	28218	5340	33557	No	5.67	Si
SLU 82	0.05	-4013.57	-25930	-23049	-5961	2.0941	2.0941	-24459	10206	10994	28547	28218	5340	33557	No	5.63	Si
SLU 82	0.45	-1629.49	-25090	-22303	-5961	2.0941	2.0941	-23667	10100	10756	28547	28218	5340	33557	No	5.63	Si
SLU 78	0.05	-4199.13	-25637	-22789	-5897	2.0941	2.0941	-24183	10169	10911	28547	28218	5340	33557	No	5.69	Si
SLU 78	0.45	-1840.73	-24798	-22043	-5897	2.0941	2.0941	-23392	10063	10673	28547	28218	5340	33557	No	5.69	Si
SLU 81	0.05	-4087.99	-26133	-23230	-5995	2.0941	2.0941	-24651	10231	11052	28547	28218	5340	33557	No	5.6	Si
SLU 81	0.45	-1690.18	-25294	-22484	-5995	2.0941	2.0941	-23860	10126	10814	28547	28218	5340	33557	No	5.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	0.05	-3298.28	-14845	-13196	-6591	2.0941	2.0941	-14003	13217	12455	28547	42326	5340	41002		6.22	Si
SLD 4	0.45	-526.48	-14311	-12721	-6663	2.0941	2.0941	-13500	13117	12360	28547	42326	5340	40907		6.14	Si
SLD 1	0.05	-1124.52	-9527	-8469	-6819	2.0941	2.0941	-8987	12214	11510	28547	42326	5340	40056		5.87	Si
SLD 1	0.45	1547.24	-8763	-7789	-6896	2.0941	2.0941	-8266	12070	11374	28547	42326	5340	39920		5.79	Si
SLV 3	0.05	-3682.14	-13297	-11819	-9336	2.0941	2.0941	-12543	12925	12180	28547	42326	5340	40726		4.36	Si
SLV 3	0.45	269.74	-12836	-11410	-9473	2.0941	2.0941	-12108	12838	12098	28547	42326	5340	40644		4.29	Si
SLV 2	0.05	41.21	-5609	-4986	-6942	2.0941	2.0941	-5291	11475	10813	28547	42326	5340	39360		5.67	Si
SLV 2	0.45	2741.65	-4792	-4259	-7088	2.0941	1.4246	-4520	11321	7257	28547	42326	5340	35804		5.05	Si
SLV 8	0.05	-8572.56	-28372	-25220	-6632	2.0941	2.0941	-26763	15769	14860	28547	42326	5340	43406		6.54	Si
SLV 8	0.45	-5409.18	-28324	-25177	-6658	2.0941	2.0941	-26718	15760	14851	28547	42326	5340	43398		6.52	Si
SLD 2	0.05	-1054.29	-9792	-8704	-5945	2.0941	2.0941	-9237	12264	11557	28547	42326	5340	40103		6.75	Si
SLD 2	0.45	1267.82	-9028	-8025	-6022	2.0941	2.0941	-8516	12120	11421	28547	42326	5340	39968		6.64	Si
SLV 4	0.05	-3572.23	-13712	-12188	-7968	2.0941	2.0941	-12934	13003	12254	28547	42326	5340	40800		5.12	Si
SLV 4	0.45	-167.6	-13251	-11779	-8105	2.0941	2.0941	-12499	12917	12172	28547	42326	5340	40718		5.02	Si
SLV 1	0.05	-68.71	-5194	-4617	-8310	2.0941	2.0941	-4899	11397	10739	28547	42326	5340	39286		4.73	Si
SLV 1	0.45	3179	-4377	-3890	-8456	2.0941	0.9621	-4129	11242	6682	28547	42326	5340	35229		4.17	Si
SLD 3	0.05	-3368.51	-14580	-12960	-7465	2.0941	2.0941	-13753	13167	12408	28547	42326	5340	40955		5.49	Si
SLD 3	0.45	-247.06	-14046	-12485	-7537	2.0941	2.0941	-13250	13067	12313	28547	42326	5340	40860		5.42	Si
SLV 7	0.05	-8646.56	-28093	-24971	-7554	2.0941	2.0941	-26500	15717	14810	28547	42326	5340	43357		5.74	Si
SLV 7	0.45	-5114.73	-28045	-24929	-7580	2.0941	2.0941	-26454	15708	14802	28547	42326	5340	43348		5.72	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	2108	-1987	121.34	440.8	3.63	Si
SLV 5	179667	0.24	2184	-2058	121.34	456.43	3.76	Si
SLV 10	179667	0.24	5983	-5638	121.34	1218.75	10.04	Si
SLV 9	179667	0.24	6058	-5709	121.34	1233.57	10.17	Si
SLV 2	179667	0.24	8841	-8331	121.34	1765.92	14.55	Si
SLV 1	179667	0.24	8953	-8437	121.34	1787.02	14.73	Si
SLV 4	179667	0.24	18501	-17435	121.34	3447.53	28.41	Si
SLV 3	179667	0.24	18614	-17541	121.34	3465.61	28.56	Si
SLV 14	179667	0.24	21755	-20501	121.34	3955.56	32.6	Si
SLV 13	179667	0.24	21868	-20607	121.34	3972.62	32.74	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-25763	-32691	-447	0.497	2970.7	0.965	7.48775	2.92742	Si
SLV 12	-29532	-42526	-486	0.447	3354.2	0.968	6.70803	2.58905	Si
SLV 15	-25225	-33707	-437	0.505	2915.9	0.964	7.61938	2.92742	Si
SLV 11	-29169	-43210	-479	0.451	3317.3	0.968	6.77601	2.58905	Si
SLV 8	-25042	-39969	-405	0.509	2897.3	0.964	7.68077	2.58905	Si
SLV 7	-24680	-40653	-399	0.515	2860.4	0.963	7.77392	2.58905	Si
SLV 14	-17969	-21845	-331	0.661	2178	0.953	10.08441	2.92742	Si
SLV 13	-17430	-22862	-322	0.678	2123.3	0.952	10.34392	2.92742	Si
SLV 4	-10799	-24167	-179	0.99	1451.2	0.934	15.40816	2.92742	Si
SLV 3	-10261	-25183	-169	1.03	1396.8	0.932	16.06321	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.972	SLU 48	Si
V_SLU	5.558	SLU 83	Si
PF_SLV	0	SLV 5	No
V_SLV	4.166	SLV 1	Si

Stato limite	Coeff.s.	Comb.	Verifica
PFFP_SLV	3.633	SLV 6	Si
R_SLV	2.558	SLV 16	Si

Maschio 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1.914	5.876	-0.123	5.876	L2	L4	1.791	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	0.05	-2561.25	-23423	-0.000065	0.0003743	0.0035	1.7909	14986.89	17340.17	17340.17	6.77	No	Si
SLU 79	0.45	1629.02	-20896	-0.0000528	0.0003743	0.0035	1.7909	13946.19	15080.68	15080.68	9.26	No	Si
SLU 77	0.05	-2569.87	-23569	-0.0000654	0.0003743	0.0035	1.7909	15042.76	17415.82	17415.82	6.78	No	Si
SLU 77	0.45	1654.11	-21024	-0.0000532	0.0003743	0.0035	1.7909	14002.35	15147.72	15147.72	9.16	No	Si
SLU 81	0.05	-2665.26	-23796	-0.0000666	0.0003743	0.0035	1.7909	15128.63	17533.67	17533.67	6.58	No	Si
SLU 81	0.45	1500.47	-21294	-0.0000527	0.0003743	0.0035	1.7909	14119.56	15288.79	15288.79	10.19	No	Si
SLU 74	0.05	-2555.4	-23240	-0.0000646	0.0003743	0.0035	1.7909	14916.3	17245.75	17245.75	6.75	No	Si
SLU 74	0.45	1595.36	-20729	-0.0000522	0.0003743	0.0035	1.7909	13872.47	14993.46	14993.46	9.4	No	Si
SLU 82	0.05	-2639.7	-23600	-0.000066	0.0003743	0.0035	1.7909	15054.47	17431.77	17431.77	6.6	No	Si
SLU 82	0.45	1470.68	-21133	-0.0000522	0.0003743	0.0035	1.7909	14049.7	15204.48	15204.48	10.34	No	Si
SLU 73	0.05	-2489.7	-22438	-0.0000623	0.0003743	0.0035	1.7909	14598.08	16828.29	16828.29	6.76	No	Si
SLU 73	0.45	1461.87	-20036	-0.0000497	0.0003743	0.0035	1.7909	13560.31	14633.35	14633.35	10.01	No	Si
SLU 84	0.05	-2654.17	-23928	-0.0000668	0.0003743	0.0035	1.7909	15178.35	17602.81	17602.81	6.63	No	Si
SLU 84	0.45	1529.43	-21428	-0.0000532	0.0003743	0.0035	1.7909	14176.98	15358.71	15358.71	10.04	No	Si
SLU 75	0.05	-2529.83	-23044	-0.0000639	0.0003743	0.0035	1.7909	14839.75	17144.77	17144.77	6.78	No	Si
SLU 75	0.45	1565.57	-20567	-0.0000516	0.0003743	0.0035	1.7909	13800.62	14909.27	14909.27	9.52	No	Si
SLU 76	0.05	-2504.17	-22767	-0.0000631	0.0003743	0.0035	1.7909	14730.3	17000.96	17000.96	6.79	No	Si
SLU 76	0.45	1520.62	-20331	-0.0000508	0.0003743	0.0035	1.7909	13694.66	14786.56	14786.56	9.72	No	Si
SLU 83	0.05	-2679.73	-24125	-0.0000675	0.0003743	0.0035	1.7909	15251.11	17704.14	17704.14	6.61	No	Si
SLU 83	0.45	1559.22	-21589	-0.0000538	0.0003743	0.0035	1.7909	14245.8	15443.26	15443.26	9.9	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	0.05	-2560.44	-31158	-0.0000796	0.0005615	0.0035	1.7909		23284.73	23284.73	9.09		Si
SLV 11	0.45	4394.83	-27200	-0.0000837	0.0005615	0.0035	1.7909		20271.21	20271.21	4.61		Si
SLV 10	0.05	-364.97	-2979	-0.0000079	0.0005615	0.0035	1.7909		3456.69	3456.69	9.47		Si
SLV 10	0.45	-1446.18	-3260	-0.0000162	0.0005615	0.0035	1.7909		3695.83	3695.83	2.56		Si
SLV 1	0.05	-2453.1	-7498	-0.0000299	0.0005615	0.0035	1.7909		7205.4	7205.4	2.94		Si
SLV 1	0.45	-684.72	-6286	-0.0000162	0.0005615	0.0035	1.7909		6217.82	6217.82	9.08		Si
SLD 2	0.05	-1999.84	-9835	-0.0000315	0.0005615	0.0035	1.7909		9061.4	9061.4	4.53		Si
SLD 2	0.45	-124.39	-8554	-0.000017	0.0005615	0.0035	1.7909		8050.95	8050.95	64.72		Si
SLV 3	0.05	-3047.1	-15724	-0.0000503	0.0005615	0.0035	1.7909		13483.11	13483.11	4.42		Si
SLV 3	0.45	1028.41	-13294	-0.0000321	0.0005615	0.0035	1.7909		11025.99	11025.99	10.72		Si
SLV 2	0.05	-2133.04	-6372	-0.0000257	0.0005615	0.0035	1.7909		6287.98	6287.98	2.95		Si
SLV 2	0.45	-878.71	-5428	-0.0000158	0.0005615	0.0035	1.7909		5518.51	5518.51	6.28		Si
SLV 6	0.05	-885.29	-201	-0.0002972	0.0005615	0.0035	1.4327		1050.62	1050.62	1.19		Si
SLV 6	0.45	-2092.1	-551	-0.0007635	0.0005615	0.0035	1.4327		1358.99	1358.99	0.65		No
SLV 9	0.05	-580.45	-3737	-0.0000107	0.0005615	0.0035	1.7909		4101.45	4101.45	7.07		Si
SLV 9	0.45	-1315.58	-3837	-0.0000156	0.0005615	0.0035	1.7909		4186.39	4186.39	3.18		Si
SLD 1	0.05	-2204.33	-10554	-0.0000343	0.0005615	0.0035	1.7909		9625.47	9625.47	4.37		Si
SLD 1	0.45	-0.45	-9102	-0.0000173	0.0005615	0.0035	1.7909		8486.57	8486.57	18821.07		Si
SLV 5	0.05	-1100.78	-958	-0.000141	0.0005615	0.0035	1.4327		1715.1	1715.1	1.56		Si
SLV 5	0.45	-1961.49	-1129	-0.0004419	0.0005615	0.0035	1.4327		1863.04	1863.04	0.95		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.05	-2535.68	-23227	-20646	-14318	1.7909	1.7909	-25618	10360	8349	28547	24133	4567	28700	No	2	Si
SLU 80	0.45	1599.23	-20734	-18430	-14442	1.7909	1.7909	-22869	9994	8054	28547	24133	4567	28700	No	1.99	Si
SLU 77	0.05	-2569.87	-23569	-20950	-14658	1.7909	1.7909	-25995	10410	8390	28547	24133	4567	28700	No	1.96	Si
SLU 77	0.45	1654.11	-21024	-18688	-14784	1.7909	1.7909	-23188	10036	8088	28547	24133	4567	28700	No	1.94	Si
SLU 78	0.05	-2544.3	-23373	-20776	-14442	1.7909	1.7909	-25779	10382	8367	28547	24133	4567	28700	No	1.99	Si
SLU 78	0.45	1624.32	-20862	-18544	-14567	1.7909	1.7909	-23010	10012	8069	28547	24133	4567	28700	No	1.97	Si
SLU 81	0.05	-2665.26	-23796	-21152	-14414	1.7909	1.7909	-26246	10444	8435	28547	24133	4567	28700	No	1.99	Si
SLU 81	0.45	1500.47	-21294	-18928	-14539	1.7909	1.7909	-23486	10076	8120	28547	24133	4567	28700	No	1.97	Si
SLU 84	0.05	-2654.17	-23928	-21270	-14457	1.7909	1.7909	-26392	10463	8467	28547	24133	4567	28700	No	1.99	Si
SLU 84	0.45	1529.43	-21428	-19047	-14582	1.7909	1.7909	-23634	10096	8136	28547	24133	4567	28700	No	1.97	Si
SLU 83	0.05	-2679.73	-24125	-21444	-14673	1.7909	1.7909	-26608	10492	8515	28547	24133	4567	28700	No	1.96	Si
SLU 83	0.45	1559.22	-21589	-19191	-14799	1.7909	1.7909	-23812	10119	8155	28547	24133	4567	28700	No	1.94	Si
SLU 82	0.05	-2639.7	-23600	-20977	-14199	1.7909	1.7909	-26029	10415	8394	28547	24133	4567	28700	No	2.02	Si
SLU 82	0.45	1470.68	-21133	-18785	-14322	1.7909	1.7909	-23308	10052	8101	28547	24133	4567	28700	No	2	Si
SLU 74	0.05	-2555.4	-23240	-20658	-14399	1.7909	1.7909	-25633	10362	8351	28547	24133	4567	28700	No	1.99	Si
SLU 74	0.45	1595.36	-20729	-18425	-14523	1.7909	1.7909	-22863	9993	8053	28547	24133	4567	28700	No	1.98	Si
SLU 75	0.05	-2529.83	-23044	-20484	-14184	1.7909	1.7909	-25416	10333	8328	28547	24133	4567	28700	No	2.02	Si
SLU 75	0.45	1565.57	-20567	-18282	-14306	1.7909	1.7909	-22684	9969	8034	28547	24133	4567	28700	No	2.01	Si
SLU 79	0.05	-2561.25	-23423	-20820	-14534	1.7909	1.7909	-25834	10389	8373	28547	24133	4567	28700	No	1.97	Si
SLU 79	0.45	1629.02	-20896	-18574	-14659	1.7909	1.7909	-23047	10017	8073	28547	24133	4567	28700	No	1.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.05	-1312.69	-24986	-22210	-15906	1.7909	1.7909	-27559	15928	12837	28547	36199	4567	40766		2.56	Si
SLV 15	0.45	3181.45	-22323	-19843	-15924	1.7909	1.7909	-24621	15341	12364	28547	36199	4567	40766		2.56	Si
SLD 7	0.05	-2591.75	-23590	-20969	-19537	1.7909	1.7909	-26019	15620	12589	28547	36199	4567	40766		2.09	Si
SLD 7	0.45	2743.26	-20489	-18212	-19713	1.7909	1.7909	-22598	14936	12037	28547	36199	4567	40584		2.06	Si
SLV 8	0.05	-2865.27	-27621	-24552	-24049	1.7909	1.7909	-30465	16250	13096	28547	36199	4567	40766		1.7	Si
SLV 8	0.45	3618.31	-23913	-21256	-24283	1.7909	1.7909	-26375	15692	12646	28547	36199	4567	40766		1.68	Si
SLV 7	0.05	-3080.76	-28379	-25226	-25317	1.7909	1.7909	-31301	16250	13096	28547	36199	4567	40766		1.61	Si
SLV 7	0.45	3748.92	-24491	-21770	-25556	1.7909	1.7909	-27012	15819	12749	28547	36199	4567	40766		1.6	Si
SLV 3	0.05	-3047.1	-15724	-13977	-14875	1.7909	1.7909	-17343	13885	11190	28547	36199	4567	39737		2.67	Si
SLV 3	0.45	1028.41	-13294	-11817	-15104	1.7909	1.7909	-14663	13349	10758	28547	36199	4567	39305		2.6	Si
SLV 12	0.05	-2344.95	-30400	-27022	-24358	1.7909	1.7909	-33529	16250	13096	28547	36199	4567	40766		1.67	Si
SLV 12	0.45	4264.22	-26622	-23664	-24529	1.7909	1.7909	-29363	16250	13096	28547	36199	4567	40766		1.66	Si
SLD 8	0.05	-2456.19	-23114	-20545	-18739	1.7909	1.7909	-25493	15515	12504	28547	36199	4567	40766		2.18	Si
SLD 8	0.45	2661.1	-20126	-17889	-18912	1.7909	1.7909	-22197	14856	11973	28547	36199	4567	40519		2.14	Si
SLD 12	0.05	-2115.15	-24865	-22103	-18919	1.7909	1.7909	-27425	15902	12815	28547	36199	4567	40766		2.15	Si
SLD 12	0.45	3073.14	-21842	-19415	-19062	1.7909	1.7909	-24091	15235	12278	28547	36199	4567	40766		2.14	Si
SLV 11	0.05	-2560.44	-31158	-27696	-25627	1.7909	1.7909	-34365	16250	13096	28547	36199	4567	40766		1.59	Si
SLV 11	0.45	4394.83	-27200	-24177	-25802	1.7909	1.7909	-30000	16250	13096	28547	36199	4567	40766		1.58	Si
SLD 11	0.05	-2250.71	-25342	-22526	-19717	1.7909	1.7909	-27951	16007	12900	28547	36199	4567	40766		2.07	Si
SLD 11	0.45	3155.3	-22205	-19738	-19863	1.7909	1.7909	-24491	15315	12343	28547	36199	4567	40766		2.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -0.64 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.24	0	256	103.77	0	0	No, Trazione
SLV 5	179667	0.24	0	-401	103.77	0	0	No, e>t/2
SLV 10	179667	0.24	3312	-2670	103.77	587.62	5.66	Si
SLV 9	179667	0.24	4128	-3327	103.77	728.26	7.02	Si
SLV 2	179667	0.24	7085	-5710	103.77	1225.17	11.81	Si
SLV 1	179667	0.24	8296	-6686	103.77	1422.64	13.71	Si
SLV 4	179667	0.24	17230	-13886	103.77	2771.87	26.71	Si
SLV 3	179667	0.24	18441	-14862	103.77	2940.16	28.33	Si
SLV 14	179667	0.24	19185	-15462	103.77	3041.87	29.31	Si
SLV 13	179667	0.24	20396	-16438	103.77	3204.55	30.88	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-26445	-32743	-1014	0.411	2989.6	0.97	6.15623	2.58905	Si
SLV 12	-25806	-32339	-983	0.419	2924.6	0.969	6.28976	2.58905	Si
SLV 15	-21177	-27974	-753	0.496	2453.5	0.964	7.48459	2.92742	Si
SLV 7	-23913	-28832	-936	0.446	2731.9	0.967	6.69734	2.58905	Si
SLV 8	-23274	-28428	-905	0.456	2666.9	0.966	6.85877	2.58905	Si
SLV 16	-20228	-27374	-705	0.516	2356.9	0.962	7.79314	2.92742	Si
SLV 13	-13997	-19892	-444	0.701	1723.6	0.95	10.7241	2.92742	Si
SLV 14	-13049	-19292	-397	0.743	1627.3	0.947	11.40053	2.92742	Si
SLV 3	-12738	-14938	-493	0.751	1595.8	0.947	11.52441	2.92742	Si
SLV 4	-11789	-14338	-446	0.8	1499.6	0.944	12.32293	2.92742	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.579	SLU 81	Si
V_SLU	1.939	SLU 83	Si
PF_SLV	0.65	SLV 6	No
V_SLV	1.58	SLV 11	Si
PFFP_SLV	0	SLV 6	No
R_SLV	2.378	SLV 11	Si

Maschio 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	6.101	-0.123	-3.284	L2	L4	9.385	0.45	2.62	2.62	2.62			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 10	-1.95	47078.62	-84818	-0.0000405	0.0004492	0.0035	9.385	332589.28	358982.76	358982.76	7.63	No	Si
SLU 10	0.67	45497.66	-97859	-0.0000449	0.0004492	0.0035	9.385	372121.02	403565.73	403565.73	8.87	No	Si
SLU 52	-1.95	57144.65	-103167	-0.0000497	0.0004492	0.0035	9.385	387324.07	421710.07	421710.07	7.38	No	Si
SLU 52	0.67	55399.08	-118140	-0.0000549	0.0004492	0.0035	9.385	427454.78	472900.67	472900.67	8.54	No	Si
SLU 61	-1.95	58076.18	-107361	-0.0000515	0.0004492	0.0035	9.385	398975.57	436048.26	436048.26	7.51	No	Si
SLU 61	0.67	57195.08	-123665	-0.0000575	0.0004492	0.0035	9.385	441229.81	491785.51	491785.51	8.6	No	Si
SLU 44	-1.95	51868.21	-93398	-0.0000448	0.0004492	0.0035	9.385	358946.54	388315.32	388315.32	7.49	No	Si
SLU 44	0.67	49500.67	-105660	-0.0000488	0.0004492	0.0035	9.385	394289.24	430233.86	430233.86	8.69	No	Si
SLU 65	-1.95	56176.89	-105567	-0.0000503	0.0004492	0.0035	9.385	394031.46	429915.92	429915.92	7.65	No	Si
SLU 65	0.67	53669.87	-121596	-0.0000558	0.0004492	0.0035	9.385	436135.59	484712.49	484712.49	9.03	No	Si
SLU 47	-1.95	51647.07	-94502	-0.0000451	0.0004492	0.0035	9.385	362238.95	392087.53	392087.53	7.59	No	Si
SLU 47	0.67	48456.8	-107328	-0.0000492	0.0004492	0.0035	9.385	398886.78	435937.48	435937.48	9	No	Si
SLU 76	-1.95	61232.2	-116439	-0.0000557	0.0004492	0.0035	9.385	423099.32	467082.88	467082.88	7.63	No	Si
SLU 76	0.67	58524.41	-135745	-0.0000624	0.0004492	0.0035	9.385	469419.3	533082.92	533082.92	9.11	No	Si
SLU 73	-1.95	61453.34	-115335	-0.0000553	0.0004492	0.0035	9.385	420247.13	463310.67	463310.67	7.54	No	Si
SLU 73	0.67	59568.28	-134076	-0.000062	0.0004492	0.0035	9.385	465683.99	527379.3	527379.3	8.85	No	Si
SLU 55	-1.95	56923.51	-104270	-0.00005	0.0004492	0.0035	9.385	390420.46	425482.28	425482.28	7.47	No	Si
SLU 55	0.67	54355.21	-119809	-0.0000553	0.0004492	0.0035	9.385	431673.62	478604.29	478604.29	8.81	No	Si
SLU 63	-1.95	57855.04	-108464	-0.0000518	0.0004492	0.0035	9.385	401987.79	439820.47	439820.47	7.6	No	Si
SLU 63	0.67	56151.21	-125333	-0.0000578	0.0004492	0.0035	9.385	445281.04	497489.13	497489.13	8.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	-1.95	123473.02	-75903	-0.0000541	0.0006738	0.0035	9.385		338699.41	338699.41	2.74		Si
SLD 5	0.67	147081.99	-86478	-0.0000635	0.0006738	0.0035	9.385		381043.65	381043.65	2.59		Si
SLV 2	-1.95	67364.09	-45946	-0.0000306	0.0006738	0.0035	9.385		213975.2	213975.2	3.18		Si
SLV 2	0.67	88872.41	-51955	-0.0000377	0.0006738	0.0035	9.385		239539.46	239539.46	2.7		Si
SLV 8	-1.95	-103452.36	-68028	-0.0000466	0.0006738	0.0035	9.385		348739.83	348739.83	3.37		Si
SLV 8	0.67	-136337.81	-80330	-0.0000587	0.0006738	0.0035	9.385		398105.65	398105.65	2.92		Si
SLV 9	-1.95	185884.89	-94645	-0.0000768	0.0006738	0.0035	9.385		413131.39	413131.39	2.22		Si
SLV 9	0.67	217629.77	-107542	-0.0000899	0.0006738	0.0035	9.385		458938.66	458938.66	2.11		Si
SLV 6	-1.95	179300.04	-72988	-0.0000721	0.0006738	0.0035	9.385		326918.79	326918.79	1.82		Si
SLV 6	0.67	217859.55	-82145	-0.0000898	0.0006738	0.0035	9.385		363826.56	363826.56	1.67		Si
SLV 10	-1.95	191610.18	-94688	-0.0000786	0.0006738	0.0035	9.385		413297.65	413297.65	2.16		Si
SLV 10	0.67	223350.59	-107462	-0.0000919	0.0006738	0.0035	9.385		458662.51	458662.51	2.05		Si
SLV 7	-1.95	-109177.65	-67986	-0.0000479	0.0006738	0.0035	9.385		348563.07	348563.07	3.19		Si
SLV 7	0.67	-142058.62	-80409	-0.0000602	0.0006738	0.0035	9.385		398421.87	398421.87	2.8		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	-1.95	127074.65	-75930	-0.000055	0.0006738	0.0035	9.385		338807.56	338807.56	2.67		Si
SLD 6	0.67	150680.8	-86427	-0.0000644	0.0006738	0.0035	9.385		380843.7	380843.7	2.53		Si
SLD 10	-1.95	134966.86	-89840	-0.0000618	0.0006738	0.0035	9.385		394355.69	394355.69	2.92		Si
SLD 10	0.67	154187.96	-102623	-0.000071	0.0006738	0.0035	9.385		441956.33	441956.33	2.87		Si
SLV 5	-1.95	173574.75	-72945	-0.0000695	0.0006738	0.0035	9.385		326746.87	326746.87	1.88		Si
SLV 5	0.67	212138.74	-82225	-0.0000867	0.0006738	0.0035	9.385		364144.42	364144.42	1.72		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 59	-1.95	55372.56	-105381	-84305	3643	9.385	9.385	-19962	10833	58117	81562	151773	47863	139679	No	38.34	Si
SLU 59	0.67	52579.45	-121652	-97322	2642	9.385	9.385	-23044	10833	63324	81562	151773	47863	144886	No	54.84	Si
SLU 55	-1.95	56923.51	-104270	-83416	3951	9.385	9.385	-19752	10833	57762	81562	151773	47863	139323	No	35.27	Si
SLU 55	0.67	54355.21	-119809	-95847	2965	9.385	9.385	-22695	10833	62734	81562	151773	47863	144296	No	48.66	Si
SLU 57	-1.95	55597.96	-106085	-84868	3605	9.385	9.385	-20095	10833	58343	81562	151773	47863	139904	No	38.81	Si
SLU 57	0.67	52969.48	-122737	-98190	2594	9.385	9.385	-23250	10833	63671	81562	151773	47863	145233	No	55.99	Si
SLU 65	-1.95	56176.89	-105567	-84454	3625	9.385	9.385	-19997	10833	58177	81562	151773	47863	139738	No	38.55	Si
SLU 65	0.67	53669.87	-121596	-97276	2624	9.385	9.385	-23034	10833	63306	81562	151773	47863	144867	No	55.22	Si
SLU 47	-1.95	51647.07	-94502	-75601	3822	9.385	9.385	-17901	10720	54636	81562	151773	47863	136198	No	35.64	Si
SLU 47	0.67	48456.8	-107328	-85863	2928	9.385	9.385	-20331	10833	58740	81562	151773	47863	140302	No	47.92	Si
SLU 68	-1.95	55955.75	-106670	-85336	3774	9.385	9.385	-20206	10833	58530	81562	151773	47863	140091	No	37.12	Si
SLU 68	0.67	52626	-123264	-98611	2759	9.385	9.385	-23350	10833	63840	81562	151773	47863	145401	No	52.7	Si
SLU 44	-1.95	51868.21	-93398	-74719	3673	9.385	9.385	-17692	10692	54283	81562	151773	47863	135845	No	36.99	Si
SLU 44	0.67	49500.67	-105660	-84528	2792	9.385	9.385	-20015	10833	58207	81562	151773	47863	139768	No	50.06	Si
SLU 76	-1.95	61232.2	-116439	-93151	3903	9.385	9.385	-22057	10833	61656	81562	151773	47863	143217	No	36.69	Si
SLU 76	0.67	58524.41	-135745	-108596	2797	9.385	9.385	-25714	10833	67833	81562	151773	47863	149395	No	53.42	Si
SLU 73	-1.95	61453.34	-115335	-92268	3754	9.385	9.385	-21848	10833	61303	81562	151773	47863	142864	No	38.06	Si
SLU 73	0.67	59568.28	-134076	-107261	2661	9.385	9.385	-25398	10833	67299	81562	151773	47863	148861	No	55.94	Si
SLU 52	-1.95	57144.65	-103167	-82533	3802	9.385	9.385	-19543	10833	57409	81562	151773	47863	138970	No	36.56	Si
SLU 52	0.67	55399.08	-118140	-94512	2830	9.385	9.385	-22379	10833	62200	81562	151773	47863	143762	No	50.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.95	179300.04	-72988	-58390	39538	9.385	6.7078	-13826	15265	59950	81562	227660	47863	141512		3.58	Si
SLV 6	0.67	217859.55	-82145	-65716	39074	9.385	6.1211	-15561	15612	62881	81562	227660	47863	144442		3.7	Si
SLV 5	-1.95	173574.75	-72945	-58356	35774	9.385	6.9389	-13818	15264	59937	81562	227660	47863	141498		3.96	Si
SLV 5	0.67	212138.74	-82225	-65780	35306	9.385	6.3376	-15576	15615	62906	81562	227660	47863	144468		4.09	Si
SLV 12	-1.95	-91142.22	-89728	-71782	-31859	9.385	9.385	-16997	15899	67147	81562	227660	47863	148709		4.67	Si
SLV 12	0.67	-130846.77	-105646	-84517	-32940	9.385	9.385	-20012	16250	70400	81562	227660	47863	151962		4.61	Si
SLV 11	-1.95	-96867.5	-89685	-71748	-35622	9.385	9.385	-16989	15898	67140	81562	227660	47863	148702		4.17	Si
SLV 11	0.67	-136567.59	-105726	-84581	-36707	9.385	9.385	-20027	16250	70426	81562	227660	47863	151988		4.14	Si
SLV 8	-1.95	-103452.36	-68028	-54423	-34349	9.385	9.385	-12886	15077	63675	81562	227660	47863	145237		4.23	Si
SLV 8	0.67	-136337.81	-80330	-64264	-35225	9.385	8.9858	-16001	15700	63486	81562	227660	47863	145047		4.12	Si
SLV 7	-1.95	-109177.65	-67986	-54388	-38112	9.385	9.2598	-13126	15125	63026	81562	227660	47863	144587		3.79	Si
SLV 7	0.67	-142058.62	-80409	-64328	-38992	9.385	8.7774	-16396	15779	62326	81562	227660	47863	143887		3.69	Si
SLV 10	-1.95	191610.18	-94688	-75750	42028	9.385	8.0067	-17936	16087	66894	81562	227660	47863	148455		3.53	Si
SLV 10	0.67	223350.59	-107462	-85969	41359	9.385	7.8422	-20356	16250	70981	81562	227660	47863	152543		3.69	Si
SLD 6	-1.95	127074.65	-75930	-60744	25234	9.385	9.0568	-14383	15377	62668	81562	227660	47863	144230		5.72	Si
SLD 6	0.67	150680.8	-86427	-69142	24594	9.385	8.8472	-16372	15774	64251	81562	227660	47863	145812		5.93	Si
SLV 9	-1.95	185884.89	-94645	-75716	38264	9.385	8.1854	-17928	16086	66880	81562	227660	47863	148442		3.88	Si
SLV 9	0.67	217629.77	-107542	-86033	37592	9.385	8.0065	-20371	16250	71007	81562	227660	47863	152569		4.06	Si
SLD 10	-1.95	134966.86	-89840	-71872	26822	9.385	9.385	-17018	15904	67165	81562	227660	47863	148727		5.54	Si
SLD 10	0.67	154187.96	-102623	-82098	26061	9.385	9.385	-19440	16250	69433	81562	227660	47863	150995		5.79	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota -0.64 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-45800	0.24	543.8	9695.18	12735.74	11215.46	20.62	Si
SLV 1	-45958	0.24	543.8	9726.57	12772.77	11249.67	20.69	Si
SLV 4	-46737	0.24	543.8	9880.93	12955.09	11418.01	21	Si
SLV 3	-46896	0.24	543.8	9912.23	12992.11	11452.17	21.06	Si
SLV 6	-71897	0.24	543.8	14674.31	18795.6	16734.96	30.77	Si
SLV 5	-72004	0.24	543.8	14693.83	18820.17	16757	30.81	Si
SLV 8	-75023	0.24	543.8	15244.05	19513.35	17378.7	31.96	Si
SLV 7	-75129	0.24	543.8	15263.37	19537.83	17400.6	32	Si
SLV 10	-95182	0.24	543.8	18782.54	24141.89	21462.22	39.47	Si
SLV 9	-95289	0.24	543.8	18800.62	24166.29	21483.45	39.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = -0.64 Wa = 0.08 Ta = 0.0255

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-136461	-118215	204	0.45	15451	0.969	6.75264	2.92742	Si
SLV 14	-136342	-118279	209	0.451	15438.9	0.969	6.75669	2.92742	Si
SLV 15	-135916	-116728	293	0.451	15395.5	0.969	6.76458	2.92742	Si
SLV 16	-135797	-116791	298	0.451	15383.4	0.969	6.76866	2.92742	Si
SLV 9	-107542	-94645	-5	0.542	12507.6	0.963	8.17893	2.58905	Si
SLV 10	-107462	-94688	-1	0.542	12499.5	0.963	8.18427	2.58905	Si
SLV 11	-105726	-89685	293	0.546	12322.9	0.962	8.2537	2.58905	Si
SLV 12	-105646	-89728	297	0.547	12314.7	0.962	8.25824	2.58905	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-82225	-72945	-95	0.666	9933.5	0.954	10.14521	2.58905	Si
SLV 6	-82145	-72988	-91	0.667	9925.3	0.954	10.15383	2.58905	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.38	SLU 52	Si
V_SLU	35.267	SLU 55	Si
PF_SLV	1.67	SLV 6	Si
V_SLV	3.532	SLV 10	Si
PFFP_SLV	20.624	SLV 2	Si
R_SLV	2.307	SLV 13	Si

Maschio 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	5.951	-24.614	-3.169	L4	L5	9.121	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 55	0.67	38176.81	-113521	-0.0000799	0.0004492	0.0035	9.1207	329356.74	420651.08	420651.08	11.02	No	Si
SLU 55	4.35	13076.57	-83906	-0.0000518	0.0004492	0.0035	9.1207	279750.43	327058.2	327058.2	25.01	No	Si
SLU 2	0.67	28099.34	-81098	-0.0000559	0.0004492	0.0035	9.1207	273716.31	317795.99	317795.99	11.31	No	Si
SLU 2	4.35	9501.73	-59721	-0.0000364	0.0004492	0.0035	9.1207	220223.11	247283.46	247283.46	26.03	No	Si
SLU 10	0.67	31608.42	-92349	-0.0000641	0.0004492	0.0035	9.1207	296504.84	354906.62	354906.62	11.23	No	Si
SLU 10	4.35	10923.85	-68262	-0.0000418	0.0004492	0.0035	9.1207	243200.25	275458.89	275458.89	25.22	No	Si
SLU 47	0.67	34667.73	-102270	-0.0000714	0.0004492	0.0035	9.1207	313530.64	387631.93	387631.93	11.18	No	Si
SLU 47	4.35	11654.45	-75364	-0.0000462	0.0004492	0.0035	9.1207	260678.97	298882.77	298882.77	25.65	No	Si
SLU 44	0.67	35131.36	-100444	-0.0000705	0.0004492	0.0035	9.1207	310612.82	381608.31	381608.31	10.86	No	Si
SLU 44	4.35	12013.54	-73631	-0.0000454	0.0004492	0.0035	9.1207	256550.55	293167.94	293167.94	24.4	No	Si
SLU 73	0.67	40089.7	-126589	-0.000089	0.0004492	0.0035	9.1207	343095.04	453923.76	453923.76	11.32	No	Si
SLU 73	4.35	13628.98	-93958	-0.000058	0.0004492	0.0035	9.1207	299462.94	360216.55	360216.55	26.43	No	Si
SLU 54	0.67	37011.57	-114682	-0.0000801	0.0004492	0.0035	9.1207	330779.15	423606.73	423606.73	11.45	No	Si
SLU 54	4.35	12701	-84879	-0.0000522	0.0004492	0.0035	9.1207	281788.94	330269.87	330269.87	26	No	Si
SLU 52	0.67	38640.44	-111694	-0.0000789	0.0004492	0.0035	9.1207	327039.46	416001.61	416001.61	10.77	No	Si
SLU 52	4.35	13435.66	-82173	-0.0000509	0.0004492	0.0035	9.1207	276054.57	321343.37	321343.37	23.92	No	Si
SLU 61	0.67	38943.14	-116681	-0.0000822	0.0004492	0.0035	9.1207	333136.29	428696.49	428696.49	11.01	No	Si
SLU 61	4.35	13681.89	-85881	-0.0000532	0.0004492	0.0035	9.1207	283856.74	333573.21	333573.21	24.38	No	Si
SLU 63	0.67	38479.51	-118507	-0.0000831	0.0004492	0.0035	9.1207	335187.42	433345.96	433345.96	11.26	No	Si
SLU 63	4.35	13322.8	-87613	-0.0000541	0.0004492	0.0035	9.1207	287364.83	339288.04	339288.04	25.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	0.67	-181188.69	-73690	-0.0001215	0.0006738	0.0035	9.1207		348748.12	348748.12	1.92		Si
SLV 12	4.35	-69197.13	-56853	-0.0000562	0.0006738	0.0035	9.1207		285974.33	285974.33	4.13		Si
SLV 13	0.67	79842.14	-44550	-0.0000536	0.0006738	0.0035	9.1207		197453.91	197453.91	2.47		Si
SLV 13	4.35	21435.54	-40557	-0.0000296	0.0006738	0.0035	9.1207		181364.2	181364.2	8.46		Si
SLV 9	0.67	226364.18	-77400	-0.0001689	0.0006738	0.0035	9.1207		319236.75	319236.75	1.41		Si
SLV 9	4.35	80729.74	-59155	-0.0000618	0.0006738	0.0035	9.1207		254673.66	254673.66	3.15		Si
SLV 11	0.67	-172278.71	-73343	-0.0001145	0.0006738	0.0035	9.1207		347484.91	347484.91	2.02		Si
SLV 11	4.35	-67755.71	-56919	-0.0000557	0.0006738	0.0035	9.1207		286226.45	286226.45	4.22		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	0.67	145186.72	-81753	-0.0001005	0.0006738	0.0035	9.1207		333743.93	333743.93	2.3		Si
SLD 10	4.35	52494.57	-61476	-0.0000527	0.0006738	0.0035	9.1207		263594.44	263594.44	5.02		Si
SLD 9	0.67	150791.75	-81535	-0.0001031	0.0006738	0.0035	9.1207		333016.52	333016.52	2.21		Si
SLD 9	4.35	53401.33	-61517	-0.0000531	0.0006738	0.0035	9.1207		263750.73	263750.73	4.94		Si
SLV 5	0.67	234214.77	-104268	-0.0001599	0.0006738	0.0035	9.1207		408771.83	408771.83	1.75		Si
SLV 5	4.35	87307.5	-74438	-0.0000732	0.0006738	0.0035	9.1207		309365.81	309365.81	3.54		Si
SLV 10	0.67	217454.2	-77747	-0.0001561	0.0006738	0.0035	9.1207		320393.07	320393.07	1.47		Si
SLV 10	4.35	79288.33	-59089	-0.0000613	0.0006738	0.0035	9.1207		254420.9	254420.9	3.21		Si
SLV 6	0.67	225304.79	-104615	-0.0001537	0.0006738	0.0035	9.1207		409928.15	409928.15	1.82		Si
SLV 6	4.35	85866.08	-74372	-0.0000726	0.0006738	0.0035	9.1207		309146.8	309146.8	3.6		Si
SLD 5	0.67	155797.59	-98721	-0.0001143	0.0006738	0.0035	9.1207		390287.61	390287.61	2.51		Si
SLD 5	4.35	57609	-71241	-0.0000602	0.0006738	0.0035	9.1207		298711.41	298711.41	5.19		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.67	36195.43	-131649	-93915	-3118	9.1207	9.1207	-36775	10833	52317	115546	91777	46516	138293	No	44.35	Si
SLU 77	4.35	11990.38	-98467	-70244	-2790	9.1207	9.1207	-27506	10833	42849	115546	91777	46516	138293	No	49.56	Si
SLU 83	0.67	38127	-133648	-95341	-3159	9.1207	9.1207	-37333	10833	52888	115546	91777	46516	138293	No	43.77	Si
SLU 83	4.35	12971.27	-99469	-70959	-2828	9.1207	9.1207	-27786	10833	43135	115546	91777	46516	138293	No	48.9	Si
SLU 39	0.67	31558.61	-112476	-80238	-2852	9.1207	9.1207	-31419	10833	46846	115546	91777	46516	138293	No	48.49	Si
SLU 39	4.35	10818.55	-83826	-59799	-2574	9.1207	9.1207	-23416	10833	38671	115546	91777	46516	138293	No	53.72	Si
SLU 74	0.67	36659.06	-129823	-92612	-3071	9.1207	9.1207	-36265	10833	51796	115546	91777	46516	138293	No	45.03	Si
SLU 74	4.35	12349.47	-96735	-69008	-2748	9.1207	9.1207	-27022	10833	42355	115546	91777	46516	138293	No	50.32	Si
SLU 35	0.67	29163.42	-112303	-80114	-2858	9.1207	9.1207	-31371	10833	46797	115546	91777	46516	138293	No	48.38	Si
SLU 35	4.35	9478.58	-84557	-60321	-2579	9.1207	9.1207	-23620	10833	38880	115546	91777	46516	138293	No	53.61	Si
SLU 41	0.67	31094.98	-114302	-81540	-2899	9.1207	9.1207	-31929	10833	47368	115546	91777	46516	138293	No	47.7	Si
SLU 41	4.35	10459.47	-85558	-61035	-2617	9.1207	9.1207	-23900	10833	39166	115546	91777	46516	138293	No	52.85	Si
SLU 37	0.67	29127.46	-111307	-79403	-2793	9.1207	9.1207	-31092	10833	46513	115546	91777	46516	138293	No	49.52	Si
SLU 37	4.35	9490.9	-83630	-59660	-2516	9.1207	9.1207	-23361	10833	38616	115546	91777	46516	138293	No	54.96	Si
SLU 32	0.67	29627.04	-110477	-78812	-2811	9.1207	9.1207	-30861	10833	46276	115546	91777	46516	138293	No	49.19	Si
SLU 32	4.35	9837.66	-82824	-59085	-2537	9.1207	9.1207	-23136	10833	38386	115546	91777	46516	138293	No	54.51	Si
SLU 81	0.67	38590.63	-131822	-94039	-3112	9.1207	9.1207	-36823	10833	52367	115546	91777	46516	138293	No	44.44	Si
SLU 81	4.35	13330.36	-97736	-69723	-2785	9.1207	9.1207	-27302	10833	42641	115546	91777	46516	138293	No	49.65	Si
SLU 79	0.67	36159.48	-130652	-93204	-3053	9.1207	9.1207	-36496	10833	52033	115546	91777	46516	138293	No	45.3	Si
SLU 79	4.35	12002.71	-97541	-69583	-2727	9.1207	9.1207	-27247	10833	42585	115546	91777	46516	138293	No	50.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.67	217454.2	-77747	-55463	46395	9.1207	5.2902	-21718	16250	44313	115546	137665	46516	159859		3.45	Si
SLV 10	4.35	79288.33	-59089	-42153	44125	9.1207	9.1207	-16506	15801	40353	115546	137665	46516	155899		3.53	Si
SLV 7	0.67	-164428.12	-100211	-71488	-50296	9.1207	8.7586	-29563	16250	50723	115546	137665	46516	166269		3.31	Si
SLV 7	4.35	-61177.96	-72202	-51507	-47582	9.1207	9.1207	-20169	16250	42731	115546	137665	46516	158277		3.33	Si
SLD 12	0.67	-102771.51	-79237	-56525	-33128	9.1207	9.1207	-22134	16250	44738	115546	137665	46516	160284		4.84	Si
SLD 12	4.35	-39498.63	-60050	-42838	-31653	9.1207	9.1207	-16774	15855	40490	115546	137665	46516	156036		4.93	Si
SLV 9	0.67	226364.18	-77400	-55215	52471	9.1207	4.9072	-21621	16250	44214	115546	137665	46516	159760		3.04	Si
SLV 9	4.35	80729.74	-59155	-42199	50203	9.1207	9.1207	-16524	15805	40362	115546	137665	46516	155908		3.11	Si
SLV 6	0.67	225304.79	-104615	-74630	42159	9.1207	7.2201	-29223	16250	51980	115546	137665	46516	167525		3.97	Si
SLV 6	4.35	85866.08	-74372	-53055	40326	9.1207	9.1207	-20775	16250	43350	115546	137665	46516	158896		3.94	Si
SLV 5	0.67	234214.77	-104268	-74382	48235	9.1207	6.9422	-29126	16250	51881	115546	137665	46516	167426		3.47	Si
SLV 5	4.35	87307.5	-74438	-53102	46404	9.1207	9.1207	-20793	16250	43369	115546	137665	46516	158915		3.42	Si
SLD 8	0.67	-97765.67	-96423	-68786	-35840	9.1207	9.1207	-26935	16250	49642	115546	137665	46516	165188		4.61	Si
SLD 8	4.35	-35290.96	-69774	-49775	-34089	9.1207	9.1207	-19491	16250	42038	115546	137665	46516	157584		4.62	Si
SLV 12	0.67	-181188.69	-73690	-52568	-52137	9.1207	6.3046	-30182	16250	43156	115546	137665	46516	158701		3.04	Si
SLV 12	4.35	-69197.13	-56853	-40558	-49861	9.1207	9.1207	-15881	15676	40034	115546	137665	46516	155580		3.12	Si
SLV 8	0.67	-173338.1	-100558	-71735	-56373	9.1207	8.5097	-30548	16250	50822	115546	137665	46516	166368		2.95	Si
SLV 8	4.35	-62619.37	-72137	-51460	-53660	9.1207	9.1207	-20151	16250	42712	115546	137665	46516	158258		2.95	Si
SLV 11	0.67	-172278.71	-73343	-52321	-46060	9.1207	6.6342	-28532	16250	43057	115546	137665	46516	158602		3.44	Si
SLV 11	4.35	-67755.71	-56919	-40604	-43783	9.1207	9.1207	-15900	15680	40043	115546	137665	46516	155589		3.55	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 15	-41804	0.3	802.97	5329.87	7555.02	6442.44	8.02	Si
SLV 16	-41959	0.3	802.97	5347.72	7578.16	6462.94	8.05	Si
SLV 13	-42633	0.3	802.97	5424.97	7678.58	6551.78	8.16	Si
SLV 14	-42788	0.3	802.97	5442.74	7701.74	6572.24	8.18	Si
SLV 11	-63606	0.3	802.97	7694.73	10784.46	9239.6	11.51	Si
SLV 12	-63710	0.3	802.97	7705.39	10799.9	9252.64	11.52	Si
SLV 9	-66369	0.3	802.97	7974.11	11192.4	9583.26	11.93	Si
SLV 10	-66473	0.3	802.97	7984.59	11207.84	9596.22	11.95	Si
SLV 7	-83100	0.3	802.97	9568.51	13641.24	11604.88	14.45	Si
SLV 8	-83205	0.3	802.97	9577.95	13656.27	11617.11	14.47	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-91502	-134110	2036	0.533	10639.8	0.963	8.05244	6.24893	Si
SLV 2	-91405	-134625	2025	0.534	10629.8	0.963	8.06158	6.24893	Si
SLV 3	-90831	-132893	1981	0.537	10571.5	0.962	8.1131	6.24893	Si
SLV 4	-90734	-133408	1971	0.538	10561.6	0.962	8.12237	6.24893	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-74438	-104268	698	0.652	8904.4	0.956	9.9025	4.03181	Si
SLV 6	-74372	-104615	691	0.652	8897.8	0.956	9.91149	4.03181	Si
SLV 7	-72202	-100211	516	0.671	8677.2	0.955	10.20615	4.03181	Si
SLV 8	-72137	-100558	509	0.671	8670.5	0.955	10.21565	4.03181	Si
SLV 13	-40557	-44550	-1963	1.05	5468.3	0.933	16.34556	6.24893	Si
SLV 14	-40460	-45065	-1974	1.052	5458.4	0.933	16.37541	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.766	SLU 52	Si
V_SLU	43.773	SLU 83	Si
PF_SLV	1.41	SLV 9	Si
V_SLV	2.949	SLV 8	Si
PFFP_SLV	8.023	SLV 15	Si
R_SLV	1.289	SLV 1	Si

Maschio 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.828	5.951	-24.614	5.951	L4	L5	1.786	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	1.57	-161.74	-12130	-0.0000394	0.0003743	0.0035	1.7864	8253.81	9832.82	9832.82	60.79	No	Si
SLU 43	3.47	427.61	-11677	-0.0000408	0.0003743	0.0035	1.7864	8038.37	8814.56	8814.56	20.61	No	Si
SLU 50	1.57	-132.32	-12713	-0.0000411	0.0003743	0.0035	1.7864	8520.4	10174	10174	76.89	No	Si
SLU 50	3.47	417.92	-12359	-0.000043	0.0003743	0.0035	1.7864	8360.21	9162.31	9162.31	21.92	No	Si
SLU 44	1.57	-129.33	-11868	-0.0000382	0.0003743	0.0035	1.7864	8130.08	9672.01	9672.01	74.79	No	Si
SLU 44	3.47	378.82	-11557	-0.0000399	0.0003743	0.0035	1.7864	7980.32	8753.19	8753.19	23.11	No	Si
SLU 48	1.57	-129.83	-12856	-0.0000415	0.0003743	0.0035	1.7864	8584.4	10255.98	10255.98	78.99	No	Si
SLU 48	3.47	417.98	-12521	-0.0000435	0.0003743	0.0035	1.7864	8433.98	9245.4	9245.4	22.12	No	Si
SLU 1	1.57	-109.18	-9855	-0.0000314	0.0003743	0.0035	1.7864	7099.11	8413.96	8413.96	77.07	No	Si
SLU 1	3.47	302.72	-9621	-0.0000327	0.0003743	0.0035	1.7864	6970.04	7416.92	7416.92	24.5	No	Si
SLU 45	1.57	-144.54	-12565	-0.0000407	0.0003743	0.0035	1.7864	8454.06	10089.2	10089.2	69.8	No	Si
SLU 45	3.47	422.82	-12180	-0.0000424	0.0003743	0.0035	1.7864	8277.04	9070.2	9070.2	21.45	No	Si
SLU 51	1.57	-112.87	-12555	-0.0000403	0.0003743	0.0035	1.7864	8449.66	10083.58	10083.58	89.34	No	Si
SLU 51	3.47	388.65	-12288	-0.0000424	0.0003743	0.0035	1.7864	8327.15	9125.51	9125.51	23.48	No	Si
SLU 46	1.57	-125.09	-12408	-0.00004	0.0003743	0.0035	1.7864	8382.52	9997.91	9997.91	79.92	No	Si
SLU 46	3.47	393.54	-12108	-0.0000419	0.0003743	0.0035	1.7864	8243.53	9033.55	9033.55	22.95	No	Si
SLU 49	1.57	-110.38	-12699	-0.0000408	0.0003743	0.0035	1.7864	8514.46	10166.4	10166.4	92.1	No	Si
SLU 49	3.47	388.7	-12449	-0.000043	0.0003743	0.0035	1.7864	8401.34	9208.46	9208.46	23.69	No	Si
SLU 47	1.57	-114.62	-12159	-0.000039	0.0003743	0.0035	1.7864	8267.54	9850.95	9850.95	85.95	No	Si
SLU 47	3.47	373.98	-11899	-0.000041	0.0003743	0.0035	1.7864	8144.71	8926.93	8926.93	23.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	1.57	-2263.71	-4545	-0.0000412	0.0005615	0.0035	1.4291		4700.38	4700.38	2.08		Si
SLV 13	3.47	851.39	-3357	-0.0000184	0.0005615	0.0035	1.7864		3059.94	3059.94	3.59		Si
SLV 5	1.57	1329.92	972	0.0646062	0.0005615	0.0035	1.4291		0	0	0		No
SLV 5	3.47	-2445.07	-4692	-0.0000453	0.0005615	0.0035	1.4291		4820.47	4820.47	1.97		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	1.57	-2872.84	-5920	-0.0000525	0.0005615	0.0035	1.7864		5798.65	5798.65	2.02		Si
SLV 14	3.47	1541.7	-3243	-0.0000276	0.0005615	0.0035	1.7864		2964.42	2964.42	1.92		Si
SLV 15	1.57	-2514.33	-11689	-0.0000619	0.0005615	0.0035	1.7864		10067.5	10067.5	4		Si
SLV 15	3.47	2042.42	-7989	-0.0000449	0.0005615	0.0035	1.7864		6738.05	6738.05	3.3		Si
SLV 16	1.57	-3123.46	-13064	-0.0000729	0.0005615	0.0035	1.7864		11008.81	11008.81	3.52		Si
SLV 16	3.47	2732.73	-7874	-0.0000522	0.0005615	0.0035	1.7864		6650.79	6650.79	2.43		Si
SLV 2	1.57	2359.09	-9909	-0.0000544	0.0005615	0.0035	1.7864		8007.33	8007.33	3.39		Si
SLV 2	3.47	-1565.54	-13638	-0.0000582	0.0005615	0.0035	1.7864		11385.45	11385.45	7.27		Si
SLV 1	1.57	2968.21	-8535	-0.0000568	0.0005615	0.0035	1.7864		7110.16	7110.16	2.4		Si
SLV 1	3.47	-2255.85	-13753	-0.000066	0.0005615	0.0035	1.7864		11460.95	11460.95	5.08		Si
SLV 9	1.57	-239.66	2169	0.1954944	0.0005615	0.0035	1.4291		0	0	0		No
SLV 9	3.47	-1512.9	-1574	-0.0001628	0.0005615	0.0035	1.4291		2232.96	2232.96	1.48		Si
SLV 6	1.57	919.81	46	-0.0080675	0.0005615	0.0035	1.4291		134.98	134.98	0.15		No
SLV 6	3.47	-1980.31	-4615	-0.0000355	0.0005615	0.0035	1.7864		4757.35	4757.35	2.4		Si
SLV 10	1.57	-649.77	1243	0.1142684	0.0005615	0.0035	1.4291		0	0	0		No
SLV 10	3.47	-1048.14	-1496	-0.0000272	0.0005615	0.0035	1.4291		2166.92	2166.92	2.07		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	1.57	-28.75	-16000	-13323	1303	1.7864	1.7864	-26636	10496	5250	40441	14978	4555	19533	No	15	Si
SLU 81	3.47	148.82	-16600	-13823	1254	1.7864	1.7864	-27636	10629	5317	40441	14978	4555	19533	No	15.57	Si
SLU 84	1.57	5.41	-16134	-13435	1402	1.7864	1.7864	-26859	10526	5265	40441	14978	4555	19533	No	13.93	Si
SLU 84	3.47	114.7	-16870	-14048	1354	1.7864	1.7864	-28084	10689	5351	40441	14978	4555	19533	No	14.43	Si
SLU 83	1.57	-14.04	-16291	-13566	1337	1.7864	1.7864	-27121	10561	5282	40441	14978	4555	19533	No	14.61	Si
SLU 83	3.47	143.98	-16941	-14107	1288	1.7864	1.7864	-28204	10705	5367	40441	14978	4555	19533	No	15.17	Si
SLU 76	1.57	-4.19	-15465	-12878	1317	1.7864	1.7864	-25745	10377	5191	40441	14978	4555	19533	No	14.83	Si
SLU 76	3.47	149.01	-16071	-13383	1271	1.7864	1.7864	-26755	10512	5258	40441	14978	4555	19533	No	15.37	Si
SLU 42	1.57	57.97	-13859	-11541	1355	1.7864	1.7864	-23072	10021	5012	40441	14978	4555	19533	No	14.42	Si
SLU 42	3.47	-10.19	-14814	-12336	1313	1.7864	1.7864	-24662	10233	5118	40441	14978	4555	19533	No	14.88	Si
SLU 40	1.57	43.27	-13568	-11298	1320	1.7864	1.7864	-22587	9956	4980	40441	14978	4555	19533	No	14.8	Si
SLU 40	3.47	-5.34	-14473	-12051	1279	1.7864	1.7864	-24094	10157	5080	40441	14978	4555	19533	No	15.27	Si
SLU 78	1.57	0.05	-16005	-13327	1318	1.7864	1.7864	-26644	10497	5251	40441	14978	4555	19533	No	14.82	Si
SLU 78	3.47	163.74	-16622	-13841	1270	1.7864	1.7864	-27672	10634	5319	40441	14978	4555	19533	No	15.38	Si
SLU 80	1.57	-2.44	-15861	-13208	1308	1.7864	1.7864	-26405	10465	5235	40441	14978	4555	19533	No	14.93	Si
SLU 80	3.47	163.68	-16461	-13707	1260	1.7864	1.7864	-27403	10598	5301	40441	14978	4555	19533	No	15.5	Si
SLU 82	1.57	-9.3	-15843	-13192	1368	1.7864	1.7864	-26374	10461	5233	40441	14978	4555	19533	No	14.28	Si
SLU 82	3.47	119.55	-16528	-13763	1320	1.7864	1.7864	-27516	10613	5309	40441	14978	4555	19533	No	14.79	Si
SLU 41	1.57	38.53	-14016	-11672	1289	1.7864	1.7864	-23334	10056	5030	40441	14978	4555	19533	No	15.15	Si
SLU 41	3.47	19.09	-14885	-12395	1247	1.7864	1.7864	-24781	10249	5126	40441	14978	4555	19533	No	15.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	1.57	919.81	46	39	4590	1.4291	0	0	0	0	40441	17974	3644	21618		4.71	Si
SLV 6	3.47	-1980.31	-4615	-3843	4578	1.7864	1.3923	-9899	12396	4833	40441	22467	4555	27022		5.9	Si
SLV 16	1.57	-3123.46	-13064	-10879	-4756	1.7864	1.7864	-21749	14766	7386	40441	22467	4555	27022		5.68	Si
SLV 16	3.47	2732.73	-7874	-6557	-4587	1.7864	1.6384	-13108	13038	5982	40441	22467	4555	27022		5.89	Si
SLD 1	1.57	1864.03	-9414	-7839	4149	1.7864	1.7864	-15672	13551	6778	40441	22467	4555	27022		6.51	Si
SLD 1	3.47	-1352.92	-12712	-10585	3986	1.7864	1.7864	-21162	14649	7327	40441	22467	4555	27022		6.78	Si
SLV 3	1.57	2717.59	-15679	-13056	4197	1.7864	1.7864	-26102	15637	7822	40441	22467	4555	27022		6.44	Si
SLV 3	3.47	-1064.82	-18384	-15309	3909	1.7864	1.7864	-30605	16250	8128	40441	22467	4555	27022		6.91	Si
SLV 2	1.57	2359.09	-9909	-8252	4753	1.7864	1.7864	-16497	13716	6861	40441	22467	4555	27022		5.69	Si
SLV 2	3.47	-1565.54	-13638	-11356	4517	1.7864	1.7864	-22704	14957	7482	40441	22467	4555	27022		5.98	Si
SLV 12	1.57	-1485.16	-22571	-18795	-4141	1.7864	1.7864	-37575	16250	8128	40441	22467	4555	27022		6.52	Si
SLV 12	3.47	2921.96	-16934	-14101	-4196	1.7864	1.7864	-28192	16055	8031	40441	22467	4555	27022		6.44	Si
SLD 5	1.57	824.01	-3474	-2893	3717	1.7864	1.7864	-5784	11573	5789	40441	22467	4555	27022		7.27	Si
SLD 5	3.47	-1434.63	-7032	-5856	3696	1.7864	1.7864	-11707	12758	6381	40441	22467	4555	27022		7.31	Si
SLV 9	1.57	-239.66	2169	1806	3249	1.4291	1.7864	0	0	0	40441	17974	3644	21618		6.65	Si
SLV 9	3.47	-1512.9	-1574	-1310	3377	1.4291	0	0	0	0	40441	17974	3644	21618		6.4	Si
SLV 5	1.57	1329.92	972	809	5520	1.4291	0	0	0	0	40441	17974	3644	21618		3.92	Si
SLV 5	3.47	-2445.07	-4692	-3907	5510	1.4291	1.1164	0	0	0	40441	17974	3644	21618		3.92	Si
SLV 1	1.57	2968.21	-8535	-7107	6135	1.7864	1.6363	-14208	13258	6074	40441	22467	4555	27022		4.4	Si
SLV 1	3.47	-2255.85	-13753	-11452	5901	1.7864	1.7864	-22895	14996	7501	40441	22467	4555	27022		4.58	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.3	0	-315	157.27	0	0	No, e>t/2
SLV 10	179667	0.3	0	-642	157.27	0	0	No, e>t/2
SLV 5	179667	0.3	4823	-2412	157.27	327.07	2.08	Si
SLV 6	179667	0.3	5476	-2739	157.27	369.72	2.35	Si
SLV 13	179667	0.3	9195	-4599	157.27	605.13	3.85	Si
SLV 14	179667	0.3	10165	-5084	157.27	664.44	4.22	Si
SLV 15	179667	0.3	20865	-10436	157.27	1261.49	8.02	Si
SLV 16	179667	0.3	21835	-10922	157.27	1310.41	8.33	Si
SLV 1	179667	0.3	23171	-11590	157.27	1376.41	8.75	Si
SLV 2	179667	0.3	24141	-12075	157.27	1423.29	9.05	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-15357	-14487	97	0.626	1823.1	0.958	9.49493	6.24893	Si
SLV 3	-15171	-13727	97	0.632	1804.2	0.958	9.59714	6.24893	Si
SLV 8	-18442	-18389	435	0.519	2136.9	0.964	7.82455	4.03181	Si
SLV 7	-18317	-17877	435	0.522	2124.1	0.963	7.87144	4.03181	Si
SLV 2	-10943	-9104	-168	0.826	1374.7	0.946	12.69159	6.24893	Si
SLV 1	-10757	-8344	-168	0.838	1355.8	0.945	12.88253	6.24893	Si
SLV 12	-16699	-16458	460	0.563	1959.5	0.961	8.51978	4.03181	Si
SLV 11	-16573	-15946	460	0.567	1946.7	0.96	8.57622	4.03181	Si
SLV 16	-9544	-8048	179	0.924	1233	0.941	14.26819	6.24893	Si
SLV 15	-9358	-7288	179	0.938	1214.1	0.94	14.51069	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.614	SLU 43	Si
V_SLU	13.929	SLU 84	Si
PF_SLV	0	SLV 5	No
V_SLV	3.916	SLV 5	Si
PFFP_SLV	0	SLV 9	No
R_SLV	1.519	SLV 4	Si

Maschio 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.828	5.951	L4	L5	2.21	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	1.57	-7618.96	-24840	-0.0001253	0.0003743	0.0035	2.21	16625.94	20778.56	20778.56	2.73	No	Si
SLU 74	3.47	2058.52	-29811	-0.0000966	0.0003743	0.0035	2.21	17353.9	22176.16	22176.16	10.77	No	Si
SLU 82	1.57	-7577.53	-24934	-0.0001253	0.0003743	0.0035	2.21	16647.63	20829.21	20829.21	2.75	No	Si
SLU 82	3.47	2081.38	-29964	-0.0000973	0.0003743	0.0035	2.21	17362.55	22250.81	22250.81	10.69	No	Si
SLU 84	1.57	-7693.11	-25410	-0.0001279	0.0003743	0.0035	2.21	16753.46	21089.63	21089.63	2.74	No	Si
SLU 84	3.47	2090.87	-30502	-0.0000991	0.0003743	0.0035	2.21	17386.46	22514.76	22514.76	10.77	No	Si
SLU 77	1.57	-7734.54	-25317	-0.0001279	0.0003743	0.0035	2.21	16733.33	21038.26	21038.26	2.72	No	Si
SLU 77	3.47	2068.01	-30349	-0.0000984	0.0003743	0.0035	2.21	17380.69	22439.43	22439.43	10.85	No	Si
SLU 80	1.57	-7582.65	-24903	-0.0001252	0.0003743	0.0035	2.21	16640.6	20812.7	20812.7	2.74	No	Si
SLU 80	3.47	2027.93	-29839	-0.0000964	0.0003743	0.0035	2.21	17355.52	22189.6	22189.6	10.94	No	Si
SLU 81	1.57	-7668.44	-25115	-0.0001267	0.0003743	0.0035	2.21	16688.91	20928.04	20928.04	2.73	No	Si
SLU 81	3.47	2112.54	-30199	-0.0000983	0.0003743	0.0035	2.21	17374.24	22365.73	22365.73	10.59	No	Si
SLU 79	1.57	-7673.56	-25085	-0.0001266	0.0003743	0.0035	2.21	16682.07	20911.44	20911.44	2.73	No	Si
SLU 79	3.47	2059.09	-30073	-0.0000975	0.0003743	0.0035	2.21	17368.23	22304.27	22304.27	10.83	No	Si
SLU 78	1.57	-7643.63	-25135	-0.0001265	0.0003743	0.0035	2.21	16693.33	20938.83	20938.83	2.74	No	Si
SLU 78	3.47	2036.85	-30114	-0.0000974	0.0003743	0.0035	2.21	17370.24	22324.22	22324.22	10.96	No	Si
SLU 75	1.57	-7528.05	-24658	-0.0001239	0.0003743	0.0035	2.21	16582.9	20680.55	20680.55	2.75	No	Si
SLU 75	3.47	2027.37	-29576	-0.0000956	0.0003743	0.0035	2.21	17339.02	22062	22062	10.88	No	Si
SLU 83	1.57	-7784.02	-25592	-0.0001293	0.0003743	0.0035	2.21	16791.7	21189.87	21189.87	2.72	No	Si
SLU 83	3.47	2122.03	-30737	-0.0001001	0.0003743	0.0035	2.21	17393.72	22630.73	22630.73	10.66	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	1.57	-5929.69	-8111	-0.00008	0.0005615	0.0035	1.768		9651.63	9651.63	1.63		Si
SLV 14	3.47	3349	-16748	-0.0000645	0.0005615	0.0035	2.21		15992.27	15992.27	4.78		Si
SLV 12	1.57	-12760.24	-28832	-0.0001735	0.0005615	0.0035	2.21		26033.32	26033.32	2.04		Si
SLV 12	3.47	4155.43	-38389	-0.0001331	0.0005615	0.0035	2.21		29842.62	29842.62	7.18		Si
SLV 16	1.57	-9838.06	-16192	-0.0001246	0.0005615	0.0035	1.768		16887.85	16887.85	1.72		Si
SLV 16	3.47	4448.31	-27189	-0.0001016	0.0005615	0.0035	2.21		23611.3	23611.3	5.31		Si
SLD 14	1.57	-5713.79	-11269	-0.0000691	0.0005615	0.0035	2.21		12611.67	12611.67	2.21		Si
SLD 14	3.47	2657.13	-18021	-0.0000631	0.0005615	0.0035	2.21		17087.58	17087.58	6.43		Si
SLV 13	1.57	-4974.35	-8074	-0.0000601	0.0005615	0.0035	1.768		9615.6	9615.6	1.93		Si
SLV 13	3.47	2560.63	-14936	-0.0000543	0.0005615	0.0035	2.21		14455.19	14455.19	5.65		Si
SLV 15	1.57	-8882.73	-16155	-0.0001101	0.0005615	0.0035	2.21		16857.55	16857.55	1.9		Si
SLV 15	3.47	3659.93	-25378	-0.0000906	0.0005615	0.0035	2.21		22395.73	22395.73	6.12		Si
SLD 12	1.57	-9943.65	-24256	-0.0001348	0.0005615	0.0035	2.21		23023.91	23023.91	2.32		Si
SLD 12	3.47	3141.43	-31495	-0.0001044	0.0005615	0.0035	2.21		26557.24	26557.24	8.45		Si
SLD 15	1.57	-7534.22	-16287	-0.0000946	0.0005615	0.0035	2.21		16966.04	16966.04	2.25		Si
SLD 15	3.47	2839.52	-23370	-0.000079	0.0005615	0.0035	2.21		21067.55	21067.55	7.42		Si
SLV 11	1.57	-12117.05	-28807	-0.0001669	0.0005615	0.0035	2.21		26020.04	26020.04	2.15		Si
SLV 11	3.47	3624.64	-37169	-0.0001252	0.0005615	0.0035	2.21		29270.96	29270.96	8.08		Si
SLD 16	1.57	-8144.58	-16311	-0.0001012	0.0005615	0.0035	2.21		16985.06	16985.06	2.09		Si
SLD 16	3.47	3343.21	-24528	-0.0000859	0.0005615	0.0035	2.21		21830.89	21830.89	6.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	1.57	-7643.63	-25135	-20930	-9667	2.21	2.21	-33824	10833	7567	40441	18530	5635	24165	No	2.5	Si
SLU 78	3.47	2036.85	-30114	-25076	-9658	2.21	2.21	-40524	10833	8673	40441	18530	5635	24165	No	2.5	Si
SLU 83	1.57	-7784.02	-25592	-21311	-9883	2.21	2.21	-34439	10833	7669	40441	18530	5635	24165	No	2.45	Si
SLU 83	3.47	2122.03	-30737	-25595	-9873	2.21	2.21	-41362	10833	8811	40441	18530	5635	24165	No	2.45	Si
SLU 75	1.57	-7528.05	-24658	-20533	-9566	2.21	2.21	-33183	10833	7461	40441	18530	5635	24165	No	2.53	Si
SLU 75	3.47	2027.37	-29576	-24629	-9557	2.21	2.21	-39801	10833	8553	40441	18530	5635	24165	No	2.53	Si
SLU 84	1.57	-7693.11	-25410	-21160	-9787	2.21	2.21	-34195	10833	7628	40441	18530	5635	24165	No	2.47	Si
SLU 84	3.47	2090.87	-30502	-25399	-9777	2.21	2.21	-41046	10833	8759	40441	18530	5635	24165	No	2.47	Si
SLU 80	1.57	-7582.65	-24903	-20737	-9605	2.21	2.21	-33512	10833	7516	40441	18530	5635	24165	No	2.52	Si
SLU 80	3.47	2027.93	-29839	-24847	-9596	2.21	2.21	-40154	10833	8612	40441	18530	5635	24165	No	2.52	Si
SLU 79	1.57	-7673.56	-25085	-20889	-9700	2.21	2.21	-33757	10833	7556	40441	18530	5635	24165	No	2.49	Si
SLU 79	3.47	2059.09	-30073	-25043	-9691	2.21	2.21	-40470	10833	8664	40441	18530	5635	24165	No	2.49	Si
SLU 82	1.57	-7577.53	-24934	-20763	-9686	2.21	2.21	-33553	10833	7522	40441	18530	5635	24165	No	2.49	Si
SLU 82	3.47	2081.38	-29964	-24952	-9676	2.21	2.21	-40322	10833	8639	40441	18530	5635	24165	No	2.5	Si
SLU 74	1.57	-7618.96	-24840	-20685	-9661	2.21	2.21	-33427	10833	7502	40441	18530	5635	24165	No	2.5	Si
SLU 74	3.47	2058.52	-29811	-24824	-9652	2.21	2.21	-40117	10833	8605	40441	18530	5635	24165	No	2.5	Si
SLU 81	1.57	-7668.44	-25115	-20914	-9781	2.21	2.21	-33798	10833	7563	40441	18530	5635	24165	No	2.47	Si
SLU 81	3.47	2112.54	-30199	-25147	-9771	2.21	2.21	-40638	10833	8692	40441	18530	5635	24165	No	2.47	Si
SLU 77	1.57	-7734.54	-25317	-21082	-9762	2.21	2.21	-34069	10833	7607	40441	18530	5635	24165	No	2.48	Si
SLU 77	3.47	2068.01	-30349	-25272	-9753	2.21	2.21	-40840	10833	8725	40441	18530	5635	24165	No	2.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	1.57	-10847.17	-31566	-26285	-11445	2.21	2.21	-42478	16250	10055	40441	27794	5635	33430		2.92	Si
SLV 7	3.47	2384.69	-36581	-30462	-11693	2.21	2.21	-49227	16250	11102	40441	27794	5635	33430		2.86	Si
SLV 16	1.57	-9838.06	-16192	-13483	-15367	1.768	1.4922	0	0	0	40441	22236	4508	26744		1.74	Si
SLV 16	3.47	4448.31	-27189	-22641	-15087	2.21	2.21	-36588	16250	10055	40441	27794	5635	33430		2.22	Si
SLD 11	1.57	-9539.03	-24241	-20185	-11760	2.21	2.1345	-34415	16250	9712	40441	27794	5635	33430		2.84	Si
SLD 11	3.47	2807.53	-30727	-25587	-11787	2.21	2.21	-41349	16250	10055	40441	27794	5635	33430		2.84	Si
SLV 14	1.57	-5929.69	-8111	-6754	-11176	1.768	1.1217	0	0	0	40441	22236	4508	26744		2.39	Si
SLV 14	3.47	3349	-16748	-13946	-10801	2.21	2.21	-22537	14924	9235	40441	27794	5635	33430		3.1	Si
SLD 12	1.57	-9943.65	-24256	-20198	-12585	2.21	2.0852	-35270	16250	9488	40441	27794	5635	33430		2.66	Si
SLD 12	3.47	3141.43	-31495	-26226	-12613	2.21	2.21	-42382	16250	10055	40441	27794	5635	33430		2.65	Si
SLV 12	1.57	-12760.24	-28832	-24009	-16072	2.21	1.9873	-44258	16250	9381	40441	27794	5635	33430		2.08	Si
SLV 12	3.47	4155.43	-38389	-31967	-16127	2.21	2.21	-51660	16250	11503	40441	27794	5635	33430		2.07	Si
SLD 16	1.57	-8144.58	-16311	-13582	-12218	2.21	1.817	-27073	15831	8054	40441	27794	5635	33430		2.74	Si
SLD 16	3.47	3343.21	-24528	-20425	-12036	2.21	2.21	-33007	16250	10055	40441	27794	5635	33430		2.78	Si
SLV 11	1.57	-12117.05	-28807	-23988	-14759	2.21	2.0531	-42757	16250	9376	40441	27794	5635	33430		2.26	Si
SLV 11	3.47	3624.64	-37169	-30952	-14815	2.21	2.21	-50019	16250	11232	40441	27794	5635	33430		2.26	Si
SLV 8	1.57	-11490.37	-31590	-26306	-12757	2.21	2.21	-42511	16250	10055	40441	27794	5635	33430		2.62	Si
SLV 8	3.47	2915.48	-37801	-31478	-13006	2.21	2.21	-50869	16250	11373	40441	27794	5635	33430		2.57	Si
SLV 15	1.57	-8882.73	-16155	-13453	-13418	2.21	1.6655	-29294	16250	7578	40441	27794	5635	33430		2.49	Si
SLV 15	3.47	3659.93	-25378	-21132	-13138	2.21	2.21	-34151	16250	10055	40441	27794	5635	33430		2.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.3	4623	-2860	194.57	388.34	2	Si
SLV 10	179667	0.3	5805	-3592	194.57	483.77	2.49	Si
SLV 5	179667	0.3	5950	-3682	194.57	495.4	2.55	Si
SLV 6	179667	0.3	7133	-4414	194.57	589.05	3.03	Si
SLV 13	179667	0.3	20687	-12801	194.57	1549.41	7.96	Si
SLV 14	179667	0.3	22443	-13888	194.57	1658.58	8.52	Si
SLV 1	179667	0.3	25113	-15540	194.57	1817.83	9.34	Si
SLV 2	179667	0.3	26869	-16627	194.57	1918.18	9.86	Si
SLV 15	179667	0.3	36031	-22296	194.57	2384.97	12.26	Si
SLV 16	179667	0.3	37787	-23382	194.57	2463.57	12.66	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.

- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-22330	-15786	140	0.545	2594.2	0.963	8.22066	6.24893	Si
SLV 15	-20915	-15436	141	0.576	2450.3	0.961	8.70897	6.24893	Si
SLV 4	-20731	-23587	225	0.577	2431.6	0.961	8.72161	6.24893	Si
SLV 12	-31370	-28442	560	0.395	3514.5	0.972	5.90703	4.03181	Si
SLV 8	-30891	-30782	585	0.4	3465.6	0.972	5.97551	4.03181	Si
SLV 3	-19317	-23236	226	0.612	2287.7	0.958	9.28184	6.24893	Si
SLV 11	-30418	-28206	560	0.406	3417.5	0.971	6.06797	4.03181	Si
SLV 7	-29938	-30546	586	0.41	3368.6	0.971	6.141	4.03181	Si
SLV 14	-13903	-7230	-194	0.809	1737.8	0.947	12.41504	6.24893	Si
SLV 13	-12488	-6880	-193	0.884	1594.3	0.943	13.62605	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.72	SLU 77	Si
V_SLU	2.445	SLU 83	Si
PF_SLV	1.628	SLV 14	Si
V_SLV	1.74	SLV 16	Si
PFFP_SLV	1.996	SLV 9	Si
R_SLV	1.316	SLV 16	Si

Maschio 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.528	-3.169	-24.603	-3.169	L4	L5	2.075	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	1.57	3264.24	-12653	-0.0000598	0.0003743	0.0035	2.075	10319.38	11184.75	11184.75	3.43	No	Si
SLU 41	3.47	-203	-16981	-0.0000477	0.0003743	0.0035	2.075	12560.27	15113.33	15113.33	74.45	No	Si
SLU 32	1.57	3126.59	-12208	-0.0000573	0.0003743	0.0035	2.075	10051.5	10822.77	10822.77	3.46	No	Si
SLU 32	3.47	-131.9	-16248	-0.000045	0.0003743	0.0035	2.075	12226.87	14656.1	14656.1	111.11	No	Si
SLU 74	1.57	3658.57	-14380	-0.0000683	0.0003743	0.0035	2.075	11292.24	12423.14	12423.14	3.4	No	Si
SLU 74	3.47	-20.54	-18809	-0.0000516	0.0003743	0.0035	2.075	13309.23	16087.31	16087.31	783.27	No	Si
SLU 39	1.57	3237.94	-12476	-0.000059	0.0003743	0.0035	2.075	10213.63	11040.45	11040.45	3.41	No	Si
SLU 39	3.47	-217.39	-16744	-0.0000471	0.0003743	0.0035	2.075	12454.51	14965.52	14965.52	68.84	No	Si
SLU 81	1.57	3769.92	-14648	-0.00007	0.0003743	0.0035	2.075	11433.94	12579.75	12579.75	3.34	No	Si
SLU 81	3.47	-106.03	-19305	-0.0000538	0.0003743	0.0035	2.075	13492.3	16312.56	16312.56	153.85	No	Si
SLU 62	1.57	3373.49	-13244	-0.0000624	0.0003743	0.0035	2.075	10663.9	11668.34	11668.34	3.46	No	Si
SLU 62	3.47	60.18	-17105	-0.0000469	0.0003743	0.0035	2.075	12614.89	14050.59	14050.59	233.48	No	Si
SLU 60	1.57	3347.19	-13066	-0.0000617	0.0003743	0.0035	2.075	10561.83	11522.85	11522.85	3.44	No	Si
SLU 60	3.47	45.79	-16868	-0.0000461	0.0003743	0.0035	2.075	12510.16	13905.84	13905.84	303.69	No	Si
SLU 79	1.57	3654.88	-14449	-0.0000684	0.0003743	0.0035	2.075	11328.9	12463.3	12463.3	3.41	No	Si
SLU 79	3.47	1.74	-18884	-0.0000517	0.0003743	0.0035	2.075	13337.38	15155.49	15155.49	8728.23	No	Si
SLU 83	1.57	3796.22	-14825	-0.0000708	0.0003743	0.0035	2.075	11526.18	12683.7	12683.7	3.34	No	Si
SLU 83	3.47	-91.64	-19542	-0.0000544	0.0003743	0.0035	2.075	13576.75	16421.65	16421.65	179.2	No	Si
SLU 77	1.57	3684.87	-14557	-0.000069	0.0003743	0.0035	2.075	11386.16	12526.53	12526.53	3.4	No	Si
SLU 77	3.47	-6.15	-19046	-0.0000522	0.0003743	0.0035	2.075	13397.81	16194.47	16194.47	2633.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	1.57	3142.43	-2455	-0.0037156	0.0005615	0.0035	1.66		2716.59	2716.59	0.86		No
SLD 8	3.47	-2256.12	-9025	-0.0000404	0.0005615	0.0035	2.075		9700.79	9700.79	4.3		Si
SLD 12	1.57	1442.02	-1854	-0.0000253	0.0005615	0.0035	2.075		2116.31	2116.31	1.47		Si
SLD 12	3.47	-1262.64	-6264	-0.0000255	0.0005615	0.0035	2.075		7216.7	7216.7	5.72		Si
SLV 12	1.57	807.1	3011	0.2371764	0.0005615	0.0035	1.66		0	0	0		No
SLV 12	3.47	-2124.95	-2441	-0.0000509	0.0005615	0.0035	1.66		3566.97	3566.97	1.68		Si
SLD 7	1.57	2822.95	-2962	-0.0001328	0.0005615	0.0035	2.075		3214.01	3214.01	1.14		Si
SLD 7	3.47	-1838.84	-8883	-0.0000369	0.0005615	0.0035	2.075		9576.32	9576.32	5.21		Si
SLV 15	1.57	-2510.08	-5296	-0.0000335	0.0005615	0.0035	2.075		6307.03	6307.03	2.51		Si
SLV 15	3.47	2363.2	-2788	-0.0000532	0.0005615	0.0035	2.075		3043.62	3043.62	1.29		Si
SLV 8	1.57	3471.58	2070	0.1258592	0.0005615	0.0035	1.66		0	0	0		No
SLV 8	3.47	-3666.09	-6776	-0.0000493	0.0005615	0.0035	2.075		7680.78	7680.78	2.1		Si
SLV 4	1.57	7125.84	-7238	-0.0011684	0.0005615	0.0035	2.075		7263.51	7263.51	1.02		Si
SLV 4	3.47	-3759.17	-17571	-0.0000763	0.0005615	0.0035	2.075		16619.27	16619.27	4.42		Si
SLV 11	1.57	299.23	2206	0.1752107	0.0005615	0.0035	1.66		0	0	0		No
SLV 11	3.47	-1461.63	-2215	-0.0000207	0.0005615	0.0035	1.66		3344.45	3344.45	2.29		Si
SLV 3	1.57	6371.51	-8434	-0.0001135	0.0005615	0.0035	2.075		8342.76	8342.76	1.31		Si
SLV 3	3.47	-2773.94	-17235	-0.0000674	0.0005615	0.0035	2.075		16375.86	16375.86	5.9		Si
SLV 7	1.57	2963.71	1265	0.0495627	0.0005615	0.0035	1.66		0	0	0		No
SLV 7	3.47	-3002.77	-6550	-0.0000406	0.0005615	0.0035	2.075		7475.63	7475.63	2.49		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	1.57	3611.6	-15121	-12592	5913	2.075	2.075	-21673	9834	5714	40441	17398	5291	22689	No	3.84	Si
SLU 84	3.47	-72.58	-19667	-16377	5864	2.075	2.075	-28188	10703	6232	40441	17398	5291	22689	No	3.87	Si
SLU 82	1.57	3585.3	-14944	-12444	5874	2.075	2.075	-21419	9800	5694	40441	17398	5291	22689	No	3.86	Si
SLU 82	3.47	-86.97	-19430	-16180	5825	2.075	2.075	-27848	10658	6192	40441	17398	5291	22689	No	3.89	Si
SLU 81	1.57	3769.92	-14648	-12198	6068	2.075	2.075	-20994	9744	5661	40441	17398	5291	22689	No	3.74	Si
SLU 81	3.47	-106.03	-19305	-16076	6032	2.075	2.075	-27669	10634	6178	40441	17398	5291	22689	No	3.76	Si
SLU 77	1.57	3684.87	-14557	-12122	5879	2.075	2.075	-20864	9726	5651	40441	17398	5291	22689	No	3.86	Si
SLU 77	3.47	-6.15	-19046	-15860	5843	2.075	2.075	-27298	10584	6149	40441	17398	5291	22689	No	3.88	Si
SLU 83	1.57	3796.22	-14825	-12345	6107	2.075	2.075	-21248	9778	5681	40441	17398	5291	22689	No	3.72	Si
SLU 83	3.47	-91.64	-19542	-16273	6071	2.075	2.075	-28009	10679	6204	40441	17398	5291	22689	No	3.74	Si
SLU 78	1.57	3500.25	-14853	-12369	5684	2.075	2.075	-21288	9783	5684	40441	17398	5291	22689	No	3.99	Si
SLU 78	3.47	12.91	-19171	-15964	5636	2.075	2.075	-27477	10608	6163	40441	17398	5291	22689	No	4.03	Si
SLU 74	1.57	3658.57	-14380	-11974	5840	2.075	2.075	-20610	9692	5631	40441	17398	5291	22689	No	3.89	Si
SLU 74	3.47	-20.54	-18809	-15662	5804	2.075	2.075	-26958	10539	6123	40441	17398	5291	22689	No	3.91	Si
SLU 75	1.57	3473.95	-14676	-12221	5645	2.075	2.075	-21034	9749	5664	40441	17398	5291	22689	No	4.02	Si
SLU 75	3.47	-1.48	-18934	-15767	5598	2.075	2.075	-27137	10563	6137	40441	17398	5291	22689	No	4.05	Si
SLU 80	1.57	3470.26	-14745	-12278	5635	2.075	2.075	-21133	9762	5672	40441	17398	5291	22689	No	4.03	Si
SLU 80	3.47	20.79	-19009	-15829	5587	2.075	2.075	-27244	10577	6145	40441	17398	5291	22689	No	4.06	Si
SLU 79	1.57	3654.88	-14449	-12032	5829	2.075	2.075	-20708	9706	5639	40441	17398	5291	22689	No	3.89	Si
SLU 79	3.47	1.74	-18884	-15725	5794	2.075	2.075	-27065	10553	6131	40441	17398	5291	22689	No	3.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	1.57	4975.06	-9015	-7507	8279	2.075	1.457	-12921	13001	5304	40441	26097	5291	31388		3.79	Si
SLD 3	3.47	-1735.11	-15598	-12989	8164	2.075	2.075	-22355	14888	8650	40441	26097	5291	31388		3.84	Si
SLV 3	1.57	6371.51	-8434	-7023	10769	2.075	0.8462	-12088	12834	4670	40441	26097	5291	31388		2.91	Si
SLV 3	3.47	-2773.94	-17235	-14352	10611	2.075	2.075	-24702	15357	8922	40441	26097	5291	31388		2.96	Si
SLD 8	1.57	3142.43	-2455	-2044	7390	1.66	0	0	0	0	40441	20877	4233	25110		3.4	Si
SLD 8	3.47	-2256.12	-9025	-7515	7550	2.075	2.075	-12935	13004	7555	40441	26097	5291	31388		4.16	Si
SLV 2	1.57	7487.97	-14443	-12027	10792	2.075	1.5572	-20700	14557	6347	40441	26097	5291	31388		2.91	Si
SLV 2	3.47	-2159.84	-22442	-18688	10396	2.075	2.075	-32165	16250	9441	40441	26097	5291	31388		3.02	Si
SLV 8	1.57	3471.58	2070	1724	9428	1.66	0	0	0	0	40441	20877	4233	25110		2.66	Si
SLV 8	3.47	-3666.09	-6776	-5642	9725	2.075	1.4893	-13616	13140	5479	40441	26097	5291	31388		3.23	Si
SLD 2	1.57	5670.88	-12728	-10599	8313	2.075	1.7759	-18243	14065	6994	40441	26097	5291	31388		3.78	Si
SLD 2	3.47	-1373.12	-18837	-15686	8059	2.075	2.075	-26998	15816	9189	40441	26097	5291	31388		3.89	Si
SLD 4	1.57	5457	-8251	-6871	9398	2.075	1.1285	-11826	12782	4629	40441	26097	5291	31388		3.34	Si
SLD 4	3.47	-2364.57	-15812	-13167	9283	2.075	2.075	-22663	14949	8685	40441	26097	5291	31388		3.38	Si
SLV 1	1.57	6733.63	-15639	-13023	9041	2.075	1.8208	-22414	14899	7596	40441	26097	5291	31388		3.47	Si
SLV 1	3.47	-1174.62	-22107	-18409	8644	2.075	2.075	-31685	16250	9441	40441	26097	5291	31388		3.63	Si
SLV 4	1.57	7125.84	-7238	-6028	12521	2.075	0.1592	-136121	16250	4404	40441	26097	5291	31388		2.51	Si
SLV 4	3.47	-3759.17	-17571	-14631	12363	2.075	2.075	-25183	15453	8978	40441	26097	5291	31388		2.54	Si
SLV 7	1.57	2963.71	1265	1053	8248	1.66	0	0	0	0	40441	20877	4233	25110		3.04	Si
SLV 7	3.47	-3002.77	-6550	-5454	8545	2.075	1.7371	-11272	12671	6163	40441	26097	5291	31388		3.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	0	-188	182.68	0	0	No, e>t/2
SLV 11	179667	0.3	0	-381	182.68	0	0	No, e>t/2
SLV 8	179667	0.3	5148	-2991	182.68	404.64	2.21	Si
SLV 7	179667	0.3	5481	-3184	182.68	429.81	2.35	Si
SLV 16	179667	0.3	6944	-4034	182.68	539.11	2.95	Si
SLV 15	179667	0.3	7438	-4321	182.68	575.52	3.15	Si
SLV 14	179667	0.3	17513	-10175	182.68	1261.14	6.9	Si
SLV 13	179667	0.3	18007	-10462	182.68	1291.98	7.07	Si
SLV 4	179667	0.3	23028	-13379	182.68	1590.63	8.71	Si
SLV 3	179667	0.3	23522	-13666	182.68	1618.57	8.86	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-19710	-11761	232	0.569	2308	0.961	8.61134	6.24893	Si
SLV 2	-19625	-11128	231	0.572	2299.4	0.961	8.64479	6.24893	Si
SLV 3	-14708	-6607	248	0.728	1799.6	0.951	11.12597	6.24893	Si
SLV 4	-14624	-5975	247	0.732	1791	0.951	11.18323	6.24893	Si
SLV 5	-21967	-16353	49	0.527	2537.6	0.964	7.94154	4.03181	Si
SLV 6	-21910	-15927	48	0.528	2531.8	0.964	7.96019	4.03181	Si
SLV 9	-18912	-15225	-93	0.596	2226.8	0.96	9.03226	4.03181	Si
SLV 10	-18855	-14799	-93	0.598	2221	0.96	9.05587	4.03181	Si
SLV 13	-9526	-7999	-239	1.041	1274.3	0.935	16.19363	6.24893	Si
SLV 14	-9442	-7366	-240	1.049	1265.8	0.934	16.31481	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.337	SLU 81	Si
V_SLU	3.715	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	2.507	SLV 4	Si
PFFP_SLV	0	SLV 11	No
R_SLV	1.378	SLV 1	Si

Maschio 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.528	-3.169	L4	L5	2.235	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	2.67	-7547.53	-24076	-0.0001198	0.0003743	0.0035	2.235	16738.08	20673.51	20673.51	2.74	No	Si
SLU 75	3.47	778.31	-22871	-0.0000644	0.0003743	0.0035	2.235	16383.84	19287.81	19287.81	24.78	No	Si
SLU 81	2.67	-7757.55	-24294	-0.0001222	0.0003743	0.0035	2.235	16796.74	20790.42	20790.42	2.68	No	Si
SLU 81	3.47	688.3	-23089	-0.0000644	0.0003743	0.0035	2.235	16451.71	19384.16	19384.16	28.16	No	Si
SLU 77	2.67	-7669.7	-23933	-0.0001202	0.0003743	0.0035	2.235	16698.6	20597.05	20597.05	2.69	No	Si
SLU 77	3.47	744.71	-22728	-0.0000637	0.0003743	0.0035	2.235	16338.31	19224.67	19224.67	25.81	No	Si
SLU 80	2.67	-7558.6	-24116	-0.00012	0.0003743	0.0035	2.235	16748.94	20694.84	20694.84	2.74	No	Si
SLU 80	3.47	801.81	-22911	-0.0000647	0.0003743	0.0035	2.235	16396.39	19305.41	19305.41	24.08	No	Si
SLU 79	2.67	-7613.54	-23732	-0.0001191	0.0003743	0.0035	2.235	16642	20490.37	20490.37	2.69	No	Si
SLU 79	3.47	751.67	-22527	-0.0000632	0.0003743	0.0035	2.235	16273.21	19128.69	19128.69	25.45	No	Si
SLU 78	2.67	-7614.76	-24317	-0.0001211	0.0003743	0.0035	2.235	16802.83	20802.78	20802.78	2.73	No	Si
SLU 78	3.47	794.85	-23112	-0.0000652	0.0003743	0.0035	2.235	16458.77	19394.34	19394.34	24.4	No	Si
SLU 84	2.67	-7769.83	-24919	-0.0001244	0.0003743	0.0035	2.235	16955.75	21130.06	21130.06	2.72	No	Si
SLU 84	3.47	754.99	-23715	-0.0000667	0.0003743	0.0035	2.235	16637.14	19662.71	19662.71	26.04	No	Si
SLU 83	2.67	-7824.78	-24535	-0.0001235	0.0003743	0.0035	2.235	16859.64	20920.55	20920.55	2.67	No	Si
SLU 83	3.47	704.85	-23330	-0.0000652	0.0003743	0.0035	2.235	16524.8	19491.13	19491.13	27.65	No	Si
SLU 74	2.67	-7602.47	-23692	-0.0001189	0.0003743	0.0035	2.235	16630.61	20469.29	20469.29	2.69	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	3.47	728.17	-22487	-0.0000629	0.0003743	0.0035	2.235	16260.13	19103.87	19103.87	26.24	No	Si
SLU 82	2.67	-7702.61	-24678	-0.000123	0.0003743	0.0035	2.235	16896.09	20998.41	20998.41	2.73	No	Si
SLU 82	3.47	738.44	-23474	-0.0000659	0.0003743	0.0035	2.235	16567.31	19554.98	19554.98	26.48	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	2.67	-7133.4	-18828	-0.0000954	0.0005615	0.0035	2.235		19258.67	19258.67	2.7		Si
SLV 14	3.47	5342.99	-17985	-0.0000805	0.0005615	0.0035	2.235		17264.82	17264.82	3.23		Si
SLV 7	2.67	-1840.47	-5801	-0.0000256	0.0005615	0.0035	2.235		7468.89	7468.89	4.06		Si
SLV 7	3.47	-2730.66	-4496	-0.0000314	0.0005615	0.0035	1.788		6144.39	6144.39	2.25		Si
SLV 16	2.67	-5182.46	-12485	-0.0000649	0.0005615	0.0035	2.235		13862.75	13862.75	2.67		Si
SLV 16	3.47	3931	-11405	-0.0000534	0.0005615	0.0035	2.235		11694.16	11694.16	2.97		Si
SLV 15	2.67	-5728.87	-13478	-0.0000714	0.0005615	0.0035	2.235		14759.91	14759.91	2.58		Si
SLV 15	3.47	5269.54	-12398	-0.0000654	0.0005615	0.0035	2.235		12513.53	12513.53	2.37		Si
SLV 13	2.67	-7679.81	-19820	-0.0001021	0.0005615	0.0035	2.235		20032.33	20032.33	2.61		Si
SLV 13	3.47	6681.54	-18977	-0.0000925	0.0005615	0.0035	2.235		18132.92	18132.92	2.71		Si
SLV 8	2.67	-1472.59	-5133	-0.0000216	0.0005615	0.0035	2.235		6788.8	6788.8	4.61		Si
SLV 8	3.47	-3631.85	-3828	-0.0000798	0.0005615	0.0035	1.788		5455.45	5455.45	1.5		Si
SLD 13	2.67	-6785.7	-18399	-0.0000917	0.0005615	0.0035	2.235		18917.12	18917.12	2.79		Si
SLD 13	3.47	4466.32	-17529	-0.0000732	0.0005615	0.0035	2.235		16868.47	16868.47	3.78		Si
SLV 4	2.67	-2839.33	-12308	-0.0000485	0.0005615	0.0035	2.235		13702.26	13702.26	4.83		Si
SLV 4	3.47	-5506.23	-11308	-0.0000655	0.0005615	0.0035	2.235		12799.47	12799.47	2.32		Si
SLD 15	2.67	-5573.65	-14449	-0.0000726	0.0005615	0.0035	2.235		15601.43	15601.43	2.8		Si
SLD 15	3.47	3584.48	-13430	-0.0000564	0.0005615	0.0035	2.235		13373.46	13373.46	3.73		Si
SLV 9	2.67	-9046.55	-26995	-0.000133	0.0005615	0.0035	2.235		25215.15	25215.15	2.79		Si
SLV 9	3.47	4807.16	-26458	-0.0001005	0.0005615	0.0035	2.235		23442.97	23442.97	4.88		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	2.67	-7547.53	-24076	-20048	-10393	2.235	2.235	-32036	10833	7354	40441	18739	5699	24438	No	2.35	Si
SLU 75	3.47	778.31	-22871	-19045	-10393	2.235	2.235	-30433	10833	7087	40441	18739	5699	24438	No	2.35	Si
SLU 84	2.67	-7769.83	-24919	-20750	-10642	2.235	2.235	-33158	10833	7542	40441	18739	5699	24438	No	2.3	Si
SLU 84	3.47	754.99	-23715	-19747	-10642	2.235	2.235	-31555	10833	7274	40441	18739	5699	24438	No	2.3	Si
SLU 78	2.67	-7614.76	-24317	-20249	-10498	2.235	2.235	-32357	10833	7408	40441	18739	5699	24438	No	2.33	Si
SLU 78	3.47	794.85	-23112	-19246	-10498	2.235	2.235	-30754	10833	7140	40441	18739	5699	24438	No	2.33	Si
SLU 81	2.67	-7757.55	-24294	-20230	-10543	2.235	2.235	-32326	10833	7403	40441	18739	5699	24438	No	2.32	Si
SLU 81	3.47	688.3	-23089	-19227	-10543	2.235	2.235	-30724	10833	7135	40441	18739	5699	24438	No	2.32	Si
SLU 79	2.67	-7613.54	-23732	-19762	-10442	2.235	2.235	-31578	10833	7278	40441	18739	5699	24438	No	2.34	Si
SLU 79	3.47	751.67	-22527	-18758	-10442	2.235	2.235	-29975	10833	7010	40441	18739	5699	24438	No	2.34	Si
SLU 82	2.67	-7702.61	-24678	-20550	-10537	2.235	2.235	-32838	10833	7488	40441	18739	5699	24438	No	2.32	Si
SLU 82	3.47	738.44	-23474	-19547	-10537	2.235	2.235	-31235	10833	7221	40441	18739	5699	24438	No	2.32	Si
SLU 80	2.67	-7558.6	-24116	-20082	-10436	2.235	2.235	-32089	10833	7363	40441	18739	5699	24438	No	2.34	Si
SLU 80	3.47	801.81	-22911	-19078	-10436	2.235	2.235	-30487	10833	7096	40441	18739	5699	24438	No	2.34	Si
SLU 77	2.67	-7669.7	-23933	-19929	-10504	2.235	2.235	-31846	10833	7323	40441	18739	5699	24438	No	2.33	Si
SLU 77	3.47	744.71	-22728	-18926	-10504	2.235	2.235	-30243	10833	7055	40441	18739	5699	24438	No	2.33	Si
SLU 83	2.67	-7824.78	-24535	-20430	-10648	2.235	2.235	-32647	10833	7456	40441	18739	5699	24438	No	2.3	Si
SLU 83	3.47	704.85	-23330	-19427	-10648	2.235	2.235	-31044	10833	7189	40441	18739	5699	24438	No	2.3	Si
SLU 74	2.67	-7602.47	-23692	-19728	-10399	2.235	2.235	-31525	10833	7269	40441	18739	5699	24438	No	2.35	Si
SLU 74	3.47	728.17	-22487	-18725	-10399	2.235	2.235	-29922	10833	7002	40441	18739	5699	24438	No	2.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	2.67	-8678.67	-26327	-21923	-15627	2.235	2.235	-35032	16250	10169	40441	28109	5699	33808		2.16	Si
SLV 10	3.47	3905.97	-25790	-21475	-15654	2.235	2.235	-34317	16250	10169	40441	28109	5699	33808		2.16	Si
SLD 10	2.67	-7387.61	-22450	-18694	-12512	2.235	2.235	-29873	16250	10169	40441	28109	5699	33808		2.7	Si
SLD 10	3.47	2676.97	-21772	-18129	-12530	2.235	2.235	-28970	16211	10145	40441	28109	5699	33808		2.7	Si
SLV 15	2.67	-5728.87	-13478	-11223	-13820	2.235	2.0773	-19469	14311	8324	40441	28109	5699	33808		2.45	Si
SLV 15	3.47	5269.54	-12398	-10324	-13702	2.235	2.0774	-16497	13716	7978	40441	28109	5699	33808		2.47	Si
SLD 14	2.67	-6436.6	-17765	-14793	-12561	2.235	2.235	-23638	15144	9477	40441	28109	5699	33808		2.69	Si
SLD 14	3.47	3611.12	-16895	-14069	-12507	2.235	2.235	-22482	14913	9333	40441	28109	5699	33808		2.7	Si
SLV 13	2.67	-7679.81	-19820	-16504	-17959	2.235	2.1901	-26373	15691	9622	40441	28109	5699	33808		1.88	Si
SLV 13	3.47	6681.54	-18977	-15803	-17875	2.235	2.235	-25252	15467	9679	40441	28109	5699	33808		1.89	Si
SLD 13	2.67	-6785.7	-18399	-15321	-14066	2.235	2.235	-24482	15313	9583	40441	28109	5699	33808		2.4	Si
SLD 13	3.47	4466.32	-17529	-14597	-14013	2.235	2.235	-23325	15082	9438	40441	28109	5699	33808		2.41	Si
SLD 9	2.67	-7619.04	-22870	-19044	-13510	2.235	2.235	-30432	16250	10169	40441	28109	5699	33808		2.5	Si
SLD 9	3.47	3243.89	-22192	-18479	-13528	2.235	2.235	-29529	16250	10169	40441	28109	5699	33808		2.5	Si
SLV 5	2.67	-8343.61	-26942	-22435	-12765	2.235	2.235	-35850	16250	10169	40441	28109	5699	33808		2.65	Si
SLV 5	3.47	1976	-26429	-22007	-12853	2.235	2.235	-35167	16250	10169	40441	28109	5699	33808		2.63	Si
SLV 9	2.67	-9046.55	-26995	-22479	-17213	2.235	2.235	-35921	16250	10169	40441	28109	5699	33808		1.96	Si
SLV 9	3.47	4807.16	-26458	-22032	-17240	2.235	2.235	-35206	16250	10169	40441	28109	5699	33808		1.96	Si
SLV 14	2.67	-7133.4	-18828	-15678	-15603	2.235	2.2159	-25053	15427	9572	40441	28109	5699	33808		2.17	Si
SLV 14	3.47	5342.99	-17985	-14977	-15519	2.235	2.235	-23932	15203	9514	40441	28109	5699	33808		2.18	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	7003	-4382	196.77	585.4	2.98	Si
SLV 8	179667	0.3	7672	-4801	196.77	638.36	3.24	Si
SLV 11	179667	0.3	7757	-4854	196.77	645.1	3.28	Si
SLV 7	179667	0.3	8426	-5273	196.77	697.48	3.54	Si
SLV 16	179667	0.3	16612	-10396	196.77	1297.11	6.59	Si
SLV 15	179667	0.3	17733	-11097	196.77	1373.2	6.98	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.3	18841	-11791	196.77	1447.06	7.35	Si
SLV 3	179667	0.3	19962	-12492	196.77	1520.28	7.73	Si
SLV 14	179667	0.3	25674	-16067	196.77	1871.22	9.51	Si
SLV 13	179667	0.3	26795	-16768	196.77	1935.66	9.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-16536	-11014	-161	0.708	2008.7	0.953	10.80294	6.24893	Si
SLV 2	-16138	-10939	-162	0.723	1968.4	0.952	11.03531	6.24893	Si
SLV 13	-13398	-6545	-155	0.845	1690.3	0.945	12.98697	6.24893	Si
SLV 5	-20803	-13642	-567	0.566	2442.6	0.96	8.55731	4.03181	Si
SLV 14	-13001	-6470	-156	0.866	1650	0.944	13.32941	6.24893	Si
SLV 6	-20536	-13592	-567	0.572	2415.3	0.96	8.65508	4.03181	Si
SLV 9	-19862	-12302	-565	0.588	2346.8	0.959	8.91466	4.03181	Si
SLV 10	-19594	-12251	-565	0.595	2319.6	0.959	9.02136	4.03181	Si
SLV 3	-11881	-7411	188	0.93	1536.5	0.941	14.3693	6.24893	Si
SLV 4	-11483	-7335	188	0.956	1496.2	0.939	14.79538	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.674	SLU 83	Si
V_SLU	2.295	SLU 83	Si
PF_SLV	1.502	SLV 8	Si
V_SLV	1.883	SLV 13	Si
PFFP_SLV	2.975	SLV 12	Si
R_SLV	1.729	SLV 1	Si

Maschio 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.263	-3.169	-18.793	-3.169	L4	L5	0.53	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	2.67	-409.93	-9830	-0.0001841	0.0003743	0.0035	0.53	910.16	1469.8	1469.8	3.59	No	Si
SLU 77	3.47	602.14	-10380	-0.0002306	0.0003743	0.0035	0.53	860.94	1459.56	1459.56	2.42	No	Si
SLU 71	2.67	-390.52	-8719	-0.0001612	0.0003743	0.0035	0.53	977.17	1408.88	1408.88	3.61	No	Si
SLU 71	3.47	574.54	-9165	-0.0002003	0.0003743	0.0035	0.53	955.44	1409.19	1409.19	2.45	No	Si
SLU 66	2.67	-389.87	-8701	-0.0001608	0.0003743	0.0035	0.53	977.88	1407.98	1407.98	3.61	No	Si
SLU 66	3.47	574.16	-9146	-0.0001999	0.0003743	0.0035	0.53	956.53	1408.08	1408.08	2.45	No	Si
SLU 79	2.67	-407.58	-9752	-0.0001823	0.0003743	0.0035	0.53	916.28	1466.27	1466.27	3.6	No	Si
SLU 79	3.47	597.64	-10298	-0.0002279	0.0003743	0.0035	0.53	868.96	1460.34	1460.34	2.44	No	Si
SLU 69	2.67	-392.87	-8797	-0.0001629	0.0003743	0.0035	0.53	973.88	1412.93	1412.93	3.6	No	Si
SLU 69	3.47	579.04	-9247	-0.0002027	0.0003743	0.0035	0.53	950.68	1413.9	1413.9	2.44	No	Si
SLU 78	2.67	-402.01	-9907	-0.0001842	0.0003743	0.0035	0.53	903.89	1469.52	1469.52	3.66	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	3.47	595.95	-10434	-0.0002306	0.0003743	0.0035	0.53	855.47	1459.05	1459.05	2.45	No	Si
SLU 74	2.67	-406.93	-9734	-0.0001818	0.0003743	0.0035	0.53	917.61	1465.4	1465.4	3.6	No	Si
SLU 74	3.47	597.26	-10278	-0.0002274	0.0003743	0.0035	0.53	870.82	1460.52	1460.52	2.45	No	Si
SLU 83	2.67	-411.9	-10099	-0.0001895	0.0003743	0.0035	0.53	887.4	1468.93	1468.93	3.57	No	Si
SLU 83	3.47	602.66	-10681	-0.0002375	0.0003743	0.0035	0.53	829.45	1456.8	1456.8	2.42	No	Si
SLU 84	2.67	-403.98	-10176	-0.0001896	0.0003743	0.0035	0.53	880.4	1468.75	1468.75	3.64	No	Si
SLU 84	3.47	596.48	-10736	-0.0002375	0.0003743	0.0035	0.53	823.4	1456.32	1456.32	2.44	No	Si
SLU 81	2.67	-408.9	-10003	-0.0001872	0.0003743	0.0035	0.53	895.76	1469.2	1469.2	3.59	No	Si
SLU 81	3.47	597.78	-10580	-0.0002342	0.0003743	0.0035	0.53	840.4	1457.71	1457.71	2.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	2.67	-815.25	-3221	-0.0014212	0.0005615	0.0035	0.424		826.58	826.58	1.01		Si
SLV 15	3.47	1211.37	-3486	-0.0337442	0.0005615	0.0035	0.424		812.51	812.51	0.67		No
SLV 14	2.67	-797.05	-5509	-0.0001841	0.0005615	0.0035	0.424		1263.64	1263.64	1.59		Si
SLV 14	3.47	1228.84	-5688	-0.0017476	0.0005615	0.0035	0.53		1224.34	1224.34	1		No
SLV 16	2.67	-682.97	-3391	-0.0002188	0.0005615	0.0035	0.424		861.76	861.76	1.26		Si
SLV 16	3.47	1002.87	-3652	-0.0131984	0.0005615	0.0035	0.424		846.19	846.19	0.84		No
SLV 10	2.67	-592.54	-9516	-0.000187	0.0005615	0.0035	0.53		1786.97	1786.97	3.02		Si
SLV 10	3.47	972.63	-9683	-0.0002505	0.0005615	0.0035	0.53		1770.84	1770.84	1.82		Si
SLD 14	2.67	-612.31	-5884	-0.000142	0.0005615	0.0035	0.53		1327.05	1327.05	2.17		Si
SLD 14	3.47	936.03	-6129	-0.0002278	0.0005615	0.0035	0.53		1295	1295	1.38		Si
SLV 13	2.67	-929.32	-5339	-0.0002491	0.0005615	0.0035	0.424		1234.54	1234.54	1.33		Si
SLV 13	3.47	1437.33	-5522	-0.0157141	0.0005615	0.0035	0.424		1197.99	1197.99	0.83		No
SLD 13	2.67	-696.82	-5776	-0.0001573	0.0005615	0.0035	0.53		1308.78	1308.78	1.88		Si
SLD 13	3.47	1069.24	-6022	-0.0003088	0.0005615	0.0035	0.53		1277.9	1277.9	1.2		Si
SLV 9	2.67	-681.6	-9401	-0.0001983	0.0005615	0.0035	0.53		1776.25	1776.25	2.61		Si
SLV 9	3.47	1113	-9571	-0.0002816	0.0005615	0.0035	0.53		1757.98	1757.98	1.58		Si
SLD 16	2.67	-541.49	-4567	-0.0001189	0.0005615	0.0035	0.53		1094.83	1094.83	2.02		Si
SLD 16	3.47	795.03	-4865	-0.0001943	0.0005615	0.0035	0.53		1093.56	1093.56	1.38		Si
SLD 15	2.67	-626	-4459	-0.0001386	0.0005615	0.0035	0.424		1074.29	1074.29	1.72		Si
SLD 15	3.47	928.24	-4759	-0.0003037	0.0005615	0.0035	0.53		1073.18	1073.18	1.16		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	2.67	-400.98	-10081	-8394	-1307	0.53	0.53	-56565	10833	2715	40441	4444	1351	5795	No	4.43	Si
SLU 82	3.47	591.6	-10635	-8856	-1303	0.53	0.53	-59674	10833	2838	40441	4444	1351	5795	No	4.45	Si
SLU 79	2.67	-407.58	-9752	-8120	-1322	0.53	0.53	-54719	10833	2642	40441	4444	1351	5795	No	4.38	Si
SLU 79	3.47	597.64	-10298	-8575	-1319	0.53	0.53	-57783	10833	2763	40441	4444	1351	5795	No	4.4	Si
SLU 75	2.67	-399.01	-9811	-8170	-1302	0.53	0.53	-55055	10833	2655	40441	4444	1351	5795	No	4.45	Si
SLU 75	3.47	591.08	-10333	-8604	-1298	0.53	0.53	-57981	10833	2771	40441	4444	1351	5795	No	4.46	Si
SLU 81	2.67	-408.9	-10003	-8330	-1326	0.53	0.53	-56132	10833	2698	40441	4444	1351	5795	No	4.37	Si
SLU 81	3.47	597.78	-10580	-8810	-1322	0.53	0.53	-59367	10833	2826	40441	4444	1351	5795	No	4.38	Si
SLU 84	2.67	-403.98	-10176	-8474	-1318	0.53	0.53	-57101	10833	2736	40441	4444	1351	5795	No	4.4	Si
SLU 84	3.47	596.48	-10736	-8940	-1314	0.53	0.53	-60243	10833	2860	40441	4444	1351	5795	No	4.41	Si
SLU 78	2.67	-402.01	-9907	-8250	-1312	0.53	0.53	-55590	10833	2676	40441	4444	1351	5795	No	4.42	Si
SLU 78	3.47	595.95	-10434	-8689	-1308	0.53	0.53	-58551	10833	2793	40441	4444	1351	5795	No	4.43	Si
SLU 83	2.67	-411.9	-10099	-8409	-1336	0.53	0.53	-56667	10833	2719	40441	4444	1351	5795	No	4.34	Si
SLU 83	3.47	602.66	-10681	-8895	-1333	0.53	0.53	-59936	10833	2848	40441	4444	1351	5795	No	4.35	Si
SLU 77	2.67	-409.93	-9830	-8185	-1331	0.53	0.53	-55157	10833	2659	40441	4444	1351	5795	No	4.35	Si
SLU 77	3.47	602.14	-10380	-8643	-1327	0.53	0.53	-58244	10833	2781	40441	4444	1351	5795	No	4.37	Si
SLU 80	2.67	-399.66	-9829	-8185	-1303	0.53	0.53	-55152	10833	2659	40441	4444	1351	5795	No	4.45	Si
SLU 80	3.47	591.46	-10352	-8621	-1299	0.53	0.53	-58090	10833	2775	40441	4444	1351	5795	No	4.46	Si
SLU 74	2.67	-406.93	-9734	-8106	-1321	0.53	0.53	-54621	10833	2638	40441	4444	1351	5795	No	4.39	Si
SLU 74	3.47	597.26	-10278	-8559	-1317	0.53	0.53	-57674	10833	2759	40441	4444	1351	5795	No	4.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	2.67	-815.25	-3221	-2682	-2531	0.424	0.0357	0	0	0	40441	5333	1081	6414		2.53	Si
SLV 15	3.47	1211.37	-3486	-2903	-2421	0.424	0	0	0	0	40441	5333	1081	6414		2.65	Si
SLD 9	2.67	-536.89	-8330	-6937	-1822	0.53	0.53	-46742	16250	2564	40441	6666	1351	8017		4.4	Si
SLD 9	3.47	858.96	-8563	-7130	-1887	0.53	0.4941	-48048	16250	2616	40441	6666	1351	8017		4.25	Si
SLV 13	2.67	-929.32	-5339	-4446	-2991	0.424	0.2728	0	0	0	40441	5333	1081	6414		2.14	Si
SLV 13	3.47	1437.33	-5522	-4598	-2964	0.424	0.0141	0	0	0	40441	5333	1081	6414		2.16	Si
SLV 16	2.67	-682.97	-3391	-2824	-2105	0.424	0.1907	0	0	0	40441	5333	1081	6414		3.05	Si
SLV 16	3.47	1002.87	-3652	-3041	-1995	0.424	0	0	0	0	40441	5333	1081	6414		3.21	Si
SLV 10	2.67	-592.54	-9516	-7924	-2051	0.53	0.53	-53396	16250	2827	40441	6666	1351	8017		3.91	Si
SLV 10	3.47	972.63	-9683	-8063	-2167	0.53	0.4937	-54334	16250	2864	40441	6666	1351	8017		3.7	Si
SLV 14	2.67	-797.05	-5509	-4587	-2565	0.424	0.3609	0	0	0	40441	5333	1081	6414		2.5	Si
SLV 14	3.47	1228.84	-5688	-4736	-2538	0.53	0.1468	-148016	16250	1977	40441	6666	1351	8017		3.16	Si
SLD 14	2.67	-612.31	-5884	-4900	-1976	0.53	0.4828	-33019	16250	2197	40441	6666	1351	8017		4.06	Si
SLD 14	3.47	936.03	-6129	-5103	-1959	0.53	0.3368	-34389	16250	2075	40441	6666	1351	8017		4.09	Si
SLD 13	2.67	-696.82	-5776	-4810	-2248	0.53	0.4331	-40567	16250	1997	40441	6666	1351	8017		3.57	Si
SLD 13	3.47	1069.24	-6022	-5015	-2231	0.53	0.2624	-33794	16250	2052	40441	6666	1351	8017		3.59	Si
SLD 15	2.67	-626	-4459	-3713	-1962	0.424	0.3738	0	0	0	40441	5333	1081	6414		3.27	Si
SLD 15	3.47	928.24	-4759	-3963	-1897	0.53	0.2098	-26703	15757	1771	40441	6666	1351	8017		4.23	Si
SLV 9	2.67	-681.6	-9401	-7829	-2338	0.53	0.53	-52754	16250	2802	40441	6666	1351	8017		3.43	Si
SLV 9	3.47	1113	-9571	-7970	-2454	0.53	0.4461	-53707	16250	2840	40441	6666	1351	8017		3.27	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	12313	-1827	46.66	235.2	5.04	Si
SLV 11	179667	0.3	12563	-1864	46.66	239.55	5.13	Si
SLV 8	179667	0.3	18131	-2691	46.66	331.97	7.11	Si
SLV 7	179667	0.3	18381	-2728	46.66	335.93	7.2	Si
SLV 16	179667	0.3	23680	-3514	46.66	415.7	8.91	Si
SLV 15	179667	0.3	24052	-3569	46.66	421	9.02	Si
SLV 14	179667	0.3	39294	-5831	46.66	606.31	12.99	Si
SLV 13	179667	0.3	39665	-5886	46.66	610.04	13.07	Si
SLV 4	179667	0.3	43074	-6392	46.66	642.49	13.77	Si
SLV 3	179667	0.3	43445	-6447	46.66	645.84	13.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-5331	-14384	-25	0.548	619.7	0.963	8.276	6.24893	Si
SLV 1	-5296	-14968	-25	0.551	616.1	0.963	8.32497	6.24893	Si
SLV 4	-4062	-9612	-16	0.692	490.7	0.954	10.54874	6.24893	Si
SLV 3	-4027	-10196	-15	0.698	487.1	0.954	10.63041	6.24893	Si
SLV 6	-6090	-19424	-25	0.489	697	0.967	7.3589	4.03181	Si
SLV 5	-6066	-19817	-25	0.491	694.5	0.966	7.38447	4.03181	Si
SLV 10	-5477	-18889	-15	0.537	634.6	0.964	8.10538	4.03181	Si
SLV 9	-5453	-19283	-15	0.539	632.1	0.963	8.13675	4.03181	Si
SLV 14	-3287	-12603	7	0.829	412	0.946	12.72848	6.24893	Si
SLV 13	-3252	-13187	7	0.836	408.4	0.946	12.84886	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.417	SLU 83	Si
V_SLU	4.336	SLU 83	Si
PF_SLV	0.671	SLV 15	No
V_SLV	2.144	SLV 13	Si
PFFP_SLV	5.041	SLV 12	Si
R_SLV	1.324	SLV 2	Si

Maschio 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L4	L5	4.67	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	0.67	7732.46	-77059	-0.0001931	0.0004492	0.0035	4.6702	6373.36	117130.93	117130.93	15.15	No	Si
SLU 75	4.35	-2750.93	-42710	-0.0000926	0.0004492	0.0035	4.6702	46412.97	89614.72	89614.72	32.58	No	Si
SLU 77	0.67	8045.71	-78614	-0.0001986	0.0004492	0.0035	4.6702	2930.29	117925.55	117925.55	14.66	No	Si
SLU 77	4.35	-2731.43	-43655	-0.0000946	0.0004492	0.0035	4.6702	46234.1	90914.2	90914.2	33.28	No	Si
SLU 79	0.67	7957.09	-78030	-0.0001966	0.0004492	0.0035	4.6702	4239.16	117633.15	117633.15	14.78	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	4.35	-2713.41	-43271	-0.0000937	0.0004492	0.0035	4.6702	46313.22	90385.14	90385.14	33.31	No	Si
SLU 74	0.67	7838.35	-77462	-0.0001946	0.0004492	0.0035	4.6702	5494.18	117348.5	117348.5	14.97	No	Si
SLU 74	4.35	-2728.85	-42884	-0.0000929	0.0004492	0.0035	4.6702	46384.01	89853.48	89853.48	32.93	No	Si
SLU 69	0.67	7418.91	-72239	-0.0001787	0.0004492	0.0035	4.6702	16152.94	112757.04	112757.04	15.2	No	Si
SLU 69	4.35	-2364.44	-39978	-0.0000855	0.0004492	0.0035	4.6702	46636.55	85857.28	85857.28	36.31	No	Si
SLU 81	0.67	7811.01	-78459	-0.0001973	0.0004492	0.0035	4.6702	3277.77	117848.35	117848.35	15.09	No	Si
SLU 81	4.35	-2865.53	-43304	-0.0000942	0.0004492	0.0035	4.6702	46306.71	90430.95	90430.95	31.56	No	Si
SLU 80	0.67	7851.2	-77627	-0.0001951	0.0004492	0.0035	4.6702	5131.72	117431.15	117431.15	14.96	No	Si
SLU 80	4.35	-2735.49	-43097	-0.0000934	0.0004492	0.0035	4.6702	46346.09	90146.37	90146.37	32.95	No	Si
SLU 78	0.67	7939.81	-78210	-0.000197	0.0004492	0.0035	4.6702	3836.6	117723.55	117723.55	14.83	No	Si
SLU 78	4.35	-2753.51	-43482	-0.0000943	0.0004492	0.0035	4.6702	46270.88	90675.44	90675.44	32.93	No	Si
SLU 84	0.67	7912.47	-79208	-0.0001998	0.0004492	0.0035	4.6702	1576.56	118223.4	118223.4	14.94	No	Si
SLU 84	4.35	-2890.19	-43901	-0.0000956	0.0004492	0.0035	4.6702	46178.9	91252.91	91252.91	31.57	No	Si
SLU 83	0.67	8018.37	-79611	-0.0002013	0.0004492	0.0035	4.6702	646.75	118425.4	118425.4	14.77	No	Si
SLU 83	4.35	-2868.11	-44075	-0.0000959	0.0004492	0.0035	4.6702	46137.86	91491.67	91491.67	31.9	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0.67	17753.87	-83412	-0.0002254	0.0006738	0.0035	4.6702		132981.95	132981.95	7.49		Si
SLV 8	4.35	2163.85	-42837	-0.0000885	0.0006738	0.0035	4.6702		83825.17	83825.17	38.74		Si
SLV 11	0.67	16043.71	-77299	-0.0002049	0.0006738	0.0035	4.6702		127251.83	127251.83	7.93		Si
SLV 11	4.35	2503.09	-40064	-0.0000837	0.0006738	0.0035	4.6702		79107.33	79107.33	31.6		Si
SLD 7	0.67	12812.24	-71735	-0.0001819	0.0006738	0.0035	4.6702		122036.46	122036.46	9.52		Si
SLD 7	4.35	458.94	-37428	-0.000073	0.0006738	0.0035	4.6702		74623.43	74623.43	162.6		Si
SLV 6	0.67	-5529.3	-29134	-0.0000694	0.0006738	0.0035	4.6702		71188.3	71188.3	12.87		Si
SLV 6	4.35	-6166.09	-18313	-0.0000495	0.0006738	0.0035	4.6702		51105.61	51105.61	8.29		Si
SLV 9	0.67	-7239.46	-23021	-0.0000615	0.0006738	0.0035	4.6702		60086.07	60086.07	8.3		Si
SLV 9	4.35	-5826.86	-15540	-0.0000433	0.0006738	0.0035	4.6702		45643.66	45643.66	7.83		Si
SLV 12	0.67	16387.62	-77818	-0.0002072	0.0006738	0.0035	4.6702		127738.49	127738.49	7.79		Si
SLV 12	4.35	2768.32	-40499	-0.0000853	0.0006738	0.0035	4.6702		79847.31	79847.31	28.84		Si
SLV 10	0.67	-6895.55	-23540	-0.0000617	0.0006738	0.0035	4.6702		61057.77	61057.77	8.85		Si
SLV 10	4.35	-5561.63	-15975	-0.0000435	0.0006738	0.0035	4.6702		46500.35	46500.35	8.36		Si
SLV 7	0.67	17409.96	-82893	-0.000223	0.0006738	0.0035	4.6702		132495.3	132495.3	7.61		Si
SLV 7	4.35	1898.62	-42402	-0.0000869	0.0006738	0.0035	4.6702		83085.19	83085.19	43.76		Si
SLD 8	0.67	13028.59	-72062	-0.0001833	0.0006738	0.0035	4.6702		122342.61	122342.61	9.39		Si
SLD 8	4.35	625.78	-37702	-0.000074	0.0006738	0.0035	4.6702		75088.94	75088.94	119.99		Si
SLV 5	0.67	-5873.21	-28615	-0.0000692	0.0006738	0.0035	4.6702		70267.46	70267.46	11.96		Si
SLV 5	4.35	-6431.32	-17878	-0.0000493	0.0006738	0.0035	4.6702		50248.91	50248.91	7.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	0.67	6474.14	-67321	-37326	-5673	4.6702	4.6702	-57090	10833	18707	115546	23497	23818	47314	No	8.34	Si
SLU 55	4.35	-2409.48	-37058	-20547	-3718	4.6702	4.6702	-31426	10833	11995	115546	23497	23818	47314	No	12.73	Si
SLU 82	0.67	7705.12	-78056	-43279	-5734	4.6702	4.6702	-66194	10833	21088	115546	23497	23818	47314	No	8.25	Si
SLU 82	4.35	-2887.61	-43130	-23914	-3460	4.6702	4.6702	-36575	10833	13342	115546	23497	23818	47314	No	13.67	Si
SLU 76	0.67	7573.25	-76207	-42253	-5899	4.6702	4.6702	-64625	10833	20678	115546	23497	23818	47314	No	8.02	Si
SLU 76	4.35	-2747.63	-42210	-23404	-3674	4.6702	4.6702	-35795	10833	13138	115546	23497	23818	47314	No	12.88	Si
SLU 68	0.67	6946.45	-69832	-38719	-5682	4.6702	4.6702	-59219	10833	19264	115546	23497	23818	47314	No	8.33	Si
SLU 68	4.35	-2380.63	-38533	-21365	-3684	4.6702	4.6702	-32677	10833	12323	115546	23497	23818	47314	No	12.84	Si
SLU 84	0.67	7912.47	-79208	-43917	-5771	4.6702	4.6702	-67170	10833	21343	115546	23497	23818	47314	No	8.2	Si
SLU 84	4.35	-2890.19	-43901	-24341	-3460	4.6702	4.6702	-37229	10833	13513	115546	23497	23818	47314	No	13.67	Si
SLU 75	0.67	7732.46	-77059	-42726	-5706	4.6702	4.6702	-65348	10833	20867	115546	23497	23818	47314	No	8.29	Si
SLU 75	4.35	-2750.93	-42710	-23681	-3477	4.6702	4.6702	-36219	10833	13249	115546	23497	23818	47314	No	13.61	Si
SLU 78	0.67	7939.81	-78210	-43364	-5743	4.6702	4.6702	-66324	10833	21122	115546	23497	23818	47314	No	8.24	Si
SLU 78	4.35	-2753.51	-43482	-24109	-3477	4.6702	4.6702	-36873	10833	13420	115546	23497	23818	47314	No	13.61	Si
SLU 65	0.67	6739.1	-68681	-38080	-5646	4.6702	4.6702	-58243	10833	19009	115546	23497	23818	47314	No	8.38	Si
SLU 65	4.35	-2378.05	-37762	-20937	-3684	4.6702	4.6702	-32023	10833	12152	115546	23497	23818	47314	No	12.84	Si
SLU 73	0.67	7365.9	-75056	-41615	-5863	4.6702	4.6702	-63649	10833	20422	115546	23497	23818	47314	No	8.07	Si
SLU 73	4.35	-2745.05	-41439	-22976	-3674	4.6702	4.6702	-35141	10833	12967	115546	23497	23818	47314	No	12.88	Si
SLU 80	0.67	7851.2	-77627	-43041	-5714	4.6702	4.6702	-65830	10833	20993	115546	23497	23818	47314	No	8.28	Si
SLU 80	4.35	-2735.49	-43097	-23895	-3464	4.6702	4.6702	-36547	10833	13335	115546	23497	23818	47314	No	13.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0.67	-7239.46	-23021	-12764	-24398	4.6702	4.6702	-19522	16250	10771	115546	35245	23818	59063		2.42	Si
SLV 9	4.35	-5826.86	-15540	-8616	-21302	4.6702	4.6702	-13178	15136	9896	115546	35245	23818	59063		2.77	Si
SLD 9	0.67	-2514.18	-34371	-19057	-16658	4.6702	4.6702	-29148	16250	13288	115546	35245	23818	59063		3.55	Si
SLD 9	4.35	-4288.79	-20675	-11463	-14178	4.6702	4.6702	-17533	16007	10465	115546	35245	23818	59063		4.17	Si
SLV 5	0.67	-5873.21	-28615	-15866	-25643	4.6702	4.6702	-24266	16250	12011	115546	35245	23818	59063		2.3	Si
SLV 5	4.35	-6431.32	-17878	-9912	-21876	4.6702	4.6702	-15161	15532	10155	115546	35245	23818	59063		2.7	Si
SLD 5	0.67	-1639.18	-37956	-21045	-17454	4.6702	4.6702	-32188	16250	14083	115546	35245	23818	59063		3.38	Si
SLD 5	4.35	-4676.01	-22173	-12294	-14545	4.6702	4.6702	-18803	16250	10625	115546	35245	23818	59063		4.06	Si
SLD 6	0.67	-1422.84	-38283	-21226	-16878	4.6702	4.6702	-32465	16250	14156	115546	35245	23818	59063		3.5	Si
SLD 6	4.35	-4509.17	-22447	-12446	-14071	4.6702	4.6702	-19035	16250	10644	115546	35245	23818	59063		4.2	Si
SLV 8	0.67	17753.87	-83412	-46248	16541	4.6702	4.6702	-70736	16250	24164	115546	35245	23818	59063		3.57	Si
SLV 8	4.35	2163.85	-42837	-23751	16429	4.6702	4.6702	-36327	16250	15166	115546	35245	23818	59063		3.59	Si
SLV 12	0.67	16387.62	-77818	-43147	17787	4.6702	4.6702	-65992	16250	22923	115546	35245	23818	59063		3.32	Si
SLV 12	4.35	2768.32	-40499	-22455	17003	4.6702	4.6702	-34344	16250	14647	115546	35245	23818	59063		3.47	Si
SLV 11	0.67	16043.71	-77299	-42859	16872	4.6702	4.6702	-65552	16250	22808	115546	35245	23818	59063		3.5	Si
SLV 11	4.35	2503.09	-40064	-22214	16249	4.6702	4.6702	-33975	16250	14551	115546	35245	23818	59063		3.63	Si
SLV 6	0.67	-5529.3	-29134	-16153	-24728	4.6702	4.6702	-24706	16250	12127	115546	35245	23818	59063		2.39	Si
SLV 6	4.35	-6166.09	-18313	-10154	-21122	4.6702	4.6702	-15530	15606	10203	115546	35245	23818	59063		2.8	Si
SLV 10	0.67	-6895.55	-23540	-13052	-23482	4.6702	4.6702	-19962	16250	10886	115546	35245	23818	59063		2.52	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	4.35	-5561.63	-15975	-8857	-20549	4.6702	4.6702	-13547	15209	9944	115546	35245	23818	59063		2.87	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-18569	0.3	223.73	1098.4	1875.1	1486.75	6.65	Si
SLV 10	-19073	0.3	223.73	1122.59	1916.37	1519.48	6.79	Si
SLV 5	-23040	0.3	223.73	1302.71	2238.82	1770.76	7.91	Si
SLV 6	-23544	0.3	223.73	1324.27	2279.2	1801.74	8.05	Si
SLV 13	-26550	0.3	223.73	1446.73	2520.41	1983.57	8.87	Si
SLV 14	-27298	0.3	223.73	1475.57	2580.52	2028.05	9.06	Si
SLV 15	-37967	0.3	223.73	1815.64	3414.69	2615.17	11.69	Si
SLV 16	-38715	0.3	223.73	1834.51	3471.95	2653.23	11.86	Si
SLV 1	-41454	0.3	223.73	1897.97	3681.7	2789.83	12.47	Si
SLV 2	-42202	0.3	223.73	1913.78	3739.06	2826.42	12.63	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-37087	-71067	-317	0.68	4114.8	0.975	10.14466	13.26389	No
SLV 3	-36441	-70296	-317	0.691	4049	0.974	10.31382	13.26389	No
SLV 2	-29730	-54784	-309	0.833	3365.6	0.969	12.49065	13.26389	No
SLV 16	-29293	-52421	307	0.844	3321.1	0.969	12.66568	13.26389	No
SLV 1	-29084	-54012	-309	0.85	3299.8	0.969	12.75049	13.26389	No
SLV 15	-28647	-51649	308	0.862	3255.3	0.968	12.93304	13.26389	No
SLV 14	-21936	-36137	316	1.096	2572.4	0.961	16.58075	13.26389	Si
SLV 13	-21290	-35366	316	1.126	2506.6	0.96	17.04607	13.26389	Si
SLV 8	-42837	-83412	-108	0.6	4700.5	0.978	8.9264	6.19249	Si
SLV 7	-42402	-82893	-108	0.606	4656.2	0.977	9.01263	6.19249	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.657	SLU 77	Si
V_SLU	8.02	SLU 76	Si
PF_SLV	7.49	SLV 8	Si
V_SLV	2.303	SLV 5	Si
PFFP_SLV	6.645	SLV 9	Si
R_SLV	0.765	SLV 4	No

Maschio 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-19.618	6.661	L4	L5	0.71	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	0.67	-811.9	-14766	-0.0002156	0.0003743	0.0035	0.71	1417.71	2639.24	2639.24	3.25	No	Si
SLU 76	4.35	785.03	-8247	-0.0001281	0.0003743	0.0035	0.71	1734.79	2092.37	2092.37	2.67	No	Si
SLU 81	0.67	-831.2	-15291	-0.0002263	0.0003743	0.0035	0.71	1327.26	2637.65	2637.65	3.17	No	Si
SLU 81	4.35	794.48	-8516	-0.0001318	0.0003743	0.0035	0.71	1751.18	2130.1	2130.1	2.68	No	Si
SLU 73	0.67	-794.45	-14491	-0.0002094	0.0003743	0.0035	0.71	1461.26	2640.64	2640.64	3.32	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	4.35	769.71	-8082	-0.0001251	0.0003743	0.0035	0.71	1723.44	2069.38	2069.38	2.69	No	Si
SLU 82	0.67	-831.11	-15158	-0.0002241	0.0003743	0.0035	0.71	1351.22	2637.92	2637.92	3.17	No	Si
SLU 82	4.35	800.77	-8428	-0.0001314	0.0003743	0.0035	0.71	1746.11	2117.72	2117.72	2.64	No	Si
SLU 78	0.67	-837.86	-15265	-0.0002266	0.0003743	0.0035	0.71	1332.05	2637.69	2637.69	3.15	No	Si
SLU 78	4.35	802.82	-8556	-0.0001329	0.0003743	0.0035	0.71	1753.42	2135.8	2135.8	2.66	No	Si
SLU 75	0.67	-820.41	-14989	-0.0002201	0.0003743	0.0035	0.71	1380.41	2638.39	2638.39	3.22	No	Si
SLU 75	4.35	787.5	-8391	-0.0001299	0.0003743	0.0035	0.71	1743.87	2112.47	2112.47	2.68	No	Si
SLU 84	0.67	-848.56	-15433	-0.0002307	0.0003743	0.0035	0.71	1301.23	2637.46	2637.46	3.11	No	Si
SLU 84	4.35	816.08	-8594	-0.0001344	0.0003743	0.0035	0.71	1755.44	2141.1	2141.1	2.62	No	Si
SLU 83	0.67	-848.65	-15567	-0.000233	0.0003743	0.0035	0.71	1275.98	2637.34	2637.34	3.11	No	Si
SLU 83	4.35	809.79	-8681	-0.0001349	0.0003743	0.0035	0.71	1760	2153.6	2153.6	2.66	No	Si
SLU 77	0.67	-837.95	-15399	-0.0002289	0.0003743	0.0035	0.71	1307.59	2637.5	2637.5	3.15	No	Si
SLU 77	4.35	796.53	-8644	-0.0001334	0.0003743	0.0035	0.71	1758.1	2148.27	2148.27	2.7	No	Si
SLU 80	0.67	-829.41	-15131	-0.0002234	0.0003743	0.0035	0.71	1355.97	2637.98	2637.98	3.18	No	Si
SLU 80	4.35	796.14	-8471	-0.0001314	0.0003743	0.0035	0.71	1748.61	2123.73	2123.73	2.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	0.67	-982.88	-9442	-0.0001466	0.0005615	0.0035	0.71		2696.99	2696.99	2.74		Si
SLD 1	4.35	981.69	-2664	-0.0060552	0.0005615	0.0035	0.568		912.7	912.7	0.93		No
SLV 5	0.67	-754.43	-653	-0.0031775	0.0005615	0.0035	0.568		352.84	352.84	0.47		No
SLV 5	4.35	1036.39	2502	0.5434266	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	0.67	-377.93	443	0.1123286	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	4.35	699.49	1153	0.2211687	0.0005615	0.0035	0.568		0	0	0		No
SLD 5	0.67	-678.58	-4281	-0.0000806	0.0005615	0.0035	0.71		1480.45	1480.45	2.18		Si
SLD 5	4.35	845.13	-613	-0.0284554	0.0005615	0.0035	0.568		244.18	244.18	0.29		No
SLD 9	0.67	-438.4	-3576	-0.0000558	0.0005615	0.0035	0.71		1278.95	1278.95	2.92		Si
SLD 9	4.35	629.31	-1476	-0.0064159	0.0005615	0.0035	0.568		533.6	533.6	0.85		No
SLV 1	0.67	-1231.26	-8900	-0.0001622	0.0005615	0.0035	0.71		2604.41	2604.41	2.12		Si
SLV 1	4.35	1242.68	-853	-0.0427019	0.0005615	0.0035	0.568		326.27	326.27	0.26		No
SLV 6	0.67	-665.56	-865	-0.0019347	0.0005615	0.0035	0.568		424.51	424.51	0.64		No
SLV 6	4.35	942.43	1837	0.37808	0.0005615	0.0035	0.568		0	0	0		No
SLV 2	0.67	-1099.27	-9214	-0.0001532	0.0005615	0.0035	0.71		2659.45	2659.45	2.42		Si
SLV 2	4.35	1103.12	-1840	-0.0220263	0.0005615	0.0035	0.568		652.09	652.09	0.59		No
SLV 10	0.67	-289.06	231	0.0595292	0.0005615	0.0035	0.568		0	0	0		No
SLV 10	4.35	605.52	489	0.0158636	0.0005615	0.0035	0.568		0	0	0		No
SLD 6	0.67	-622.68	-4415	-0.000076	0.0005615	0.0035	0.71		1518.09	1518.09	2.44		Si
SLD 6	4.35	786.02	-1031	-0.0195344	0.0005615	0.0035	0.568		385.92	385.92	0.49		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.67	-837.86	-15265	-12711	-1255	0.71	0.71	-63940	10833	4028	40441	5953	1810	7763	No	6.19	Si
SLU 78	4.35	802.82	-8556	-7125	-4073	0.71	0.71	-35840	10833	2538	40441	5953	1810	7763	No	1.91	Si
SLU 76	0.67	-811.9	-14766	-12296	-1221	0.71	0.71	-61850	10833	3917	40441	5953	1810	7763	No	6.36	Si
SLU 76	4.35	785.03	-8247	-6868	-3981	0.71	0.71	-34545	10833	2469	40441	5953	1810	7763	No	1.95	Si
SLU 77	0.67	-837.95	-15399	-12823	-1226	0.71	0.71	-64500	10833	4057	40441	5953	1810	7763	No	6.33	Si
SLU 77	4.35	796.53	-8644	-7198	-4030	0.71	0.71	-36207	10833	2557	40441	5953	1810	7763	No	1.93	Si
SLU 84	0.67	-848.56	-15433	-12851	-1270	0.71	0.71	-64644	10833	4065	40441	5953	1810	7763	No	6.12	Si
SLU 84	4.35	816.08	-8594	-7156	-4139	0.71	0.71	-35996	10833	2546	40441	5953	1810	7763	No	1.88	Si
SLU 75	0.67	-820.41	-14989	-12482	-1218	0.71	0.71	-62787	10833	3966	40441	5953	1810	7763	No	6.37	Si
SLU 75	4.35	787.5	-8391	-6987	-3990	0.71	0.71	-35147	10833	2501	40441	5953	1810	7763	No	1.95	Si
SLU 83	0.67	-848.65	-15567	-12963	-1241	0.71	0.71	-65204	10833	4095	40441	5953	1810	7763	No	6.26	Si
SLU 83	4.35	809.79	-8681	-7229	-4097	0.71	0.71	-36364	10833	2566	40441	5953	1810	7763	No	1.9	Si
SLU 81	0.67	-831.2	-15291	-12733	-1204	0.71	0.71	-64051	10833	4033	40441	5953	1810	7763	No	6.45	Si
SLU 81	4.35	794.48	-8516	-7091	-4014	0.71	0.71	-35671	10833	2529	40441	5953	1810	7763	No	1.93	Si
SLU 80	0.67	-829.41	-15131	-12599	-1238	0.71	0.71	-63377	10833	3998	40441	5953	1810	7763	No	6.27	Si
SLU 80	4.35	796.14	-8471	-7054	-4035	0.71	0.71	-35483	10833	2519	40441	5953	1810	7763	No	1.92	Si
SLU 82	0.67	-831.11	-15158	-12622	-1233	0.71	0.71	-63490	10833	4004	40441	5953	1810	7763	No	6.3	Si
SLU 82	4.35	800.77	-8428	-7018	-4056	0.71	0.71	-35304	10833	2510	40441	5953	1810	7763	No	1.91	Si
SLU 79	0.67	-829.5	-15264	-12711	-1209	0.71	0.71	-63938	10833	4027	40441	5953	1810	7763	No	6.42	Si
SLU 79	4.35	789.85	-8559	-7127	-3993	0.71	0.71	-35850	10833	2538	40441	5953	1810	7763	No	1.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	0.67	-982.88	-9442	-7863	-3150	0.71	0.71	-39551	16250	3230	40441	8929	1810	10740		3.41	Si
SLD 1	4.35	981.69	-2664	-2219	-5944	0.568	0	0	0	0	40441	7144	1448	8592		1.45	Si
SLV 2	0.67	-1099.27	-9214	-7673	-3758	0.71	0.7071	-38596	16250	3217	40441	8929	1810	10740		2.86	Si
SLV 2	4.35	1103.12	-1840	-1532	-6854	0.568	0	0	0	0	40441	7144	1448	8592		1.25	Si
SLV 5	0.67	-754.43	-653	-544	-3698	0.568	0	0	0	0	40441	7144	1448	8592		2.32	Si
SLV 5	4.35	1036.39	2502	2083	-6805	0.568	0	0	0	0	40441	7144	1448	8592		1.26	Si
SLV 1	0.67	-1231.26	-8900	-7411	-4509	0.71	0.65	-41695	16250	2957	40441	8929	1810	10740		2.38	Si
SLV 1	4.35	1242.68	-853	-710	-7838	0.568	0	0	0	0	40441	7144	1448	8592		1.1	Si
SLV 3	0.67	-1245	-14917	-12422	-3404	0.71	0.71	-62483	16250	4269	40441	8929	1810	10740		3.16	Si
SLV 3	4.35	1063.05	-5215	-4343	-6230	0.71	0.4535	-21844	14785	2115	40441	8929	1810	10740		1.72	Si
SLV 6	0.67	-665.56	-865	-720	-3192	0.568	0	0	0	0	40441	7144	1448	8592		2.69	Si
SLV 6	4.35	942.43	1837	1530	-6142	0.568	0	0	0	0	40441	7144	1448	8592		1.4	Si
SLD 5	0.67	-678.58	-4281	-3565	-2605	0.71	0.5895	-21837	14784	2440	40441	8929	1810	10740		4.12	Si
SLD 5	4.35	845.13	-613	-510	-5244	0.568	0	0	0	0	40441	7144	1448	8592		1.64	Si
SLV 9	0.67	-377.93	443	369	-2003	0.568	0	0	0	0	40441	7144	1448	8592		4.29	Si
SLV 9	4.35	699.49	1153	960	-4449	0.568	0	0	0	0	40441	7144	1448	8592		1.93	Si
SLD 2	0.67	-898.55	-9643	-8030	-2669	0.71	0.71	-40394	16250	3230	40441	8929	1810	10740		4.02	Si
SLD 2	4.35	892.52	-3295	-2744	-5316	0.71	0.2524	-39700	16250	1689	40441	8929	1810	10740		2.02	Si
SLD 6	0.67	-622.68	-4415	-3676	-2287	0.71	0.6419	-20637	14544	2614	40441	8929	1810	10740		4.7	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	4.35	786.02	-1031	-858	-4827	0.568	0	0	0	0	40441	7144	1448	8592		1.78	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.3	2861	-569	62.51	78.13	1.25	Si
SLV 10	179667	0.3	3634	-722	62.51	98.74	1.58	Si
SLV 5	179667	0.3	5733	-1140	62.51	153.58	2.46	Si
SLV 6	179667	0.3	6507	-1294	62.51	173.38	2.77	Si
SLV 13	179667	0.3	21104	-4196	62.51	506.21	8.1	Si
SLV 14	179667	0.3	22253	-4424	62.51	529.1	8.46	Si
SLV 1	179667	0.3	30679	-6099	62.51	682.33	10.92	Si
SLV 2	179667	0.3	31828	-6327	62.51	701.22	11.22	Si
SLV 15	179667	0.3	39775	-7907	62.51	818.69	13.1	Si
SLV 16	179667	0.3	40924	-8136	62.51	833.77	13.34	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-10697	-11580	34	0.389	1192.1	0.973	5.80041	6.24893	No
SLV 15	-9709	-11265	30	0.422	1091.5	0.971	6.31829	6.24893	Si
SLV 12	-14051	-19827	129	0.302	1533.8	0.979	4.48455	4.03181	Si
SLV 11	-13387	-19615	127	0.315	1466.1	0.978	4.67681	4.03181	Si
SLV 8	-12703	-20922	131	0.329	1396.4	0.977	4.88792	4.03181	Si
SLV 7	-12038	-20710	128	0.344	1328.7	0.976	5.12259	4.03181	Si
SLV 14	-6335	-5563	-47	0.605	748.1	0.959	9.17161	6.24893	Si
SLV 4	-6202	-15232	40	0.617	734.6	0.958	9.35953	6.24893	Si
SLV 13	-5347	-5248	-50	0.698	647.7	0.953	10.63864	6.24893	Si
SLV 3	-5215	-14917	36	0.715	634.3	0.953	10.91071	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.624	SLU 84	Si
V_SLU	1.876	SLU 84	Si
PF_SLV	0	SLV 5	No
V_SLV	1.096	SLV 1	Si
PFFP_SLV	1.25	SLV 9	Si
R_SLV	0.928	SLV 16	No

Maschio 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.243	-3.169	-17.263	-3.169	L4	L5	1.02	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	1.57	732.07	-15350	-0.0001197	0.0003743	0.0035	1.02	3695.8	4977.23	4977.23	6.8	No	Si
SLU 69	3.47	1465.36	-12579	-0.0001276	0.0003743	0.0035	1.02	3639.99	4466.14	4466.14	3.05	No	Si
SLU 65	1.57	713.24	-15026	-0.0001165	0.0003743	0.0035	1.02	3703.19	4943.06	4943.06	6.93	No	Si
SLU 65	3.47	1434.27	-12299	-0.0001243	0.0003743	0.0035	1.02	3619.35	4404.65	4404.65	3.07	No	Si
SLU 67	1.57	724.99	-15262	-0.0001187	0.0003743	0.0035	1.02	3698.16	4967.94	4967.94	6.85	No	Si
SLU 67	3.47	1458.36	-12507	-0.0001268	0.0003743	0.0035	1.02	3634.92	4450.2	4450.2	3.05	No	Si
SLU 68	1.57	723.63	-15198	-0.0001182	0.0003743	0.0035	1.02	3699.72	4961.19	4961.19	6.86	No	Si
SLU 68	3.47	1449.27	-12441	-0.0001259	0.0003743	0.0035	1.02	3630.18	4435.82	4435.82	3.06	No	Si
SLU 72	1.57	731.81	-15314	-0.0001194	0.0003743	0.0035	1.02	3696.79	4973.45	4973.45	6.8	No	Si
SLU 72	3.47	1458.94	-12537	-0.000127	0.0003743	0.0035	1.02	3637.06	4456.85	4456.85	3.05	No	Si
SLU 70	1.57	735.38	-15435	-0.0001205	0.0003743	0.0035	1.02	3693.26	4986.16	4986.16	6.78	No	Si
SLU 70	3.47	1473.36	-12649	-0.0001285	0.0003743	0.0035	1.02	3644.72	4481.61	4481.61	3.04	No	Si
SLU 64	1.57	707.73	-14884	-0.0001152	0.0003743	0.0035	1.02	3705.25	4928.31	4928.31	6.96	No	Si
SLU 64	3.47	1420.93	-12182	-0.0001229	0.0003743	0.0035	1.02	3609.94	4379.23	4379.23	3.08	No	Si
SLU 66	1.57	721.69	-15177	-0.000118	0.0003743	0.0035	1.02	3700.19	4958.97	4958.97	6.87	No	Si
SLU 66	3.47	1450.36	-12437	-0.0001259	0.0003743	0.0035	1.02	3629.84	4434.82	4434.82	3.06	No	Si
SLU 71	1.57	728.51	-15229	-0.0001186	0.0003743	0.0035	1.02	3698.98	4964.47	4964.47	6.81	No	Si
SLU 71	3.47	1450.94	-12467	-0.0001262	0.0003743	0.0035	1.02	3632.06	4441.45	4441.45	3.06	No	Si
SLU 78	1.57	886.21	-17271	-0.0001413	0.0003743	0.0035	1.02	3576.36	5180	5180	5.85	No	Si
SLU 78	3.47	1565.66	-14155	-0.0001441	0.0003743	0.0035	1.02	3704.77	4820.55	4820.55	3.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	1.57	-1304.37	-9622	-0.0000955	0.0005615	0.0035	1.02		4342.19	4342.19	3.33		Si
SLV 14	3.47	2524.7	-11023	-0.0001539	0.0005615	0.0035	1.02		4557.66	4557.66	1.81		Si
SLV 15	1.57	-1593.73	-4410	-0.0001121	0.0005615	0.0035	0.816		2308.44	2308.44	1.45		Si
SLV 15	3.47	2149.96	-7073	-0.0001323	0.0005615	0.0035	1.02		3154.73	3154.73	1.47		Si
SLV 8	1.57	1543.67	-5010	-0.0000927	0.0005615	0.0035	1.02		2359.97	2359.97	1.53		Si
SLV 8	3.47	-625.57	-2081	-0.0000355	0.0005615	0.0035	0.816		1255.29	1255.29	2.01		Si
SLV 7	1.57	1256.45	-4745	-0.000071	0.0005615	0.0035	1.02		2260.05	2260.05	1.8		Si
SLV 7	3.47	-388.56	-2373	-0.0000243	0.0005615	0.0035	1.02		1392.06	1392.06	3.58		Si
SLV 4	1.57	2864.21	-13868	-0.0001837	0.0005615	0.0035	1.02		5453.16	5453.16	1.9		Si
SLV 4	3.47	-714.54	-7388	-0.0000626	0.0005615	0.0035	1.02		3525.34	3525.34	4.93		Si
SLV 3	1.57	2437.59	-13474	-0.0001616	0.0005615	0.0035	1.02		5326.89	5326.89	2.19		Si
SLV 3	3.47	-362.52	-7823	-0.0000536	0.0005615	0.0035	1.02		3693.06	3693.06	10.19		Si
SLD 15	1.57	-815.88	-7017	-0.0000637	0.0005615	0.0035	1.02		3381.92	3381.92	4.15		Si
SLD 15	3.47	1770.11	-7955	-0.0001043	0.0005615	0.0035	1.02		3504.55	3504.55	1.98		Si
SLV 13	1.57	-1730.99	-9228	-0.0001082	0.0005615	0.0035	1.02		4204.45	4204.45	2.43		Si
SLV 13	3.47	2876.73	-11458	-0.0001769	0.0005615	0.0035	1.02		4691.98	4691.98	1.63		Si
SLD 13	1.57	-901.4	-10017	-0.0000843	0.0005615	0.0035	1.02		4480.11	4480.11	4.97		Si
SLD 13	3.47	2222.54	-10685	-0.0001369	0.0005615	0.0035	1.02		4453.67	4453.67	2		Si
SLV 16	1.57	-1167.12	-4804	-0.0000657	0.0005615	0.0035	1.02		2477.54	2477.54	2.12		Si
SLV 16	3.47	1797.93	-6638	-0.0001046	0.0005615	0.0035	1.02		2984.36	2984.36	1.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	1.57	872.51	-17014	-14168	477	1.02	1.02	-49607	10833	4694	40441	8552	2601	11153	No	23.38	Si
SLU 74	3.47	1542.65	-13942	-11610	-1215	1.02	1.02	-40651	10833	4012	40441	8552	2601	11153	No	9.18	Si
SLU 70	1.57	735.38	-15435	-12853	330	1.02	1.02	-45003	10833	4344	40441	8552	2601	11153	No	33.84	Si
SLU 70	3.47	1473.36	-12649	-10533	-1220	1.02	1.02	-36880	10833	3725	40441	8552	2601	11153	No	9.14	Si
SLU 78	1.57	886.21	-17271	-14382	495	1.02	1.02	-50358	10833	4752	40441	8552	2601	11153	No	22.51	Si
SLU 78	3.47	1565.66	-14155	-11787	-1242	1.02	1.02	-41271	10833	4060	40441	8552	2601	11153	No	8.98	Si
SLU 77	1.57	882.9	-17187	-14312	490	1.02	1.02	-50110	10833	4733	40441	8552	2601	11153	No	22.76	Si
SLU 77	3.47	1557.65	-14085	-11729	-1232	1.02	1.02	-41066	10833	4044	40441	8552	2601	11153	No	9.05	Si
SLU 76	1.57	874.46	-17035	-14185	487	1.02	1.02	-49668	10833	4699	40441	8552	2601	11153	No	22.88	Si
SLU 76	3.47	1541.57	-13947	-11614	-1219	1.02	1.02	-40665	10833	4013	40441	8552	2601	11153	No	9.15	Si
SLU 84	1.57	936.9	-17766	-14794	555	1.02	1.02	-51798	10833	4861	40441	8552	2601	11153	No	20.1	Si
SLU 84	3.47	1575.78	-14546	-12112	-1221	1.02	1.02	-42410	10833	4146	40441	8552	2601	11153	No	9.13	Si
SLU 75	1.57	875.82	-17099	-14238	482	1.02	1.02	-49855	10833	4713	40441	8552	2601	11153	No	23.12	Si
SLU 75	3.47	1550.65	-14012	-11668	-1225	1.02	1.02	-40855	10833	4028	40441	8552	2601	11153	No	9.1	Si
SLU 79	1.57	879.33	-17066	-14211	492	1.02	1.02	-49759	10833	4706	40441	8552	2601	11153	No	22.69	Si
SLU 79	3.47	1543.23	-13973	-11635	-1219	1.02	1.02	-40739	10833	4019	40441	8552	2601	11153	No	9.15	Si
SLU 83	1.57	933.59	-17681	-14723	550	1.02	1.02	-51551	10833	4843	40441	8552	2601	11153	No	20.29	Si
SLU 83	3.47	1567.78	-14476	-12054	-1212	1.02	1.02	-42206	10833	4131	40441	8552	2601	11153	No	9.21	Si
SLU 80	1.57	882.64	-17151	-14282	497	1.02	1.02	-50007	10833	4725	40441	8552	2601	11153	No	22.45	Si
SLU 80	3.47	1551.23	-14043	-11693	-1229	1.02	1.02	-40943	10833	4035	40441	8552	2601	11153	No	9.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	1.57	2864.21	-13868	-11548	4472	1.02	0.9104	-40434	16250	4454	40441	12828	2601	15429		3.45	Si
SLV 4	3.47	-714.54	-7388	-6152	1169	1.02	1.02	-21542	14725	4205	40441	12828	2601	15429		13.19	Si
SLV 16	1.57	-1167.12	-4804	-4000	-2925	1.02	0.8011	-17986	14014	3144	40441	12828	2601	15429		5.27	Si
SLV 16	3.47	1797.93	-6638	-5527	-1655	1.02	0.7174	-19354	14287	2870	40441	12828	2601	15429		9.32	Si
SLV 9	1.57	-410.45	-18085	-15060	-1468	1.02	1.02	-52731	16250	5391	40441	12828	2601	15429		10.51	Si
SLV 9	3.47	2787.75	-16766	-13961	-2893	1.02	1.02	-48884	16250	5098	40441	12828	2601	15429		5.33	Si
SLV 14	1.57	-1304.37	-9622	-8012	-3144	1.02	1.02	-28054	16027	4577	40441	12828	2601	15429		4.91	Si
SLV 14	3.47	2524.7	-11023	-9179	-2528	1.02	0.8429	-32140	16250	3835	40441	12828	2601	15429		6.1	Si
SLV 13	1.57	-1730.99	-9228	-7684	-3931	1.02	0.9672	-26904	15798	4278	40441	12828	2601	15429		3.93	Si
SLV 13	3.47	2876.73	-11458	-9541	-2929	1.02	0.7768	-33408	16250	3919	40441	12828	2601	15429		5.27	Si
SLD 4	1.57	2034.62	-13079	-10891	2957	1.02	1.02	-38133	16250	4641	40441	12828	2601	15429		5.22	Si
SLD 4	3.47	-60.36	-8161	-6796	422	1.02	1.02	-23796	15176	4334	40441	12828	2601	15429		36.53	Si
SLV 2	1.57	2726.96	-18686	-15560	4253	1.02	1.02	-54482	16250	5524	40441	12828	2601	15429		3.63	Si
SLV 2	3.47	12.23	-11774	-9804	297	1.02	1.02	-34328	16250	4641	40441	12828	2601	15429		51.95	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	1.57	2437.59	-13474	-11220	3685	1.02	0.9872	-39284	16250	4492	40441	12828	2601	15429		4.19	Si
SLV 3	3.47	-362.52	-7823	-6515	768	1.02	1.02	-22810	14979	4278	40441	12828	2601	15429		20.1	Si
SLV 15	1.57	-1593.73	-4410	-3672	-3712	0.816	0.4457	0	0	0	40441	10263	2081	12343		3.33	Si
SLV 15	3.47	2149.96	-7073	-5890	-2057	1.02	0.6181	-20622	14541	2945	40441	12828	2601	15429		7.5	Si
SLV 1	1.57	2300.34	-18292	-15232	3467	1.02	1.02	-53332	16250	5436	40441	12828	2601	15429		4.45	Si
SLV 1	3.47	364.25	-12209	-10166	-105	1.02	1.02	-35597	16250	4641	40441	12828	2601	15429		147.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	5740	-1639	89.8	220.87	2.46	Si
SLV 12	179667	0.3	6669	-1905	89.8	255.02	2.84	Si
SLV 15	179667	0.3	14088	-4023	89.8	511.32	5.69	Si
SLV 7	179667	0.3	15256	-4357	89.8	549.04	6.11	Si
SLV 16	179667	0.3	15468	-4418	89.8	555.84	6.19	Si
SLV 8	179667	0.3	16185	-4622	89.8	578.56	6.44	Si
SLV 13	179667	0.3	30952	-8840	89.8	986.76	10.99	Si
SLV 14	179667	0.3	32333	-9234	89.8	1019.08	11.35	Si
SLV 3	179667	0.3	45807	-13082	89.8	1282.18	14.28	Si
SLV 4	179667	0.3	47187	-13477	89.8	1303.76	14.52	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-9124	-13226	-76	0.603	1077.1	0.959	9.13645	6.24893	Si
SLV 14	-8706	-12774	-76	0.627	1034.6	0.958	9.5223	6.24893	Si
SLV 1	-7659	-14539	-47	0.703	928.2	0.953	10.70998	6.24893	Si
SLV 2	-7241	-14087	-47	0.736	885.8	0.951	11.25057	6.24893	Si
SLV 9	-11584	-19521	-193	0.483	1327.4	0.966	7.26092	4.03181	Si
SLV 10	-11303	-19216	-193	0.493	1298.8	0.966	7.41996	4.03181	Si
SLV 5	-11145	-19915	-184	0.5	1282.7	0.965	7.52335	4.03181	Si
SLV 6	-10864	-19610	-184	0.511	1254.1	0.964	7.69491	4.03181	Si
SLV 15	-6517	-8162	32	0.806	812.2	0.948	12.3655	6.24893	Si
SLV 16	-6099	-7710	33	0.852	769.8	0.945	13.09812	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.042	SLU 70	Si
V_SLU	8.981	SLU 78	Si
PF_SLV	1.448	SLV 15	Si
V_SLV	3.325	SLV 15	Si
PFFP_SLV	2.46	SLV 11	Si
R_SLV	1.462	SLV 13	Si

Maschio 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L4	L5	3.211	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	0.67	202.8	-27570	-0.0000804	0.0004492	0.0035	3.2107	22042.23	36217.1	36217.1	178.59	No	Si
SLU 74	2.77	-6029.27	-21888	-0.0000961	0.0004492	0.0035	3.2107	21134.5	34750.49	34750.49	5.76	No	Si
SLU 81	0.67	175.61	-28170	-0.0000821	0.0004492	0.0035	3.2107	22027.89	36750.02	36750.02	209.27	No	Si
SLU 81	2.77	-6128.38	-22391	-0.0000983	0.0004492	0.0035	3.2107	21291.15	35301.99	35301.99	5.76	No	Si
SLU 83	0.67	186.92	-28444	-0.0000831	0.0004492	0.0035	3.2107	22014.35	36993.36	36993.36	197.91	No	Si
SLU 83	2.77	-6157.8	-22647	-0.0000993	0.0004492	0.0035	3.2107	21365	35581.98	35581.98	5.78	No	Si
SLU 43	0.67	222.6	-21628	-0.0000623	0.0004492	0.0035	3.2107	21048.04	29570.1	29570.1	132.84	No	Si
SLU 43	2.77	-4971.24	-16716	-0.0000739	0.0004492	0.0035	3.2107	18667.65	28856.82	28856.82	5.8	No	Si
SLU 69	0.67	251.51	-25370	-0.0000739	0.0004492	0.0035	3.2107	21914.77	33859.35	33859.35	134.62	No	Si
SLU 69	2.77	-5642.56	-19967	-0.0000878	0.0004492	0.0035	3.2107	20400.98	32646.97	32646.97	5.79	No	Si
SLU 64	0.67	229.06	-24636	-0.0000715	0.0004492	0.0035	3.2107	21809.24	33017.66	33017.66	144.15	No	Si
SLU 64	2.77	-5533.9	-19283	-0.000085	0.0004492	0.0035	3.2107	20087.31	31856.87	31856.87	5.76	No	Si
SLU 77	0.67	214.1	-27844	-0.0000814	0.0004492	0.0035	3.2107	22038.29	36460.44	36460.44	170.29	No	Si
SLU 77	2.77	-6058.69	-22143	-0.0000971	0.0004492	0.0035	3.2107	21215.88	35030.48	35030.48	5.78	No	Si
SLU 79	0.67	214.26	-27658	-0.0000808	0.0004492	0.0035	3.2107	22041.45	36294.6	36294.6	169.4	No	Si
SLU 79	2.77	-6008.87	-21970	-0.0000963	0.0004492	0.0035	3.2107	21161.07	34840.47	34840.47	5.8	No	Si
SLU 71	0.67	251.67	-25184	-0.0000733	0.0004492	0.0035	3.2107	21890.94	33645.44	33645.44	133.69	No	Si
SLU 71	2.77	-5592.74	-19794	-0.000087	0.0004492	0.0035	3.2107	20324.11	32454.46	32454.46	5.8	No	Si
SLU 66	0.67	240.21	-25097	-0.000073	0.0004492	0.0035	3.2107	21879.1	33545.46	33545.46	139.65	No	Si
SLU 66	2.77	-5613.14	-19712	-0.0000868	0.0004492	0.0035	3.2107	20287.09	32358.43	32358.43	5.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	0.67	2261.54	-13306	-0.0000481	0.0006738	0.0035	3.2107		20480.56	20480.56	9.06		Si
SLV 16	2.77	-5125.58	-8348	-0.0000493	0.0006738	0.0035	3.2107		18243.7	18243.7	3.56		Si
SLD 8	0.67	4760.63	-14647	-0.0000652	0.0006738	0.0035	3.2107		22271.51	22271.51	4.68		Si
SLD 8	2.77	-6329.7	-8981	-0.0000587	0.0006738	0.0035	3.2107		19143.78	19143.78	3.02		Si
SLV 11	0.67	7118.57	-10476	-0.0000669	0.0006738	0.0035	3.2107		16600.17	16600.17	2.33		Si
SLV 11	2.77	-7380.1	-3781	-0.0002888	0.0006738	0.0035	2.5686		11631.94	11631.94	1.58		Si
SLD 7	0.67	4587.24	-14863	-0.0000649	0.0006738	0.0035	3.2107		22557.06	22557.06	4.92		Si
SLD 7	2.77	-6261.15	-9182	-0.0000585	0.0006738	0.0035	3.2107		19430.53	19430.53	3.1		Si
SLV 12	0.67	7394.21	-10132	-0.0000685	0.0006738	0.0035	3.2107		16121.91	16121.91	2.18		Si
SLV 12	2.77	-7489.07	-3461	-0.0003276	0.0006738	0.0035	2.5686		11154.93	11154.93	1.49		Si
SLD 12	0.67	4664.46	-13500	-0.0000614	0.0006738	0.0035	3.2107		20740.87	20740.87	4.45		Si
SLD 12	2.77	-6274.49	-7786	-0.0000573	0.0006738	0.0035	3.2107		17444.78	17444.78	2.78		Si
SLV 7	0.67	7273.47	-12340	-0.000072	0.0006738	0.0035	3.2107		19172.29	19172.29	2.64		Si
SLV 7	2.77	-7487.03	-5709	-0.0001098	0.0006738	0.0035	2.5686		14477.18	14477.18	1.93		Si
SLD 11	0.67	4491.06	-13716	-0.0000611	0.0006738	0.0035	3.2107		21031.51	21031.51	4.68		Si
SLD 11	2.77	-6205.94	-7988	-0.0000567	0.0006738	0.0035	3.2107		17731.53	17731.53	2.86		Si
SLV 15	0.67	1852.13	-13816	-0.0000474	0.0006738	0.0035	3.2107		21166.79	21166.79	11.43		Si
SLV 15	2.77	-4963.73	-8824	-0.0000496	0.0006738	0.0035	3.2107		18920.74	18920.74	3.81		Si
SLV 8	0.67	7549.11	-11997	-0.0000729	0.0006738	0.0035	3.2107		18702.15	18702.15	2.48		Si
SLV 8	2.77	-7596	-5389	-0.0001384	0.0006738	0.0035	2.5686		14007.23	14007.23	1.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.67	202.8	-27570	-15287	5918	3.2107	3.2107	-34008	10833	7600	115546	16154	16375	32528	No	5.5	Si
SLU 74	2.77	-6029.27	-21888	-12136	5214	3.2107	3.2107	-26998	10833	6501	115546	16154	16375	32528	No	6.24	Si
SLU 79	0.67	214.26	-27658	-15335	5919	3.2107	3.2107	-34116	10833	7617	115546	16154	16375	32528	No	5.5	Si
SLU 79	2.77	-6008.87	-21970	-12181	5213	3.2107	3.2107	-27100	10833	6516	115546	16154	16375	32528	No	6.24	Si
SLU 83	0.67	186.92	-28444	-15771	6075	3.2107	3.2107	-35086	10833	7769	115546	16154	16375	32528	No	5.35	Si
SLU 83	2.77	-6157.8	-22647	-12557	5349	3.2107	3.2107	-27935	10833	6647	115546	16154	16375	32528	No	6.08	Si
SLU 80	0.67	111.26	-27697	-15357	5733	3.2107	3.2107	-34164	10833	7625	115546	16154	16375	32528	No	5.67	Si
SLU 80	2.77	-5864.63	-22059	-12231	5099	3.2107	3.2107	-27210	10833	6534	115546	16154	16375	32528	No	6.38	Si
SLU 77	0.67	214.1	-27844	-15438	5956	3.2107	3.2107	-34346	10833	7653	115546	16154	16375	32528	No	5.46	Si
SLU 77	2.77	-6058.69	-22143	-12277	5245	3.2107	3.2107	-27314	10833	6550	115546	16154	16375	32528	No	6.2	Si
SLU 84	0.67	83.92	-28483	-15793	5890	3.2107	3.2107	-35134	10833	7777	115546	16154	16375	32528	No	5.52	Si
SLU 84	2.77	-6013.56	-22736	-12606	5235	3.2107	3.2107	-28045	10833	6665	115546	16154	16375	32528	No	6.21	Si
SLU 81	0.67	175.61	-28170	-15619	6037	3.2107	3.2107	-34748	10833	7716	115546	16154	16375	32528	No	5.39	Si
SLU 81	2.77	-6128.38	-22391	-12415	5317	3.2107	3.2107	-27620	10833	6598	115546	16154	16375	32528	No	6.12	Si
SLU 75	0.67	99.8	-27609	-15308	5733	3.2107	3.2107	-34056	10833	7608	115546	16154	16375	32528	No	5.67	Si
SLU 75	2.77	-5885.03	-21977	-12185	5100	3.2107	3.2107	-27109	10833	6518	115546	16154	16375	32528	No	6.38	Si
SLU 82	0.67	72.61	-28209	-15641	5852	3.2107	3.2107	-34796	10833	7724	115546	16154	16375	32528	No	5.56	Si
SLU 82	2.77	-5984.14	-22481	-12464	5203	3.2107	3.2107	-27730	10833	6615	115546	16154	16375	32528	No	6.25	Si
SLU 78	0.67	111.1	-27883	-15460	5771	3.2107	3.2107	-34394	10833	7661	115546	16154	16375	32528	No	5.64	Si
SLU 78	2.77	-5914.45	-22233	-12327	5131	3.2107	3.2107	-27424	10833	6567	115546	16154	16375	32528	No	6.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.67	2261.54	-13306	-7378	6242	3.2107	3.2107	-16413	15783	7094	115546	24231	16375	40605		6.5	Si
SLV 16	2.77	-5125.58	-8348	-4628	6619	3.2107	2.974	-11170	14734	6135	115546	24231	16375	40605		6.13	Si
SLV 7	0.67	7273.47	-12340	-6842	11024	3.2107	3.0478	-15222	15544	6633	115546	24231	16375	40605		3.68	Si
SLV 7	2.77	-7487.03	-5709	-3166	10401	2.5686	0.8819	0	0	0	115546	19385	13100	32484		3.12	Si
SLD 12	0.67	4664.46	-13500	-7485	8485	3.2107	3.2107	-16652	15830	7116	115546	24231	16375	40605		4.79	Si
SLD 12	2.77	-6274.49	-7786	-4317	8225	3.2107	2.3985	-12927	15086	5066	115546	24231	16375	40605		4.94	Si
SLV 11	0.67	7118.57	-10476	-5808	10963	3.2107	2.7775	-12922	15084	5866	115546	24231	16375	40605		3.7	Si
SLV 11	2.77	-7380.1	-3781	-2097	10830	2.5686	0	0	0	0	115546	19385	13100	32484		3	Si
SLD 11	0.67	4491.06	-13716	-7605	8387	3.2107	3.2107	-16918	15884	7140	115546	24231	16375	40605		4.84	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	2.77	-6205.94	-7988	-4429	8118	3.2107	2.4852	-12796	15060	5240	115546	24231	16375	40605		5	Si
SLV 12	0.67	7394.21	-10132	-5618	11118	3.2107	2.6268	-12498	15000	5516	115546	24231	16375	40605		3.65	Si
SLV 12	2.77	-7489.07	-3461	-1919	10999	2.5686	0	0	0	0	115546	19385	13100	32484		2.95	Si
SLV 8	0.67	7549.11	-11997	-6652	11179	3.2107	2.9283	-14798	15460	6338	115546	24231	16375	40605		3.63	Si
SLV 8	2.77	-7596	-5389	-2988	10570	2.5686	0.5872	0	0	0	115546	19385	13100	32484		3.07	Si
SLD 8	0.67	4760.63	-14647	-8121	8518	3.2107	3.2107	-18067	16113	7243	115546	24231	16375	40605		4.77	Si
SLD 8	2.77	-6329.7	-8981	-4979	7968	3.2107	2.7016	-13246	15149	5730	115546	24231	16375	40605		5.1	Si
SLV 4	0.67	2777.9	-19521	-10823	6446	3.2107	3.2107	-24079	16250	7304	115546	24231	16375	40605		6.3	Si
SLV 4	2.77	-5482.02	-14774	-8191	5189	3.2107	3.2107	-18223	16145	7257	115546	24231	16375	40605		7.82	Si
SLD 7	0.67	4587.24	-14863	-8241	8421	3.2107	3.2107	-18333	16167	7267	115546	24231	16375	40605		4.82	Si
SLD 7	2.77	-6261.15	-9182	-5091	7861	3.2107	2.7704	-13207	15142	5873	115546	24231	16375	40605		5.17	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-4579	0.3	153.81	302.72	602.81	452.77	2.94	Si
SLV 11	-4932	0.3	153.81	324.56	633.39	478.98	3.11	Si
SLV 8	-6416	0.3	153.81	414.14	761.05	587.59	3.82	Si
SLV 7	-6769	0.3	153.81	434.88	791.25	613.07	3.99	Si
SLV 16	-9340	0.3	153.81	579.67	1009.62	794.65	5.17	Si
SLV 15	-9864	0.3	153.81	607.8	1053.89	830.84	5.4	Si
SLV 14	-15331	0.3	153.81	873.45	1503.5	1188.48	7.73	Si
SLV 4	-15463	0.3	153.81	879.23	1514.06	1196.64	7.78	Si
SLV 13	-15855	0.3	153.81	896.24	1545.43	1220.84	7.94	Si
SLV 3	-15986	0.3	153.81	901.9	1555.99	1228.95	7.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-16959	-24687	-230	0.986	1959.5	0.964	14.85686	13.26389	Si
SLV 2	-16692	-24177	-230	1	1932.5	0.964	15.07737	13.26389	Si
SLV 3	-14024	-20031	-198	1.171	1661	0.958	17.7521	13.26389	Si
SLV 4	-13757	-19521	-198	1.191	1633.9	0.958	18.0687	13.26389	Si
SLV 13	-12864	-18472	203	1.263	1543.1	0.956	19.21386	13.26389	Si
SLV 14	-12598	-17962	203	1.287	1516.1	0.955	19.58595	13.26389	Si
SLV 15	-9929	-13816	236	1.58	1245.1	0.946	24.26963	13.26389	Si
SLV 16	-9663	-13306	236	1.618	1218.1	0.945	24.86888	13.26389	Si
SLV 5	-18906	-27861	-116	0.899	2157.8	0.967	13.50693	6.19249	Si
SLV 6	-18727	-27517	-116	0.907	2139.5	0.967	13.62777	6.19249	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.757	SLU 64	Si
V_SLU	5.355	SLU 83	Si
PF_SLV	1.489	SLV 12	Si
V_SLV	2.953	SLV 12	Si
PFFP_SLV	2.944	SLV 12	Si
R_SLV	1.12	SLV 1	Si

Maschio 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.343	-3.169	L4	L5	1.59	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	0.67	-8853.09	-16325	-0.0003656	0.0003743	0.0035	1.2717	8300.57	10147.64	10147.64	1.15	No	Si
SLU 83	2.77	2883.94	-14128	-0.0000919	0.0003743	0.0035	1.5896	7727.99	8748.41	8748.41	3.03	No	Si
SLU 74	0.67	-8573.9	-15820	-0.0003395	0.0003743	0.0035	1.2717	8183.99	9962.23	9962.23	1.16	No	Si
SLU 74	2.77	2805.47	-13624	-0.0000886	0.0003743	0.0035	1.5896	7572.53	8497.77	8497.77	3.03	No	Si
SLU 77	0.67	-8646.54	-15972	-0.0003448	0.0003743	0.0035	1.2717	8220.08	10017.7	10017.7	1.16	No	Si
SLU 77	2.77	2814.33	-13776	-0.0000894	0.0003743	0.0035	1.5896	7620.35	8573.03	8573.03	3.05	No	Si
SLU 78	0.67	-8673.13	-16034	-0.0003465	0.0003743	0.0035	1.2717	8234.49	10040.3	10040.3	1.16	No	Si
SLU 78	2.77	2815.81	-13837	-0.0000897	0.0003743	0.0035	1.5896	7639.51	8603.63	8603.63	3.06	No	Si
SLU 81	0.67	-8780.45	-16173	-0.0003595	0.0003743	0.0035	1.2717	8266.36	10091.3	10091.3	1.15	No	Si
SLU 81	2.77	2875.08	-13976	-0.0000911	0.0003743	0.0035	1.5896	7682.06	8672.51	8672.51	3.02	No	Si
SLU 84	0.67	-8879.68	-16387	-0.0003675	0.0003743	0.0035	1.2717	8314.21	10170.6	10170.6	1.15	No	Si
SLU 84	2.77	2885.42	-14190	-0.0000922	0.0003743	0.0035	1.5896	7746.39	8779.27	8779.27	3.04	No	Si
SLU 75	0.67	-8600.49	-15882	-0.0003411	0.0003743	0.0035	1.2717	8198.73	9984.68	9984.68	1.16	No	Si
SLU 75	2.77	2806.95	-13685	-0.0000889	0.0003743	0.0035	1.5896	7592.02	8528.26	8528.26	3.04	No	Si
SLU 80	0.67	-8618.3	-15929	-0.0003419	0.0003743	0.0035	1.2717	8209.91	10001.9	10001.9	1.16	No	Si
SLU 80	2.77	2792.35	-13733	-0.0000889	0.0003743	0.0035	1.5896	7606.85	8551.62	8551.62	3.06	No	Si
SLU 79	0.67	-8591.7	-15867	-0.0003403	0.0003743	0.0035	1.2717	8195.28	9979.4	9979.4	1.16	No	Si
SLU 79	2.77	2790.87	-13671	-0.0000886	0.0003743	0.0035	1.5896	7587.45	8521.09	8521.09	3.05	No	Si
SLU 82	0.67	-8807.04	-16234	-0.0003614	0.0003743	0.0035	1.2717	8280.33	10114.1	10114.1	1.15	No	Si
SLU 82	2.77	2876.56	-14038	-0.0000914	0.0003743	0.0035	1.5896	7700.79	8703.26	8703.26	3.03	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0.67	-2675.41	-2531	-0.0007115	0.0005615	0.0035	1.2717		2606.37	2606.37	0.97		No
SLV 8	2.77	-329.01	-960	-0.0000074	0.0005615	0.0035	1.5896		1418.79	1418.79	4.31		Si
SLD 12	0.67	-4952.52	-6736	-0.0004011	0.0005615	0.0035	1.2717		5590.45	5590.45	1.13		Si
SLD 12	2.77	1934.56	-5125	-0.0000442	0.0005615	0.0035	1.5896		3979.06	3979.06	2.06		Si
SLV 16	0.67	-7767.58	-11115	-0.0006211	0.0005615	0.0035	1.2717		8401.45	8401.45	1.08		Si
SLV 16	2.77	4982.81	-9461	-0.0001364	0.0005615	0.0035	1.5896		6707.04	6707.04	1.35		Si
SLV 11	0.67	-4762.84	-4602	-0.0016611	0.0005615	0.0035	1.2717		4116.06	4116.06	0.86		No
SLV 11	2.77	2472.88	-3027	-0.0015822	0.0005615	0.0035	1.2717		2465.07	2465.07	1		No
SLD 11	0.67	-5202.53	-7007	-0.0004613	0.0005615	0.0035	1.2717		5772.46	5772.46	1.11		Si
SLD 11	2.77	2288.5	-5396	-0.0000527	0.0005615	0.0035	1.5896		4170.35	4170.35	1.82		Si
SLV 7	0.67	-3072.84	-2962	-0.0008354	0.0005615	0.0035	1.2717		2924.93	2924.93	0.95		No
SLV 7	2.77	233.62	-1391	-0.0000075	0.0005615	0.0035	1.5896		1232.45	1232.45	5.28		Si
SLV 13	0.67	-9666.67	-16158	-0.0003951	0.0005615	0.0035	1.2717		11236.29	11236.29	1.16		Si
SLV 13	2.77	6329.87	-14440	-0.0001597	0.0005615	0.0035	1.5896		9767.6	9767.6	1.54		Si
SLV 12	0.67	-4365.42	-4171	-0.0014704	0.0005615	0.0035	1.2717		3801.24	3801.24	0.87		No
SLV 12	2.77	1910.25	-2596	-0.0001705	0.0005615	0.0035	1.5896		2143.82	2143.82	1.12		Si
SLV 15	0.67	-8357.88	-11756	-0.0009654	0.0005615	0.0035	1.2717		8780.7	8780.7	1.05		Si
SLV 15	2.77	5818.49	-10102	-0.000186	0.0005615	0.0035	1.5896		7092.08	7092.08	1.22		Si
SLD 15	0.67	-7482.48	-11490	-0.0003653	0.0005615	0.0035	1.2717		8625.86	8625.86	1.15		Si
SLD 15	2.77	4419.44	-9827	-0.0001076	0.0005615	0.0035	1.5896		6926.45	6926.45	1.57		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.67	-8646.54	-15972	-13300	-5456	1.2717	0.7603	0	0	0	40441	10662	3243	13905	No	2.55	Si
SLU 77	2.77	2814.33	-13776	-11471	-5456	1.5896	1.5896	-25773	10381	4620	40441	13328	4053	17381	No	3.19	Si
SLU 78	0.67	-8673.13	-16034	-13352	-5470	1.2717	0.7616	0	0	0	40441	10662	3243	13905	No	2.54	Si
SLU 78	2.77	2815.81	-13837	-11523	-5470	1.5896	1.5896	-25889	10396	4627	40441	13328	4053	17381	No	3.18	Si
SLU 82	0.67	-8807.04	-16234	-13519	-5562	1.2717	0.7569	0	0	0	40441	10662	3243	13905	No	2.5	Si
SLU 82	2.77	2876.56	-14038	-11689	-5562	1.5896	1.5896	-26264	10446	4649	40441	13328	4053	17381	No	3.12	Si
SLU 80	0.67	-8618.3	-15929	-13264	-5432	1.2717	0.7613	0	0	0	40441	10662	3243	13905	No	2.56	Si
SLU 80	2.77	2792.35	-13733	-11435	-5432	1.5896	1.5896	-25692	10370	4616	40441	13328	4053	17381	No	3.2	Si
SLU 81	0.67	-8780.45	-16173	-13467	-5549	1.2717	0.7556	0	0	0	40441	10662	3243	13905	No	2.51	Si
SLU 81	2.77	2875.08	-13976	-11638	-5549	1.5896	1.5896	-26148	10431	4643	40441	13328	4053	17381	No	3.13	Si
SLU 83	0.67	-8853.09	-16325	-13594	-5588	1.2717	0.7575	0	0	0	40441	10662	3243	13905	No	2.49	Si
SLU 83	2.77	2883.94	-14128	-11765	-5588	1.5896	1.5896	-26433	10469	4659	40441	13328	4053	17381	No	3.11	Si
SLU 74	0.67	-8573.9	-15820	-13174	-5418	1.2717	0.7585	0	0	0	40441	10662	3243	13905	No	2.57	Si
SLU 74	2.77	2805.47	-13624	-11345	-5418	1.5896	1.5896	-25489	10343	4603	40441	13328	4053	17381	No	3.21	Si
SLU 75	0.67	-8600.49	-15882	-13225	-5431	1.2717	0.7598	0	0	0	40441	10662	3243	13905	No	2.56	Si
SLU 75	2.77	2806.95	-13685	-11396	-5431	1.5896	1.5896	-25604	10358	4610	40441	13328	4053	17381	No	3.2	Si
SLU 84	0.67	-8879.68	-16387	-13645	-5601	1.2717	0.7587	0	0	0	40441	10662	3243	13905	No	2.48	Si
SLU 84	2.77	2885.42	-14190	-11816	-5601	1.5896	1.5896	-26548	10484	4666	40441	13328	4053	17381	No	3.1	Si
SLU 79	0.67	-8591.7	-15867	-13213	-5419	1.2717	0.76	0	0	0	40441	10662	3243	13905	No	2.57	Si
SLU 79	2.77	2790.87	-13671	-11384	-5419	1.5896	1.5896	-25577	10355	4609	40441	13328	4053	17381	No	3.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0.67	-9125.5	-19277	-16052	-6382	1.2717	0.9642	0	0	0	40441	15993	3243	19236		3.01	Si
SLV 9	2.77	4177.5	-17487	-14561	-6362	1.5896	1.5896	-32716	16250	7233	40441	19992	4053	24045		3.78	Si
SLV 15	0.67	-8357.88	-11756	-9789	-6793	1.2717	0.2515	0	0	0	40441	15993	3243	19236		2.83	Si
SLV 15	2.77	5818.49	-10102	-8412	-6649	1.5896	0.6564	-18900	14197	4386	40441	19992	4053	24045		3.62	Si
SLD 9	0.67	-7929.93	-16121	-13424	-5399	1.2717	0.9086	0	0	0	40441	15993	3243	19236		3.56	Si
SLD 9	2.77	3346.04	-14369	-11965	-5385	1.5896	1.5896	-26883	15793	7029	40441	19992	4053	24045		4.46	Si
SLV 13	0.67	-9666.67	-16158	-13455	-7679	1.2717	0.5896	0	0	0	40441	15993	3243	19236		2.51	Si
SLV 13	2.77	6329.87	-14440	-12024	-7548	1.5896	1.0693	-27015	15820	5349	40441	19992	4053	24045		3.19	Si
SLV 10	0.67	-8728.07	-18846	-15693	-5925	1.2717	0.995	0	0	0	40441	15993	3243	19236		3.25	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	2.77	3614.86	-17056	-14202	-5905	1.5896	1.5896	-31910	16250	7233	40441	19992	4053	24045		4.07	Si
SLD 15	0.67	-7482.48	-11490	-9568	-5695	1.2717	0.4307	0	0	0	40441	15993	3243	19236		3.38	Si
SLD 15	2.77	4419.44	-9827	-8183	-5602	1.5896	1.0352	-18385	14094	4325	40441	19992	4053	24045		4.29	Si
SLV 14	0.67	-9076.38	-15518	-12922	-7000	1.2717	0.6297	0	0	0	40441	15993	3243	19236		2.75	Si
SLV 14	2.77	5494.19	-13799	-11491	-6869	1.5896	1.1899	-25817	15580	5207	40441	19992	4053	24045		3.5	Si
SLD 13	0.67	-8300.7	-14224	-11845	-6248	1.2717	0.6337	0	0	0	40441	15993	3243	19236		3.08	Si
SLD 13	2.77	4736.7	-12519	-10425	-6163	1.5896	1.2493	-23422	15101	5282	40441	19992	4053	24045		3.9	Si
SLD 14	0.67	-7923.56	-13815	-11504	-5814	1.2717	0.6637	0	0	0	40441	15993	3243	19236		3.31	Si
SLD 14	2.77	4202.78	-12110	-10084	-5729	1.5896	1.3432	-22656	14948	5622	40441	19992	4053	24045		4.2	Si
SLV 16	0.67	-7767.58	-11115	-9256	-6114	1.2717	0.2879	0	0	0	40441	15993	3243	19236		3.15	Si
SLV 16	2.77	4982.81	-9461	-7879	-5970	1.5896	0.8044	-17702	13957	4244	40441	19992	4053	24045		4.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	2284	-1017	139.94	140.2	1	Si
SLV 7	179667	0.3	3253	-1448	139.94	198.38	1.42	Si
SLV 12	179667	0.3	5947	-2647	139.94	356.14	2.54	Si
SLV 11	179667	0.3	6916	-3078	139.94	411.42	2.94	Si
SLV 4	179667	0.3	9152	-4073	139.94	536.08	3.83	Si
SLV 3	179667	0.3	10590	-4714	139.94	614.14	4.39	Si
SLV 2	179667	0.3	18902	-8413	139.94	1032.04	7.37	Si
SLV 1	179667	0.3	20341	-9053	139.94	1098.66	7.85	Si
SLV 16	179667	0.3	21361	-9507	139.94	1144.86	8.18	Si
SLV 15	179667	0.3	22800	-10148	139.94	1208.59	8.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-10704	-10052	-129	0.765	1321.4	0.949	11.71221	6.24893	Si
SLV 1	-9985	-10692	-129	0.811	1248.4	0.947	12.44476	6.24893	Si
SLV 6	-12325	-17206	-480	0.654	1486	0.954	9.96449	4.03181	Si
SLV 5	-11841	-17637	-479	0.677	1436.8	0.953	10.32101	4.03181	Si
SLV 4	-6925	-5650	167	1.088	938.5	0.933	16.9554	6.24893	Si
SLV 10	-10035	-18846	-483	0.777	1253.5	0.947	11.91878	4.03181	Si
SLV 3	-6205	-6290	167	1.186	865.9	0.928	18.57677	6.24893	Si
SLV 9	-9551	-19277	-483	0.809	1204.3	0.945	12.44135	4.03181	Si
SLV 14	-3071	-15518	-142	1.984	553	0.901	31.98909	6.24893	Si
SLV 13	-2352	-16158	-142	2.35	483	0.894	38.19123	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.145	SLU 84	Si
V_SLU	2.482	SLU 84	Si
PF_SLV	0.864	SLV 11	No
V_SLV	2.505	SLV 13	Si
PFFP_SLV	1.002	SLV 8	Si
R_SLV	1.874	SLV 2	Si

Maschio 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.661	L4	L5	4.455	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	0.67	1334.66	-85997	-0.0002083	0.0004492	0.0035	4.455	0	112546.44	112546.44	84.33	No	Si
SLU 82	2.77	-14765.84	-62227	-0.0001887	0.0004492	0.0035	4.455	25429.27	102660.72	102660.72	6.95	No	Si
SLU 74	0.67	1561.44	-85369	-0.0002073	0.0004492	0.0035	4.455	0	112252.78	112252.78	71.89	No	Si
SLU 74	2.77	-14793.6	-61942	-0.000188	0.0004492	0.0035	4.455	25829.47	102440.9	102440.9	6.92	No	Si
SLU 83	0.67	1753.69	-87764	-0.0002155	0.0004492	0.0035	4.455	0	113371.78	113371.78	64.65	No	Si
SLU 83	2.77	-15236.94	-63715	-0.0001948	0.0004492	0.0035	4.455	23266.81	103806.12	103806.12	6.81	No	Si
SLU 75	0.67	1300.69	-84917	-0.0002048	0.0004492	0.0035	4.455	0	112041.72	112041.72	86.14	No	Si
SLU 75	2.77	-14529.57	-61484	-0.0001857	0.0004492	0.0035	4.455	26461.24	102088.44	102088.44	7.03	No	Si
SLU 79	0.67	1654.09	-86022	-0.0002097	0.0004492	0.0035	4.455	0	112558.11	112558.11	68.05	No	Si
SLU 79	2.77	-14915.35	-62480	-0.00019	0.0004492	0.0035	4.455	25071.5	102855.05	102855.05	6.9	No	Si
SLU 81	0.67	1595.41	-86449	-0.0002107	0.0004492	0.0035	4.455	0	112757.5	112757.5	70.68	No	Si
SLU 81	2.77	-15029.87	-62685	-0.000191	0.0004492	0.0035	4.455	24777.61	103013.18	103013.18	6.85	No	Si
SLU 77	0.67	1719.72	-86684	-0.000212	0.0004492	0.0035	4.455	0	112867.06	112867.06	65.63	No	Si
SLU 77	2.77	-15000.67	-62972	-0.0001917	0.0004492	0.0035	4.455	24363.42	103233.84	103233.84	6.88	No	Si
SLU 78	0.67	1458.97	-86232	-0.0002095	0.0004492	0.0035	4.455	0	112656	112656	77.22	No	Si
SLU 78	2.77	-14736.65	-62514	-0.0001894	0.0004492	0.0035	4.455	25022.74	102881.37	102881.37	6.98	No	Si
SLU 84	0.67	1492.94	-87312	-0.000213	0.0004492	0.0035	4.455	0	113160.72	113160.72	75.8	No	Si
SLU 84	2.77	-14972.92	-63257	-0.0001925	0.0004492	0.0035	4.455	23946.03	103453.65	103453.65	6.91	No	Si
SLU 80	0.67	1393.34	-85570	-0.0002072	0.0004492	0.0035	4.455	0	112347.05	112347.05	80.63	No	Si
SLU 80	2.77	-14651.32	-62022	-0.0001877	0.0004492	0.0035	4.455	25717.66	102502.58	102502.58	7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	0.67	13203.77	-77594	-0.0002103	0.0006738	0.0035	4.455		119242.63	119242.63	9.03		Si
SLD 12	2.77	-19587.19	-61436	-0.0001898	0.0006738	0.0035	4.455		111529.01	111529.01	5.69		Si
SLV 6	0.67	-19650.97	-27863	-0.0001109	0.0006738	0.0035	4.455		64903.04	64903.04	3.3		Si
SLV 6	2.77	4507.7	-11714	-0.0000349	0.0006738	0.0035	4.455		26413.45	26413.45	5.86		Si
SLV 10	0.67	-20533.92	-26350	-0.0001102	0.0006738	0.0035	4.455		62342.71	62342.71	3.04		Si
SLV 10	2.77	3504.71	-11320	-0.0000314	0.0006738	0.0035	4.455		25625.85	25625.85	7.31		Si
SLD 11	0.67	13118.91	-77580	-0.0002099	0.0006738	0.0035	4.455		119230.41	119230.41	9.09		Si
SLD 11	2.77	-19428.78	-61349	-0.0001891	0.0006738	0.0035	4.455		111430.87	111430.87	5.74		Si
SLV 11	0.67	20729.36	-89161	-0.0002679	0.0006738	0.0035	4.455		128948.07	128948.07	6.22		Si
SLV 11	2.77	-24972.02	-72897	-0.0002374	0.0006738	0.0035	4.455		121110.1	121110.1	4.85		Si
SLV 8	0.67	21747.22	-90696	-0.000276	0.0006738	0.0035	4.455		129722.11	129722.11	5.96		Si
SLV 8	2.77	-24220.83	-73429	-0.0002363	0.0006738	0.0035	4.455		121544.91	121544.91	5.02		Si
SLV 5	0.67	-19785.88	-27841	-0.0001112	0.0006738	0.0035	4.455		64865.76	64865.76	3.28		Si
SLV 5	2.77	4759.51	-11576	-0.0000353	0.0006738	0.0035	4.455		26137.73	26137.73	5.49		Si
SLV 7	0.67	21612.31	-90674	-0.0002755	0.0006738	0.0035	4.455		129711	129711	6		Si
SLV 7	2.77	-23969.02	-73291	-0.0002351	0.0006738	0.0035	4.455		121432.17	121432.17	5.07		Si
SLV 9	0.67	-20668.83	-26328	-0.0001105	0.0006738	0.0035	4.455		62305.43	62305.43	3.01		Si
SLV 9	2.77	3756.52	-11182	-0.0000318	0.0006738	0.0035	4.455		25350.13	25350.13	6.75		Si
SLV 12	0.67	20864.27	-89183	-0.0002685	0.0006738	0.0035	4.455		128959.17	128959.17	6.18		Si
SLV 12	2.77	-25223.83	-73035	-0.0002386	0.0006738	0.0035	4.455		121222.85	121222.85	4.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.67	1300.69	-84917	-47083	-13082	4.455	4.455	-75489	10833	22435	115546	22414	22720	45135	No	3.45	Si
SLU 75	2.77	-14529.57	-61484	-34090	-13725	4.455	4.455	-54658	10833	17239	115546	22414	22720	45135	No	3.29	Si
SLU 76	0.67	1061.23	-83954	-46549	-13151	4.455	4.455	-74633	10833	22222	115546	22414	22720	45135	No	3.43	Si
SLU 76	2.77	-14268.23	-60687	-33648	-13786	4.455	4.455	-53949	10833	17062	115546	22414	22720	45135	No	3.27	Si
SLU 80	0.67	1393.34	-85570	-47445	-13098	4.455	4.455	-76070	10833	22580	115546	22414	22720	45135	No	3.45	Si
SLU 80	2.77	-14651.32	-62022	-34388	-13748	4.455	4.455	-55136	10833	17358	115546	22414	22720	45135	No	3.28	Si
SLU 83	0.67	1753.69	-87764	-48661	-13165	4.455	4.455	-78021	10833	23067	115546	22414	22720	45135	No	3.43	Si
SLU 83	2.77	-15236.94	-63715	-35327	-13834	4.455	4.455	-56641	10833	17733	115546	22414	22720	45135	No	3.26	Si
SLU 82	0.67	1334.66	-85997	-47682	-13304	4.455	4.455	-76450	10833	22675	115546	22414	22720	45135	No	3.39	Si
SLU 82	2.77	-14765.84	-62227	-34502	-13957	4.455	4.455	-55319	10833	17403	115546	22414	22720	45135	No	3.23	Si
SLU 78	0.67	1458.97	-86232	-47812	-13202	4.455	4.455	-76658	10833	22727	115546	22414	22720	45135	No	3.42	Si
SLU 78	2.77	-14736.65	-62514	-34661	-13857	4.455	4.455	-55574	10833	17467	115546	22414	22720	45135	No	3.26	Si
SLU 81	0.67	1595.41	-86449	-47932	-13044	4.455	4.455	-76851	10833	22775	115546	22414	22720	45135	No	3.46	Si
SLU 81	2.77	-15029.87	-62685	-34756	-13702	4.455	4.455	-55726	10833	17505	115546	22414	22720	45135	No	3.29	Si
SLU 84	0.67	1492.94	-87312	-48411	-13424	4.455	4.455	-77619	10833	22967	115546	22414	22720	45135	No	3.36	Si
SLU 84	2.77	-14972.92	-63257	-35073	-14089	4.455	4.455	-56234	10833	17632	115546	22414	22720	45135	No	3.2	Si
SLU 73	0.67	902.96	-82639	-45820	-13030	4.455	4.455	-73464	10833	21930	115546	22414	22720	45135	No	3.46	Si
SLU 73	2.77	-14061.15	-59657	-33077	-13654	4.455	4.455	-53034	10833	16833	115546	22414	22720	45135	No	3.31	Si
SLU 77	0.67	1719.72	-86684	-48062	-12943	4.455	4.455	-77060	10833	22827	115546	22414	22720	45135	No	3.49	Si
SLU 77	2.77	-15000.67	-62972	-34915	-13602	4.455	4.455	-55980	10833	17568	115546	22414	22720	45135	No	3.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	0.67	-12040.51	-39444	-21870	-19558	4.455	4.455	-35065	16250	14152	115546	33621	22720	56342		2.88	Si
SLD 6	2.77	-1035.54	-23261	-12897	-19601	4.455	4.455	-20679	16250	10563	115546	33621	22720	56342		2.87	Si
SLV 5	0.67	-19785.88	-27841	-15437	-26330	4.455	4.455	-24750	16250	11579	115546	33621	22720	56342		2.14	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	2.77	4759.51	-11576	-6418	-26126	4.455	4.455	-10291	14558	9080	115546	33621	22720	56342		2.16	Si
SLD 10	0.67	-12602.33	-38474	-21332	-18839	4.455	4.455	-34202	16250	13937	115546	33621	22720	56342		2.99	Si
SLD 10	2.77	-1674.5	-23004	-12755	-18866	4.455	4.455	-20450	16250	10506	115546	33621	22720	56342		2.99	Si
SLV 6	0.67	-19650.97	-27863	-15449	-26023	4.455	4.455	-24770	16250	11584	115546	33621	22720	56342		2.17	Si
SLV 6	2.77	4507.7	-11714	-6495	-25819	4.455	4.455	-10413	14583	9095	115546	33621	22720	56342		2.18	Si
SLD 5	0.67	-12125.38	-39430	-21862	-19750	4.455	4.455	-35052	16250	14149	115546	33621	22720	56342		2.85	Si
SLD 5	2.77	-877.13	-23174	-12849	-19795	4.455	4.455	-20602	16250	10544	115546	33621	22720	56342		2.85	Si
SLV 1	0.67	-4299.14	-51593	-28606	-16007	4.455	4.455	-45865	16250	16846	115546	33621	22720	56342		3.52	Si
SLV 1	2.77	-4064.21	-33602	-18631	-16293	4.455	4.455	-29872	16250	12857	115546	33621	22720	56342		3.46	Si
SLD 9	0.67	-12687.19	-38460	-21324	-19032	4.455	4.455	-34190	16250	13934	115546	33621	22720	56342		2.96	Si
SLD 9	2.77	-1516.1	-22917	-12707	-19059	4.455	4.455	-20373	16250	10487	115546	33621	22720	56342		2.96	Si
SLV 9	0.67	-20668.83	-26328	-14598	-25206	4.455	4.3273	-24377	16250	11243	115546	33621	22720	56342		2.24	Si
SLV 9	2.77	3756.52	-11182	-6200	-24976	4.455	4.455	-9940	14488	9036	115546	33621	22720	56342		2.26	Si
SLV 2	0.67	-4098.76	-51626	-28624	-15552	4.455	4.455	-45894	16250	16854	115546	33621	22720	56342		3.62	Si
SLV 2	2.77	-4438.22	-33807	-18745	-15837	4.455	4.455	-30054	16250	12902	115546	33621	22720	56342		3.56	Si
SLV 10	0.67	-20533.92	-26350	-14610	-24899	4.455	4.3447	-24300	16250	11248	115546	33621	22720	56342		2.26	Si
SLV 10	2.77	3504.71	-11320	-6276	-24669	4.455	4.455	-10063	14513	9052	115546	33621	22720	56342		2.28	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-11591	0.3	213.42	729.1	1282.4	1005.75	4.71	Si
SLV 10	-11729	0.3	213.42	736.79	1294.04	1015.42	4.76	Si
SLV 5	-11981	0.3	213.42	750.77	1315.31	1033.04	4.84	Si
SLV 6	-12119	0.3	213.42	758.4	1326.96	1042.68	4.89	Si
SLV 13	-32706	0.3	213.42	1634.4	2990.87	2312.64	10.84	Si
SLV 14	-32911	0.3	213.42	1640.51	3006.51	2323.51	10.89	Si
SLV 1	-34006	0.3	213.42	1672.3	3090.13	2381.21	11.16	Si
SLV 2	-34211	0.3	213.42	1678.08	3105.78	2391.93	11.21	Si
SLV 15	-51224	0.3	213.42	1978.92	4379.34	3179.13	14.9	Si
SLV 16	-51429	0.3	213.42	1980.38	4394.44	3187.41	14.93	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-32479	-70476	-406	0.733	3629.9	0.973	10.94917	13.26389	No
SLV 3	-32336	-70443	-406	0.736	3615.4	0.973	10.99461	13.26389	No
SLV 16	-32280	-65431	414	0.737	3609.7	0.973	11.00917	13.26389	No
SLV 15	-32137	-65398	414	0.74	3595.1	0.972	11.05513	13.26389	No
SLV 2	-20475	-51626	-414	1.113	2408.1	0.96	16.84223	13.26389	Si
SLV 1	-20332	-51593	-414	1.12	2393.6	0.96	16.95166	13.26389	Si
SLV 8	-46391	-90696	-111	0.534	5047.1	0.98	7.91872	6.19249	Si
SLV 12	-46331	-89183	136	0.534	5041	0.98	7.92064	6.19249	Si
SLV 7	-46294	-90674	-111	0.535	5037.3	0.98	7.93421	6.19249	Si
SLV 11	-46235	-89161	136	0.535	5031.2	0.98	7.93615	6.19249	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.813	SLU 83	Si
V_SLU	3.204	SLU 84	Si
PF_SLV	3.014	SLV 9	Si
V_SLV	2.14	SLV 5	Si
PFFP_SLV	4.712	SLV 9	Si
R_SLV	0.825	SLV 4	No

Maschio 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L4	Z medio 271 cm	1.281	0.28	2.04	2.04	2.04			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	0.67	106.27	-24518	-0.0001248	0.0003743	0.0035	1.2809	5158.89	8535.28	8535.28	80.32	No	Si
SLU 81	2.71	516.09	-21503	-0.0001169	0.0003743	0.0035	1.2809	5661.53	8146.46	8146.46	15.78	No	Si
SLU 42	0.67	44.11	-21308	-0.0001037	0.0003743	0.0035	1.2809	5683.15	8121.33	8121.33	184.1	No	Si
SLU 42	2.71	536	-18797	-0.0001014	0.0003743	0.0035	1.2809	5841.24	7812.45	7812.45	14.58	No	Si
SLU 39	0.67	56.1	-20904	-0.0001016	0.0003743	0.0035	1.2809	5723.51	8069.51	8069.51	143.85	No	Si
SLU 39	2.71	521.93	-18441	-0.000099	0.0003743	0.0035	1.2809	5845.76	7757.17	7757.17	14.86	No	Si
SLU 83	0.67	108.27	-24756	-0.0001264	0.0003743	0.0035	1.2809	5105.5	8549.51	8549.51	78.96	No	Si
SLU 83	2.71	516.74	-21731	-0.0001183	0.0003743	0.0035	1.2809	5634.74	8174.2	8174.2	15.82	No	Si
SLU 21	0.67	71.05	-18867	-0.0000905	0.0003743	0.0035	1.2809	5839.82	7820.68	7820.68	110.08	No	Si
SLU 21	2.71	455.97	-16559	-0.000087	0.0003743	0.0035	1.2809	5795.77	7244.43	7244.43	15.89	No	Si
SLU 84	0.67	94.29	-24922	-0.0001271	0.0003743	0.0035	1.2809	5067.32	8551.17	8551.17	90.69	No	Si
SLU 84	2.71	530.16	-21859	-0.0001194	0.0003743	0.0035	1.2809	5618.81	8189.98	8189.98	15.45	No	Si
SLU 40	0.67	42.11	-21069	-0.0001022	0.0003743	0.0035	1.2809	5707.68	8090.63	8090.63	192.12	No	Si
SLU 40	2.71	535.35	-18569	-0.0001001	0.0003743	0.0035	1.2809	5844.64	7786.03	7786.03	14.54	No	Si
SLU 82	0.67	92.29	-24683	-0.0001255	0.0003743	0.0035	1.2809	5122.09	8548.2	8548.2	92.63	No	Si
SLU 82	2.71	529.51	-21632	-0.000118	0.0003743	0.0035	1.2809	5646.62	8162.1	8162.1	15.41	No	Si
SLU 41	0.67	58.1	-21142	-0.000103	0.0003743	0.0035	1.2809	5700.36	8100.02	8100.02	139.42	No	Si
SLU 41	2.71	522.58	-18668	-0.0001003	0.0003743	0.0035	1.2809	5843.38	7797.49	7797.49	14.92	No	Si
SLU 19	0.67	69.05	-18629	-0.0000891	0.0003743	0.0035	1.2809	5843.93	7792.89	7792.89	112.86	No	Si
SLU 19	2.71	455.32	-16332	-0.0000858	0.0003743	0.0035	1.2809	5781.32	7183.61	7183.61	15.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.67	1923.24	-959	-0.0200431	0.0005615	0.0035	1.0247		700.64	700.64	0.36		No
SLV 7	2.71	-638.32	-2160	-0.0000221	0.0005615	0.0035	1.2809		1706.32	1706.32	2.67		Si
SLV 11	0.67	1591.26	-1547	-0.0097308	0.0005615	0.0035	1.0247		1062.88	1062.88	0.67		No
SLV 11	2.71	-397.16	-2205	-0.0000168	0.0005615	0.0035	1.2809		1732.93	1732.93	4.36		Si
SLV 12	0.67	1643.7	-1410	-0.0117171	0.0005615	0.0035	1.0247		979.82	979.82	0.6		No
SLV 12	2.71	-445.79	-2184	-0.0000176	0.0005615	0.0035	1.2809		1720.66	1720.66	3.86		Si
SLD 12	0.67	1066.22	-7026	-0.0000511	0.0005615	0.0035	1.2809		4098.41	4098.41	3.84		Si
SLD 12	2.71	-214.05	-6696	-0.0000325	0.0005615	0.0035	1.2809		4253.74	4253.74	19.87		Si
SLV 4	0.67	1209.94	-10656	-0.0000707	0.0005615	0.0035	1.2809		5836.11	5836.11	4.82		Si
SLV 4	2.71	-482.47	-10426	-0.0000545	0.0005615	0.0035	1.2809		6097.48	6097.48	12.64		Si
SLV 8	0.67	1975.68	-822	-0.0221773	0.0005615	0.0035	1.0247		616.38	616.38	0.31		No
SLV 8	2.71	-686.94	-2139	-0.0000237	0.0005615	0.0035	1.2809		1694.05	1694.05	2.47		Si
SLD 7	0.67	1245.8	-6734	-0.0000534	0.0005615	0.0035	1.2809		3962.71	3962.71	3.18		Si
SLD 7	2.71	-337.85	-6680	-0.0000349	0.0005615	0.0035	1.2809		4245.23	4245.23	12.57		Si
SLV 3	0.67	1132.06	-10858	-0.00007	0.0005615	0.0035	1.2809		5935.95	5935.95	5.24		Si
SLV 3	2.71	-410.25	-10457	-0.0000532	0.0005615	0.0035	1.2809		6111.55	6111.55	14.9		Si
SLD 8	0.67	1278.79	-6648	-0.0000537	0.0005615	0.0035	1.2809		3923.02	3923.02	3.07		Si
SLD 8	2.71	-368.44	-6667	-0.0000354	0.0005615	0.0035	1.2809		4238.39	4238.39	11.5		Si
SLD 11	0.67	1033.24	-7112	-0.0000508	0.0005615	0.0035	1.2809		4138.35	4138.35	4.01		Si
SLD 11	2.71	-183.46	-6709	-0.0000319	0.0005615	0.0035	1.2809		4260.58	4260.58	23.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	0.67	159.71	-20891	-17396	-512	1.2809	1.2809	-48504	10833	5790	21410	10740	3266	14006	No	27.36	Si
SLU 64	2.71	146.18	-18065	-15043	1573	1.2809	1.2809	-41943	10833	5162	21410	10740	3266	14006	No	8.9	Si
SLU 72	0.67	149.72	-21533	-17931	-621	1.2809	1.2809	-49996	10833	5932	21410	10740	3266	14006	No	22.56	Si
SLU 72	2.71	160.9	-18648	-15528	1548	1.2809	1.2809	-43297	10833	5292	21410	10740	3266	14006	No	9.05	Si
SLU 70	0.67	148.19	-21678	-18052	-635	1.2809	1.2809	-50333	10833	5965	21410	10740	3266	14006	No	22.04	Si
SLU 70	2.71	163.69	-18786	-15644	1548	1.2809	1.2809	-43619	10833	5323	21410	10740	3266	14006	No	9.05	Si
SLU 48	0.67	189.11	-19073	-15882	-306	1.2809	1.2809	-44283	10833	5386	21410	10740	3266	14006	No	45.72	Si
SLU 48	2.71	70.24	-16420	-13673	1616	1.2809	1.2809	-38125	10833	4797	21410	10740	3266	14006	No	8.67	Si
SLU 45	0.67	187.11	-18834	-15683	-295	1.2809	1.2809	-43729	10833	5333	21410	10740	3266	14006	No	47.4	Si
SLU 45	2.71	69.6	-16193	-13484	1594	1.2809	1.2809	-37597	10833	4747	21410	10740	3266	14006	No	8.79	Si
SLU 66	0.67	160.18	-21274	-17715	-537	1.2809	1.2809	-49395	10833	5875	21410	10740	3266	14006	No	26.06	Si
SLU 66	2.71	149.63	-18431	-15347	1596	1.2809	1.2809	-42793	10833	5244	21410	10740	3266	14006	No	8.78	Si
SLU 43	0.67	186.64	-18450	-15364	-270	1.2809	1.2809	-42838	10833	5248	21410	10740	3266	14006	No	51.88	Si
SLU 43	2.71	66.15	-15827	-13180	1571	1.2809	1.2809	-36748	10833	4665	21410	10740	3266	14006	No	8.92	Si
SLU 50	0.67	190.64	-18927	-15761	-292	1.2809	1.2809	-43946	10833	5354	21410	10740	3266	14006	No	48.01	Si
SLU 50	2.71	67.45	-16282	-13558	1615	1.2809	1.2809	-37803	10833	4766	21410	10740	3266	14006	No	8.67	Si
SLU 71	0.67	163.71	-21368	-17793	-534	1.2809	1.2809	-49612	10833	5896	21410	10740	3266	14006	No	26.25	Si
SLU 71	2.71	147.48	-18520	-15422	1618	1.2809	1.2809	-42999	10833	5263	21410	10740	3266	14006	No	8.66	Si
SLU 69	0.67	162.18	-21513	-17914	-548	1.2809	1.2809	-49949	10833	5928	21410	10740	3266	14006	No	25.55	Si
SLU 69	2.71	150.27	-18658	-15537	1618	1.2809	1.2809	-43320	10833	5294	21410	10740	3266	14006	No	8.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0.67	-1739.51	-31695	-26393	-7169	1.2809	1.2809	-73590	16250	8764	21410	16109	3266	19376		2.7	Si
SLV 9	2.71	1024.62	-26045	-21688	-4114	1.2809	1.2809	-60471	16250	7510	21410	16109	3266	19376		4.71	Si
SLV 12	0.67	1643.7	-1410	-1174	5147	1.0247	0	0	0	0	21410	12887	2613	15500		3.01	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	2.71	-445.79	-2184	-1819	5340	1.2809	1.2809	-5071	11431	4100	21410	16109	3266	19376		3.63	Si
SLV 7	0.67	1923.24	-959	-798	6090	1.0247	0	0	0	0	21410	12887	2613	15500		2.55	Si
SLV 7	2.71	-638.32	-2160	-1799	6198	1.2809	1.0347	-6224	11661	3379	21410	16109	3266	19376		3.13	Si
SLV 8	0.67	1975.68	-822	-685	6292	1.0247	0	0	0	0	21410	12887	2613	15500		2.46	Si
SLV 8	2.71	-686.94	-2139	-1781	6395	1.2809	0.958	-6660	11749	3151	21410	16109	3266	19376		3.03	Si
SLV 6	0.67	-1355.09	-30971	-25790	-5822	1.2809	1.2809	-71909	16250	8604	21410	16109	3266	19376		3.33	Si
SLV 6	2.71	734.84	-25979	-21633	-2862	1.2809	1.2809	-60319	16250	7495	21410	16109	3266	19376		6.77	Si
SLV 5	0.67	-1407.53	-31107	-25904	-6024	1.2809	1.2809	-72226	16250	8634	21410	16109	3266	19376		3.22	Si
SLV 5	2.71	783.47	-26000	-21651	-3059	1.2809	1.2809	-60367	16250	7500	21410	16109	3266	19376		6.33	Si
SLV 10	0.67	-1687.07	-31559	-26280	-6967	1.2809	1.2809	-73274	16250	8734	21410	16109	3266	19376		2.78	Si
SLV 10	2.71	976	-26024	-21671	-3917	1.2809	1.2809	-60423	16250	7505	21410	16109	3266	19376		4.95	Si
SLD 10	0.67	-1009.63	-25784	-21470	-4500	1.2809	1.2809	-59865	16250	7452	21410	16109	3266	19376		4.31	Si
SLD 10	2.71	675.53	-21504	-17907	-2015	1.2809	1.2809	-49929	16250	6501	21410	16109	3266	19376		9.62	Si
SLV 11	0.67	1591.26	-1547	-1288	4945	1.0247	0	0	0	0	21410	12887	2613	15500		3.13	Si
SLV 11	2.71	-397.16	-2205	-1836	5144	1.2809	1.2809	-5119	11440	4103	21410	16109	3266	19376		3.77	Si
SLD 9	0.67	-1042.62	-25869	-21542	-4627	1.2809	1.2809	-60064	16250	7471	21410	16109	3266	19376		4.19	Si
SLD 9	2.71	706.12	-21517	-17918	-2139	1.2809	1.2809	-49959	16250	6504	21410	16109	3266	19376		9.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.69 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.28	3404	-1221	32.61	167.09	5.12	Si
SLV 7	179667	0.28	3453	-1239	32.61	169.48	5.2	Si
SLV 12	179667	0.28	3567	-1279	32.61	174.9	5.36	Si
SLV 11	179667	0.28	3616	-1297	32.61	177.28	5.44	Si
SLV 4	179667	0.28	30276	-10859	32.61	1218.81	37.38	Si
SLV 3	179667	0.28	30350	-10885	32.61	1221.05	37.45	Si
SLV 16	179667	0.28	30819	-11053	32.61	1235.17	37.88	Si
SLV 15	179667	0.28	30893	-11080	32.61	1237.38	37.95	Si
SLV 2	179667	0.28	53483	-19182	32.61	1744.96	53.51	Si
SLV 1	179667	0.28	53557	-19208	32.61	1746.07	53.55	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.69 Wa = 0.05 Ta = 0.0248

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-26045	-31695	90	0.336	2756	0.988	4.94762	2.94734	Si
SLV 10	-26024	-31559	91	0.337	2753.9	0.988	4.94983	2.94734	Si
SLV 5	-26000	-31107	81	0.337	2751.5	0.988	4.95895	2.94734	Si
SLV 6	-25979	-30971	83	0.337	2749.4	0.988	4.96117	2.94734	Si
SLV 13	-17758	-21862	74	0.458	1911.5	0.983	6.76746	3.32142	Si
SLV 14	-17727	-21660	76	0.458	1908.4	0.983	6.77533	3.32142	Si
SLV 1	-17609	-19903	46	0.462	1896.3	0.983	6.83796	3.32142	Si
SLV 2	-17578	-19700	48	0.463	1893.2	0.983	6.84601	3.32142	Si
SLV 15	-10606	-12818	51	0.707	1182.8	0.973	10.55475	3.32142	Si
SLV 16	-10575	-12615	54	0.708	1179.7	0.973	10.57831	3.32142	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.544	SLU 40	Si
V_SLU	8.654	SLU 69	Si
PF_SLV	0.312	SLV 8	No
V_SLV	2.464	SLV 8	Si
PFFP_SLV	5.124	SLV 8	Si
R_SLV	1.679	SLV 9	Si

Maschio 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 271 cm	L5	1.281	0.28	1.64	1.64	1.64			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	2.71	477.48	-16133	-0.0000852	0.0003743	0.0035	1.2809	5767.24	7130.91	7130.91	14.93	No	Si
SLU 51	4.35	-115.96	-15173	-0.0000718	0.0003743	0.0035	1.2809	5679.52	7118.44	7118.44	61.39	No	Si
SLU 45	2.71	491.66	-15925	-0.0000844	0.0003743	0.0035	1.2809	5750.97	7075.94	7075.94	14.39	No	Si
SLU 45	4.35	-124.03	-14991	-0.000071	0.0003743	0.0035	1.2809	5659.26	7079.82	7079.82	57.08	No	Si
SLU 69	2.71	525.85	-18265	-0.0000981	0.0003743	0.0035	1.2809	5846.35	7712.4	7712.4	14.67	No	Si
SLU 69	4.35	-97.37	-17353	-0.0000828	0.0003743	0.0035	1.2809	5832.01	7609.5	7609.5	78.15	No	Si
SLU 64	2.71	505.49	-17672	-0.0000943	0.0003743	0.0035	1.2809	5840.34	7548.41	7548.41	14.93	No	Si
SLU 64	4.35	-90.69	-16745	-0.0000794	0.0003743	0.0035	1.2809	5806.25	7467.38	7467.38	82.34	No	Si
SLU 71	2.71	521.96	-18125	-0.0000973	0.0003743	0.0035	1.2809	5846.04	7675.19	7675.19	14.7	No	Si
SLU 71	4.35	-97.76	-17210	-0.0000821	0.0003743	0.0035	1.2809	5827.11	7575.58	7575.58	77.49	No	Si
SLU 48	2.71	499.89	-16152	-0.0000858	0.0003743	0.0035	1.2809	5768.61	7135.82	7135.82	14.27	No	Si
SLU 48	4.35	-127.56	-15223	-0.0000723	0.0003743	0.0035	1.2809	5684.92	7129.21	7129.21	55.89	No	Si
SLU 43	2.71	479.54	-15559	-0.0000822	0.0003743	0.0035	1.2809	5718.69	6980.16	6980.16	14.56	No	Si
SLU 43	4.35	-120.88	-14616	-0.000069	0.0003743	0.0035	1.2809	5613.76	7001.33	7001.33	57.92	No	Si
SLU 66	2.71	517.61	-18038	-0.0000967	0.0003743	0.0035	1.2809	5845.51	7650.63	7650.63	14.78	No	Si
SLU 66	4.35	-93.83	-17121	-0.0000815	0.0003743	0.0035	1.2809	5823.7	7554.66	7554.66	80.51	No	Si
SLU 49	2.71	481.37	-16273	-0.0000861	0.0003743	0.0035	1.2809	5777.28	7167.9	7167.9	14.89	No	Si
SLU 49	4.35	-115.57	-15316	-0.0000725	0.0003743	0.0035	1.2809	5694.66	7149.17	7149.17	61.86	No	Si
SLU 50	2.71	496	-16013	-0.000085	0.0003743	0.0035	1.2809	5757.99	7098.97	7098.97	14.31	No	Si
SLU 50	4.35	-127.95	-15080	-0.0000716	0.0003743	0.0035	1.2809	5669.31	7098.65	7098.65	55.48	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	2.71	865.83	-6737	-0.0000457	0.0005615	0.0035	1.2809		3963.96	3963.96	4.58		Si
SLD 11	4.35	-73.94	-7666	-0.0000339	0.0005615	0.0035	1.2809		4755.64	4755.64	64.31		Si
SLV 3	2.71	880.32	-10290	-0.0000622	0.0005615	0.0035	1.2809		5656.61	5656.61	6.43		Si
SLV 3	4.35	-869.76	-9781	-0.0000596	0.0005615	0.0035	1.2809		5798.59	5798.59	6.67		Si
SLV 12	2.71	1216.23	-2513	-0.0000584	0.0005615	0.0035	1.2809		1645.09	1645.09	1.35		Si
SLV 12	4.35	-181.85	-4335	-0.0000216	0.0005615	0.0035	1.2809		2968.22	2968.22	16.32		Si
SLV 11	2.71	1190.82	-2531	-0.0000539	0.0005615	0.0035	1.2809		1655.84	1655.84	1.39		Si
SLV 11	4.35	-78.26	-4439	-0.00002	0.0005615	0.0035	1.2809		3027.42	3027.42	38.69		Si
SLV 4	2.71	918.06	-10263	-0.0000628	0.0005615	0.0035	1.2809		5643.53	5643.53	6.15		Si
SLV 4	4.35	-1023.63	-9625	-0.000062	0.0005615	0.0035	1.2809		5722.66	5722.66	5.59		Si
SLD 7	2.71	974.12	-6725	-0.0000478	0.0005615	0.0035	1.2809		3958.55	3958.55	4.06		Si
SLD 7	4.35	-376.86	-7431	-0.000039	0.0005615	0.0035	1.2809		4636.21	4636.21	12.3		Si
SLV 7	2.71	1359.98	-2515	-0.0000943	0.0005615	0.0035	1.2809		1645.79	1645.79	1.21		Si
SLV 7	4.35	-551.12	-4075	-0.0000278	0.0005615	0.0035	1.2809		2820.48	2820.48	5.12		Si
SLD 12	2.71	881.82	-6726	-0.000046	0.0005615	0.0035	1.2809		3958.72	3958.72	4.49		Si
SLD 12	4.35	-139.11	-7600	-0.0000349	0.0005615	0.0035	1.2809		4722.12	4722.12	33.94		Si
SLD 8	2.71	990.11	-6714	-0.0000481	0.0005615	0.0035	1.2809		3953.31	3953.31	3.99		Si
SLD 8	4.35	-442.03	-7365	-0.00004	0.0005615	0.0035	1.2809		4602.46	4602.46	10.41		Si
SLV 8	2.71	1385.39	-2497	-0.0001102	0.0005615	0.0035	1.2809		1635.04	1635.04	1.18		Si
SLV 8	4.35	-654.72	-3970	-0.0000294	0.0005615	0.0035	1.2809		2760.94	2760.94	4.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	2.71	312.21	-19958	-16619	1179	1.2809	1.2809	-46338	10833	6540	16652	10740	3266	14006	No	11.88	Si
SLU 75	4.35	-57.62	-19016	-15835	3657	1.2809	1.2809	-44151	10833	6295	16652	10740	3266	14006	No	3.83	Si
SLU 81	2.71	238.53	-20242	-16856	1140	1.2809	1.2809	-46998	10833	6614	16652	10740	3266	14006	No	12.28	Si
SLU 81	4.35	-56.09	-19319	-16088	3732	1.2809	1.2809	-44856	10833	6374	16652	10740	3266	14006	No	3.75	Si
SLU 78	2.71	320.45	-20184	-16808	1194	1.2809	1.2809	-46864	10833	6599	16652	10740	3266	14006	No	11.73	Si
SLU 78	4.35	-61.15	-19248	-16028	3707	1.2809	1.2809	-44690	10833	6356	16652	10740	3266	14006	No	3.78	Si
SLU 83	2.71	246.76	-20468	-17044	1156	1.2809	1.2809	-47524	10833	6673	16652	10740	3266	14006	No	12.12	Si
SLU 83	4.35	-59.62	-19552	-16281	3782	1.2809	1.2809	-45395	10833	6435	16652	10740	3266	14006	No	3.7	Si
SLU 79	2.71	335.08	-19924	-16591	1292	1.2809	1.2809	-46260	10833	6532	16652	10740	3266	14006	No	10.84	Si
SLU 79	4.35	-73.54	-19012	-15831	3774	1.2809	1.2809	-44141	10833	6294	16652	10740	3266	14006	No	3.71	Si
SLU 80	2.71	316.56	-20045	-16692	1190	1.2809	1.2809	-46541	10833	6563	16652	10740	3266	14006	No	11.77	Si
SLU 80	4.35	-61.54	-19105	-15909	3687	1.2809	1.2809	-44357	10833	6318	16652	10740	3266	14006	No	3.8	Si
SLU 84	2.71	228.23	-20589	-17145	1054	1.2809	1.2809	-47804	10833	6705	16652	10740	3266	14006	No	13.29	Si
SLU 84	4.35	-47.63	-19645	-16358	3695	1.2809	1.2809	-45611	10833	6459	16652	10740	3266	14006	No	3.79	Si
SLU 77	2.71	338.97	-20064	-16707	1296	1.2809	1.2809	-46584	10833	6568	16652	10740	3266	14006	No	10.81	Si
SLU 77	4.35	-73.15	-19155	-15951	3795	1.2809	1.2809	-44474	10833	6331	16652	10740	3266	14006	No	3.69	Si
SLU 74	2.71	330.74	-19837	-16518	1281	1.2809	1.2809	-46057	10833	6509	16652	10740	3266	14006	No	10.93	Si
SLU 74	4.35	-69.61	-18923	-15757	3744	1.2809	1.2809	-43935	10833	6271	16652	10740	3266	14006	No	3.74	Si
SLU 69	2.71	525.85	-18265	-15209	1579	1.2809	1.2809	-42407	10833	6100	16652	10740	3266	14006	No	8.87	Si
SLU 69	4.35	-97.37	-17353	-14450	3659	1.2809	1.2809	-40291	10833	5863	16652	10740	3266	14006	No	3.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	2.71	1385.39	-2497	-2079	6680	1.2809	0.2566	-29326	16250	2672	16652	16109	3266	19324		2.89	Si
SLV 8	4.35	-654.72	-3970	-3306	7273	1.2809	1.2809	-9217	12260	4397	16652	16109	3266	19376		2.66	Si
SLV 4	2.71	918.06	-10263	-8546	5196	1.2809	1.2809	-23829	15183	5445	16652	16109	3266	19376		3.73	Si
SLV 4	4.35	-1023.63	-9625	-8015	6753	1.2809	1.2809	-22347	14886	5339	16652	16109	3266	19376		2.87	Si
SLD 8	2.71	990.11	-6714	-5591	4581	1.2809	1.2809	-15588	13534	4854	16652	16109	3266	19376		4.23	Si
SLD 8	4.35	-442.03	-7365	-6133	5548	1.2809	1.2809	-17101	13837	4963	16652	16109	3266	19376		3.49	Si
SLV 11	2.71	1190.82	-2531	-2108	4910	1.2809	0.5101	-5877	11592	2681	16652	16109	3266	19333		3.94	Si
SLV 11	4.35	-78.26	-4439	-3697	5306	1.2809	1.2809	-10308	12478	4475	16652	16109	3266	19376		3.65	Si
SLD 4	2.71	701.75	-11540	-9610	3696	1.2809	1.2809	-26794	15775	5658	16652	16109	3266	19376		5.24	Si
SLD 4	4.35	-680.04	-10864	-9046	5271	1.2809	1.2809	-25223	15461	5545	16652	16109	3266	19376		3.68	Si
SLD 7	2.71	974.12	-6725	-5600	4404	1.2809	1.2809	-15615	13540	4856	16652	16109	3266	19376		4.4	Si
SLD 7	4.35	-376.86	-7431	-6188	5345	1.2809	1.2809	-17254	13867	4974	16652	16109	3266	19376		3.62	Si
SLD 3	2.71	677.64	-11557	-9624	3428	1.2809	1.2809	-26833	15783	5661	16652	16109	3266	19376		5.65	Si
SLD 3	4.35	-581.73	-10963	-9129	4965	1.2809	1.2809	-25454	15508	5562	16652	16109	3266	19376		3.9	Si
SLV 7	2.71	1359.98	-2515	-2094	6398	1.2809	0.2988	-25335	15485	2677	16652	16109	3266	19329		3.02	Si
SLV 7	4.35	-551.12	-4075	-3393	6951	1.2809	1.2809	-9461	12309	4415	16652	16109	3266	19376		2.79	Si
SLV 3	2.71	880.32	-10290	-8569	4778	1.2809	1.2809	-23891	15195	5450	16652	16109	3266	19376		4.06	Si
SLV 3	4.35	-869.76	-9781	-8145	6274	1.2809	1.2809	-22709	14958	5365	16652	16109	3266	19376		3.09	Si
SLV 12	2.71	1216.23	-2513	-2093	5191	1.2809	0.4696	-5836	11584	2677	16652	16109	3266	19329		3.72	Si
SLV 12	4.35	-181.85	-4335	-3609	5629	1.2809	1.2809	-10064	12429	4458	16652	16109	3266	19376		3.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.53 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.32	9355	-3355	24.04	440.96	18.34	Si
SLV 12	179667	0.32	9425	-3380	24.04	444.02	18.47	Si
SLV 7	179667	0.32	9433	-3383	24.04	444.4	18.49	Si
SLV 11	179667	0.32	9503	-3408	24.04	447.46	18.61	Si
SLV 4	179667	0.32	29109	-10440	24.04	1183	49.21	Si
SLV 3	179667	0.32	29225	-10482	24.04	1186.6	49.36	Si
SLV 16	179667	0.32	29340	-10523	24.04	1190.17	49.51	Si
SLV 15	179667	0.32	29457	-10565	24.04	1193.75	49.65	Si
SLV 2	179667	0.32	46127	-16543	24.04	1616.51	67.24	Si
SLV 1	179667	0.32	46243	-16585	24.04	1618.81	67.34	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.53 Wa = 0.05 Ta = 0.016

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-21886	-24790	60	0.406	2312.2	0.989	5.96371	3.10868	Si
SLV 10	-21781	-24772	60	0.407	2301.5	0.989	5.98617	3.10868	Si
SLV 5	-21521	-24774	-6	0.413	2275	0.988	6.07864	3.10868	Si
SLV 6	-21416	-24756	-6	0.415	2264.4	0.988	6.102	3.10868	Si
SLV 13	-16230	-17024	124	0.51	1735.9	0.985	7.52482	3.3527	Si
SLV 14	-16075	-16997	124	0.514	1720	0.985	7.58465	3.3527	Si
SLV 1	-15015	-16968	-99	0.545	1611.9	0.984	8.04774	3.3527	Si
SLV 2	-14859	-16941	-99	0.549	1596.1	0.984	8.11768	3.3527	Si
SLV 15	-10997	-10346	111	0.704	1202.5	0.979	10.45333	3.3527	Si
SLV 16	-10841	-10319	111	0.712	1186.7	0.978	10.58215	3.3527	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.275	SLU 48	Si
V_SLU	3.691	SLU 77	Si
PF_SLV	1.18	SLV 8	Si
V_SLV	2.664	SLV 8	Si
PFFP_SLV	18.342	SLV 8	Si
R_SLV	1.918	SLV 9	Si

Maschio 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	1.141	L4	L5	4.546	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.67	10383.71	-84459	-0.0001397	0.0003743	0.0035	4.5457	66847.2	106293.34	106293.34	10.24	No	Si
SLU 78	4.35	-1142.98	-74263	-0.0001026	0.0003743	0.0035	4.5457	72058.12	104295.99	104295.99	91.25	No	Si
SLU 77	0.67	10651.74	-84172	-0.0001397	0.0003743	0.0035	4.5457	67044.22	106191.29	106191.29	9.97	No	Si
SLU 77	4.35	-1143.93	-74070	-0.0001023	0.0003743	0.0035	4.5457	72121.68	104233.75	104233.75	91.12	No	Si
SLU 74	0.67	10453.12	-83192	-0.0001375	0.0003743	0.0035	4.5457	67693.62	105836.85	105836.85	10.12	No	Si
SLU 74	4.35	-1279.85	-72991	-0.0001008	0.0003743	0.0035	4.5457	72452.58	103835.71	103835.71	81.13	No	Si
SLU 71	0.67	9881.53	-75288	-0.0001221	0.0003743	0.0035	4.5457	71699.28	101930.76	101930.76	10.32	No	Si
SLU 71	4.35	-1602.7	-65937	-0.0000902	0.0003743	0.0035	4.5457	73608.44	99818.73	99818.73	62.28	No	Si
SLU 81	0.67	10473.28	-85275	-0.0001414	0.0003743	0.0035	4.5457	66272.79	106577.81	106577.81	10.18	No	Si
SLU 81	4.35	-1229.43	-74579	-0.0001033	0.0003743	0.0035	4.5457	71951.35	104398.48	104398.48	84.92	No	Si
SLU 84	0.67	10403.87	-86543	-0.0001437	0.0003743	0.0035	4.5457	65333.72	107005.51	107005.51	10.29	No	Si
SLU 84	4.35	-1092.56	-75852	-0.0001051	0.0003743	0.0035	4.5457	71485.94	104819.94	104819.94	95.94	No	Si
SLU 83	0.67	10671.9	-86255	-0.0001437	0.0003743	0.0035	4.5457	65551.76	106909.99	106909.99	10.02	No	Si
SLU 83	4.35	-1093.51	-75659	-0.0001048	0.0003743	0.0035	4.5457	71560.27	104755.04	104755.04	95.8	No	Si
SLU 79	0.67	10573.82	-83651	-0.0001386	0.0003743	0.0035	4.5457	67393.45	106004.27	106004.27	10.03	No	Si
SLU 79	4.35	-1151.12	-73498	-0.0001014	0.0003743	0.0035	4.5457	72302.09	104051.46	104051.46	90.39	No	Si
SLU 80	0.67	10305.79	-83939	-0.0001385	0.0003743	0.0035	4.5457	67201.7	106107.95	106107.95	10.3	No	Si
SLU 80	4.35	-1150.17	-73691	-0.0001017	0.0003743	0.0035	4.5457	72242.41	104112.74	104112.74	90.52	No	Si
SLU 69	0.67	9959.44	-75809	-0.0001231	0.0003743	0.0035	4.5457	71502.81	102180.38	102180.38	10.26	No	Si
SLU 69	4.35	-1595.51	-66509	-0.0000911	0.0003743	0.0035	4.5457	73579.73	100246.84	100246.84	62.83	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	0.67	21113.35	-43820	-0.0000887	0.0005615	0.0035	4.5457		83469.41	83469.41	3.95		Si
SLD 11	4.35	1516.27	-40802	-0.0000519	0.0005615	0.0035	4.5457		78894.19	78894.19	52.03		Si
SLV 15	0.67	15378.96	-50810	-0.0000885	0.0005615	0.0035	4.5457		92853.16	92853.16	6.04		Si
SLV 15	4.35	-2057.38	-47699	-0.0000618	0.0005615	0.0035	4.5457		94645.97	94645.97	46		Si
SLV 16	0.67	15134.35	-50725	-0.0000879	0.0005615	0.0035	4.5457		92738.12	92738.12	6.13		Si
SLV 16	4.35	-1491.9	-47071	-0.00006	0.0005615	0.0035	4.5457		93717.9	93717.9	62.82		Si
SLD 8	0.67	20414.43	-43688	-0.0000873	0.0005615	0.0035	4.5457		83294.06	83294.06	4.08		Si
SLD 8	4.35	2554.07	-39592	-0.0000521	0.0005615	0.0035	4.5457		76720.15	76720.15	30.04		Si
SLV 7	0.67	28660.55	-35776	-0.0000906	0.0005615	0.0035	4.5457		69929.75	69929.75	2.44		Si
SLV 7	4.35	4594.76	-34089	-0.0000484	0.0005615	0.0035	4.5457		66963.21	66963.21	14.57		Si
SLD 12	0.67	21009.76	-43785	-0.0000884	0.0005615	0.0035	4.5457		83421.98	83421.98	3.97		Si
SLD 12	4.35	1755.77	-40536	-0.000052	0.0005615	0.0035	4.5457		78414.97	78414.97	44.66		Si
SLV 12	0.67	29426.33	-35863	-0.0000922	0.0005615	0.0035	4.5457		70084.12	70084.12	2.38		Si
SLV 12	4.35	3725.37	-35134	-0.0000483	0.0005615	0.0035	4.5457		68798.57	68798.57	18.47		Si
SLD 7	0.67	20518.02	-43724	-0.0000875	0.0005615	0.0035	4.5457		83341.46	83341.46	4.06		Si
SLD 7	4.35	2314.57	-39858	-0.000052	0.0005615	0.0035	4.5457		77197.47	77197.47	33.35		Si
SLV 11	0.67	29591.01	-35920	-0.0000925	0.0005615	0.0035	4.5457		70184.65	70184.65	2.37		Si
SLV 11	4.35	3344.65	-35557	-0.0000482	0.0005615	0.0035	4.5457		69543.66	69543.66	20.79		Si
SLV 8	0.67	28495.87	-35719	-0.0000902	0.0005615	0.0035	4.5457		69829.28	69829.28	2.45		Si
SLV 8	4.35	4975.48	-33666	-0.0000485	0.0005615	0.0035	4.5457		66222.83	66222.83	13.31		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.67	10671.9	-86255	-71826	13673	4.5457	4.5457	-56432	10833	34856	40441	38113	11592	49705	No	3.64	Si
SLU 83	4.35	-1093.51	-75659	-63002	9198	4.5457	4.5457	-49499	10833	31327	40441	38113	11592	49705	No	5.4	Si
SLU 78	0.67	10383.71	-84459	-70331	12997	4.5457	4.5457	-55257	10833	34258	40441	38113	11592	49705	No	3.82	Si
SLU 78	4.35	-1142.98	-74263	-61840	8604	4.5457	4.5457	-48586	10833	30862	40441	38113	11592	49705	No	5.78	Si
SLU 77	0.67	10651.74	-84172	-70091	13450	4.5457	4.5457	-55069	10833	34162	40441	38113	11592	49705	No	3.7	Si
SLU 77	4.35	-1143.93	-74070	-61679	9076	4.5457	4.5457	-48460	10833	30798	40441	38113	11592	49705	No	5.48	Si
SLU 74	0.67	10453.12	-83192	-69275	13289	4.5457	4.5457	-54427	10833	33836	40441	38113	11592	49705	No	3.74	Si
SLU 74	4.35	-1279.85	-72991	-60780	8985	4.5457	4.5457	-47753	10833	30438	40441	38113	11592	49705	No	5.53	Si
SLU 79	0.67	10573.82	-83651	-69657	13382	4.5457	4.5457	-54728	10833	33989	40441	38113	11592	49705	No	3.71	Si
SLU 79	4.35	-1151.12	-73498	-61203	9036	4.5457	4.5457	-48085	10833	30607	40441	38113	11592	49705	No	5.5	Si
SLU 82	0.67	10205.26	-85563	-71249	13060	4.5457	4.5457	-55979	10833	34626	40441	38113	11592	49705	No	3.81	Si
SLU 82	4.35	-1228.48	-74773	-62264	8635	4.5457	4.5457	-48919	10833	31032	40441	38113	11592	49705	No	5.76	Si
SLU 84	0.67	10403.87	-86543	-72065	13221	4.5457	4.5457	-56620	10833	34952	40441	38113	11592	49705	No	3.76	Si
SLU 84	4.35	-1092.56	-75852	-63163	8726	4.5457	4.5457	-49626	10833	31391	40441	38113	11592	49705	No	5.7	Si
SLU 81	0.67	10473.28	-85275	-71010	13512	4.5457	4.5457	-55790	10833	34530	40441	38113	11592	49705	No	3.68	Si
SLU 81	4.35	-1229.43	-74579	-62103	9107	4.5457	4.5457	-48793	10833	30968	40441	38113	11592	49705	No	5.46	Si
SLU 75	0.67	10185.09	-83479	-69514	12836	4.5457	4.5457	-54616	10833	33932	40441	38113	11592	49705	No	3.87	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	4.35	-1278.91	-73184	-60941	8513	4.5457	4.5457	-47880	10833	30503	40441	38113	11592	49705	No	5.84	Si
SLU 80	0.67	10305.79	-83939	-69897	12929	4.5457	4.5457	-54916	10833	34085	40441	38113	11592	49705	No	3.84	Si
SLU 80	4.35	-1150.17	-73691	-61364	8564	4.5457	4.5457	-48212	10833	30672	40441	38113	11592	49705	No	5.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0.67	29591.01	-35920	-29911	34725	4.5457	4.3471	-23500	15117	21155	40441	57170	11592	61596		1.77	Si
SLV 11	4.35	3344.65	-35557	-29609	32862	4.5457	4.5457	-23263	15069	21034	40441	57170	11592	61475		1.87	Si
SLV 9	0.67	-14230.56	-77942	-64904	-19247	4.5457	4.5457	-50993	16250	35151	40441	57170	11592	68761		3.57	Si
SLV 9	4.35	-7658.75	-65062	-54178	-23049	4.5457	4.5457	-42566	16250	30861	40441	57170	11592	68761		2.98	Si
SLV 8	0.67	28495.87	-35719	-29743	37912	4.5457	4.4252	-23369	15090	21088	40441	57170	11592	61529		1.62	Si
SLV 8	4.35	4975.48	-33666	-28034	35887	4.5457	4.5457	-22026	14822	20404	40441	57170	11592	60845		1.7	Si
SLD 11	0.67	21113.35	-43820	-36490	25104	4.5457	4.5457	-28669	16150	23786	40441	57170	11592	64227		2.56	Si
SLD 11	4.35	1516.27	-40802	-33976	22853	4.5457	4.5457	-26694	15755	22781	40441	57170	11592	63222		2.77	Si
SLD 7	0.67	20518.02	-43724	-36409	26898	4.5457	4.5457	-28606	16138	23754	40441	57170	11592	64195		2.39	Si
SLD 7	4.35	2314.57	-39858	-33191	24570	4.5457	4.5457	-26077	15632	22466	40441	57170	11592	62907		2.56	Si
SLV 4	0.67	12032.82	-50244	-41839	22382	4.5457	4.5457	-32872	16250	25926	40441	57170	11592	66367		2.97	Si
SLV 4	4.35	2675.12	-42177	-35122	19528	4.5457	4.5457	-27594	15935	23239	40441	57170	11592	63680		3.26	Si
SLD 8	0.67	20414.43	-43688	-36380	27141	4.5457	4.5457	-28582	16133	23742	40441	57170	11592	64183		2.36	Si
SLD 8	4.35	2554.07	-39592	-32969	24787	4.5457	4.5457	-25903	15597	22378	40441	57170	11592	62819		2.53	Si
SLD 12	0.67	21009.76	-43785	-36460	25348	4.5457	4.5457	-28646	16146	23774	40441	57170	11592	64215		2.53	Si
SLD 12	4.35	1755.77	-40536	-33755	23070	4.5457	4.5457	-26520	15721	22692	40441	57170	11592	63133		2.74	Si
SLV 12	0.67	29426.33	-35863	-29864	35113	4.5457	4.357	-23463	15109	21136	40441	57170	11592	61577		1.75	Si
SLV 12	4.35	3725.37	-35134	-29256	33208	4.5457	4.5457	-22986	15014	20893	40441	57170	11592	61334		1.85	Si
SLV 7	0.67	28660.55	-35776	-29791	37525	4.5457	4.4152	-23406	15098	21107	40441	57170	11592	61548		1.64	Si
SLV 7	4.35	4594.76	-34089	-28386	35542	4.5457	4.5457	-22302	14877	20545	40441	57170	11592	60986		1.72	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	29441	-37472	410.52	4234.72	10.32	Si
SLV 7	179667	0.3	29630	-37713	410.52	4255.47	10.37	Si
SLV 12	179667	0.3	30108	-38321	410.52	4307.25	10.49	Si
SLV 11	179667	0.3	30298	-38563	410.52	4327.71	10.54	Si
SLV 4	179667	0.3	38585	-49111	410.52	5138.36	12.52	Si
SLV 3	179667	0.3	38867	-49470	410.52	5163.14	12.58	Si
SLV 16	179667	0.3	40809	-51942	410.52	5328.64	12.98	Si
SLV 15	179667	0.3	41091	-52301	410.52	5351.94	13.04	Si
SLV 2	179667	0.3	47130	-59987	410.52	5806.38	14.14	Si
SLV 1	179667	0.3	47412	-60346	410.52	5825.53	14.19	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-56550	-63417	846	0.447	6416.9	0.969	6.70527	6.24893	Si
SLV 14	-55922	-63332	846	0.451	6352.9	0.968	6.77143	6.24893	Si
SLV 1	-51657	-62935	-690	0.486	5918.8	0.966	7.30272	6.24893	Si
SLV 2	-51029	-62851	-691	0.491	5854.8	0.966	7.3818	6.24893	Si
SLV 15	-47699	-50810	807	0.517	5515.9	0.964	7.80043	6.24893	Si
SLV 16	-47071	-50725	807	0.523	5452	0.964	7.89217	6.24893	Si
SLV 3	-42806	-50329	-730	0.569	5018.1	0.961	8.60611	6.24893	Si
SLV 4	-42177	-50244	-730	0.576	4954.2	0.96	8.71895	6.24893	Si
SLV 9	-65062	-77942	355	0.404	7283.5	0.972	6.0363	4.03181	Si
SLV 10	-64639	-77885	354	0.406	7240.5	0.972	6.07088	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.969	SLU 77	Si
V_SLU	3.635	SLU 83	Si
PF_SLV	2.372	SLV 11	Si
V_SLV	1.623	SLV 8	Si
PFFP_SLV	10.315	SLV 8	Si
R_SLV	1.073	SLV 13	Si

Maschio 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.693	6.661	-17.793	6.661	L4	L5	1.9	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	1.57	-74.79	-16868	-0.000051	0.0003743	0.0035	1.9	11034.06	13511.22	13511.22	180.67	No	Si
SLU 49	3.47	-292.29	-18459	-0.0000584	0.0003743	0.0035	1.9	11559.71	14161.61	14161.61	48.45	No	Si
SLU 46	1.57	-58.24	-16460	-0.0000495	0.0003743	0.0035	1.9	10885.02	13281.14	13281.14	228.05	No	Si
SLU 46	3.47	-301.19	-17920	-0.0000567	0.0003743	0.0035	1.9	11391.74	13948.27	13948.27	46.31	No	Si
SLU 51	1.57	-69.25	-16669	-0.0000503	0.0003743	0.0035	1.9	10961.95	13398.43	13398.43	193.47	No	Si
SLU 51	3.47	-296.93	-18201	-0.0000576	0.0003743	0.0035	1.9	11480.69	14059.04	14059.04	47.35	No	Si
SLU 50	1.57	-73.84	-16822	-0.0000508	0.0003743	0.0035	1.9	11017.55	13485.15	13485.15	182.63	No	Si
SLU 50	3.47	-318.86	-18275	-0.000058	0.0003743	0.0035	1.9	11503.57	14088.32	14088.32	44.18	No	Si
SLU 43	1.57	-40.74	-16006	-0.0000479	0.0003743	0.0035	1.9	10712.33	13028.46	13028.46	319.77	No	Si
SLU 43	3.47	-336.65	-17198	-0.0000547	0.0003743	0.0035	1.9	11150.52	13666.5	13666.5	40.6	No	Si
SLU 1	1.57	-41.94	-13090	-0.0000387	0.0003743	0.0035	1.9	9430.28	11299.52	11299.52	269.44	No	Si
SLU 1	3.47	-223.58	-14216	-0.000044	0.0003743	0.0035	1.9	9960.48	11990.14	11990.14	53.63	No	Si
SLU 47	1.57	-49.65	-16159	-0.0000485	0.0003743	0.0035	1.9	10771.07	13112.85	13112.85	264.11	No	Si
SLU 47	3.47	-291.21	-17614	-0.0000556	0.0003743	0.0035	1.9	11291.57	13828.96	13828.96	47.49	No	Si
SLU 44	1.57	-33.1	-15751	-0.000047	0.0003743	0.0035	1.9	10611.88	12887.69	12887.69	389.35	No	Si
SLU 44	3.47	-300.11	-17075	-0.0000539	0.0003743	0.0035	1.9	11107.64	13613.3	13613.3	45.36	No	Si
SLU 45	1.57	-62.82	-16613	-0.0000501	0.0003743	0.0035	1.9	10941.75	13367.32	13367.32	212.78	No	Si
SLU 45	3.47	-323.11	-17994	-0.0000572	0.0003743	0.0035	1.9	11415.35	13977.21	13977.21	43.26	No	Si
SLU 48	1.57	-79.37	-17021	-0.0000515	0.0003743	0.0035	1.9	11088.59	13589.34	13589.34	171.21	No	Si
SLU 48	3.47	-314.21	-18533	-0.0000588	0.0003743	0.0035	1.9	11581.92	14191.2	14191.2	45.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	1.57	1935.15	-3209	-0.000033	0.0005615	0.0035	1.9		3128.64	3128.64	1.62		Si
SLV 10	3.47	-73.17	-6096	-0.0000178	0.0005615	0.0035	1.9		6460.01	6460.01	88.28		Si
SLV 15	1.57	3376.55	-17726	-0.0000837	0.0005615	0.0035	1.9		14249.52	14249.52	4.22		Si
SLV 15	3.47	-4355.18	-9268	-0.0000708	0.0005615	0.0035	1.9		9042.42	9042.42	2.08		Si
SLD 16	1.57	2582.84	-16933	-0.0000735	0.0005615	0.0035	1.9		13659.31	13659.31	5.29		Si
SLD 16	3.47	-3429.77	-10598	-0.0000617	0.0005615	0.0035	1.9		10072.32	10072.32	2.94		Si
SLV 1	1.57	-4182.63	-10699	-0.0000701	0.0005615	0.0035	1.9		10149.01	10149.01	2.43		Si
SLV 1	3.47	5019.98	-24614	-0.0001233	0.0005615	0.0035	1.9		18153.91	18153.91	3.62		Si
SLV 2	1.57	-3491.1	-11361	-0.0000646	0.0005615	0.0035	1.9		10656.37	10656.37	3.05		Si
SLV 2	3.47	4074.44	-22921	-0.0001079	0.0005615	0.0035	1.9		17187.72	17187.72	4.22		Si
SLV 13	1.57	3721.01	-10784	-0.0000651	0.0005615	0.0035	1.9		9238.07	9238.07	2.48		Si
SLV 13	3.47	-3368.88	-5345	-0.0000607	0.0005615	0.0035	1.52		5823.88	5823.88	1.73		Si
SLV 16	1.57	4068.07	-18388	-0.0000926	0.0005615	0.0035	1.9		14665.58	14665.58	3.61		Si
SLV 16	3.47	-5300.72	-7575	-0.000114	0.0005615	0.0035	1.52		7689.46	7689.46	1.45		Si
SLV 14	1.57	4412.53	-11446	-0.0000746	0.0005615	0.0035	1.9		9700.77	9700.77	2.2		Si
SLV 14	3.47	-4314.42	-3652	-0.00067	0.0005615	0.0035	1.52		4362.45	4362.45	1.01		Si
SLD 14	1.57	2800.32	-12617	-0.000062	0.0005615	0.0035	1.9		10527.22	10527.22	3.76		Si
SLD 14	3.47	-2816.55	-8164	-0.0000487	0.0005615	0.0035	1.9		8162.25	8162.25	2.9		Si
SLV 9	1.57	1469.57	-2764	-0.0000234	0.0005615	0.0035	1.9		2728.95	2728.95	1.86		Si
SLV 9	3.47	563.43	-7236	-0.0000254	0.0005615	0.0035	1.9		6582.63	6582.63	11.68		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	1.57	-100.22	-22007	-18325	-2584	1.9	1.9	-34446	10833	6594	40441	15930	4845	20775	No	8.04	Si
SLU 81	3.47	21.88	-24989	-20809	-2575	1.9	1.9	-39114	10833	7256	40441	15930	4845	20775	No	8.07	Si
SLU 83	1.57	-116.76	-22415	-18665	-2657	1.9	1.9	-35085	10833	6684	40441	15930	4845	20775	No	7.82	Si
SLU 83	3.47	30.78	-25528	-21257	-2649	1.9	1.9	-39957	10833	7376	40441	15930	4845	20775	No	7.84	Si
SLU 76	1.57	-103.33	-21244	-17690	-2557	1.9	1.9	-33252	10833	6424	40441	15930	4845	20775	No	8.13	Si
SLU 76	3.47	0.02	-24189	-20143	-2549	1.9	1.9	-37862	10833	7079	40441	15930	4845	20775	No	8.15	Si
SLU 79	1.57	-127.52	-21907	-18242	-2554	1.9	1.9	-34290	10833	6572	40441	15930	4845	20775	No	8.13	Si
SLU 79	3.47	-27.63	-24851	-20694	-2546	1.9	1.9	-38898	10833	7225	40441	15930	4845	20775	No	8.16	Si
SLU 77	1.57	-133.06	-22106	-18408	-2586	1.9	1.9	-34602	10833	6616	40441	15930	4845	20775	No	8.03	Si
SLU 77	3.47	-22.99	-25108	-20908	-2578	1.9	1.9	-39301	10833	7283	40441	15930	4845	20775	No	8.06	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	1.57	-128.47	-21953	-18281	-2632	1.9	1.9	-34362	10833	6582	40441	15930	4845	20775	No	7.89	Si
SLU 78	3.47	-1.06	-25034	-20847	-2624	1.9	1.9	-39185	10833	7266	40441	15930	4845	20775	No	7.92	Si
SLU 75	1.57	-111.92	-21545	-17941	-2558	1.9	1.9	-33724	10833	6491	40441	15930	4845	20775	No	8.12	Si
SLU 75	3.47	-9.96	-24496	-20398	-2550	1.9	1.9	-38342	10833	7147	40441	15930	4845	20775	No	8.15	Si
SLU 84	1.57	-112.18	-22261	-18537	-2703	1.9	1.9	-34845	10833	6650	40441	15930	4845	20775	No	7.69	Si
SLU 84	3.47	52.7	-25454	-21196	-2695	1.9	1.9	-39842	10833	7359	40441	15930	4845	20775	No	7.71	Si
SLU 80	1.57	-122.94	-21754	-18115	-2600	1.9	1.9	-34050	10833	6538	40441	15930	4845	20775	No	7.99	Si
SLU 80	3.47	-5.7	-24777	-20632	-2592	1.9	1.9	-38782	10833	7209	40441	15930	4845	20775	No	8.02	Si
SLU 82	1.57	-95.63	-21853	-18198	-2629	1.9	1.9	-34206	10833	6560	40441	15930	4845	20775	No	7.9	Si
SLU 82	3.47	43.81	-24915	-20747	-2621	1.9	1.9	-38999	10833	7240	40441	15930	4845	20775	No	7.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	1.57	3376.55	-17726	-14760	7159	1.9	1.9	-27745	15966	8494	40441	23896	4845	28741		4.01	Si
SLV 15	3.47	-4355.18	-9268	-7718	6983	1.9	1.4403	-19320	14281	5759	40441	23896	4845	28741		4.12	Si
SLD 1	1.57	-2697.39	-12154	-10121	-8347	1.9	1.9	-19024	14221	7566	40441	23896	4845	28741		3.44	Si
SLD 1	3.47	3149.03	-21591	-17979	-8224	1.9	1.9	-33795	16250	8645	40441	23896	4845	28741		3.49	Si
SLV 5	1.57	-901.52	-2738	-2280	-7791	1.9	1.8622	-4380	11293	5888	40441	23896	4845	28741		3.69	Si
SLV 5	3.47	3080.09	-13016	-10839	-7708	1.9	1.9	-20373	14491	7709	40441	23896	4845	28741		3.73	Si
SLV 3	1.57	-4527.08	-17640	-14689	-10429	1.9	1.9	-27612	15939	8480	40441	23896	4845	28741		2.76	Si
SLV 3	3.47	4033.69	-28537	-23763	-10257	1.9	1.9	-44667	16250	8898	40441	23896	4845	28741		2.8	Si
SLV 4	1.57	-3835.56	-18302	-15241	-8482	1.9	1.9	-28648	16146	8590	40441	23896	4845	28741		3.39	Si
SLV 4	3.47	3088.15	-26844	-22353	-8310	1.9	1.9	-42018	16250	8645	40441	23896	4845	28741		3.46	Si
SLV 1	1.57	-4182.63	-10699	-8909	-12199	1.9	1.6772	-19108	14238	6686	40441	23896	4845	28741		2.36	Si
SLV 1	3.47	5019.98	-24614	-20496	-12012	1.9	1.9	-38527	16250	8645	40441	23896	4845	28741		2.39	Si
SLV 2	1.57	-3491.1	-11361	-9460	-10252	1.9	1.9	-17782	13973	7434	40441	23896	4845	28741		2.8	Si
SLV 2	3.47	4074.44	-22921	-19087	-10065	1.9	1.9	-35877	16250	8645	40441	23896	4845	28741		2.86	Si
SLD 3	1.57	-2914.87	-16469	-13714	-7250	1.9	1.9	-25778	15572	8284	40441	23896	4845	28741		3.96	Si
SLD 3	3.47	2535.82	-24025	-20006	-7135	1.9	1.9	-37605	16250	8645	40441	23896	4845	28741		4.03	Si
SLV 16	1.57	4068.07	-18388	-15312	9106	1.9	1.9	-28781	16173	8604	40441	23896	4845	28741		3.16	Si
SLV 16	3.47	-5300.72	-7575	-6308	8929	1.52	0.7508	0	0	0	40441	19117	3876	22993		2.57	Si
SLV 14	1.57	4412.53	-11446	-9531	7335	1.9	1.6935	-17916	14000	6638	40441	23896	4845	28741		3.92	Si
SLV 14	3.47	-4314.42	-3652	-3041	7174	1.52	0	0	0	0	40441	19117	3876	22993		3.2	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	9384	-4992	167.27	655.98	3.92	Si
SLV 9	179667	0.3	10238	-5446	167.27	711.38	4.25	Si
SLV 14	179667	0.3	13705	-7291	167.27	929.12	5.55	Si
SLV 13	179667	0.3	14972	-7965	167.27	1005.8	6.01	Si
SLV 6	179667	0.3	15581	-8289	167.27	1042.09	6.23	Si
SLV 5	179667	0.3	16435	-8743	167.27	1092.33	6.53	Si
SLV 16	179667	0.3	23782	-12652	167.27	1495.46	8.94	Si
SLV 15	179667	0.3	25050	-13327	167.27	1559.69	9.32	Si
SLV 2	179667	0.3	34361	-18280	167.27	1983.41	11.86	Si
SLV 1	179667	0.3	35629	-18955	167.27	2034.55	12.16	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-28364	-16842	-349	0.383	3163.5	0.973	5.71876	6.24893	No
SLV 1	-26603	-10484	267	0.407	2984.2	0.972	6.09099	6.24893	No
SLV 4	-26263	-17190	-348	0.409	2949.5	0.971	6.11695	6.24893	No
SLV 2	-24502	-10833	268	0.437	2770.2	0.97	6.54591	6.24893	Si
SLV 7	-22845	-23161	-1040	0.432	2601.5	0.968	6.49018	4.03181	Si
SLV 8	-21430	-23396	-1040	0.456	2457.5	0.966	6.86404	4.03181	Si
SLV 5	-16975	-1970	1011	0.557	2004.3	0.959	8.44321	4.03181	Si
SLV 11	-16647	-22172	-1018	0.566	1970.9	0.959	8.58374	4.03181	Si
SLV 6	-15561	-2204	1012	0.6	1860.4	0.956	9.11196	4.03181	Si
SLV 12	-15233	-22406	-1017	0.61	1827.1	0.956	9.27918	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	40.595	SLU 43	Si
V_SLU	7.686	SLU 84	Si
PF_SLV	1.011	SLV 14	Si
V_SLV	2.356	SLV 1	Si
PFFP_SLV	3.922	SLV 10	Si
R_SLV	0.915	SLV 3	No

Maschio 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.793	6.661	-12.868	6.661	L4	L5	3.925	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	1.57	-646.98	-52276	-0.0000806	0.0003743	0.0035	3.925	54660.11	71563.89	71563.89	110.61	No	Si
SLU 78	3.47	-4755.88	-65047	-0.000115	0.0003743	0.0035	3.925	53443.22	77992.55	77992.55	16.4	No	Si
SLU 82	1.57	-624.76	-52166	-0.0000803	0.0003743	0.0035	3.925	54645.79	71498.37	71498.37	114.44	No	Si
SLU 82	3.47	-4708.69	-65025	-0.0001148	0.0003743	0.0035	3.925	53450.27	77986.59	77986.59	16.56	No	Si
SLU 83	1.57	-672.85	-53417	-0.0000826	0.0003743	0.0035	3.925	54784.09	72254.07	72254.07	107.39	No	Si
SLU 83	3.47	-4815.13	-66499	-0.000118	0.0003743	0.0035	3.925	52942.75	78393.03	78393.03	16.28	No	Si
SLU 80	1.57	-634.85	-51788	-0.0000797	0.0003743	0.0035	3.925	54593.05	71273.19	71273.19	112.27	No	Si
SLU 80	3.47	-4742.91	-64407	-0.0001137	0.0003743	0.0035	3.925	53640.49	77821.68	77821.68	16.41	No	Si
SLU 75	1.57	-601.47	-51329	-0.0000788	0.0003743	0.0035	3.925	54522.49	71003.02	71003.02	118.05	No	Si
SLU 75	3.47	-4660.65	-63854	-0.0001124	0.0003743	0.0035	3.925	53799.06	77677.19	77677.19	16.67	No	Si
SLU 81	1.57	-627.34	-52470	-0.0000809	0.0003743	0.0035	3.925	54684.36	71679.87	71679.87	114.26	No	Si
SLU 81	3.47	-4719.91	-65306	-0.0001154	0.0003743	0.0035	3.925	53359.33	78062.67	78062.67	16.54	No	Si
SLU 79	1.57	-637.43	-52091	-0.0000802	0.0003743	0.0035	3.925	54635.66	71453.27	71453.27	112.1	No	Si
SLU 79	3.47	-4754.12	-64688	-0.0001143	0.0003743	0.0035	3.925	53555.65	77896.26	77896.26	16.38	No	Si
SLU 74	1.57	-604.05	-51632	-0.0000793	0.0003743	0.0035	3.925	54569.98	71181.38	71181.38	117.84	No	Si
SLU 74	3.47	-4671.86	-64136	-0.0001129	0.0003743	0.0035	3.925	53719.67	77750.42	77750.42	16.64	No	Si
SLU 84	1.57	-670.27	-53113	-0.0000821	0.0003743	0.0035	3.925	54755.59	72069.03	72069.03	107.52	No	Si
SLU 84	3.47	-4803.92	-66218	-0.0001174	0.0003743	0.0035	3.925	53045.45	78314.04	78314.04	16.3	No	Si
SLU 77	1.57	-649.56	-52579	-0.0000811	0.0003743	0.0035	3.925	54697.52	71745.8	71745.8	110.45	No	Si
SLU 77	3.47	-4767.09	-65328	-0.0001155	0.0003743	0.0035	3.925	53352.06	78068.68	78068.68	16.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	1.57	5937.78	-9859	-0.0000257	0.0005615	0.0035	3.925		19214.03	19214.03	3.24		Si
SLV 10	3.47	-7245.3	-19337	-0.0000419	0.0005615	0.0035	3.925		39014.62	39014.62	5.38		Si
SLV 2	1.57	-15780.9	-29835	-0.0000762	0.0005615	0.0035	3.925		55175.87	55175.87	3.5		Si
SLV 2	3.47	8779.24	-39712	-0.0000758	0.0005615	0.0035	3.925		64367.04	64367.04	7.33		Si
SLV 16	1.57	18353.94	-38901	-0.0000963	0.0005615	0.0035	3.925		63431.39	63431.39	3.46		Si
SLV 16	3.47	-17718.3	-44928	-0.0001047	0.0005615	0.0035	3.925		75183.59	75183.59	4.24		Si
SLV 15	1.57	15226.64	-39116	-0.0000895	0.0005615	0.0035	3.925		63678.56	63678.56	4.18		Si
SLV 15	3.47	-15219.01	-45306	-0.0000995	0.0005615	0.0035	3.925		75633.31	75633.31	4.97		Si
SLV 5	1.57	-6415.1	-11561	-0.0000291	0.0005615	0.0035	3.925		25902.4	25902.4	4.04		Si
SLV 5	3.47	2256.09	-21961	-0.000035	0.0005615	0.0035	3.925		38809.33	38809.33	17.2		Si
SLV 1	1.57	-18908.2	-30049	-0.0000835	0.0005615	0.0035	3.925		55478.86	55478.86	2.93		Si
SLV 1	3.47	11278.53	-40090	-0.0000821	0.0005615	0.0035	3.925		64804.07	64804.07	5.75		Si
SLV 3	1.57	-18931.28	-44308	-0.0001065	0.0005615	0.0035	3.925		74448.1	74448.1	3.93		Si
SLV 3	3.47	10843.36	-53206	-0.0001022	0.0005615	0.0035	3.925		80402.38	80402.38	7.41		Si
SLV 14	1.57	18377.02	-24642	-0.0000745	0.0005615	0.0035	3.925		42752.44	42752.44	2.33		Si
SLV 14	3.47	-17283.13	-31812	-0.0000827	0.0005615	0.0035	3.925		57986.48	57986.48	3.36		Si
SLV 13	1.57	15249.72	-24857	-0.0000674	0.0005615	0.0035	3.925		43070.15	43070.15	2.82		Si
SLV 13	3.47	-14783.85	-32190	-0.0000776	0.0005615	0.0035	3.925		58527.66	58527.66	3.96		Si
SLD 14	1.57	11648	-28289	-0.0000647	0.0005615	0.0035	3.925		48200.57	48200.57	4.14		Si
SLD 14	3.47	-12191.49	-35754	-0.0000774	0.0005615	0.0035	3.925		63450.42	63450.42	5.2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	1.57	-121.5	-37735	-31423	282	3.925	3.925	-28592	10757	17859	40441	32909	10009	42918	No	152.13	Si
SLU 43	3.47	-3678.76	-46070	-38363	282	3.925	3.925	-34907	10833	20635	40441	32909	10009	42918	No	151.93	Si
SLU 48	1.57	-224.65	-40118	-33407	258	3.925	3.925	-30397	10833	18653	40441	32909	10009	42918	No	166.43	Si
SLU 48	3.47	-3882.18	-49096	-40883	258	3.925	3.925	-37200	10833	21643	40441	32909	10009	42918	No	166.18	Si
SLU 1	1.57	-155.72	-30915	-25743	188	3.925	3.925	-23424	10068	15587	40441	32909	10009	42918	No	227.95	Si
SLU 1	3.47	-2967.05	-37871	-31536	189	3.925	3.925	-28695	10770	17904	40441	32909	10009	42918	No	227.58	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	1.57	-117.2	-37230	-31002	270	3.925	3.925	-28209	10706	17691	40441	32909	10009	42918	No	158.87	Si
SLU 44	3.47	-3660.07	-45601	-37973	271	3.925	3.925	-34552	10833	20479	40441	32909	10009	42918	No	158.66	Si
SLU 51	1.57	-209.94	-39326	-32747	268	3.925	3.925	-29798	10833	18389	40441	32909	10009	42918	No	159.88	Si
SLU 51	3.47	-3858	-48174	-40115	269	3.925	3.925	-36502	10833	21336	40441	32909	10009	42918	No	159.65	Si
SLU 47	1.57	-162.71	-38177	-31791	267	3.925	3.925	-28927	10801	18006	40441	32909	10009	42918	No	160.81	Si
SLU 47	3.47	-3755.3	-46794	-38966	267	3.925	3.925	-35456	10833	20876	40441	32909	10009	42918	No	160.58	Si
SLU 50	1.57	-212.52	-39629	-33000	276	3.925	3.925	-30027	10833	18490	40441	32909	10009	42918	No	155.72	Si
SLU 50	3.47	-3869.22	-48455	-40349	276	3.925	3.925	-36715	10833	21430	40441	32909	10009	42918	No	155.5	Si
SLU 45	1.57	-179.14	-39171	-32618	261	3.925	3.925	-29680	10833	18337	40441	32909	10009	42918	No	164.36	Si
SLU 45	3.47	-3786.96	-47903	-39890	262	3.925	3.925	-36296	10833	21246	40441	32909	10009	42918	No	164.12	Si
SLU 49	1.57	-222.06	-39815	-33154	251	3.925	3.925	-30168	10833	18552	40441	32909	10009	42918	No	171.2	Si
SLU 49	3.47	-3870.97	-48815	-40649	251	3.925	3.925	-36987	10833	21549	40441	32909	10009	42918	No	170.93	Si
SLU 46	1.57	-176.55	-38868	-32366	254	3.925	3.925	-29450	10833	18236	40441	32909	10009	42918	No	169.01	Si
SLU 46	3.47	-3775.74	-47622	-39655	254	3.925	3.925	-36083	10833	21152	40441	32909	10009	42918	No	168.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	1.57	-15803.98	-44094	-36718	-14367	3.925	3.925	-33410	16250	22622	40441	49363	10009	59372		4.13	Si
SLV 4	3.47	8344.08	-52828	-43991	-13950	3.925	3.925	-40028	16250	25531	40441	49363	10009	59372		4.26	Si
SLV 15	1.57	15226.64	-39116	-32572	14864	3.925	3.925	-29638	16250	20964	40441	49363	10009	59372		3.99	Si
SLV 15	3.47	-15219.01	-45306	-37727	14555	3.925	3.925	-34328	16250	23026	40441	49363	10009	59372		4.08	Si
SLV 14	1.57	18377.02	-24642	-20520	17598	3.925	3.6502	-18672	14151	16144	40441	49363	10009	56584		3.22	Si
SLV 14	3.47	-17283.13	-31812	-26490	17182	3.925	3.925	-24104	15237	18532	40441	49363	10009	58973		3.43	Si
SLD 16	1.57	11640.49	-37182	-30962	11450	3.925	3.925	-28173	16051	20320	40441	49363	10009	59372		5.19	Si
SLD 16	3.47	-12453.31	-43918	-36571	11249	3.925	3.925	-33277	16250	22564	40441	49363	10009	59372		5.28	Si
SLV 13	1.57	15249.72	-24857	-20699	14617	3.925	3.925	-18834	14183	16215	40441	49363	10009	56656		3.88	Si
SLV 13	3.47	-14783.85	-32190	-26805	14201	3.925	3.925	-24390	15295	18657	40441	49363	10009	59098		4.16	Si
SLV 2	1.57	-15780.9	-29835	-24844	-14613	3.925	3.925	-22606	14938	17873	40441	49363	10009	58314		3.99	Si
SLV 2	3.47	8779.24	-39712	-33069	-14304	3.925	3.925	-30090	16250	21163	40441	49363	10009	59372		4.15	Si
SLV 3	1.57	-18931.28	-44308	-36896	-17347	3.925	3.925	-33573	16250	22694	40441	49363	10009	59372		3.42	Si
SLV 3	3.47	10843.36	-53206	-44305	-16931	3.925	3.925	-40314	16250	25657	40441	49363	10009	59372		3.51	Si
SLV 1	1.57	-18908.2	-30049	-25023	-17594	3.925	3.925	-22768	14970	17944	40441	49363	10009	58385		3.32	Si
SLV 1	3.47	11278.53	-40090	-33383	-17285	3.925	3.925	-30376	16250	21289	40441	49363	10009	59372		3.43	Si
SLD 14	1.57	11648	-28289	-23557	11295	3.925	3.925	-21435	14704	17358	40441	49363	10009	57799		5.12	Si
SLD 14	3.47	-12191.49	-35754	-29773	11027	3.925	3.925	-27091	15835	19845	40441	49363	10009	59372		5.38	Si
SLV 16	1.57	18353.94	-38901	-32394	17844	3.925	3.925	-29476	16250	20893	40441	49363	10009	59372		3.33	Si
SLV 16	3.47	-17718.3	-44928	-37412	17536	3.925	3.925	-34042	16250	22900	40441	49363	10009	59372		3.39	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.3	14920	-16397	345.55	2071.29	5.99	Si
SLV 9	179667	0.3	15109	-16605	345.55	2094.74	6.06	Si
SLV 6	179667	0.3	16856	-18525	345.55	2307.23	6.68	Si
SLV 5	179667	0.3	17046	-18733	345.55	2329.93	6.74	Si
SLV 14	179667	0.3	27000	-29673	345.55	3419.75	9.9	Si
SLV 13	179667	0.3	27282	-29983	345.55	3447.69	9.98	Si
SLV 2	179667	0.3	33454	-36766	345.55	4019.72	11.63	Si
SLV 1	179667	0.3	33736	-37076	345.55	4044	11.7	Si
SLV 16	179667	0.3	39330	-43224	345.55	4492.89	13	Si
SLV 15	179667	0.3	39612	-43533	345.55	4513.84	13.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-47645	-40381	-736	0.456	5420.1	0.968	6.84986	6.24893	Si
SLV 4	-47257	-40360	-736	0.459	5380.6	0.968	6.89935	6.24893	Si
SLV 15	-40686	-35607	-680	0.523	4711.9	0.964	7.89046	6.24893	Si
SLV 16	-40298	-35585	-680	0.527	4672.4	0.963	7.95748	6.24893	Si
SLV 1	-37802	-25505	638	0.558	4418.5	0.961	8.43401	6.24893	Si
SLV 2	-37414	-25484	638	0.563	4379.1	0.961	8.51102	6.24893	Si
SLV 7	-56629	-56062	-2320	0.368	6334.9	0.972	5.49485	4.03181	Si
SLV 8	-56367	-56048	-2320	0.369	6308.3	0.972	5.51696	4.03181	Si
SLV 11	-54541	-54630	-2303	0.38	6122.3	0.972	5.68119	4.03181	Si
SLV 12	-54280	-54615	-2303	0.381	6095.7	0.971	5.70497	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.281	SLU 83	Si
V_SLU	151.93	SLU 43	Si
PF_SLV	2.326	SLV 14	Si
V_SLV	3.215	SLV 14	Si
PFFP_SLV	5.994	SLV 10	Si
R_SLV	1.096	SLV 3	Si

Maschio 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	6.661	-7.963	6.661	L4	L5	3.905	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	1.57	199.45	-60093	-0.0000939	0.0003743	0.0035	3.905	53993.52	73407.06	73407.06	368.04	No	Si
SLU 77	3.47	3592.56	-62953	-0.0001085	0.0003743	0.0035	3.905	53405.34	74480.44	74480.44	20.73	No	Si
SLU 84	1.57	333.06	-60699	-0.0000954	0.0003743	0.0035	3.905	53892.95	73630.88	73630.88	221.07	No	Si
SLU 84	3.47	3658.6	-64017	-0.0001107	0.0003743	0.0035	3.905	53113.23	74890.26	74890.26	20.47	No	Si
SLU 83	1.57	311.7	-61134	-0.0000962	0.0003743	0.0035	3.905	53812.67	73792.98	73792.98	236.75	No	Si
SLU 83	3.47	3714.39	-64296	-0.0001114	0.0003743	0.0035	3.905	53030.28	74998.37	74998.37	20.19	No	Si
SLU 75	1.57	252.75	-58711	-0.0000916	0.0003743	0.0035	3.905	54174.95	72902.93	72902.93	288.43	No	Si
SLU 75	3.47	3556.38	-61697	-0.0001059	0.0003743	0.0035	3.905	53698.98	74004.03	74004.03	20.81	No	Si
SLU 81	1.57	343.63	-60187	-0.0000945	0.0003743	0.0035	3.905	53978.74	73441.72	73441.72	213.72	No	Si
SLU 81	3.47	3734	-63318	-0.0001095	0.0003743	0.0035	3.905	53309.66	74620.31	74620.31	19.98	No	Si
SLU 73	1.57	283.34	-56901	-0.0000883	0.0003743	0.0035	3.905	54311.22	72256.95	72256.95	255.02	No	Si
SLU 73	3.47	3499.47	-59873	-0.0001023	0.0003743	0.0035	3.905	54026.85	73326.28	73326.28	20.95	No	Si
SLU 78	1.57	220.82	-59658	-0.0000932	0.0003743	0.0035	3.905	54057.91	73247.22	73247.22	331.71	No	Si
SLU 78	3.47	3536.77	-62675	-0.0001078	0.0003743	0.0035	3.905	53475.18	74374.19	74374.19	21.03	No	Si
SLU 82	1.57	365	-59752	-0.0000938	0.0003743	0.0035	3.905	54044.56	73281.68	73281.68	200.77	No	Si
SLU 82	3.47	3678.21	-63040	-0.0001089	0.0003743	0.0035	3.905	53383.07	74513.56	74513.56	20.26	No	Si
SLU 74	1.57	231.39	-59146	-0.0000923	0.0003743	0.0035	3.905	54125.03	73060.71	73060.71	315.75	No	Si
SLU 74	3.47	3612.17	-61975	-0.0001066	0.0003743	0.0035	3.905	53638.68	74108.92	74108.92	20.52	No	Si
SLU 79	1.57	183.86	-59520	-0.0000929	0.0003743	0.0035	3.905	54076.93	73196.75	73196.75	398.11	No	Si
SLU 79	3.47	3553.23	-62293	-0.0001071	0.0003743	0.0035	3.905	53566.66	74228.92	74228.92	20.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	1.57	5804.46	-8363	-0.0000235	0.0005615	0.0035	3.905		16427.97	16427.97	2.83		Si
SLV 9	3.47	-4251.75	-20941	-0.0000381	0.0005615	0.0035	3.905		41386.65	41386.65	9.73		Si
SLV 1	1.57	-17127.98	-27773	-0.0000766	0.0005615	0.0035	3.905		51836.98	51836.98	3.03		Si
SLV 1	3.47	15085.67	-29667	-0.000075	0.0005615	0.0035	3.905		50001.44	50001.44	3.31		Si
SLV 14	1.57	18344.91	-32357	-0.0000866	0.0005615	0.0035	3.905		54096.72	54096.72	2.95		Si
SLV 14	3.47	-12362.69	-39628	-0.0000844	0.0005615	0.0035	3.905		68171.2	68171.2	5.51		Si
SLV 2	1.57	-14178.56	-27701	-0.0000699	0.0005615	0.0035	3.905		51728.54	51728.54	3.65		Si
SLV 2	3.47	12662.32	-30097	-0.0000702	0.0005615	0.0035	3.905		50652.73	50652.73	4		Si
SLV 16	1.57	17221.75	-51578	-0.0001154	0.0005615	0.0035	3.905		77949.85	77949.85	4.53		Si
SLV 16	3.47	-10069.61	-52477	-0.0000998	0.0005615	0.0035	3.905		83223.92	83223.92	8.26		Si
SLV 4	1.57	-15301.72	-46922	-0.0001031	0.0005615	0.0035	3.905		77091.16	77091.16	5.04		Si
SLV 4	3.47	14955.4	-42946	-0.0000957	0.0005615	0.0035	3.905		67691.81	67691.81	4.53		Si
SLV 5	1.57	-3952.58	-6966	-0.0000177	0.0005615	0.0035	3.905		17605.57	17605.57	4.45		Si
SLV 5	3.47	3255.76	-18082	-0.0000318	0.0005615	0.0035	3.905		32978.17	32978.17	10.13		Si
SLV 13	1.57	15395.48	-32429	-0.00008	0.0005615	0.0035	3.905		54207.31	54207.31	3.52		Si
SLV 13	3.47	-9939.34	-39198	-0.0000782	0.0005615	0.0035	3.905		67631.32	67631.32	6.8		Si
SLV 10	1.57	7790.21	-8314	-0.0000291	0.0005615	0.0035	3.905		16341.07	16341.07	2.1		Si
SLV 10	3.47	-5883.31	-21231	-0.000042	0.0005615	0.0035	3.905		41835.34	41835.34	7.11		Si
SLV 3	1.57	-18251.14	-46995	-0.0001102	0.0005615	0.0035	3.905		77177.72	77177.72	4.23		Si
SLV 3	3.47	17378.76	-42516	-0.0001007	0.0005615	0.0035	3.905		67189.26	67189.26	3.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	1.57	183.86	-59520	-49563	-1256	3.905	3.905	-45329	10833	25088	40441	32741	9958	42699	No	34.01	Si
SLU 79	3.47	3553.23	-62293	-51872	-1044	3.905	3.905	-47441	10833	26011	40441	32741	9958	42699	No	40.91	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	1.57	343.63	-60187	-50119	-1236	3.905	3.905	-45838	10833	25310	40441	32741	9958	42699	No	34.54	Si
SLU 81	3.47	3734	-63318	-52726	-1022	3.905	3.905	-48222	10833	26353	40441	32741	9958	42699	No	41.77	Si
SLU 74	1.57	231.39	-59146	-49252	-1255	3.905	3.905	-45045	10833	24964	40441	32741	9958	42699	No	34.02	Si
SLU 74	3.47	3612.17	-61975	-51608	-1045	3.905	3.905	-47199	10833	25906	40441	32741	9958	42699	No	40.88	Si
SLU 71	1.57	-39.91	-53544	-44587	-1267	3.905	3.905	-40778	10833	23098	40441	32741	9958	42699	No	33.7	Si
SLU 71	3.47	3222.95	-55338	-46080	-1076	3.905	3.905	-42144	10833	23695	40441	32741	9958	42699	No	39.69	Si
SLU 83	1.57	311.7	-61134	-50907	-1243	3.905	3.905	-46559	10833	25626	40441	32741	9958	42699	No	34.34	Si
SLU 83	3.47	3714.39	-64296	-53540	-1026	3.905	3.905	-48966	10833	26679	40441	32741	9958	42699	No	41.61	Si
SLU 77	1.57	199.45	-60093	-50040	-1262	3.905	3.905	-45766	10833	25279	40441	32741	9958	42699	No	33.83	Si
SLU 77	3.47	3592.56	-62953	-52422	-1048	3.905	3.905	-47944	10833	26231	40441	32741	9958	42699	No	40.73	Si
SLU 69	1.57	-24.31	-54118	-45064	-1274	3.905	3.905	-41215	10833	23289	40441	32741	9958	42699	No	33.52	Si
SLU 69	3.47	3262.28	-55998	-46631	-1081	3.905	3.905	-42647	10833	23915	40441	32741	9958	42699	No	39.52	Si
SLU 64	1.57	23.97	-51651	-43010	-1253	3.905	3.905	-39336	10833	22467	40441	32741	9958	42699	No	34.09	Si
SLU 64	3.47	3262.17	-53382	-44452	-1068	3.905	3.905	-40655	10833	23044	40441	32741	9958	42699	No	39.96	Si
SLU 66	1.57	7.62	-53171	-44276	-1267	3.905	3.905	-40494	10833	22973	40441	32741	9958	42699	No	33.71	Si
SLU 66	3.47	3281.89	-55021	-45816	-1077	3.905	3.905	-41903	10833	23589	40441	32741	9958	42699	No	39.65	Si
SLU 70	1.57	-2.95	-53682	-44702	-1217	3.905	3.905	-40883	10833	23144	40441	32741	9958	42699	No	35.08	Si
SLU 70	3.47	3206.49	-55720	-46399	-1026	3.905	3.905	-42435	10833	23822	40441	32741	9958	42699	No	41.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	1.57	14272.32	-51651	-43010	11705	3.905	3.905	-39336	16250	25099	40441	49112	9958	59070		5.05	Si
SLV 15	3.47	-7646.25	-52047	-43340	11672	3.905	3.905	-39638	16250	25231	40441	49112	9958	59070		5.06	Si
SLV 16	1.57	17221.75	-51578	-42950	14578	3.905	3.905	-39281	16250	25075	40441	49112	9958	59070		4.05	Si
SLV 16	3.47	-10069.61	-52477	-43698	14545	3.905	3.905	-39966	16250	25374	40441	49112	9958	59070		4.06	Si
SLV 7	1.57	-7696.44	-71037	-59154	-11103	3.905	3.905	-54101	16250	31556	40441	49112	9958	59070		5.32	Si
SLV 7	3.47	10899.38	-60913	-50723	-10301	3.905	3.905	-46390	16250	28184	40441	49112	9958	59070		5.73	Si
SLV 3	1.57	-18251.14	-46995	-39133	-19199	3.905	3.905	-35790	16250	23548	40441	49112	9958	59070		3.08	Si
SLV 3	3.47	17378.76	-42516	-35404	-18549	3.905	3.905	-32379	16250	22056	40441	49112	9958	59070		3.18	Si
SLV 1	1.57	-17127.98	-27773	-23127	-16465	3.905	3.905	-21152	14647	17146	40441	49112	9958	57587		3.5	Si
SLV 1	3.47	15085.67	-29667	-24704	-16150	3.905	3.905	-22594	14935	17777	40441	49112	9958	58217		3.6	Si
SLV 2	1.57	-14178.56	-27701	-23067	-13592	3.905	3.905	-21097	14636	17122	40441	49112	9958	57563		4.24	Si
SLV 2	3.47	12662.32	-30097	-25062	-13276	3.905	3.905	-22921	15001	17920	40441	49112	9958	58361		4.4	Si
SLV 4	1.57	-15301.72	-46922	-39073	-16326	3.905	3.905	-35735	16250	23524	40441	49112	9958	59070		3.62	Si
SLV 4	3.47	14955.4	-42946	-35762	-15675	3.905	3.905	-32707	16250	22200	40441	49112	9958	59070		3.77	Si
SLV 13	1.57	15395.48	-32429	-27004	14439	3.905	3.905	-24697	15356	18697	40441	49112	9958	59070		4.09	Si
SLV 13	3.47	-9939.34	-39198	-32640	14071	3.905	3.905	-29852	16250	20951	40441	49112	9958	59070		4.2	Si
SLV 14	1.57	18344.91	-32357	-26944	17312	3.905	3.905	-24642	15345	18673	40441	49112	9958	59070		3.41	Si
SLV 14	3.47	-12362.69	-39628	-32999	16944	3.905	3.905	-30180	16250	21094	40441	49112	9958	59070		3.49	Si
SLD 3	1.57	-11648.29	-44175	-36785	-12591	3.905	3.905	-33643	16250	22609	40441	49112	9958	59070		4.69	Si
SLD 3	3.47	11965.22	-41852	-34850	-12119	3.905	3.905	-31873	16250	21835	40441	49112	9958	59070		4.87	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.3	12390	-13547	343.79	1742.75	5.07	Si
SLV 6	179667	0.3	12516	-13685	343.79	1758.84	5.12	Si
SLV 9	179667	0.3	14474	-15826	343.79	2005.63	5.83	Si
SLV 10	179667	0.3	14600	-15963	343.79	2021.2	5.88	Si
SLV 1	179667	0.3	26495	-28970	343.79	3352.1	9.75	Si
SLV 2	179667	0.3	26682	-29174	343.79	3370.72	9.8	Si
SLV 13	179667	0.3	33441	-36565	343.79	3998.1	11.63	Si
SLV 14	179667	0.3	33628	-36769	343.79	4014.12	11.68	Si
SLV 3	179667	0.3	40695	-44496	343.79	4569.43	13.29	Si
SLV 4	179667	0.3	40881	-44700	343.79	4582.74	13.33	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-44783	-51705	-656	0.48	5125.9	0.967	7.22487	6.24893	Si
SLV 15	-44191	-52003	-655	0.486	5065.7	0.966	7.31013	6.24893	Si
SLV 14	-36928	-31090	588	0.568	4326.7	0.961	8.58862	6.24893	Si
SLV 13	-36337	-31388	589	0.576	4266.5	0.96	8.71152	6.24893	Si
SLV 4	-35084	-46285	-601	0.593	4139.2	0.959	8.9801	6.24893	Si
SLV 3	-34493	-46583	-601	0.601	4079	0.959	9.11588	6.24893	Si
SLV 12	-50455	-73908	-2088	0.408	5703.4	0.97	6.10884	4.03181	Si
SLV 11	-50057	-74108	-2087	0.41	5662.8	0.97	6.15132	4.03181	Si
SLV 8	-47546	-72282	-2072	0.429	5407.2	0.968	6.43879	4.03181	Si
SLV 7	-47148	-72482	-2071	0.432	5366.6	0.968	6.48642	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	19.984	SLU 81	Si
V_SLU	33.521	SLU 69	Si
PF_SLV	2.098	SLV 10	Si
V_SLV	3.077	SLV 3	Si

Stato limite	Coeff.s.	Comb.	Verifica
PFFP_SLV	5.069	SLV 5	Si
R_SLV	1.156	SLV 16	Si

Maschio 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.963	6.661	-5.158	6.661	L4	L5	1.805	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	1.57	-4126.66	-18442	-0.0001061	0.0003743	0.0035	1.805	10678.71	13050.45	13050.45	3.16	No	Si
SLU 83	3.47	346.99	-23028	-0.0000792	0.0003743	0.0035	1.805	11481.78	14270.49	14270.49	41.13	No	Si
SLU 77	1.57	-4043.62	-18101	-0.0001037	0.0003743	0.0035	1.805	10589.34	12908.48	12908.48	3.19	No	Si
SLU 77	3.47	470.91	-22450	-0.0000785	0.0003743	0.0035	1.805	11421.15	14051.89	14051.89	29.84	No	Si
SLU 84	1.57	-4093.75	-18329	-0.0001052	0.0003743	0.0035	1.805	10649.4	13002.96	13002.96	3.18	No	Si
SLU 84	3.47	303.37	-22971	-0.0000785	0.0003743	0.0035	1.805	11476.28	14248.64	14248.64	46.97	No	Si
SLU 79	1.57	-4019.72	-17910	-0.0001027	0.0003743	0.0035	1.805	10537.57	12829.93	12829.93	3.19	No	Si
SLU 79	3.47	493.41	-22155	-0.0000777	0.0003743	0.0035	1.805	11385.7	13941.46	13941.46	28.26	No	Si
SLU 75	1.57	-3953.76	-17723	-0.0001012	0.0003743	0.0035	1.805	10485.86	12753.89	12753.89	3.23	No	Si
SLU 75	3.47	359.03	-22118	-0.000076	0.0003743	0.0035	1.805	11381.11	13927.87	13927.87	38.79	No	Si
SLU 81	1.57	-4069.72	-18179	-0.0001043	0.0003743	0.0035	1.805	10610.11	12940.75	12940.75	3.18	No	Si
SLU 81	3.47	278.73	-22754	-0.0000774	0.0003743	0.0035	1.805	11454.52	14166.59	14166.59	50.83	No	Si
SLU 80	1.57	-3986.8	-17796	-0.0001018	0.0003743	0.0035	1.805	10506.14	12783.43	12783.43	3.21	No	Si
SLU 80	3.47	449.79	-22097	-0.000077	0.0003743	0.0035	1.805	11378.44	13920.03	13920.03	30.95	No	Si
SLU 78	1.57	-4010.7	-17987	-0.0001029	0.0003743	0.0035	1.805	10558.66	12861.63	12861.63	3.21	No	Si
SLU 78	3.47	427.29	-22392	-0.0000778	0.0003743	0.0035	1.805	11414.48	14030.32	14030.32	32.84	No	Si
SLU 82	1.57	-4036.8	-18065	-0.0001035	0.0003743	0.0035	1.805	10579.75	12893.75	12893.75	3.19	No	Si
SLU 82	3.47	235.11	-22697	-0.0000767	0.0003743	0.0035	1.805	11448.47	14144.87	14144.87	60.16	No	Si
SLU 74	1.57	-3986.68	-17837	-0.000102	0.0003743	0.0035	1.805	10517.58	12800.26	12800.26	3.21	No	Si
SLU 74	3.47	402.65	-22176	-0.0000767	0.0003743	0.0035	1.805	11388.33	13949.31	13949.31	34.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	1.57	781.7	-3560	-0.0000181	0.0005615	0.0035	1.805		3265.98	3265.98	4.18		Si
SLV 10	3.47	-5086.11	-12709	-0.0000946	0.0005615	0.0035	1.805		10896.16	10896.16	2.14		Si
SLV 7	1.57	-6196.79	-20294	-0.0001308	0.0005615	0.0035	1.805		15611.65	15611.65	2.52		Si
SLV 7	3.47	5851.4	-16462	-0.0001143	0.0005615	0.0035	1.805		12611.46	12611.46	2.16		Si
SLD 2	1.57	-4216.16	-10078	-0.0000767	0.0005615	0.0035	1.805		9030.77	9030.77	2.14		Si
SLD 2	3.47	2995.96	-8488	-0.000056	0.0005615	0.0035	1.805		7175.91	7175.91	2.4		Si
SLV 2	1.57	-5038.64	-8997	-0.0000984	0.0005615	0.0035	1.444		8241.74	8241.74	1.64		Si
SLV 2	3.47	4441.32	-5027	-0.0016232	0.0005615	0.0035	1.444		4478.03	4478.03	1.01		Si
SLD 3	1.57	-5555.82	-13430	-0.0001034	0.0005615	0.0035	1.805		11380.69	11380.69	2.05		Si
SLD 3	3.47	5133.87	-9346	-0.0000993	0.0005615	0.0035	1.805		7738.09	7738.09	1.51		Si
SLV 3	1.57	-7168.45	-14371	-0.0001377	0.0005615	0.0035	1.444		12009.4	12009.4	1.68		Si
SLV 3	3.47	7835.83	-6446	-0.0204538	0.0005615	0.0035	1.444		5616.4	5616.4	0.72		No
SLD 1	1.57	-4734.59	-10326	-0.0000864	0.0005615	0.0035	1.805		9213.3	9213.3	1.95		Si
SLD 1	3.47	3916.11	-7448	-0.0000727	0.0005615	0.0035	1.805		6400.39	6400.39	1.63		Si
SLV 1	1.57	-5850.08	-9385	-0.0001287	0.0005615	0.0035	1.444		8525.12	8525.12	1.46		Si
SLV 1	3.47	5881.54	-3399	-0.0248142	0.0005615	0.0035	1.444		3131.05	3131.05	0.53		No
SLV 4	1.57	-6357.01	-13983	-0.000119	0.0005615	0.0035	1.805		11748.54	11748.54	1.85		Si
SLV 4	3.47	6395.62	-8074	-0.0003346	0.0005615	0.0035	1.805		6881.73	6881.73	1.08		Si
SLD 4	1.57	-5037.4	-13182	-0.0000945	0.0005615	0.0035	1.805		11215.77	11215.77	2.23		Si
SLD 4	3.47	4213.72	-10386	-0.0000771	0.0005615	0.0035	1.805		8426.89	8426.89	2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	1.57	-4126.66	-18442	-15357	970	1.805	1.805	-30386	10833	5717	40441	15134	4603	19737	No	20.35	Si
SLU 83	3.47	346.99	-23028	-19176	897	1.805	1.805	-37942	10833	6735	40441	15134	4603	19737	No	22.01	Si
SLU 73	1.57	-3850.97	-17193	-14317	1017	1.805	1.805	-28327	10721	5440	40441	15134	4603	19737	No	19.4	Si
SLU 73	3.47	284.19	-21511	-17912	949	1.805	1.805	-35442	10833	6398	40441	15134	4603	19737	No	20.79	Si
SLU 39	1.57	-3508.73	-15824	-13177	1000	1.805	1.805	-26071	10421	5267	40441	15134	4603	19737	No	19.73	Si
SLU 39	3.47	109.42	-20052	-16698	938	1.805	1.805	-33038	10833	6074	40441	15134	4603	19737	No	21.04	Si
SLU 42	1.57	-3532.76	-15973	-13301	1007	1.805	1.805	-26318	10454	5283	40441	15134	4603	19737	No	19.61	Si
SLU 42	3.47	134.06	-20268	-16878	944	1.805	1.805	-33395	10833	6123	40441	15134	4603	19737	No	20.91	Si
SLU 40	1.57	-3475.81	-15710	-13082	1067	1.805	1.805	-25884	10396	5254	40441	15134	4603	19737	No	18.5	Si
SLU 40	3.47	65.8	-19995	-16650	1005	1.805	1.805	-32944	10833	6062	40441	15134	4603	19737	No	19.63	Si
SLU 31	1.57	-3289.98	-14837	-12355	987	1.805	1.805	-24447	10204	5157	40441	15134	4603	19737	No	19.99	Si
SLU 31	3.47	114.88	-18809	-15662	929	1.805	1.805	-30990	10833	5798	40441	15134	4603	19737	No	21.24	Si
SLU 75	1.57	-3953.76	-17723	-14758	962	1.805	1.805	-29201	10833	5557	40441	15134	4603	19737	No	20.52	Si
SLU 75	3.47	359.03	-22118	-18418	892	1.805	1.805	-36443	10833	6533	40441	15134	4603	19737	No	22.13	Si
SLU 82	1.57	-4036.8	-18065	-15043	1097	1.805	1.805	-29764	10833	5633	40441	15134	4603	19737	No	18	Si
SLU 82	3.47	235.11	-22697	-18900	1025	1.805	1.805	-37396	10833	6662	40441	15134	4603	19737	No	19.25	Si
SLU 81	1.57	-4069.72	-18179	-15138	1030	1.805	1.805	-29952	10833	5659	40441	15134	4603	19737	No	19.16	Si
SLU 81	3.47	278.73	-22754	-18948	958	1.805	1.805	-37490	10833	6674	40441	15134	4603	19737	No	20.6	Si
SLU 84	1.57	-4093.75	-18329	-15263	1036	1.805	1.805	-30199	10833	5692	40441	15134	4603	19737	No	19.04	Si
SLU 84	3.47	303.37	-22971	-19128	964	1.805	1.805	-37847	10833	6723	40441	15134	4603	19737	No	20.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	1.57	941.92	-9872	-8220	9654	1.805	1.805	-16265	13670	6909	40441	22701	4603	27304		2.83	Si
SLV 13	3.47	-5630.33	-21097	-17568	9481	1.805	1.805	-34760	16250	8213	40441	22701	4603	27304		2.88	Si
SLV 7	1.57	-6196.79	-20294	-16899	-7202	1.805	1.7915	-33438	16250	8151	40441	22701	4603	27304		3.79	Si
SLV 7	3.47	5851.4	-16462	-13708	-7220	1.805	1.6411	-27123	15841	7279	40441	22701	4603	27304		3.78	Si
SLV 2	1.57	-5038.64	-8997	-7492	-6051	1.444	1.0274	0	0	0	40441	18161	3682	21843		3.61	Si
SLV 2	3.47	4441.32	-5027	-4186	-5970	1.444	0.0569	0	0	0	40441	18161	3682	21843		3.66	Si
SLV 16	1.57	434.99	-14469	-12048	9205	1.805	1.805	-23839	15184	7674	40441	22701	4603	27304		2.97	Si
SLV 16	3.47	-5116.25	-25772	-21461	9034	1.805	1.805	-42463	16250	8213	40441	22701	4603	27304		3.02	Si
SLV 14	1.57	1753.36	-9483	-7897	11792	1.805	1.805	-15624	13542	6844	40441	22701	4603	27304		2.32	Si
SLV 14	3.47	-7070.54	-22725	-18923	11625	1.805	1.7741	-37442	16250	8072	40441	22701	4603	27304		2.35	Si
SLD 14	1.57	140.74	-10424	-8680	7711	1.805	1.805	-17175	13852	7001	40441	22701	4603	27304		3.54	Si
SLD 14	3.47	-4368.58	-19825	-16509	7585	1.805	1.805	-32665	16250	8213	40441	22701	4603	27304		3.6	Si
SLV 1	1.57	-5850.08	-9385	-7815	-8190	1.444	0.8376	0	0	0	40441	18161	3682	21843		2.67	Si
SLV 1	3.47	5881.54	-3399	-2831	-8114	1.444	0	0	0	0	40441	18161	3682	21843		2.69	Si
SLV 10	1.57	781.7	-3560	-2964	8217	1.805	1.805	-5865	11590	5857	40441	22701	4603	27304		3.32	Si
SLV 10	3.47	-5086.11	-12709	-10583	8140	1.805	1.5069	-25412	15499	6540	40441	22701	4603	27304		3.35	Si
SLV 4	1.57	-6357.01	-13983	-11643	-8639	1.805	1.3436	-31471	16250	6113	40441	22701	4603	27304		3.16	Si
SLV 4	3.47	6395.62	-8074	-6723	-8561	1.805	0.3311	-76223	16250	4226	40441	22701	4603	27304		3.19	Si
SLV 3	1.57	-7168.45	-14371	-11967	-10777	1.444	1.2111	0	0	0	40441	18161	3682	21843		2.03	Si
SLV 3	3.47	7835.83	-6446	-5368	-10705	1.444	0	0	0	0	40441	18161	3682	21843		2.04	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.3	9354	-4727	158.91	621.3	3.91	Si
SLV 2	179667	0.3	12051	-6091	158.91	785.41	4.94	Si
SLV 5	179667	0.3	12709	-6423	158.91	824.38	5.19	Si
SLV 6	179667	0.3	14525	-7341	158.91	929.97	5.85	Si
SLV 3	179667	0.3	15923	-8048	158.91	1009.2	6.35	Si
SLV 4	179667	0.3	18621	-9411	158.91	1156.9	7.28	Si
SLV 9	179667	0.3	21776	-11006	158.91	1321.09	8.31	Si
SLV 10	179667	0.3	23592	-11924	158.91	1411.42	8.88	Si
SLV 7	179667	0.3	34608	-17491	158.91	1893.79	11.92	Si
SLV 8	179667	0.3	36424	-18409	158.91	1962.52	12.35	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-24903	-12049	-293	0.411	2797.2	0.971	6.14781	6.24893	No
SLV 14	-24164	-6515	181	0.426	2722	0.971	6.37711	6.24893	Si
SLV 15	-22638	-12587	-286	0.446	2566.7	0.969	6.68855	6.24893	Si
SLV 13	-21900	-7054	189	0.463	2491.5	0.968	6.9481	6.24893	Si
SLV 12	-18261	-18552	-813	0.509	2121.2	0.963	7.68279	4.03181	Si
SLV 11	-16737	-18914	-808	0.548	1966.1	0.96	8.29846	4.03181	Si
SLV 10	-15800	-105	769	0.578	1870.9	0.958	8.76229	4.03181	Si
SLV 9	-14276	-468	774	0.629	1715.9	0.955	9.57314	4.03181	Si
SLV 8	-12147	-18516	-784	0.719	1499.7	0.949	11.01263	4.03181	Si
SLV 7	-10623	-18879	-779	0.804	1345	0.944	12.37723	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.162	SLU 83	Si
V_SLU	17.998	SLU 82	Si
PF_SLV	0.532	SLV 1	No
V_SLV	2.027	SLV 3	Si
PFFP_SLV	3.91	SLV 1	Si
R_SLV	0.984	SLV 16	No

Maschio 78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.423	1.141	-24.614	1.141	L4	L5	5.191	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	0.67	-23579.54	-97869	-0.000134	0.0004492	0.0035	5.1914	114055.95	190868.37	190868.37	8.09	No	Si
SLU 77	2.77	-9794.59	-88755	-0.0001041	0.0004492	0.0035	5.1914	115256.54	182407.02	182407.02	18.62	No	Si
SLU 81	0.67	-23948.99	-97924	-0.0001346	0.0004492	0.0035	5.1914	114041.32	190919.45	190919.45	7.97	No	Si
SLU 81	2.77	-9944.23	-89107	-0.0001047	0.0004492	0.0035	5.1914	115255.25	182733.52	182733.52	18.38	No	Si
SLU 75	0.67	-23603.01	-96751	-0.0001327	0.0004492	0.0035	5.1914	114333.96	189830.13	189830.13	8.04	No	Si
SLU 75	2.77	-9452.9	-87441	-0.0001021	0.0004492	0.0035	5.1914	115229.36	180773.61	180773.61	19.12	No	Si
SLU 73	0.67	-23404.17	-94847	-0.00013	0.0004492	0.0035	5.1914	114723.11	188062.85	188062.85	8.04	No	Si
SLU 73	2.77	-9075.13	-85419	-0.0000993	0.0004492	0.0035	5.1914	115088.96	178185.36	178185.36	19.63	No	Si
SLU 80	0.67	-23673.18	-97346	-0.0001335	0.0004492	0.0035	5.1914	114190.74	190381.99	190381.99	8.04	No	Si
SLU 80	2.77	-9585.04	-88036	-0.000103	0.0004492	0.0035	5.1914	115247.92	181535.15	181535.15	18.94	No	Si
SLU 78	0.67	-23816.5	-98065	-0.0001346	0.0004492	0.0035	5.1914	114003.45	191050.36	191050.36	8.02	No	Si
SLU 78	2.77	-9664.49	-88746	-0.0001039	0.0004492	0.0035	5.1914	115256.53	182399.21	182399.21	18.87	No	Si
SLU 82	0.67	-24185.95	-98120	-0.0001352	0.0004492	0.0035	5.1914	113988.51	191101.44	191101.44	7.9	No	Si
SLU 82	2.77	-9814.12	-89098	-0.0001045	0.0004492	0.0035	5.1914	115255.33	182725.7	182725.7	18.62	No	Si
SLU 84	0.67	-24399.44	-99435	-0.0001372	0.0004492	0.0035	5.1914	113605.38	192321.68	192321.68	7.88	No	Si
SLU 84	2.77	-10025.71	-90404	-0.0001064	0.0004492	0.0035	5.1914	115219.25	183937.73	183937.73	18.35	No	Si
SLU 76	0.67	-23617.66	-96162	-0.0001319	0.0004492	0.0035	5.1914	114465.74	189283.08	189283.08	8.01	No	Si
SLU 76	2.77	-9286.71	-86725	-0.0001011	0.0004492	0.0035	5.1914	115193.29	179856.66	179856.66	19.37	No	Si
SLU 83	0.67	-24162.48	-99239	-0.0001366	0.0004492	0.0035	5.1914	113665.73	192139.68	192139.68	7.95	No	Si
SLU 83	2.77	-10155.81	-90412	-0.0001066	0.0004492	0.0035	5.1914	115218.86	183945.54	183945.54	18.11	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	0.67	-37942.57	-51368	-0.000094	0.0006738	0.0035	5.1914		131527.6	131527.6	3.47		Si
SLV 13	2.77	3753.63	-37870	-0.0000405	0.0006738	0.0035	5.1914		91538.32	91538.32	24.39		Si
SLD 16	0.67	-23580.69	-50777	-0.0000764	0.0006738	0.0035	5.1914		130365.47	130365.47	5.53		Si
SLD 16	2.77	-3298.39	-44549	-0.0000466	0.0006738	0.0035	5.1914		117954.56	117954.56	35.76		Si
SLD 14	0.67	-29383.64	-56053	-0.0000888	0.0006738	0.0035	5.1914		140695.94	140695.94	4.79		Si
SLD 14	2.77	-120.11	-45351	-0.0000438	0.0006738	0.0035	5.1914		119621.66	119621.66	995.91		Si
SLD 15	0.67	-24180.14	-51511	-0.0000779	0.0006738	0.0035	5.1914		131808.75	131808.75	5.45		Si
SLD 15	2.77	-2940.53	-44760	-0.0000464	0.0006738	0.0035	5.1914		118394.32	118394.32	40.26		Si
SLV 14	0.67	-37004.32	-50220	-0.0000916	0.0006738	0.0035	5.1914		129268.59	129268.59	3.49		Si
SLV 14	2.77	3193.52	-37539	-0.0000395	0.0006738	0.0035	5.1914		90907.1	90907.1	28.47		Si
SLV 16	0.67	-27709.94	-41734	-0.0000719	0.0006738	0.0035	5.1914		112105.27	112105.27	4.05		Si
SLV 16	2.77	-1916.18	-36235	-0.0000368	0.0006738	0.0035	5.1914		100670.89	100670.89	52.54		Si
SLV 15	0.67	-28648.18	-42882	-0.0000742	0.0006738	0.0035	5.1914		114490.53	114490.53	4		Si
SLV 15	2.77	-1356.07	-36566	-0.0000365	0.0006738	0.0035	5.1914		101362.67	101362.67	74.75		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	0.67	-29983.08	-56787	-0.0000903	0.0006738	0.0035	5.1914		142058.56	142058.56	4.74		Si
SLD 13	2.77	237.74	-45562	-0.0000441	0.0006738	0.0035	5.1914		106200.36	106200.36	446.7		Si
SLV 9	0.67	-36895.11	-75073	-0.0001185	0.0006738	0.0035	5.1914		174930.62	174930.62	4.74		Si
SLV 9	2.77	4744.01	-54816	-0.0000586	0.0006738	0.0035	5.1914		123838.99	123838.99	26.1		Si
SLV 10	0.67	-36263.42	-74300	-0.0001169	0.0006738	0.0035	5.1914		173605.6	173605.6	4.79		Si
SLV 10	2.77	4366.91	-54593	-0.0000579	0.0006738	0.0035	5.1914		123414.01	123414.01	28.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.67	-23816.5	-98065	-69958	-18306	5.1914	5.1914	-48127	10833	36379	115546	52239	26476	78715	No	4.3	Si
SLU 78	2.77	-9664.49	-88746	-63310	-18830	5.1914	5.1914	-43554	10833	33720	115546	52239	26476	78715	No	4.18	Si
SLU 74	0.67	-23366.05	-96555	-68880	-18183	5.1914	5.1914	-47386	10833	35948	115546	52239	26476	78715	No	4.33	Si
SLU 74	2.77	-9583	-87449	-62384	-18701	5.1914	5.1914	-42917	10833	33350	115546	52239	26476	78715	No	4.21	Si
SLU 75	0.67	-23603.01	-96751	-69020	-18156	5.1914	5.1914	-47482	10833	36004	115546	52239	26476	78715	No	4.34	Si
SLU 75	2.77	-9452.9	-87441	-62378	-18673	5.1914	5.1914	-42913	10833	33347	115546	52239	26476	78715	No	4.22	Si
SLU 80	0.67	-23673.18	-97346	-69444	-18194	5.1914	5.1914	-47774	10833	36174	115546	52239	26476	78715	No	4.33	Si
SLU 80	2.77	-9585.04	-88036	-62803	-18714	5.1914	5.1914	-43205	10833	33517	115546	52239	26476	78715	No	4.21	Si
SLU 83	0.67	-24162.48	-99239	-70795	-18330	5.1914	5.1914	-48703	10833	36714	115546	52239	26476	78715	No	4.29	Si
SLU 83	2.77	-10155.81	-90412	-64498	-18864	5.1914	5.1914	-44371	10833	34195	115546	52239	26476	78715	No	4.17	Si
SLU 77	0.67	-23579.54	-97869	-69818	-18333	5.1914	5.1914	-48031	10833	36323	115546	52239	26476	78715	No	4.29	Si
SLU 77	2.77	-9794.59	-88755	-63316	-18858	5.1914	5.1914	-43558	10833	33722	115546	52239	26476	78715	No	4.17	Si
SLU 81	0.67	-23948.99	-97924	-69857	-18181	5.1914	5.1914	-48058	10833	36339	115546	52239	26476	78715	No	4.33	Si
SLU 81	2.77	-9944.23	-89107	-63566	-18707	5.1914	5.1914	-43731	10833	33823	115546	52239	26476	78715	No	4.21	Si
SLU 82	0.67	-24185.95	-98120	-69997	-18153	5.1914	5.1914	-48154	10833	36395	115546	52239	26476	78715	No	4.34	Si
SLU 82	2.77	-9814.12	-89098	-63560	-18679	5.1914	5.1914	-43726	10833	33820	115546	52239	26476	78715	No	4.21	Si
SLU 84	0.67	-24399.44	-99435	-70934	-18303	5.1914	5.1914	-48799	10833	36770	115546	52239	26476	78715	No	4.3	Si
SLU 84	2.77	-10025.71	-90404	-64492	-18836	5.1914	5.1914	-44367	10833	34193	115546	52239	26476	78715	No	4.18	Si
SLU 79	0.67	-23436.22	-97149	-69304	-18221	5.1914	5.1914	-47678	10833	36118	115546	52239	26476	78715	No	4.32	Si
SLU 79	2.77	-9715.14	-88044	-62809	-18742	5.1914	5.1914	-43209	10833	33519	115546	52239	26476	78715	No	4.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0.67	-5913.83	-46787	-33377	-19284	5.1914	5.1914	-22962	16250	25946	115546	78358	26476	104834		5.44	Si
SLV 11	2.77	-12288.3	-50468	-36003	-19300	5.1914	5.1914	-24768	16250	26996	115546	78358	26476	104834		5.43	Si
SLV 12	0.67	-5282.14	-46015	-32826	-18960	5.1914	5.1914	-22582	16250	25725	115546	78358	26476	104834		5.53	Si
SLV 12	2.77	-12665.41	-50246	-35844	-18974	5.1914	5.1914	-24659	16250	26933	115546	78358	26476	104834		5.53	Si
SLD 15	0.67	-24180.14	-51511	-36746	-24147	5.1914	5.1914	-25280	16250	27294	115546	78358	26476	104834		4.34	Si
SLD 15	2.77	-2940.53	-44760	-31931	-24007	5.1914	5.1914	-21967	16250	25367	115546	78358	26476	104834		4.37	Si
SLD 14	0.67	-29383.64	-56053	-39987	-23508	5.1914	5.1914	-27509	16250	28590	115546	78358	26476	104834		4.46	Si
SLD 14	2.77	-120.11	-45351	-32352	-23408	5.1914	5.1914	-22257	16250	25536	115546	78358	26476	104834		4.48	Si
SLV 14	0.67	-37004.32	-50220	-35826	-29335	5.1914	5.1914	-24646	16250	26925	115546	78358	26476	104834		3.57	Si
SLV 14	2.77	3193.52	-37539	-26779	-28995	5.1914	5.1914	-18423	16185	23526	115546	78358	26476	104834		3.62	Si
SLD 16	0.67	-23580.69	-50777	-36223	-23839	5.1914	5.1914	-24920	16250	27084	115546	78358	26476	104834		4.4	Si
SLD 16	2.77	-3298.39	-44549	-31780	-23697	5.1914	5.1914	-21863	16250	25307	115546	78358	26476	104834		4.42	Si
SLD 13	0.67	-29983.08	-56787	-40510	-23815	5.1914	5.1914	-27869	16250	28799	115546	78358	26476	104834		4.4	Si
SLD 13	2.77	237.74	-45562	-32503	-23717	5.1914	5.1914	-22360	16250	25596	115546	78358	26476	104834		4.42	Si
SLV 16	0.67	-27709.94	-41734	-29772	-29876	5.1914	5.1914	-20482	16250	24504	115546	78358	26476	104834		3.51	Si
SLV 16	2.77	-1916.18	-36235	-25849	-29464	5.1914	5.1914	-17783	16057	23340	115546	78358	26476	104834		3.56	Si
SLV 13	0.67	-37942.57	-51368	-36645	-29816	5.1914	5.1914	-25210	16250	27253	115546	78358	26476	104834		3.52	Si
SLV 13	2.77	3753.63	-37870	-27016	-29480	5.1914	5.1914	-18585	16217	23573	115546	78358	26476	104834		3.56	Si
SLV 15	0.67	-28648.18	-42882	-30591	-30358	5.1914	5.1914	-21045	16250	24832	115546	78358	26476	104834		3.45	Si
SLV 15	2.77	-1356.07	-36566	-26085	-29949	5.1914	5.1914	-17945	16089	23387	115546	78358	26476	104834		3.5	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-37224	0.3	468.84	4483.2	6307.5	5395.35	11.51	Si
SLV 15	-37555	0.3	468.84	4516.55	6356.39	5436.47	11.6	Si
SLV 14	-38523	0.3	468.84	4613.34	6499.27	5556.31	11.85	Si
SLV 13	-38854	0.3	468.84	4646.24	6548.18	5597.21	11.94	Si
SLV 12	-51221	0.3	468.84	5792.24	8346.27	7069.26	15.08	Si
SLV 11	-51444	0.3	468.84	5811.43	8378.34	7094.89	15.13	Si
SLV 10	-55550	0.3	468.84	6155.45	8969.19	7562.32	16.13	Si
SLV 9	-55773	0.3	468.84	6173.62	9001.28	7587.45	16.18	Si
SLV 8	-64471	0.3	468.84	6841.7	10246.3	8544	18.22	Si
SLV 7	-64694	0.3	468.84	6857.78	10276.99	8567.39	18.27	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-71831	-91347	-447	0.415	8066.3	0.971	6.20964	6.24893	No
SLV 2	-71556	-90199	-449	0.416	8038.3	0.971	6.23022	6.24893	No
SLV 3	-70318	-82861	63	0.428	7912.3	0.971	6.40321	6.24893	Si
SLV 4	-70043	-81714	61	0.429	7884.3	0.971	6.42557	6.24893	Si
SLV 13	-43336	-51368	-95	0.645	5166.5	0.957	9.8033	6.24893	Si
SLV 14	-43061	-50220	-96	0.649	5138.6	0.957	9.85791	6.24893	Si
SLV 15	-41823	-42882	416	0.658	5012.8	0.956	10.01039	6.24893	Si
SLV 16	-41548	-41734	414	0.662	4984.8	0.956	10.06914	6.24893	Si
SLV 5	-63578	-87067	-919	0.454	7226	0.968	6.8087	4.03181	Si
SLV 6	-63393	-86294	-921	0.455	7207.2	0.968	6.82592	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.882	SLU 84	Si
V_SLU	4.173	SLU 83	Si
PF_SLV	3.466	SLV 13	Si
V_SLV	3.453	SLV 15	Si
PFFP_SLV	11.508	SLV 16	Si
R_SLV	0.994	SLV 1	No

Maschio 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-18.623	1.141	L4	L5	6.36	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	0.67	51044.04	-176773	-0.000216	0.0004492	0.0035	6.36	105453.5	328232.08	328232.08	6.43	No	Si
SLU 80	3.17	40641.25	-147300	-0.0001689	0.0004492	0.0035	6.36	151317.71	306838.57	306838.57	7.55	No	Si
SLU 83	0.67	53097.95	-181504	-0.0002247	0.0004492	0.0035	6.36	95725.43	331470.18	331470.18	6.24	No	Si
SLU 83	3.17	42028.93	-151489	-0.0001751	0.0004492	0.0035	6.36	146346.99	310928.53	310928.53	7.4	No	Si
SLU 77	0.67	51321.32	-178084	-0.0002181	0.0004492	0.0035	6.36	102823.79	329129.23	329129.23	6.41	No	Si
SLU 77	3.17	40874.88	-148256	-0.0001702	0.0004492	0.0035	6.36	150228.42	308021.99	308021.99	7.54	No	Si
SLU 78	0.67	51345.27	-177953	-0.0002179	0.0004492	0.0035	6.36	103087	329040.2	329040.2	6.41	No	Si
SLU 78	3.17	40909.98	-148351	-0.0001704	0.0004492	0.0035	6.36	150119.25	308139.02	308139.02	7.53	No	Si
SLU 74	0.67	50699.53	-175720	-0.0002142	0.0004492	0.0035	6.36	107528.69	327511.72	327511.72	6.46	No	Si
SLU 74	3.17	40446.67	-146131	-0.0001674	0.0004492	0.0035	6.36	152613.93	305390.87	305390.87	7.55	No	Si
SLU 82	0.67	52500.11	-179011	-0.0002206	0.0004492	0.0035	6.36	100933.87	329763.64	329763.64	6.28	No	Si
SLU 82	3.17	41635.81	-149458	-0.0001724	0.0004492	0.0035	6.36	148821.11	309509.74	309509.74	7.43	No	Si
SLU 84	0.67	53121.9	-181374	-0.0002245	0.0004492	0.0035	6.36	96001.65	331381.15	331381.15	6.24	No	Si
SLU 84	3.17	42064.02	-151584	-0.0001753	0.0004492	0.0035	6.36	146228.88	310993.23	310993.23	7.39	No	Si
SLU 81	0.67	52476.16	-179141	-0.0002208	0.0004492	0.0035	6.36	100666.64	329852.67	329852.67	6.29	No	Si
SLU 81	3.17	41600.71	-149364	-0.0001722	0.0004492	0.0035	6.36	148933.34	309392.71	309392.71	7.44	No	Si
SLU 75	0.67	50723.47	-175590	-0.0002141	0.0004492	0.0035	6.36	107782.92	327422.69	327422.69	6.46	No	Si
SLU 75	3.17	40481.76	-146225	-0.0001675	0.0004492	0.0035	6.36	152510.63	305507.9	305507.9	7.55	No	Si
SLU 79	0.67	51020.1	-176903	-0.0002162	0.0004492	0.0035	6.36	105194.78	328321.11	328321.11	6.44	No	Si
SLU 79	3.17	40606.16	-147206	-0.0001687	0.0004492	0.0035	6.36	151423.98	306721.54	306721.54	7.55	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	0.67	57701.94	-114299	-0.000141	0.0006738	0.0035	6.36		285745.11	285745.11	4.95		Si
SLV 6	3.17	32002.39	-105416	-0.0001114	0.0006738	0.0035	6.36		269601.94	269601.94	8.42		Si
SLV 1	0.67	95147.12	-127332	-0.0001859	0.0006738	0.0035	6.36		309429.53	309429.53	3.25		Si
SLV 1	3.17	18160.92	-110197	-0.0001043	0.0006738	0.0035	6.36		278291.53	278291.53	15.32		Si
SLD 1	0.67	73071.35	-124815	-0.0001642	0.0006738	0.0035	6.36		304854.28	304854.28	4.17		Si
SLD 1	3.17	21449.19	-106101	-0.0001033	0.0006738	0.0035	6.36		270847.2	270847.2	12.63		Si
SLD 4	0.67	71143.45	-127755	-0.0001654	0.0006738	0.0035	6.36		310197.45	310197.45	4.36		Si
SLD 4	3.17	17462.39	-104336	-0.0000985	0.0006738	0.0035	6.36		267640.98	267640.98	15.33		Si
SLD 2	0.67	73266.94	-124550	-0.0001641	0.0006738	0.0035	6.36		304373.66	304373.66	4.15		Si
SLD 2	3.17	20666.17	-105791	-0.0001024	0.0006738	0.0035	6.36		270284.62	270284.62	13.08		Si
SLV 4	0.67	91967.65	-132071	-0.0001879	0.0006738	0.0035	6.36		318039.73	318039.73	3.46		Si
SLV 4	3.17	11652.37	-107424	-0.0000965	0.0006738	0.0035	6.36		273251.23	273251.23	23.45		Si
SLV 5	0.67	57495.83	-114578	-0.0001411	0.0006738	0.0035	6.36		286251.58	286251.58	4.98		Si
SLV 5	3.17	32827.52	-105742	-0.0001124	0.0006738	0.0035	6.36		270194.79	270194.79	8.23		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	0.67	70947.86	-128020	-0.0001654	0.0006738	0.0035	6.36		310678.07	310678.07	4.38		Si
SLD 3	3.17	18245.4	-104646	-0.0000994	0.0006738	0.0035	6.36		268203.56	268203.56	14.7		Si
SLV 3	0.67	91661.51	-132485	-0.000188	0.0006738	0.0035	6.36		318791.99	318791.99	3.48		Si
SLV 3	3.17	12877.93	-107908	-0.0000979	0.0006738	0.0035	6.36		274131.77	274131.77	21.29		Si
SLV 2	0.67	95453.26	-126919	-0.0001858	0.0006738	0.0035	6.36		308677.27	308677.27	3.23		Si
SLV 2	3.17	16935.36	-109713	-0.0001028	0.0006738	0.0035	6.36		277410.98	277410.98	16.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	0.67	43517.23	-155708	-111078	-4460	6.36	6.36	-62375	10833	54717	115546	63998	32436	96434	No	21.62	Si
SLU 65	3.17	35489.25	-128158	-91425	-82	6.36	6.36	-51339	10833	46856	115546	63998	32436	96434	No	1169.51	Si
SLU 73	0.67	49816.42	-171959	-122671	-4482	6.36	6.36	-68886	10833	59354	115546	63998	32436	96434	No	21.52	Si
SLU 73	3.17	39808.22	-143112	-102093	291	6.36	6.36	-57330	10833	51123	115546	63998	32436	96434	No	331.87	Si
SLU 78	0.67	51345.27	-177953	-126948	-4336	6.36	6.36	-71287	10833	61064	115546	63998	32436	96434	No	22.24	Si
SLU 78	3.17	40909.98	-148351	-105830	533	6.36	6.36	-59428	10833	52618	115546	63998	32436	96434	No	180.97	Si
SLU 75	0.67	50723.47	-175590	-125262	-4368	6.36	6.36	-70340	10833	60390	115546	63998	32436	96434	No	22.08	Si
SLU 75	3.17	40481.76	-146225	-104314	456	6.36	6.36	-58577	10833	52011	115546	63998	32436	96434	No	211.6	Si
SLU 84	0.67	53121.9	-181374	-129388	-4334	6.36	6.36	-72657	10833	62040	115546	63998	32436	96434	No	22.25	Si
SLU 84	3.17	42064.02	-151584	-108136	627	6.36	6.36	-60723	10833	53540	115546	63998	32436	96434	No	153.77	Si
SLU 76	0.67	50438.21	-174322	-124357	-4450	6.36	6.36	-69832	10833	60028	115546	63998	32436	96434	No	21.67	Si
SLU 76	3.17	40236.43	-145238	-103609	368	6.36	6.36	-58181	10833	51729	115546	63998	32436	96434	No	262.27	Si
SLU 82	0.67	52500.11	-179011	-127702	-4366	6.36	6.36	-71710	10833	61366	115546	63998	32436	96434	No	22.09	Si
SLU 82	3.17	41635.81	-149458	-106620	550	6.36	6.36	-59872	10833	52933	115546	63998	32436	96434	No	175.34	Si
SLU 68	0.67	44139.03	-158071	-112764	-4428	6.36	6.36	-63322	10833	55391	115546	63998	32436	96434	No	21.78	Si
SLU 68	3.17	35917.46	-130284	-92941	-5	6.36	6.36	-52191	10833	47462	115546	63998	32436	96434	No	18068.97	Si
SLU 67	0.67	44424.29	-159339	-113668	-4347	6.36	6.36	-63830	10833	55753	115546	63998	32436	96434	No	22.18	Si
SLU 67	3.17	36162.79	-131271	-93646	83	6.36	6.36	-52586	10833	47744	115546	63998	32436	96434	No	1165.83	Si
SLU 70	0.67	45046.08	-161702	-115354	-4315	6.36	6.36	-64777	10833	56427	115546	63998	32436	96434	No	22.35	Si
SLU 70	3.17	36591.01	-133397	-95162	160	6.36	6.36	-53438	10833	48351	115546	63998	32436	96434	No	603.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	0.67	-23883.47	-107843	-76933	-41352	6.36	6.36	-43201	16250	46203	115546	95996	32436	128432		3.11	Si
SLV 14	3.17	41802.01	-89578	-63903	-34160	6.36	6.36	-35885	16250	40991	115546	95996	32436	128432		3.76	Si
SLV 1	0.67	95147.12	-127332	-90836	27927	6.36	6.36	-51008	16250	51764	115546	95996	32436	128432		4.6	Si
SLV 1	3.17	18160.92	-110197	-78612	28956	6.36	6.36	-44144	16250	46874	115546	95996	32436	128432		4.44	Si
SLD 13	0.67	-3365.41	-112573	-80307	-28104	6.36	6.36	-45096	16250	47552	115546	95996	32436	128432		4.57	Si
SLD 13	3.17	37217.55	-93150	-66451	-22218	6.36	6.36	-37315	16250	42010	115546	95996	32436	128432		5.78	Si
SLV 15	0.67	-27675.22	-113410	-80904	-34910	6.36	6.36	-45431	16250	47791	115546	95996	32436	128432		3.68	Si
SLV 15	3.17	37744.58	-87774	-62616	-29151	6.36	6.36	-35162	16250	40476	115546	95996	32436	128432		4.41	Si
SLV 16	0.67	-27369.08	-112996	-80608	-33949	6.36	6.36	-45265	16250	47673	115546	95996	32436	128432		3.78	Si
SLV 16	3.17	36519.02	-87289	-62270	-28348	6.36	6.36	-34968	16250	40338	115546	95996	32436	128432		4.53	Si
SLD 14	0.67	-3169.82	-112308	-80118	-27490	6.36	6.36	-44990	16250	47477	115546	95996	32436	128432		4.67	Si
SLD 14	3.17	36434.54	-92841	-66230	-21705	6.36	6.36	-37191	16250	41922	115546	95996	32436	128432		5.92	Si
SLV 13	0.67	-24189.6	-108257	-77228	-42313	6.36	6.36	-43367	16250	46321	115546	95996	32436	128432		3.04	Si
SLV 13	3.17	43027.57	-90063	-64249	-34964	6.36	6.36	-36079	16250	41129	115546	95996	32436	128432		3.67	Si
SLV 3	0.67	91661.51	-132485	-94511	35329	6.36	6.36	-53072	16250	53234	115546	95996	32436	128432		3.64	Si
SLV 3	3.17	12877.93	-107908	-76979	34769	6.36	6.36	-43227	16250	46221	115546	95996	32436	128432		3.69	Si
SLV 2	0.67	95453.26	-126919	-90541	28888	6.36	6.36	-50843	16250	51646	115546	95996	32436	128432		4.45	Si
SLV 2	3.17	16935.36	-109713	-78266	29759	6.36	6.36	-43950	16250	46736	115546	95996	32436	128432		4.32	Si
SLV 4	0.67	91967.65	-132071	-94216	36291	6.36	6.36	-52907	16250	53116	115546	95996	32436	128432		3.54	Si
SLV 4	3.17	11652.37	-107424	-76634	35572	6.36	6.36	-43033	16250	46083	115546	95996	32436	128432		3.61	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-97278	0.3	574.37	9559.89	15027.3	12293.6	21.4	Si
SLV 15	-97823	0.3	574.37	9590.57	15098.15	12344.36	21.49	Si
SLV 14	-97918	0.3	574.37	9595.89	15110.49	12353.19	21.51	Si
SLV 13	-98463	0.3	574.37	9626.27	15181.34	12403.8	21.6	Si
SLV 12	-102748	0.3	574.37	9856.36	15733.27	12794.82	22.28	Si
SLV 11	-103115	0.3	574.37	9875.32	15778.4	12826.86	22.33	Si
SLV 10	-104880	0.3	574.37	9964.98	15995.6	12980.29	22.6	Si
SLV 9	-105247	0.3	574.37	9983.27	16040.73	13012	22.65	Si
SLV 8	-108000	0.3	574.37	10116.86	16379.44	13248.15	23.07	Si
SLV 7	-108367	0.3	574.37	10134.17	16424.58	13279.37	23.12	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-98175	-132485	11	0.383	10918.2	0.974	5.72041	6.24893	No
SLV 4	-97841	-132071	10	0.384	10884.3	0.974	5.73754	6.24893	No
SLV 1	-96624	-127332	-276	0.386	10760.2	0.974	5.76184	6.24893	No
SLV 2	-96290	-126919	-277	0.387	10726.3	0.974	5.77914	6.24893	No
SLV 15	-85722	-113410	260	0.428	9650.1	0.971	6.40123	6.24893	Si
SLV 16	-85389	-112996	259	0.429	9616.1	0.971	6.42331	6.24893	Si
SLV 13	-84171	-108257	-27	0.437	9492.1	0.97	6.54336	6.24893	Si
SLV 14	-83837	-107843	-28	0.438	9458.2	0.97	6.56611	6.24893	Si
SLV 7	-95572	-131751	432	0.388	10653.1	0.973	5.79424	4.03181	Si
SLV 8	-95347	-131473	432	0.389	10630.2	0.973	5.80623	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.238	SLU 84	Si
V_SLU	21.518	SLU 73	Si
PF_SLV	3.234	SLV 2	Si
V_SLV	3.035	SLV 13	Si
PFFP_SLV	21.404	SLV 16	Si
R_SLV	0.915	SLV 3	No

Maschio 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-11.143	1.141	L4	L5	6.25	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.67	36361.44	-165877	-0.0001912	0.0004492	0.0035	6.25	116244.37	311722.36	311722.36	8.57	No	Si
SLU 84	3.17	-588.21	-131650	-0.0001159	0.0004492	0.0035	6.25	158111.26	292028.76	292028.76	496.47	No	Si
SLU 79	0.67	35377.24	-161395	-0.0001845	0.0004492	0.0035	6.25	123674.26	308771.69	308771.69	8.73	No	Si
SLU 79	3.17	-595.19	-127679	-0.0001119	0.0004492	0.0035	6.25	160751.93	287578.46	287578.46	483.17	No	Si
SLU 83	0.67	36524.68	-165649	-0.0001911	0.0004492	0.0035	6.25	116635.25	311572.74	311572.74	8.53	No	Si
SLU 83	3.17	-401.03	-131589	-0.0001157	0.0004492	0.0035	6.25	158155.09	291960.74	291960.74	728.03	No	Si
SLU 74	0.67	35219.31	-160432	-0.0001832	0.0004492	0.0035	6.25	125194.9	308137.34	308137.34	8.75	No	Si
SLU 74	3.17	-730.03	-126817	-0.0001112	0.0004492	0.0035	6.25	161264.23	286612.48	286612.48	392.6	No	Si
SLU 77	0.67	35563.68	-162453	-0.000186	0.0004492	0.0035	6.25	121972.92	309468.37	309468.37	8.7	No	Si
SLU 77	3.17	-633.3	-128567	-0.0001129	0.0004492	0.0035	6.25	160201.19	288574.07	288574.07	455.67	No	Si
SLU 82	0.67	36017.07	-163855	-0.0001883	0.0004492	0.0035	6.25	119668.62	310391.33	310391.33	8.62	No	Si
SLU 82	3.17	-684.94	-129899	-0.0001143	0.0004492	0.0035	6.25	159332.02	290067.16	290067.16	423.49	No	Si
SLU 80	0.67	35214	-161623	-0.0001846	0.0004492	0.0035	6.25	123311.64	308921.31	308921.31	8.77	No	Si
SLU 80	3.17	-782.37	-127739	-0.0001122	0.0004492	0.0035	6.25	160715.04	287646.48	287646.48	367.66	No	Si
SLU 81	0.67	36180.31	-163628	-0.0001882	0.0004492	0.0035	6.25	120046.08	310241.7	310241.7	8.57	No	Si
SLU 81	3.17	-497.76	-129839	-0.000114	0.0004492	0.0035	6.25	159372.74	289999.14	289999.14	582.6	No	Si
SLU 75	0.67	35056.07	-160659	-0.0001833	0.0004492	0.0035	6.25	124838.67	308286.97	308286.97	8.79	No	Si
SLU 75	3.17	-917.21	-126877	-0.0001114	0.0004492	0.0035	6.25	161228.87	286680.49	286680.49	312.56	No	Si
SLU 78	0.67	35400.44	-162681	-0.0001861	0.0004492	0.0035	6.25	121603.26	309618	309618	8.75	No	Si
SLU 78	3.17	-820.47	-128628	-0.0001131	0.0004492	0.0035	6.25	160162.72	288642.09	288642.09	351.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.67	46141.37	-91589	-0.0001134	0.0006738	0.0035	6.25		237844.85	237844.85	5.15		Si
SLV 7	3.17	5398.74	-78885	-0.0000683	0.0006738	0.0035	6.25		208932.19	208932.19	38.7		Si
SLD 3	0.67	48381.45	-99570	-0.0001226	0.0006738	0.0035	6.25		253526.28	253526.28	5.24		Si
SLD 3	3.17	-15885.61	-78843	-0.0000769	0.0006738	0.0035	6.25		229190.87	229190.87	14.43		Si
SLV 3	0.67	62149.07	-93640	-0.0001289	0.0006738	0.0035	6.25		242512.72	242512.72	3.9		Si
SLV 3	3.17	-24200.92	-75029	-0.0000804	0.0006738	0.0035	6.25		220714.99	220714.99	9.12		Si
SLD 2	0.67	44097.61	-105591	-0.0001246	0.0006738	0.0035	6.25		264169.99	264169.99	5.99		Si
SLD 2	3.17	-21750.4	-80465	-0.0000831	0.0006738	0.0035	6.25		232609.39	232609.39	10.69		Si
SLV 8	0.67	46248.82	-92185	-0.000114	0.0006738	0.0035	6.25		239202.98	239202.98	5.17		Si
SLV 8	3.17	4906.42	-79084	-0.0000681	0.0006738	0.0035	6.25		209385.91	209385.91	42.68		Si
SLD 1	0.67	43995.64	-105025	-0.0001239	0.0006738	0.0035	6.25		263168.95	263168.95	5.98		Si
SLD 1	3.17	-21283.2	-80276	-0.0000825	0.0006738	0.0035	6.25		232210.85	232210.85	10.91		Si
SLV 4	0.67	62308.68	-94526	-0.0001298	0.0006738	0.0035	6.25		244529.94	244529.94	3.92		Si
SLV 4	3.17	-24932.17	-75325	-0.0000812	0.0006738	0.0035	6.25		221377.93	221377.93	8.88		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	0.67	48483.43	-100136	-0.0001232	0.0006738	0.0035	6.25		254527.33	254527.33	5.25		Si
SLD 4	3.17	-16352.8	-79032	-0.0000774	0.0006738	0.0035	6.25		229589.41	229589.41	14.04		Si
SLV 2	0.67	55263.17	-103288	-0.000132	0.0006738	0.0035	6.25		260098.93	260098.93	4.71		Si
SLV 2	3.17	-33595.32	-77625	-0.0000904	0.0006738	0.0035	6.25		226527.53	226527.53	6.74		Si
SLV 1	0.67	55103.56	-102402	-0.000131	0.0006738	0.0035	6.25		258532.11	258532.11	4.69		Si
SLV 1	3.17	-32864.07	-77329	-0.0000895	0.0006738	0.0035	6.25		225864.59	225864.59	6.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.67	36524.68	-165649	-118170	13938	6.25	6.25	-67526	10833	57376	115546	62891	31875	94766	No	6.8	Si
SLU 83	3.17	-401.03	-131589	-93872	10924	6.25	6.25	-53641	10833	47657	115546	62891	31875	94766	No	8.67	Si
SLU 77	0.67	35563.68	-162453	-115890	13716	6.25	6.25	-66223	10833	56464	115546	62891	31875	94766	No	6.91	Si
SLU 77	3.17	-633.3	-128567	-91717	10776	6.25	6.25	-52409	10833	46794	115546	62891	31875	94766	No	8.79	Si
SLU 75	0.67	35056.07	-160659	-114610	13873	6.25	6.25	-65492	10833	55952	115546	62891	31875	94766	No	6.83	Si
SLU 75	3.17	-917.21	-126877	-90511	10950	6.25	6.25	-51721	10833	46312	115546	62891	31875	94766	No	8.65	Si
SLU 82	0.67	36017.07	-163855	-116890	14095	6.25	6.25	-66794	10833	56864	115546	62891	31875	94766	No	6.72	Si
SLU 82	3.17	-684.94	-129899	-92667	11099	6.25	6.25	-52953	10833	47175	115546	62891	31875	94766	No	8.54	Si
SLU 73	0.67	34416.43	-157731	-112521	13871	6.25	6.25	-64298	10833	55116	115546	62891	31875	94766	No	6.83	Si
SLU 73	3.17	-1100.63	-124279	-88658	10987	6.25	6.25	-50661	10833	45571	115546	62891	31875	94766	No	8.63	Si
SLU 84	0.67	36361.44	-165877	-118332	14174	6.25	6.25	-67619	10833	57440	115546	62891	31875	94766	No	6.69	Si
SLU 84	3.17	-588.21	-131650	-93916	11160	6.25	6.25	-53666	10833	47674	115546	62891	31875	94766	No	8.49	Si
SLU 78	0.67	35400.44	-162681	-116052	13952	6.25	6.25	-66316	10833	56528	115546	62891	31875	94766	No	6.79	Si
SLU 78	3.17	-820.47	-128628	-91760	11012	6.25	6.25	-52434	10833	46812	115546	62891	31875	94766	No	8.61	Si
SLU 80	0.67	35214	-161623	-115298	13872	6.25	6.25	-65884	10833	56227	115546	62891	31875	94766	No	6.83	Si
SLU 80	3.17	-782.37	-127739	-91126	10952	6.25	6.25	-52072	10833	46558	115546	62891	31875	94766	No	8.65	Si
SLU 81	0.67	36180.31	-163628	-116728	13859	6.25	6.25	-66702	10833	56799	115546	62891	31875	94766	No	6.84	Si
SLU 81	3.17	-497.76	-129839	-92624	10863	6.25	6.25	-52928	10833	47157	115546	62891	31875	94766	No	8.72	Si
SLU 76	0.67	34760.8	-159752	-113964	13951	6.25	6.25	-65122	10833	55693	115546	62891	31875	94766	No	6.79	Si
SLU 76	3.17	-1003.9	-126029	-89906	11048	6.25	6.25	-51375	10833	46070	115546	62891	31875	94766	No	8.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	0.67	22763.8	-121392	-86598	37700	6.25	6.25	-49485	16250	49802	115546	94336	31875	126211		3.35	Si
SLV 6	3.17	-23970.75	-86751	-61886	34651	6.25	6.25	-35364	16250	39918	115546	94336	31875	126211		3.64	Si
SLD 1	0.67	43995.64	-105025	-74922	38104	6.25	6.25	-42813	16250	45132	115546	94336	31875	126211		3.31	Si
SLD 1	3.17	-21283.2	-80276	-57267	34266	6.25	6.25	-32724	16250	38070	115546	94336	31875	126211		3.68	Si
SLV 1	0.67	55103.56	-102402	-73051	54302	6.25	6.25	-41743	16250	44383	115546	94336	31875	126211		2.32	Si
SLV 1	3.17	-32864.07	-77329	-55165	49442	6.25	6.25	-31523	16250	37229	115546	94336	31875	126211		2.55	Si
SLD 2	0.67	44097.61	-105591	-75326	38621	6.25	6.25	-43044	16250	45293	115546	94336	31875	126211		3.27	Si
SLD 2	3.17	-21750.4	-80465	-57402	34771	6.25	6.25	-32801	16250	38124	115546	94336	31875	126211		3.63	Si
SLV 5	0.67	22656.34	-120796	-86173	37155	6.25	6.25	-49242	16250	49632	115546	94336	31875	126211		3.4	Si
SLV 5	3.17	-23478.42	-86552	-61744	34119	6.25	6.25	-35282	16250	39861	115546	94336	31875	126211		3.7	Si
SLV 4	0.67	62308.68	-94526	-67433	45647	6.25	6.25	-38533	16250	42136	115546	94336	31875	126211		2.76	Si
SLV 4	3.17	-24932.17	-75325	-53735	40880	6.25	6.25	-30706	16250	36657	115546	94336	31875	126211		3.09	Si
SLV 3	0.67	62149.07	-93640	-66800	44837	6.25	6.25	-38172	16250	41883	115546	94336	31875	126211		2.81	Si
SLV 3	3.17	-24200.92	-75029	-53524	40089	6.25	6.25	-30585	16250	36573	115546	94336	31875	126211		3.15	Si
SLV 16	0.67	-6987.14	-117459	-83793	-35272	6.25	6.25	-47881	16250	48680	115546	94336	31875	126211		3.58	Si
SLV 16	3.17	31102.46	-93871	-66965	-34450	6.25	6.25	-38266	16250	41949	115546	94336	31875	126211		3.66	Si
SLV 2	0.67	55263.17	-103288	-73683	55111	6.25	6.25	-42105	16250	44636	115546	94336	31875	126211		2.29	Si
SLV 2	3.17	-33595.32	-77625	-55376	50233	6.25	6.25	-31643	16250	37313	115546	94336	31875	126211		2.51	Si
SLV 15	0.67	-7146.75	-116573	-83160	-36081	6.25	6.25	-47520	16250	48427	115546	94336	31875	126211		3.5	Si
SLV 15	3.17	31833.7	-93575	-66754	-35241	6.25	6.25	-38145	16250	41865	115546	94336	31875	126211		3.58	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-83000	0.3	564.44	8613.02	13062.51	10837.76	19.2	Si
SLV 4	-83422	0.3	564.44	8641.47	13120.7	10881.08	19.28	Si
SLV 7	-84463	0.3	564.44	8710.9	13264.08	10987.49	19.47	Si
SLV 8	-84747	0.3	564.44	8729.71	13303.26	11016.48	19.52	Si
SLV 1	-86422	0.3	564.44	8839.09	13534.14	11186.62	19.82	Si
SLV 2	-86845	0.3	564.44	8866.28	13592.36	11229.32	19.89	Si
SLV 11	-89080	0.3	564.44	9007.59	13900.53	11454.06	20.29	Si
SLV 12	-89365	0.3	564.44	9025.25	13939.74	11482.49	20.34	Si
SLV 5	-95872	0.3	564.44	9410.12	14797.76	12103.94	21.44	Si
SLV 6	-96156	0.3	564.44	9426.1	14834.74	12130.42	21.49	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-77834	-117459	160	0.459	8831	0.969	6.87917	6.24893	Si
SLV 15	-77759	-116573	157	0.459	8823.3	0.969	6.88551	6.24893	Si
SLV 14	-77327	-126221	19	0.463	8779.3	0.969	6.94434	6.24893	Si
SLV 13	-77251	-125335	16	0.463	8771.7	0.969	6.95077	6.24893	Si
SLV 4	-66403	-94526	-6	0.527	7667.5	0.964	7.94572	6.24893	Si
SLV 3	-66328	-93640	-8	0.528	7659.8	0.964	7.95318	6.24893	Si
SLV 2	-65895	-103288	-147	0.529	7615.8	0.964	7.97019	6.24893	Si
SLV 1	-65820	-102402	-149	0.529	7608.2	0.964	7.97772	6.24893	Si
SLV 12	-74413	-99065	266	0.475	8482.8	0.968	7.1372	4.03181	Si
SLV 11	-74363	-98469	264	0.475	8477.6	0.968	7.14181	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.53	SLU 83	Si
V_SLU	6.686	SLU 84	Si
PF_SLV	3.902	SLV 3	Si
V_SLV	2.29	SLV 2	Si
PFFP_SLV	19.201	SLV 3	Si
R_SLV	1.101	SLV 16	Si

Maschio 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L4	L5	3.97	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.67	18438.08	-73820	-0.0001435	0.0004492	0.0035	3.97	66892.47	105528.36	105528.36	5.72	No	Si
SLU 84	2.77	6577.45	-65540	-0.0001025	0.0004492	0.0035	3.97	67320.38	97641.07	97641.07	14.84	No	Si
SLU 80	0.67	18055.57	-72222	-0.0001398	0.0004492	0.0035	3.97	67131.08	104289.49	104289.49	5.78	No	Si
SLU 80	2.77	6343.18	-63733	-0.0000992	0.0004492	0.0035	3.97	67147.38	95619.89	95619.89	15.07	No	Si
SLU 83	0.67	18439.84	-73849	-0.0001435	0.0004492	0.0035	3.97	66887.39	105551.09	105551.09	5.72	No	Si
SLU 83	2.77	6566.76	-65565	-0.0001025	0.0004492	0.0035	3.97	67322.13	97669.4	97669.4	14.87	No	Si
SLU 81	0.67	18262.9	-72960	-0.0001416	0.0004492	0.0035	3.97	67030.25	104861.1	104861.1	5.74	No	Si
SLU 81	2.77	6418.95	-64701	-0.0001008	0.0004492	0.0035	3.97	67251.94	96702.76	96702.76	15.07	No	Si
SLU 78	0.67	18175.81	-72782	-0.0001411	0.0004492	0.0035	3.97	67056.01	104723.32	104723.32	5.76	No	Si
SLU 78	2.77	6381.94	-64268	-0.0001001	0.0004492	0.0035	3.97	67208.56	96218.44	96218.44	15.08	No	Si
SLU 82	0.67	18261.13	-72930	-0.0001415	0.0004492	0.0035	3.97	67034.57	104838.36	104838.36	5.74	No	Si
SLU 82	2.77	6429.64	-64676	-0.0001008	0.0004492	0.0035	3.97	67249.55	96674.43	96674.43	15.04	No	Si
SLU 75	0.67	17998.86	-71892	-0.0001391	0.0004492	0.0035	3.97	67171.11	104033.33	104033.33	5.78	No	Si
SLU 75	2.77	6234.14	-63404	-0.0000984	0.0004492	0.0035	3.97	67105.6	95251.8	95251.8	15.28	No	Si
SLU 77	0.67	18177.57	-72811	-0.0001411	0.0004492	0.0035	3.97	67051.82	104746.06	104746.06	5.76	No	Si
SLU 77	2.77	6371.25	-64293	-0.0001001	0.0004492	0.0035	3.97	67211.25	96246.77	96246.77	15.11	No	Si
SLU 79	0.67	18057.33	-72252	-0.0001399	0.0004492	0.0035	3.97	67127.37	104312.22	104312.22	5.78	No	Si
SLU 79	2.77	6332.49	-63758	-0.0000992	0.0004492	0.0035	3.97	67150.46	95648.22	95648.22	15.1	No	Si
SLU 74	0.67	18000.63	-71921	-0.0001392	0.0004492	0.0035	3.97	67167.68	104056.07	104056.07	5.78	No	Si
SLU 74	2.77	6223.45	-63429	-0.0000984	0.0004492	0.0035	3.97	67108.93	95280.13	95280.13	15.31	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	0.67	22297.25	-37720	-0.000092	0.0006738	0.0035	3.97		66290.53	66290.53	2.97		Si
SLV 2	2.77	-1772.64	-27572	-0.0000379	0.0006738	0.0035	3.97		58582.33	58582.33	33.05		Si
SLD 1	0.67	18571.56	-41997	-0.0000904	0.0006738	0.0035	3.97		72534.97	72534.97	3.91		Si
SLD 1	2.77	326.36	-33187	-0.0000423	0.0006738	0.0035	3.97		59671.68	59671.68	182.84		Si
SLD 3	0.67	18597.1	-42109	-0.0000906	0.0006738	0.0035	3.97		72699.62	72699.62	3.91		Si
SLD 3	2.77	86.67	-33206	-0.0000419	0.0006738	0.0035	3.97		59700.61	59700.61	688.83		Si
SLV 3	0.67	22002.46	-37812	-0.0000915	0.0006738	0.0035	3.97		66424.95	66424.95	3.02		Si
SLV 3	2.77	-2077.5	-27646	-0.0000386	0.0006738	0.0035	3.97		58705.37	58705.37	28.26		Si
SLD 2	0.67	18789.51	-42052	-0.0000909	0.0006738	0.0035	3.97		72616.53	72616.53	3.86		Si
SLD 2	2.77	275.39	-33160	-0.0000422	0.0006738	0.0035	3.97		59632.08	59632.08	216.53		Si
SLD 4	0.67	18815.05	-42165	-0.0000911	0.0006738	0.0035	3.97		72781.18	72781.18	3.87		Si
SLD 4	2.77	35.7	-33179	-0.0000417	0.0006738	0.0035	3.97		59661.01	59661.01	1671.23		Si
SLV 1	0.67	21956.12	-37632	-0.0000912	0.0006738	0.0035	3.97		66162.87	66162.87	3.01		Si
SLV 1	2.77	-1692.86	-27615	-0.0000378	0.0006738	0.0035	3.97		58653.41	58653.41	34.65		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	0.67	15497.72	-45839	-0.0000895	0.0006738	0.0035	3.97		78145.86	78145.86	5.04		Si
SLV 6	2.77	2818.44	-38279	-0.0000539	0.0006738	0.0035	3.97		67107.61	67107.61	23.81		Si
SLV 4	0.67	22343.59	-37899	-0.0000924	0.0006738	0.0035	3.97		66552.61	66552.61	2.98		Si
SLV 4	2.77	-2157.28	-27604	-0.0000387	0.0006738	0.0035	3.97		58634.29	58634.29	27.18		Si
SLV 8	0.67	15652.2	-46438	-0.0000907	0.0006738	0.0035	3.97		79019.47	79019.47	5.05		Si
SLV 8	2.77	1536.28	-38383	-0.0000515	0.0006738	0.0035	3.97		67258.63	67258.63	43.78		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	0.67	16695.22	-66117	-47166	8208	3.97	3.97	-42431	10833	25287	115546	39948	20247	60195	No	7.33	Si
SLU 66	2.77	5331.94	-57196	-40802	8186	3.97	3.97	-36706	10833	22742	115546	39948	20247	60195	No	7.35	Si
SLU 69	0.67	16872.16	-67007	-47801	8246	3.97	3.97	-43002	10833	25541	115546	39948	20247	60195	No	7.3	Si
SLU 69	2.77	5479.75	-58061	-41419	8224	3.97	3.97	-37261	10833	22988	115546	39948	20247	60195	No	7.32	Si
SLU 46	0.67	14901.89	-58272	-41570	8175	3.97	3.97	-37396	10833	23049	115546	39948	20247	60195	No	7.36	Si
SLU 46	2.77	4256.15	-49186	-35088	8155	3.97	3.97	-31566	10833	20456	115546	39948	20247	60195	No	7.38	Si
SLU 45	0.67	14903.66	-58301	-41591	8184	3.97	3.97	-37415	10833	23057	115546	39948	20247	60195	No	7.36	Si
SLU 45	2.77	4245.46	-49212	-35106	8165	3.97	3.97	-31582	10833	20463	115546	39948	20247	60195	No	7.37	Si
SLU 70	0.67	16870.4	-66977	-47780	8237	3.97	3.97	-42983	10833	25533	115546	39948	20247	60195	No	7.31	Si
SLU 70	2.77	5490.44	-58035	-41401	8214	3.97	3.97	-37244	10833	22981	115546	39948	20247	60195	No	7.33	Si
SLU 67	0.67	16693.45	-66087	-47145	8199	3.97	3.97	-42412	10833	25279	115546	39948	20247	60195	No	7.34	Si
SLU 67	2.77	5342.63	-57171	-40784	8176	3.97	3.97	-36690	10833	22735	115546	39948	20247	60195	No	7.36	Si
SLU 49	0.67	15078.84	-59162	-42205	8213	3.97	3.97	-37967	10833	23303	115546	39948	20247	60195	No	7.33	Si
SLU 49	2.77	4403.96	-50051	-35705	8193	3.97	3.97	-32120	10833	20703	115546	39948	20247	60195	No	7.35	Si
SLU 71	0.67	16751.92	-66447	-47402	8184	3.97	3.97	-42643	10833	25381	115546	39948	20247	60195	No	7.36	Si
SLU 71	2.77	5440.99	-57525	-41037	8162	3.97	3.97	-36917	10833	22836	115546	39948	20247	60195	No	7.38	Si
SLU 48	0.67	15080.6	-59191	-42225	8223	3.97	3.97	-37986	10833	23311	115546	39948	20247	60195	No	7.32	Si
SLU 48	2.77	4393.27	-50076	-35723	8203	3.97	3.97	-32136	10833	20710	115546	39948	20247	60195	No	7.34	Si
SLU 72	0.67	16750.16	-66418	-47381	8175	3.97	3.97	-42624	10833	25373	115546	39948	20247	60195	No	7.36	Si
SLU 72	2.77	5451.68	-57500	-41019	8152	3.97	3.97	-36901	10833	22828	115546	39948	20247	60195	No	7.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	0.67	15652.2	-46438	-33128	10084	3.97	3.97	-29802	16250	22883	115546	59922	20247	80169		7.95	Si
SLV 8	2.77	1536.28	-38383	-27381	9922	3.97	3.97	-24632	16250	20584	115546	59922	20247	80169		8.08	Si
SLD 4	0.67	18815.05	-42165	-30080	13280	3.97	3.97	-27060	16250	21664	115546	59922	20247	80169		6.04	Si
SLD 4	2.77	35.7	-33179	-23669	12995	3.97	3.97	-21293	16250	19100	115546	59922	20247	80169		6.17	Si
SLV 4	0.67	22343.59	-37899	-27036	17335	3.97	3.97	-24322	16250	20446	115546	59922	20247	80169		4.62	Si
SLV 4	2.77	-2157.28	-27604	-19692	16908	3.97	3.97	-17715	16043	17833	115546	59922	20247	80169		4.74	Si
SLV 7	0.67	15422.52	-46379	-33086	9867	3.97	3.97	-29764	16250	22866	115546	59922	20247	80169		8.13	Si
SLV 7	2.77	1589.99	-38411	-27402	9704	3.97	3.97	-24651	16250	20592	115546	59922	20247	80169		8.26	Si
SLV 1	0.67	21956.12	-37632	-26846	16681	3.97	3.97	-24151	16250	20370	115546	59922	20247	80169		4.81	Si
SLV 1	2.77	-1692.86	-27615	-19700	16269	3.97	3.97	-17722	16044	17835	115546	59922	20247	80169		4.93	Si
SLD 3	0.67	18597.1	-42109	-30040	13074	3.97	3.97	-27024	16250	21648	115546	59922	20247	80169		6.13	Si
SLD 3	2.77	86.67	-33206	-23689	12788	3.97	3.97	-21310	16250	19107	115546	59922	20247	80169		6.27	Si
SLD 1	0.67	18571.56	-41997	-29959	12868	3.97	3.97	-26952	16250	21615	115546	59922	20247	80169		6.23	Si
SLD 1	2.77	326.36	-33187	-23675	12591	3.97	3.97	-21298	16250	19102	115546	59922	20247	80169		6.37	Si
SLD 2	0.67	18789.51	-42052	-29999	13074	3.97	3.97	-26987	16250	21631	115546	59922	20247	80169		6.13	Si
SLD 2	2.77	275.39	-33160	-23655	12797	3.97	3.97	-21280	16250	19094	115546	59922	20247	80169		6.26	Si
SLV 3	0.67	22002.46	-37812	-26974	17012	3.97	3.97	-24266	16250	20421	115546	59922	20247	80169		4.71	Si
SLV 3	2.77	-2077.5	-27646	-19722	16585	3.97	3.97	-17742	16048	17839	115546	59922	20247	80169		4.83	Si
SLV 2	0.67	22297.25	-37720	-26908	17003	3.97	3.97	-24207	16250	20395	115546	59922	20247	80169		4.71	Si
SLV 2	2.77	-1772.64	-27572	-19670	16592	3.97	3.97	-17695	16039	17829	115546	59922	20247	80169		4.83	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-28281	0.3	358.53	3409.69	4803.78	4106.74	11.45	Si
SLV 4	-28311	0.3	358.53	3412.75	4808.24	4110.5	11.46	Si
SLV 1	-28323	0.3	358.53	3413.98	4810.04	4112.01	11.47	Si
SLV 3	-28353	0.3	358.53	3417.04	4814.5	4115.77	11.48	Si
SLV 6	-39007	0.3	358.53	4415.46	6365.45	5390.45	15.03	Si
SLV 5	-39036	0.3	358.53	4417.93	6369.55	5393.74	15.04	Si
SLV 8	-39108	0.3	358.53	4424.16	6379.94	5402.05	15.07	Si
SLV 7	-39137	0.3	358.53	4426.63	6384.04	5405.33	15.08	Si
SLV 10	-48226	0.3	358.53	5153.47	7691.39	6422.43	17.91	Si
SLV 9	-48255	0.3	358.53	5155.58	7695.5	6425.54	17.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-48254	-61470	-457	0.461	5488.7	0.968	6.92502	6.24893	Si
SLV 14	-48216	-61558	-457	0.462	5484.8	0.968	6.9301	6.24893	Si
SLV 15	-48346	-61650	97	0.467	5498.1	0.968	7.01733	6.24893	Si
SLV 16	-48308	-61737	98	0.468	5494.2	0.968	7.02201	6.24893	Si
SLV 3	-32311	-37812	451	0.649	3866.7	0.956	9.86448	6.24893	Si
SLV 4	-32273	-37899	452	0.65	3862.9	0.956	9.87446	6.24893	Si
SLV 1	-32219	-37632	-103	0.66	3857.4	0.956	10.03662	6.24893	Si
SLV 2	-32181	-37720	-102	0.661	3853.5	0.956	10.0475	6.24893	Si
SLV 11	-42835	-53530	868	0.502	4937.1	0.965	7.55828	4.03181	Si
SLV 12	-42809	-53589	869	0.502	4934.5	0.965	7.56212	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.723	SLU 84	Si
V_SLU	7.3	SLU 69	Si
PF_SLV	2.973	SLV 2	Si
V_SLV	4.625	SLV 4	Si
PFFP_SLV	11.454	SLV 2	Si
R_SLV	1.108	SLV 13	Si

Maschio 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.414	L4	Z medio 271 cm	1.271	0.28	2.04	2.04	2.04			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.67	565.67	-25483	-0.0001455	0.0003743	0.0035	1.2709	4803.72	8398.97	8398.97	14.85	No	Si
SLU 78	2.71	-119.24	-20245	-0.0001004	0.0003743	0.0035	1.2709	5676.24	8022.13	8022.13	67.28	No	Si
SLU 82	0.67	562.64	-25963	-0.0001487	0.0003743	0.0035	1.2709	4675.45	8385.26	8385.26	14.9	No	Si
SLU 82	2.71	-95.53	-20597	-0.0001018	0.0003743	0.0035	1.2709	5647.75	8063.41	8063.41	84.4	No	Si
SLU 77	0.67	575.23	-25338	-0.0001447	0.0003743	0.0035	1.2709	4840.86	8402.53	8402.53	14.61	No	Si
SLU 77	2.71	-133.52	-20124	-0.0001	0.0003743	0.0035	1.2709	5684.98	8008.25	8008.25	59.98	No	Si
SLU 74	0.67	567.67	-25109	-0.0001429	0.0003743	0.0035	1.2709	4897.81	8408.21	8408.21	14.81	No	Si
SLU 74	2.71	-131.16	-19915	-0.0000987	0.0003743	0.0035	1.2709	5698.99	7984.39	7984.39	60.88	No	Si
SLU 84	0.67	570.2	-26192	-0.0001505	0.0003743	0.0035	1.2709	4611.65	8376.94	8376.94	14.69	No	Si
SLU 84	2.71	-97.9	-20807	-0.0001031	0.0003743	0.0035	1.2709	5628.72	8088.5	8088.5	82.62	No	Si
SLU 75	0.67	558.11	-25254	-0.0001437	0.0003743	0.0035	1.2709	4861.83	8404.59	8404.59	15.06	No	Si
SLU 75	2.71	-116.88	-20035	-0.0000991	0.0003743	0.0035	1.2709	5691.13	7998.05	7998.05	68.43	No	Si
SLU 83	0.67	579.76	-26047	-0.0001498	0.0003743	0.0035	1.2709	4652.4	8382.22	8382.22	14.46	No	Si
SLU 83	2.71	-112.18	-20686	-0.0001027	0.0003743	0.0035	1.2709	5639.84	8074.04	8074.04	71.97	No	Si
SLU 79	0.67	573.72	-25189	-0.0001437	0.0003743	0.0035	1.2709	4878.04	8406.2	8406.2	14.65	No	Si
SLU 79	2.71	-133.69	-19996	-0.0000993	0.0003743	0.0035	1.2709	5693.76	7993.57	7993.57	59.79	No	Si
SLU 81	0.67	572.2	-25818	-0.000148	0.0003743	0.0035	1.2709	4715.03	8390.59	8390.59	14.66	No	Si
SLU 81	2.71	-109.81	-20477	-0.0001015	0.0003743	0.0035	1.2709	5657.98	8049.17	8049.17	73.3	No	Si
SLU 80	0.67	564.16	-25335	-0.0001444	0.0003743	0.0035	1.2709	4841.65	8402.61	8402.61	14.89	No	Si
SLU 80	2.71	-119.41	-20116	-0.0000996	0.0003743	0.0035	1.2709	5685.55	8007.31	8007.31	67.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	0.67	1196.86	-7240	-0.0000553	0.0005615	0.0035	1.2709		4157.82	4157.82	3.47		Si
SLD 8	2.71	-471.56	-5903	-0.0000345	0.0005615	0.0035	1.2709		3805.19	3805.19	8.07		Si
SLV 16	0.67	1286.86	-12051	-0.0000798	0.0005615	0.0035	1.2709		6464.73	6464.73	5.02		Si
SLV 16	2.71	-664.8	-10832	-0.0000608	0.0005615	0.0035	1.2709		6228.83	6228.83	9.37		Si
SLV 11	0.67	2024.7	-646	-0.0253163	0.0005615	0.0035	1.0167		501.08	501.08	0.25		No
SLV 11	2.71	-956.7	-1710	-0.0000766	0.0005615	0.0035	1.0167		1424.99	1424.99	1.49		Si
SLV 12	0.67	1971.68	-882	-0.022076	0.0005615	0.0035	1.0167		647.15	647.15	0.33		No
SLV 12	2.71	-907.83	-1743	-0.0000539	0.0005615	0.0035	1.0167		1444.85	1444.85	1.59		Si
SLD 7	0.67	1230.21	-7091	-0.0000553	0.0005615	0.0035	1.2709		4088.83	4088.83	3.32		Si
SLD 7	2.71	-502.31	-5882	-0.000035	0.0005615	0.0035	1.2709		3793.79	3793.79	7.55		Si
SLD 12	0.67	1383.78	-7062	-0.0000584	0.0005615	0.0035	1.2709		4074.98	4074.98	2.94		Si
SLD 12	2.71	-613.99	-6233	-0.0000388	0.0005615	0.0035	1.2709		3977.51	3977.51	6.48		Si
SLD 11	0.67	1417.13	-6913	-0.0000584	0.0005615	0.0035	1.2709		4006.2	4006.2	2.83		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	2.71	-644.74	-6213	-0.0000394	0.0005615	0.0035	1.2709		3966.73	3966.73	6.15		Si
SLV 7	0.67	1732.49	-926	-0.0178813	0.0005615	0.0035	1.0167		674.03	674.03	0.39		No
SLV 7	2.71	-734.36	-1195	-0.000102	0.0005615	0.0035	1.0167		1113.64	1113.64	1.52		Si
SLV 15	0.67	1365.61	-11700	-0.0000798	0.0005615	0.0035	1.2709		6301.95	6301.95	4.61		Si
SLV 15	2.71	-737.4	-10783	-0.0000621	0.0005615	0.0035	1.2709		6206.29	6206.29	8.42		Si
SLV 8	0.67	1679.47	-1163	-0.0148493	0.0005615	0.0035	1.0167		819.07	819.07	0.49		No
SLV 8	2.71	-685.48	-1228	-0.0000534	0.0005615	0.0035	1.0167		1133.69	1133.69	1.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 71	0.67	541.99	-22656	-18866	-1242	1.2709	1.2709	-53015	10833	6173	21410	10656	3241	13897	No	11.19	Si
SLU 71	2.71	-178.37	-17895	-14902	2032	1.2709	1.2709	-41875	10833	5116	21410	10656	3241	13897	No	6.84	Si
SLU 81	0.67	572.2	-25818	-21499	-1597	1.2709	1.2709	-60415	10833	6875	21410	10656	3241	13897	No	8.7	Si
SLU 81	2.71	-109.81	-20477	-17051	2041	1.2709	1.2709	-47915	10833	5689	21410	10656	3241	13897	No	6.81	Si
SLU 66	0.67	535.94	-22576	-18799	-1254	1.2709	1.2709	-52828	10833	6155	21410	10656	3241	13897	No	11.08	Si
SLU 66	2.71	-175.83	-17814	-14834	2004	1.2709	1.2709	-41685	10833	5098	21410	10656	3241	13897	No	6.93	Si
SLU 77	0.67	575.23	-25338	-21099	-1516	1.2709	1.2709	-59290	10833	6768	21410	10656	3241	13897	No	9.17	Si
SLU 77	2.71	-133.52	-20124	-16758	2092	1.2709	1.2709	-47091	10833	5611	21410	10656	3241	13897	No	6.64	Si
SLU 83	0.67	579.76	-26047	-21689	-1603	1.2709	1.2709	-60949	10833	6926	21410	10656	3241	13897	No	8.67	Si
SLU 83	2.71	-112.18	-20686	-17226	2075	1.2709	1.2709	-48406	10833	5735	21410	10656	3241	13897	No	6.7	Si
SLU 79	0.67	573.72	-25189	-20976	-1499	1.2709	1.2709	-58943	10833	6735	21410	10656	3241	13897	No	9.27	Si
SLU 79	2.71	-133.69	-19996	-16651	2086	1.2709	1.2709	-46790	10833	5582	21410	10656	3241	13897	No	6.66	Si
SLU 80	0.67	564.16	-25335	-21096	-1593	1.2709	1.2709	-59283	10833	6768	21410	10656	3241	13897	No	8.72	Si
SLU 80	2.71	-119.41	-20116	-16751	2013	1.2709	1.2709	-47072	10833	5609	21410	10656	3241	13897	No	6.9	Si
SLU 78	0.67	565.67	-25483	-21220	-1611	1.2709	1.2709	-59630	10833	6800	21410	10656	3241	13897	No	8.63	Si
SLU 78	2.71	-119.24	-20245	-16858	2018	1.2709	1.2709	-47373	10833	5637	21410	10656	3241	13897	No	6.89	Si
SLU 74	0.67	567.67	-25109	-20909	-1510	1.2709	1.2709	-58756	10833	6718	21410	10656	3241	13897	No	9.2	Si
SLU 74	2.71	-131.16	-19915	-16583	2058	1.2709	1.2709	-46600	10833	5564	21410	10656	3241	13897	No	6.75	Si
SLU 69	0.67	543.5	-22804	-18989	-1260	1.2709	1.2709	-53362	10833	6206	21410	10656	3241	13897	No	11.03	Si
SLU 69	2.71	-178.2	-18024	-15009	2038	1.2709	1.2709	-42176	10833	5144	21410	10656	3241	13897	No	6.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.67	1365.61	-11700	-9743	3567	1.2709	1.2709	-27378	15892	5655	21410	15984	3241	19225		5.39	Si
SLV 15	2.71	-737.4	-10783	-8979	5502	1.2709	1.2709	-25231	15463	5503	21410	15984	3241	19225		3.49	Si
SLV 12	0.67	1971.68	-882	-735	6134	1.0167	0	0	0	0	21410	12787	2593	15380		2.51	Si
SLV 12	2.71	-907.83	-1743	-1451	6862	1.0167	0.3439	0	0	0	21410	12787	2593	15380		2.24	Si
SLV 8	0.67	1679.47	-1163	-968	4738	1.0167	0	0	0	0	21410	12787	2593	15380		3.25	Si
SLV 8	2.71	-685.48	-1228	-1023	5450	1.0167	0.2319	0	0	0	21410	12787	2593	15380		2.82	Si
SLV 6	0.67	-1214.43	-33843	-28182	-8390	1.2709	1.2709	-79194	16250	9228	21410	15984	3241	19225		2.29	Si
SLV 6	2.71	716.16	-25456	-21198	-4168	1.2709	1.2709	-59568	16250	7366	21410	15984	3241	19225		4.61	Si
SLV 10	0.67	-922.22	-33563	-27948	-6994	1.2709	1.2709	-78538	16250	9166	21410	15984	3241	19225		2.75	Si
SLV 10	2.71	493.81	-25971	-21626	-2756	1.2709	1.2709	-60773	16250	7480	21410	15984	3241	19225		6.98	Si
SLV 7	0.67	1732.49	-926	-771	5059	1.0167	0	0	0	0	21410	12787	2593	15380		3.04	Si
SLV 7	2.71	-734.36	-1195	-995	5739	1.0167	0.0628	0	0	0	21410	12787	2593	15380		2.68	Si
SLD 6	0.67	-606.86	-27576	-22963	-5590	1.2709	1.2709	-64529	16250	7836	21410	15984	3241	19225		3.44	Si
SLD 6	2.71	404.2	-20953	-17448	-2043	1.2709	1.2709	-49031	16250	6366	21410	15984	3241	19225		9.41	Si
SLV 5	0.67	-1161.41	-33607	-27985	-8069	1.2709	1.2709	-78640	16250	9175	21410	15984	3241	19225		2.38	Si
SLV 5	2.71	667.28	-25423	-21170	-3879	1.2709	1.2709	-59490	16250	7358	21410	15984	3241	19225		4.96	Si
SLV 9	0.67	-869.2	-33327	-27752	-6673	1.2709	1.2709	-77985	16250	9113	21410	15984	3241	19225		2.88	Si
SLV 9	2.71	444.94	-25938	-21599	-2467	1.2709	1.2709	-60695	16250	7473	21410	15984	3241	19225		7.79	Si
SLV 11	0.67	2024.7	-646	-538	6455	1.0167	0	0	0	0	21410	12787	2593	15380		2.38	Si
SLV 11	2.71	-956.7	-1710	-1424	7151	1.0167	0.2279	0	0	0	21410	12787	2593	15380		2.15	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.69 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.28	2348	-836	32.35	115.19	3.56	Si
SLV 8	179667	0.28	2631	-936	32.35	128.83	3.98	Si
SLV 11	179667	0.28	3193	-1136	32.35	155.74	4.81	Si
SLV 12	179667	0.28	3476	-1237	32.35	169.23	5.23	Si
SLV 3	179667	0.28	29774	-10595	32.35	1194.16	36.91	Si
SLV 4	179667	0.28	30195	-10745	32.35	1206.88	37.3	Si
SLV 15	179667	0.28	32590	-11597	32.35	1277.15	39.47	Si
SLV 16	179667	0.28	33010	-11747	32.35	1289.1	39.84	Si
SLV 1	179667	0.28	54186	-19283	32.35	1741.72	53.83	Si
SLV 2	179667	0.28	54606	-19432	32.35	1747.74	54.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.69 Wa = 0.05 Ta = 0.0248

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-25971	-33563	-57	0.336	2747.7	0.988	4.94622	2.94734	Si
SLV 9	-25938	-33327	-58	0.337	2744.4	0.988	4.95021	2.94734	Si
SLV 6	-25456	-33843	-35	0.342	2695.2	0.988	5.03717	2.94734	Si
SLV 5	-25423	-33607	-37	0.343	2691.9	0.988	5.04135	2.94734	Si
SLV 14	-18100	-21855	-37	0.45	1945.6	0.983	6.64533	3.32142	Si
SLV 13	-18051	-21504	-40	0.451	1940.6	0.983	6.65831	3.32142	Si
SLV 2	-16384	-22789	34	0.488	1770.6	0.982	7.22679	3.32142	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-16334	-22438	32	0.49	1765.6	0.982	7.2474	3.32142	Si
SLV 16	-10832	-12051	0	0.694	1205	0.974	10.358	3.32142	Si
SLV 15	-10783	-11700	-2	0.697	1200	0.974	10.39636	3.32142	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.458	SLU 83	Si
V_SLU	6.644	SLU 77	Si
PF_SLV	0.247	SLV 11	No
V_SLV	2.151	SLV 11	Si
PFFP_SLV	3.56	SLV 7	Si
R_SLV	1.678	SLV 10	Si

Maschio 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.414	Z medio 271 cm	L5	1.271	0.28	1.64	1.64	1.64			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	2.71	330.89	-19370	-0.0001006	0.0003743	0.0035	1.2709	5728.15	7775.48	7775.48	23.5	No	Si
SLU 79	4.35	-790.93	-17401	-0.0001008	0.0003743	0.0035	1.2709	5746.83	7536.21	7536.21	9.53	No	Si
SLU 77	2.71	331.42	-19498	-0.0001014	0.0003743	0.0035	1.2709	5722.23	7790.77	7790.77	23.51	No	Si
SLU 77	4.35	-793.65	-17527	-0.0001016	0.0003743	0.0035	1.2709	5749.7	7566.06	7566.06	9.53	No	Si
SLU 81	2.71	303.42	-19756	-0.0001022	0.0003743	0.0035	1.2709	5708.57	7821.86	7821.86	25.78	No	Si
SLU 81	4.35	-803.85	-17698	-0.0001028	0.0003743	0.0035	1.2709	5752.73	7607.05	7607.05	9.46	No	Si
SLU 84	2.71	292.5	-20079	-0.0001038	0.0003743	0.0035	1.2709	5688.17	7861.29	7861.29	26.88	No	Si
SLU 84	4.35	-802.58	-18001	-0.0001045	0.0003743	0.0035	1.2709	5755.55	7680.28	7680.28	9.57	No	Si
SLU 82	2.71	282.67	-19871	-0.0001023	0.0003743	0.0035	1.2709	5701.73	7835.83	7835.83	27.72	No	Si
SLU 82	4.35	-790.79	-17790	-0.000103	0.0003743	0.0035	1.2709	5753.93	7629.25	7629.25	9.65	No	Si
SLU 74	2.71	321.59	-19290	-0.0000999	0.0003743	0.0035	1.2709	5731.56	7765.92	7765.92	24.15	No	Si
SLU 74	4.35	-781.85	-17316	-0.0001001	0.0003743	0.0035	1.2709	5744.58	7516.25	7516.25	9.61	No	Si
SLU 78	2.71	310.66	-19613	-0.0001015	0.0003743	0.0035	1.2709	5716.43	7804.6	7804.6	25.12	No	Si
SLU 78	4.35	-780.58	-17619	-0.0001018	0.0003743	0.0035	1.2709	5751.46	7588.07	7588.07	9.72	No	Si
SLU 80	2.71	310.13	-19485	-0.0001008	0.0003743	0.0035	1.2709	5722.86	7789.23	7789.23	25.12	No	Si
SLU 80	4.35	-777.87	-17493	-0.000101	0.0003743	0.0035	1.2709	5748.99	7558.07	7558.07	9.72	No	Si
SLU 62	2.71	294.4	-17952	-0.0000917	0.0003743	0.0035	1.2709	5755.31	7547.78	7547.78	25.64	No	Si
SLU 62	4.35	-746.53	-16032	-0.000092	0.0003743	0.0035	1.2709	5679.65	7223.89	7223.89	9.68	No	Si
SLU 83	2.71	313.25	-19964	-0.0001036	0.0003743	0.0035	1.2709	5695.85	7847.2	7847.2	25.05	No	Si
SLU 83	4.35	-815.64	-17909	-0.0001043	0.0003743	0.0035	1.2709	5755.03	7657.85	7657.85	9.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	2.71	1156.7	-10817	-0.0000711	0.0005615	0.0035	1.2709		5865.92	5865.92	5.07		Si
SLV 15	4.35	-1456.86	-9911	-0.0000732	0.0005615	0.0035	1.2709		5807.69	5807.69	3.99		Si
SLV 8	2.71	1221.67	-1697	-0.0021827	0.0005615	0.0035	1.0167		1143.6	1143.6	0.94		No
SLV 8	4.35	-715.43	-2654	-0.0000257	0.0005615	0.0035	1.2709		1982.91	1982.91	2.77		Si
SLV 11	2.71	1592.37	-2265	-0.0031605	0.0005615	0.0035	1.0167		1483.42	1483.42	0.93		No
SLV 11	4.35	-1235.1	-3094	-0.0000471	0.0005615	0.0035	1.0167		2238.91	2238.91	1.81		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	2.71	1069.75	-10837	-0.0000694	0.0005615	0.0035	1.2709		5875.8	5875.8	5.49		Si
SLV 16	4.35	-1335.4	-9958	-0.0000709	0.0005615	0.0035	1.2709		5829.23	5829.23	4.37		Si
SLD 11	2.71	1088.23	-6422	-0.0000494	0.0005615	0.0035	1.2709		3780.29	3780.29	3.47		Si
SLD 11	4.35	-977.6	-6417	-0.0000471	0.0005615	0.0035	1.2709		4072.88	4072.88	4.17		Si
SLD 12	2.71	1051.41	-6430	-0.0000486	0.0005615	0.0035	1.2709		3784.19	3784.19	3.6		Si
SLD 12	4.35	-926.16	-6437	-0.0000461	0.0005615	0.0035	1.2709		4083.19	4083.19	4.41		Si
SLD 7	2.71	888.25	-6049	-0.0000436	0.0005615	0.0035	1.2709		3606.61	3606.61	4.06		Si
SLD 7	4.35	-696.99	-6115	-0.00004	0.0005615	0.0035	1.2709		3916.2	3916.2	5.62		Si
SLV 7	2.71	1280.21	-1683	-0.0034448	0.0005615	0.0035	1.0167		1135.44	1135.44	0.89		No
SLV 7	4.35	-797.2	-2623	-0.0000281	0.0005615	0.0035	1.2709		1964.65	1964.65	2.46		Si
SLV 12	2.71	1533.83	-2278	-0.0019252	0.0005615	0.0035	1.0167		1491.45	1491.45	0.97		No
SLV 12	4.35	-1153.33	-3125	-0.0000421	0.0005615	0.0035	1.0167		2257.34	2257.34	1.96		Si
SLD 8	2.71	851.43	-6057	-0.0000429	0.0005615	0.0035	1.2709		3610.92	3610.92	4.24		Si
SLD 8	4.35	-645.55	-6135	-0.000039	0.0005615	0.0035	1.2709		3926.45	3926.45	6.08		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	2.71	330.89	-19370	-16130	1075	1.2709	1.2709	-45327	10833	6327	16652	10656	3241	13897	No	12.93	Si
SLU 79	4.35	-790.93	-17401	-14490	4596	1.2709	1.2709	-40718	10833	5819	16652	10656	3241	13897	No	3.02	Si
SLU 83	2.71	313.25	-19964	-16624	1029	1.2709	1.2709	-46715	10833	6481	16652	10656	3241	13897	No	13.5	Si
SLU 83	4.35	-815.64	-17909	-14913	4681	1.2709	1.2709	-41907	10833	5950	16652	10656	3241	13897	No	2.97	Si
SLU 77	2.71	331.42	-19498	-16236	1071	1.2709	1.2709	-45626	10833	6360	16652	10656	3241	13897	No	12.98	Si
SLU 77	4.35	-793.65	-17527	-14595	4617	1.2709	1.2709	-41013	10833	5852	16652	10656	3241	13897	No	3.01	Si
SLU 82	2.71	282.67	-19871	-16547	882	1.2709	1.2709	-46497	10833	6456	16652	10656	3241	13897	No	15.76	Si
SLU 82	4.35	-790.79	-17790	-14814	4514	1.2709	1.2709	-41630	10833	5920	16652	10656	3241	13897	No	3.08	Si
SLU 84	2.71	292.5	-20079	-16720	915	1.2709	1.2709	-46984	10833	6510	16652	10656	3241	13897	No	15.19	Si
SLU 84	4.35	-802.58	-18001	-14990	4588	1.2709	1.2709	-42122	10833	5974	16652	10656	3241	13897	No	3.03	Si
SLU 74	2.71	321.59	-19290	-16063	1038	1.2709	1.2709	-45139	10833	6307	16652	10656	3241	13897	No	13.39	Si
SLU 74	4.35	-781.85	-17316	-14420	4543	1.2709	1.2709	-40520	10833	5797	16652	10656	3241	13897	No	3.06	Si
SLU 80	2.71	310.13	-19485	-16226	960	1.2709	1.2709	-45596	10833	6357	16652	10656	3241	13897	No	14.47	Si
SLU 80	4.35	-777.87	-17493	-14567	4504	1.2709	1.2709	-40934	10833	5843	16652	10656	3241	13897	No	3.09	Si
SLU 75	2.71	300.84	-19405	-16159	923	1.2709	1.2709	-45408	10833	6336	16652	10656	3241	13897	No	15.05	Si
SLU 75	4.35	-768.79	-17409	-14496	4451	1.2709	1.2709	-40736	10833	5821	16652	10656	3241	13897	No	3.12	Si
SLU 81	2.71	303.42	-19756	-16451	996	1.2709	1.2709	-46229	10833	6427	16652	10656	3241	13897	No	13.95	Si
SLU 81	4.35	-803.85	-17698	-14738	4607	1.2709	1.2709	-41414	10833	5896	16652	10656	3241	13897	No	3.02	Si
SLU 78	2.71	310.66	-19613	-16332	956	1.2709	1.2709	-45895	10833	6390	16652	10656	3241	13897	No	14.53	Si
SLU 78	4.35	-780.58	-17619	-14672	4525	1.2709	1.2709	-41229	10833	5875	16652	10656	3241	13897	No	3.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	2.71	1156.7	-10817	-9008	5609	1.2709	1.2709	-25313	15479	5508	16652	15984	3241	19225		3.43	Si
SLV 15	4.35	-1456.86	-9911	-8253	7823	1.2709	1.2709	-23191	15055	5357	16652	15984	3241	19225		2.46	Si
SLV 11	2.71	1592.37	-2265	-1886	7343	1.0167	0	0	0	0	16652	12787	2593	15380		2.09	Si
SLV 11	4.35	-1235.1	-3094	-2576	8394	1.0167	0.7087	0	0	0	16652	12787	2593	15380		1.83	Si
SLD 15	2.71	822.88	-11751	-9785	3844	1.2709	1.2709	-27498	15916	5664	16652	15984	3241	19225		5	Si
SLD 15	4.35	-1123.67	-10658	-8875	6119	1.2709	1.2709	-24941	15405	5482	16652	15984	3241	19225		3.14	Si
SLD 11	2.71	1088.23	-6422	-5347	4880	1.2709	1.2709	-15027	13422	4776	16652	15984	3241	19225		3.94	Si
SLD 11	4.35	-977.6	-6417	-5344	6424	1.2709	1.2709	-15016	13420	4776	16652	15984	3241	19225		2.99	Si
SLV 8	2.71	1221.67	-1697	-1413	5246	1.0167	0	0	0	0	16652	12787	2593	15380		2.93	Si
SLV 8	4.35	-715.43	-2654	-2210	6140	1.2709	1.0978	-7214	11859	3645	16652	15984	3241	19225		3.13	Si
SLV 7	2.71	1280.21	-1683	-1401	5597	1.0167	0	0	0	0	16652	12787	2593	15380		2.75	Si
SLV 7	4.35	-797.2	-2623	-2184	6488	1.2709	0.9945	-7868	11990	3339	16652	15984	3241	19225		2.96	Si
SLD 12	2.71	1051.41	-6430	-5355	4659	1.2709	1.2709	-15047	13426	4778	16652	15984	3241	19225		4.13	Si
SLD 12	4.35	-926.16	-6437	-5360	6204	1.2709	1.2709	-15062	13429	4779	16652	15984	3241	19225		3.1	Si
SLV 12	2.71	1533.83	-2278	-1897	6993	1.0167	0	0	0	0	16652	12787	2593	15380		2.2	Si
SLV 12	4.35	-1153.33	-3125	-2602	8046	1.0167	0.7993	0	0	0	16652	12787	2593	15380		1.91	Si
SLV 16	2.71	1069.75	-10837	-9025	5089	1.2709	1.2709	-25360	15489	5512	16652	15984	3241	19225		3.78	Si
SLV 16	4.35	-1335.4	-9958	-8292	7305	1.2709	1.2709	-23301	15077	5365	16652	15984	3241	19225		2.63	Si
SLD 16	2.71	767.34	-11764	-9796	3512	1.2709	1.2709	-27528	15922	5666	16652	15984	3241	19225		5.47	Si
SLD 16	4.35	-1046.07	-10688	-8900	5789	1.2709	1.2709	-25010	15419	5487	16652	15984	3241	19225		3.32	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.53 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.32	5134	-1827	23.85	247.19	10.36	Si
SLV 7	179667	0.32	5203	-1852	23.85	250.38	10.5	Si
SLV 12	179667	0.32	7231	-2573	23.85	343.2	14.39	Si
SLV 11	179667	0.32	7300	-2598	23.85	346.29	14.52	Si
SLV 4	179667	0.32	23096	-8219	23.85	976.64	40.94	Si
SLV 3	179667	0.32	23198	-8255	23.85	980.18	41.09	Si
SLV 16	179667	0.32	30086	-10706	23.85	1203.6	50.46	Si
SLV 15	179667	0.32	30188	-10743	23.85	1206.68	50.59	Si
SLV 2	179667	0.32	40604	-14449	23.85	1485.05	62.26	Si
SLV 1	179667	0.32	40705	-14485	23.85	1487.42	62.35	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.53 Wa = 0.05 Ta = 0.016

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-21055	-24785	-23	0.417	2226.9	0.988	6.13492	3.10868	Si
SLV 9	-21023	-24772	-23	0.418	2223.7	0.988	6.14212	3.10868	Si
SLV 6	-20584	-24204	-69	0.422	2178.9	0.988	6.21332	3.10868	Si
SLV 5	-20552	-24190	-69	0.423	2175.7	0.988	6.22079	3.10868	Si
SLV 14	-15336	-17590	59	0.535	1644.1	0.984	7.89289	3.3527	Si
SLV 13	-15290	-17570	59	0.536	1639.3	0.984	7.91294	3.3527	Si
SLV 2	-13767	-15651	-94	0.581	1484.1	0.983	8.5993	3.3527	Si
SLV 1	-13720	-15631	-94	0.583	1479.4	0.983	8.62377	3.3527	Si
SLV 16	-9958	-10837	84	0.763	1096	0.977	11.34783	3.3527	Si
SLV 15	-9911	-10817	84	0.766	1091.3	0.977	11.39424	3.3527	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.389	SLU 83	Si
V_SLU	2.969	SLU 83	Si
PF_SLV	0.887	SLV 7	No
V_SLV	1.832	SLV 11	Si
PFFP_SLV	10.363	SLV 8	Si
R_SLV	1.973	SLV 10	Si

Maschio 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.314	-11.003	-0.749	F7	L5	2.565	0.28	0.929	0.219	0.219			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	4.13	1388.6	-40259	-0.0001042	0.0003743	0.0035	2.565	23203.76	31965.8	31965.8	23.02	No	Si
SLU 82	4.35	-975.76	-39821	-0.0001004	0.0003743	0.0035	2.565	23257.16	32750.81	32750.81	33.56	No	Si
SLU 81	4.13	1432.23	-40135	-0.0001042	0.0003743	0.0035	2.565	23219.48	31934.43	31934.43	22.3	No	Si
SLU 81	4.35	-988.87	-39698	-0.0001001	0.0003743	0.0035	2.565	23271.03	32719.2	32719.2	33.09	No	Si
SLU 80	4.13	1390.63	-39732	-0.0001027	0.0003743	0.0035	2.565	23267.25	31832.21	31832.21	22.89	No	Si
SLU 80	4.35	-931.25	-39293	-0.0000986	0.0003743	0.0035	2.565	23312.68	32610.97	32610.97	35.02	No	Si
SLU 74	4.13	1400.7	-39361	-0.0001017	0.0003743	0.0035	2.565	23306.09	31739.02	31739.02	22.66	No	Si
SLU 74	4.35	-963.64	-38922	-0.0000978	0.0003743	0.0035	2.565	23345.88	32505.16	32505.16	33.73	No	Si
SLU 78	4.13	1398.3	-40018	-0.0001036	0.0003743	0.0035	2.565	23233.98	31904.58	31904.58	22.82	No	Si
SLU 78	4.35	-936.57	-39580	-0.0000995	0.0003743	0.0035	2.565	23283.75	32688.43	32688.43	34.9	No	Si
SLU 84	4.13	1429.83	-40792	-0.0001061	0.0003743	0.0035	2.565	23129.52	32094.7	32094.7	22.45	No	Si
SLU 84	4.35	-961.81	-40356	-0.0001019	0.0003743	0.0035	2.565	23190.98	32879.82	32879.82	34.19	No	Si
SLU 77	4.13	1441.93	-39895	-0.0001035	0.0003743	0.0035	2.565	23248.66	31873.36	31873.36	22.1	No	Si
SLU 77	4.35	-949.68	-39456	-0.0000992	0.0003743	0.0035	2.565	23296.57	32655.49	32655.49	34.39	No	Si
SLU 79	4.13	1434.26	-39609	-0.0001027	0.0003743	0.0035	2.565	23280.69	31801.17	31801.17	22.17	No	Si
SLU 79	4.35	-944.36	-39169	-0.0000984	0.0003743	0.0035	2.565	23324.26	32576.46	32576.46	34.5	No	Si
SLU 62	4.13	1320.39	-36417	-0.0000929	0.0003743	0.0035	2.565	23443.35	30824.43	30824.43	23.34	No	Si
SLU 62	4.35	-888.48	-35971	-0.0000891	0.0003743	0.0035	2.565	23437.62	31235.83	31235.83	35.16	No	Si
SLU 83	4.13	1473.46	-40669	-0.000106	0.0003743	0.0035	2.565	23147.55	32066.24	32066.24	21.76	No	Si
SLU 83	4.35	-974.92	-40232	-0.0001016	0.0003743	0.0035	2.565	23207.17	32851.12	32851.12	33.7	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	4.13	3237.33	-25487	-0.000072	0.0005615	0.0035	2.565		27225.37	27225.37	8.41		Si
SLV 15	4.35	280.8	-25099	-0.0000556	0.0005615	0.0035	2.565		26939.22	26939.22	95.94		Si
SLV 12	4.13	5066.08	-16930	-0.0000616	0.0005615	0.0035	2.565		19089.57	19089.57	3.77		Si
SLV 12	4.35	67.08	-16591	-0.0000355	0.0005615	0.0035	2.565		18765.83	18765.83	279.77		Si
SLD 8	4.13	3067.05	-19993	-0.0000584	0.0005615	0.0035	2.565		22052.86	22052.86	7.19		Si
SLD 8	4.35	-538.85	-19667	-0.0000447	0.0005615	0.0035	2.565		23637.73	23637.73	43.87		Si
SLD 7	4.13	3117.17	-19894	-0.0000584	0.0005615	0.0035	2.565		21955.39	21955.39	7.04		Si
SLD 7	4.35	-505.26	-19567	-0.0000443	0.0005615	0.0035	2.565		23544.32	23544.32	46.6		Si
SLV 16	4.13	3118.99	-25722	-0.0000719	0.0005615	0.0035	2.565		27399.26	27399.26	8.78		Si
SLV 16	4.35	201.49	-25336	-0.0000558	0.0005615	0.0035	2.565		27113.58	27113.58	134.57		Si
SLV 8	4.13	4403.07	-15803	-0.0000556	0.0005615	0.0035	2.565		18016.33	18016.33	4.09		Si
SLV 8	4.35	-401.14	-15493	-0.0000347	0.0005615	0.0035	2.565		19554.68	19554.68	48.75		Si
SLD 12	4.13	3492.9	-20714	-0.0000622	0.0005615	0.0035	2.565		22760.17	22760.17	6.52		Si
SLD 12	4.35	-239.62	-20371	-0.0000447	0.0005615	0.0035	2.565		24296.99	24296.99	101.4		Si
SLV 11	4.13	5145.76	-16772	-0.0000616	0.0005615	0.0035	2.565		18938.24	18938.24	3.68		Si
SLV 11	4.35	120.48	-16432	-0.0000354	0.0005615	0.0035	2.565		18614.07	18614.07	154.5		Si
SLV 7	4.13	4482.75	-15645	-0.0000557	0.0005615	0.0035	2.565		17866.33	17866.33	3.99		Si
SLV 7	4.35	-347.74	-15334	-0.0000341	0.0005615	0.0035	2.565		19389.91	19389.91	55.76		Si
SLD 11	4.13	3543.03	-20615	-0.0000622	0.0005615	0.0035	2.565		22662.21	22662.21	6.4		Si
SLD 11	4.35	-206.03	-20271	-0.0000443	0.0005615	0.0035	2.565		24202.78	24202.78	117.47		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	4.13	1473.46	-40669	-33866	10847	2.565	2.565	-47154	10833	17003	9516	21506	6541	26519	No	2.44	Si
SLU 83	4.35	-974.92	-40232	-33502	10870	2.565	2.565	-46648	10833	16858	9516	21506	6541	26373	No	2.43	Si
SLU 84	4.13	1429.83	-40792	-33968	10586	2.565	2.565	-47297	10833	17044	9516	21506	6541	26560	No	2.51	Si
SLU 84	4.35	-961.81	-40356	-33605	10609	2.565	2.565	-46791	10833	16899	9516	21506	6541	26414	No	2.49	Si
SLU 75	4.13	1357.07	-39484	-32879	10216	2.565	2.565	-45780	10833	16608	9516	21506	6541	26124	No	2.56	Si
SLU 75	4.35	-950.53	-39045	-32513	10238	2.565	2.565	-45271	10833	16462	9516	21506	6541	25978	No	2.54	Si
SLU 78	4.13	1398.3	-40018	-33323	10335	2.565	2.565	-46399	10833	16786	9516	21506	6541	26302	No	2.54	Si
SLU 78	4.35	-936.57	-39580	-32959	10358	2.565	2.565	-45891	10833	16640	9516	21506	6541	26156	No	2.53	Si
SLU 81	4.13	1432.23	-40135	-33421	10728	2.565	2.565	-46535	10833	16825	9516	21506	6541	26341	No	2.46	Si
SLU 81	4.35	-988.87	-39698	-33057	10751	2.565	2.565	-46028	10833	16679	9516	21506	6541	26195	No	2.44	Si
SLU 79	4.13	1434.26	-39609	-32983	10540	2.565	2.565	-45925	10833	16650	9516	21506	6541	26165	No	2.48	Si
SLU 79	4.35	-944.36	-39169	-32617	10563	2.565	2.565	-45416	10833	16504	9516	21506	6541	26019	No	2.46	Si
SLU 77	4.13	1441.93	-39895	-33221	10596	2.565	2.565	-46256	10833	16745	9516	21506	6541	26261	No	2.48	Si
SLU 77	4.35	-949.68	-39456	-32856	10619	2.565	2.565	-45748	10833	16599	9516	21506	6541	26115	No	2.46	Si
SLU 80	4.13	1390.63	-39732	-33085	10279	2.565	2.565	-46067	10833	16691	9516	21506	6541	26206	No	2.55	Si
SLU 80	4.35	-931.25	-39293	-32720	10302	2.565	2.565	-45559	10833	16545	9516	21506	6541	26060	No	2.53	Si
SLU 82	4.13	1388.6	-40259	-33524	10467	2.565	2.565	-46678	10833	16866	9516	21506	6541	26382	No	2.52	Si
SLU 82	4.35	-975.76	-39821	-33160	10489	2.565	2.565	-46171	10833	16721	9516	21506	6541	26236	No	2.5	Si
SLU 74	4.13	1400.7	-39361	-32776	10477	2.565	2.565	-45637	10833	16567	9516	21506	6541	26083	No	2.49	Si
SLU 74	4.35	-963.64	-38922	-32411	10500	2.565	2.565	-45128	10833	16421	9516	21506	6541	25937	No	2.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	4.13	5145.76	-16772	-13966	23337	2.565	2.565	-19446	14306	10772	9516	32259	6541	20288		0.87	No
SLV 11	4.35	120.48	-16432	-13683	23380	2.565	2.565	-19052	14227	10659	9516	32259	6541	20175		0.86	No
SLV 16	4.13	3118.99	-25722	-21419	13870	2.565	2.565	-29824	16250	13753	9516	32259	6541	23269		1.68	Si
SLV 16	4.35	201.49	-25336	-21097	13898	2.565	2.565	-29376	16250	13625	9516	32259	6541	23140		1.66	Si
SLD 7	4.13	3117.17	-19894	-16566	16447	2.565	2.565	-23066	15030	11812	9516	32259	6541	21328		1.3	Si
SLD 7	4.35	-505.26	-19567	-16294	16477	2.565	2.565	-22687	14954	11703	9516	32259	6541	21219		1.29	Si
SLD 11	4.13	3543.03	-20615	-17166	17261	2.565	2.565	-23902	15197	12052	9516	32259	6541	21568		1.25	Si
SLD 11	4.35	-206.03	-20271	-16880	17294	2.565	2.565	-23503	15117	11938	9516	32259	6541	21453		1.24	Si
SLV 7	4.13	4482.75	-15645	-13027	22065	2.565	2.565	-18139	14045	10397	9516	32259	6541	19912		0.9	No
SLV 7	4.35	-347.74	-15334	-12769	22105	2.565	2.565	-17779	13972	10293	9516	32259	6541	19809		0.9	No
SLV 12	4.13	5066.08	-16930	-14098	23213	2.565	2.565	-19630	14343	10825	9516	32259	6541	20341		0.88	No
SLV 12	4.35	67.08	-16591	-13816	23255	2.565	2.565	-19237	14264	10712	9516	32259	6541	20228		0.87	No
SLD 12	4.13	3492.9	-20714	-17249	17183	2.565	2.565	-24017	15220	12085	9516	32259	6541	21601		1.26	Si
SLD 12	4.35	-239.62	-20371	-16963	17215	2.565	2.565	-23619	15141	11971	9516	32259	6541	21487		1.25	Si
SLD 8	4.13	3067.05	-19993	-16649	16369	2.565	2.565	-23181	15053	11845	9516	32259	6541	21361		1.3	Si
SLD 8	4.35	-538.85	-19667	-16377	16399	2.565	2.565	-22803	14977	11737	9516	32259	6541	21252		1.3	Si
SLV 15	4.13	3237.33	-25487	-21224	14055	2.565	2.565	-29551	16250	13675	9516	32259	6541	23191		1.65	Si
SLV 15	4.35	280.8	-25099	-20901	14084	2.565	2.565	-29102	16237	13546	9516	32259	6541	23061		1.64	Si
SLV 8	4.13	4403.07	-15803	-13159	21941	2.565	2.565	-18323	14081	10450	9516	32259	6541	19965		0.91	No
SLV 8	4.35	-401.14	-15493	-12901	21980	2.565	2.565	-17963	14009	10346	9516	32259	6541	19862		0.9	No

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.241 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.34	21336	-15323	16.62	1845.54	111.06	Si
SLV 8	179667	0.34	21557	-15482	16.62	1861.52	112.02	Si
SLV 11	179667	0.34	22866	-16422	16.62	1954.87	117.64	Si
SLV 12	179667	0.34	23087	-16581	16.62	1970.41	118.58	Si
SLV 3	179667	0.34	29818	-21415	16.62	2412.71	145.19	Si
SLV 4	179667	0.34	30146	-21651	16.62	2432.77	146.4	Si
SLV 15	179667	0.34	34919	-25079	16.62	2708.2	162.98	Si
SLV 16	179667	0.34	35248	-25314	16.62	2726.05	164.05	Si
SLV 1	179667	0.34	38665	-27769	16.62	2903.34	174.72	Si
SLV 2	179667	0.34	38993	-28004	16.62	2919.57	175.69	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.241 Wa = 0.05 Ta = 0.0052

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-37805	-38183	240	0.522	3945.8	0.992	7.64288	3.06167	Si
SLV 9	-37645	-38025	240	0.523	3929.6	0.992	7.6657	3.06167	Si
SLV 6	-36706	-37056	-252	0.532	3833.8	0.992	7.79997	3.06167	Si
SLV 5	-36547	-36898	-252	0.534	3817.6	0.992	7.82426	3.06167	Si
SLV 14	-31700	-32098	832	0.574	3323.5	0.991	8.41422	3.13485	Si
SLV 13	-31463	-31863	832	0.577	3299.4	0.991	8.46044	3.13485	Si
SLV 2	-28039	-28341	-810	0.629	2950.4	0.99	9.22884	3.13485	Si
SLV 1	-27803	-28105	-810	0.633	2926.3	0.99	9.28814	3.13485	Si
SLV 16	-25336	-25722	846	0.677	2674.9	0.989	9.95013	3.13485	Si
SLV 15	-25099	-25487	846	0.682	2650.8	0.989	10.02221	3.13485	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	21.763	SLU 83	Si
V_SLU	2.426	SLU 83	Si
PF_SLV	3.68	SLV 11	Si
V_SLV	0.863	SLV 11	No
PFFP_SLV	111.061	SLV 7	Si
R_SLV	2.496	SLV 10	Si

Maschio 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.314	-11.003	-0.354	L4	Z medio 353 cm	2.96	0.28	2.86	2.04	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	0.67	489.63	-56065	-0.0001228	0.0003743	0.0035	2.96	27844.33	45397.62	45397.62	92.72	No	Si
SLU 66	2.71	2987.85	-48732	-0.0001155	0.0003743	0.0035	2.96	30470.42	43156.48	43156.48	14.44	No	Si
SLU 67	0.67	346.08	-56336	-0.0001228	0.0003743	0.0035	2.96	27711.22	45464.43	45464.43	131.37	No	Si
SLU 67	2.71	2968.24	-48893	-0.0001158	0.0003743	0.0035	2.96	30433.05	43204.72	43204.72	14.56	No	Si
SLU 71	0.67	534.14	-56355	-0.0001238	0.0003743	0.0035	2.96	27702.04	45468.93	45468.93	85.13	No	Si
SLU 71	2.71	3037.37	-49041	-0.0001165	0.0003743	0.0035	2.96	30397.82	43249.27	43249.27	14.24	No	Si
SLU 79	0.67	496.27	-62537	-0.0001412	0.0003743	0.0035	2.96	23959.82	45128.22	45128.22	90.93	No	Si
SLU 79	2.71	3076.08	-54770	-0.0001323	0.0003743	0.0035	2.96	28445.47	45054.67	45054.67	14.65	No	Si
SLU 69	0.67	537.85	-56719	-0.0001248	0.0003743	0.0035	2.96	27518.83	45555.93	45555.93	84.7	No	Si
SLU 69	2.71	3063.91	-49390	-0.0001176	0.0003743	0.0035	2.96	30311.77	43354.67	43354.67	14.15	No	Si
SLU 72	0.67	390.59	-56626	-0.0001238	0.0003743	0.0035	2.96	27566.17	45533.95	45533.95	116.58	No	Si
SLU 72	2.71	3017.76	-49202	-0.0001169	0.0003743	0.0035	2.96	30358.71	43297.76	43297.76	14.35	No	Si
SLU 77	0.67	499.99	-62901	-0.0001423	0.0003743	0.0035	2.96	23697.66	45098.8	45098.8	90.2	No	Si
SLU 77	2.71	3102.61	-55119	-0.0001334	0.0003743	0.0035	2.96	28289.24	45150.9	45150.9	14.55	No	Si
SLU 68	0.67	246.66	-56153	-0.0001218	0.0003743	0.0035	2.96	27801.67	45419.36	45419.36	184.14	No	Si
SLU 68	2.71	2928.63	-48651	-0.000115	0.0003743	0.0035	2.96	30488.91	43132.23	43132.23	14.73	No	Si
SLU 70	0.67	394.3	-56990	-0.0001249	0.0003743	0.0035	2.96	27379.51	45604.9	45604.9	115.66	No	Si
SLU 70	2.71	3044.29	-49551	-0.0001179	0.0003743	0.0035	2.96	30270.69	43403.44	43403.44	14.26	No	Si
SLU 78	0.67	356.43	-63172	-0.0001424	0.0003743	0.0035	2.96	23499.6	45077.07	45077.07	126.47	No	Si
SLU 78	2.71	3083	-55280	-0.0001337	0.0003743	0.0035	2.96	28215.83	45194.3	45194.3	14.66	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	0.67	11483.56	-21704	-0.0000847	0.0005615	0.0035	2.96		27830.88	27830.88	2.42		Si
SLV 11	2.71	5102.45	-24442	-0.000065	0.0005615	0.0035	2.96		30955.23	30955.23	6.07		Si
SLV 7	0.67	10634.17	-21624	-0.0000809	0.0005615	0.0035	2.96		27739.92	27739.92	2.61		Si
SLV 7	2.71	4712.03	-22674	-0.00006	0.0005615	0.0035	2.96		28931.44	28931.44	6.14		Si
SLD 12	0.67	7149.88	-29839	-0.0000842	0.0005615	0.0035	2.96		36556.49	36556.49	5.11		Si
SLD 12	2.71	3986.7	-29304	-0.0000705	0.0005615	0.0035	2.96		36094.56	36094.56	9.05		Si
SLV 5	0.67	-10717.95	-63332	-0.0001773	0.0005615	0.0035	2.96		61197.68	61197.68	5.71		Si
SLV 5	2.71	-826.28	-49579	-0.0001004	0.0005615	0.0035	2.96		54198.63	54198.63	65.59		Si
SLD 7	0.67	6713.29	-29577	-0.0000819	0.0005615	0.0035	2.96		36329.79	36329.79	5.41		Si
SLD 7	2.71	3722.8	-28093	-0.000067	0.0005615	0.0035	2.96		35054.88	35054.88	9.42		Si
SLV 12	0.67	11315.14	-22038	-0.0000846	0.0005615	0.0035	2.96		28208.76	28208.76	2.49		Si
SLV 12	2.71	5123.9	-24567	-0.0000654	0.0005615	0.0035	2.96		31099.32	31099.32	6.07		Si
SLD 8	0.67	6607.34	-29787	-0.0000819	0.0005615	0.0035	2.96		36511.16	36511.16	5.53		Si
SLD 8	2.71	3736.29	-28172	-0.0000672	0.0005615	0.0035	2.96		35122.24	35122.24	9.4		Si
SLD 11	0.67	7255.83	-29629	-0.0000842	0.0005615	0.0035	2.96		36375.07	36375.07	5.01		Si
SLD 11	2.71	3973.2	-29225	-0.0000703	0.0005615	0.0035	2.96		36026.73	36026.73	9.07		Si
SLV 8	0.67	10465.75	-21957	-0.0000809	0.0005615	0.0035	2.96		28117.59	28117.59	2.69		Si
SLV 8	2.71	4733.48	-22799	-0.0000603	0.0005615	0.0035	2.96		29073.93	29073.93	6.14		Si
SLV 6	0.67	-10886.38	-63666	-0.0001789	0.0005615	0.0035	2.96		61364.43	61364.43	5.64		Si
SLV 6	2.71	-804.83	-49704	-0.0001006	0.0005615	0.0035	2.96		54285.69	54285.69	67.45		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	0.67	308.21	-62519	-52060	10504	2.96	2.96	-62814	10833	24813	30925	24818	7548	32366	No	3.08	Si
SLU 75	2.71	3006.94	-54622	-45484	11083	2.96	2.96	-54880	10833	22183	30925	24818	7548	32366	No	2.92	Si
SLU 79	0.67	496.27	-62537	-52075	10838	2.96	2.96	-62832	10833	24819	30925	24818	7548	32366	No	2.99	Si
SLU 79	2.71	3076.08	-54770	-45608	11422	2.96	2.96	-55028	10833	22232	30925	24818	7548	32366	No	2.83	Si
SLU 83	0.67	431.82	-64533	-53738	11162	2.96	2.96	-64838	10833	25484	30925	24818	7548	32366	No	2.9	Si
SLU 83	2.71	3016.61	-56567	-47104	11795	2.96	2.96	-56834	10833	22831	30925	24818	7548	32366	No	2.74	Si
SLU 81	0.67	383.6	-63880	-53194	11051	2.96	2.96	-64182	10833	25266	30925	24818	7548	32366	No	2.93	Si
SLU 81	2.71	2940.56	-55908	-46556	11676	2.96	2.96	-56173	10833	22611	30925	24818	7548	32366	No	2.77	Si
SLU 74	0.67	451.76	-62248	-51835	10786	2.96	2.96	-62542	10833	24723	30925	24818	7548	32366	No	3	Si
SLU 74	2.71	3026.56	-54461	-45350	11365	2.96	2.96	-54718	10833	22129	30925	24818	7548	32366	No	2.85	Si
SLU 77	0.67	499.99	-62901	-52379	10897	2.96	2.96	-63198	10833	24940	30925	24818	7548	32366	No	2.97	Si
SLU 77	2.71	3102.61	-55119	-45898	11485	2.96	2.96	-55379	10833	22348	30925	24818	7548	32366	No	2.82	Si
SLU 82	0.67	240.05	-64151	-53419	10768	2.96	2.96	-64454	10833	25357	30925	24818	7548	32366	No	3.01	Si
SLU 82	2.71	2920.94	-56069	-46690	11394	2.96	2.96	-56334	10833	22665	30925	24818	7548	32366	No	2.84	Si
SLU 84	0.67	288.27	-64804	-53963	10880	2.96	2.96	-65110	10833	25574	30925	24818	7548	32366	No	2.97	Si
SLU 84	2.71	2997	-56728	-47238	11513	2.96	2.96	-56996	10833	22884	30925	24818	7548	32366	No	2.81	Si
SLU 78	0.67	356.43	-63172	-52604	10615	2.96	2.96	-63470	10833	25031	30925	24818	7548	32366	No	3.05	Si
SLU 78	2.71	3083	-55280	-46032	11203	2.96	2.96	-55541	10833	22402	30925	24818	7548	32366	No	2.89	Si
SLU 80	0.67	352.72	-62808	-52301	10555	2.96	2.96	-63105	10833	24909	30925	24818	7548	32366	No	3.07	Si
SLU 80	2.71	3056.46	-54931	-45741	11140	2.96	2.96	-55190	10833	22286	30925	24818	7548	32366	No	2.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.67	5042.15	-36315	-30240	14298	2.96	2.96	-36487	16250	18080	30925	37227	7548	44775		3.13	Si
SLV 15	2.71	3614.34	-35891	-29887	14137	2.96	2.96	-36061	16250	17939	30925	37227	7548	44775		3.17	Si
SLV 16	0.67	4791.99	-36811	-30653	14143	2.96	2.96	-36985	16250	18245	30925	37227	7548	44775		3.17	Si
SLV 16	2.71	3646.2	-36077	-30042	14006	2.96	2.96	-36248	16250	18001	30925	37227	7548	44775		3.2	Si
SLD 12	0.67	7149.88	-29839	-24848	18262	2.96	2.96	-29980	16250	15923	30925	37227	7548	44775		2.45	Si
SLD 12	2.71	3986.7	-29304	-24402	18739	2.96	2.96	-29443	16250	15745	30925	37227	7548	44775		2.39	Si
SLD 8	0.67	6607.34	-29787	-24804	17612	2.96	2.96	-29928	16250	15906	30925	37227	7548	44775		2.54	Si
SLD 8	2.71	3736.29	-28172	-23459	18321	2.96	2.96	-28305	16078	15368	30925	37227	7548	44775		2.44	Si
SLD 7	0.67	6713.29	-29577	-24629	17678	2.96	2.96	-29717	16250	15836	30925	37227	7548	44775		2.53	Si
SLD 7	2.71	3722.8	-28093	-23394	18376	2.96	2.96	-28226	16062	15342	30925	37227	7548	44775		2.44	Si
SLV 7	0.67	10634.17	-21624	-18006	23925	2.96	2.96	-21726	14762	13187	30925	37227	7548	44112		1.84	Si
SLV 7	2.71	4712.03	-22674	-18881	24812	2.96	2.96	-22781	14973	13537	30925	37227	7548	44462		1.79	Si
SLV 11	0.67	11483.56	-21704	-18073	24941	2.96	2.8527	-21807	14778	13214	30925	37227	7548	44139		1.77	Si
SLV 11	2.71	5102.45	-24442	-20353	25463	2.96	2.96	-24558	15328	14126	30925	37227	7548	44775		1.76	Si
SLV 12	0.67	11315.14	-22038	-18351	24837	2.96	2.8997	-22142	14845	13325	30925	37227	7548	44250		1.78	Si
SLV 12	2.71	5123.9	-24567	-20458	25375	2.96	2.96	-24684	15353	14167	30925	37227	7548	44775		1.76	Si
SLD 11	0.67	7255.83	-29629	-24673	18328	2.96	2.96	-29769	16250	15853	30925	37227	7548	44775		2.44	Si
SLD 11	2.71	3973.2	-29225	-24336	18794	2.96	2.96	-29363	16250	15719	30925	37227	7548	44775		2.38	Si
SLV 8	0.67	10465.75	-21957	-18284	23821	2.96	2.96	-22061	14829	13298	30925	37227	7548	44224		1.86	Si
SLV 8	2.71	4733.48	-22799	-18985	24725	2.96	2.96	-22907	14998	13579	30925	37227	7548	44504		1.8	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.69 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.28	24653	-20433	151.93	2398.77	15.79	Si
SLV 8	179667	0.28	24926	-20659	151.93	2420.17	15.93	Si
SLV 11	179667	0.28	26761	-22179	151.93	2561	16.86	Si
SLV 12	179667	0.28	27034	-22406	151.93	2581.53	16.99	Si
SLV 3	179667	0.28	38134	-31605	151.93	3319.88	21.85	Si
SLV 4	179667	0.28	38540	-31942	151.93	3343.31	22.01	Si
SLV 15	179667	0.28	45160	-37428	151.93	3690.46	24.29	Si
SLV 16	179667	0.28	45565	-37764	151.93	3709.56	24.42	Si
SLV 1	179667	0.28	51853	-42976	151.93	3973.76	26.16	Si
SLV 2	179667	0.28	52259	-43312	151.93	3988.73	26.25	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.69 Wa = 0.05 Ta = 0.0488

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-44149	-49323	222	0.406	4829.1	0.978	6.02496	4.23089	Si
SLV 13	-43963	-48828	222	0.407	4810.2	0.978	6.04695	4.23089	Si
SLV 2	-38255	-49055	-325	0.455	4228.7	0.976	6.78018	4.23089	Si
SLV 1	-38069	-48560	-326	0.457	4209.8	0.975	6.80874	4.23089	Si
SLV 10	-51472	-63747	35	0.36	5575.3	0.981	5.33793	3.29973	Si
SLV 9	-51347	-63413	35	0.361	5562.5	0.981	5.34902	3.29973	Si
SLV 6	-49704	-63666	-129	0.369	5395.1	0.981	5.47181	3.29973	Si
SLV 5	-49579	-63332	-129	0.37	5382.4	0.981	5.48346	3.29973	Si
SLV 16	-36077	-36811	218	0.481	4006.9	0.974	7.1762	4.23089	Si
SLV 15	-35891	-36315	218	0.483	3988	0.974	7.20871	4.23089	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.15	SLU 69	Si
V_SLU	2.744	SLU 83	Si
PF_SLV	2.424	SLV 11	Si
V_SLV	1.758	SLV 11	Si
PFFP_SLV	15.789	SLV 7	Si
R_SLV	1.424	SLV 14	Si

Maschio 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	0.906	-11.003	1.141	L4	L5	0.235	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	0.67	-108.52	-6263	-0.0003266	0.0003743	0.0035	0.188	47.89	264.9	264.9	2.44	No	Si
SLU 76	4.35	75.48	-4974	-0.0002067	0.0003743	0.0035	0.188	150.5	286.72	286.72	3.8	No	Si
SLU 75	0.67	-105.29	-6306	-0.0003254	0.0003743	0.0035	0.188	43.53	263.58	263.58	2.5	No	Si
SLU 75	4.35	72	-5010	-0.000205	0.0003743	0.0035	0.188	148.44	286.53	286.53	3.98	No	Si
SLU 77	0.67	-100.3	-6390	-0.0003252	0.0003743	0.0035	0.188	34.63	260.94	260.94	2.6	No	Si
SLU 77	4.35	66.27	-5091	-0.0002033	0.0003743	0.0035	0.188	143.61	286.12	286.12	4.32	No	Si
SLU 83	0.67	-105.12	-6519	-0.0003456	0.0003743	0.0035	0.188	20.58	256.94	256.94	2.44	No	Si
SLU 83	4.35	74.75	-5200	-0.0002168	0.0003743	0.0035	0.188	136.74	285.62	285.62	3.82	No	Si
SLU 80	0.67	-105.37	-6346	-0.0003292	0.0003743	0.0035	0.188	39.26	262.3	262.3	2.49	No	Si
SLU 80	4.35	71.57	-5055	-0.0002067	0.0003743	0.0035	0.188	145.78	286.3	286.3	4	No	Si
SLU 84	0.67	-110.62	-6515	-0.0003551	0.0003743	0.0035	0.188	21.03	257.07	257.07	2.32	No	Si
SLU 84	4.35	80.2	-5199	-0.0002223	0.0003743	0.0035	0.188	136.8	285.63	285.63	3.56	No	Si
SLU 81	0.67	-104.6	-6438	-0.0003366	0.0003743	0.0035	0.188	29.43	259.44	259.44	2.48	No	Si
SLU 81	4.35	75.03	-5120	-0.0002132	0.0003743	0.0035	0.188	141.82	285.99	285.99	3.81	No	Si
SLU 78	0.67	-105.8	-6386	-0.0003336	0.0003743	0.0035	0.188	35.05	261.07	261.07	2.47	No	Si
SLU 78	4.35	71.72	-5090	-0.0002085	0.0003743	0.0035	0.188	143.67	286.13	286.13	3.99	No	Si
SLU 73	0.67	-108	-6182	-0.0003188	0.0003743	0.0035	0.188	56.02	267.43	267.43	2.48	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	4.35	75.76	-4894	-0.0002032	0.0003743	0.0035	0.188	154.95	287.16	287.16	3.79	No	Si
SLU 82	0.67	-110.1	-6434	-0.0003456	0.0003743	0.0035	0.188	29.87	259.56	259.56	2.36	No	Si
SLU 82	4.35	80.48	-5119	-0.0002186	0.0003743	0.0035	0.188	141.88	285.99	285.99	3.55	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.67	-438.74	-3875	-0.0409781	0.0005615	0.0035	0.188		328.38	328.38	0.75		No
SLV 5	4.35	357.2	-2913	0	0.0005615	0.0035	0.188		271.29	271.29	0.76		No
SLV 7	0.67	242.88	-4728	-0.0003256	0.0005615	0.0035	0.188		367.34	367.34	1.51		Si
SLV 7	4.35	-310.74	-3757	-0.0008594	0.0005615	0.0035	0.188		321.77	321.77	1.04		Si
SLD 5	0.67	-298.44	-4045	-0.0005	0.0005615	0.0035	0.188		338.1	338.1	1.13		Si
SLD 5	4.35	236.23	-3088	-0.0003513	0.0005615	0.0035	0.188		283.22	283.22	1.2		Si
SLD 6	0.67	-301.06	-4058	-0.0005137	0.0005615	0.0035	0.188		338.83	338.83	1.13		Si
SLD 6	4.35	237.93	-3086	-0.0003588	0.0005615	0.0035	0.188		283.12	283.12	1.19		Si
SLV 10	0.67	-374.49	-3926	-0.0083548	0.0005615	0.0035	0.188		331.24	331.24	0.88		No
SLV 10	4.35	385.47	-3007	0	0.0005615	0.0035	0.188		277.85	277.85	0.72		No
SLD 10	0.67	-257.42	-4077	-0.0003491	0.0005615	0.0035	0.188		339.94	339.94	1.32		Si
SLD 10	4.35	254.26	-3149	-0.0004321	0.0005615	0.0035	0.188		287.01	287.01	1.13		Si
SLV 8	0.67	238.71	-4748	-0.00032	0.0005615	0.0035	0.188		368.11	368.11	1.54		Si
SLV 8	4.35	-308.05	-3755	-0.0007668	0.0005615	0.0035	0.188		321.63	321.63	1.04		Si
SLV 9	0.67	-370.33	-3905	-0.0080788	0.0005615	0.0035	0.188		330.09	330.09	0.89		No
SLV 9	4.35	382.77	-3010	0	0.0005615	0.0035	0.188		278.03	278.03	0.73		No
SLV 6	0.67	-442.91	-3895	-0.0463475	0.0005615	0.0035	0.188		329.52	329.52	0.74		No
SLV 6	4.35	359.9	-2910	0	0.0005615	0.0035	0.188		271.11	271.11	0.75		No
SLD 9	0.67	-254.8	-4065	-0.0003433	0.0005615	0.0035	0.188		339.21	339.21	1.33		Si
SLD 9	4.35	252.57	-3151	-0.0004209	0.0005615	0.0035	0.188		287.1	287.1	1.14		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.67	-105.8	-6386	-5318	1574	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.31	Si
SLU 78	4.35	71.72	-5090	-4238	-742	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.77	Si
SLU 80	0.67	-105.37	-6346	-5285	1563	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.32	Si
SLU 80	4.35	71.57	-5055	-4209	-738	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.79	Si
SLU 84	0.67	-110.62	-6515	-5425	1595	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.29	Si
SLU 84	4.35	80.2	-5199	-4329	-791	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.6	Si
SLU 81	0.67	-104.6	-6438	-5361	1601	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.28	Si
SLU 81	4.35	75.03	-5120	-4263	-754	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.73	Si
SLU 83	0.67	-105.12	-6519	-5429	1624	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.27	Si
SLU 83	4.35	74.75	-5200	-4330	-758	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.71	Si
SLU 75	0.67	-105.29	-6306	-5251	1550	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.33	Si
SLU 75	4.35	72	-5010	-4172	-737	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.79	Si
SLU 74	0.67	-99.79	-6310	-5254	1579	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.3	Si
SLU 74	4.35	66.54	-5011	-4172	-705	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.92	Si
SLU 79	0.67	-99.87	-6350	-5288	1592	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.29	Si
SLU 79	4.35	66.12	-5056	-4210	-705	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.92	Si
SLU 82	0.67	-110.1	-6434	-5358	1572	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.31	Si
SLU 82	4.35	80.48	-5119	-4262	-787	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.61	Si
SLU 77	0.67	-100.3	-6390	-5321	1603	0.188	0.235	0	0	0	40441	1576	479	2056	No	1.28	Si
SLU 77	4.35	66.27	-5091	-4239	-709	0.188	0.235	0	0	0	40441	1576	479	2056	No	2.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0.67	311.3	-4758	-3962	3114	0.188	0.1562	0	0	0	40441	2364	479	2844		0.91	No
SLV 11	4.35	-285.18	-3854	-3209	1466	0.188	0.1305	0	0	0	40441	2364	479	2844		1.94	Si
SLV 10	0.67	-374.49	-3926	-3269	-589	0.188	0.0663	0	0	0	40441	2364	479	2844		4.83	Si
SLV 10	4.35	385.47	-3007	-2504	-2532	0.188	0	0	0	0	40441	2364	479	2844		1.12	Si
SLV 12	0.67	307.13	-4779	-3979	3099	0.188	0.1597	0	0	0	40441	2364	479	2844		0.92	No
SLV 12	4.35	-282.48	-3852	-3207	1450	0.188	0.1325	0	0	0	40441	2364	479	2844		1.96	Si
SLV 6	0.67	-442.91	-3895	-3244	-927	0.188	0.0114	0	0	0	40441	2364	479	2844		3.07	Si
SLV 6	4.35	359.9	-2910	-2423	-2344	0.188	0	0	0	0	40441	2364	479	2844		1.21	Si
SLV 8	0.67	238.71	-4748	-3954	2760	0.188	0.2017	0	0	0	40441	2364	479	2844		1.03	Si
SLV 8	4.35	-308.05	-3755	-3127	1639	0.188	0.1064	0	0	0	40441	2364	479	2844		1.74	Si
SLV 9	0.67	-370.33	-3905	-3252	-573	0.188	0.068	0	0	0	40441	2364	479	2844		4.96	Si
SLV 9	4.35	382.77	-3010	-2506	-2516	0.188	0	0	0	0	40441	2364	479	2844		1.13	Si
SLD 11	0.67	169.45	-4595	-3827	2355	0.188	0.235	0	0	0	40441	2364	479	2844		1.21	Si
SLD 11	4.35	-163.21	-3678	-3062	746	0.188	0.2194	0	0	0	40441	2364	479	2844		3.81	Si
SLD 12	0.67	166.83	-4608	-3837	2345	0.188	0.235	0	0	0	40441	2364	479	2844		1.21	Si
SLD 12	4.35	-161.51	-3676	-3061	736	0.188	0.2207	0	0	0	40441	2364	479	2844		3.86	Si
SLV 5	0.67	-438.74	-3875	-3227	-912	0.188	0.0128	0	0	0	40441	2364	479	2844		3.12	Si
SLV 5	4.35	357.2	-2913	-2425	-2328	0.188	0	0	0	0	40441	2364	479	2844		1.22	Si
SLV 7	0.67	242.88	-4728	-3937	2776	0.188	0.1984	0	0	0	40441	2364	479	2844		1.02	Si
SLV 7	4.35	-310.74	-3757	-3129	1655	0.188	0.1044	0	0	0	40441	2364	479	2844		1.72	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.3	26719	-1758	21.22	203.07	9.57	Si
SLV 1	179667	0.3	26876	-1768	21.22	204.01	9.61	Si
SLV 4	179667	0.3	30206	-1988	21.22	223.22	10.52	Si
SLV 3	179667	0.3	30363	-1998	21.22	224.09	10.56	Si
SLV 6	179667	0.3	38458	-2530	21.22	265.06	12.49	Si
SLV 5	179667	0.3	38563	-2537	21.22	265.54	12.51	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	50079	-3295	21.22	310.05	14.61	Si
SLV 7	179667	0.3	50185	-3302	21.22	310.38	14.62	Si
SLV 10	179667	0.3	51983	-3420	21.22	315.86	14.88	Si
SLV 9	179667	0.3	52089	-3427	21.22	316.17	14.9	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-3672	-4490	5	0.378	408	0.974	5.64153	6.24893	No
SLV 16	-3669	-4520	5	0.378	407.6	0.974	5.64631	6.24893	No
SLV 13	-3419	-4234	4	0.402	382.2	0.973	6.00867	6.24893	No
SLV 14	-3415	-4264	4	0.402	381.8	0.973	6.01419	6.24893	No
SLV 3	-3349	-4389	-3	0.41	375.1	0.972	6.12251	6.24893	No
SLV 4	-3345	-4419	-3	0.41	374.7	0.972	6.12905	6.24893	No
SLV 1	-3096	-4133	-4	0.438	349.3	0.97	6.55633	6.24893	Si
SLV 2	-3092	-4163	-4	0.438	348.9	0.97	6.56389	6.24893	Si
SLV 11	-3854	-4758	3	0.363	426.5	0.975	5.41595	4.03181	Si
SLV 12	-3852	-4779	3	0.364	426.2	0.975	5.41888	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.324	SLU 84	Si
V_SLU	1.265	SLU 83	Si
PF_SLV	0.721	SLV 10	No
V_SLV	0.913	SLV 11	No
PFFP_SLV	9.569	SLV 2	Si
R_SLV	0.903	SLV 15	No

Maschio 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.661	L4	L5	5.52	0.2	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	0.67	-4319.57	-70713	-0.0000971	0.0004492	0.0035	5.52	92859.41	163164.13	163164.13	37.77	No	Si
SLU 75	4.35	-13258.99	-52983	-0.0000855	0.0004492	0.0035	5.52	88796.57	135166.68	135166.68	10.19	No	Si
SLU 81	0.67	-4111.55	-72116	-0.0000987	0.0004492	0.0035	5.52	92631.54	165073.73	165073.73	40.15	No	Si
SLU 81	4.35	-13381.55	-53581	-0.0000865	0.0004492	0.0035	5.52	89143.31	136204.95	136204.95	10.18	No	Si
SLU 76	0.67	-4523.92	-69838	-0.0000961	0.0004492	0.0035	5.52	92960.65	161871.74	161871.74	35.78	No	Si
SLU 76	4.35	-13375.48	-52375	-0.0000848	0.0004492	0.0035	5.52	88429.37	134112.05	134112.05	10.03	No	Si
SLU 73	0.67	-4575.26	-68766	-0.0000947	0.0004492	0.0035	5.52	93041.97	160288.89	160288.89	35.03	No	Si
SLU 73	4.35	-13373.23	-51342	-0.0000833	0.0004492	0.0035	5.52	87770.58	132319.46	132319.46	9.89	No	Si
SLU 61	0.67	-4621.31	-63526	-0.0000873	0.0004492	0.0035	5.52	92762.91	152539.08	152539.08	33.01	No	Si
SLU 61	4.35	-12434.71	-47210	-0.0000763	0.0004492	0.0035	5.52	84697.61	124902.24	124902.24	10.04	No	Si
SLU 84	0.67	-4331.56	-72695	-0.0000999	0.0004492	0.0035	5.52	92514.19	165853.37	165853.37	38.29	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	4.35	-13692.68	-54355	-0.000088	0.0004492	0.0035	5.52	89570.54	137549.35	137549.35	10.05	No	Si
SLU 82	0.67	-4382.9	-71623	-0.0000985	0.0004492	0.0035	5.52	92720.78	164409.07	164409.07	37.51	No	Si
SLU 82	4.35	-13690.43	-53323	-0.0000866	0.0004492	0.0035	5.52	88995.43	135756.75	135756.75	9.92	No	Si
SLU 52	0.67	-4813.67	-60669	-0.0000836	0.0004492	0.0035	5.52	92137.43	147949.39	147949.39	30.74	No	Si
SLU 52	4.35	-12117.51	-45229	-0.0000731	0.0004492	0.0035	5.52	82977.39	121208.92	121208.92	10	No	Si
SLU 63	0.67	-4569.97	-64598	-0.0000887	0.0004492	0.0035	5.52	92911.37	154131.06	154131.06	33.73	No	Si
SLU 63	4.35	-12436.96	-48242	-0.0000777	0.0004492	0.0035	5.52	85531.05	126828.36	126828.36	10.2	No	Si
SLU 55	0.67	-4762.33	-61741	-0.000085	0.0004492	0.0035	5.52	92411.17	149670.79	149670.79	31.43	No	Si
SLU 55	4.35	-12119.76	-46262	-0.0000745	0.0004492	0.0035	5.52	83894.53	123135.04	123135.04	10.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	0.67	-8541.92	-39525	-0.0000592	0.0006738	0.0035	5.52		113703.24	113703.24	13.31		Si
SLV 14	4.35	-20105.92	-30079	-0.0000629	0.0006738	0.0035	5.52		92945.83	92945.83	4.62		Si
SLV 5	0.67	-23518.53	-14874	-0.0000558	0.0006738	0.0035	4.416		56790.78	56790.78	2.41		Si
SLV 5	4.35	-33829.95	-16962	-0.0000994	0.0006738	0.0035	4.416		61883.9	61883.9	1.83		Si
SLD 10	0.67	-15726.23	-27890	-0.0000542	0.0006738	0.0035	5.52		87863.09	87863.09	5.59		Si
SLD 10	4.35	-25881.25	-24049	-0.0000635	0.0006738	0.0035	5.52		78945.89	78945.89	3.05		Si
SLV 13	0.67	-8106.13	-39808	-0.000059	0.0006738	0.0035	5.52		114292.15	114292.15	14.1		Si
SLV 13	4.35	-19418.56	-30407	-0.0000624	0.0006738	0.0035	5.52		93706.31	93706.31	4.83		Si
SLV 10	0.67	-23238.7	-15237	-0.0000546	0.0006738	0.0035	5.52		57676.32	57676.32	2.48		Si
SLV 10	4.35	-36068.72	-16564	-0.0001264	0.0006738	0.0035	4.416		60914.23	60914.23	1.69		Si
SLV 6	0.67	-23811.93	-14684	-0.0000571	0.0006738	0.0035	4.416		56327.05	56327.05	2.37		Si
SLV 6	4.35	-34292.73	-16741	-0.0001054	0.0006738	0.0035	4.416		61345.4	61345.4	1.79		Si
SLD 6	0.67	-16057.85	-27540	-0.0000543	0.0006738	0.0035	5.52		87050.04	87050.04	5.42		Si
SLD 6	4.35	-24737.62	-24158	-0.0000619	0.0006738	0.0035	5.52		79197.4	79197.4	3.2		Si
SLD 9	0.67	-15541.66	-28010	-0.0000542	0.0006738	0.0035	5.52		88140.71	88140.71	5.67		Si
SLD 9	4.35	-25590.13	-24188	-0.0000632	0.0006738	0.0035	5.52		79268.28	79268.28	3.1		Si
SLV 9	0.67	-22945.3	-15427	-0.0000536	0.0006738	0.0035	5.52		58140.06	58140.06	2.53		Si
SLV 9	4.35	-35605.94	-16785	-0.0001175	0.0006738	0.0035	4.416		61452.73	61452.73	1.73		Si
SLD 5	0.67	-15873.28	-27660	-0.0000542	0.0006738	0.0035	5.52		87327.67	87327.67	5.5		Si
SLD 5	4.35	-24446.5	-24297	-0.0000616	0.0006738	0.0035	5.52		79519.78	79519.78	3.25		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.67	-4111.55	-72116	-46154	-16086	5.52	5.52	-41807	10833	24839	115546	39675	28152	67827	No	4.22	Si
SLU 81	4.35	-13381.55	-53581	-34292	-17229	5.52	5.52	-31061	10833	20094	115546	39675	28152	67827	No	3.94	Si
SLU 73	0.67	-4575.26	-68766	-44010	-16544	5.52	5.52	-39864	10833	23981	115546	39675	28152	67827	No	4.1	Si
SLU 73	4.35	-13373.23	-51342	-32859	-17625	5.52	5.52	-29764	10833	19521	115546	39675	28152	67827	No	3.85	Si
SLU 76	0.67	-4523.92	-69838	-44696	-16588	5.52	5.52	-40486	10833	24255	115546	39675	28152	67827	No	4.09	Si
SLU 76	4.35	-13375.48	-52375	-33520	-17687	5.52	5.52	-30362	10833	19785	115546	39675	28152	67827	No	3.83	Si
SLU 80	0.67	-4291.68	-71238	-45592	-16219	5.52	5.52	-41297	10833	24614	115546	39675	28152	67827	No	4.18	Si
SLU 80	4.35	-13171.81	-53580	-34291	-17340	5.52	5.52	-31061	10833	20093	115546	39675	28152	67827	No	3.91	Si
SLU 84	0.67	-4331.56	-72695	-46525	-16752	5.52	5.52	-42142	10833	24987	115546	39675	28152	67827	No	4.05	Si
SLU 84	4.35	-13692.68	-54355	-34787	-17903	5.52	5.52	-31510	10833	20292	115546	39675	28152	67827	No	3.79	Si
SLU 77	0.67	-3996.87	-72277	-46258	-15748	5.52	5.52	-41900	10833	24880	115546	39675	28152	67827	No	4.31	Si
SLU 77	4.35	-12952.36	-54274	-34735	-16887	5.52	5.52	-31463	10833	20271	115546	39675	28152	67827	No	4.02	Si
SLU 82	0.67	-4382.9	-71623	-45839	-16708	5.52	5.52	-41521	10833	24712	115546	39675	28152	67827	No	4.06	Si
SLU 82	4.35	-13690.43	-53323	-34126	-17842	5.52	5.52	-30912	10833	20028	115546	39675	28152	67827	No	3.8	Si
SLU 83	0.67	-4060.21	-73188	-46840	-16131	5.52	5.52	-42428	10833	25113	115546	39675	28152	67827	No	4.2	Si
SLU 83	4.35	-13383.8	-54614	-34953	-17290	5.52	5.52	-31660	10833	20358	115546	39675	28152	67827	No	3.92	Si
SLU 75	0.67	-4319.57	-70713	-45256	-16324	5.52	5.52	-40993	10833	24479	115546	39675	28152	67827	No	4.15	Si
SLU 75	4.35	-13258.99	-52983	-33909	-17438	5.52	5.52	-30715	10833	19941	115546	39675	28152	67827	No	3.89	Si
SLU 78	0.67	-4268.23	-71784	-45942	-16369	5.52	5.52	-41614	10833	24754	115546	39675	28152	67827	No	4.14	Si
SLU 78	4.35	-13261.23	-54015	-34570	-17500	5.52	5.52	-31313	10833	20205	115546	39675	28152	67827	No	3.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	0.67	-15873.28	-27660	-17702	-33654	5.52	5.52	-16035	15707	17340	115546	59513	28152	87665		2.6	Si
SLD 5	4.35	-24446.5	-24297	-15550	-33878	5.52	5.2615	-14876	15475	16284	115546	59513	28152	87665		2.59	Si
SLV 6	0.67	-23811.93	-14684	-9398	-48396	4.416	3.415	0	0	0	115546	47610	22522	70132		1.45	Si
SLV 6	4.35	-34292.73	-16741	-10714	-48286	4.416	2.1346	0	0	0	115546	47610	22522	70132		1.45	Si
SLV 10	0.67	-23238.7	-15237	-9752	-52476	5.52	3.7045	-13224	15146	13467	115546	59513	28152	87665		1.67	Si
SLV 10	4.35	-36068.72	-16564	-10601	-51937	4.416	1.7474	0	0	0	115546	47610	22522	70132		1.35	Si
SLD 10	0.67	-15726.23	-27890	-17850	-36802	5.52	5.52	-16168	15734	17370	115546	59513	28152	87665		2.38	Si
SLD 10	4.35	-25881.25	-24049	-15392	-36785	5.52	5.0515	-15331	15566	15727	115546	59513	28152	87665		2.38	Si
SLD 9	0.67	-15541.66	-28010	-17926	-36213	5.52	5.52	-16238	15748	17385	115546	59513	28152	87665		2.42	Si
SLD 9	4.35	-25590.13	-24188	-15480	-36199	5.52	5.1061	-15257	15551	15882	115546	59513	28152	87665		2.42	Si
SLV 14	0.67	-8541.92	-39525	-25296	-30123	5.52	5.52	-22913	16250	19684	115546	59513	28152	87665		2.91	Si
SLV 14	4.35	-20105.92	-30079	-19251	-29840	5.52	5.52	-17437	15987	17650	115546	59513	28152	87665		2.94	Si
SLV 5	0.67	-23518.53	-14874	-9519	-47461	4.416	3.5364	0	0	0	115546	47610	22522	70132		1.48	Si
SLV 5	4.35	-33829.95	-16962	-10855	-47353	4.416	2.2965	0	0	0	115546	47610	22522	70132		1.48	Si
SLD 6	0.67	-16057.85	-27540	-17626	-34242	5.52	5.52	-15965	15693	17325	115546	59513	28152	87665		2.56	Si
SLD 6	4.35	-24737.62	-24158	-15461	-34464	5.52	5.208	-14942	15488	16133	115546	59513	28152	87665		2.54	Si
SLV 7	0.67	16764.95	-82558	-52837	30652	5.52	5.52	-47860	16250	30700	115546	59513	28152	87665		2.86	Si
SLV 7	4.35	18018.83	-56319	-36044	28595	5.52	5.52	-32649	16250	23983	115546	59513	28152	87665		3.07	Si
SLV 9	0.67	-22945.3	-15427	-9873	-51540	5.52	3.8179	-12993	15100	13515	115546	59513	28152	87665		1.7	Si
SLV 9	4.35	-35605.94	-16785	-10742	-51004	4.416	1.916	0	0	0	115546	47610	22522	70132		1.38	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-20663	0.3	364.76	1855.32	2877.93	2366.63	6.49	Si
SLV 10	-20782	0.3	364.76	1864.74	2891.26	2378	6.52	Si
SLV 5	-20822	0.3	364.76	1867.93	2895.77	2381.85	6.53	Si
SLV 9	-20940	0.3	364.76	1877.33	2908.99	2393.16	6.56	Si
SLV 2	-38154	0.3	364.76	3095.94	4796.43	3946.19	10.82	Si
SLV 1	-38389	0.3	364.76	3110.59	4821.58	3966.08	10.87	Si
SLV 14	-38549	0.3	364.76	3120.47	4838.6	3979.53	10.91	Si
SLV 13	-38784	0.3	364.76	3135.02	4863.75	3999.39	10.96	Si
SLV 4	-53297	0.3	364.76	3925.85	6408.92	5167.39	14.17	Si
SLV 3	-53532	0.3	364.76	3936.97	6433.93	5185.45	14.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.04 Ta = 0.1131

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-42804	-58269	-858	0.678	4930	0.965	10.21388	8.93783	Si
SLV 15	-42215	-60113	1053	0.682	4870.1	0.965	10.28024	8.93783	Si
SLV 4	-42476	-57987	-860	0.683	4896.6	0.965	10.28529	8.93783	Si
SLV 16	-41887	-59831	1051	0.687	4836.7	0.964	10.35431	8.93783	Si
SLV 1	-30996	-37964	-1034	0.895	3729.2	0.955	13.62061	8.93783	Si
SLV 2	-30669	-37682	-1036	0.903	3695.8	0.955	13.75115	8.93783	Si
SLV 13	-30407	-39808	877	0.915	3669.3	0.954	13.9286	8.93783	Si
SLV 14	-30079	-39525	875	0.923	3636	0.954	14.06626	8.93783	Si
SLV 11	-56142	-83111	588	0.538	6288	0.972	8.0359	4.76394	Si
SLV 12	-55922	-82921	587	0.539	6265.5	0.972	8.06526	4.76394	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.894	SLU 73	Si
V_SLU	3.789	SLU 84	Si
PF_SLV	1.689	SLV 10	Si
V_SLV	1.35	SLV 10	Si
PFFP_SLV	6.488	SLV 6	Si
R_SLV	1.143	SLV 3	Si

Maschio 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-10.863	-3.169	L4	L5	1.42	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.67	5020.93	-10480	-0.0002026	0.0003743	0.0035	1.42	5514.67	6079.64	6079.64	1.21	No	Si
SLU 78	2.77	-1525.17	-19684	-0.0001128	0.0003743	0.0035	1.42	7179.98	9485.18	9485.18	6.22	No	Si
SLU 82	0.67	5121.06	-10631	-0.0002099	0.0003743	0.0035	1.42	5565.95	6140.7	6140.7	1.2	No	Si
SLU 82	2.77	-1601.02	-20035	-0.0001162	0.0003743	0.0035	1.42	7184.66	9574.51	9574.51	5.98	No	Si
SLU 76	0.67	4971.51	-10356	-0.0002004	0.0003743	0.0035	1.42	5471.87	6029.58	6029.58	1.21	No	Si
SLU 76	2.77	-1526.24	-19439	-0.0001115	0.0003743	0.0035	1.42	7174.13	9423.51	9423.51	6.17	No	Si
SLU 75	0.67	4984.39	-10382	-0.0002012	0.0003743	0.0035	1.42	5480.91	6040.09	6040.09	1.21	No	Si
SLU 75	2.77	-1537.05	-19516	-0.0001121	0.0003743	0.0035	1.42	7176.19	9442.75	9442.75	6.14	No	Si
SLU 84	0.67	5157.6	-10729	-0.0002114	0.0003743	0.0035	1.42	5598.85	6180.54	6180.54	1.2	No	Si
SLU 84	2.77	-1589.14	-20204	-0.0001168	0.0003743	0.0035	1.42	7185.38	9618.01	9618.01	6.05	No	Si
SLU 83	0.67	5129.93	-10668	-0.0002099	0.0003743	0.0035	1.42	5578.24	6155.52	6155.52	1.2	No	Si
SLU 83	2.77	-1580.85	-20106	-0.0001161	0.0003743	0.0035	1.42	7185.08	9592.67	9592.67	6.07	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	0.67	4956.72	-10321	-0.0001998	0.0003743	0.0035	1.42	5459.55	6015.33	6015.33	1.21	No	Si
SLU 74	2.77	-1528.76	-19418	-0.0001114	0.0003743	0.0035	1.42	7173.53	9418.23	9418.23	6.16	No	Si
SLU 80	0.67	4989.61	-10413	-0.0002009	0.0003743	0.0035	1.42	5491.6	6052.55	6052.55	1.21	No	Si
SLU 80	2.77	-1508.83	-19542	-0.0001117	0.0003743	0.0035	1.42	7176.85	9449.35	9449.35	6.26	No	Si
SLU 77	0.67	4993.27	-10419	-0.0002011	0.0003743	0.0035	1.42	5493.52	6054.81	6054.81	1.21	No	Si
SLU 77	2.77	-1516.88	-19586	-0.0001121	0.0003743	0.0035	1.42	7177.9	9460.46	9460.46	6.24	No	Si
SLU 81	0.67	5093.39	-10570	-0.0002085	0.0003743	0.0035	1.42	5545.13	6115.76	6115.76	1.2	No	Si
SLU 81	2.77	-1592.73	-19937	-0.0001155	0.0003743	0.0035	1.42	7183.79	9549.37	9549.37	6	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	0.67	4105.85	-5629	-0.0065083	0.0005615	0.0035	1.136		3824.03	3824.03	0.93		No
SLV 3	2.77	-4026	-15101	-0.0001311	0.0005615	0.0035	1.42		9246.96	9246.96	2.3		Si
SLD 4	0.67	4068.59	-6320	-0.0005135	0.0005615	0.0035	1.42		4242.78	4242.78	1.04		Si
SLD 4	2.77	-3385.62	-15246	-0.0001191	0.0005615	0.0035	1.42		9311.98	9311.98	2.75		Si
SLV 15	0.67	1070	-5234	-0.0000369	0.0005615	0.0035	1.42		3579.79	3579.79	3.35		Si
SLV 15	2.77	3169	-4818	-0.0004578	0.0005615	0.0035	1.42		3321.54	3321.54	1.05		Si
SLD 3	0.67	3866.9	-6191	-0.0003295	0.0005615	0.0035	1.42		4165.15	4165.15	1.08		Si
SLD 3	2.77	-2954.51	-14482	-0.0001079	0.0005615	0.0035	1.42		8965.3	8965.3	3.03		Si
SLD 2	0.67	4896.34	-8296	-0.0003109	0.0005615	0.0035	1.42		5309.84	5309.84	1.08		Si
SLD 2	2.77	-3723.89	-18603	-0.0001413	0.0005615	0.0035	1.42		10692.67	10692.67	2.87		Si
SLV 7	0.67	1543.95	-1823	-0.0031738	0.0005615	0.0035	1.136		1372.03	1372.03	0.89		No
SLV 7	2.77	-983.02	-5405	-0.0000362	0.0005615	0.0035	1.42		4060.83	4060.83	4.13		Si
SLV 8	0.67	1756.49	-1959	-0.0052354	0.0005615	0.0035	1.136		1463.15	1463.15	0.83		No
SLV 8	2.77	-1437.31	-6210	-0.0000468	0.0005615	0.0035	1.42		4548.11	4548.11	3.16		Si
SLV 2	0.67	5750.89	-9003	-0.0027164	0.0005615	0.0035	1.42		5675.2	5675.2	0.99		No
SLV 2	2.77	-5245.02	-21689	-0.0001867	0.0005615	0.0035	1.42		11717.32	11717.32	2.23		Si
SLV 4	0.67	4421.53	-5831	-0.0084844	0.0005615	0.0035	1.136		3947.44	3947.44	0.89		No
SLV 4	2.77	-4700.77	-16296	-0.0001513	0.0005615	0.0035	1.42		9781.92	9781.92	2.08		Si
SLV 1	0.67	5435.21	-8802	-0.0005268	0.0005615	0.0035	1.42		5570.63	5570.63	1.02		Si
SLV 1	2.77	-4570.26	-20494	-0.0001668	0.0005615	0.0035	1.42		11312.14	11312.14	2.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.67	4956.72	-10321	-8594	7166	1.42	0.6892	-21615	9826	3568	40441	11906	3621	15527	No	2.17	Si
SLU 74	2.77	-1528.76	-19418	-16169	9344	1.42	1.42	-40667	10833	5588	40441	11906	3621	15527	No	1.66	Si
SLU 83	0.67	5129.93	-10668	-8883	7384	1.42	0.6874	-22342	9923	3645	40441	11906	3621	15527	No	2.1	Si
SLU 83	2.77	-1580.85	-20106	-16742	9676	1.42	1.42	-42108	10833	5741	40441	11906	3621	15527	No	1.6	Si
SLU 80	0.67	4989.61	-10413	-8671	7182	1.42	0.6925	-21809	9852	3588	40441	11906	3621	15527	No	2.16	Si
SLU 80	2.77	-1508.83	-19542	-16273	9343	1.42	1.42	-40927	10833	5615	40441	11906	3621	15527	No	1.66	Si
SLU 76	0.67	4971.51	-10356	-8624	7164	1.42	0.6899	-21689	9836	3576	40441	11906	3621	15527	No	2.17	Si
SLU 76	2.77	-1526.24	-19439	-16187	9334	1.42	1.42	-40711	10833	5592	40441	11906	3621	15527	No	1.66	Si
SLU 81	0.67	5093.39	-10570	-8802	7347	1.42	0.6844	-22137	9896	3623	40441	11906	3621	15527	No	2.11	Si
SLU 81	2.77	-1592.73	-19937	-16602	9642	1.42	1.42	-41755	10833	5703	40441	11906	3621	15527	No	1.61	Si
SLU 78	0.67	5020.93	-10480	-8727	7233	1.42	0.6928	-21949	9871	3603	40441	11906	3621	15527	No	2.15	Si
SLU 78	2.77	-1525.17	-19684	-16392	9415	1.42	1.42	-41226	10833	5647	40441	11906	3621	15527	No	1.65	Si
SLU 77	0.67	4993.27	-10419	-8676	7204	1.42	0.6923	-21820	9854	3590	40441	11906	3621	15527	No	2.16	Si
SLU 77	2.77	-1516.88	-19586	-16310	9377	1.42	1.42	-41020	10833	5625	40441	11906	3621	15527	No	1.66	Si
SLU 84	0.67	5157.6	-10729	-8935	7413	1.42	0.6879	-22471	9941	3659	40441	11906	3621	15527	No	2.09	Si
SLU 84	2.77	-1589.14	-20204	-16824	9713	1.42	1.42	-42314	10833	5762	40441	11906	3621	15527	No	1.6	Si
SLU 82	0.67	5121.06	-10631	-8853	7376	1.42	0.6849	-22266	9913	3637	40441	11906	3621	15527	No	2.11	Si
SLU 82	2.77	-1601.02	-20035	-16684	9680	1.42	1.42	-41960	10833	5725	40441	11906	3621	15527	No	1.6	Si
SLU 75	0.67	4984.39	-10382	-8645	7195	1.42	0.6898	-21744	9844	3581	40441	11906	3621	15527	No	2.16	Si
SLU 75	2.77	-1537.05	-19516	-16251	9381	1.42	1.42	-40872	10833	5609	40441	11906	3621	15527	No	1.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	0.67	5975.16	-12397	-10323	8776	1.42	0.6841	-25964	15609	4667	40441	17859	3621	21480		2.45	Si
SLV 5	2.77	-2797.21	-23382	-19471	11217	1.42	1.42	-48971	16250	7106	40441	17859	3621	21480		1.91	Si
SLD 5	0.67	5014.54	-10406	-8666	7353	1.42	0.6844	-21794	14776	4225	40441	17859	3621	21480		2.92	Si
SLD 5	2.77	-2149.26	-19583	-16307	9416	1.42	1.42	-41013	16250	6461	40441	17859	3621	21480		2.28	Si
SLV 4	0.67	4421.53	-5831	-4856	9036	1.136	0	0	0	0	40441	14287	2897	17184		1.9	Si
SLV 4	2.77	-4700.77	-16296	-13570	11033	1.42	1.2646	-39169	16250	5754	40441	17859	3621	21480		1.95	Si
SLD 6	0.67	5148.24	-10492	-8737	7716	1.42	0.658	-21973	14811	4244	40441	17859	3621	21480		2.78	Si
SLD 6	2.77	-2435.04	-20089	-16729	9889	1.42	1.42	-42073	16250	6461	40441	17859	3621	21480		2.17	Si
SLV 2	0.67	5750.89	-9003	-7497	10696	1.42	0.2138	-156025	16250	3913	40441	17859	3621	21480		2.01	Si
SLV 2	2.77	-5245.02	-21689	-18061	13226	1.42	1.4045	-45424	16250	6730	40441	17859	3621	21480		1.62	Si
SLV 3	0.67	4105.85	-5629	-4688	8179	1.136	0	0	0	0	40441	14287	2897	17184		2.1	Si
SLV 3	2.77	-4026	-15101	-12574	9917	1.42	1.3302	-34400	16250	6052	40441	17859	3621	21480		2.17	Si
SLV 6	0.67	6187.69	-12533	-10437	9353	1.42	0.6489	-26248	15666	4697	40441	17859	3621	21480		2.3	Si
SLV 6	2.77	-3251.51	-24187	-20141	11969	1.42	1.42	-50656	16250	7285	40441	17859	3621	21480		1.79	Si
SLV 1	0.67	5435.21	-8802	-7329	9839	1.42	0.2775	-103118	16250	3868	40441	17859	3621	21480		2.18	Si
SLV 1	2.77	-4570.26	-20494	-17066	12110	1.42	1.42	-42921	16250	6465	40441	17859	3621	21480		1.77	Si
SLD 2	0.67	4896.34	-8296	-6908	8612	1.42	0.3594	-72051	16250	3756	40441	17859	3621	21480		2.49	Si
SLD 2	2.77	-3723.89	-18603	-15491	10744	1.42	1.42	-38961	16250	6461	40441	17859	3621	21480		2	Si
SLD 1	0.67	4694.66	-8167	-6801	8064	1.42	0.4055	-62306	16250	3728	40441	17859	3621	21480		2.66	Si
SLD 1	2.77	-3292.78	-17840	-14855	10031	1.42	1.42	-37362	16250	6461	40441	17859	3621	21480		2.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	5456	-2169	125.02	292.83	2.34	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.3	7295	-2900	125.02	386.65	3.09	Si
SLV 15	179667	0.3	12124	-4821	125.02	621.3	4.97	Si
SLV 7	179667	0.3	12435	-4944	125.02	635.84	5.09	Si
SLV 8	179667	0.3	14274	-5676	125.02	720.31	5.76	Si
SLV 16	179667	0.3	14856	-5907	125.02	746.49	5.97	Si
SLV 13	179667	0.3	25202	-10021	125.02	1171.36	9.37	Si
SLV 14	179667	0.3	27934	-11107	125.02	1270.51	10.16	Si
SLV 3	179667	0.3	35390	-14071	125.02	1513.46	12.11	Si
SLV 4	179667	0.3	38121	-15157	125.02	1592.32	12.74	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-13337	-8406	-45	0.583	1564	0.961	8.81467	6.24893	Si
SLV 14	-13241	-8608	-44	0.586	1554.3	0.96	8.87235	6.24893	Si
SLV 9	-16375	-12279	-175	0.482	1873.1	0.967	7.24349	4.03181	Si
SLV 10	-16310	-12415	-175	0.483	1866.6	0.967	7.26947	4.03181	Si
SLV 1	-9828	-8802	-61	0.753	1207.4	0.95	11.50963	6.24893	Si
SLV 2	-9732	-9003	-60	0.759	1197.6	0.95	11.61063	6.24893	Si
SLV 15	-9667	-5234	62	0.763	1191	0.95	11.67697	6.24893	Si
SLV 16	-9571	-5436	63	0.769	1181.3	0.95	11.77771	6.24893	Si
SLV 5	-15322	-12397	-180	0.51	1766	0.965	7.67598	4.03181	Si
SLV 6	-15257	-12533	-179	0.511	1759.4	0.965	7.70539	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.198	SLU 84	Si
V_SLU	1.599	SLU 84	Si
PF_SLV	0.833	SLV 8	No
V_SLV	1.624	SLV 2	Si
PFFP_SLV	2.342	SLV 11	Si
R_SLV	1.411	SLV 13	Si

Maschio 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.453	-3.169	-8.543	-3.169	L4	L5	1.09	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	1.57	-1845.29	-18374	-0.0001724	0.0003743	0.0035	1.09	4092.47	5998.52	5998.52	3.25	No	Si
SLU 83	3.47	-1853.02	-14644	-0.0001427	0.0003743	0.0035	1.09	4219.7	5478.27	5478.27	2.96	No	Si
SLU 84	1.57	-1847.06	-18462	-0.0001732	0.0003743	0.0035	1.09	4083.49	6008.62	6008.62	3.25	No	Si
SLU 84	3.47	-1869.19	-14728	-0.000144	0.0003743	0.0035	1.09	4222.21	5495.84	5495.84	2.94	No	Si
SLU 73	1.57	-1724.8	-17552	-0.0001609	0.0003743	0.0035	1.09	4162.4	5906.16	5906.16	3.42	No	Si
SLU 73	3.47	-1817.55	-14014	-0.0001368	0.0003743	0.0035	1.09	4193.03	5349.01	5349.01	2.94	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	1.57	-1781.63	-17960	-0.0001664	0.0003743	0.0035	1.09	4130.68	5951.25	5951.25	3.34	No	Si
SLU 78	3.47	-1839.09	-14315	-0.0001398	0.0003743	0.0035	1.09	4207.5	5410.13	5410.13	2.94	No	Si
SLU 75	1.57	-1756.28	-17788	-0.000164	0.0003743	0.0035	1.09	4144.7	5932.15	5932.15	3.38	No	Si
SLU 75	3.47	-1832.98	-14197	-0.0001387	0.0003743	0.0035	1.09	4202.18	5385.93	5385.93	2.94	No	Si
SLU 82	1.57	-1821.71	-18291	-0.0001708	0.0003743	0.0035	1.09	4100.53	5989.02	5989.02	3.29	No	Si
SLU 82	3.47	-1863.08	-14610	-0.0001428	0.0003743	0.0035	1.09	4218.6	5471.05	5471.05	2.94	No	Si
SLU 76	1.57	-1750.14	-17723	-0.0001632	0.0003743	0.0035	1.09	4149.8	5924.91	5924.91	3.39	No	Si
SLU 76	3.47	-1823.67	-14133	-0.0001379	0.0003743	0.0035	1.09	4199.11	5372.95	5372.95	2.95	No	Si
SLU 81	1.57	-1819.95	-18203	-0.0001699	0.0003743	0.0035	1.09	4108.98	5978.82	5978.82	3.29	No	Si
SLU 81	3.47	-1846.91	-14526	-0.0001416	0.0003743	0.0035	1.09	4215.75	5453.59	5453.59	2.95	No	Si
SLU 77	1.57	-1779.86	-17871	-0.0001656	0.0003743	0.0035	1.09	4138.09	5941.3	5941.3	3.34	No	Si
SLU 77	3.47	-1822.93	-14231	-0.0001386	0.0003743	0.0035	1.09	4203.78	5392.97	5392.97	2.96	No	Si
SLU 74	1.57	-1754.52	-17700	-0.0001632	0.0003743	0.0035	1.09	4151.58	5922.33	5922.33	3.38	No	Si
SLU 74	3.47	-1816.81	-14113	-0.0001375	0.0003743	0.0035	1.09	4198.11	5368.89	5368.89	2.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	1.57	-4007.33	-15579	-0.0002255	0.0005615	0.0035	1.09		6579.13	6579.13	1.64		Si
SLV 15	3.47	1301.56	-6825	-0.0000707	0.0005615	0.0035	1.09		3301.48	3301.48	2.54		Si
SLV 1	1.57	1209.26	-8992	-0.0000799	0.0005615	0.0035	1.09		4208.05	4208.05	3.48		Si
SLV 1	3.47	-3387.99	-11745	-0.0001841	0.0005615	0.0035	0.872		5467.09	5467.09	1.61		Si
SLD 2	1.57	637.08	-9754	-0.0000676	0.0005615	0.0035	1.09		4534.63	4534.63	7.12		Si
SLD 2	3.47	-2897.37	-11252	-0.0001534	0.0005615	0.0035	1.09		5292.23	5292.23	1.83		Si
SLV 4	1.57	1468.98	-3574	-0.0001002	0.0005615	0.0035	1.09		1910.23	1910.23	1.3		Si
SLV 4	3.47	-2711.16	-7344	-0.0001649	0.0005615	0.0035	0.872		3777.37	3777.37	1.39		Si
SLV 16	1.57	-3555.33	-15122	-0.0001986	0.0005615	0.0035	1.09		6453.24	6453.24	1.82		Si
SLV 16	3.47	857.61	-7361	-0.0000609	0.0005615	0.0035	1.09		3522.25	3522.25	4.11		Si
SLV 7	1.57	-892.01	-2211	-0.0000564	0.0005615	0.0035	0.872		1405.55	1405.55	1.58		Si
SLV 7	3.47	216.92	-1142	-0.0000113	0.0005615	0.0035	1.09		688.29	688.29	3.17		Si
SLV 2	1.57	1661.26	-8535	-0.0000908	0.0005615	0.0035	1.09		4013.69	4013.69	2.42		Si
SLV 2	3.47	-3831.94	-12281	-0.000218	0.0005615	0.0035	0.872		5648.8	5648.8	1.47		Si
SLV 3	1.57	1016.98	-4031	-0.0000497	0.0005615	0.0035	1.09		2129.23	2129.23	2.09		Si
SLV 3	3.47	-2267.2	-6809	-0.0001227	0.0005615	0.0035	0.872		3550.9	3550.9	1.57		Si
SLV 11	1.57	-2399.31	-5676	-0.000185	0.0005615	0.0035	0.872		3053.67	3053.67	1.27		Si
SLV 11	3.47	1287.55	-1147	-0.0138039	0.0005615	0.0035	0.872		690.88	690.88	0.54		No
SLV 12	1.57	-2094.99	-5368	-0.0001333	0.0005615	0.0035	0.872		2914.87	2914.87	1.39		Si
SLV 12	3.47	988.65	-1508	-0.0036848	0.0005615	0.0035	0.872		878.23	878.23	0.89		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	1.57	-1847.06	-18462	-15374	-1309	1.09	1.09	-50373	10833	5079	40441	9139	2780	11919	No	9.11	Si
SLU 84	3.47	-1869.19	-14728	-12264	1431	1.09	1.09	-40185	10833	4250	40441	9139	2780	11919	No	8.33	Si
SLU 78	1.57	-1781.63	-17960	-14955	-1247	1.09	1.09	-49001	10833	4967	40441	9139	2780	11919	No	9.55	Si
SLU 78	3.47	-1839.09	-14315	-11920	1429	1.09	1.09	-39058	10833	4158	40441	9139	2780	11919	No	8.34	Si
SLU 83	1.57	-1845.29	-18374	-15300	-1311	1.09	1.09	-50131	10833	5059	40441	9139	2780	11919	No	9.09	Si
SLU 83	3.47	-1853.02	-14644	-12195	1412	1.09	1.09	-39956	10833	4231	40441	9139	2780	11919	No	8.44	Si
SLU 73	1.57	-1724.8	-17552	-14616	-1172	1.09	1.09	-47889	10833	4877	40441	9139	2780	11919	No	10.17	Si
SLU 73	3.47	-1817.55	-14014	-11670	1415	1.09	1.09	-38237	10833	4091	40441	9139	2780	11919	No	8.42	Si
SLU 76	1.57	-1750.14	-17723	-14758	-1210	1.09	1.09	-48356	10833	4915	40441	9139	2780	11919	No	9.85	Si
SLU 76	3.47	-1823.67	-14133	-11769	1419	1.09	1.09	-38560	10833	4118	40441	9139	2780	11919	No	8.4	Si
SLU 80	1.57	-1774.31	-17835	-14851	-1250	1.09	1.09	-48661	10833	4940	40441	9139	2780	11919	No	9.54	Si
SLU 80	3.47	-1819.01	-14195	-11821	1410	1.09	1.09	-38731	10833	4132	40441	9139	2780	11919	No	8.45	Si
SLU 77	1.57	-1779.86	-17871	-14881	-1250	1.09	1.09	-48759	10833	4948	40441	9139	2780	11919	No	9.53	Si
SLU 77	3.47	-1822.93	-14231	-11851	1410	1.09	1.09	-38829	10833	4139	40441	9139	2780	11919	No	8.45	Si
SLU 75	1.57	-1756.28	-17788	-14813	-1209	1.09	1.09	-48534	10833	4929	40441	9139	2780	11919	No	9.86	Si
SLU 75	3.47	-1832.98	-14197	-11822	1425	1.09	1.09	-38734	10833	4132	40441	9139	2780	11919	No	8.36	Si
SLU 82	1.57	-1821.71	-18291	-15232	-1271	1.09	1.09	-49907	10833	5041	40441	9139	2780	11919	No	9.38	Si
SLU 82	3.47	-1863.08	-14610	-12166	1427	1.09	1.09	-39862	10833	4224	40441	9139	2780	11919	No	8.35	Si
SLU 81	1.57	-1819.95	-18203	-15158	-1273	1.09	1.09	-49664	10833	5021	40441	9139	2780	11919	No	9.36	Si
SLU 81	3.47	-1846.91	-14526	-12096	1408	1.09	1.09	-39633	10833	4205	40441	9139	2780	11919	No	8.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	1.57	-2863.08	-17450	-14531	-4169	1.09	1.09	-47611	16250	5344	40441	13709	2780	16488		3.95	Si
SLD 13	3.47	-330.99	-10929	-9101	-85	1.09	1.09	-29819	16250	4960	40441	13709	2780	16488		194.2	Si
SLV 15	1.57	-4007.33	-15579	-12973	-6619	1.09	0.8633	-55523	16250	4929	40441	13709	2780	16488		2.49	Si
SLV 15	3.47	1301.56	-6825	-5683	-1992	1.09	1.0629	-18622	14141	4209	40441	13709	2780	16488		8.28	Si
SLV 16	1.57	-3555.33	-15122	-12592	-5681	1.09	0.9297	-49817	16250	4827	40441	13709	2780	16488		2.9	Si
SLV 16	3.47	857.61	-7361	-6129	-1470	1.09	1.09	-20083	14433	4405	40441	13709	2780	16488		11.22	Si
SLV 2	1.57	1661.26	-8535	-7107	5066	1.09	1.051	-23286	15074	4436	40441	13709	2780	16488		3.25	Si
SLV 2	3.47	-3831.94	-12281	-10226	4003	0.872	0.6989	0	0	0	40441	10967	2224	13190		3.29	Si
SLV 11	1.57	-2399.31	-5676	-4726	-3540	0.872	0.3668	0	0	0	40441	10967	2224	13190		3.73	Si
SLV 11	3.47	1287.55	-1147	-955	-1980	0.872	0	0	0	0	40441	10967	2224	13190		6.66	Si
SLV 1	1.57	1209.26	-8992	-7488	4127	1.09	1.09	-24534	15323	4677	40441	13709	2780	16488		3.99	Si
SLV 1	3.47	-3387.99	-11745	-9780	3481	0.872	0.7696	0	0	0	40441	10967	2224	13190		3.79	Si
SLV 13	1.57	-3815.05	-20540	-17104	-6069	1.09	1.0778	-56041	16250	6030	40441	13709	2780	16488		2.72	Si
SLV 13	3.47	180.78	-11762	-9794	-681	1.09	1.09	-32091	16250	4960	40441	13709	2780	16488		24.2	Si
SLV 14	1.57	-3363.05	-20083	-16723	-5130	1.09	1.09	-54794	16250	5929	40441	13709	2780	16488		3.21	Si
SLV 14	3.47	-263.18	-12297	-10240	-159	1.09	1.09	-33553	16250	4960	40441	13709	2780	16488		103.94	Si
SLV 4	1.57	1468.98	-3574	-2976	4515	1.09	0.402	-9751	12367	2263	40441	13709	2780	16488		3.65	Si
SLV 4	3.47	-2711.16	-7344	-6116	2692	0.872	0.5275	0	0	0	40441	10967	2224	13190		4.9	Si
SLD 15	1.57	-2983.14	-14360	-11958	-4512	1.09	1.0118	-39179	16250	4658	40441	13709	2780	16488		3.65	Si
SLD 15	3.47	366.99	-7854	-6540	-901	1.09	1.09	-21429	14702	4487	40441	13709	2780	16488		18.29	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.3	4646	-1418	95.96	192.48	2.01	Si
SLV 7	179667	0.3	5655	-1726	95.96	232.68	2.42	Si
SLV 4	179667	0.3	10111	-3086	95.96	403.41	4.2	Si
SLV 3	179667	0.3	11609	-3543	95.96	458.32	4.78	Si
SLV 12	179667	0.3	15997	-4882	95.96	611.91	6.38	Si
SLV 11	179667	0.3	17005	-5190	95.96	645.7	6.73	Si
SLV 2	179667	0.3	26355	-8043	95.96	931.75	9.71	Si
SLV 1	179667	0.3	27853	-8501	95.96	973.05	10.14	Si
SLV 16	179667	0.3	47945	-14633	95.96	1405.45	14.65	Si
SLV 15	179667	0.3	49444	-15090	95.96	1428.64	14.89	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-9782	-10908	-48	0.604	1154.3	0.959	9.15723	6.24893	Si
SLV 1	-9366	-10492	-48	0.627	1111.9	0.958	9.51542	6.24893	Si
SLV 14	-8540	-12243	-65	0.676	1027.9	0.955	10.29399	6.24893	Si
SLV 13	-8123	-11827	-65	0.705	985.6	0.953	10.75626	6.24893	Si
SLV 6	-12861	-16735	-190	0.468	1467.5	0.967	7.03852	4.03181	Si
SLV 5	-12580	-16454	-190	0.477	1439	0.967	7.17634	4.03181	Si
SLV 10	-12488	-17135	-195	0.48	1429.6	0.967	7.21727	4.03181	Si
SLV 9	-12208	-16855	-195	0.489	1401	0.966	7.36299	4.03181	Si
SLV 4	-6712	-6256	69	0.827	842.4	0.946	12.70103	6.24893	Si
SLV 3	-6296	-5840	69	0.872	800.2	0.944	13.42639	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.937	SLU 82	Si
V_SLU	8.331	SLU 84	Si
PF_SLV	0.537	SLV 11	No
V_SLV	2.491	SLV 15	Si
PFFP_SLV	2.006	SLV 8	Si
R_SLV	1.465	SLV 2	Si

Maschio 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L4	L5	4.31	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	0.67	-9941.35	-47392	-0.0001384	0.0004492	0.0035	4.31	36480.96	85986.09	85986.09	8.65	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	4.35	4018.57	-33303	-0.0000835	0.0004492	0.0035	4.31	39350.31	59862.92	59862.92	14.9	No	Si
SLU 73	0.67	-9892.38	-46748	-0.0001365	0.0004492	0.0035	4.31	36865.49	85307.68	85307.68	8.62	No	Si
SLU 73	4.35	3852.95	-32608	-0.0000814	0.0004492	0.0035	4.31	39191.57	58787.75	58787.75	15.26	No	Si
SLU 78	0.67	-9960.21	-47814	-0.0001396	0.0004492	0.0035	4.31	36216.27	86429.9	86429.9	8.68	No	Si
SLU 78	4.35	4168.73	-33738	-0.000085	0.0004492	0.0035	4.31	39435.22	60535.17	60535.17	14.52	No	Si
SLU 82	0.67	-10218.5	-48514	-0.0001424	0.0004492	0.0035	4.31	35753.96	87166.58	87166.58	8.53	No	Si
SLU 82	4.35	3976.39	-33889	-0.0000848	0.0004492	0.0035	4.31	39462.26	60769.75	60769.75	15.28	No	Si
SLU 81	0.67	-10140.05	-48379	-0.0001417	0.0004492	0.0035	4.31	35845.53	87024.22	87024.22	8.58	No	Si
SLU 81	4.35	3967.39	-33835	-0.0000846	0.0004492	0.0035	4.31	39452.71	60685.54	60685.54	15.3	No	Si
SLU 76	0.67	-9911.24	-47170	-0.0001377	0.0004492	0.0035	4.31	36616.68	85751.5	85751.5	8.65	No	Si
SLU 76	4.35	4003.11	-33043	-0.0000829	0.0004492	0.0035	4.31	39294.13	59460	59460	14.85	No	Si
SLU 83	0.67	-10158.91	-48800	-0.0001429	0.0004492	0.0035	4.31	35556.52	87468.04	87468.04	8.61	No	Si
SLU 83	4.35	4117.55	-34269	-0.0000861	0.0004492	0.0035	4.31	39524.12	61357.79	61357.79	14.9	No	Si
SLU 80	0.67	-9877.8	-47501	-0.0001385	0.0004492	0.0035	4.31	36413.77	86100.41	86100.41	8.72	No	Si
SLU 80	4.35	4147.27	-33441	-0.0000843	0.0004492	0.0035	4.31	39378.43	60076.11	60076.11	14.49	No	Si
SLU 74	0.67	-9862.91	-47257	-0.0001378	0.0004492	0.0035	4.31	36563.67	85843.73	85843.73	8.7	No	Si
SLU 74	4.35	4009.58	-33249	-0.0000834	0.0004492	0.0035	4.31	39338.89	59778.71	59778.71	14.91	No	Si
SLU 84	0.67	-10237.36	-48935	-0.0001436	0.0004492	0.0035	4.31	35461.62	87610.4	87610.4	8.56	No	Si
SLU 84	4.35	4126.54	-34324	-0.0000863	0.0004492	0.0035	4.31	39532.29	61442	61442	14.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	0.67	-20862.05	-51777	-0.0001787	0.0006738	0.0035	4.31		96106.42	96106.42	4.61		Si
SLV 9	4.35	1085.83	-30392	-0.0000661	0.0006738	0.0035	4.31		57019.53	57019.53	52.51		Si
SLV 6	0.67	-21459.79	-47741	-0.0001705	0.0006738	0.0035	4.31		91140.23	91140.23	4.25		Si
SLV 6	4.35	3069.18	-30013	-0.0000713	0.0006738	0.0035	4.31		56426.16	56426.16	18.38		Si
SLD 5	0.67	-15595.32	-41690	-0.0001367	0.0006738	0.0035	4.31		83192.41	83192.41	5.33		Si
SLD 5	4.35	2935	-27130	-0.0000646	0.0006738	0.0035	4.31		51919.2	51919.2	17.69		Si
SLV 8	0.67	7125.18	-13334	-0.0000474	0.0006738	0.0035	4.31		28478.9	28478.9	4		Si
SLV 8	4.35	4277.48	-14938	-0.0000426	0.0006738	0.0035	4.31		31486.24	31486.24	7.36		Si
SLV 7	0.67	7689.04	-12717	-0.0000478	0.0006738	0.0035	4.31		27310.34	27310.34	3.55		Si
SLV 7	4.35	4277.28	-14754	-0.0000422	0.0006738	0.0035	4.31		31140.44	31140.44	7.28		Si
SLV 5	0.67	-20895.93	-47124	-0.0001671	0.0006738	0.0035	4.31		90362.36	90362.36	4.32		Si
SLV 5	4.35	3068.98	-29828	-0.0000709	0.0006738	0.0035	4.31		56137.4	56137.4	18.29		Si
SLV 12	0.67	7159.06	-17987	-0.0000574	0.0006738	0.0035	4.31		37068.53	37068.53	5.18		Si
SLV 12	4.35	2294.32	-15502	-0.000038	0.0006738	0.0035	4.31		32526.35	32526.35	14.18		Si
SLV 10	0.67	-21425.91	-52395	-0.0001822	0.0006738	0.0035	4.31		96827.54	96827.54	4.52		Si
SLV 10	4.35	1086.03	-30577	-0.0000665	0.0006738	0.0035	4.31		57308.29	57308.29	52.77		Si
SLV 11	0.67	7722.92	-17370	-0.0000577	0.0006738	0.0035	4.31		35949.88	35949.88	4.65		Si
SLV 11	4.35	2294.12	-15318	-0.0000376	0.0006738	0.0035	4.31		32185.88	32185.88	14.03		Si
SLD 6	0.67	-15950.03	-42078	-0.0001387	0.0006738	0.0035	4.31		83717.44	83717.44	5.25		Si
SLD 6	4.35	2935.12	-27246	-0.0000648	0.0006738	0.0035	4.31		52100.85	52100.85	17.75		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	0.67	-9881.76	-47679	-26436	10435	4.31	4.31	-43811	10833	14060	115546	21685	21981	43666	No	4.18	Si
SLU 77	4.35	4159.74	-33683	-18676	9696	4.31	4.31	-30951	10833	10956	115546	21685	21981	43666	No	4.5	Si
SLU 81	0.67	-10140.05	-48379	-26824	10562	4.31	4.31	-44454	10833	14215	115546	21685	21981	43666	No	4.13	Si
SLU 81	4.35	3967.39	-33835	-18760	9812	4.31	4.31	-31090	10833	10989	115546	21685	21981	43666	No	4.45	Si
SLU 84	0.67	-10237.36	-48935	-27133	10316	4.31	4.31	-44966	10833	14338	115546	21685	21981	43666	No	4.23	Si
SLU 84	4.35	4126.54	-34324	-19031	9670	4.31	4.31	-31539	10833	11098	115546	21685	21981	43666	No	4.52	Si
SLU 83	0.67	-10158.91	-48800	-27058	10616	4.31	4.31	-44842	10833	14308	115546	21685	21981	43666	No	4.11	Si
SLU 83	4.35	4117.55	-34269	-19001	9860	4.31	4.31	-31489	10833	11086	115546	21685	21981	43666	No	4.43	Si
SLU 78	0.67	-9960.21	-47814	-26511	10134	4.31	4.31	-43936	10833	14090	115546	21685	21981	43666	No	4.31	Si
SLU 78	4.35	4168.73	-33738	-18706	9505	4.31	4.31	-31001	10833	10968	115546	21685	21981	43666	No	4.59	Si
SLU 75	0.67	-9941.35	-47392	-26277	10080	4.31	4.31	-43548	10833	13996	115546	21685	21981	43666	No	4.33	Si
SLU 75	4.35	4018.57	-33303	-18465	9457	4.31	4.31	-30602	10833	10871	115546	21685	21981	43666	No	4.62	Si
SLU 79	0.67	-9799.35	-47366	-26262	10344	4.31	4.31	-43524	10833	13990	115546	21685	21981	43666	No	4.22	Si
SLU 79	4.35	4138.28	-33386	-18511	9611	4.31	4.31	-30678	10833	10890	115546	21685	21981	43666	No	4.54	Si
SLU 80	0.67	-9877.8	-47501	-26337	10044	4.31	4.31	-43648	10833	14020	115546	21685	21981	43666	No	4.35	Si
SLU 80	4.35	4147.27	-33441	-18541	9420	4.31	4.31	-30728	10833	10902	115546	21685	21981	43666	No	4.64	Si
SLU 82	0.67	-10218.5	-48514	-26899	10262	4.31	4.31	-44579	10833	14245	115546	21685	21981	43666	No	4.26	Si
SLU 82	4.35	3976.39	-33889	-18790	9621	4.31	4.31	-31140	10833	11001	115546	21685	21981	43666	No	4.54	Si
SLU 74	0.67	-9862.91	-47257	-26202	10380	4.31	4.31	-43424	10833	13966	115546	21685	21981	43666	No	4.21	Si
SLU 74	4.35	4009.58	-33249	-18435	9647	4.31	4.31	-30552	10833	10859	115546	21685	21981	43666	No	4.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	0.67	7125.18	-13334	-7393	19947	4.31	4.31	-12252	14950	9021	115546	32527	21981	54508		2.73	Si
SLV 8	4.35	4277.48	-14938	-8283	19219	4.31	4.31	-13727	15245	9199	115546	32527	21981	54508		2.84	Si
SLV 11	0.67	7722.92	-17370	-9631	21591	4.31	4.31	-15961	15692	9469	115546	32527	21981	54508		2.52	Si
SLV 11	4.35	2294.12	-15318	-8493	20658	4.31	4.31	-14075	15315	9241	115546	32527	21981	54508		2.64	Si
SLV 16	0.67	-2942.98	-35608	-19743	13282	4.31	4.31	-32720	16250	13125	115546	32527	21981	54508		4.1	Si
SLV 16	4.35	-442.21	-21482	-11911	12300	4.31	4.31	-19739	16250	9993	115546	32527	21981	54508		4.43	Si
SLD 7	0.67	2177.52	-20217	-11209	15386	4.31	4.31	-18577	16215	9784	115546	32527	21981	54508		3.54	Si
SLD 7	4.35	3660	-17732	-9831	14747	4.31	4.31	-16293	15759	9509	115546	32527	21981	54508		3.7	Si
SLV 12	0.67	7159.06	-17987	-9973	21262	4.31	4.31	-16528	15806	9537	115546	32527	21981	54508		2.56	Si
SLV 12	4.35	2294.32	-15502	-8595	20314	4.31	4.31	-14245	15349	9262	115546	32527	21981	54508		2.68	Si
SLV 15	0.67	-2105.49	-34691	-19235	13771	4.31	4.31	-31877	16250	12922	115546	32527	21981	54508		3.96	Si
SLV 15	4.35	-442.51	-21207	-11759	12811	4.31	4.31	-19487	16250	9932	115546	32527	21981	54508		4.25	Si
SLD 12	0.67	1858.45	-23421	-12986	15970	4.31	4.31	-21522	16250	10423	115546	32527	21981	54508		3.41	Si
SLD 12	4.35	2428.3	-18200	-10091	15192	4.31	4.31	-16724	15845	9561	115546	32527	21981	54508		3.59	Si
SLV 7	0.67	7689.04	-12717	-7051	20276	4.31	4.31	-11685	14837	8953	115546	32527	21981	54508		2.69	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	4.35	4277.28	-14754	-8180	19562	4.31	4.31	-13557	15211	9179	115546	32527	21981	54508		2.79	Si
SLD 8	0.67	1822.81	-20605	-11425	15179	4.31	4.31	-18934	16250	9805	115546	32527	21981	54508		3.59	Si
SLD 8	4.35	3660.13	-17848	-9896	14531	4.31	4.31	-16400	15780	9522	115546	32527	21981	54508		3.75	Si
SLD 11	0.67	2213.16	-23033	-12771	16177	4.31	4.31	-21165	16250	10337	115546	32527	21981	54508		3.37	Si
SLD 11	4.35	2428.18	-18084	-10027	15408	4.31	4.31	-16617	15823	9548	115546	32527	21981	54508		3.54	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-13692	0.3	206.48	839.8	1456.06	1147.93	5.56	Si
SLV 8	-14023	0.3	206.48	857.16	1483.25	1170.21	5.67	Si
SLV 11	-15752	0.3	206.48	945.6	1625.59	1285.59	6.23	Si
SLV 12	-16083	0.3	206.48	962.1	1652.9	1307.5	6.33	Si
SLV 3	-18892	0.3	206.48	1096.53	1883	1489.76	7.22	Si
SLV 4	-19384	0.3	206.48	1119.03	1923.31	1521.17	7.37	Si
SLV 1	-25477	0.3	206.48	1372.56	2412.46	1892.51	9.17	Si
SLV 15	-25758	0.3	206.48	1383.1	2435	1909.05	9.25	Si
SLV 2	-25969	0.3	206.48	1390.96	2451.95	1921.46	9.31	Si
SLV 16	-26249	0.3	206.48	1401.33	2474.49	1937.91	9.39	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-26004	-45930	340	0.873	2960.1	0.968	13.10472	13.26389	No
SLV 13	-25730	-45014	340	0.881	2932.2	0.968	13.23558	13.26389	No
SLV 2	-24123	-30420	-282	0.936	2768.7	0.966	14.09084	13.26389	Si
SLV 1	-23849	-29503	-282	0.946	2740.8	0.966	14.2419	13.26389	Si
SLV 16	-21482	-35608	282	1.04	2499.9	0.963	15.6983	13.26389	Si
SLV 15	-21207	-34691	282	1.052	2472	0.962	15.88705	13.26389	Si
SLV 4	-19601	-20097	-340	1.126	2308.6	0.96	17.04987	13.26389	Si
SLV 3	-19327	-19181	-340	1.14	2280.7	0.959	17.2733	13.26389	Si
SLV 10	-30577	-52395	190	0.758	3425.7	0.972	11.32657	6.19249	Si
SLV 9	-30392	-51777	189	0.762	3406.9	0.972	11.39132	6.19249	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.53	SLU 82	Si
V_SLU	4.113	SLU 83	Si
PF_SLV	3.552	SLV 7	Si
V_SLV	2.525	SLV 11	Si
PFFP_SLV	5.56	SLV 7	Si
R_SLV	0.988	SLV 14	No

Maschio 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L4	L5	4.67	0.14	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	0.67	17163.6	-69650	-0.0002043	0.0004492	0.0035	4.67	20838.17	110403.45	110403.45	6.43	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	4.35	-2398.67	-41076	-0.000088	0.0004492	0.0035	4.67	46596.03	87363.8	87363.8	36.42	No	Si
SLU 82	0.67	17046.57	-69329	-0.000203	0.0004492	0.0035	4.67	21393.69	110111.63	110111.63	6.46	No	Si
SLU 82	4.35	-2708.9	-40360	-0.0000873	0.0004492	0.0035	4.67	46628.49	86378.43	86378.43	31.89	No	Si
SLU 75	0.67	16862.45	-68562	-0.0002002	0.0004492	0.0035	4.67	22694.1	109415.68	109415.68	6.49	No	Si
SLU 75	4.35	-2475.34	-40175	-0.0000862	0.0004492	0.0035	4.67	46631.99	86124.27	86124.27	34.79	No	Si
SLU 76	0.67	16738.41	-67774	-0.0001975	0.0004492	0.0035	4.67	23993.97	108700.88	108700.88	6.49	No	Si
SLU 76	4.35	-2436.35	-39742	-0.0000852	0.0004492	0.0035	4.67	46632.38	85528.65	85528.65	35.11	No	Si
SLU 80	0.67	17051.83	-69148	-0.0002025	0.0004492	0.0035	4.67	21702.64	109947.94	109947.94	6.45	No	Si
SLU 80	4.35	-2355.65	-40758	-0.0000872	0.0004492	0.0035	4.67	46614.14	86926.55	86926.55	36.9	No	Si
SLU 81	0.67	17064.96	-69757	-0.0002043	0.0004492	0.0035	4.67	20651.92	110500.58	110500.58	6.48	No	Si
SLU 81	4.35	-2702.85	-40532	-0.0000876	0.0004492	0.0035	4.67	46623.41	86616	86616	32.05	No	Si
SLU 79	0.67	17070.22	-69577	-0.0002038	0.0004492	0.0035	4.67	20965.4	110336.89	110336.89	6.46	No	Si
SLU 79	4.35	-2349.6	-40931	-0.0000875	0.0004492	0.0035	4.67	46605.03	87164.12	87164.12	37.1	No	Si
SLU 77	0.67	17182	-70079	-0.0002056	0.0004492	0.0035	4.67	20088.35	110792.4	110792.4	6.45	No	Si
SLU 77	4.35	-2392.62	-41249	-0.0000884	0.0004492	0.0035	4.67	46583.72	87601.36	87601.36	36.61	No	Si
SLU 84	0.67	17347.72	-70417	-0.0002072	0.0004492	0.0035	4.67	19488.94	111099.39	111099.39	6.4	No	Si
SLU 84	4.35	-2632.24	-41261	-0.000089	0.0004492	0.0035	4.67	46582.79	87617.96	87617.96	33.29	No	Si
SLU 83	0.67	17366.11	-70846	-0.0002085	0.0004492	0.0035	4.67	18719.89	111488.34	111488.34	6.42	No	Si
SLU 83	4.35	-2626.19	-41434	-0.0000894	0.0004492	0.0035	4.67	46568.61	87855.53	87855.53	33.45	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.67	6108.08	-16334	-0.0000455	0.0006738	0.0035	4.67		37382.83	37382.83	6.12		Si
SLV 5	4.35	-3183.1	-14511	-0.0000348	0.0006738	0.0035	4.67		43616.74	43616.74	13.7		Si
SLV 4	0.67	14251.21	-45793	-0.000127	0.0006738	0.0035	4.67		88744.94	88744.94	6.23		Si
SLV 4	4.35	1932.98	-27574	-0.0000571	0.0006738	0.0035	4.67		57857.45	57857.45	29.93		Si
SLV 1	0.67	11183.36	-29949	-0.0000855	0.0006738	0.0035	4.67		61896.81	61896.81	5.53		Si
SLV 1	4.35	864.41	-21104	-0.0000418	0.0006738	0.0035	4.67		46780.54	46780.54	54.12		Si
SLD 1	0.67	11354.77	-36407	-0.0000993	0.0006738	0.0035	4.67		72883.73	72883.73	6.42		Si
SLD 1	4.35	-8.61	-23465	-0.0000443	0.0006738	0.0035	4.67		60915.27	60915.27	7076.62		Si
SLV 2	0.67	10664.38	-28554	-0.0000813	0.0006738	0.0035	4.67		59524.54	59524.54	5.58		Si
SLV 2	4.35	342.64	-20175	-0.0000387	0.0006738	0.0035	4.67		44979.25	44979.25	131.27		Si
SLD 3	0.67	13581.24	-47137	-0.0001282	0.0006738	0.0035	4.67		90533.29	90533.29	6.67		Si
SLD 3	4.35	970.28	-28069	-0.0000557	0.0006738	0.0035	4.67		58699.58	58699.58	60.5		Si
SLV 6	0.67	5758.68	-15395	-0.0000429	0.0006738	0.0035	4.67		35493.36	35493.36	6.16		Si
SLV 6	4.35	-3534.4	-13886	-0.0000345	0.0006738	0.0035	4.67		42334.05	42334.05	11.98		Si
SLV 3	0.67	14770.18	-47187	-0.0001315	0.0006738	0.0035	4.67		90600.87	90600.87	6.13		Si
SLV 3	4.35	2454.76	-28502	-0.0000603	0.0006738	0.0035	4.67		59436.47	59436.47	24.21		Si
SLD 4	0.67	13249.67	-46246	-0.0001253	0.0006738	0.0035	4.67		89347.54	89347.54	6.74		Si
SLD 4	4.35	636.91	-27476	-0.0000537	0.0006738	0.0035	4.67		57690.74	57690.74	90.58		Si
SLD 2	0.67	11023.2	-35516	-0.0000966	0.0006738	0.0035	4.67		71368.08	71368.08	6.47		Si
SLD 2	4.35	-341.97	-22872	-0.0000439	0.0006738	0.0035	4.67		59805.42	59805.42	174.88		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.67	17051.83	-69148	-38340	-4621	4.67	4.67	-58641	10833	19112	115546	23496	23817	47313	No	10.24	Si
SLU 80	4.35	-2355.65	-40758	-22599	-6434	4.67	4.67	-34565	10833	12816	115546	23496	23817	47313	No	7.35	Si
SLU 76	0.67	16738.41	-67774	-37578	-4747	4.67	4.67	-57476	10833	18807	115546	23496	23817	47313	No	9.97	Si
SLU 76	4.35	-2436.35	-39742	-22035	-6512	4.67	4.67	-33703	10833	12591	115546	23496	23817	47313	No	7.27	Si
SLU 84	0.67	17347.72	-70417	-39043	-4596	4.67	4.67	-59718	10833	19394	115546	23496	23817	47313	No	10.29	Si
SLU 84	4.35	-2632.24	-41261	-22877	-6430	4.67	4.67	-34991	10833	12927	115546	23496	23817	47313	No	7.36	Si
SLU 78	0.67	17163.6	-69650	-38618	-4631	4.67	4.67	-59067	10833	19223	115546	23496	23817	47313	No	10.22	Si
SLU 78	4.35	-2398.67	-41076	-22775	-6448	4.67	4.67	-34835	10833	12886	115546	23496	23817	47313	No	7.34	Si
SLU 75	0.67	16862.45	-68562	-38014	-4569	4.67	4.67	-58144	10833	18982	115546	23496	23817	47313	No	10.36	Si
SLU 75	4.35	-2475.34	-40175	-22275	-6347	4.67	4.67	-34070	10833	12687	115546	23496	23817	47313	No	7.45	Si
SLU 73	0.67	16437.27	-66685	-36974	-4684	4.67	4.67	-56553	10833	18566	115546	23496	23817	47313	No	10.1	Si
SLU 73	4.35	-2513.02	-38841	-21535	-6410	4.67	4.67	-32939	10833	12391	115546	23496	23817	47313	No	7.38	Si
SLU 55	0.67	14791.02	-60000	-33268	-4645	4.67	4.67	-50883	10833	17083	115546	23496	23817	47313	No	10.19	Si
SLU 55	4.35	-2032.94	-34983	-19396	-6209	4.67	4.67	-29667	10833	11535	115546	23496	23817	47313	No	7.62	Si
SLU 70	0.67	15770.51	-64149	-35568	-4542	4.67	4.67	-54402	10833	18003	115546	23496	23817	47313	No	10.42	Si
SLU 70	4.35	-1932.19	-37800	-20959	-6222	4.67	4.67	-32056	10833	12160	115546	23496	23817	47313	No	7.6	Si
SLU 82	0.67	17046.57	-69329	-38440	-4534	4.67	4.67	-58794	10833	19152	115546	23496	23817	47313	No	10.44	Si
SLU 82	4.35	-2708.9	-40360	-22378	-6329	4.67	4.67	-34227	10833	12728	115546	23496	23817	47313	No	7.48	Si
SLU 68	0.67	15345.33	-62273	-34527	-4658	4.67	4.67	-52810	10833	17587	115546	23496	23817	47313	No	10.16	Si
SLU 68	4.35	-1969.87	-36466	-20219	-6285	4.67	4.67	-30925	10833	11864	115546	23496	23817	47313	No	7.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0.67	17373.43	-79560	-44113	15437	4.67	4.67	-67471	16250	23310	115546	35244	23817	59061		3.83	Si
SLV 11	4.35	312.15	-41051	-22761	12107	4.67	4.67	-34814	16250	14769	115546	35244	23817	59061		4.88	Si
SLV 9	0.67	5417.35	-22098	-12252	-19689	4.67	4.67	-18740	16248	10623	115546	35244	23817	59061		3	Si
SLV 9	4.35	-4988.99	-16389	-9087	-19031	4.67	4.67	-13899	15280	9990	115546	35244	23817	59061		3.1	Si
SLV 7	0.67	18064.17	-73796	-40917	13716	4.67	4.67	-62583	16250	22031	115546	35244	23817	59061		4.31	Si
SLV 7	4.35	2118.04	-39173	-21720	10569	4.67	4.67	-33221	16250	14353	115546	35244	23817	59061		5.59	Si
SLD 10	0.67	7524.52	-31145	-17269	-13669	4.67	4.67	-26413	16250	12572	115546	35244	23817	59061		4.32	Si
SLD 10	4.35	-3930.67	-20198	-11199	-13721	4.67	4.67	-17129	15926	10412	115546	35244	23817	59061		4.3	Si
SLD 6	0.67	7966.22	-27454	-15222	-14773	4.67	4.67	-23283	16250	11754	115546	35244	23817	59061		4	Si
SLD 6	4.35	-2775.51	-18999	-10534	-14705	4.67	4.67	-16112	15722	10279	115546	35244	23817	59061		4.02	Si
SLV 12	0.67	17024.03	-78621	-43592	15058	4.67	4.67	-66675	16250	23101	115546	35244	23817	59061		3.92	Si
SLV 12	4.35	-39.14	-40426	-22415	11746	4.67	4.67	-34284	16250	14631	115546	35244	23817	59061		5.03	Si
SLV 6	0.67	5758.68	-15395	-8536	-21789	4.67	4.67	-13056	15111	9880	115546	35244	23817	59061		2.71	Si
SLV 6	4.35	-3534.4	-13886	-7699	-20929	4.67	4.67	-11776	14855	9712	115546	35244	23817	59061		2.82	Si
SLD 5	0.67	8186.03	-28045	-15550	-14534	4.67	4.67	-23784	16250	11885	115546	35244	23817	59061		4.06	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	4.35	-2554.52	-19392	-10752	-14478	4.67	4.67	-16445	15789	10323	115546	35244	23817	59061		4.08	Si
SLV 10	0.67	5067.94	-21159	-11732	-20068	4.67	4.67	-17944	16089	10519	115546	35244	23817	59061		2.94	Si
SLV 10	4.35	-5340.29	-15764	-8741	-19391	4.67	4.67	-13369	15174	9921	115546	35244	23817	59061		3.05	Si
SLV 5	0.67	6108.08	-16334	-9056	-21410	4.67	4.67	-13852	15270	9984	115546	35244	23817	59061		2.76	Si
SLV 5	4.35	-3183.1	-14511	-8046	-20569	4.67	4.67	-12306	14961	9782	115546	35244	23817	59061		2.87	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.16 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-18068	0.3	223.72	1074.05	1834.11	1454.08	6.5	Si
SLV 5	-18597	0.3	223.72	1099.78	1877.45	1488.62	6.65	Si
SLV 10	-22074	0.3	223.72	1260.55	2161.44	1710.99	7.65	Si
SLV 9	-22604	0.3	223.72	1283.79	2203.85	1743.82	7.79	Si
SLV 2	-26078	0.3	223.72	1428.17	2482.48	1955.33	8.74	Si
SLV 1	-26864	0.3	223.72	1458.91	2545.64	2002.27	8.95	Si
SLV 4	-37059	0.3	223.72	1791.86	3345.27	2568.57	11.48	Si
SLV 3	-37846	0.3	223.72	1812.5	3405.42	2608.96	11.66	Si
SLV 14	-39432	0.3	223.72	1851.92	3526.77	2689.35	12.02	Si
SLV 13	-40218	0.3	223.72	1870.38	3587	2728.69	12.2	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.03 Ta = 0.1615

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-34762	-66401	315	0.722	3878	0.973	10.78179	13.26389	No
SLV 16	-33834	-65006	316	0.74	3783.5	0.973	11.05961	13.26389	No
SLV 3	-28502	-47187	-298	0.866	3240.6	0.968	12.99857	13.26389	No
SLV 4	-27574	-45793	-298	0.892	3146.1	0.967	13.40761	13.26389	Si
SLV 13	-27364	-49162	301	0.899	3124.7	0.967	13.50268	13.26389	Si
SLV 14	-26435	-47768	301	0.927	3030.2	0.966	13.94524	13.26389	Si
SLV 1	-21104	-29949	-313	1.135	2487.7	0.96	17.18628	13.26389	Si
SLV 2	-20175	-28554	-313	1.181	2393.3	0.958	17.91525	13.26389	Si
SLV 11	-41051	-79560	118	0.624	4518.6	0.977	9.28795	6.19249	Si
SLV 12	-40426	-78621	118	0.633	4454.9	0.976	9.42311	6.19249	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.404	SLU 84	Si
V_SLU	7.266	SLU 76	Si
PF_SLV	5.535	SLV 1	Si
V_SLV	2.711	SLV 6	Si
PFFP_SLV	6.499	SLV 6	Si
R_SLV	0.813	SLV 15	No

Maschio 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.453	-3.169	L4	L5	0.515	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	2.67	335.43	-10552	-0.0001941	0.0003743	0.0035	0.515	764.25	1373.43	1373.43	4.09	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	3.47	-545.3	-11694	-0.0002659	0.0003743	0.0035	0.515	612.61	1388.6	1388.6	2.55	No	Si
SLU 75	2.67	327.49	-10544	-0.0001924	0.0003743	0.0035	0.515	765.08	1373.49	1373.49	4.19	No	Si
SLU 75	3.47	-541.15	-11649	-0.0002636	0.0003743	0.0035	0.515	619.52	1388.56	1388.56	2.57	No	Si
SLU 80	2.67	322.76	-10555	-0.0001917	0.0003743	0.0035	0.515	763.83	1373.4	1373.4	4.26	No	Si
SLU 80	3.47	-533.47	-11654	-0.0002619	0.0003743	0.0035	0.515	618.74	1388.56	1388.56	2.6	No	Si
SLU 78	2.67	325.78	-10638	-0.000194	0.0003743	0.0035	0.515	754.41	1372.69	1372.69	4.21	No	Si
SLU 78	3.47	-539.39	-11747	-0.0002659	0.0003743	0.0035	0.515	604.57	1388.67	1388.67	2.57	No	Si
SLU 81	2.67	341.34	-10751	-0.0001993	0.0003743	0.0035	0.515	741.08	1371.74	1371.74	4.02	No	Si
SLU 81	3.47	-552.59	-11935	-0.0002745	0.0003743	0.0035	0.515	574.91	1385.85	1385.85	2.51	No	Si
SLU 79	2.67	332.41	-10469	-0.0001919	0.0003743	0.0035	0.515	773.42	1374.15	1374.15	4.13	No	Si
SLU 79	3.47	-539.37	-11602	-0.0002619	0.0003743	0.0035	0.515	626.62	1388.52	1388.52	2.57	No	Si
SLU 82	2.67	331.69	-10837	-0.0001992	0.0003743	0.0035	0.515	730.64	1371.03	1371.03	4.13	No	Si
SLU 82	3.47	-546.69	-11987	-0.0002745	0.0003743	0.0035	0.515	566.42	1382.8	1382.8	2.53	No	Si
SLU 74	2.67	337.14	-10458	-0.0001925	0.0003743	0.0035	0.515	774.64	1374.24	1374.24	4.08	No	Si
SLU 74	3.47	-547.05	-11597	-0.0002636	0.0003743	0.0035	0.515	627.38	1388.51	1388.51	2.54	No	Si
SLU 83	2.67	339.63	-10845	-0.000201	0.0003743	0.0035	0.515	729.74	1370.97	1370.97	4.04	No	Si
SLU 83	3.47	-550.84	-12033	-0.0002769	0.0003743	0.0035	0.515	558.98	1380.16	1380.16	2.51	No	Si
SLU 84	2.67	329.97	-10931	-0.0002009	0.0003743	0.0035	0.515	719.01	1370.28	1370.28	4.15	No	Si
SLU 84	3.47	-544.94	-12085	-0.0002769	0.0003743	0.0035	0.515	550.32	1377.13	1377.13	2.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	2.67	797.42	-3362	-0.0060341	0.0005615	0.0035	0.412		761.81	761.81	0.96		No
SLV 4	3.47	-1214.93	-4276	-0.0064944	0.0005615	0.0035	0.412		1005.68	1005.68	0.83		No
SLD 2	2.67	638.46	-6332	-0.0001592	0.0005615	0.0035	0.515		1282.29	1282.29	2.01		Si
SLD 2	3.47	-1072.64	-7046	-0.0002966	0.0005615	0.0035	0.412		1436.83	1436.83	1.34		Si
SLD 4	2.67	596.86	-4737	-0.0001397	0.0005615	0.0035	0.515		1034.42	1034.42	1.73		Si
SLD 4	3.47	-920.36	-5593	-0.0002572	0.0005615	0.0035	0.412		1234.58	1234.58	1.34		Si
SLV 1	2.67	741.91	-6063	-0.0001798	0.0005615	0.0035	0.515		1239.53	1239.53	1.67		Si
SLV 1	3.47	-1252.75	-6723	-0.0005146	0.0005615	0.0035	0.412		1397.1	1397.1	1.12		Si
SLD 3	2.67	518.49	-4824	-0.000123	0.0005615	0.0035	0.515		1047.65	1047.65	2.02		Si
SLD 3	3.47	-788.9	-5660	-0.0001943	0.0005615	0.0035	0.412		1245.58	1245.58	1.58		Si
SLD 1	2.67	560.08	-6419	-0.0001471	0.0005615	0.0035	0.515		1296.18	1296.18	2.31		Si
SLD 1	3.47	-941.18	-7114	-0.0002395	0.0005615	0.0035	0.412		1445.2	1445.2	1.54		Si
SLV 8	2.67	332.59	-2070	-0.000079	0.0005615	0.0035	0.515		509.7	509.7	1.53		Si
SLV 8	3.47	-310.06	-3225	-0.0000735	0.0005615	0.0035	0.515		801.83	801.83	2.59		Si
SLV 2	2.67	864.58	-5926	-0.0002202	0.0005615	0.0035	0.515		1217.95	1217.95	1.41		Si
SLV 2	3.47	-1458.52	-6617	-0.0054617	0.0005615	0.0035	0.412		1384.3	1384.3	0.95		No
SLV 6	2.67	556.45	-10617	-0.0002077	0.0005615	0.0035	0.515		1794.01	1794.01	3.22		Si
SLV 6	3.47	-1122.03	-11029	-0.000321	0.0005615	0.0035	0.515		1851.58	1851.58	1.65		Si
SLV 3	2.67	674.75	-3499	-0.0002254	0.0005615	0.0035	0.515		788.85	788.85	1.17		Si
SLV 3	3.47	-1009.17	-4381	-0.0018809	0.0005615	0.0035	0.412		1025.47	1025.47	1.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	2.67	331.69	-10837	-9024	1196	0.515	0.515	-62582	10833	2869	40441	4318	1313	5631	No	4.71	Si
SLU 82	3.47	-546.69	-11987	-9982	1198	0.515	0.515	-69222	10833	3124	40441	4318	1313	5631	No	4.7	Si
SLU 77	2.67	335.43	-10552	-8786	1198	0.515	0.515	-60933	10833	2806	40441	4318	1313	5631	No	4.7	Si
SLU 77	3.47	-545.3	-11694	-9738	1200	0.515	0.515	-67532	10833	3060	40441	4318	1313	5631	No	4.69	Si
SLU 79	2.67	332.41	-10469	-8718	1187	0.515	0.515	-60457	10833	2787	40441	4318	1313	5631	No	4.75	Si
SLU 79	3.47	-539.37	-11602	-9661	1188	0.515	0.515	-66997	10833	3039	40441	4318	1313	5631	No	4.74	Si
SLU 81	2.67	341.34	-10751	-8953	1218	0.515	0.515	-62085	10833	2850	40441	4318	1313	5631	No	4.62	Si
SLU 81	3.47	-552.59	-11935	-9938	1220	0.515	0.515	-68920	10833	3113	40441	4318	1313	5631	No	4.62	Si
SLU 74	2.67	337.14	-10458	-8709	1203	0.515	0.515	-60392	10833	2785	40441	4318	1313	5631	No	4.68	Si
SLU 74	3.47	-547.05	-11597	-9657	1204	0.515	0.515	-66968	10833	3038	40441	4318	1313	5631	No	4.68	Si
SLU 78	2.67	325.78	-10638	-8858	1177	0.515	0.515	-61431	10833	2825	40441	4318	1313	5631	No	4.78	Si
SLU 78	3.47	-539.39	-11747	-9782	1179	0.515	0.515	-67835	10833	3071	40441	4318	1313	5631	No	4.78	Si
SLU 84	2.67	329.97	-10931	-9102	1192	0.515	0.515	-63123	10833	2890	40441	4318	1313	5631	No	4.72	Si
SLU 84	3.47	-544.94	-12085	-10063	1194	0.515	0.515	-69787	10833	3146	40441	4318	1313	5631	No	4.72	Si
SLU 75	2.67	327.49	-10544	-8780	1181	0.515	0.515	-60890	10833	2804	40441	4318	1313	5631	No	4.77	Si
SLU 75	3.47	-541.15	-11649	-9700	1183	0.515	0.515	-67270	10833	3049	40441	4318	1313	5631	No	4.76	Si
SLU 83	2.67	339.63	-10845	-9031	1214	0.515	0.515	-62625	10833	2871	40441	4318	1313	5631	No	4.64	Si
SLU 83	3.47	-550.84	-12033	-10020	1216	0.515	0.515	-69484	10833	3135	40441	4318	1313	5631	No	4.63	Si
SLU 80	2.67	322.76	-10555	-8790	1165	0.515	0.515	-60954	10833	2807	40441	4318	1313	5631	No	4.83	Si
SLU 80	3.47	-533.47	-11654	-9705	1167	0.515	0.515	-67299	10833	3051	40441	4318	1313	5631	No	4.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	2.67	638.46	-6332	-5273	2213	0.515	0.47	-36566	16250	2139	40441	6477	1313	7790		3.52	Si
SLD 2	3.47	-1072.64	-7046	-5867	2110	0.412	0.3158	0	0	0	40441	5182	1051	6232		2.95	Si
SLD 4	2.67	596.86	-4737	-3944	1943	0.515	0.3945	-27353	15887	1755	40441	6477	1313	7790		4.01	Si
SLD 4	3.47	-920.36	-5593	-4657	1830	0.412	0.2788	0	0	0	40441	5182	1051	6232		3.41	Si
SLD 1	2.67	560.08	-6419	-5346	1950	0.515	0.5108	-37070	16250	2324	40441	6477	1313	7790		4	Si
SLD 1	3.47	-941.18	-7114	-5924	1847	0.412	0.3756	0	0	0	40441	5182	1051	6232		3.37	Si
SLV 1	2.67	741.91	-6063	-5049	2568	0.515	0.4054	-35011	16250	2040	40441	6477	1313	7790		3.03	Si
SLV 1	3.47	-1252.75	-6723	-5598	2393	0.412	0.2135	0	0	0	40441	5182	1051	6232		2.6	Si
SLV 6	2.67	556.45	-10617	-8841	2238	0.515	0.515	-61311	16250	3052	40441	6477	1313	7790		3.48	Si
SLV 6	3.47	-1122.03	-11029	-9184	2214	0.515	0.4673	-73839	16250	3143	40441	6477	1313	7790		3.52	Si
SLV 4	2.67	797.42	-3362	-2800	2546	0.412	0.0609	0	0	0	40441	5182	1051	6232		2.45	Si
SLV 4	3.47	-1214.93	-4276	-3561	2353	0.412	0	0	0	0	40441	5182	1051	6232		2.65	Si
SLV 5	2.67	473.86	-10709	-8918	1961	0.515	0.515	-61843	16250	3072	40441	6477	1313	7790		3.97	Si
SLV 5	3.47	-983.49	-11100	-9243	1937	0.515	0.5067	-64099	16250	3159	40441	6477	1313	7790		4.02	Si
SLV 2	2.67	864.58	-5926	-4935	2980	0.515	0.3348	-34221	16250	2010	40441	6477	1313	7790		2.61	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	3.47	-1458.52	-6617	-5510	2805	0.412	0.1112	0	0	0	40441	5182	1051	6232		2.22	Si
SLV 3	2.67	674.75	-3499	-2913	2133	0.515	0.1939	-20204	14457	1471	40441	6477	1313	7790		3.65	Si
SLV 3	3.47	-1009.17	-4381	-3648	1940	0.412	0.0815	0	0	0	40441	5182	1051	6232		3.21	Si
SLD 3	2.67	518.49	-4824	-4017	1679	0.515	0.4501	-27857	15988	2015	40441	6477	1313	7790		4.64	Si
SLD 3	3.47	-788.9	-5660	-4713	1566	0.412	0.3544	0	0	0	40441	5182	1051	6232		3.98	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.3	9650	-1392	45.34	182.51	4.03	Si
SLV 8	179667	0.3	10269	-1481	45.34	193.36	4.26	Si
SLV 11	179667	0.3	13358	-1926	45.34	246.09	5.43	Si
SLV 12	179667	0.3	13977	-2015	45.34	256.34	5.65	Si
SLV 3	179667	0.3	28014	-4040	45.34	461.81	10.19	Si
SLV 4	179667	0.3	28933	-4172	45.34	473.43	10.44	Si
SLV 15	179667	0.3	40374	-5822	45.34	599.59	13.22	Si
SLV 16	179667	0.3	41293	-5954	45.34	608.22	13.41	Si
SLV 1	179667	0.3	47591	-6863	45.34	661.37	14.59	Si
SLV 2	179667	0.3	48510	-6995	45.34	668.24	14.74	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-4713	-10480	-34	0.592	554.6	0.96	8.96753	6.24893	Si
SLV 14	-4710	-10893	-34	0.593	554.4	0.96	8.97176	6.24893	Si
SLV 15	-3679	-6576	-31	0.731	449.5	0.952	11.16063	6.24893	Si
SLV 16	-3677	-6989	-31	0.731	449.3	0.952	11.16723	6.24893	Si
SLV 1	-3333	-9196	13	0.798	414.4	0.948	12.23928	6.24893	Si
SLV 2	-3331	-9609	13	0.799	414.2	0.948	12.24636	6.24893	Si
SLV 9	-5436	-14653	-21	0.527	628.1	0.964	7.94061	4.03181	Si
SLV 10	-5434	-14931	-21	0.527	628	0.964	7.94282	4.03181	Si
SLV 5	-5022	-14268	-6	0.566	586	0.962	8.55478	4.03181	Si
SLV 6	-5020	-14546	-6	0.566	585.9	0.962	8.55734	4.03181	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.506	SLU 83	Si
V_SLU	4.617	SLU 81	Si
PF_SLV	0.828	SLV 4	No
V_SLV	2.222	SLV 2	Si
PFFP_SLV	4.025	SLV 7	Si
R_SLV	1.435	SLV 13	Si

Maschio 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.163	-3.169	-5.438	-3.169	L4	L5	2.275	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	2.67	8489.38	-24710	-0.0001256	0.0003743	0.0035	2.275	17398.3	20641.33	20641.33	2.43	No	Si
SLU 75	3.47	351.84	-23495	-0.0000618	0.0003743	0.0035	2.275	17043.38	20088.57	20088.57	57.1	No	Si
SLU 83	2.67	8787.62	-25170	-0.0001295	0.0003743	0.0035	2.275	17519.21	20853.92	20853.92	2.37	No	Si
SLU 83	3.47	450.02	-23955	-0.0000638	0.0003743	0.0035	2.275	17183.93	20296.53	20296.53	45.1	No	Si
SLU 82	2.67	8684.18	-25400	-0.0001295	0.0003743	0.0035	2.275	17576.71	20960.55	20960.55	2.41	No	Si
SLU 82	3.47	384.38	-24185	-0.000064	0.0003743	0.0035	2.275	17251.21	20400.85	20400.85	53.08	No	Si
SLU 77	2.67	8592.82	-24480	-0.0001256	0.0003743	0.0035	2.275	17335.24	20536.01	20536.01	2.39	No	Si
SLU 77	3.47	417.48	-23265	-0.0000616	0.0003743	0.0035	2.275	16970.54	19985.55	19985.55	47.87	No	Si
SLU 81	2.67	8732.94	-25000	-0.0001285	0.0003743	0.0035	2.275	17475.4	20775.17	20775.17	2.38	No	Si
SLU 81	3.47	413.25	-23785	-0.000063	0.0003743	0.0035	2.275	17132.87	20219.49	20219.49	48.93	No	Si
SLU 78	2.67	8544.05	-24880	-0.0001266	0.0003743	0.0035	2.275	17443.84	20719.67	20719.67	2.43	No	Si
SLU 78	3.47	388.61	-23665	-0.0000625	0.0003743	0.0035	2.275	17096.18	20165.2	20165.2	51.89	No	Si
SLU 79	2.67	8525.38	-24255	-0.0001243	0.0003743	0.0035	2.275	17271.53	20433.02	20433.02	2.4	No	Si
SLU 79	3.47	415.28	-23040	-0.000061	0.0003743	0.0035	2.275	16897.23	19869.85	19869.85	47.85	No	Si
SLU 74	2.67	8538.14	-24310	-0.0001246	0.0003743	0.0035	2.275	17287.32	20458.23	20458.23	2.4	No	Si
SLU 74	3.47	380.71	-23095	-0.0000609	0.0003743	0.0035	2.275	16915.37	19903.23	19903.23	52.28	No	Si
SLU 80	2.67	8476.62	-24655	-0.0001253	0.0003743	0.0035	2.275	17383.29	20615.94	20615.94	2.43	No	Si
SLU 80	3.47	386.41	-23439	-0.0000619	0.0003743	0.0035	2.275	17026.02	20063.73	20063.73	51.92	No	Si
SLU 84	2.67	8738.85	-25570	-0.0001305	0.0003743	0.0035	2.275	17618.13	21039.87	21039.87	2.41	No	Si
SLU 84	3.47	421.15	-24355	-0.0000647	0.0003743	0.0035	2.275	17299.89	20478.45	20478.45	48.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	2.67	8515.68	-21072	-0.0001086	0.0005615	0.0035	2.275		20322.52	20322.52	2.39		Si
SLV 2	3.47	-5745.8	-20089	-0.0000867	0.0005615	0.0035	2.275		20660.99	20660.99	3.6		Si
SLV 11	2.67	1552.57	-3985	-0.0000188	0.0005615	0.0035	2.275		4669.5	4669.5	3.01		Si
SLV 11	3.47	3083.14	-3196	-0.0000676	0.0005615	0.0035	2.275		3825.3	3825.3	1.24		Si
SLV 4	2.67	6223.54	-13845	-0.000074	0.0005615	0.0035	2.275		14013.96	14013.96	2.25		Si
SLV 4	3.47	-5139.98	-12946	-0.0000638	0.0005615	0.0035	2.275		14555.45	14555.45	2.83		Si
SLV 1	2.67	7949.32	-20010	-0.0001016	0.0005615	0.0035	2.275		19402.8	19402.8	2.44		Si
SLV 1	3.47	-4430.56	-19028	-0.0000751	0.0005615	0.0035	2.275		19814.49	19814.49	4.47		Si
SLV 8	2.67	2636.79	-4950	-0.0000291	0.0005615	0.0035	2.275		5689.62	5689.62	2.16		Si
SLV 8	3.47	-763.58	-4154	-0.0000143	0.0005615	0.0035	2.275		5893.42	5893.42	7.72		Si
SLV 15	2.67	3314.15	-11950	-0.0000494	0.0005615	0.0035	2.275		12414.56	12414.56	3.75		Si
SLV 15	3.47	6045.98	-11073	-0.0000686	0.0005615	0.0035	2.275		11682.98	11682.98	1.93		Si
SLV 3	2.67	5657.18	-12784	-0.0000673	0.0005615	0.0035	2.275		13114.79	13114.79	2.32		Si
SLV 3	3.47	-3824.75	-11884	-0.0000525	0.0005615	0.0035	2.275		13575.61	13575.61	3.55		Si
SLD 4	2.67	6130.6	-14851	-0.0000755	0.0005615	0.0035	2.275		14873.24	14873.24	2.43		Si
SLD 4	3.47	-3229.07	-13941	-0.0000539	0.0005615	0.0035	2.275		15461.69	15461.69	4.79		Si
SLV 12	2.67	1933.88	-4700	-0.0000229	0.0005615	0.0035	2.275		5426.51	5426.51	2.81		Si
SLV 12	3.47	2197.64	-3911	-0.0000241	0.0005615	0.0035	2.275		4591.17	4591.17	2.09		Si
SLV 7	2.67	2255.47	-4235	-0.0000248	0.0005615	0.0035	2.275		4934.68	4934.68	2.19		Si
SLV 7	3.47	121.92	-3440	-0.0000087	0.0005615	0.0035	2.275		4087.91	4087.91	33.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	2.67	8538.14	-24310	-20244	10191	2.275	2.275	-31780	10833	7442	40441	19075	5801	24876	No	2.44	Si
SLU 74	3.47	380.71	-23095	-19232	10191	2.275	2.275	-30191	10833	7173	40441	19075	5801	24876	No	2.44	Si
SLU 79	2.67	8525.38	-24255	-20198	10132	2.275	2.275	-31707	10833	7430	40441	19075	5801	24876	No	2.46	Si
SLU 79	3.47	415.28	-23040	-19186	10132	2.275	2.275	-30119	10833	7160	40441	19075	5801	24876	No	2.46	Si
SLU 82	2.67	8684.18	-25400	-21151	10369	2.275	2.275	-33204	10833	7684	40441	19075	5801	24876	No	2.4	Si
SLU 82	3.47	384.38	-24185	-20139	10369	2.275	2.275	-31615	10833	7414	40441	19075	5801	24876	No	2.4	Si
SLU 78	2.67	8544.05	-24880	-20718	10188	2.275	2.275	-32524	10833	7569	40441	19075	5801	24876	No	2.44	Si
SLU 78	3.47	388.61	-23665	-19706	10188	2.275	2.275	-30936	10833	7299	40441	19075	5801	24876	No	2.44	Si
SLU 77	2.67	8592.82	-24480	-20385	10213	2.275	2.275	-32002	10833	7480	40441	19075	5801	24876	No	2.44	Si
SLU 77	3.47	417.48	-23265	-19373	10213	2.275	2.275	-30413	10833	7210	40441	19075	5801	24876	No	2.44	Si
SLU 75	2.67	8489.38	-24710	-20576	10166	2.275	2.275	-32302	10833	7531	40441	19075	5801	24876	No	2.45	Si
SLU 75	3.47	351.84	-23495	-19564	10166	2.275	2.275	-30713	10833	7261	40441	19075	5801	24876	No	2.45	Si
SLU 81	2.67	8732.94	-25000	-20818	10394	2.275	2.275	-32681	10833	7596	40441	19075	5801	24876	No	2.39	Si
SLU 81	3.47	413.25	-23785	-19806	10394	2.275	2.275	-31093	10833	7326	40441	19075	5801	24876	No	2.39	Si
SLU 83	2.67	8787.62	-25170	-20960	10416	2.275	2.275	-32904	10833	7633	40441	19075	5801	24876	No	2.39	Si
SLU 83	3.47	450.02	-23955	-19948	10416	2.275	2.275	-31315	10833	7363	40441	19075	5801	24876	No	2.39	Si
SLU 80	2.67	8476.62	-24655	-20530	10107	2.275	2.275	-32230	10833	7519	40441	19075	5801	24876	No	2.46	Si
SLU 80	3.47	386.41	-23439	-19518	10107	2.275	2.275	-30641	10833	7249	40441	19075	5801	24876	No	2.46	Si
SLU 84	2.67	8738.85	-25570	-21293	10391	2.275	2.275	-33426	10833	7722	40441	19075	5801	24876	No	2.39	Si
SLU 84	3.47	421.15	-24355	-20280	10391	2.275	2.275	-31837	10833	7452	40441	19075	5801	24876	No	2.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	2.67	10277.26	-29037	-24180	16542	2.275	2.275	-37959	16250	10351	40441	28612	5801	34413		2.08	Si
SLV 6	3.47	-2782.96	-27966	-23288	16565	2.275	2.275	-36558	16250	10351	40441	28612	5801	34413		2.08	Si
SLV 2	2.67	8515.68	-21072	-17547	17962	2.275	2.2001	-27546	15926	9811	40441	28612	5801	34413		1.92	Si
SLV 2	3.47	-5745.8	-20089	-16729	17900	2.275	2.275	-26262	15669	9981	40441	28612	5801	34413		1.92	Si
SLD 1	2.67	7192.67	-18676	-15552	12534	2.275	2.2571	-24414	15300	9669	40441	28612	5801	34413		2.75	Si
SLD 1	3.47	-2766.61	-17712	-14749	12494	2.275	2.275	-23154	15047	9585	40441	28612	5801	34413		2.75	Si
SLV 1	2.67	7949.32	-20010	-16663	15610	2.275	2.2207	-26158	15648	9730	40441	28612	5801	34413		2.2	Si
SLV 1	3.47	-4430.56	-19028	-15845	15548	2.275	2.275	-24874	15391	9804	40441	28612	5801	34413		2.21	Si
SLV 10	2.67	9574.36	-28787	-23972	11913	2.275	2.275	-37632	16250	10351	40441	28612	5801	34413		2.89	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	3.47	178.26	-27722	-23085	11982	2.275	2.275	-36240	16250	10351	40441	28612	5801	34413		2.87	Si
SLV 4	2.67	6223.54	-13845	-11529	14222	2.275	2.064	-18099	14037	8112	40441	28612	5801	34413		2.42	Si
SLV 4	3.47	-5139.98	-12946	-10780	14131	2.275	2.2214	-16923	13801	8584	40441	28612	5801	34413		2.44	Si
SLD 6	2.67	8632.07	-24318	-20250	13056	2.275	2.275	-31789	16250	10351	40441	28612	5801	34413		2.64	Si
SLD 6	3.47	-1702.56	-23296	-19399	13072	2.275	2.275	-30453	16250	10351	40441	28612	5801	34413		2.63	Si
SLD 2	2.67	7554.52	-19354	-16117	14037	2.275	2.2415	-25301	15477	9714	40441	28612	5801	34413		2.45	Si
SLD 2	3.47	-3606.92	-18390	-15314	13997	2.275	2.275	-24041	15225	9698	40441	28612	5801	34413		2.46	Si
SLV 5	2.67	9895.95	-28323	-23585	14958	2.275	2.275	-37025	16250	10351	40441	28612	5801	34413		2.3	Si
SLV 5	3.47	-1897.45	-27251	-22692	14982	2.275	2.275	-35624	16250	10351	40441	28612	5801	34413		2.3	Si
SLD 5	2.67	8392.2	-23868	-19875	12060	2.275	2.275	-31202	16250	10351	40441	28612	5801	34413		2.85	Si
SLD 5	3.47	-1145.51	-22846	-19024	12076	2.275	2.275	-29866	16250	10351	40441	28612	5801	34413		2.85	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.3	5522	-3517	200.29	474.64	2.37	Si
SLV 11	179667	0.3	6188	-3942	200.29	529.47	2.64	Si
SLV 8	179667	0.3	6210	-3956	200.29	531.28	2.65	Si
SLV 12	179667	0.3	6876	-4380	200.29	585.57	2.92	Si
SLV 3	179667	0.3	15727	-10018	200.29	1258.11	6.28	Si
SLV 4	179667	0.3	16749	-10669	200.29	1329.85	6.64	Si
SLV 15	179667	0.3	17947	-11432	200.29	1412.4	7.05	Si
SLV 16	179667	0.3	18968	-12083	200.29	1481.5	7.4	Si
SLV 1	179667	0.3	25283	-16105	200.29	1881.48	9.39	Si
SLV 2	179667	0.3	26305	-16756	200.29	1941.82	9.7	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-17408	-10425	-98	0.692	2103.3	0.954	10.53935	6.24893	Si
SLV 13	-16899	-10292	-99	0.709	2051.5	0.953	10.81774	6.24893	Si
SLV 2	-15143	-6612	-234	0.77	1873.2	0.949	11.78864	6.24893	Si
SLV 1	-14633	-6479	-234	0.792	1821.4	0.948	12.14553	6.24893	Si
SLV 10	-22669	-13292	-561	0.534	2638.2	0.963	8.06836	4.03181	Si
SLV 9	-22326	-13203	-561	0.541	2603.3	0.962	8.17731	4.03181	Si
SLV 6	-21989	-12148	-602	0.547	2569	0.962	8.26211	4.03181	Si
SLV 5	-21646	-12059	-602	0.554	2534.1	0.961	8.37716	4.03181	Si
SLV 16	-12148	-6805	258	0.922	1569.5	0.941	14.24195	6.24893	Si
SLV 15	-11638	-6672	257	0.955	1517.9	0.939	14.77557	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.373	SLU 83	Si
V_SLU	2.388	SLU 83	Si
PF_SLV	1.241	SLV 11	Si
V_SLV	1.916	SLV 2	Si
PFFP_SLV	2.37	SLV 7	Si
R_SLV	1.687	SLV 14	Si

Maschio 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.263	-3.169	-2.163	-3.169	L4	L5	1.9	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	1.57	-2547.24	-11900	-0.000059	0.0003743	0.0035	1.9	8821.04	10404.78	10404.78	4.08	No	Si
SLU 77	3.47	954.55	-17169	-0.0000607	0.0003743	0.0035	1.9	11140.44	12644.59	12644.59	13.25	No	Si
SLU 37	1.57	-2174.86	-9984	-0.0000492	0.0003743	0.0035	1.9	7736.67	9107.41	9107.41	4.19	No	Si
SLU 37	3.47	911	-14677	-0.0000521	0.0003743	0.0035	1.9	10164.88	11223.92	11223.92	12.32	No	Si
SLU 79	1.57	-2528.28	-11789	-0.0000584	0.0003743	0.0035	1.9	8761.92	10332.85	10332.85	4.09	No	Si
SLU 79	3.47	946.6	-16997	-0.0000601	0.0003743	0.0035	1.9	11080.01	12544.2	12544.2	13.25	No	Si
SLU 83	1.57	-2625.36	-12176	-0.0000606	0.0003743	0.0035	1.9	8966.83	10585.48	10585.48	4.03	No	Si
SLU 83	3.47	1034.23	-17712	-0.0000633	0.0003743	0.0035	1.9	11323.84	12962.83	12962.83	12.53	No	Si
SLU 41	1.57	-2271.95	-10371	-0.0000514	0.0003743	0.0035	1.9	7966.06	9371.98	9371.98	4.13	No	Si
SLU 41	3.47	998.63	-15392	-0.0000553	0.0003743	0.0035	1.9	10466.86	11624.85	11624.85	11.64	No	Si
SLU 35	1.57	-2193.82	-10095	-0.0000497	0.0003743	0.0035	1.9	7802.79	9182.74	9182.74	4.19	No	Si
SLU 35	3.47	918.94	-14849	-0.0000527	0.0003743	0.0035	1.9	10239.34	11320.05	11320.05	12.32	No	Si
SLU 62	1.57	-2317.03	-10891	-0.0000535	0.0003743	0.0035	1.9	8266.28	9732.54	9732.54	4.2	No	Si
SLU 62	3.47	791.09	-15489	-0.0000536	0.0003743	0.0035	1.9	10506.87	11680.28	11680.28	14.76	No	Si
SLU 39	1.57	-2246.66	-10299	-0.0000509	0.0003743	0.0035	1.9	7923.54	9322.25	9322.25	4.15	No	Si
SLU 39	3.47	983.21	-15273	-0.0000547	0.0003743	0.0035	1.9	10417.88	11557.76	11557.76	11.76	No	Si
SLU 81	1.57	-2600.08	-12104	-0.0000601	0.0003743	0.0035	1.9	8928.89	10537.99	10537.99	4.05	No	Si
SLU 81	3.47	1018.82	-17593	-0.0000628	0.0003743	0.0035	1.9	11284.53	12892.79	12892.79	12.65	No	Si
SLU 74	1.57	-2521.95	-11827	-0.0000585	0.0003743	0.0035	1.9	8782.4	10357.68	10357.68	4.11	No	Si
SLU 74	3.47	939.13	-17050	-0.0000602	0.0003743	0.0035	1.9	11098.88	12575.31	12575.31	13.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	1.57	-2236.81	-2759	-0.0000692	0.0005615	0.0035	1.52		3431.61	3431.61	1.53		Si
SLD 12	3.47	1676.45	-7682	-0.0000367	0.0005615	0.0035	1.9		6968.67	6968.67	4.16		Si
SLV 15	1.57	-5422.21	-5061	-0.0008105	0.0005615	0.0035	1.52		5445.55	5445.55	1		Si
SLV 15	3.47	4162.7	-14682	-0.0000814	0.0005615	0.0035	1.9		12019.13	12019.13	2.89		Si
SLV 16	1.57	-4717.23	-6132	-0.0001275	0.0005615	0.0035	1.52		6351.06	6351.06	1.35		Si
SLV 16	3.47	3311.02	-14434	-0.0000725	0.0005615	0.0035	1.9		11840.1	11840.1	3.58		Si
SLV 4	1.57	1986.42	-5796	-0.0000341	0.0005615	0.0035	1.9		5398.63	5398.63	2.72		Si
SLV 4	3.47	-2355	-3612	-0.0000434	0.0005615	0.0035	1.52		4187.12	4187.12	1.78		Si
SLV 12	1.57	-2527.62	525	0.0498018	0.0005615	0.0035	1.52		0	0	0		No
SLV 12	3.47	2328.33	-5282	-0.0000371	0.0005615	0.0035	1.9		4960.54	4960.54	2.13		Si
SLV 8	1.57	-516.52	626	0.0581435	0.0005615	0.0035	1.52		0	0	0		No
SLV 8	3.47	628.52	-2035	-0.0000111	0.0005615	0.0035	1.9		2093.02	2093.02	3.33		Si
SLD 15	1.57	-4084.47	-6239	-0.0000777	0.0005615	0.0035	1.52		6440.57	6440.57	1.58		Si
SLD 15	3.47	2845.32	-13588	-0.0000655	0.0005615	0.0035	1.9		11232.07	11232.07	3.95		Si
SLD 11	1.57	-2535.39	-2306	-0.0003286	0.0005615	0.0035	1.52		3024.42	3024.42	1.19		Si
SLD 11	3.47	2037.17	-7787	-0.0000403	0.0005615	0.0035	1.9		7054.44	7054.44	3.46		Si
SLV 11	1.57	-3002.26	1246	0.1187793	0.0005615	0.0035	1.52		0	0	0		No
SLV 11	3.47	2901.74	-5449	-0.000047	0.0005615	0.0035	1.9		5103.27	5103.27	1.76		Si
SLV 7	1.57	-991.16	1347	0.124824	0.0005615	0.0035	1.52		0	0	0		No
SLV 7	3.47	1201.93	-2202	-0.0000192	0.0005615	0.0035	1.9		2244.82	2244.82	1.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	1.57	-2528.28	-11789	-9817	-6190	1.9	1.9	-18453	9405	5003	40441	15930	4845	20775	No	3.36	Si
SLU 79	3.47	946.6	-16997	-14154	-6207	1.9	1.9	-26604	10492	5582	40441	15930	4845	20775	No	3.35	Si
SLU 82	1.57	-2471.49	-12413	-10336	-6260	1.9	1.9	-19429	9535	5073	40441	15930	4845	20775	No	3.32	Si
SLU 82	3.47	1001.78	-17745	-14777	-6277	1.9	1.9	-27775	10648	5665	40441	15930	4845	20775	No	3.31	Si
SLU 83	1.57	-2625.36	-12176	-10139	-6474	1.9	1.9	-19058	9486	5046	40441	15930	4845	20775	No	3.21	Si
SLU 83	3.47	1034.23	-17712	-14749	-6491	1.9	1.9	-27723	10641	5661	40441	15930	4845	20775	No	3.2	Si
SLU 78	1.57	-2418.65	-12209	-10166	-6073	1.9	1.9	-19110	9492	5050	40441	15930	4845	20775	No	3.42	Si
SLU 78	3.47	937.51	-17322	-14424	-6090	1.9	1.9	-27113	10559	5618	40441	15930	4845	20775	No	3.41	Si
SLU 80	1.57	-2399.69	-12098	-10074	-6024	1.9	1.9	-18937	9469	5038	40441	15930	4845	20775	No	3.45	Si
SLU 80	3.47	929.57	-17149	-14280	-6040	1.9	1.9	-26843	10524	5599	40441	15930	4845	20775	No	3.44	Si
SLU 81	1.57	-2600.08	-12104	-10079	-6426	1.9	1.9	-18945	9470	5038	40441	15930	4845	20775	No	3.23	Si
SLU 81	3.47	1018.82	-17593	-14650	-6443	1.9	1.9	-27537	10616	5648	40441	15930	4845	20775	No	3.22	Si
SLU 84	1.57	-2496.77	-12485	-10396	-6308	1.9	1.9	-19542	9550	5081	40441	15930	4845	20775	No	3.29	Si
SLU 84	3.47	1017.2	-17864	-14875	-6325	1.9	1.9	-27961	10673	5678	40441	15930	4845	20775	No	3.28	Si
SLU 77	1.57	-2547.24	-11900	-9909	-6239	1.9	1.9	-18626	9428	5016	40441	15930	4845	20775	No	3.33	Si
SLU 77	3.47	954.55	-17169	-14297	-6256	1.9	1.9	-26874	10528	5601	40441	15930	4845	20775	No	3.32	Si
SLU 74	1.57	-2521.95	-11827	-9849	-6191	1.9	1.9	-18513	9413	5008	40441	15930	4845	20775	No	3.36	Si
SLU 74	3.47	939.13	-17050	-14198	-6208	1.9	1.9	-26688	10503	5588	40441	15930	4845	20775	No	3.35	Si
SLU 75	1.57	-2393.36	-12136	-10106	-6025	1.9	1.9	-18997	9477	5042	40441	15930	4845	20775	No	3.45	Si
SLU 75	3.47	922.1	-17203	-14325	-6042	1.9	1.9	-26927	10535	5604	40441	15930	4845	20775	No	3.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	1.57	-5386.64	-10517	-8758	-10840	1.9	1.3135	-24103	15238	5604	40441	23896	4845	28741		2.65	Si
SLV 13	3.47	3424.47	-19315	-16084	-10437	1.9	1.9	-30232	16250	8645	40441	23896	4845	28741		2.75	Si
SLV 14	1.57	-4681.66	-11588	-9649	-9266	1.9	1.6379	-21267	14670	6728	40441	23896	4845	28741		3.1	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	3.47	2572.79	-19067	-15877	-8863	1.9	1.9	-29844	16250	8645	40441	23896	4845	28741		3.24	Si
SLD 15	1.57	-4084.47	-6239	-5195	-9009	1.52	0.886	0	0	0	40441	19117	3876	22993		2.55	Si
SLD 15	3.47	2845.32	-13588	-11315	-8949	1.9	1.9	-21269	14671	7805	40441	23896	4845	28741		3.21	Si
SLV 12	1.57	-2527.62	525	438	-7068	1.52	0	0	0	0	40441	19117	3876	22993		3.25	Si
SLV 12	3.47	2328.33	-5282	-4399	-7523	1.9	1.5276	-8268	12070	5163	40441	23896	4845	28741		3.82	Si
SLV 11	1.57	-3002.26	1246	1038	-8127	1.52	0	0	0	0	40441	19117	3876	22993		2.83	Si
SLV 11	3.47	2901.74	-5449	-4537	-8582	1.9	1.2524	-8529	12122	4251	40441	23896	4845	28741		3.35	Si
SLD 13	1.57	-4059.26	-9636	-8024	-8420	1.9	1.5862	-18229	14063	6246	40441	23896	4845	28741		3.41	Si
SLD 13	3.47	2376.84	-16452	-13700	-8181	1.9	1.9	-25751	15567	8282	40441	23896	4845	28741		3.51	Si
SLD 11	1.57	-2535.39	-2306	-1920	-6667	1.52	0	0	0	0	40441	19117	3876	22993		3.45	Si
SLD 11	3.47	2037.17	-7787	-6484	-6929	1.9	1.9	-12188	12854	6838	40441	23896	4845	28741		4.15	Si
SLD 16	1.57	-3634.06	-6923	-5765	-8004	1.9	1.2752	-16268	13671	4881	40441	23896	4845	28741		3.59	Si
SLD 16	3.47	2301.18	-13430	-11183	-7944	1.9	1.9	-21021	14621	7778	40441	23896	4845	28741		3.62	Si
SLV 16	1.57	-4717.23	-6132	-5106	-10198	1.52	0.5422	0	0	0	40441	19117	3876	22993		2.25	Si
SLV 16	3.47	3311.02	-14434	-12020	-10108	1.9	1.9	-22593	14935	7946	40441	23896	4845	28741		2.84	Si
SLV 15	1.57	-5422.21	-5061	-4215	-11772	1.52	0	0	0	0	40441	19117	3876	22993		1.95	Si
SLV 15	3.47	4162.7	-14682	-12226	-11681	1.9	1.9	-22981	15013	7987	40441	23896	4845	28741		2.46	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.3	0	-1153	167.27	0	0	No, e>t/2
SLV 8	179667	0.3	2530	-1346	167.27	185.29	1.11	Si
SLV 11	179667	0.3	6223	-3311	167.27	444.61	2.66	Si
SLV 12	179667	0.3	6585	-3503	167.27	469.3	2.81	Si
SLV 3	179667	0.3	8467	-4505	167.27	595.68	3.56	Si
SLV 4	179667	0.3	9005	-4791	167.27	631.14	3.77	Si
SLV 1	179667	0.3	17997	-9575	167.27	1182.48	7.07	Si
SLV 2	179667	0.3	18535	-9861	167.27	1212.94	7.25	Si
SLV 15	179667	0.3	21985	-11696	167.27	1401.71	8.38	Si
SLV 16	179667	0.3	22522	-11982	167.27	1430.08	8.55	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-16096	-9219	26	0.638	1914.8	0.957	9.68429	6.24893	Si
SLV 13	-15872	-8856	26	0.646	1892.1	0.957	9.80432	6.24893	Si
SLV 16	-11808	-5756	236	0.812	1479.3	0.947	12.46914	6.24893	Si
SLV 15	-11585	-5393	236	0.825	1456.7	0.946	12.67761	6.24893	Si
SLV 10	-18635	-12227	-301	0.55	2173.1	0.962	8.30567	4.03181	Si
SLV 9	-18485	-11983	-301	0.554	2157.8	0.962	8.36518	4.03181	Si
SLV 6	-16555	-11394	-371	0.604	1961.6	0.958	9.16079	4.03181	Si
SLV 5	-16405	-11149	-371	0.609	1946.3	0.958	9.23464	4.03181	Si
SLV 2	-9163	-6442	-208	1.002	1211.3	0.937	15.54751	6.24893	Si
SLV 1	-8939	-6079	-208	1.022	1188.7	0.936	15.87637	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.032	SLU 83	Si
V_SLU	3.2	SLU 83	Si
PF_SLV	0	SLV 7	No
V_SLV	1.953	SLV 15	Si
PFFP_SLV	0	SLV 7	No
R_SLV	1.55	SLV 14	Si

Maschio 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.903	5.951	-5.158	5.951	L4	L5	2.255	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	1.57	4420.48	-17927	-0.0000756	0.0003743	0.0035	2.255	14575.77	16133.29	16133.29	3.65	No	Si
SLU 49	3.47	-1028.35	-22949	-0.0000657	0.0003743	0.0035	2.255	16637.83	20319.6	20319.6	19.76	No	Si
SLU 64	1.57	4764.54	-19822	-0.0000836	0.0003743	0.0035	2.255	15457.63	17438.71	17438.71	3.66	No	Si
SLU 64	3.47	-1134.2	-25237	-0.0000731	0.0003743	0.0035	2.255	17283.78	21554.63	21554.63	19	No	Si
SLU 46	1.57	4343	-17405	-0.0000735	0.0003743	0.0035	2.255	14310.89	15780.11	15780.11	3.63	No	Si
SLU 46	3.47	-1026.23	-22247	-0.0000637	0.0003743	0.0035	2.255	16402.8	19957.93	19957.93	19.45	No	Si
SLU 50	1.57	4442.66	-17895	-0.0000756	0.0003743	0.0035	2.255	14559.71	16111.41	16111.41	3.63	No	Si
SLU 50	3.47	-1062.18	-22931	-0.0000659	0.0003743	0.0035	2.255	16631.84	20309.94	20309.94	19.12	No	Si
SLU 45	1.57	4405.5	-17571	-0.0000744	0.0003743	0.0035	2.255	14396.31	15892.28	15892.28	3.61	No	Si
SLU 45	3.47	-1057.16	-22453	-0.0000645	0.0003743	0.0035	2.255	16473.6	20063.28	20063.28	18.98	No	Si
SLU 44	1.57	4183.54	-16574	-0.00007	0.0003743	0.0035	2.255	13869.34	15224.24	15224.24	3.64	No	Si
SLU 44	3.47	-1006.41	-21183	-0.0000606	0.0003743	0.0035	2.255	16013.58	19425.15	19425.15	19.3	No	Si
SLU 43	1.57	4287.7	-16851	-0.0000715	0.0003743	0.0035	2.255	14019.24	15408.66	15408.66	3.59	No	Si
SLU 43	3.47	-1057.95	-21527	-0.0000619	0.0003743	0.0035	2.255	16143.58	19595.12	19595.12	18.52	No	Si
SLU 51	1.57	4380.17	-17728	-0.0000747	0.0003743	0.0035	2.255	14476.18	15998.62	15998.62	3.65	No	Si
SLU 51	3.47	-1031.25	-22725	-0.0000651	0.0003743	0.0035	2.255	16564.49	20202.97	20202.97	19.59	No	Si
SLU 48	1.57	4482.98	-18093	-0.0000765	0.0003743	0.0035	2.255	14658.15	16246.47	16246.47	3.62	No	Si
SLU 48	3.47	-1059.27	-23155	-0.0000666	0.0003743	0.0035	2.255	16703.55	20427.33	20427.33	19.28	No	Si
SLU 47	1.57	4261.02	-17096	-0.000072	0.0003743	0.0035	2.255	14149.42	15572.32	15572.32	3.65	No	Si
SLU 47	3.47	-1008.52	-21885	-0.0000626	0.0003743	0.0035	2.255	16274.81	19774.55	19774.55	19.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	1.57	6261.09	-12766	-0.0000737	0.0005615	0.0035	2.255		12959.54	12959.54	2.07		Si
SLV 4	3.47	-3984.34	-22951	-0.0000837	0.0005615	0.0035	2.255		22637.78	22637.78	5.68		Si
SLV 6	1.57	-1182.96	-1086	-0.0000482	0.0005615	0.0035	1.804		2561.27	2561.27	2.17		Si
SLV 6	3.47	347.62	-2837	-0.0000088	0.0005615	0.0035	2.255		3401.93	3401.93	9.79		Si
SLD 3	1.57	5778.87	-13422	-0.0000707	0.0005615	0.0035	2.255		13510.53	13510.53	2.34		Si
SLD 3	3.47	-3481.14	-22529	-0.000079	0.0005615	0.0035	2.255		22320.57	22320.57	6.41		Si
SLV 3	1.57	7042.89	-12534	-0.0000821	0.0005615	0.0035	2.255		12764.8	12764.8	1.81		Si
SLV 3	3.47	-4978.64	-24474	-0.0000948	0.0005615	0.0035	2.255		23744.41	23744.41	4.77		Si
SLV 1	1.57	4036.18	-5155	-0.0000542	0.0005615	0.0035	2.255		5845.1	5845.1	1.45		Si
SLV 1	3.47	-3895.3	-14955	-0.0000616	0.0005615	0.0035	2.255		16197.46	16197.46	4.16		Si
SLV 2	1.57	3254.38	-5387	-0.0000368	0.0005615	0.0035	2.255		6085.19	6085.19	1.87		Si
SLV 2	3.47	-2901	-13432	-0.0000511	0.0005615	0.0035	2.255		14863.24	14863.24	5.12		Si
SLV 10	1.57	-2089.17	-4810	-0.0000246	0.0005615	0.0035	2.255		6519.19	6519.19	3.12		Si
SLV 10	3.47	2188.05	-3060	-0.0000263	0.0005615	0.0035	2.255		3641.01	3641.01	1.66		Si
SLD 1	1.57	3913.9	-8819	-0.0000465	0.0005615	0.0035	2.255		9527.54	9527.54	2.43		Si
SLD 1	3.47	-2801.55	-16597	-0.0000587	0.0005615	0.0035	2.255		17610.38	17610.38	6.29		Si
SLD 4	1.57	5279.38	-13571	-0.0000673	0.0005615	0.0035	2.255		13635.85	13635.85	2.58		Si
SLD 4	3.47	-2845.88	-21556	-0.0000721	0.0005615	0.0035	2.255		21595.84	21595.84	7.59		Si
SLV 7	1.57	9365.75	-25526	-0.0001289	0.0005615	0.0035	2.255		23071.19	23071.19	2.46		Si
SLV 7	3.47	-3932.93	-35590	-0.0001194	0.0005615	0.0035	2.255		30228.97	30228.97	7.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	1.57	5093.05	-22383	-18639	8648	2.255	2.255	-29520	10833	6996	40441	18907	5750	24657	No	2.85	Si
SLU 75	3.47	-1161.05	-28503	-23735	8547	2.255	2.255	-37591	10833	8355	40441	18907	5750	24657	No	2.88	Si
SLU 82	1.57	5092.34	-22524	-18756	8677	2.255	2.255	-29705	10833	7028	40441	18907	5750	24657	No	2.84	Si
SLU 82	3.47	-1186.94	-28667	-23871	8574	2.255	2.255	-37807	10833	8392	40441	18907	5750	24657	No	2.88	Si
SLU 80	1.57	5130.21	-22706	-18908	8762	2.255	2.255	-29946	10833	7068	40441	18907	5750	24657	No	2.81	Si
SLU 80	3.47	-1166.06	-28980	-24132	8661	2.255	2.255	-38220	10833	8461	40441	18907	5750	24657	No	2.85	Si
SLU 77	1.57	5233.03	-23071	-19211	8872	2.255	2.255	-30427	10833	7149	40441	18907	5750	24657	No	2.78	Si
SLU 77	3.47	-1194.09	-29411	-24491	8768	2.255	2.255	-38788	10833	8557	40441	18907	5750	24657	No	2.81	Si
SLU 74	1.57	5155.54	-22549	-18777	8722	2.255	2.255	-29739	10833	7033	40441	18907	5750	24657	No	2.83	Si
SLU 74	3.47	-1191.97	-28709	-23906	8620	2.255	2.255	-37863	10833	8401	40441	18907	5750	24657	No	2.86	Si
SLU 78	1.57	5170.53	-22905	-19073	8798	2.255	2.255	-30208	10833	7112	40441	18907	5750	24657	No	2.8	Si
SLU 78	3.47	-1163.16	-29205	-24319	8696	2.255	2.255	-38517	10833	8511	40441	18907	5750	24657	No	2.84	Si
SLU 81	1.57	5154.84	-22690	-18894	8750	2.255	2.255	-29924	10833	7065	40441	18907	5750	24657	No	2.82	Si
SLU 81	3.47	-1217.87	-28873	-24043	8647	2.255	2.255	-38079	10833	8438	40441	18907	5750	24657	No	2.85	Si
SLU 79	1.57	5192.71	-22873	-19046	8836	2.255	2.255	-30165	10833	7105	40441	18907	5750	24657	No	2.79	Si
SLU 79	3.47	-1196.99	-29186	-24304	8733	2.255	2.255	-38492	10833	8507	40441	18907	5750	24657	No	2.82	Si
SLU 84	1.57	5169.82	-23045	-19190	8827	2.255	2.255	-30393	10833	7144	40441	18907	5750	24657	No	2.79	Si
SLU 84	3.47	-1189.05	-29369	-24456	8723	2.255	2.255	-38733	10833	8548	40441	18907	5750	24657	No	2.83	Si
SLU 83	1.57	5232.32	-23211	-19329	8900	2.255	2.255	-30612	10833	7180	40441	18907	5750	24657	No	2.77	Si
SLU 83	3.47	-1219.98	-29575	-24628	8795	2.255	2.255	-39005	10833	8593	40441	18907	5750	24657	No	2.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	1.57	5778.87	-13422	-11177	11625	2.255	2.0909	-17702	13957	8171	40441	28360	5750	34111		2.93	Si
SLD 3	3.47	-3481.14	-22529	-18760	11310	2.255	2.255	-29712	16250	10260	40441	28360	5750	34111		3.02	Si
SLD 7	1.57	7199.65	-21599	-17986	11291	2.255	2.255	-28486	16114	10174	40441	28360	5750	34111		3.02	Si
SLD 7	3.47	-2801.03	-29460	-24531	11088	2.255	2.255	-38853	16250	10260	40441	28360	5750	34111		3.08	Si
SLD 8	1.57	6868.53	-21698	-18068	10452	2.255	2.255	-28616	16140	10191	40441	28360	5750	34111		3.26	Si
SLD 8	3.47	-2379.91	-28815	-23994	10252	2.255	2.255	-38002	16250	10260	40441	28360	5750	34111		3.33	Si
SLV 1	1.57	4036.18	-5155	-4292	11303	2.255	1.0334	-6798	11776	4184	40441	28360	5750	34111		3.02	Si
SLV 1	3.47	-3895.3	-14955	-12453	10908	2.255	2.255	-19724	14361	9068	40441	28360	5750	34111		3.13	Si
SLV 7	1.57	9365.75	-25526	-21256	14365	2.255	2.255	-33665	16250	10260	40441	28360	5750	34111		2.37	Si
SLV 7	3.47	-3932.93	-35590	-29636	14080	2.255	2.255	-46937	16250	10942	40441	28360	5750	34111		2.42	Si
SLV 3	1.57	7042.89	-12534	-10437	14769	2.255	1.6967	-16530	13723	6519	40441	28360	5750	34111		2.31	Si
SLV 3	3.47	-4978.64	-24474	-20379	14310	2.255	2.255	-32277	16250	10260	40441	28360	5750	34111		2.38	Si
SLV 4	1.57	6261.09	-12766	-10631	12789	2.255	1.9112	-16837	13784	7376	40441	28360	5750	34111		2.67	Si
SLV 4	3.47	-3984.34	-22951	-19111	12336	2.255	2.255	-30268	16250	10260	40441	28360	5750	34111		2.77	Si
SLV 11	1.57	8459.55	-29251	-24357	10829	2.255	2.255	-38577	16250	10260	40441	28360	5750	34111		3.15	Si
SLV 11	3.47	-2092.5	-35813	-29822	10758	2.255	2.255	-47231	16250	10992	40441	28360	5750	34111		3.17	Si
SLD 4	1.57	5279.38	-13571	-11301	10360	2.255	2.2154	-17898	13996	8682	40441	28360	5750	34111		3.29	Si
SLD 4	3.47	-2845.88	-21556	-17950	10048	2.255	2.255	-28429	16102	10167	40441	28360	5750	34111		3.39	Si
SLV 8	1.57	8839.39	-25683	-21386	13031	2.255	2.255	-33871	16250	10260	40441	28360	5750	34111		2.62	Si
SLV 8	3.47	-3263.5	-34564	-28782	12751	2.255	2.255	-45585	16250	10715	40441	28360	5750	34111		2.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.3	3534	-2232	198.53	305.18	1.54	Si
SLV 5	179667	0.3	4701	-2968	198.53	402.79	2.03	Si
SLV 10	179667	0.3	5126	-3236	198.53	437.88	2.21	Si
SLV 9	179667	0.3	6293	-3973	198.53	533.33	2.69	Si
SLV 2	179667	0.3	18164	-11469	198.53	1414.65	7.13	Si
SLV 1	179667	0.3	19897	-12563	198.53	1529.69	7.71	Si
SLV 14	179667	0.3	23469	-14818	198.53	1755.73	8.84	Si
SLV 13	179667	0.3	25202	-15913	198.53	1860.12	9.37	Si
SLV 4	179667	0.3	32538	-20544	198.53	2263.4	11.4	Si
SLV 3	179667	0.3	34271	-21639	198.53	2349.6	11.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-21192	-25424	231	0.576	2485	0.961	8.7065	6.24893	Si
SLV 3	-20444	-10495	156	0.597	2408.9	0.96	9.0377	6.24893	Si
SLV 16	-20019	-25825	230	0.604	2365.7	0.959	9.15605	6.24893	Si
SLV 4	-19270	-10896	154	0.627	2289.6	0.958	9.52231	6.24893	Si
SLV 11	-29617	-30546	626	0.42	3342.4	0.97	6.29632	4.03181	Si
SLV 7	-29392	-26068	603	0.424	3319.6	0.97	6.34916	4.03181	Si
SLV 12	-28827	-30816	625	0.43	3262	0.969	6.44765	4.03181	Si
SLV 8	-28602	-26338	602	0.434	3239.1	0.969	6.50302	4.03181	Si
SLV 13	-13582	-16611	-130	0.843	1711.9	0.945	12.95892	6.24893	Si
SLV 1	-12834	-1682	-205	0.878	1636	0.943	13.53327	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.594	SLU 43	Si
V_SLU	2.77	SLU 83	Si
PF_SLV	1.448	SLV 1	Si
V_SLV	2.31	SLV 3	Si
PFFP_SLV	1.537	SLV 6	Si
R_SLV	1.393	SLV 15	Si

Maschio 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.903	5.951	L4	L5	1.78	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	1.57	-1203.87	-14147	-0.000058	0.0003743	0.0035	1.78	9080.58	10936.57	10936.57	9.08	No	Si
SLU 42	3.47	686.19	-15633	-0.0000574	0.0003743	0.0035	1.78	9626.82	10854.16	10854.16	15.82	No	Si
SLU 41	1.57	-1198.07	-14313	-0.0000585	0.0003743	0.0035	1.78	9145.45	11026.07	11026.07	9.2	No	Si
SLU 41	3.47	663.88	-15719	-0.0000574	0.0003743	0.0035	1.78	9656.16	10901.31	10901.31	16.42	No	Si
SLU 80	1.57	-1293.58	-16267	-0.0000666	0.0003743	0.0035	1.78	9836.3	11954.56	11954.56	9.24	No	Si
SLU 80	3.47	611.74	-17500	-0.0000632	0.0003743	0.0035	1.78	10203.46	11894.4	11894.4	19.44	No	Si
SLU 83	1.57	-1327.41	-16655	-0.0000684	0.0003743	0.0035	1.78	9957.61	12101.78	12101.78	9.12	No	Si
SLU 83	3.47	644.16	-17927	-0.0000651	0.0003743	0.0035	1.78	10318.14	12138.06	12138.06	18.84	No	Si
SLU 82	1.57	-1297.75	-16146	-0.0000662	0.0003743	0.0035	1.78	9797.36	11909.13	11909.13	9.18	No	Si
SLU 82	3.47	639.53	-17410	-0.0000632	0.0003743	0.0035	1.78	10178.54	11843.46	11843.46	18.52	No	Si
SLU 84	1.57	-1333.22	-16489	-0.0000678	0.0003743	0.0035	1.78	9906.36	12038.51	12038.51	9.03	No	Si
SLU 84	3.47	666.47	-17840	-0.000065	0.0003743	0.0035	1.78	10295.48	12088.65	12088.65	18.14	No	Si
SLU 81	1.57	-1291.94	-16312	-0.0000667	0.0003743	0.0035	1.78	9850.6	11971.47	11971.47	9.27	No	Si
SLU 81	3.47	617.22	-17496	-0.0000632	0.0003743	0.0035	1.78	10202.5	11892.43	11892.43	19.27	No	Si
SLU 40	1.57	-1168.4	-13804	-0.0000564	0.0003743	0.0035	1.78	8943.38	10748.72	10748.72	9.2	No	Si
SLU 40	3.47	659.25	-15202	-0.0000556	0.0003743	0.0035	1.78	9476.55	10619.12	10619.12	16.11	No	Si
SLU 36	1.57	-1177.16	-14064	-0.0000574	0.0003743	0.0035	1.78	9047.61	10891.26	10891.26	9.25	No	Si
SLU 36	3.47	634.54	-15445	-0.0000562	0.0003743	0.0035	1.78	9562.03	10751.33	10751.33	16.94	No	Si
SLU 78	1.57	-1306.5	-16405	-0.0000672	0.0003743	0.0035	1.78	9880.25	12006.88	12006.88	9.19	No	Si
SLU 78	3.47	614.83	-17653	-0.0000638	0.0003743	0.0035	1.78	10245.24	11981.36	11981.36	19.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	1.57	-2525.13	-9777	-0.000056	0.0005615	0.0035	1.78		8679.78	8679.78	3.44		Si
SLD 14	3.47	1776.6	-13180	-0.0000593	0.0005615	0.0035	1.78		10156.7	10156.7	5.72		Si
SLV 13	1.57	-2984.75	-10280	-0.0000625	0.0005615	0.0035	1.78		9043.39	9043.39	3.03		Si
SLV 13	3.47	1978.79	-13994	-0.0000641	0.0005615	0.0035	1.78		10712.53	10712.53	5.41		Si
SLV 14	1.57	-3495.85	-8969	-0.0000655	0.0005615	0.0035	1.78		8099.61	8099.61	2.32		Si
SLV 14	3.47	2617.96	-14101	-0.0000714	0.0005615	0.0035	1.78		10786.34	10786.34	4.12		Si
SLV 2	1.57	1742.57	-4205	-0.0000315	0.0005615	0.0035	1.78		3744.47	3744.47	2.15		Si
SLV 2	3.47	-632.15	-3354	-0.0000163	0.0005615	0.0035	1.78		3718.55	3718.55	5.88		Si
SLV 10	1.57	-1156.9	1335	0.1240178	0.0005615	0.0035	1.424		0	0	0		No
SLV 10	3.47	2303.85	-3854	-0.0000475	0.0005615	0.0035	1.78		3458.68	3458.68	1.5		Si
SLV 16	1.57	-3857.57	-16555	-0.0000934	0.0005615	0.0035	1.78		13193.35	13193.35	3.42		Si
SLV 16	3.47	1822.66	-19645	-0.0000816	0.0005615	0.0035	1.78		14113.38	14113.38	7.74		Si
SLV 6	1.57	414.62	2764	0.2443917	0.0005615	0.0035	1.424		0	0	0		No
SLV 6	3.47	1328.82	-630	-0.0061706	0.0005615	0.0035	1.424		727.4	727.4	0.55		No
SLV 5	1.57	758.73	1881	0.1620784	0.0005615	0.0035	1.424		0	0	0		No
SLV 5	3.47	898.49	-558	-0.0022073	0.0005615	0.0035	1.424		664.46	664.46	0.74		No
SLV 9	1.57	-812.8	452	0.0427268	0.0005615	0.0035	1.424		0	0	0		No
SLV 9	3.47	1873.52	-3782	-0.0000342	0.0005615	0.0035	1.78		3399.34	3399.34	1.81		Si
SLV 1	1.57	2253.67	-5516	-0.0000411	0.0005615	0.0035	1.78		4798.86	4798.86	2.13		Si
SLV 1	3.47	-1271.32	-3247	-0.000023	0.0005615	0.0035	1.78		3630.19	3630.19	2.86		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	1.57	-1271.03	-16062	-13375	-2559	1.78	1.78	-26836	10523	5244	40441	14924	4539	19463	No	7.61	Si
SLU 75	3.47	587.88	-17222	-14341	-2556	1.78	1.78	-28774	10781	5424	40441	14924	4539	19463	No	7.62	Si
SLU 84	1.57	-1333.22	-16489	-13730	-2722	1.78	1.78	-27549	10618	5292	40441	14924	4539	19463	No	7.15	Si
SLU 84	3.47	666.47	-17840	-14856	-2719	1.78	1.78	-29807	10833	5561	40441	14924	4539	19463	No	7.16	Si
SLU 81	1.57	-1291.94	-16312	-13583	-2597	1.78	1.78	-27253	10578	5272	40441	14924	4539	19463	No	7.5	Si
SLU 81	3.47	617.22	-17496	-14569	-2594	1.78	1.78	-29232	10833	5485	40441	14924	4539	19463	No	7.5	Si
SLU 78	1.57	-1306.5	-16405	-13661	-2632	1.78	1.78	-27410	10599	5283	40441	14924	4539	19463	No	7.39	Si
SLU 78	3.47	614.83	-17653	-14699	-2629	1.78	1.78	-29493	10833	5519	40441	14924	4539	19463	No	7.4	Si
SLU 77	1.57	-1300.7	-16571	-13799	-2580	1.78	1.78	-27687	10636	5301	40441	14924	4539	19463	No	7.54	Si
SLU 77	3.47	592.51	-17739	-14771	-2577	1.78	1.78	-29637	10833	5538	40441	14924	4539	19463	No	7.55	Si
SLU 80	1.57	-1293.58	-16267	-13545	-2617	1.78	1.78	-27178	10568	5267	40441	14924	4539	19463	No	7.44	Si
SLU 80	3.47	611.74	-17500	-14572	-2614	1.78	1.78	-29238	10833	5485	40441	14924	4539	19463	No	7.44	Si
SLU 83	1.57	-1327.41	-16655	-13869	-2670	1.78	1.78	-27826	10655	5310	40441	14924	4539	19463	No	7.29	Si
SLU 83	3.47	644.16	-17927	-14928	-2667	1.78	1.78	-29951	10833	5580	40441	14924	4539	19463	No	7.3	Si
SLU 79	1.57	-1287.78	-16433	-13684	-2565	1.78	1.78	-27455	10605	5286	40441	14924	4539	19463	No	7.59	Si
SLU 79	3.47	589.43	-17586	-14644	-2562	1.78	1.78	-29382	10833	5504	40441	14924	4539	19463	No	7.6	Si
SLU 82	1.57	-1297.75	-16146	-13445	-2649	1.78	1.78	-26976	10541	5254	40441	14924	4539	19463	No	7.35	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	3.47	639.53	-17410	-14498	-2646	1.78	1.78	-29088	10823	5465	40441	14924	4539	19463	No	7.36	Si
SLU 76	1.57	-1261.98	-15813	-13168	-2578	1.78	1.78	-26420	10467	5217	40441	14924	4539	19463	No	7.55	Si
SLU 76	3.47	599.68	-17012	-14166	-2575	1.78	1.78	-28423	10734	5377	40441	14924	4539	19463	No	7.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	1.57	-1156.9	1335	1111	-5346	1.424	0.0694	0	0	0	40441	17909	3631	21540		4.03	Si
SLV 10	3.47	2303.85	-3854	-3209	-5377	1.78	0.8767	-6439	11705	3255	40441	22386	4539	26925		5.01	Si
SLV 15	1.57	-3346.47	-17866	-14878	-4060	1.78	1.78	-29851	16250	8099	40441	22386	4539	26925		6.63	Si
SLV 15	3.47	1183.5	-19538	-16269	-3719	1.78	1.78	-32643	16250	8099	40441	22386	4539	26925		7.24	Si
SLV 6	1.57	414.62	2764	2301	-3060	1.424	1.78	0	0	0	40441	17909	3631	21540		7.04	Si
SLV 6	3.47	1328.82	-630	-525	-3272	1.424	0	0	0	0	40441	17909	3631	21540		6.58	Si
SLD 16	1.57	-2738.57	-14506	-12080	-3967	1.78	1.78	-24237	15264	7608	40441	22386	4539	26925		6.79	Si
SLD 16	3.47	1275.55	-16612	-13833	-3751	1.78	1.78	-27755	15968	7958	40441	22386	4539	26925		7.18	Si
SLD 13	1.57	-2198.59	-10615	-8839	-3990	1.78	1.78	-17735	13964	6959	40441	22386	4539	26925		6.75	Si
SLD 13	3.47	1368.24	-13112	-10918	-3816	1.78	1.78	-21907	14798	7375	40441	22386	4539	26925		7.06	Si
SLV 16	1.57	-3857.57	-16555	-13786	-5329	1.78	1.78	-27660	15949	7949	40441	22386	4539	26925		5.05	Si
SLV 16	3.47	1822.66	-19645	-16359	-4988	1.78	1.78	-32823	16250	8099	40441	22386	4539	26925		5.4	Si
SLV 13	1.57	-2984.75	-10280	-8561	-5394	1.78	1.78	-17176	13852	6904	40441	22386	4539	26925		4.99	Si
SLV 13	3.47	1978.79	-13994	-11653	-5127	1.78	1.78	-23380	15093	7522	40441	22386	4539	26925		5.25	Si
SLV 14	1.57	-3495.85	-8969	-7469	-6663	1.78	1.5007	-17932	14003	5884	40441	22386	4539	26925		4.04	Si
SLV 14	3.47	2617.96	-14101	-11742	-6397	1.78	1.78	-23560	15129	7540	40441	22386	4539	26925		4.21	Si
SLV 9	1.57	-812.8	452	376	-4491	1.424	0	0	0	0	40441	17909	3631	21540		4.8	Si
SLV 9	3.47	1873.52	-3782	-3149	-4522	1.78	1.1838	-6319	11680	3872	40441	22386	4539	26925		5.95	Si
SLD 14	1.57	-2525.13	-9777	-8142	-4801	1.78	1.78	-16335	13684	6820	40441	22386	4539	26925		5.61	Si
SLD 14	3.47	1776.6	-13180	-10975	-4627	1.78	1.78	-22021	14821	7387	40441	22386	4539	26925		5.82	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.51 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.3	0	174	156.71	0	0	No, Trazione
SLV 6	179667	0.3	0	481	156.71	0	0	No, Trazione
SLV 10	179667	0.3	3621	-1805	156.71	246.69	1.57	Si
SLV 9	179667	0.3	4238	-2112	156.71	287.5	1.83	Si
SLV 2	179667	0.3	8525	-4249	156.71	561.64	3.58	Si
SLV 1	179667	0.3	9441	-4705	156.71	618.02	3.94	Si
SLV 4	179667	0.3	21374	-10653	156.71	1282.65	8.18	Si
SLV 3	179667	0.3	22290	-11109	156.71	1328.28	8.48	Si
SLV 14	179667	0.3	23813	-11868	156.71	1402.47	8.95	Si
SLV 13	179667	0.3	24728	-12325	156.71	1446.06	9.23	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-15736	-16423	101	0.611	1860.6	0.959	9.26035	6.24893	Si
SLV 16	-15560	-15643	101	0.617	1842.7	0.958	9.35251	6.24893	Si
SLV 11	-19296	-20954	443	0.497	2222.8	0.965	7.4887	4.03181	Si
SLV 12	-19177	-20429	443	0.5	2210.7	0.965	7.52932	4.03181	Si
SLV 7	-17477	-18706	468	0.54	2037.7	0.962	8.15118	4.03181	Si
SLV 8	-17358	-18181	468	0.543	2025.6	0.962	8.20006	4.03181	Si
SLV 13	-10841	-10181	-168	0.83	1363.4	0.946	12.75499	6.24893	Si
SLV 14	-10665	-9401	-167	0.841	1345.6	0.945	12.93795	6.24893	Si
SLV 3	-9673	-8929	184	0.91	1245	0.941	14.05367	6.24893	Si
SLV 4	-9497	-8149	184	0.924	1227.2	0.941	14.27703	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.03	SLU 84	Si
V_SLU	7.149	SLU 84	Si
PF_SLV	0	SLV 5	No
V_SLV	4.03	SLV 10	Si
PFFP_SLV	0	SLV 6	No
R_SLV	1.482	SLV 15	Si

Maschio 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.284	-0.123	5.951	L4	L5	9.235	0.28	3.68	3.68	3.68			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	0.67	-39731.54	-139886	-0.000096	0.0004492	0.0035	9.235	359945.13	536225.04	536225.04	13.5	No	Si
SLU 82	4.35	-14242.11	-99525	-0.0000607	0.0004492	0.0035	9.235	314795.79	426288.42	426288.42	29.93	No	Si
SLU 10	0.67	-30850.12	-98281	-0.0000664	0.0004492	0.0035	9.235	312647.65	422398.5	422398.5	13.69	No	Si
SLU 10	4.35	-11012.15	-69592	-0.000042	0.0004492	0.0035	9.235	250562.56	328931.63	328931.63	29.87	No	Si
SLU 52	0.67	-37827.59	-118897	-0.0000818	0.0004492	0.0035	9.235	342407.95	481929.55	481929.55	12.74	No	Si
SLU 52	4.35	-13377.39	-83816	-0.0000511	0.0004492	0.0035	9.235	284352.51	376787.12	376787.12	28.17	No	Si
SLU 44	0.67	-34244.68	-106791	-0.0000729	0.0004492	0.0035	9.235	326438.09	447581.76	447581.76	13.07	No	Si
SLU 44	4.35	-11459.74	-74937	-0.0000453	0.0004492	0.0035	9.235	263952.97	347107.36	347107.36	30.29	No	Si
SLU 61	0.67	-38378.2	-124251	-0.0000854	0.0004492	0.0035	9.235	348104.79	496359.11	496359.11	12.93	No	Si
SLU 61	4.35	-13880.42	-87706	-0.0000536	0.0004492	0.0035	9.235	292561.66	389333.77	389333.77	28.05	No	Si
SLU 73	0.67	-39180.93	-134532	-0.0000923	0.0004492	0.0035	9.235	356695.22	522951.1	522951.1	13.35	No	Si
SLU 73	4.35	-13739.08	-95636	-0.0000582	0.0004492	0.0035	9.235	307930.18	414128.18	414128.18	30.14	No	Si
SLU 55	0.67	-36583.2	-120603	-0.0000824	0.0004492	0.0035	9.235	344314.66	486528.66	486528.66	13.3	No	Si
SLU 55	4.35	-12130.05	-85335	-0.0000515	0.0004492	0.0035	9.235	287609.35	381861.18	381861.18	31.48	No	Si
SLU 60	0.67	-36900.82	-124499	-0.000085	0.0004492	0.0035	9.235	348349.14	497029.64	497029.64	13.47	No	Si
SLU 60	4.35	-13402.19	-87831	-0.0000535	0.0004492	0.0035	9.235	292819.23	389726.22	389726.22	29.08	No	Si
SLU 54	0.67	-35825.53	-121873	-0.0000829	0.0004492	0.0035	9.235	345678.56	489951.74	489951.74	13.68	No	Si
SLU 54	4.35	-11997.07	-86428	-0.0000521	0.0004492	0.0035	9.235	289913.96	385339.51	385339.51	32.12	No	Si
SLU 63	0.67	-37133.81	-125957	-0.000086	0.0004492	0.0035	9.235	349744.44	500958.22	500958.22	13.49	No	Si
SLU 63	4.35	-12633.08	-89224	-0.000054	0.0004492	0.0035	9.235	295645.94	394080.22	394080.22	31.19	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	0.67	160986.97	-106386	-0.0001186	0.0006738	0.0035	9.235		421872.66	421872.66	2.62		Si
SLV 12	4.35	62328.16	-77767	-0.0000646	0.0006738	0.0035	9.235		325453.34	325453.34	5.22		Si
SLD 6	0.67	-147433.88	-86939	-0.0001019	0.0006738	0.0035	9.235		401348.47	401348.47	2.72		Si
SLD 6	4.35	-53495.52	-59921	-0.0000513	0.0006738	0.0035	9.235		301579.21	301579.21	5.64		Si
SLV 10	0.67	-222623.41	-107342	-0.0001487	0.0006738	0.0035	9.235		471090.21	471090.21	2.12		Si
SLV 10	4.35	-85724.69	-70453	-0.000069	0.0006738	0.0035	9.235		341432.87	341432.87	3.98		Si
SLV 7	0.67	170192.88	-81689	-0.0001111	0.0006738	0.0035	9.235		338667.6	338667.6	1.99		Si
SLV 7	4.35	67827.27	-63219	-0.0000583	0.0006738	0.0035	9.235		274051.08	274051.08	4.04		Si
SLD 5	0.67	-142523.87	-86951	-0.0000999	0.0006738	0.0035	9.235		401391.34	401391.34	2.82		Si
SLD 5	4.35	-52963.08	-59941	-0.0000511	0.0006738	0.0035	9.235		301655.95	301655.95	5.7		Si
SLV 5	0.67	-213417.5	-82645	-0.0001425	0.0006738	0.0035	7.388		386342.15	386342.15	1.81		Si
SLV 5	4.35	-80225.58	-55904	-0.0000586	0.0006738	0.0035	9.235		285959.16	285959.16	3.56		Si
SLV 8	0.67	162387.74	-81670	-0.0001067	0.0006738	0.0035	9.235		338601.9	338601.9	2.09		Si
SLV 8	4.35	66980.87	-63188	-0.000058	0.0006738	0.0035	9.235		273931.17	273931.17	4.09		Si
SLV 9	0.67	-214818.26	-107361	-0.0001436	0.0006738	0.0035	9.235		471154.53	471154.53	2.19		Si
SLV 9	4.35	-84878.29	-70484	-0.0000687	0.0006738	0.0035	9.235		341548.68	341548.68	4.02		Si
SLV 11	0.67	168792.12	-106406	-0.0001217	0.0006738	0.0035	9.235		421938.36	421938.36	2.5		Si
SLV 11	4.35	63174.55	-77798	-0.000065	0.0006738	0.0035	9.235		325559.02	325559.02	5.15		Si
SLV 6	0.67	-221222.64	-82626	-0.00015	0.0006738	0.0035	7.388		386274	386274	1.75		Si
SLV 6	4.35	-81071.97	-55873	-0.0000589	0.0006738	0.0035	9.235		285837.18	285837.18	3.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	0.67	-34229.85	-138360	-98703	2283	9.235	9.235	-38171	10833	54417	115546	92927	47098	140026	No	61.33	Si
SLU 79	4.35	-10447.36	-98881	-70539	2009	9.235	9.235	-27279	10833	43152	115546	92927	47098	140026	No	69.68	Si
SLU 77	0.67	-34457.09	-139464	-99490	2373	9.235	9.235	-38476	10833	54732	115546	92927	47098	140026	No	59.01	Si
SLU 77	4.35	-10633.19	-99891	-71260	2097	9.235	9.235	-27558	10833	43440	115546	92927	47098	140026	No	66.77	Si
SLU 83	0.67	-37009.77	-141842	-101186	2565	9.235	9.235	-39132	10833	55411	115546	92927	47098	140026	No	54.6	Si
SLU 83	4.35	-12516.54	-101168	-72171	2285	9.235	9.235	-27910	10833	43805	115546	92927	47098	140026	No	61.27	Si
SLU 81	0.67	-38254.16	-140135	-99969	2674	9.235	9.235	-38661	10833	54924	115546	92927	47098	140026	No	52.37	Si
SLU 81	4.35	-13763.88	-99650	-71088	2398	9.235	9.235	-27492	10833	43372	115546	92927	47098	140026	No	58.39	Si
SLU 32	0.67	-28724.01	-117142	-83566	2315	9.235	9.235	-32317	10833	48363	115546	92927	47098	140026	No	60.49	Si
SLU 32	4.35	-9515.3	-84148	-60029	2084	9.235	9.235	-23215	10833	38948	115546	92927	47098	140026	No	67.18	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	0.67	-27252.38	-117744	-83996	2116	9.235	9.235	-32483	10833	48535	115546	92927	47098	140026	No	66.18	Si
SLU 37	4.35	-8082.12	-84656	-60392	1884	9.235	9.235	-23355	10833	39093	115546	92927	47098	140026	No	74.32	Si
SLU 39	0.67	-31276.69	-119519	-85262	2506	9.235	9.235	-32973	10833	49041	115546	92927	47098	140026	No	55.87	Si
SLU 39	4.35	-11398.65	-85426	-60941	2273	9.235	9.235	-23567	10833	39313	115546	92927	47098	140026	No	61.61	Si
SLU 74	0.67	-35701.48	-137758	-98273	2482	9.235	9.235	-38005	10833	54245	115546	92927	47098	140026	No	56.42	Si
SLU 74	4.35	-11880.53	-98373	-70177	2210	9.235	9.235	-27139	10833	43007	115546	92927	47098	140026	No	63.37	Si
SLU 41	0.67	-30032.3	-121226	-86480	2398	9.235	9.235	-33444	10833	49528	115546	92927	47098	140026	No	58.4	Si
SLU 41	4.35	-10151.31	-86944	-62024	2160	9.235	9.235	-23986	10833	39746	115546	92927	47098	140026	No	64.83	Si
SLU 35	0.67	-27479.62	-118848	-84784	2206	9.235	9.235	-32788	10833	48850	115546	92927	47098	140026	No	63.48	Si
SLU 35	4.35	-8267.96	-85666	-61112	1972	9.235	9.235	-23634	10833	39382	115546	92927	47098	140026	No	71.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	0.67	168792.12	-106406	-75907	49127	9.235	9.0936	-29355	16250	52768	115546	139391	47098	168314		3.43	Si
SLV 11	4.35	63174.55	-77798	-55499	46948	9.235	9.235	-21463	16250	44605	115546	139391	47098	160151		3.41	Si
SLV 8	0.67	162387.74	-81670	-58261	39692	9.235	7.8875	-22531	16250	45710	115546	139391	47098	161256		4.06	Si
SLV 8	4.35	66980.87	-63188	-45077	37267	9.235	9.235	-17432	15986	41338	115546	139391	47098	156883		4.21	Si
SLV 7	0.67	170192.88	-81689	-58275	45170	9.235	7.6022	-22537	16250	45715	115546	139391	47098	161261		3.57	Si
SLV 7	4.35	67827.27	-63219	-45099	42745	9.235	9.235	-17441	15988	41342	115546	139391	47098	156888		3.67	Si
SLV 5	0.67	-213417.5	-82645	-58957	-40473	7.388	6.1055	0	0	0	115546	111513	37679	115546		2.85	Si
SLV 5	4.35	-80225.58	-55904	-39881	-38669	9.235	9.235	-15423	15585	40299	115546	139391	47098	155844		4.03	Si
SLD 7	0.67	95874.57	-86286	-61555	28616	9.235	9.235	-23805	16250	47027	115546	139391	47098	162573		5.68	Si
SLD 7	4.35	38544.54	-64473	-45994	27080	9.235	9.235	-17787	16057	41521	115546	139391	47098	157067		5.8	Si
SLD 11	0.67	95003.35	-102093	-72830	31158	9.235	9.235	-28166	16250	51537	115546	139391	47098	167083		5.36	Si
SLD 11	4.35	35598.1	-73750	-52612	29772	9.235	9.235	-20346	16250	43450	115546	139391	47098	158996		5.34	Si
SLV 6	0.67	-221222.64	-82626	-58943	-45951	7.388	5.8203	0	0	0	115546	111513	37679	115546		2.51	Si
SLV 6	4.35	-81071.97	-55873	-39859	-44147	9.235	9.235	-15414	15583	40294	115546	139391	47098	155840		3.53	Si
SLV 10	0.67	-222623.41	-107342	-76575	-41993	9.235	7.6306	-36473	16250	53035	115546	139391	47098	168581		4.01	Si
SLV 10	4.35	-85724.69	-70453	-50259	-39944	9.235	9.235	-19437	16250	42509	115546	139391	47098	158055		3.96	Si
SLV 9	0.67	-214818.26	-107361	-76589	-36516	9.235	7.8498	-35232	16250	53041	115546	139391	47098	168586		4.62	Si
SLV 9	4.35	-84878.29	-70484	-50282	-34466	9.235	9.235	-19445	16250	42518	115546	139391	47098	158064		4.59	Si
SLV 12	0.67	160986.97	-106386	-75893	43650	9.235	9.235	-29350	16250	52762	115546	139391	47098	168308		3.86	Si
SLV 12	4.35	62328.16	-77767	-55477	41470	9.235	9.235	-21455	16250	44596	115546	139391	47098	160142		3.86	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 2.51 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-46824	0.3	813.04	5907.74	8305.54	7106.64	8.74	Si
SLV 1	-46917	0.3	813.04	5918.15	8319.27	7118.71	8.76	Si
SLV 4	-48406	0.3	813.04	6084.68	8539.94	7312.31	8.99	Si
SLV 3	-48499	0.3	813.04	6095.01	8553.69	7324.35	9.01	Si
SLV 6	-66248	0.3	813.04	7978.29	11180.74	9579.51	11.78	Si
SLV 5	-66311	0.3	813.04	7984.58	11189.96	9587.27	11.79	Si
SLV 8	-71521	0.3	813.04	8501.84	11957.26	10229.55	12.58	Si
SLV 7	-71583	0.3	813.04	8507.94	11966.38	10237.16	12.59	Si
SLV 10	-84466	0.3	813.04	9717.69	13848	11782.85	14.49	Si
SLV 9	-84529	0.3	813.04	9723.32	13856.97	11790.14	14.5	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.51 Wa = 0.05 Ta = 0.0808

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-92255	-135581	1989	0.536	10733.1	0.963	8.09351	6.24893	Si
SLV 16	-92209	-135552	1991	0.536	10728.3	0.963	8.09679	6.24893	Si
SLV 13	-90061	-135867	2028	0.547	10509.8	0.962	8.26104	6.24893	Si
SLV 14	-90014	-135838	2030	0.547	10505.1	0.962	8.26448	6.24893	Si
SLV 11	-77798	-106406	544	0.636	9262.8	0.957	9.65847	4.03181	Si
SLV 12	-77767	-106386	545	0.636	9259.6	0.957	9.66164	4.03181	Si
SLV 3	-43657	-53193	-2010	0.999	5798.8	0.936	15.51582	6.24893	Si
SLV 4	-43611	-53164	-2008	1	5794.1	0.936	15.5305	6.24893	Si
SLV 1	-41463	-53479	-1971	1.042	5577	0.934	16.21883	6.24893	Si
SLV 2	-41416	-53451	-1969	1.043	5572.2	0.934	16.23486	6.24893	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.74	SLU 52	Si
V_SLU	52.374	SLU 81	Si
PF_SLV	1.746	SLV 6	Si
V_SLV	2.515	SLV 6	Si
PFFP_SLV	8.741	SLV 2	Si
R_SLV	1.295	SLV 15	Si

Maschio 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	5.951	-24.614	-3.169	L5	L6	9.121	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	4.35	11306.99	-84849	-0.0000578	0.0003743	0.0035	9.1207	260668.01	298075.16	298075.16	26.36	No	Si
SLU 60	7.9	4260.85	-58807	-0.0000374	0.0003743	0.0035	9.1207	207525.13	227498.5	227498.5	53.39	No	Si
SLU 61	4.35	12031.48	-84789	-0.000058	0.0003743	0.0035	9.1207	260572.73	297915.08	297915.08	24.76	No	Si
SLU 61	7.9	4301.27	-58784	-0.0000374	0.0003743	0.0035	9.1207	207466.52	227420.4	227420.4	52.87	No	Si
SLU 55	4.35	11626.35	-83005	-0.0000566	0.0003743	0.0035	9.1207	257688.09	292995.65	292995.65	25.2	No	Si
SLU 55	7.9	3694.55	-58113	-0.0000368	0.0003743	0.0035	9.1207	205781.36	225174.48	225174.48	60.95	No	Si
SLU 10	4.35	9763.79	-67347	-0.0000453	0.0003743	0.0035	9.1207	227572.41	249926.65	249926.65	25.6	No	Si
SLU 10	7.9	3229.43	-46796	-0.0000294	0.0003743	0.0035	9.1207	174996.35	184852.81	184852.81	57.24	No	Si
SLU 44	4.35	10778.83	-73176	-0.0000496	0.0003743	0.0035	9.1207	239789.42	265625.15	265625.15	24.64	No	Si
SLU 44	7.9	3294.04	-50931	-0.000032	0.0003743	0.0035	9.1207	186765.07	199541.76	199541.76	60.58	No	Si
SLU 63	4.35	11664.05	-86517	-0.0000591	0.0003743	0.0035	9.1207	263261.41	302497.06	302497.06	25.93	No	Si
SLU 63	7.9	3977.86	-60480	-0.0000384	0.0003743	0.0035	9.1207	211652.11	231944.2	231944.2	58.31	No	Si
SLU 19	4.35	9801.48	-70858	-0.0000476	0.0003743	0.0035	9.1207	235074.75	259335.84	259335.84	26.46	No	Si
SLU 19	7.9	3512.73	-49163	-0.000031	0.0003743	0.0035	9.1207	181806.73	193231.78	193231.78	55.01	No	Si
SLU 54	4.35	11106.39	-83968	-0.0000571	0.0003743	0.0035	9.1207	259259.36	295724.63	295724.63	26.63	No	Si
SLU 54	7.9	3644.41	-59014	-0.0000373	0.0003743	0.0035	9.1207	208041.25	228178.69	228178.69	62.61	No	Si
SLU 52	4.35	11993.78	-81277	-0.0000556	0.0003743	0.0035	9.1207	254786.5	288100.81	288100.81	24.02	No	Si
SLU 52	7.9	4017.97	-56417	-0.0000358	0.0003743	0.0035	9.1207	201454.99	219393.87	219393.87	54.6	No	Si
SLU 47	4.35	10411.4	-74905	-0.0000506	0.0003743	0.0035	9.1207	243182.12	270355.55	270355.55	25.97	No	Si
SLU 47	7.9	2970.62	-52626	-0.000033	0.0003743	0.0035	9.1207	191417.77	205634.35	205634.35	69.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	4.35	-76334.09	-56591	-0.0000642	0.0005615	0.0035	9.1207		254212.29	254212.29	3.33		Si
SLV 12	7.9	-22301.26	-42150	-0.0000336	0.0005615	0.0035	9.1207		200542.72	200542.72	8.99		Si
SLV 6	4.35	88851.33	-73086	-0.0000802	0.0005615	0.0035	9.1207		285809.71	285809.71	3.22		Si
SLV 6	7.9	28591.02	-48171	-0.0000398	0.0005615	0.0035	9.1207		200339.89	200339.89	7.01		Si
SLV 10	4.35	84143.67	-58911	-0.0000689	0.0005615	0.0035	9.1207		236630.03	236630.03	2.81		Si
SLV 10	7.9	23807.79	-41704	-0.0000339	0.0005615	0.0035	9.1207		178652.52	178652.52	7.5		Si
SLD 9	4.35	56840.59	-61142	-0.0000593	0.0005615	0.0035	9.1207		244274.91	244274.91	4.3		Si
SLD 9	7.9	15080.65	-43144	-0.0000313	0.0005615	0.0035	9.1207		183643.53	183643.53	12.18		Si
SLV 8	4.35	-71626.42	-70766	-0.0000716	0.0005615	0.0035	9.1207		303238.93	303238.93	4.23		Si
SLV 8	7.9	-17518.04	-48616	-0.0000357	0.0005615	0.0035	9.1207		225141.66	225141.66	12.85		Si
SLV 7	4.35	-68812.67	-70866	-0.0000705	0.0005615	0.0035	9.1207		303567.86	303567.86	4.41		Si
SLV 7	7.9	-18613.07	-48767	-0.0000362	0.0005615	0.0035	9.1207		225685.38	225685.38	12.13		Si
SLD 10	4.35	55070.53	-61079	-0.0000585	0.0005615	0.0035	9.1207		244058.05	244058.05	4.43		Si
SLD 10	7.9	15769.5	-43049	-0.0000316	0.0005615	0.0035	9.1207		183329.64	183329.64	11.63		Si
SLV 9	4.35	86957.42	-59011	-0.0000701	0.0005615	0.0035	9.1207		236973.16	236973.16	2.73		Si
SLV 9	7.9	22712.76	-41855	-0.0000336	0.0005615	0.0035	9.1207		179195.97	179195.97	7.89		Si
SLV 11	4.35	-73520.33	-56691	-0.0000632	0.0005615	0.0035	9.1207		254582.89	254582.89	3.46		Si
SLV 11	7.9	-23396.29	-42301	-0.0000341	0.0005615	0.0035	9.1207		201117.37	201117.37	8.6		Si
SLV 5	4.35	91665.09	-73186	-0.0000815	0.0005615	0.0035	9.1207		286163.26	286163.26	3.12		Si
SLV 5	7.9	27495.99	-48322	-0.0000394	0.0005615	0.0035	9.1207		200844.48	200844.48	7.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	4.35	8629.11	-83944	-69901	-970	9.1207	9.1207	-27372	10594	40253	40441	76472	23258	80694	No	83.16	Si
SLU 41	7.9	2982.32	-59000	-49130	-986	9.1207	9.1207	-19238	9510	31945	40441	76472	23258	72386	No	73.39	Si
SLU 83	4.35	10859.1	-97874	-81501	-896	9.1207	9.1207	-31914	10833	44893	40441	76472	23258	85334	No	95.22	Si
SLU 83	7.9	3770.87	-68621	-57142	-915	9.1207	9.1207	-22375	9928	35150	40441	76472	23258	75591	No	82.62	Si
SLU 47	4.35	10411.4	-74905	-62374	903	9.1207	9.1207	-24424	10201	37243	40441	76472	23258	77683	No	86	Si
SLU 47	7.9	2970.62	-52626	-43823	778	9.1207	9.1207	-17160	9232	29822	40441	76472	23258	70263	No	90.31	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	4.35	7704.02	-83123	-69218	-951	9.1207	9.1207	-27104	10558	39980	40441	76472	23258	80421	No	84.61	Si
SLU 35	7.9	2325.46	-59231	-49322	-966	9.1207	9.1207	-19313	9520	32022	40441	76472	23258	72463	No	74.99	Si
SLU 74	4.35	10301.44	-95326	-79379	-885	9.1207	9.1207	-31083	10833	44044	40441	76472	23258	84485	No	95.48	Si
SLU 74	7.9	3437.41	-67156	-55922	-903	9.1207	9.1207	-21898	9864	34662	40441	76472	23258	75103	No	83.15	Si
SLU 32	4.35	8071.45	-81395	-67779	-959	9.1207	9.1207	-26540	10483	39404	40441	76472	23258	79845	No	83.26	Si
SLU 32	7.9	2648.87	-57535	-47910	-975	9.1207	9.1207	-18760	9446	31457	40441	76472	23258	71898	No	73.77	Si
SLU 37	4.35	7740.99	-82200	-68449	-890	9.1207	9.1207	-26803	10518	39673	40441	76472	23258	80114	No	90	Si
SLU 37	7.9	2348.65	-58344	-48584	-906	9.1207	9.1207	-19024	9481	31727	40441	76472	23258	72168	No	79.68	Si
SLU 39	4.35	8996.54	-82216	-68462	-979	9.1207	9.1207	-26808	10519	39678	40441	76472	23258	80119	No	81.85	Si
SLU 39	7.9	3305.74	-57305	-47718	-995	9.1207	9.1207	-18685	9436	31380	40441	76472	23258	71821	No	72.21	Si
SLU 77	4.35	9934.01	-97054	-80818	-876	9.1207	9.1207	-31646	10833	44620	40441	76472	23258	85061	No	97.07	Si
SLU 77	7.9	3114	-68852	-57334	-895	9.1207	9.1207	-22450	9938	35226	40441	76472	23258	75667	No	84.55	Si
SLU 81	4.35	11226.53	-96146	-80062	-905	9.1207	9.1207	-31350	10833	44318	40441	76472	23258	84758	No	93.69	Si
SLU 81	7.9	4094.28	-66926	-55730	-923	9.1207	9.1207	-21822	9854	34585	40441	76472	23258	75026	No	81.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	4.35	86957.42	-59011	-49139	45142	9.1207	9.1207	-19242	14265	38096	40441	114708	23258	78537		1.74	Si
SLV 9	7.9	22712.76	-41855	-34854	42375	9.1207	9.1207	-13648	13146	33573	40441	114708	23258	74014		1.75	Si
SLV 8	4.35	-71626.42	-70766	-58927	-46059	9.1207	9.1207	-23074	15032	42011	40441	114708	23258	82452		1.79	Si
SLV 8	7.9	-17518.04	-48616	-40483	-43317	9.1207	9.1207	-15852	13587	34699	40441	114708	23258	75140		1.73	Si
SLD 8	4.35	-41509.59	-68634	-57153	-28886	9.1207	9.1207	-22380	14893	41301	40441	114708	23258	81742		2.83	Si
SLD 8	7.9	-9885.92	-47327	-39410	-27170	9.1207	9.1207	-15432	13503	34484	40441	114708	23258	74925		2.76	Si
SLV 7	4.35	-68812.67	-70866	-59011	-40780	9.1207	9.1207	-23107	15038	42044	40441	114708	23258	82485		2.02	Si
SLV 7	7.9	-18613.07	-48767	-40609	-38040	9.1207	9.1207	-15901	13597	34724	40441	114708	23258	75165		1.98	Si
SLD 12	4.35	-44534.82	-59618	-49645	-28257	9.1207	9.1207	-19440	14305	38298	40441	114708	23258	78739		2.79	Si
SLD 12	7.9	-12891.49	-43265	-36027	-26585	9.1207	9.1207	-14107	13238	33807	40441	114708	23258	74248		2.79	Si
SLV 10	4.35	84143.67	-58911	-49056	39863	9.1207	9.1207	-19209	14258	38062	40441	114708	23258	78503		1.97	Si
SLV 10	7.9	23807.79	-41704	-34728	37097	9.1207	9.1207	-13598	13136	33548	40441	114708	23258	73989		1.99	Si
SLV 11	4.35	-73520.33	-56691	-47207	-39795	9.1207	9.1207	-18485	14114	37323	40441	114708	23258	77764		1.95	Si
SLV 11	7.9	-23396.29	-42301	-35224	-37127	9.1207	9.1207	-13793	13175	33647	40441	114708	23258	74088		2	Si
SLV 12	4.35	-76334.09	-56591	-47124	-45074	9.1207	9.1207	-18452	14107	37290	40441	114708	23258	77731		1.72	Si
SLV 12	7.9	-22301.26	-42150	-35099	-42404	9.1207	9.1207	-13744	13165	33622	40441	114708	23258	74063		1.75	Si
SLV 6	4.35	88851.33	-73086	-60859	38878	9.1207	9.1207	-23831	15183	42784	40441	114708	23258	83225		2.14	Si
SLV 6	7.9	28591.02	-48171	-40112	36184	9.1207	9.1207	-15707	13558	34624	40441	114708	23258	75065		2.07	Si
SLV 5	4.35	91665.09	-73186	-60943	44157	9.1207	9.1207	-23864	15189	42817	40441	114708	23258	83258		1.89	Si
SLV 5	7.9	27495.99	-48322	-40238	41461	9.1207	9.1207	-15756	13568	34650	40441	114708	23258	75091		1.81	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.38	14875	-37987	966.04	4800.2	4.97	Si
SLV 15	179667	0.38	14957	-38196	966.04	4823.73	4.99	Si
SLV 14	179667	0.38	15070	-38485	966.04	4856.27	5.03	Si
SLV 13	179667	0.38	15152	-38694	966.04	4879.72	5.05	Si
SLV 12	179667	0.38	19031	-48600	966.04	5956.15	6.17	Si
SLV 11	179667	0.38	19086	-48741	966.04	5970.92	6.18	Si
SLV 10	179667	0.38	19681	-50261	966.04	6129.71	6.35	Si
SLV 9	179667	0.38	19736	-50401	966.04	6144.32	6.36	Si
SLV 8	179667	0.38	22776	-58166	966.04	6928.75	7.17	Si
SLV 7	179667	0.38	22831	-58307	966.04	6942.56	7.19	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-56192	-88240	2209	0.806	7003.8	0.948	12.36583	6.9554	Si
SLV 1	-56058	-88936	2202	0.808	6990.2	0.947	12.39304	6.9554	Si
SLV 4	-55967	-88091	2209	0.809	6981	0.947	12.40897	6.9554	Si
SLV 2	-55834	-88787	2202	0.811	6967.4	0.947	12.43637	6.9554	Si
SLV 15	-34637	-40990	-2175	1.193	4822.3	0.928	18.67902	6.9554	Si
SLV 13	-34504	-41686	-2182	1.197	4808.8	0.928	18.73636	6.9554	Si
SLV 16	-34413	-40841	-2176	1.199	4799.7	0.928	18.77953	6.9554	Si
SLV 14	-34280	-41537	-2182	1.203	4786.2	0.928	18.8375	6.9554	Si
SLV 7	-48767	-70866	682	0.933	6250.9	0.942	14.39299	4.64355	Si
SLV 8	-48616	-70766	682	0.935	6235.6	0.942	14.43155	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	24.021	SLU 52	Si
V_SLU	72.209	SLU 39	Si
PF_SLV	2.725	SLV 9	Si
V_SLV	1.725	SLV 12	Si
PFFP_SLV	4.969	SLV 16	Si
R_SLV	1.778	SLV 3	Si

Maschio 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L5	L6	1.837	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	5.25	-1376.18	-12676	-0.0000525	0.0003743	0.0035	1.8365	8821.83	10490.79	10490.79	7.62	No	Si
SLU 50	7.05	-405.19	-11171	-0.0000376	0.0003743	0.0035	1.8365	8069.23	9550.45	9550.45	23.57	No	Si
SLU 44	5.25	-1282	-11765	-0.0000485	0.0003743	0.0035	1.8365	8375.72	9920.84	9920.84	7.74	No	Si
SLU 44	7.05	-402.74	-10357	-0.000035	0.0003743	0.0035	1.8365	7629.42	9011.97	9011.97	22.38	No	Si
SLU 47	5.25	-1297.15	-12140	-0.0000499	0.0003743	0.0035	1.8365	8563.03	10157.49	10157.49	7.83	No	Si
SLU 47	7.05	-421.76	-10754	-0.0000365	0.0003743	0.0035	1.8365	7846.44	9276.71	9276.71	22	No	Si
SLU 49	5.25	-1354.98	-12769	-0.0000526	0.0003743	0.0035	1.8365	8865.82	10546.36	10546.36	7.78	No	Si
SLU 49	7.05	-439.34	-11348	-0.0000386	0.0003743	0.0035	1.8365	8161.71	9660.96	9660.96	21.99	No	Si
SLU 43	5.25	-1345.87	-11925	-0.0000497	0.0003743	0.0035	1.8365	8456.37	10021.64	10021.64	7.45	No	Si
SLU 43	7.05	-367.14	-10379	-0.0000347	0.0003743	0.0035	1.8365	7641.29	9026.21	9026.21	24.59	No	Si
SLU 48	5.25	-1393.31	-12866	-0.0000533	0.0003743	0.0035	1.8365	8910.93	10603.41	10603.41	7.61	No	Si
SLU 48	7.05	-417.98	-11361	-0.0000384	0.0003743	0.0035	1.8365	8168.39	9668.91	9668.91	23.13	No	Si
SLU 51	5.25	-1337.85	-12580	-0.0000518	0.0003743	0.0035	1.8365	8776.09	10433.05	10433.05	7.8	No	Si
SLU 51	7.05	-426.55	-11158	-0.0000378	0.0003743	0.0035	1.8365	8062.47	9542.33	9542.33	22.37	No	Si
SLU 46	5.25	-1339.83	-12394	-0.0000512	0.0003743	0.0035	1.8365	8686.79	10318.89	10318.89	7.7	No	Si
SLU 46	7.05	-420.32	-10952	-0.0000371	0.0003743	0.0035	1.8365	7952.94	9410.33	9410.33	22.39	No	Si
SLU 64	5.25	-1407.57	-13710	-0.0000563	0.0003743	0.0035	1.8365	9292.91	11101.95	11101.95	7.89	No	Si
SLU 64	7.05	-577.65	-12450	-0.0000435	0.0003743	0.0035	1.8365	8713.95	10354.73	10354.73	17.93	No	Si
SLU 45	5.25	-1378.15	-12490	-0.0000519	0.0003743	0.0035	1.8365	8733.16	10378.93	10378.93	7.53	No	Si
SLU 45	7.05	-398.95	-10964	-0.0000369	0.0003743	0.0035	1.8365	7959.8	9419.03	9419.03	23.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	5.25	-2651.66	-7682	-0.0000483	0.0005615	0.0035	1.8365		7371.6	7371.6	2.78		Si
SLV 14	7.05	1277.88	-5818	-0.0000291	0.0005615	0.0035	1.8365		5216.12	5216.12	4.08		Si
SLV 15	5.25	-3353.56	-12635	-0.0000708	0.0005615	0.0035	1.8365		11055.54	11055.54	3.3		Si
SLV 15	7.05	1553.95	-8187	-0.000039	0.0005615	0.0035	1.8365		7104.13	7104.13	4.57		Si
SLV 13	5.25	-1866.84	-6703	-0.0000374	0.0005615	0.0035	1.8365		6598.01	6598.01	3.53		Si
SLV 13	7.05	654.56	-6302	-0.0000246	0.0005615	0.0035	1.8365		5610.11	5610.11	8.57		Si
SLD 16	5.25	-3012.41	-12423	-0.0000667	0.0005615	0.0035	1.8365		10902.46	10902.46	3.62		Si
SLD 16	7.05	1217.75	-8350	-0.0000362	0.0005615	0.0035	1.8365		7228.52	7228.52	5.94		Si
SLV 16	5.25	-4138.38	-13614	-0.000082	0.0005615	0.0035	1.8365		11728.83	11728.83	2.83		Si
SLV 16	7.05	2177.27	-7704	-0.0000435	0.0005615	0.0035	1.8365		6726.94	6726.94	3.09		Si
SLV 1	5.25	2000.82	-7280	-0.0000405	0.0005615	0.0035	1.8365		6392.34	6392.34	3.19		Si
SLV 1	7.05	-3082.6	-11336	-0.0000639	0.0005615	0.0035	1.8365		10127.21	10127.21	3.29		Si
SLV 6	5.25	1725.04	-976	-0.006249	0.0005615	0.0035	1.4692		1071.23	1071.23	0.62		No
SLV 6	7.05	-2302.39	-6970	-0.0000426	0.0005615	0.0035	1.8365		6815.26	6815.26	2.96		Si
SLV 10	5.25	564.74	-803	-0.0000131	0.0005615	0.0035	1.8365		916.12	916.12	1.62		Si
SLV 10	7.05	-1181.24	-5460	-0.0000271	0.0005615	0.0035	1.8365		5595.32	5595.32	4.74		Si
SLV 5	5.25	2253.43	-318	-0.0158211	0.0005615	0.0035	1.4692		479.04	479.04	0.21		No
SLV 5	7.05	-2722.05	-7296	-0.0000482	0.0005615	0.0035	1.8365		7073.83	7073.83	2.6		Si
SLV 9	5.25	1093.14	-145	-0.0072727	0.0005615	0.0035	1.4692		322.15	322.15	0.29		No
SLV 9	7.05	-1600.91	-5785	-0.0000321	0.0005615	0.0035	1.8365		5856.14	5856.14	3.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	5.25	-1126.38	-13270	-11050	621	1.8365	1.8365	-21488	9809	5044	40441	15398	4683	20082	No	32.36	Si
SLU 41	7.05	-840.38	-12988	-10815	623	1.8365	1.8365	-21032	9749	5013	40441	15398	4683	20082	No	32.21	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 34	5.25	-1063.12	-12670	-10550	621	1.8365	1.8365	-20516	9680	4978	40441	15398	4683	20082	No	32.36	Si
SLU 34	7.05	-794.11	-12370	-10300	623	1.8365	1.8365	-20030	9615	4944	40441	15398	4683	20082	No	32.22	Si
SLU 36	5.25	-1120.95	-13299	-11074	580	1.8365	1.8365	-21535	9816	5048	40441	15398	4683	20082	No	34.6	Si
SLU 36	7.05	-811.69	-12964	-10795	583	1.8365	1.8365	-20993	9743	5010	40441	15398	4683	20082	No	34.44	Si
SLU 40	5.25	-1072.9	-12798	-10657	684	1.8365	1.8365	-20724	9708	4992	40441	15398	4683	20082	No	29.38	Si
SLU 40	7.05	-842.72	-12579	-10475	686	1.8365	1.8365	-20370	9660	4968	40441	15398	4683	20082	No	29.26	Si
SLU 82	5.25	-1367.22	-15079	-12557	580	1.8365	1.8365	-24418	10200	5245	40441	15398	4683	20082	No	34.63	Si
SLU 82	7.05	-871.92	-14428	-12015	583	1.8365	1.8365	-23364	10060	5173	40441	15398	4683	20082	No	34.44	Si
SLU 42	5.25	-1088.05	-13173	-10970	696	1.8365	1.8365	-21332	9789	5034	40441	15398	4683	20082	No	28.84	Si
SLU 42	7.05	-861.74	-12975	-10805	699	1.8365	1.8365	-21011	9746	5012	40441	15398	4683	20082	No	28.73	Si
SLU 38	5.25	-1103.82	-13109	-10916	583	1.8365	1.8365	-21228	9775	5027	40441	15398	4683	20082	No	34.46	Si
SLU 38	7.05	-798.9	-12774	-10637	585	1.8365	1.8365	-20686	9703	4989	40441	15398	4683	20082	No	34.3	Si
SLU 39	5.25	-1111.22	-12894	-10737	608	1.8365	1.8365	-20880	9728	5003	40441	15398	4683	20082	No	33.03	Si
SLU 39	7.05	-821.36	-12592	-10486	611	1.8365	1.8365	-20391	9663	4969	40441	15398	4683	20082	No	32.88	Si
SLU 84	5.25	-1382.37	-15455	-12869	593	1.8365	1.8365	-25026	10281	5287	40441	15398	4683	20082	No	33.89	Si
SLU 84	7.05	-890.95	-14824	-12344	596	1.8365	1.8365	-24005	10145	5217	40441	15398	4683	20082	No	33.7	Si
SLU 31	5.25	-1047.97	-12294	-10238	608	1.8365	1.8365	-19908	9599	4936	40441	15398	4683	20082	No	33.03	Si
SLU 31	7.05	-775.09	-11974	-9971	611	1.8365	1.8365	-19389	9530	4900	40441	15398	4683	20082	No	32.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	5.25	1017.12	-4176	-3477	4363	1.8365	1.8365	-6762	11769	6052	40441	23098	4683	27781		6.37	Si
SLD 5	7.05	-1871.73	-8125	-6766	4304	1.8365	1.8365	-13157	13048	6710	40441	23098	4683	27781		6.46	Si
SLV 6	5.25	1725.04	-976	-813	5889	1.4692	0	0	0	0	40441	18478	3747	22225		3.77	Si
SLV 6	7.05	-2302.39	-6970	-5804	5795	1.8365	1.7638	-11287	12674	6259	40441	23098	4683	27781		4.79	Si
SLV 1	5.25	2000.82	-7280	-6062	5908	1.8365	1.8365	-11789	12774	6569	40441	23098	4683	27781		4.7	Si
SLV 1	7.05	-3082.6	-11336	-9440	5481	1.8365	1.8365	-18357	14088	7245	40441	23098	4683	27781		5.07	Si
SLV 11	5.25	-3862.6	-19918	-16586	-5701	1.8365	1.8365	-32254	16250	8356	40441	23098	4683	27781		4.87	Si
SLV 11	7.05	1397.06	-12070	-10051	-5603	1.8365	1.8365	-19545	14326	7367	40441	23098	4683	27781		4.96	Si
SLV 8	5.25	-3230.7	-20750	-17279	-4648	1.8365	1.8365	-33601	16250	8356	40441	23098	4683	27781		5.98	Si
SLV 8	7.05	695.58	-13255	-11037	-4813	1.8365	1.8365	-21464	14709	7564	40441	23098	4683	27781		5.77	Si
SLV 5	5.25	2253.43	-318	-264	6918	1.4692	0	0	0	0	40441	18478	3747	22225		3.21	Si
SLV 5	7.05	-2722.05	-7296	-6075	6824	1.8365	1.6355	-13330	13083	5991	40441	23098	4683	27781		4.07	Si
SLV 16	5.25	-4138.38	-13614	-11337	-5720	1.8365	1.8365	-22046	14826	7624	40441	23098	4683	27781		4.86	Si
SLV 16	7.05	2177.27	-7704	-6415	-5289	1.8365	1.8365	-12475	12912	6640	40441	23098	4683	27781		5.25	Si
SLV 9	5.25	1093.14	-145	-120	4836	1.4692	0	0	0	0	40441	18478	3747	22225		4.6	Si
SLV 9	7.05	-1600.91	-5785	-4818	5006	1.8365	1.8365	-9368	12290	6320	40441	23098	4683	27781		5.55	Si
SLV 2	5.25	1216	-8259	-6877	4380	1.8365	1.8365	-13374	13091	6732	40441	23098	4683	27781		6.34	Si
SLV 2	7.05	-2459.27	-10853	-9037	3953	1.8365	1.8365	-17574	13931	7164	40441	23098	4683	27781		7.03	Si
SLV 12	5.25	-4391	-20577	-17135	-6730	1.8365	1.8365	-33321	16250	8356	40441	23098	4683	27781		4.13	Si
SLV 12	7.05	1816.73	-11744	-9780	-6632	1.8365	1.8365	-19018	14220	7313	40441	23098	4683	27781		4.19	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.38	7393	-3802	189.63	506.49	2.67	Si
SLV 10	179667	0.38	7527	-3871	189.63	515.2	2.72	Si
SLV 5	179667	0.38	9241	-4752	189.63	625.04	3.3	Si
SLV 6	179667	0.38	9375	-4821	189.63	633.52	3.34	Si
SLV 13	179667	0.38	13152	-6763	189.63	865.28	4.56	Si
SLV 14	179667	0.38	13351	-6865	189.63	877.12	4.63	Si
SLV 1	179667	0.38	19311	-9931	189.63	1214.47	6.4	Si
SLV 2	179667	0.38	19511	-10033	189.63	1225.17	6.46	Si
SLV 15	179667	0.38	19963	-10266	189.63	1249.32	6.59	Si
SLV 16	179667	0.38	20162	-10368	189.63	1259.89	6.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-10492	-13362	-56	0.89	1326.8	0.945	13.69587	6.9554	Si
SLV 4	-10306	-13717	-57	0.903	1308	0.944	13.90789	6.9554	Si
SLV 1	-8510	-8707	-330	1.029	1126.1	0.936	15.97445	6.9554	Si
SLV 2	-8325	-9063	-331	1.048	1107.3	0.936	16.27428	6.9554	Si
SLV 15	-8240	-9057	337	1.056	1098.7	0.935	16.40751	6.9554	Si
SLV 16	-8054	-9413	336	1.075	1080	0.934	16.7268	6.9554	Si
SLV 7	-11985	-17344	401	0.772	1478.3	0.95	11.81017	4.64355	Si
SLV 8	-11861	-17583	401	0.779	1465.7	0.949	11.91897	4.64355	Si
SLV 11	-11310	-16052	519	0.801	1409.8	0.948	12.28309	4.64355	Si
SLV 12	-11185	-16292	518	0.808	1397.1	0.947	12.40258	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.446	SLU 43	Si
V_SLU	28.727	SLU 42	Si
PF_SLV	0.213	SLV 5	No
V_SLV	3.213	SLV 5	Si

Stato limite	Coeff.s.	Comb.	Verifica
PFFP_SLV	2.671	SLV 9	Si
R_SLV	1.969	SLV 3	Si

Maschio 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.878	5.951	L5	L6	2.26	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	5.25	-304.07	-19029	-0.0000496	0.0003743	0.0035	2.26	15151.54	18324.53	18324.53	60.26	No	Si
SLU 52	7.05	1561.26	-19480	-0.0000596	0.0003743	0.0035	2.26	15356.49	17246.45	17246.45	11.05	No	Si
SLU 81	5.25	-325.29	-22781	-0.0000601	0.0003743	0.0035	2.26	16639.97	20291.45	20291.45	62.38	No	Si
SLU 81	7.05	1849.79	-23620	-0.0000734	0.0003743	0.0035	2.26	16905.14	19947.1	19947.1	10.78	No	Si
SLU 62	5.25	-338.26	-20544	-0.0000539	0.0003743	0.0035	2.26	15812	19170.6	19170.6	56.67	No	Si
SLU 62	7.05	1660.36	-21064	-0.0000647	0.0003743	0.0035	2.26	16020.12	18363.98	18363.98	11.06	No	Si
SLU 74	5.25	-308.81	-22862	-0.0000602	0.0003743	0.0035	2.26	16666.59	20333.48	20333.48	65.84	No	Si
SLU 74	7.05	1798.57	-23526	-0.0000728	0.0003743	0.0035	2.26	16876.81	19905.13	19905.13	11.07	No	Si
SLU 83	5.25	-307.29	-23312	-0.0000614	0.0003743	0.0035	2.26	16810.83	20569.78	20569.78	66.94	No	Si
SLU 83	7.05	1839.91	-24088	-0.0000747	0.0003743	0.0035	2.26	17042.59	20158.72	20158.72	10.96	No	Si
SLU 82	5.25	-287.39	-22629	-0.0000594	0.0003743	0.0035	2.26	16589.35	20212.82	20212.82	70.33	No	Si
SLU 82	7.05	1819.41	-23472	-0.0000728	0.0003743	0.0035	2.26	16860.12	19880.64	19880.64	10.93	No	Si
SLU 60	5.25	-356.26	-20012	-0.0000526	0.0003743	0.0035	2.26	15589.53	18911.92	18911.92	53.08	No	Si
SLU 60	7.05	1670.23	-20595	-0.0000635	0.0003743	0.0035	2.26	15832.93	18030.23	18030.23	10.8	No	Si
SLU 64	5.25	-361.9	-20345	-0.0000536	0.0003743	0.0035	2.26	15729.89	19074.93	19074.93	52.71	No	Si
SLU 64	7.05	1655.32	-20724	-0.0000637	0.0003743	0.0035	2.26	15885.14	18121.69	18121.69	10.95	No	Si
SLU 61	5.25	-318.36	-19861	-0.0000519	0.0003743	0.0035	2.26	15524.18	18832.97	18832.97	59.16	No	Si
SLU 61	7.05	1639.85	-20447	-0.0000628	0.0003743	0.0035	2.26	15772.2	17925.35	17925.35	10.93	No	Si
SLU 43	5.25	-392.87	-17576	-0.0000463	0.0003743	0.0035	2.26	14442.87	17347.75	17347.75	44.16	No	Si
SLU 43	7.05	1475.77	-17699	-0.000054	0.0003743	0.0035	2.26	14505.69	16023.62	16023.62	10.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	5.25	-2810.64	-11132	-0.0000446	0.0005615	0.0035	2.26		12787.68	12787.68	4.55		Si
SLV 14	7.05	3303.49	-15739	-0.0000596	0.0005615	0.0035	2.26		15521.09	15521.09	4.7		Si
SLV 5	5.25	3343.95	-2833	-0.000918	0.0005615	0.0035	1.808		3406.3	3406.3	1.02		Si
SLV 5	7.05	-1763.34	-2029	-0.0000273	0.0005615	0.0035	1.808		3590.85	3590.85	2.04		Si
SLV 10	5.25	1032.34	-2785	-0.0000129	0.0005615	0.0035	2.26		3355.05	3355.05	3.25		Si
SLV 10	7.05	153.36	-4930	-0.0000125	0.0005615	0.0035	2.26		5626.6	5626.6	36.69		Si
SLV 6	5.25	2716.13	-3375	-0.0000371	0.0005615	0.0035	2.26		3987.78	3987.78	1.47		Si
SLV 6	7.05	-1178.47	-3370	-0.0000152	0.0005615	0.0035	2.26		5027.58	5027.58	4.27		Si
SLV 1	5.25	3734.51	-12293	-0.0000535	0.0005615	0.0035	2.26		12598.27	12598.27	3.37		Si
SLV 1	7.05	-2004.63	-8547	-0.0000329	0.0005615	0.0035	2.26		10309.73	10309.73	5.14		Si
SLV 2	5.25	2802.01	-13098	-0.0000495	0.0005615	0.0035	2.26		13273.24	13273.24	4.74		Si
SLV 2	7.05	-1135.93	-10538	-0.0000323	0.0005615	0.0035	2.26		12221.76	12221.76	10.76		Si
SLD 6	5.25	1605.01	-7978	-0.000029	0.0005615	0.0035	2.26		8723.27	8723.27	5.44		Si
SLD 6	7.05	-263.03	-8081	-0.0000208	0.0005615	0.0035	2.26		9844.81	9844.81	37.43		Si
SLD 5	5.25	1999.96	-7637	-0.0000307	0.0005615	0.0035	2.26		8383.95	8383.95	4.19		Si
SLD 5	7.05	-630.95	-7238	-0.000021	0.0005615	0.0035	2.26		9008.05	9008.05	14.28		Si
SLV 9	5.25	1660.16	-2243	-0.0000203	0.0005615	0.0035	2.26		2770.12	2770.12	1.67		Si
SLV 9	7.05	-431.51	-3589	-0.0000111	0.0005615	0.0035	2.26		5260.85	5260.85	12.19		Si
SLV 16	5.25	-4290.25	-18764	-0.0000741	0.0005615	0.0035	2.26		19454.21	19454.21	4.53		Si
SLV 16	7.05	4550.14	-23165	-0.0000879	0.0005615	0.0035	2.26		21550.3	21550.3	4.74		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	5.25	-308.81	-22862	-19037	-3382	2.26	2.26	-30084	10833	7107	40441	18949	5763	24712	No	7.31	Si
SLU 74	7.05	1798.57	-23526	-19591	-3382	2.26	2.26	-30959	10833	7255	40441	18949	5763	24712	No	7.31	Si
SLU 77	5.25	-290.81	-23393	-19480	-3327	2.26	2.26	-30783	10833	7225	40441	18949	5763	24712	No	7.43	Si
SLU 77	7.05	1788.7	-23995	-19981	-3328	2.26	2.26	-31575	10833	7359	40441	18949	5763	24712	No	7.43	Si
SLU 84	5.25	-269.38	-23161	-19286	-3438	2.26	2.26	-30477	10833	7174	40441	18949	5763	24712	No	7.19	Si
SLU 84	7.05	1809.53	-23940	-19935	-3439	2.26	2.26	-31504	10833	7347	40441	18949	5763	24712	No	7.19	Si
SLU 73	5.25	-273.1	-21797	-18151	-3357	2.26	2.26	-28683	10769	6871	40441	18949	5763	24712	No	7.36	Si
SLU 73	7.05	1740.81	-22504	-18740	-3357	2.26	2.26	-29614	10833	7028	40441	18949	5763	24712	No	7.36	Si
SLU 83	5.25	-307.29	-23312	-19412	-3474	2.26	2.26	-30677	10833	7207	40441	18949	5763	24712	No	7.11	Si
SLU 83	7.05	1839.91	-24088	-20059	-3474	2.26	2.26	-31698	10833	7380	40441	18949	5763	24712	No	7.11	Si
SLU 82	5.25	-287.39	-22629	-18844	-3493	2.26	2.26	-29778	10833	7056	40441	18949	5763	24712	No	7.07	Si
SLU 82	7.05	1819.41	-23472	-19545	-3494	2.26	2.26	-30887	10833	7243	40441	18949	5763	24712	No	7.07	Si
SLU 81	5.25	-325.29	-22781	-18970	-3529	2.26	2.26	-29978	10833	7089	40441	18949	5763	24712	No	7	Si
SLU 81	7.05	1849.79	-23620	-19668	-3529	2.26	2.26	-31082	10833	7276	40441	18949	5763	24712	No	7	Si
SLU 79	5.25	-300.27	-23113	-19246	-3306	2.26	2.26	-30415	10833	7163	40441	18949	5763	24712	No	7.47	Si
SLU 79	7.05	1771.7	-23688	-19726	-3307	2.26	2.26	-31172	10833	7291	40441	18949	5763	24712	No	7.47	Si
SLU 75	5.25	-270.91	-22710	-18911	-3346	2.26	2.26	-29885	10833	7074	40441	18949	5763	24712	No	7.38	Si
SLU 75	7.05	1768.19	-23378	-19467	-3347	2.26	2.26	-30764	10833	7222	40441	18949	5763	24712	No	7.38	Si
SLU 76	5.25	-255.1	-22329	-18593	-3302	2.26	2.26	-29383	10833	6989	40441	18949	5763	24712	No	7.48	Si
SLU 76	7.05	1730.94	-22973	-19130	-3302	2.26	2.26	-30230	10833	7132	40441	18949	5763	24712	No	7.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	5.25	-2237.5	-17017	-14170	-5715	2.26	2.26	-22393	14895	9426	40441	28423	5763	34186		5.98	Si
SLD 15	7.05	2804.64	-19186	-15977	-5386	2.26	2.26	-25248	15466	9787	40441	28423	5763	34186		6.35	Si
SLV 16	5.25	-4290.25	-18764	-15625	-9328	2.26	2.26	-24692	15355	9717	40441	28423	5763	34186		3.66	Si
SLV 16	7.05	4550.14	-23165	-19289	-8814	2.26	2.26	-30483	16250	10283	40441	28423	5763	34186		3.88	Si
SLD 16	5.25	-2833.28	-17531	-14599	-6830	2.26	2.26	-23070	15031	9511	40441	28423	5763	34186		5.01	Si
SLD 16	7.05	3359.65	-20459	-17036	-6501	2.26	2.26	-26922	15801	9999	40441	28423	5763	34186		5.26	Si
SLV 11	5.25	-3271.87	-27683	-23052	-5844	2.26	2.26	-36428	16250	10283	40441	28423	5763	34186		5.85	Si
SLV 11	7.05	3723.98	-28342	-23601	-5658	2.26	2.26	-37296	16250	10283	40441	28423	5763	34186		6.04	Si
SLD 14	5.25	-1908.15	-12785	-10647	-5934	2.26	2.26	-16825	13782	8721	40441	28423	5763	34186		5.76	Si
SLD 14	7.05	2583.65	-15839	-13189	-5616	2.26	2.26	-20843	14585	9230	40441	28423	5763	34186		6.09	Si
SLV 15	5.25	-3357.75	-17959	-14955	-7583	2.26	2.26	-23633	15143	9583	40441	28423	5763	34186		4.51	Si
SLV 15	7.05	3681.44	-21173	-17631	-7069	2.26	2.26	-27862	15989	10118	40441	28423	5763	34186		4.84	Si
SLD 12	5.25	-2555.7	-23421	-19503	-5317	2.26	2.26	-30820	16250	10283	40441	28423	5763	34186		6.43	Si
SLD 12	7.05	3176.46	-24474	-20380	-5203	2.26	2.26	-32205	16250	10283	40441	28423	5763	34186		6.57	Si
SLV 14	5.25	-2810.64	-11132	-9270	-7886	2.26	2.26	-14649	13347	8446	40441	28423	5763	34186		4.34	Si
SLV 14	7.05	3303.49	-15739	-13106	-7393	2.26	2.26	-20711	14559	9213	40441	28423	5763	34186		4.62	Si
SLV 12	5.25	-3899.69	-28225	-23503	-7019	2.26	2.26	-37141	16250	10283	40441	28423	5763	34186		4.87	Si
SLV 12	7.05	4308.85	-29683	-24717	-6833	2.26	2.26	-39060	16250	10283	40441	28423	5763	34186		5	Si
SLV 13	5.25	-1878.14	-10327	-8600	-6141	2.26	2.26	-13590	13135	8312	40441	28423	5763	34186		5.57	Si
SLV 13	7.05	2434.79	-13747	-11448	-5648	2.26	2.26	-18090	14035	8881	40441	28423	5763	34186		6.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	4359	-2759	233.35	375.19	1.61	Si
SLV 9	179667	0.38	5409	-3423	233.35	462.19	1.98	Si
SLV 6	179667	0.38	5931	-3753	233.35	505.01	2.16	Si
SLV 10	179667	0.38	6980	-4417	233.35	590.1	2.53	Si
SLV 1	179667	0.38	16680	-10555	233.35	1316.31	5.64	Si
SLV 2	179667	0.38	19014	-12032	233.35	1474.75	6.32	Si
SLV 13	179667	0.38	20177	-12768	233.35	1551.37	6.65	Si
SLV 14	179667	0.38	22511	-14245	233.35	1700.33	7.29	Si
SLV 3	179667	0.38	28616	-18108	233.35	2060.13	8.83	Si
SLV 4	179667	0.38	30950	-19585	233.35	2186.25	9.37	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-18862	-19803	193	0.642	2237.1	0.958	9.73632	6.9554	Si
SLV 15	-17171	-18529	192	0.695	2065.2	0.955	10.5768	6.9554	Si
SLV 12	-23053	-28669	958	0.511	2663.4	0.964	7.69718	4.64355	Si
SLV 4	-14887	-18702	408	0.771	1833.3	0.95	11.79171	6.9554	Si
SLV 8	-21860	-28339	1022	0.532	2542.1	0.963	8.02417	4.64355	Si
SLV 11	-21915	-27811	957	0.533	2547.6	0.963	8.04798	4.64355	Si
SLV 14	-13840	-11694	-398	0.82	1727	0.947	12.5755	6.9554	Si
SLV 7	-20722	-27481	1021	0.556	2426.3	0.961	8.41078	4.64355	Si
SLV 3	-13197	-17428	406	0.852	1661.7	0.946	13.09756	6.9554	Si
SLV 13	-12150	-10420	-399	0.913	1555.6	0.942	14.07521	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.783	SLU 81	Si
V_SLU	7.002	SLU 81	Si
PF_SLV	1.019	SLV 5	Si
V_SLV	3.665	SLV 16	Si
PFFP_SLV	1.608	SLV 5	Si
R_SLV	1.4	SLV 16	Si

Maschio 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L5	L6	2.136	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 32	5.25	-78.05	-14035	-0.000037	0.0003743	0.0035	2.1364	11537.26	13780.9	13780.9	176.56	No	Si
SLU 32	7.05	-1139.42	-14387	-0.000046	0.0003743	0.0035	2.1364	11737.84	14033.46	14033.46	12.32	No	Si
SLU 39	5.25	-2.96	-14080	-0.0000365	0.0003743	0.0035	2.1364	11563.03	13812.92	13812.92	4661.4	No	Si
SLU 39	7.05	-1235.14	-14599	-0.0000473	0.0003743	0.0035	2.1364	11856.39	14186.5	14186.5	11.49	No	Si
SLU 83	5.25	-136.58	-17002	-0.0000457	0.0003743	0.0035	2.1364	13091.5	15831.58	15831.58	115.91	No	Si
SLU 83	7.05	-1310.55	-17181	-0.0000553	0.0003743	0.0035	2.1364	13175.61	15946.27	15946.27	12.17	No	Si
SLU 35	5.25	-99.96	-14344	-0.000038	0.0003743	0.0035	2.1364	11713.51	14002.41	14002.41	140.07	No	Si
SLU 35	7.05	-1130.31	-14706	-0.0000468	0.0003743	0.0035	2.1364	11915.78	14264.27	14264.27	12.62	No	Si
SLU 41	5.25	-24.88	-14389	-0.0000376	0.0003743	0.0035	2.1364	11738.8	14034.68	14034.68	564.15	No	Si
SLU 41	7.05	-1226.03	-14918	-0.0000481	0.0003743	0.0035	2.1364	12031.96	14418.6	14418.6	11.76	No	Si
SLU 82	5.25	-161.46	-16841	-0.0000455	0.0003743	0.0035	2.1364	13015.32	15725.93	15725.93	97.4	No	Si
SLU 82	7.05	-1293.64	-16900	-0.0000543	0.0003743	0.0035	2.1364	13043.41	15766.2	15766.2	12.19	No	Si
SLU 42	5.25	-71.67	-14537	-0.0000383	0.0003743	0.0035	2.1364	11822.07	14141.89	14141.89	197.33	No	Si
SLU 42	7.05	-1199.99	-14956	-0.000048	0.0003743	0.0035	2.1364	12052.59	14446.32	14446.32	12.04	No	Si
SLU 81	5.25	-114.67	-16693	-0.0000447	0.0003743	0.0035	2.1364	12944.05	15624.18	15624.18	136.26	No	Si
SLU 81	7.05	-1319.67	-16862	-0.0000544	0.0003743	0.0035	2.1364	13025.36	15740.4	15740.4	11.93	No	Si
SLU 40	5.25	-49.75	-14228	-0.0000373	0.0003743	0.0035	2.1364	11647.9	13919.25	13919.25	279.77	No	Si
SLU 40	7.05	-1209.11	-14637	-0.0000472	0.0003743	0.0035	2.1364	11877.45	14213.99	14213.99	11.76	No	Si
SLU 84	5.25	-183.37	-17150	-0.0000465	0.0003743	0.0035	2.1364	13161.16	15926.53	15926.53	86.85	No	Si
SLU 84	7.05	-1284.52	-17219	-0.0000552	0.0003743	0.0035	2.1364	13193.23	15970.36	15970.36	12.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	5.25	-3879.59	-12514	-0.0000599	0.0005615	0.0035	2.1364		13234.35	13234.35	3.41		Si
SLV 13	7.05	3115.03	-6784	-0.0000399	0.0005615	0.0035	2.1364		7071.89	7071.89	2.27		Si
SLV 4	5.25	3467.56	-10417	-0.0000512	0.0005615	0.0035	2.1364		10272.45	10272.45	2.96		Si
SLV 4	7.05	-4602.57	-15431	-0.0000734	0.0005615	0.0035	2.1364		15655.5	15655.5	3.4		Si
SLD 8	5.25	1719.61	-5602	-0.000026	0.0005615	0.0035	2.1364		5937.59	5937.59	3.45		Si
SLD 8	7.05	-2587.95	-9925	-0.0000435	0.0005615	0.0035	2.1364		10969.64	10969.64	4.24		Si
SLV 11	5.25	694.07	-1088	-0.0000089	0.0005615	0.0035	2.1364		1397.65	1397.65	2.01		Si
SLV 11	7.05	-1376.69	-5652	-0.0000237	0.0005615	0.0035	2.1364		6998.61	6998.61	5.08		Si
SLV 7	5.25	2305.78	-2483	-0.0000649	0.0005615	0.0035	2.1364		2835.33	2835.33	1.23		Si
SLV 7	7.05	-3119.96	-8715	-0.0000441	0.0005615	0.0035	2.1364		9884.98	9884.98	3.17		Si
SLV 15	5.25	-2696.19	-6549	-0.0000356	0.0005615	0.0035	2.1364		7866.3	7866.3	2.92		Si
SLV 15	7.05	2043.59	-4563	-0.0000261	0.0005615	0.0035	2.1364		4922.2	4922.2	2.41		Si
SLV 14	5.25	-3088.21	-11736	-0.000052	0.0005615	0.0035	2.1364		12563.89	12563.89	4.07		Si
SLV 14	7.05	2279.76	-7445	-0.0000347	0.0005615	0.0035	2.1364		7694.58	7694.58	3.38		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	5.25	2838.59	-1958	-0.0046744	0.0005615	0.0035	2.1364		2298.47	2298.47	0.81		No
SLV 8	7.05	-3682.32	-9160	-0.0000496	0.0005615	0.0035	2.1364		10285.16	10285.16	2.79		Si
SLV 12	5.25	1226.88	-564	-0.002607	0.0005615	0.0035	1.7091		850.36	850.36	0.69		No
SLV 12	7.05	-1939.05	-6098	-0.0000288	0.0005615	0.0035	2.1364		7432.5	7432.5	3.83		Si
SLV 16	5.25	-1904.81	-5770	-0.0000277	0.0005615	0.0035	2.1364		7113.62	7113.62	3.73		Si
SLV 16	7.05	1208.32	-5224	-0.0000214	0.0005615	0.0035	2.1364		5570.03	5570.03	4.61		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	5.25	-2.96	-14080	-11724	2280	2.1364	2.1364	-19600	9558	5717	40441	17913	5448	23360	No	10.25	Si
SLU 39	7.05	-1235.14	-14599	-12157	2283	2.1364	2.1364	-20322	9654	5775	40441	17913	5448	23360	No	10.23	Si
SLU 84	5.25	-183.37	-17150	-14281	2314	2.1364	2.1364	-23874	10128	6058	40441	17913	5448	23360	No	10.1	Si
SLU 84	7.05	-1284.52	-17219	-14339	2306	2.1364	2.1364	-23970	10140	6066	40441	17913	5448	23360	No	10.13	Si
SLU 82	5.25	-161.46	-16841	-14024	2325	2.1364	2.1364	-23444	10070	6024	40441	17913	5448	23360	No	10.05	Si
SLU 82	7.05	-1293.64	-16900	-14073	2318	2.1364	2.1364	-23526	10081	6031	40441	17913	5448	23360	No	10.08	Si
SLU 79	5.25	-209.87	-16781	-13974	2192	2.1364	2.1364	-23360	10059	6017	40441	17913	5448	23360	No	10.66	Si
SLU 79	7.05	-1189.85	-16767	-13962	2195	2.1364	2.1364	-23341	10057	6016	40441	17913	5448	23360	No	10.64	Si
SLU 81	5.25	-114.67	-16693	-13900	2426	2.1364	2.1364	-23237	10043	6008	40441	17913	5448	23360	No	9.63	Si
SLU 81	7.05	-1319.67	-16862	-14042	2429	2.1364	2.1364	-23473	10074	6026	40441	17913	5448	23360	No	9.62	Si
SLU 77	5.25	-211.67	-16957	-14120	2220	2.1364	2.1364	-23605	10092	6037	40441	17913	5448	23360	No	10.52	Si
SLU 77	7.05	-1214.83	-16970	-14131	2224	2.1364	2.1364	-23622	10094	6038	40441	17913	5448	23360	No	10.5	Si
SLU 40	5.25	-49.75	-14228	-11848	2180	2.1364	2.1364	-19806	9585	5734	40441	17913	5448	23360	No	10.72	Si
SLU 40	7.05	-1209.11	-14637	-12188	2172	2.1364	2.1364	-20375	9661	5779	40441	17913	5448	23360	No	10.76	Si
SLU 74	5.25	-189.75	-16648	-13863	2232	2.1364	2.1364	-23175	10034	6003	40441	17913	5448	23360	No	10.47	Si
SLU 74	7.05	-1223.95	-16651	-13865	2235	2.1364	2.1364	-23179	10035	6003	40441	17913	5448	23360	No	10.45	Si
SLU 83	5.25	-136.58	-17002	-14158	2414	2.1364	2.1364	-23667	10100	6042	40441	17913	5448	23360	No	9.68	Si
SLU 83	7.05	-1310.55	-17181	-14307	2418	2.1364	2.1364	-23917	10133	6062	40441	17913	5448	23360	No	9.66	Si
SLU 41	5.25	-24.88	-14389	-11982	2269	2.1364	2.1364	-20030	9615	5752	40441	17913	5448	23360	No	10.3	Si
SLU 41	7.05	-1226.03	-14918	-12422	2272	2.1364	2.1364	-20766	9713	5810	40441	17913	5448	23360	No	10.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	5.25	2284.16	-16383	-13642	5666	2.1364	2.1364	-22806	14978	8960	40441	26869	5448	32317		5.7	Si
SLV 2	7.05	-3531.13	-17652	-14699	5172	2.1364	2.1364	-24572	15331	9171	40441	26869	5448	32317		6.25	Si
SLV 3	5.25	2676.18	-11196	-9323	7251	2.1364	2.1364	-15585	13534	8096	40441	26869	5448	32317		4.46	Si
SLV 3	7.05	-3767.3	-14770	-12299	6775	2.1364	2.1364	-20560	14529	8691	40441	26869	5448	32317		4.77	Si
SLV 7	5.25	2305.78	-2483	-2067	7864	2.1364	0.4182	-17781	13975	3431	40441	26869	5448	32317		4.11	Si
SLV 7	7.05	-3119.96	-8715	-7257	7751	2.1364	2.1306	-12131	12843	7662	40441	26869	5448	32317		4.17	Si
SLV 9	5.25	-3250.62	-20974	-17465	-6340	2.1364	2.1364	-29196	16250	9721	40441	26869	5448	32317		5.1	Si
SLV 9	7.05	2194.77	-13055	-10871	-6222	2.1364	2.1364	-18173	14051	8405	40441	26869	5448	32317		5.19	Si
SLD 8	5.25	1719.61	-5602	-4665	6172	2.1364	2.1364	-7798	11976	7164	40441	26869	5448	32317		5.24	Si
SLD 8	7.05	-2587.95	-9925	-8265	6102	2.1364	2.1364	-13816	13180	7884	40441	26869	5448	32317		5.3	Si
SLV 8	5.25	2838.59	-1958	-1631	9047	2.1364	0	-110246	16250	3315	40441	26869	5448	32317		3.57	Si
SLV 8	7.05	-3682.32	-9160	-7627	8934	2.1364	1.9986	-13714	13159	7364	40441	26869	5448	32317		3.62	Si
SLV 4	5.25	3467.56	-10417	-8675	9008	2.1364	2.1364	-14501	13317	7966	40441	26869	5448	32317		3.59	Si
SLV 4	7.05	-4602.57	-15431	-12850	8532	2.1364	2.1364	-21481	14713	8801	40441	26869	5448	32317		3.79	Si
SLV 13	5.25	-3879.59	-12514	-10421	-6301	2.1364	2.1364	-17421	13901	8315	40441	26869	5448	32317		5.13	Si
SLV 13	7.05	3115.03	-6784	-5649	-5820	2.1364	1.827	-9443	12305	6295	40441	26869	5448	32317		5.55	Si
SLD 4	5.25	2134.45	-10850	-9035	6221	2.1364	2.1364	-15104	13438	8038	40441	26869	5448	32317		5.19	Si
SLD 4	7.05	-3197.44	-13898	-11573	5917	2.1364	2.1364	-19347	14286	8546	40441	26869	5448	32317		5.46	Si
SLV 12	5.25	1226.88	-564	-470	5984	1.7091	0	0	0	0	40441	21495	4358	25853		4.32	Si
SLV 12	7.05	-1939.05	-6098	-5078	6164	2.1364	2.1364	-8488	12114	7247	40441	26869	5448	32317		5.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	6854	-4100	220.59	548.22	2.49	Si
SLV 12	179667	0.38	6949	-4157	220.59	555.48	2.52	Si
SLV 15	179667	0.38	9343	-5589	220.59	734.55	3.33	Si
SLV 16	179667	0.38	9484	-5673	220.59	744.94	3.38	Si
SLV 7	179667	0.38	10821	-6473	220.59	842.02	3.82	Si
SLV 8	179667	0.38	10916	-6530	220.59	848.87	3.85	Si
SLV 13	179667	0.38	15463	-9250	220.59	1163.86	5.28	Si
SLV 14	179667	0.38	15604	-9335	220.59	1173.3	5.32	Si
SLV 3	179667	0.38	22567	-13499	220.59	1610.65	7.3	Si
SLV 4	179667	0.38	22709	-13584	220.59	1618.99	7.34	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-14062	-17401	120	0.788	1731.9	0.95	12.05435	6.9554	Si
SLV 1	-13778	-17618	120	0.801	1703.1	0.949	12.2706	6.9554	Si
SLV 4	-11894	-12422	391	0.886	1511.9	0.944	13.64145	6.9554	Si
SLV 3	-11610	-12639	392	0.904	1483.1	0.943	13.92828	6.9554	Si
SLV 6	-14212	-20175	-381	0.765	1747.1	0.95	11.69507	4.64355	Si
SLV 5	-14021	-20321	-380	0.773	1727.7	0.95	11.83466	4.64355	Si
SLV 10	-12213	-17544	-538	0.856	1544.2	0.945	13.17317	4.64355	Si
SLV 9	-12022	-17690	-538	0.868	1524.8	0.944	13.35459	4.64355	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-7396	-8631	-404	1.293	1057.4	0.925	20.33042	6.9554	Si
SLV 13	-7112	-8848	-404	1.333	1028.8	0.923	20.98828	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.486	SLU 39	Si
V_SLU	9.616	SLU 81	Si
PF_SLV	0.693	SLV 12	No
V_SLV	3.572	SLV 8	Si
PFFP_SLV	2.485	SLV 11	Si
R_SLV	1.733	SLV 2	Si

Maschio 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L5	L6	2.285	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	6.35	-2133.06	-20640	-0.0000659	0.0003743	0.0035	2.285	16109.07	19500.96	19500.96	9.14	No	Si
SLU 81	7.15	-1193.09	-17809	-0.0000517	0.0003743	0.0035	2.285	14783.78	17739.93	17739.93	14.87	No	Si
SLU 75	6.35	-2090.82	-20582	-0.0000654	0.0003743	0.0035	2.285	16085.06	19472.92	19472.92	9.31	No	Si
SLU 75	7.15	-1145.05	-17715	-0.0000511	0.0003743	0.0035	2.285	14735.36	17675.53	17675.53	15.44	No	Si
SLU 79	6.35	-2078.95	-20397	-0.0000648	0.0003743	0.0035	2.285	16006.62	19382.57	19382.57	9.32	No	Si
SLU 79	7.15	-1124.63	-17540	-0.0000505	0.0003743	0.0035	2.285	14643.22	17547.25	17547.25	15.6	No	Si
SLU 73	6.35	-2049.4	-20150	-0.0000639	0.0003743	0.0035	2.285	15899.76	19261.3	19261.3	9.4	No	Si
SLU 73	7.15	-1105.26	-17306	-0.0000497	0.0003743	0.0035	2.285	14519.12	17372.84	17372.84	15.72	No	Si
SLU 83	6.35	-2141.5	-20911	-0.0000667	0.0003743	0.0035	2.285	16221.38	19634.7	19634.7	9.17	No	Si
SLU 83	7.15	-1199.32	-18050	-0.0000524	0.0003743	0.0035	2.285	14907.7	17902.32	17902.32	14.93	No	Si
SLU 77	6.35	-2106.86	-20677	-0.0000658	0.0003743	0.0035	2.285	16124.58	19519.18	19519.18	9.26	No	Si
SLU 77	7.15	-1155.43	-17807	-0.0000514	0.0003743	0.0035	2.285	14783.09	17739.04	17739.04	15.35	No	Si
SLU 84	6.35	-2133.9	-21088	-0.0000672	0.0003743	0.0035	2.285	16293.25	19722.6	19722.6	9.24	No	Si
SLU 84	7.15	-1195.17	-18199	-0.0000528	0.0003743	0.0035	2.285	14983.4	18003.36	18003.36	15.06	No	Si
SLU 74	6.35	-2098.42	-20405	-0.000065	0.0003743	0.0035	2.285	16010.05	19386.49	19386.49	9.24	No	Si
SLU 74	7.15	-1149.2	-17566	-0.0000507	0.0003743	0.0035	2.285	14657.12	17566.68	17566.68	15.29	No	Si
SLU 82	6.35	-2125.46	-20817	-0.0000663	0.0003743	0.0035	2.285	16182.63	19588.07	19588.07	9.22	No	Si
SLU 82	7.15	-1188.94	-17958	-0.0000521	0.0003743	0.0035	2.285	14860.75	17840.36	17840.36	15.01	No	Si
SLU 78	6.35	-2099.26	-20854	-0.0000663	0.0003743	0.0035	2.285	16197.91	19606.4	19606.4	9.34	No	Si
SLU 78	7.15	-1151.28	-17957	-0.0000518	0.0003743	0.0035	2.285	14860.06	17839.46	17839.46	15.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	6.35	-751.26	-5869	-0.0000182	0.0005615	0.0035	2.285		7705.5	7705.5	10.26		Si
SLV 7	7.15	-1887.88	-5609	-0.0000246	0.0005615	0.0035	2.285		7432.96	7432.96	3.94		Si
SLV 4	6.35	-68.35	-11114	-0.0000266	0.0005615	0.0035	2.285		12920.18	12920.18	189.02		Si
SLV 4	7.15	-4110.59	-11084	-0.000052	0.0005615	0.0035	2.285		12891.53	12891.53	3.14		Si
SLV 2	6.35	-343.5	-16079	-0.0000405	0.0005615	0.0035	2.285		17431.75	17431.75	50.75		Si
SLV 2	7.15	-3779.86	-15102	-0.0000601	0.0005615	0.0035	2.285		16564.16	16564.16	4.38		Si
SLV 15	6.35	-2562.68	-11636	-0.0000435	0.0005615	0.0035	2.285		13410.9	13410.9	5.23		Si
SLV 15	7.15	2342.01	-8451	-0.0000343	0.0005615	0.0035	2.285		9304.19	9304.19	3.97		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	6.35	-337.35	-11864	-0.0000301	0.0005615	0.0035	2.285		13621.36	13621.36	40.38		Si
SLV 3	7.15	-3391.06	-11359	-0.0000481	0.0005615	0.0035	2.285		13151.42	13151.42	3.88		Si
SLD 4	6.35	-572.56	-12150	-0.0000323	0.0005615	0.0035	2.285		13884.41	13884.41	24.25		Si
SLD 4	7.15	-2887.32	-11374	-0.0000449	0.0005615	0.0035	2.285		13166.11	13166.11	4.56		Si
SLD 8	6.35	-897.73	-8583	-0.0000256	0.0005615	0.0035	2.285		10462.35	10462.35	11.65		Si
SLD 8	7.15	-1769.17	-7840	-0.0000292	0.0005615	0.0035	2.285		9712.5	9712.5	5.49		Si
SLV 13	6.35	-2837.83	-16601	-0.0000579	0.0005615	0.0035	2.285		17877.49	17877.49	6.3		Si
SLV 13	7.15	2672.74	-12469	-0.0000463	0.0005615	0.0035	2.285		12919.48	12919.48	4.83		Si
SLV 8	6.35	-570.16	-5364	-0.0000159	0.0005615	0.0035	2.285		7178.22	7178.22	12.59		Si
SLV 8	7.15	-2372.32	-5423	-0.0000273	0.0005615	0.0035	2.285		7240.08	7240.08	3.05		Si
SLV 11	6.35	-1418.86	-5801	-0.0000222	0.0005615	0.0035	2.285		7633.7	7633.7	5.38		Si
SLV 11	7.15	-167.96	-4736	-0.000012	0.0005615	0.0035	2.285		6527.84	6527.84	38.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	6.35	-1933.63	-19022	-15840	-3354	2.285	2.285	-24757	10245	6555	40441	19158	5827	24985	No	7.45	Si
SLU 70	7.15	-962.48	-16203	-13493	-2547	2.285	2.285	-21089	9756	6242	40441	19158	5827	24985	No	9.81	Si
SLU 79	6.35	-2078.95	-20397	-16985	-3386	2.285	2.285	-26548	10484	6708	40441	19158	5827	24985	No	7.38	Si
SLU 79	7.15	-1124.63	-17540	-14606	-2603	2.285	2.285	-22828	9988	6390	40441	19158	5827	24985	No	9.6	Si
SLU 82	6.35	-2125.46	-20817	-17334	-3362	2.285	2.285	-27093	10557	6754	40441	19158	5827	24985	No	7.43	Si
SLU 82	7.15	-1188.94	-17958	-14954	-2601	2.285	2.285	-23373	10061	6437	40441	19158	5827	24985	No	9.61	Si
SLU 76	6.35	-2057.84	-20421	-17005	-3401	2.285	2.285	-26578	10488	6710	40441	19158	5827	24985	No	7.35	Si
SLU 76	7.15	-1111.49	-17547	-14612	-2601	2.285	2.285	-22838	9990	6391	40441	19158	5827	24985	No	9.61	Si
SLU 75	6.35	-2090.82	-20582	-17139	-3389	2.285	2.285	-26788	10516	6728	40441	19158	5827	24985	No	7.37	Si
SLU 75	7.15	-1145.05	-17715	-14752	-2603	2.285	2.285	-23057	10019	6410	40441	19158	5827	24985	No	9.6	Si
SLU 84	6.35	-2133.9	-21088	-17560	-3411	2.285	2.285	-27447	10604	6784	40441	19158	5827	24985	No	7.32	Si
SLU 84	7.15	-1195.17	-18199	-15155	-2626	2.285	2.285	-23687	10103	6464	40441	19158	5827	24985	No	9.51	Si
SLU 77	6.35	-2106.86	-20677	-17218	-3399	2.285	2.285	-26911	10533	6739	40441	19158	5827	24985	No	7.35	Si
SLU 77	7.15	-1155.43	-17807	-14828	-2613	2.285	2.285	-23177	10035	6420	40441	19158	5827	24985	No	9.56	Si
SLU 83	6.35	-2141.5	-20911	-17413	-3373	2.285	2.285	-27216	10573	6765	40441	19158	5827	24985	No	7.41	Si
SLU 83	7.15	-1199.32	-18050	-15030	-2612	2.285	2.285	-23492	10077	6447	40441	19158	5827	24985	No	9.57	Si
SLU 78	6.35	-2099.26	-20854	-17365	-3438	2.285	2.285	-27142	10563	6758	40441	19158	5827	24985	No	7.27	Si
SLU 78	7.15	-1151.28	-17957	-14953	-2627	2.285	2.285	-23371	10061	6437	40441	19158	5827	24985	No	9.51	Si
SLU 80	6.35	-2071.35	-20574	-17133	-3424	2.285	2.285	-26778	10515	6727	40441	19158	5827	24985	No	7.3	Si
SLU 80	7.15	-1120.49	-17689	-14730	-2617	2.285	2.285	-23023	10014	6407	40441	19158	5827	24985	No	9.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	6.35	-2568.84	-15851	-13199	-9751	2.285	2.285	-20630	14543	9304	40441	28738	5827	34564		3.54	Si
SLV 14	7.15	1953.21	-12194	-10154	-7328	2.285	2.285	-15871	13591	8695	40441	28738	5827	34564		4.72	Si
SLD 14	6.35	-2161.77	-15086	-12562	-7098	2.285	2.285	-19635	14344	9177	40441	28738	5827	34564		4.87	Si
SLD 14	7.15	989.75	-12003	-9995	-5355	2.285	2.285	-15622	13541	8664	40441	28738	5827	34564		6.46	Si
SLV 16	6.35	-2293.69	-10886	-9065	-7490	2.285	2.285	-14168	13250	8478	40441	28738	5827	34564		4.61	Si
SLV 16	7.15	1622.48	-8176	-6808	-5967	2.285	2.285	-10641	12545	8026	40441	28738	5827	34564		5.79	Si
SLV 10	6.35	-2154.92	-21846	-18192	-7690	2.285	2.285	-28433	16103	10303	40441	28738	5827	34564		4.49	Si
SLV 10	7.15	450.03	-17944	-14943	-5305	2.285	2.285	-23355	15088	9653	40441	28738	5827	34564		6.52	Si
SLD 13	6.35	-2333.63	-15565	-12962	-8366	2.285	2.285	-20259	14468	9257	40441	28738	5827	34564		4.13	Si
SLD 13	7.15	1449.47	-12178	-10141	-6295	2.285	2.285	-15851	13587	8693	40441	28738	5827	34564		5.49	Si
SLV 4	6.35	-68.35	-11114	-9255	6861	2.285	2.285	-14465	13310	8516	40441	28738	5827	34564		5.04	Si
SLV 4	7.15	-4110.59	-11084	-9230	5035	2.285	2.285	-14426	13302	8511	40441	28738	5827	34564		6.87	Si
SLD 15	6.35	-2162.19	-12482	-10394	-6959	2.285	2.285	-16246	13666	8743	40441	28738	5827	34564		4.97	Si
SLD 15	7.15	1240.91	-9684	-8064	-5448	2.285	2.285	-12604	12937	8277	40441	28738	5827	34564		6.34	Si
SLV 13	6.35	-2837.83	-16601	-13824	-11736	2.285	2.285	-21607	14738	9429	40441	28738	5827	34564		2.95	Si
SLV 13	7.15	2672.74	-12469	-10383	-8800	2.285	2.285	-16229	13662	8741	40441	28738	5827	34564		3.93	Si
SLV 9	6.35	-2336.03	-22352	-18612	-9027	2.285	2.285	-29091	16235	10387	40441	28738	5827	34564		3.83	Si
SLV 9	7.15	934.47	-18130	-15097	-6296	2.285	2.285	-23596	15136	9684	40441	28738	5827	34564		5.49	Si
SLV 15	6.35	-2562.68	-11636	-9690	-9475	2.285	2.285	-15145	13446	8603	40441	28738	5827	34564		3.65	Si
SLV 15	7.15	2342.01	-8451	-7037	-7439	2.285	2.285	-10999	12617	8072	40441	28738	5827	34564		4.65	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.38	7072	-4525	235.93	604.12	2.56	Si
SLV 11	179667	0.38	7473	-4781	235.93	636.61	2.7	Si
SLV 8	179667	0.38	8308	-5315	235.93	703.64	2.98	Si
SLV 7	179667	0.38	8708	-5572	235.93	735.56	3.12	Si
SLV 16	179667	0.38	13352	-8543	235.93	1091.4	4.63	Si
SLV 15	179667	0.38	13948	-8924	235.93	1135.21	4.81	Si
SLV 4	179667	0.38	17470	-11178	235.93	1385.85	5.87	Si
SLV 3	179667	0.38	18066	-11559	235.93	1426.78	6.05	Si
SLV 14	179667	0.38	20054	-12830	235.93	1560.38	6.61	Si
SLV 13	179667	0.38	20649	-13211	235.93	1599.51	6.78	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-12769	-15104	-296	0.891	1621.9	0.944	13.72512	6.9554	Si
SLV 2	-12525	-14905	-296	0.906	1597.2	0.943	13.95551	6.9554	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-10770	-10587	-84	1.041	1419.5	0.937	16.14045	6.9554	Si
SLV 14	-10526	-10387	-84	1.06	1394.8	0.936	16.45764	6.9554	Si
SLV 5	-15689	-18420	-655	0.731	1918.2	0.951	11.16283	4.64355	Si
SLV 6	-15525	-18286	-655	0.737	1901.5	0.951	11.2659	4.64355	Si
SLV 9	-15089	-17065	-592	0.759	1857.3	0.95	11.60618	4.64355	Si
SLV 10	-14925	-16931	-592	0.766	1840.6	0.95	11.71745	4.64355	Si
SLV 3	-9633	-10879	76	1.139	1304.5	0.933	17.74811	6.9554	Si
SLV 4	-9389	-10680	77	1.162	1279.9	0.932	18.13345	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.142	SLU 81	Si
V_SLU	7.267	SLU 78	Si
PF_SLV	3.052	SLV 8	Si
V_SLV	2.945	SLV 13	Si
PFFP_SLV	2.561	SLV 12	Si
R_SLV	1.973	SLV 1	Si

Maschio 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L5	L6	0.58	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 68	6.35	-24.36	-5292	-0.0000544	0.0003743	0.0035	0.58	1043.51	1236.72	1236.72	50.76	No	Si
SLU 68	7.15	473.46	-5277	-0.0001034	0.0003743	0.0035	0.58	1041.93	1186.13	1186.13	2.51	No	Si
SLU 71	6.35	-27.4	-5314	-0.0000549	0.0003743	0.0035	0.58	1045.77	1239.92	1239.92	45.25	No	Si
SLU 71	7.15	476.56	-5310	-0.0001042	0.0003743	0.0035	0.58	1045.36	1192.09	1192.09	2.5	No	Si
SLU 67	6.35	-24.79	-5354	-0.0000551	0.0003743	0.0035	0.58	1049.89	1245.82	1245.82	50.25	No	Si
SLU 67	7.15	478.86	-5342	-0.0001049	0.0003743	0.0035	0.58	1048.63	1197.86	1197.86	2.5	No	Si
SLU 64	6.35	-31.68	-5162	-0.0000538	0.0003743	0.0035	0.58	1029.64	1217.76	1217.76	38.44	No	Si
SLU 64	7.15	468.32	-5168	-0.0001015	0.0003743	0.0035	0.58	1030.31	1166.48	1166.48	2.49	No	Si
SLU 65	6.35	-26.51	-5216	-0.0000538	0.0003743	0.0035	0.58	1035.49	1225.62	1225.62	46.24	No	Si
SLU 65	7.15	469.33	-5206	-0.0001021	0.0003743	0.0035	0.58	1034.41	1173.32	1173.32	2.5	No	Si
SLU 69	6.35	-25.76	-5397	-0.0000557	0.0003743	0.0035	0.58	1054.29	1252.25	1252.25	48.62	No	Si
SLU 69	7.15	482.37	-5390	-0.0001059	0.0003743	0.0035	0.58	1053.52	1206.62	1206.62	2.5	No	Si
SLU 66	6.35	-27.9	-5322	-0.0000551	0.0003743	0.0035	0.58	1046.55	1241.02	1241.02	44.48	No	Si
SLU 66	7.15	478.25	-5319	-0.0001045	0.0003743	0.0035	0.58	1046.28	1193.71	1193.71	2.5	No	Si
SLU 72	6.35	-24.29	-5347	-0.000055	0.0003743	0.0035	0.58	1049.12	1244.71	1244.71	51.24	No	Si
SLU 72	7.15	477.17	-5333	-0.0001046	0.0003743	0.0035	0.58	1047.71	1196.24	1196.24	2.51	No	Si
SLU 43	6.35	-38.2	-4439	-0.0000468	0.0003743	0.0035	0.58	941.72	1113.06	1113.06	29.13	No	Si
SLU 43	7.15	413.75	-4428	-0.0000867	0.0003743	0.0035	0.58	940.24	1036.52	1036.52	2.51	No	Si
SLU 70	6.35	-22.65	-5430	-0.0000557	0.0003743	0.0035	0.58	1057.54	1257.09	1257.09	55.49	No	Si
SLU 70	7.15	482.98	-5413	-0.0001062	0.0003743	0.0035	0.58	1055.81	1210.78	1210.78	2.51	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	6.35	-409.13	-2563	-0.0000722	0.0005615	0.0035	0.464		753.74	753.74	1.84		Si
SLD 13	7.15	764.34	-3596	-0.0001872	0.0005615	0.0035	0.58		926.6	926.6	1.21		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	6.35	-628.72	-1780	-0.0018044	0.0005615	0.0035	0.464		556.37	556.37	0.88		No
SLV 13	7.15	996.2	-3391	-0.0097351	0.0005615	0.0035	0.464		882.44	882.44	0.89		No
SLD 14	6.35	-331.3	-2828	-0.0000595	0.0005615	0.0035	0.58		817.9	817.9	2.47		Si
SLD 14	7.15	678.99	-3642	-0.0001359	0.0005615	0.0035	0.58		936.63	936.63	1.38		Si
SLV 14	6.35	-506.9	-2195	-0.0001424	0.0005615	0.0035	0.464		661.51	661.51	1.31		Si
SLV 14	7.15	862.62	-3464	-0.0004206	0.0005615	0.0035	0.58		898.02	898.02	1.04		Si
SLD 15	6.35	-400.03	-2016	-0.0000813	0.0005615	0.0035	0.464		616.07	616.07	1.54		Si
SLD 15	7.15	673.23	-3123	-0.0001662	0.0005615	0.0035	0.58		825.08	825.08	1.23		Si
SLV 9	6.35	-248.16	-4592	-0.0000683	0.0005615	0.0035	0.58		1217.93	1217.93	4.91		Si
SLV 9	7.15	797.03	-4953	-0.00015	0.0005615	0.0035	0.58		1227.52	1227.52	1.54		Si
SLV 16	6.35	-492.64	-1310	-0.0014038	0.0005615	0.0035	0.464		432.22	432.22	0.88		No
SLV 16	7.15	715.44	-2702	-0.0007043	0.0005615	0.0035	0.464		736.03	736.03	1.03		Si
SLV 15	6.35	-614.45	-895	-0.004727	0.0005615	0.0035	0.464		321.37	321.37	0.52		No
SLV 15	7.15	849.02	-2630	-0.0117211	0.0005615	0.0035	0.464		720.76	720.76	0.85		No
SLV 10	6.35	-166.15	-4872	-0.0000629	0.0005615	0.0035	0.58		1277.53	1277.53	7.69		Si
SLV 10	7.15	707.09	-5002	-0.0001294	0.0005615	0.0035	0.58		1238.57	1238.57	1.75		Si
SLD 16	6.35	-322.21	-2281	-0.0000556	0.0005615	0.0035	0.58		683.26	683.26	2.12		Si
SLD 16	7.15	587.88	-3169	-0.0001153	0.0005615	0.0035	0.58		834.93	834.93	1.42		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	6.35	-9.85	-5968	-4969	-373	0.58	0.58	-30599	10833	1846	40441	4863	1479	6342	No	16.99	Si
SLU 80	7.15	508.38	-5957	-4961	-517	0.58	0.58	-30545	10833	1844	40441	4863	1479	6342	No	12.26	Si
SLU 84	6.35	-5.8	-6158	-5128	-360	0.58	0.58	-31574	10833	1889	40441	4863	1479	6342	No	17.63	Si
SLU 84	7.15	517.64	-6154	-5124	-531	0.58	0.58	-31553	10833	1888	40441	4863	1479	6342	No	11.95	Si
SLU 77	6.35	-11.32	-6018	-5012	-380	0.58	0.58	-30860	10833	1858	40441	4863	1479	6342	No	16.7	Si
SLU 77	7.15	513.58	-6014	-5008	-523	0.58	0.58	-30837	10833	1857	40441	4863	1479	6342	No	12.12	Si
SLU 74	6.35	-13.46	-5943	-4948	-382	0.58	0.58	-30471	10833	1841	40441	4863	1479	6342	No	16.59	Si
SLU 74	7.15	509.46	-5943	-4949	-520	0.58	0.58	-30474	10833	1841	40441	4863	1479	6342	No	12.2	Si
SLU 79	6.35	-12.96	-5935	-4942	-378	0.58	0.58	-30432	10833	1839	40441	4863	1479	6342	No	16.76	Si
SLU 79	7.15	507.77	-5934	-4942	-520	0.58	0.58	-30428	10833	1839	40441	4863	1479	6342	No	12.19	Si
SLU 78	6.35	-8.21	-6051	-5039	-374	0.58	0.58	-31027	10833	1865	40441	4863	1479	6342	No	16.93	Si
SLU 78	7.15	514.19	-6037	-5027	-521	0.58	0.58	-30954	10833	1862	40441	4863	1479	6342	No	12.18	Si
SLU 75	6.35	-10.35	-5975	-4976	-377	0.58	0.58	-30637	10833	1848	40441	4863	1479	6342	No	16.81	Si
SLU 75	7.15	510.07	-5966	-4968	-517	0.58	0.58	-30591	10833	1846	40441	4863	1479	6342	No	12.26	Si
SLU 81	6.35	-11.05	-6049	-5037	-368	0.58	0.58	-31018	10833	1864	40441	4863	1479	6342	No	17.25	Si
SLU 81	7.15	512.9	-6060	-5046	-530	0.58	0.58	-31073	10833	1867	40441	4863	1479	6342	No	11.97	Si
SLU 83	6.35	-8.91	-6125	-5101	-365	0.58	0.58	-31408	10833	1881	40441	4863	1479	6342	No	17.38	Si
SLU 83	7.15	517.03	-6131	-5105	-533	0.58	0.58	-31437	10833	1883	40441	4863	1479	6342	No	11.89	Si
SLU 82	6.35	-7.95	-6082	-5064	-362	0.58	0.58	-31185	10833	1872	40441	4863	1479	6342	No	17.5	Si
SLU 82	7.15	513.51	-6083	-5065	-527	0.58	0.58	-31190	10833	1872	40441	4863	1479	6342	No	12.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	6.35	-248.16	-4592	-3824	-1527	0.58	0.58	-23546	15126	2456	40441	7294	1479	8773		5.75	Si
SLV 9	7.15	797.03	-4953	-4124	-700	0.58	0.3872	-25396	15496	1882	40441	7294	1479	8773		12.53	Si
SLD 13	6.35	-409.13	-2563	-2134	-1826	0.464	0.3912	0	0	0	40441	5836	1183	7019		3.84	Si
SLD 13	7.15	764.34	-3596	-2994	-810	0.58	0.2323	-18437	14104	1580	40441	7294	1479	8773		10.83	Si
SLV 15	6.35	-614.45	-895	-745	-2409	0.464	0	0	0	0	40441	5836	1183	7019		2.91	Si
SLV 15	7.15	849.02	-2630	-2190	-999	0.464	0	0	0	0	40441	5836	1183	7019		7.03	Si
SLD 15	6.35	-400.03	-2016	-1679	-1656	0.464	0.2747	0	0	0	40441	5836	1183	7019		4.24	Si
SLD 15	7.15	673.23	-3123	-2601	-770	0.58	0.2233	-16014	13619	1475	40441	7294	1479	8773		11.39	Si
SLV 3	6.35	463.55	-5784	-4816	1580	0.58	0.58	-29655	16250	2639	40441	7294	1479	8773		5.55	Si
SLV 3	7.15	-148.28	-4519	-3763	176	0.58	0.58	-23172	15051	2444	40441	7294	1479	8773		49.79	Si
SLV 14	6.35	-506.9	-2195	-1828	-2199	0.464	0.1773	0	0	0	40441	5836	1183	7019		3.19	Si
SLV 14	7.15	862.62	-3464	-2884	-906	0.58	0.1228	-89730	16250	1551	40441	7294	1479	8773		9.68	Si
SLV 13	6.35	-628.72	-1780	-1483	-2683	0.464	0	0	0	0	40441	5836	1183	7019		2.62	Si
SLV 13	7.15	996.2	-3391	-2824	-1063	0.464	0	0	0	0	40441	5836	1183	7019		6.61	Si
SLV 2	6.35	571.09	-7084	-5899	1790	0.58	0.58	-36323	16250	2639	40441	7294	1479	8773		4.9	Si
SLV 2	7.15	-134.69	-5353	-4458	269	0.58	0.58	-27448	15906	2583	40441	7294	1479	8773		32.63	Si
SLV 4	6.35	585.36	-6198	-5162	2064	0.58	0.58	-31783	16250	2639	40441	7294	1479	8773		4.25	Si
SLV 4	7.15	-281.87	-4591	-3823	333	0.58	0.58	-23543	15125	2456	40441	7294	1479	8773		26.37	Si
SLV 16	6.35	-492.64	-1310	-1091	-1926	0.464	0	0	0	0	40441	5836	1183	7019		3.64	Si
SLV 16	7.15	715.44	-2702	-2250	-842	0.464	0.0756	0	0	0	40441	5836	1183	7019		8.33	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	7961	-1293	59.89	171.56	2.86	Si
SLV 12	179667	0.38	8461	-1374	59.89	181.71	3.03	Si
SLV 15	179667	0.38	9594	-1558	59.89	204.42	3.41	Si
SLV 16	179667	0.38	10337	-1679	59.89	219.12	3.66	Si
SLV 7	179667	0.38	12167	-1976	59.89	254.6	4.25	Si
SLV 8	179667	0.38	12668	-2057	59.89	264.13	4.41	Si
SLV 13	179667	0.38	15305	-2485	59.89	313.1	5.23	Si
SLV 14	179667	0.38	16048	-2606	59.89	326.53	5.45	Si
SLV 3	179667	0.38	23616	-3835	59.89	453.91	7.58	Si
SLV 4	179667	0.38	24360	-3956	59.89	465.5	7.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-3519	-3696	-66	0.835	439.9	0.947	12.81391	6.9554	Si
SLV 1	-3429	-3853	-66	0.853	430.7	0.946	13.10697	6.9554	Si
SLV 4	-2921	-2291	-10	0.989	379.3	0.94	15.3005	6.9554	Si
SLV 3	-2831	-2447	-10	1.015	370.2	0.939	15.71734	6.9554	Si
SLV 6	-3583	-5291	-118	0.81	446.4	0.948	12.42131	4.64355	Si
SLV 5	-3523	-5397	-117	0.822	440.2	0.947	12.60778	4.64355	Si
SLV 10	-3053	-5231	-106	0.928	392.6	0.942	14.31751	4.64355	Si
SLV 9	-2993	-5336	-106	0.943	386.5	0.941	14.56716	4.64355	Si
SLV 14	-1752	-3494	-27	1.471	261.4	0.919	23.26493	6.9554	Si
SLV 13	-1662	-3651	-26	1.53	252.4	0.917	24.25684	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.491	SLU 64	Si
V_SLU	11.89	SLU 83	Si
PF_SLV	0.523	SLV 15	No
V_SLV	2.616	SLV 13	Si
PFFP_SLV	2.865	SLV 11	Si
R_SLV	1.842	SLV 2	Si

Maschio 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L5	L6	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	4.35	-5359.32	-40088	-0.0000941	0.0004492	0.0035	4.6702	46635.98	86008.67	86008.67	16.05	No	Si
SLU 76	7.9	-2514.15	-24652	-0.0000537	0.0004492	0.0035	4.6702	39801.45	61753.65	61753.65	24.56	No	Si
SLU 84	4.35	-5478.03	-41627	-0.0000978	0.0004492	0.0035	4.6702	46553.88	88124.08	88124.08	16.09	No	Si
SLU 84	7.9	-2700.48	-25511	-0.0000559	0.0004492	0.0035	4.6702	40547.12	63210.54	63210.54	23.41	No	Si
SLU 81	4.35	-5334.98	-41027	-0.0000961	0.0004492	0.0035	4.6702	46602.35	87299.14	87299.14	16.36	No	Si
SLU 81	7.9	-2819.34	-24827	-0.0000549	0.0004492	0.0035	4.6702	39956.27	62049.32	62049.32	22.01	No	Si
SLU 52	4.35	-4861.2	-34567	-0.0000806	0.0004492	0.0035	4.6702	45791.44	77924.35	77924.35	16.03	No	Si
SLU 52	7.9	-2256.96	-20877	-0.0000455	0.0004492	0.0035	4.6702	36009.61	55024.68	55024.68	24.38	No	Si
SLU 75	4.35	-5316.84	-40568	-0.000095	0.0004492	0.0035	4.6702	46625.23	86667.81	86667.81	16.3	No	Si
SLU 75	7.9	-2571.85	-25016	-0.0000546	0.0004492	0.0035	4.6702	40122.64	62370.92	62370.92	24.25	No	Si
SLU 82	4.35	-5452.74	-40869	-0.000096	0.0004492	0.0035	4.6702	46611.58	87082.71	87082.71	15.97	No	Si
SLU 82	7.9	-2824.44	-24732	-0.0000547	0.0004492	0.0035	4.6702	39872.9	61889.68	61889.68	21.91	No	Si
SLU 55	4.35	-4886.48	-35324	-0.0000823	0.0004492	0.0035	4.6702	46012.69	79047.06	79047.06	16.18	No	Si
SLU 55	7.9	-2133.01	-21655	-0.0000467	0.0004492	0.0035	4.6702	36859.21	56429.11	56429.11	26.46	No	Si
SLU 61	4.35	-4979.9	-36105	-0.0000843	0.0004492	0.0035	4.6702	46205.78	80204.99	80204.99	16.11	No	Si
SLU 61	7.9	-2443.29	-21735	-0.0000476	0.0004492	0.0035	4.6702	36944.7	56573.75	56573.75	23.15	No	Si
SLU 73	4.35	-5334.03	-39331	-0.0000923	0.0004492	0.0035	4.6702	46625.6	84967.3	84967.3	15.93	No	Si
SLU 73	7.9	-2638.1	-23874	-0.0000525	0.0004492	0.0035	4.6702	39088.2	60432.79	60432.79	22.91	No	Si
SLU 63	4.35	-5005.19	-36862	-0.000086	0.0004492	0.0035	4.6702	46358.95	81327.7	81327.7	16.25	No	Si
SLU 63	7.9	-2319.34	-22513	-0.0000489	0.0004492	0.0035	4.6702	37755.26	57978.18	57978.18	25	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	4.35	-9495.93	-20364	-0.0000619	0.0006738	0.0035	4.6702		55113.74	55113.74	5.8		Si
SLD 10	7.9	-3096.8	-11840	-0.0000295	0.0006738	0.0035	4.6702		38105.07	38105.07	12.3		Si
SLD 9	4.35	-9794.7	-20109	-0.0000621	0.0006738	0.0035	4.6702		54636.6	54636.6	5.58		Si
SLD 9	7.9	-2935.94	-11839	-0.0000291	0.0006738	0.0035	4.6702		38103.41	38103.41	12.98		Si
SLV 5	4.35	-14194.31	-17556	-0.0000681	0.0006738	0.0035	4.6702		49614.33	49614.33	3.5		Si
SLV 5	7.9	-3480.38	-10859	-0.0000286	0.0006738	0.0035	4.6702		36076.69	36076.69	10.37		Si
SLV 1	4.35	-8042.3	-27626	-0.0000727	0.0006738	0.0035	4.6702		68513.6	68513.6	8.52		Si
SLV 1	7.9	-1782.83	-18260	-0.0000386	0.0006738	0.0035	4.6702		51000.59	51000.59	28.61		Si
SLD 5	4.35	-10205.32	-21441	-0.0000658	0.0006738	0.0035	4.6702		57130	57130	5.6		Si
SLD 5	7.9	-2804.9	-13170	-0.0000313	0.0006738	0.0035	4.6702		40853.53	40853.53	14.57		Si
SLD 6	4.35	-9906.55	-21696	-0.0000656	0.0006738	0.0035	4.6702		57607.14	57607.14	5.82		Si
SLD 6	7.9	-2965.77	-13170	-0.0000317	0.0006738	0.0035	4.6702		40855.2	40855.2	13.78		Si
SLV 13	4.35	-5922.43	-20715	-0.0000536	0.0006738	0.0035	4.6702		55771.04	55771.04	9.42		Si
SLV 13	7.9	-2479.99	-11332	-0.0000271	0.0006738	0.0035	4.6702		37053.59	37053.59	14.94		Si
SLV 9	4.35	-13558.35	-15482	-0.0000626	0.0006738	0.0035	4.6702		45531.08	45531.08	3.36		Si
SLV 9	7.9	-3689.52	-8781	-0.0000252	0.0006738	0.0035	4.6702		31779.09	31779.09	8.61		Si
SLV 6	4.35	-13719.37	-17961	-0.0000676	0.0006738	0.0035	4.6702		50412.51	50412.51	3.67		Si
SLV 6	7.9	-3736.09	-10860	-0.0000292	0.0006738	0.0035	4.6702		36079.34	36079.34	9.66		Si
SLV 10	4.35	-13083.41	-15888	-0.000062	0.0006738	0.0035	4.6702		46329.26	46329.26	3.54		Si
SLV 10	7.9	-3945.24	-8782	-0.0000258	0.0006738	0.0035	4.6702		31781.82	31781.82	8.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	4.35	-4873.87	-35987	-19953	-4551	4.6702	4.6702	-30518	10833	11758	115546	23497	23818	47314	No	10.4	Si
SLU 65	7.9	-2195.4	-22018	-12208	-2589	4.6702	4.6702	-18672	10823	8660	115546	23497	23818	47314	No	18.27	Si
SLU 78	4.35	-5342.13	-41325	-22913	-4523	4.6702	4.6702	-35044	10833	12942	115546	23497	23818	47314	No	10.46	Si
SLU 78	7.9	-2447.9	-25794	-14302	-2197	4.6702	4.6702	-21874	10833	9497	115546	23497	23818	47314	No	21.53	Si
SLU 80	4.35	-5306.1	-40951	-22705	-4498	4.6702	4.6702	-34727	10833	12859	115546	23497	23818	47314	No	10.52	Si
SLU 80	7.9	-2386.8	-25493	-14135	-2195	4.6702	4.6702	-21619	10833	9431	115546	23497	23818	47314	No	21.56	Si
SLU 70	4.35	-4881.96	-37981	-21059	-4500	4.6702	4.6702	-32209	10833	12200	115546	23497	23818	47314	No	10.51	Si
SLU 70	7.9	-2005.2	-23938	-13272	-2367	4.6702	4.6702	-20300	10833	9086	115546	23497	23818	47314	No	19.99	Si
SLU 76	4.35	-5359.32	-40088	-22227	-4606	4.6702	4.6702	-33996	10833	12668	115546	23497	23818	47314	No	10.27	Si
SLU 76	7.9	-2514.15	-24652	-13669	-2379	4.6702	4.6702	-20906	10833	9244	115546	23497	23818	47314	No	19.89	Si
SLU 55	4.35	-4886.48	-35324	-19586	-4540	4.6702	4.6702	-29956	10833	11611	115546	23497	23818	47314	No	10.42	Si
SLU 55	7.9	-2133.01	-21655	-12007	-2607	4.6702	4.6702	-18364	10782	8579	115546	23497	23818	47314	No	18.15	Si
SLU 47	4.35	-4426.32	-31980	-17732	-4518	4.6702	4.6702	-27120	10833	10869	115546	23497	23818	47314	No	10.47	Si
SLU 47	7.9	-1690.3	-19799	-10977	-2776	4.6702	4.6702	-16790	10572	8168	115546	23497	23818	47314	No	17.04	Si
SLU 52	4.35	-4861.2	-34567	-19166	-4508	4.6702	4.6702	-29314	10833	11443	115546	23497	23818	47314	No	10.5	Si
SLU 52	7.9	-2256.96	-20877	-11575	-2648	4.6702	4.6702	-17704	10694	8407	115546	23497	23818	47314	No	17.87	Si
SLU 68	4.35	-4899.16	-36744	-20373	-4584	4.6702	4.6702	-31160	10833	11926	115546	23497	23818	47314	No	10.32	Si
SLU 68	7.9	-2071.45	-22796	-12639	-2548	4.6702	4.6702	-19332	10833	8833	115546	23497	23818	47314	No	18.57	Si
SLU 73	4.35	-5334.03	-39331	-21807	-4573	4.6702	4.6702	-33354	10833	12500	115546	23497	23818	47314	No	10.35	Si
SLU 73	7.9	-2638.1	-23874	-13237	-2420	4.6702	4.6702	-20246	10833	9072	115546	23497	23818	47314	No	19.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	4.35	-13083.41	-15888	-8809	-18271	4.6702	4.5348	-13966	15293	9709	115546	35245	23818	59063		3.23	Si
SLV 10	7.9	-3945.24	-8782	-4869	-16735	4.6702	4.6702	-7447	13989	9147	115546	35245	23818	59063		3.53	Si
SLV 7	4.35	5831.99	-39697	-22010	11823	4.6702	4.6702	-33664	16250	14469	115546	35245	23818	59063		5	Si
SLV 7	7.9	495.32	-25076	-13904	13301	4.6702	4.6702	-21265	16250	11227	115546	35245	23818	59063		4.44	Si
SLV 9	4.35	-13558.35	-15482	-8584	-18615	4.6702	4.3781	-14094	15319	9389	115546	35245	23818	59063		3.17	Si
SLV 9	7.9	-3689.52	-8781	-4868	-16993	4.6702	4.6702	-7446	13989	9146	115546	35245	23818	59063		3.48	Si
SLV 6	4.35	-13719.37	-17961	-9959	-18524	4.6702	4.6702	-15231	15546	10164	115546	35245	23818	59063		3.19	Si
SLV 6	7.9	-3736.09	-10860	-6022	-16676	4.6702	4.6702	-9210	14342	9377	115546	35245	23818	59063		3.54	Si
SLV 5	4.35	-14194.31	-17556	-9734	-18868	4.6702	4.5796	-14888	15478	9923	115546	35245	23818	59063		3.13	Si
SLV 5	7.9	-3480.38	-10859	-6021	-16934	4.6702	4.6702	-9209	14342	9377	115546	35245	23818	59063		3.49	Si
SLV 12	4.35	6942.89	-38030	-21086	12420	4.6702	4.6702	-32250	16250	14099	115546	35245	23818	59063		4.76	Si
SLV 12	7.9	30.46	-22999	-12752	13500	4.6702	4.6702	-19504	16250	10766	115546	35245	23818	59063		4.37	Si
SLV 8	4.35	6306.93	-40103	-22235	12167	4.6702	4.6702	-34008	16250	14559	115546	35245	23818	59063		4.85	Si
SLV 8	7.9	239.61	-25077	-13904	13559	4.6702	4.6702	-21266	16250	11227	115546	35245	23818	59063		4.36	Si
SLV 11	4.35	6467.95	-37624	-20861	12076	4.6702	4.6702	-31906	16250	14010	115546	35245	23818	59063		4.89	Si
SLV 11	7.9	286.17	-22998	-12751	13242	4.6702	4.6702	-19503	16250	10766	115546	35245	23818	59063		4.46	Si
SLD 5	4.35	-10205.32	-21441	-11888	-12973	4.6702	4.6702	-18183	16137	10550	115546	35245	23818	59063		4.55	Si
SLD 5	7.9	-2804.9	-13170	-7302	-11190	4.6702	4.6702	-11168	14734	9633	115546	35245	23818	59063		5.28	Si
SLD 9	4.35	-9794.7	-20109	-11149	-12812	4.6702	4.6702	-17053	15911	10403	115546	35245	23818	59063		4.61	Si
SLD 9	7.9	-2935.94	-11839	-6564	-11226	4.6702	4.6702	-10040	14508	9486	115546	35245	23818	59063		5.26	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-11024	0.38	262.39	700.7	1248.66	974.68	3.71	Si
SLV 10	-11316	0.38	262.39	717.33	1273.38	995.35	3.79	Si
SLV 5	-13594	0.38	262.39	843.66	1465.2	1154.43	4.4	Si
SLV 6	-13886	0.38	262.39	859.4	1489.37	1174.39	4.48	Si
SLV 13	-14881	0.38	262.39	912.31	1571.39	1241.85	4.73	Si
SLV 14	-15314	0.38	262.39	935.01	1607.07	1271.04	4.84	Si
SLV 15	-20817	0.38	262.39	1204.07	2059.46	1631.77	6.22	Si
SLV 16	-21251	0.38	262.39	1223.77	2095.06	1659.41	6.32	Si
SLV 1	-23448	0.38	262.39	1320.2	2271.53	1795.87	6.84	Si
SLV 2	-23882	0.38	262.39	1338.56	2306.3	1822.43	6.95	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-22527	-34870	-389	1.071	2620.4	0.963	16.17377	14.80379	Si
SLV 3	-22525	-34268	-389	1.071	2620.2	0.963	16.17495	14.80379	Si
SLV 2	-18261	-28228	-421	1.29	2186.7	0.956	19.61248	14.80379	Si
SLV 1	-18260	-27626	-421	1.29	2186.5	0.956	19.61425	14.80379	Si
SLV 16	-15599	-27959	422	1.481	1916.2	0.951	22.64898	14.80379	Si
SLV 15	-15597	-27358	422	1.481	1916	0.95	22.65161	14.80379	Si
SLV 14	-11333	-21317	390	1.948	1483.7	0.938	30.17306	14.80379	Si
SLV 13	-11332	-20715	389	1.948	1483.5	0.938	30.17767	14.80379	Si
SLV 8	-25077	-40103	-67	0.984	2880	0.966	14.81405	6.89731	Si
SLV 7	-25076	-39697	-67	0.984	2879.9	0.966	14.81471	6.89731	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.929	SLU 73	Si
V_SLU	10.273	SLU 76	Si
PF_SLV	3.358	SLV 9	Si
V_SLV	3.13	SLV 5	Si
PFFP_SLV	3.715	SLV 9	Si
R_SLV	1.093	SLV 4	Si

Maschio 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-19.618	6.661	L5	L6	0.71	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	4.35	262.31	-7096	-0.0000763	0.0003743	0.0035	0.71	1635.93	1913.84	1913.84	7.3	No	Si
SLU 42	7.9	350.63	-5660	-0.0000694	0.0003743	0.0035	0.71	1447.44	1606.9	1606.9	4.58	No	Si
SLU 36	4.35	271.9	-7115	-0.0000772	0.0003743	0.0035	0.71	1637.95	1918.05	1918.05	7.05	No	Si
SLU 36	7.9	342.92	-5783	-0.00007	0.0003743	0.0035	0.71	1466.38	1632.22	1632.22	4.76	No	Si
SLU 40	4.35	257.65	-6935	-0.0000744	0.0003743	0.0035	0.71	1618.39	1878.37	1878.37	7.29	No	Si
SLU 40	7.9	331.65	-5389	-0.0000656	0.0003743	0.0035	0.71	1403.77	1551.41	1551.41	4.68	No	Si
SLU 84	4.35	333.59	-8391	-0.0000941	0.0003743	0.0035	0.71	1743.88	2112.5	2112.5	6.33	No	Si
SLU 84	7.9	365.84	-6482	-0.0000781	0.0003743	0.0035	0.71	1564.22	1779.9	1779.9	4.87	No	Si
SLU 38	4.35	269.33	-7031	-0.0000762	0.0003743	0.0035	0.71	1628.95	1899.46	1899.46	7.05	No	Si
SLU 38	7.9	338.86	-5703	-0.000069	0.0003743	0.0035	0.71	1454.03	1615.62	1615.62	4.77	No	Si
SLU 31	4.35	251.91	-6637	-0.0000713	0.0003743	0.0035	0.71	1583.51	1813.29	1813.29	7.2	No	Si
SLU 31	7.9	310.18	-5155	-0.000062	0.0003743	0.0035	0.71	1363.87	1503.96	1503.96	4.85	No	Si
SLU 39	4.35	269.79	-7043	-0.0000763	0.0003743	0.0035	0.71	1630.26	1902.13	1902.13	7.05	No	Si
SLU 39	7.9	317.72	-5398	-0.0000647	0.0003743	0.0035	0.71	1405.29	1553.28	1553.28	4.89	No	Si
SLU 41	4.35	274.45	-7204	-0.0000782	0.0003743	0.0035	0.71	1647.19	1936.52	1936.52	7.06	No	Si
SLU 41	7.9	336.7	-5669	-0.0000685	0.0003743	0.0035	0.71	1448.87	1608.78	1608.78	4.78	No	Si
SLU 34	4.35	256.57	-6798	-0.0000731	0.0003743	0.0035	0.71	1602.73	1848.4	1848.4	7.2	No	Si
SLU 34	7.9	329.16	-5426	-0.0000658	0.0003743	0.0035	0.71	1409.77	1558.81	1558.81	4.74	No	Si
SLU 33	4.35	267.24	-6954	-0.0000753	0.0003743	0.0035	0.71	1620.51	1882.54	1882.54	7.04	No	Si
SLU 33	7.9	323.94	-5512	-0.0000662	0.0003743	0.0035	0.71	1423.88	1576.5	1576.5	4.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	4.35	-953.24	3797	0.9376144	0.0005615	0.0035	0.568		0	0	0		No
SLV 6	7.9	1449.73	-3094	-0.0199441	0.0005615	0.0035	0.568		1043.74	1043.74	0.72		No
SLD 5	4.35	-589.98	813	0.2051758	0.0005615	0.0035	0.568		0	0	0		No
SLD 5	7.9	1115.83	-3814	-0.0002625	0.0005615	0.0035	0.71		1245.17	1245.17	1.12		Si
SLD 6	4.35	-496.76	194	0.0432404	0.0005615	0.0035	0.568		0	0	0		No
SLD 6	7.9	975.96	-3517	-0.0001821	0.0005615	0.0035	0.71		1166.1	1166.1	1.19		Si
SLV 10	4.35	-519.09	1469	0.36494	0.0005615	0.0035	0.568		0	0	0		No
SLV 10	7.9	803.88	-1422	-0.014834	0.0005615	0.0035	0.568		515.82	515.82	0.64		No
SLV 9	4.35	-667.27	2453	0.6064837	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	7.9	1026.22	-1894	-0.0179828	0.0005615	0.0035	0.568		669.39	669.39	0.65		No
SLV 14	4.35	774.45	-7721	-0.0001149	0.0005615	0.0035	0.71		2228.18	2228.18	2.88		Si
SLV 14	7.9	-743.52	-522	-0.0034464	0.0005615	0.0035	0.568		308.15	308.15	0.41		No
SLV 1	4.35	-892.8	1500	0.3767635	0.0005615	0.0035	0.568		0	0	0		No
SLV 1	7.9	1739.54	-6794	-0.0003075	0.0005615	0.0035	0.71		2032.44	2032.44	1.17		Si
SLV 2	4.35	-672.71	39	-0.0049262	0.0005615	0.0035	0.568		0	0	0		No
SLV 2	7.9	1409.31	-6094	-0.0002009	0.0005615	0.0035	0.71		1843.12	1843.12	1.31		Si
SLV 16	4.35	1418.23	-13065	-0.0002197	0.0005615	0.0035	0.71		3189.37	3189.37	2.25		Si
SLV 16	7.9	-1377.77	-1520	-0.0070502	0.0005615	0.0035	0.568		641.36	641.36	0.47		No
SLV 5	4.35	-1101.42	4781	1.1788716	0.0005615	0.0035	0.568		0	0	0		No
SLV 5	7.9	1672.06	-3565	-0.0230833	0.0005615	0.0035	0.568		1179.41	1179.41	0.71		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	4.35	338.51	-8249	-6869	1148	0.71	0.71	-34553	10833	2470	40441	5953	1810	7763	No	6.76	Si
SLU 75	7.9	339.15	-6334	-5275	-1130	0.71	0.71	-26532	10482	2084	40441	5953	1810	7763	No	6.87	Si
SLU 84	4.35	333.59	-8391	-6988	1160	0.71	0.71	-35148	10833	2501	40441	5953	1810	7763	No	6.69	Si
SLU 84	7.9	365.84	-6482	-5398	-1178	0.71	0.71	-27153	10565	2100	40441	5953	1810	7763	No	6.59	Si
SLU 80	4.35	340.6	-8326	-6933	1156	0.71	0.71	-34876	10833	2487	40441	5953	1810	7763	No	6.72	Si
SLU 80	7.9	354.07	-6525	-5433	-1174	0.71	0.71	-27330	10588	2105	40441	5953	1810	7763	No	6.61	Si
SLU 74	4.35	350.65	-8357	-6959	1178	0.71	0.71	-35006	10833	2494	40441	5953	1810	7763	No	6.59	Si
SLU 74	7.9	325.22	-6343	-5282	-1105	0.71	0.71	-26571	10487	2085	40441	5953	1810	7763	No	7.02	Si
SLU 78	4.35	343.18	-8410	-7003	1166	0.71	0.71	-35228	10833	2505	40441	5953	1810	7763	No	6.66	Si
SLU 78	7.9	358.13	-6605	-5500	-1186	0.71	0.71	-27667	10633	2114	40441	5953	1810	7763	No	6.55	Si
SLU 77	4.35	355.32	-8518	-7093	1197	0.71	0.71	-35681	10833	2529	40441	5953	1810	7763	No	6.49	Si
SLU 77	7.9	344.2	-6614	-5508	-1161	0.71	0.71	-27705	10638	2115	40441	5953	1810	7763	No	6.69	Si
SLU 69	4.35	360.81	-7990	-6654	1145	0.71	0.71	-33470	10833	2412	40441	5953	1810	7763	No	6.78	Si
SLU 69	7.9	272.45	-6081	-5064	-1020	0.71	0.71	-25472	10341	2056	40441	5953	1810	7763	No	7.61	Si
SLU 79	4.35	352.75	-8434	-7023	1186	0.71	0.71	-35328	10833	2511	40441	5953	1810	7763	No	6.54	Si
SLU 79	7.9	340.14	-6534	-5441	-1150	0.71	0.71	-27369	10594	2106	40441	5953	1810	7763	No	6.75	Si
SLU 81	4.35	341.06	-8338	-6943	1172	0.71	0.71	-34926	10833	2489	40441	5953	1810	7763	No	6.62	Si
SLU 81	7.9	332.93	-6221	-5180	-1098	0.71	0.71	-26057	10419	2071	40441	5953	1810	7763	No	7.07	Si
SLU 83	4.35	345.73	-8499	-7077	1190	0.71	0.71	-35601	10833	2525	40441	5953	1810	7763	No	6.52	Si
SLU 83	7.9	351.91	-6492	-5406	-1154	0.71	0.71	-27191	10570	2101	40441	5953	1810	7763	No	6.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	4.35	-667.27	2453	2042	-1430	0.568	0.2488	0	0	0	40441	7144	1448	8592		6.01	Si
SLV 9	7.9	1026.22	-1894	-1577	-2520	0.568	0	0	0	0	40441	7144	1448	8592		3.41	Si
SLV 1	4.35	-892.8	1500	1249	-1572	0.568	0	0	0	0	40441	7144	1448	8592		5.47	Si
SLV 1	7.9	1739.54	-6794	-5658	-3591	0.71	0.2969	-28460	16109	2466	40441	8929	1810	10740		2.99	Si
SLV 5	4.35	-1101.42	4781	3981	-2278	0.568	0.3738	0	0	0	40441	7144	1448	8592		3.77	Si
SLV 5	7.9	1672.06	-3565	-2969	-3684	0.568	0	0	0	0	40441	7144	1448	8592		2.33	Si
SLV 8	4.35	1192.69	-14017	-11673	3098	0.71	0.71	-58715	16250	4070	40441	8929	1810	10740		3.47	Si
SLV 8	7.9	-664.45	-6420	-5346	1138	0.71	0.71	-26893	15795	3140	40441	8929	1810	10740		9.44	Si
SLV 2	4.35	-672.71	39	33	-1106	0.568	0	0	0	0	40441	7144	1448	8592		7.77	Si
SLV 2	7.9	1409.31	-6094	-5074	-2998	0.71	0.3712	-25525	15522	2310	40441	8929	1810	10740		3.58	Si
SLV 6	4.35	-953.24	3797	3162	-1965	0.568	0.3118	0	0	0	40441	7144	1448	8592		4.37	Si
SLV 6	7.9	1449.73	-3094	-2576	-3285	0.568	0	0	0	0	40441	7144	1448	8592		2.62	Si
SLV 7	4.35	1044.51	-13034	-10853	2784	0.71	0.71	-54595	16250	3851	40441	8929	1810	10740		3.86	Si
SLV 7	7.9	-442.11	-6892	-5739	738	0.71	0.71	-28869	16190	3219	40441	8929	1810	10740		14.54	Si
SLV 11	4.35	1478.66	-15362	-12792	3632	0.71	0.71	-64346	16250	4368	40441	8929	1810	10740		2.96	Si
SLV 11	7.9	-1087.96	-5221	-4347	1902	0.568	0.4398	0	0	0	40441	7144	1448	8592		4.52	Si
SLV 12	4.35	1626.84	-16345	-13611	3946	0.71	0.71	-68466	16250	4586	40441	8929	1810	10740		2.72	Si
SLV 12	7.9	-1310.3	-4749	-3954	2302	0.568	0.2372	0	0	0	40441	7144	1448	8592		3.73	Si
SLV 16	4.35	1418.23	-13065	-10879	3239	0.71	0.71	-54725	16250	3858	40441	8929	1810	10740		3.32	Si
SLV 16	7.9	-1377.77	-1520	-1265	2208	0.568	0	0	0	0	40441	7144	1448	8592		3.89	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	0	-143	73.31	0	0	No, e>t/2
SLV 10	179667	0.38	0	-447	73.31	0	0	No, e>t/2
SLV 6	179667	0.38	0	-334	73.31	0	0	No, e>t/2
SLV 9	179667	0.38	0	-257	73.31	0	0	No, e>t/2
SLV 1	179667	0.38	13817	-2747	73.31	349.76	4.77	Si
SLV 2	179667	0.38	15242	-3030	73.31	381.88	5.21	Si
SLV 13	179667	0.38	15723	-3126	73.31	392.54	5.35	Si
SLV 14	179667	0.38	17148	-3409	73.31	423.67	5.78	Si
SLV 3	179667	0.38	25815	-5132	73.31	597.03	8.14	Si
SLV 4	179667	0.38	27240	-5415	73.31	622.91	8.5	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-7792	-3844	-215	0.49	892.7	0.966	7.3716	6.9554	Si
SLV 4	-7092	-5305	-214	0.531	821.4	0.964	8.01045	6.9554	Si
SLV 1	-6794	1500	-175	0.556	791.2	0.962	8.39718	6.9554	Si, Trazione
SLV 2	-6094	39	-174	0.61	719.9	0.959	9.24417	6.9554	Si, Trazione
SLV 7	-6892	-13034	-125	0.556	801.1	0.963	8.39167	4.64355	Si
SLV 8	-6420	-14017	-125	0.591	753.1	0.961	8.93438	4.64355	Si
SLV 11	-5221	-15362	-9	0.723	631.1	0.954	11.01949	4.64355	Si
SLV 12	-4749	-16345	-8	0.783	583.2	0.951	11.97614	4.64355	Si
SLV 15	-2220	-11604	173	1.384	327.5	0.92	21.85603	6.9554	Si
SLV 5	-3565	4781	8	0.993	463.2	0.94	15.358	4.64355	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.583	SLU 42	Si
V_SLU	6.488	SLU 77	Si
PF_SLV	0	SLD 5	No
V_SLV	2.332	SLV 5	Si
PFFP_SLV	0	SLV 5	No
R_SLV	1.06	SLV 3	Si

Maschio 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.263	-3.169	-17.313	-3.169	L5	L6	1.05	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	5.25	-542.96	-9020	-0.0000661	0.0003743	0.0035	1.05	3308.48	3937.71	3937.71	7.25	No	Si
SLU 69	7.05	1022.18	-8353	-0.0000777	0.0003743	0.0035	1.05	3161.54	3501.16	3501.16	3.43	No	Si
SLU 72	5.25	-536.24	-8958	-0.0000655	0.0003743	0.0035	1.05	3295.4	3922.62	3922.62	7.32	No	Si
SLU 72	7.05	1014.06	-8276	-0.000077	0.0003743	0.0035	1.05	3143.48	3476.48	3476.48	3.43	No	Si
SLU 67	5.25	-545.33	-8934	-0.0000656	0.0003743	0.0035	1.05	3290.48	3917.01	3917.01	7.18	No	Si
SLU 67	7.05	1016.13	-8287	-0.0000771	0.0003743	0.0035	1.05	3146.15	3480.11	3480.11	3.42	No	Si
SLU 66	5.25	-545.93	-8879	-0.0000653	0.0003743	0.0035	1.05	3278.78	3903.78	3903.78	7.15	No	Si
SLU 66	7.05	1009.96	-8240	-0.0000766	0.0003743	0.0035	1.05	3135.14	3465.2	3465.2	3.43	No	Si
SLU 71	5.25	-536.84	-8903	-0.0000652	0.0003743	0.0035	1.05	3283.75	3909.38	3909.38	7.28	No	Si
SLU 71	7.05	1007.89	-8229	-0.0000765	0.0003743	0.0035	1.05	3132.45	3461.56	3461.56	3.43	No	Si
SLU 70	5.25	-542.36	-9075	-0.0000664	0.0003743	0.0035	1.05	3319.9	3951.06	3951.06	7.28	No	Si
SLU 70	7.05	1028.35	-8400	-0.0000782	0.0003743	0.0035	1.05	3172.37	3516.12	3516.12	3.42	No	Si
SLU 64	5.25	-542.78	-8621	-0.0000637	0.0003743	0.0035	1.05	3222.49	3838.16	3838.16	7.07	No	Si
SLU 64	7.05	983.44	-8003	-0.0000743	0.0003743	0.0035	1.05	3078.22	3389.82	3389.82	3.45	No	Si
SLU 68	5.25	-538.82	-8854	-0.0000649	0.0003743	0.0035	1.05	3273.28	3897.54	3897.54	7.23	No	Si
SLU 68	7.05	1005.94	-8194	-0.0000762	0.0003743	0.0035	1.05	3124.2	3450.46	3450.46	3.43	No	Si
SLU 49	5.25	-481.61	-8041	-0.0000582	0.0003743	0.0035	1.05	3087.56	3659.95	3659.95	7.6	No	Si
SLU 49	7.05	918.44	-7292	-0.0000678	0.0003743	0.0035	1.05	2895.61	3167.62	3167.62	3.45	No	Si
SLU 65	5.25	-541.79	-8713	-0.0000642	0.0003743	0.0035	1.05	3242.76	3862.22	3862.22	7.13	No	Si
SLU 65	7.05	993.72	-8081	-0.0000751	0.0003743	0.0035	1.05	3097.17	3414.56	3414.56	3.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	5.25	1125.64	-3658	-0.0000613	0.0005615	0.0035	1.05		1871.4	1871.4	1.66		Si
SLV 8	7.05	-524.72	-1474	-0.000031	0.0005615	0.0035	0.84		995.14	995.14	1.9		Si
SLD 13	5.25	-2136.09	-5107	-0.0001905	0.0005615	0.0035	0.84		2687.73	2687.73	1.26		Si
SLD 13	7.05	1693.03	-7603	-0.000094	0.0005615	0.0035	1.05		3473.52	3473.52	2.05		Si
SLV 16	5.25	-2195.28	-2248	-0.0041052	0.0005615	0.0035	0.84		1372.25	1372.25	0.63		No
SLV 16	7.05	1434.5	-5440	-0.0000768	0.0005615	0.0035	1.05		2614.98	2614.98	1.82		Si
SLD 16	5.25	-1552.21	-3858	-0.0001188	0.0005615	0.0035	0.84		2131.48	2131.48	1.37		Si
SLD 16	7.05	1191.08	-5720	-0.000066	0.0005615	0.0035	1.05		2724.11	2724.11	2.29		Si
SLV 13	5.25	-3119.39	-4269	-0.0049995	0.0005615	0.0035	0.84		2316.31	2316.31	0.74		No
SLV 13	7.05	2233.33	-8454	-0.0001241	0.0005615	0.0035	1.05		3821.52	3821.52	1.71		Si
SLD 14	5.25	-1800.76	-5426	-0.0001059	0.0005615	0.0035	0.84		2826.12	2826.12	1.57		Si
SLD 14	7.05	1505.88	-7322	-0.0000851	0.0005615	0.0035	1.05		3360.1	3360.1	2.23		Si
SLD 15	5.25	-1887.54	-3540	-0.0006738	0.0005615	0.0035	0.84		1983.13	1983.13	1.05		Si
SLD 15	7.05	1378.22	-6001	-0.0000748	0.0005615	0.0035	1.05		2834.11	2834.11	2.06		Si
SLV 11	5.25	-585.04	-1276	-0.0000657	0.0005615	0.0035	0.84		896.85	896.85	1.53		Si
SLV 11	7.05	326.42	-2247	-0.0000208	0.0005615	0.0035	1.05		1203.99	1203.99	3.69		Si
SLV 15	5.25	-2720.12	-1749	-0.0074309	0.0005615	0.0035	0.84		1130.55	1130.55	0.42		No
SLV 15	7.05	1727.42	-5879	-0.0000951	0.0005615	0.0035	1.05		2786.46	2786.46	1.61		Si
SLV 14	5.25	-2594.54	-4768	-0.0014428	0.0005615	0.0035	0.84		2539.34	2539.34	0.98		No
SLV 14	7.05	1940.41	-8015	-0.000107	0.0005615	0.0035	1.05		3641.35	3641.35	1.88		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	5.25	-504.62	-9879	-8226	-1153	1.05	1.05	-27980	10675	3138	40441	8804	2678	11481	No	9.96	Si
SLU 80	7.05	1055	-9115	-7590	-1530	1.05	1.05	-25816	10387	3054	40441	8804	2678	11481	No	7.5	Si
SLU 72	5.25	-536.24	-8958	-7459	-1166	1.05	1.05	-25371	10327	3036	40441	8804	2678	11481	No	9.85	Si
SLU 72	7.05	1014.06	-8276	-6891	-1536	1.05	1.05	-23439	10070	2960	40441	8804	2678	11481	No	7.47	Si
SLU 67	5.25	-545.33	-8934	-7440	-1188	1.05	1.05	-25305	10318	3034	40441	8804	2678	11481	No	9.66	Si
SLU 67	7.05	1016.13	-8287	-6901	-1540	1.05	1.05	-23472	10074	2962	40441	8804	2678	11481	No	7.46	Si
SLU 78	5.25	-510.74	-9996	-8324	-1167	1.05	1.05	-28313	10719	3163	40441	8804	2678	11481	No	9.84	Si
SLU 78	7.05	1069.29	-9239	-7693	-1553	1.05	1.05	-26168	10434	3067	40441	8804	2678	11481	No	7.39	Si
SLU 75	5.25	-513.71	-9855	-8207	-1175	1.05	1.05	-27914	10666	3136	40441	8804	2678	11481	No	9.77	Si
SLU 75	7.05	1057.07	-9126	-7599	-1534	1.05	1.05	-25849	10391	3055	40441	8804	2678	11481	No	7.48	Si
SLU 66	5.25	-545.93	-8879	-7394	-1190	1.05	1.05	-25149	10298	3028	40441	8804	2678	11481	No	9.65	Si
SLU 66	7.05	1009.96	-8240	-6862	-1531	1.05	1.05	-23339	10056	2957	40441	8804	2678	11481	No	7.5	Si
SLU 69	5.25	-542.96	-9020	-7511	-1182	1.05	1.05	-25548	10351	3043	40441	8804	2678	11481	No	9.71	Si
SLU 69	7.05	1022.18	-8353	-6956	-1549	1.05	1.05	-23659	10099	2969	40441	8804	2678	11481	No	7.41	Si
SLU 70	5.25	-542.36	-9075	-7557	-1181	1.05	1.05	-25704	10372	3049	40441	8804	2678	11481	No	9.72	Si
SLU 70	7.05	1028.35	-8400	-6995	-1558	1.05	1.05	-23791	10117	2974	40441	8804	2678	11481	No	7.37	Si
SLU 71	5.25	-536.84	-8903	-7413	-1167	1.05	1.05	-25215	10306	3030	40441	8804	2678	11481	No	9.84	Si
SLU 71	7.05	1007.89	-8229	-6852	-1527	1.05	1.05	-23307	10052	2955	40441	8804	2678	11481	No	7.52	Si
SLU 77	5.25	-511.34	-9941	-8278	-1168	1.05	1.05	-28157	10699	3151	40441	8804	2678	11481	No	9.83	Si
SLU 77	7.05	1063.12	-9192	-7654	-1543	1.05	1.05	-26036	10416	3062	40441	8804	2678	11481	No	7.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	5.25	-2720.12	-1749	-1456	-4919	0.84	0	0	0	0	40441	10564	2142	12706		2.58	Si
SLV 15	7.05	1727.42	-5879	-4896	-2919	1.05	0.6936	-16652	13747	2721	40441	13206	2678	15883		5.44	Si
SLV 13	5.25	-3119.39	-4269	-3555	-5414	0.84	0	0	0	0	40441	10564	2142	12706		2.35	Si
SLV 13	7.05	2233.33	-8454	-7040	-3799	1.05	0.7825	-23946	15206	3332	40441	13206	2678	15883		4.18	Si
SLD 15	5.25	-1887.54	-3540	-2947	-3468	0.84	0	0	0	0	40441	10564	2142	12706		3.66	Si
SLD 15	7.05	1378.22	-6001	-4997	-2277	1.05	0.886	-16996	13816	3427	40441	13206	2678	15883		6.98	Si
SLV 4	5.25	2329.1	-9066	-7549	3672	1.05	0.8043	-25678	15552	3502	40441	13206	2678	15883		4.33	Si
SLV 4	7.05	-745.26	-3850	-3206	1573	1.05	0.9943	-10906	12598	3507	40441	13206	2678	15883		10.1	Si
SLD 13	5.25	-2136.09	-5107	-4253	-3776	0.84	0.3202	0	0	0	40441	10564	2142	12706		3.36	Si
SLD 13	7.05	1693.03	-7603	-6331	-2824	1.05	0.9069	-21533	14723	3739	40441	13206	2678	15883		5.62	Si
SLV 14	5.25	-2594.54	-4768	-3971	-4541	0.84	0	0	0	0	40441	10564	2142	12706		2.8	Si
SLV 14	7.05	1940.41	-8015	-6674	-3246	1.05	0.8487	-22702	14957	3554	40441	13206	2678	15883		4.89	Si
SLD 14	5.25	-1800.76	-5426	-4518	-3218	0.84	0.5794	0	0	0	40441	10564	2142	12706		3.95	Si
SLD 14	7.05	1505.88	-7322	-6097	-2471	1.05	0.958	-20738	14564	3907	40441	13206	2678	15883		6.43	Si
SLV 9	5.25	-1915.92	-9677	-8059	-3149	1.05	0.9811	-27410	15899	4367	40441	13206	2678	15883		5.04	Si
SLV 9	7.05	2012.79	-10831	-9019	-3356	1.05	1.0175	-30676	16250	4630	40441	13206	2678	15883		4.73	Si
SLV 16	5.25	-2195.28	-2248	-1872	-4046	0.84	0	0	0	0	40441	10564	2142	12706		3.14	Si
SLV 16	7.05	1434.5	-5440	-4530	-2366	1.05	0.7839	-15408	13498	2963	40441	13206	2678	15883		6.71	Si
SLD 16	5.25	-1552.21	-3858	-3213	-2910	0.84	0.3681	0	0	0	40441	10564	2142	12706		4.37	Si
SLD 16	7.05	1191.08	-5720	-4763	-1924	1.05	0.9503	-16201	13657	3634	40441	13206	2678	15883		8.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	2798	-823	108.42	113.07	1.04	Si
SLV 12	179667	0.38	3941	-1159	108.42	158.04	1.46	Si
SLV 15	179667	0.38	4493	-1321	108.42	179.49	1.66	Si
SLV 16	179667	0.38	6191	-1820	108.42	244.48	2.26	Si
SLV 7	179667	0.38	9758	-2869	108.42	375.97	3.47	Si
SLV 8	179667	0.38	10901	-3205	108.42	416.65	3.84	Si
SLV 13	179667	0.38	13143	-3864	108.42	494.41	4.56	Si
SLV 14	179667	0.38	14841	-4363	108.42	551.48	5.09	Si
SLV 3	179667	0.38	27692	-8141	108.42	933.11	8.61	Si
SLV 4	179667	0.38	29389	-8640	108.42	976.87	9.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-7279	-9548	-87	0.751	888.6	0.952	11.46609	6.9554	Si
SLV 14	-6909	-9106	-87	0.785	850.9	0.95	12.00282	6.9554	Si
SLV 15	-5663	-6633	60	0.929	724.6	0.942	14.32913	6.9554	Si
SLV 9	-8421	-12331	-250	0.647	1004.6	0.957	9.82443	4.64355	Si
SLV 1	-5328	-7990	-61	0.977	690.6	0.94	15.09781	6.9554	Si
SLV 10	-8172	-12034	-250	0.663	979.2	0.956	10.08768	4.64355	Si
SLV 16	-5292	-6191	60	0.982	687	0.94	15.18858	6.9554	Si
SLV 5	-7836	-11864	-242	0.688	945.1	0.954	10.47993	4.64355	Si
SLV 2	-4957	-7548	-61	1.036	653.1	0.937	16.05768	6.9554	Si
SLV 6	-7586	-11566	-242	0.707	919.7	0.953	10.78173	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.419	SLU 70	Si
V_SLU	7.367	SLU 70	Si
PF_SLV	0.416	SLV 15	No
V_SLV	2.347	SLV 13	Si
PFFP_SLV	1.043	SLV 11	Si
R_SLV	1.649	SLV 13	Si

Maschio 114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L5	L6	3.211	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	4.35	4772.33	-16641	-0.0000725	0.0004492	0.0035	3.2107	18620.42	23853.63	23853.63	5	No	Si
SLU 48	6.45	-225.98	-12499	-0.0000356	0.0004492	0.0035	3.2107	15499.09	23619.18	23619.18	104.52	No	Si
SLU 66	4.35	5280.24	-18681	-0.0000817	0.0004492	0.0035	3.2107	19789.16	26191.92	26191.92	4.96	No	Si
SLU 66	6.45	-160.27	-14117	-0.0000399	0.0004492	0.0035	3.2107	16837.76	25655.52	25655.52	160.08	No	Si
SLU 69	4.35	5343.61	-18946	-0.0000829	0.0004492	0.0035	3.2107	19922.94	26495.23	26495.23	4.96	No	Si
SLU 69	6.45	-94.33	-14386	-0.0000403	0.0004492	0.0035	3.2107	17045.43	25989.64	25989.64	275.53	No	Si
SLU 79	4.35	5678.44	-20548	-0.0000898	0.0004492	0.0035	3.2107	20645.46	28331.59	28331.59	4.99	No	Si
SLU 79	6.45	58.38	-15676	-0.0000438	0.0004492	0.0035	3.2107	17982.67	22747.32	22747.32	389.64	No	Si
SLU 64	4.35	5169.79	-18218	-0.0000796	0.0004492	0.0035	3.2107	19545.08	25660.89	25660.89	4.96	No	Si
SLU 64	6.45	-217.43	-13653	-0.0000389	0.0004492	0.0035	3.2107	16469.7	25079.31	25079.31	115.35	No	Si
SLU 74	4.35	5662.13	-20482	-0.0000895	0.0004492	0.0035	3.2107	20618.68	28256	28256	4.99	No	Si
SLU 74	6.45	-16.34	-15602	-0.0000434	0.0004492	0.0035	3.2107	17931.47	27500.09	27500.09	1683.1	No	Si
SLU 77	4.35	5725.51	-20746	-0.0000907	0.0004492	0.0035	3.2107	20724.6	28559.31	28559.31	4.99	No	Si
SLU 77	6.45	49.6	-15871	-0.0000444	0.0004492	0.0035	3.2107	18115.8	22970.65	22970.65	463.12	No	Si
SLU 45	4.35	4708.96	-16376	-0.0000714	0.0004492	0.0035	3.2107	18450.99	23550.32	23550.32	5	No	Si
SLU 45	6.45	-291.92	-12230	-0.0000352	0.0004492	0.0035	3.2107	15261.76	23265.28	23265.28	79.7	No	Si
SLU 50	4.35	4725.26	-16442	-0.0000717	0.0004492	0.0035	3.2107	18493.6	23625.92	23625.92	5	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	6.45	-217.2	-12304	-0.000035	0.0004492	0.0035	3.2107	15327.57	23362.77	23362.77	107.56	No	Si
SLU 71	4.35	5296.54	-18747	-0.000082	0.0004492	0.0035	3.2107	19822.88	26267.52	26267.52	4.96	No	Si
SLU 71	6.45	-85.55	-14191	-0.0000397	0.0004492	0.0035	3.2107	16895.39	25747.57	25747.57	300.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	4.35	9435.34	-9452	-0.0000934	0.0006738	0.0035	3.2107		15162.52	15162.52	1.61		Si
SLV 12	6.45	-4088.12	-3064	-0.0000612	0.0006738	0.0035	2.5686		10558.97	10558.97	2.58		Si
SLD 11	4.35	7316.84	-11282	-0.0000698	0.0006738	0.0035	3.2107		17721.87	17721.87	2.42		Si
SLD 11	6.45	-2494.57	-5944	-0.0000287	0.0006738	0.0035	3.2107		14820.68	14820.68	5.94		Si
SLV 7	4.35	9179.97	-10681	-0.0000856	0.0006738	0.0035	3.2107		16885.12	16885.12	1.84		Si
SLV 7	6.45	-3777.19	-4602	-0.0000341	0.0006738	0.0035	3.2107		12851.33	12851.33	3.4		Si
SLV 16	4.35	5927.6	-10949	-0.0000607	0.0006738	0.0035	3.2107		17258.13	17258.13	2.91		Si
SLV 16	6.45	-1643.39	-6073	-0.0000247	0.0006738	0.0035	3.2107		15008.9	15008.9	9.13		Si
SLV 8	4.35	9247.64	-10506	-0.0000866	0.0006738	0.0035	3.2107		16641.39	16641.39	1.8		Si
SLV 8	6.45	-3953.78	-4463	-0.0000361	0.0006738	0.0035	3.2107		12644.99	12644.99	3.2		Si
SLD 12	4.35	7359.41	-11171	-0.0000699	0.0006738	0.0035	3.2107		17568.54	17568.54	2.39		Si
SLD 12	6.45	-2605.65	-5856	-0.0000291	0.0006738	0.0035	3.2107		14692.55	14692.55	5.64		Si
SLV 11	4.35	9367.67	-9627	-0.0000913	0.0006738	0.0035	3.2107		15410.39	15410.39	1.65		Si
SLV 11	6.45	-3911.54	-3203	-0.0000475	0.0006738	0.0035	2.5686		10767.65	10767.65	2.75		Si
SLD 8	4.35	7240.29	-11836	-0.0000706	0.0006738	0.0035	3.2107		18482.11	18482.11	2.55		Si
SLD 8	6.45	-2519.44	-6750	-0.0000311	0.0006738	0.0035	3.2107		15971.21	15971.21	6.34		Si
SLD 7	4.35	7197.72	-11946	-0.0000706	0.0006738	0.0035	3.2107		18632.82	18632.82	2.59		Si
SLD 7	6.45	-2408.36	-6837	-0.0000308	0.0006738	0.0035	3.2107		16095.48	16095.48	6.68		Si
SLV 15	4.35	5827.09	-11209	-0.0000609	0.0006738	0.0035	3.2107		17620.14	17620.14	3.02		Si
SLV 15	6.45	-1381.11	-6280	-0.000024	0.0006738	0.0035	3.2107		15302.33	15302.33	11.08		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	4.35	5626.34	-20782	-11523	4375	3.2107	3.2107	-25634	10833	6517	115546	16154	16375	32528	No	7.43	Si
SLU 78	6.45	119.14	-15975	-8857	4451	3.2107	3.2107	-19705	10833	5553	115546	16154	16375	32528	No	7.31	Si
SLU 82	4.35	5616.19	-20826	-11547	4507	3.2107	3.2107	-25689	10833	6526	115546	16154	16375	32528	No	7.22	Si
SLU 82	6.45	57.72	-15879	-8804	4582	3.2107	3.2107	-19586	10833	5533	115546	16154	16375	32528	No	7.1	Si
SLU 75	4.35	5562.97	-20517	-11376	4380	3.2107	3.2107	-25308	10833	6464	115546	16154	16375	32528	No	7.43	Si
SLU 75	6.45	53.2	-15706	-8708	4455	3.2107	3.2107	-19374	10833	5499	115546	16154	16375	32528	No	7.3	Si
SLU 79	4.35	5678.44	-20548	-11393	4508	3.2107	3.2107	-25346	10833	6470	115546	16154	16375	32528	No	7.22	Si
SLU 79	6.45	58.38	-15676	-8692	4512	3.2107	3.2107	-19336	10833	5493	115546	16154	16375	32528	No	7.21	Si
SLU 84	4.35	5679.56	-21090	-11694	4502	3.2107	3.2107	-26015	10833	6579	115546	16154	16375	32528	No	7.22	Si
SLU 84	6.45	123.66	-16148	-8953	4578	3.2107	3.2107	-19918	10833	5587	115546	16154	16375	32528	No	7.11	Si
SLU 77	4.35	5725.51	-20746	-11503	4538	3.2107	3.2107	-25591	10833	6510	115546	16154	16375	32528	No	7.17	Si
SLU 77	6.45	49.6	-15871	-8800	4541	3.2107	3.2107	-19577	10833	5532	115546	16154	16375	32528	No	7.16	Si
SLU 83	4.35	5778.73	-21055	-11674	4665	3.2107	3.2107	-25971	10833	6572	115546	16154	16375	32528	No	6.97	Si
SLU 83	6.45	54.12	-16043	-8895	4668	3.2107	3.2107	-19789	10833	5566	115546	16154	16375	32528	No	6.97	Si
SLU 81	4.35	5715.36	-20790	-11527	4669	3.2107	3.2107	-25645	10833	6518	115546	16154	16375	32528	No	6.97	Si
SLU 81	6.45	-11.81	-15774	-8746	4673	3.2107	3.2107	-19458	10833	5512	115546	16154	16375	32528	No	6.96	Si
SLU 74	4.35	5662.13	-20482	-11356	4542	3.2107	3.2107	-25264	10833	6457	115546	16154	16375	32528	No	7.16	Si
SLU 74	6.45	-16.34	-15602	-8651	4546	3.2107	3.2107	-19245	10833	5478	115546	16154	16375	32528	No	7.16	Si
SLU 80	4.35	5579.27	-20583	-11412	4346	3.2107	3.2107	-25389	10833	6477	115546	16154	16375	32528	No	7.49	Si
SLU 80	6.45	127.92	-15780	-8749	4421	3.2107	3.2107	-19465	10833	5514	115546	16154	16375	32528	No	7.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	4.35	5927.6	-10949	-6070	6126	3.2107	3.1918	-13505	15201	6793	115546	24231	16375	40605		6.63	Si
SLV 16	6.45	-1643.39	-6073	-3367	5925	3.2107	3.2107	-7491	13998	6292	115546	24231	16375	40605		6.85	Si
SLV 15	4.35	5827.09	-11209	-6215	5995	3.2107	3.2107	-13826	15265	6862	115546	24231	16375	40605		6.77	Si
SLV 15	6.45	-1381.11	-6280	-3482	5793	3.2107	3.2107	-7746	14049	6315	115546	24231	16375	40605		7.01	Si
SLD 7	4.35	7197.72	-11946	-6624	7130	3.2107	3.0085	-14736	15447	6506	115546	24231	16375	40605		5.7	Si
SLD 7	6.45	-2408.36	-6837	-3791	6854	3.2107	3.2107	-8434	14187	6377	115546	24231	16375	40605		5.92	Si
SLV 8	4.35	9247.64	-10506	-5825	9596	3.2107	2.1753	-12959	15092	5630	115546	24231	16375	40605		4.23	Si
SLV 8	6.45	-3953.78	-4463	-2475	9157	3.2107	2.1586	-8208	14142	4418	115546	24231	16375	40605		4.43	Si
SLV 11	4.35	9367.67	-9627	-5338	10028	3.2107	1.8968	-11875	14875	5454	115546	24231	16375	40605		4.05	Si
SLV 11	6.45	-3911.54	-3203	-1776	9550	2.5686	1.1526	0	0	0	115546	19385	13100	32484		3.4	Si
SLV 7	4.35	9179.97	-10681	-5922	9507	3.2107	2.2375	-13175	15135	5665	115546	24231	16375	40605		4.27	Si
SLV 7	6.45	-3777.19	-4602	-2552	9068	3.2107	2.3539	-7766	14054	4631	115546	24231	16375	40605		4.48	Si
SLD 8	4.35	7240.29	-11836	-6563	7186	3.2107	2.9809	-14600	15420	6435	115546	24231	16375	40605		5.65	Si
SLD 8	6.45	-2519.44	-6750	-3743	6910	3.2107	3.2107	-8326	14165	6367	115546	24231	16375	40605		5.88	Si
SLV 12	4.35	9435.34	-9452	-5241	10117	3.2107	1.8212	-11659	14832	5418	115546	24231	16375	40605		4.01	Si
SLV 12	6.45	-4088.12	-3064	-1699	9638	2.5686	0.8136	0	0	0	115546	19385	13100	32484		3.37	Si
SLD 11	4.35	7316.84	-11282	-6255	7459	3.2107	2.8703	-13916	15283	6142	115546	24231	16375	40605		5.44	Si
SLD 11	6.45	-2494.57	-5944	-3295	7162	3.2107	3.2107	-7331	13966	6278	115546	24231	16375	40605		5.67	Si
SLD 12	4.35	7359.41	-11171	-6194	7515	3.2107	2.8397	-13780	15256	6065	115546	24231	16375	40605		5.4	Si
SLD 12	6.45	-2605.65	-5856	-3247	7218	3.2107	3.2107	-7224	13945	6268	115546	24231	16375	40605		5.63	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-4017	0.38	180.39	267.5	554.06	410.78	2.28	Si
SLV 11	-4176	0.38	180.39	277.52	567.88	422.7	2.34	Si
SLV 8	-5320	0.38	180.39	348.32	667	507.66	2.81	Si
SLV 7	-5479	0.38	180.39	358	680.67	519.34	2.88	Si
SLV 16	-6966	0.38	180.39	446.41	808.15	627.28	3.48	Si

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 15	-7203	0.38	180.39	460.11	828.36	644.23	3.57	Si
SLV 14	-10829	0.38	180.39	658.42	1134.72	896.57	4.97	Si
SLV 13	-11066	0.38	180.39	670.56	1154.51	912.54	5.06	Si
SLV 4	-11307	0.38	180.39	682.88	1174.43	928.65	5.15	Si
SLV 3	-11544	0.38	180.39	694.83	1193.92	944.37	5.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-10610	-17095	-280	1.496	1305.8	0.95	22.88269	14.80379	Si
SLV 2	-10477	-16835	-280	1.512	1292.3	0.95	23.14536	14.80379	Si
SLV 3	-8920	-14722	-242	1.74	1134.4	0.944	26.80533	14.80379	Si
SLV 4	-8788	-14462	-242	1.763	1120.9	0.943	27.16601	14.80379	Si
SLV 13	-8108	-13582	242	1.887	1052.1	0.94	29.17464	14.80379	Si
SLV 14	-7975	-13322	242	1.913	1038.6	0.939	29.6023	14.80379	Si
SLV 15	-6418	-11209	280	2.284	881.2	0.93	35.6694	14.80379	Si
SLV 16	-6286	-10949	280	2.323	867.8	0.93	36.31064	14.80379	Si
SLV 5	-11684	-18592	-141	1.386	1414.9	0.954	21.12012	6.89731	Si
SLV 6	-11595	-18417	-141	1.395	1405.8	0.953	21.26883	6.89731	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.958	SLU 69	Si
V_SLU	6.961	SLU 81	Si
PF_SLV	1.607	SLV 12	Si
V_SLV	3.37	SLV 12	Si
PFFP_SLV	2.277	SLV 12	Si
R_SLV	1.546	SLV 1	Si

Maschio 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.363	-3.169	L5	L6	1.61	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	4.35	-691.26	-7067	-0.0000327	0.0003743	0.0035	1.61	4813.03	5713.93	5713.93	8.27	No	Si
SLU 73	6.45	3104.21	-14850	-0.0000964	0.0003743	0.0035	1.61	8086.3	9248.02	9248.02	2.98	No	Si
SLU 39	4.35	-665.79	-5907	-0.0000283	0.0003743	0.0035	1.61	4142.91	4969.34	4969.34	7.46	No	Si
SLU 39	6.45	2915.99	-13070	-0.000086	0.0003743	0.0035	1.61	7525.32	8356.15	8356.15	2.87	No	Si
SLU 81	4.35	-725.19	-7181	-0.0000336	0.0003743	0.0035	1.61	4876.19	5786.3	5786.3	7.98	No	Si
SLU 81	6.45	3300.09	-15295	-0.0001012	0.0003743	0.0035	1.61	8209.47	9477.21	9477.21	2.87	No	Si
SLU 31	4.35	-631.86	-5793	-0.0000274	0.0003743	0.0035	1.61	4074.67	4893.18	4893.18	7.74	No	Si
SLU 31	6.45	2720.11	-12625	-0.0000814	0.0003743	0.0035	1.61	7367.35	8137.7	8137.7	2.99	No	Si
SLU 84	4.35	-704.73	-7432	-0.0000342	0.0003743	0.0035	1.61	5013.77	5938.72	5938.72	8.43	No	Si
SLU 84	6.45	3303.16	-15591	-0.0001025	0.0003743	0.0035	1.61	8287.31	9630.13	9630.13	2.92	No	Si
SLU 82	4.35	-718.44	-7252	-0.0000337	0.0003743	0.0035	1.61	4915.5	5830.56	5830.56	8.12	No	Si
SLU 82	6.45	3301.19	-15359	-0.0001015	0.0003743	0.0035	1.61	8226.35	9509.85	9509.85	2.88	No	Si
SLU 42	4.35	-645.34	-6157	-0.0000289	0.0003743	0.0035	1.61	4291.7	5130.25	5130.25	7.95	No	Si
SLU 42	6.45	2919.05	-13366	-0.0000873	0.0003743	0.0035	1.61	7626.23	8502.29	8502.29	2.91	No	Si
SLU 41	4.35	-652.08	-6086	-0.0000287	0.0003743	0.0035	1.61	4249.65	5085.24	5085.24	7.8	No	Si
SLU 41	6.45	2917.96	-13303	-0.0000871	0.0003743	0.0035	1.61	7604.93	8471	8471	2.9	No	Si
SLU 83	4.35	-711.48	-7360	-0.000034	0.0003743	0.0035	1.61	4974.9	5895.71	5895.71	8.29	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	6.45	3302.06	-15528	-0.0001022	0.0003743	0.0035	1.61	8270.94	9597.66	9597.66	2.91	No	Si
SLU 40	4.35	-659.05	-5978	-0.0000284	0.0003743	0.0035	1.61	4185.41	5016.63	5016.63	7.61	No	Si
SLU 40	6.45	2917.08	-13133	-0.0000863	0.0003743	0.0035	1.61	7547.13	8387.27	8387.27	2.88	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	4.35	-2742.58	-626	-0.0020951	0.0005615	0.0035	1.288		1174.3	1174.3	0.43		No
SLD 15	6.45	4169.24	-10244	-0.0000964	0.0005615	0.0035	1.61		7285.25	7285.25	1.75		Si
SLD 11	4.35	-1335.52	268	0.0272797	0.0005615	0.0035	1.288		0	0	0		No
SLD 11	6.45	2518.98	-6606	-0.0000566	0.0005615	0.0035	1.61		5078.05	5078.05	2.02		Si
SLD 16	4.35	-2353.09	-1149	-0.0011799	0.0005615	0.0035	1.288		1581.44	1581.44	0.67		No
SLD 16	6.45	3732.85	-9952	-0.000086	0.0005615	0.0035	1.61		7107.36	7107.36	1.9		Si
SLV 12	4.35	-1415.81	2880	0.3033675	0.0005615	0.0035	1.288		0	0	0		No
SLV 12	6.45	2305.21	-4016	-0.0000634	0.0005615	0.0035	1.61		3233.9	3233.9	1.4		Si
SLV 7	4.35	81.98	777	0.0791365	0.0005615	0.0035	1.288		0	0	0		No
SLV 7	6.45	918.33	-3379	-0.0000224	0.0005615	0.0035	1.61		2762.89	2762.89	3.01		Si
SLV 8	4.35	492.41	225	0.0053615	0.0005615	0.0035	1.288		0	0	0		No
SLV 8	6.45	458.47	-3072	-0.0000157	0.0005615	0.0035	1.61		2534	2534	5.53		Si
SLV 13	4.35	-3902.04	-2203	-0.0023558	0.0005615	0.0035	1.288		2389.24	2389.24	0.61		No
SLV 13	6.45	5618.07	-14121	-0.0001338	0.0005615	0.0035	1.61		9707.6	9707.6	1.73		Si
SLV 15	4.35	-4017.45	1890	0.2059241	0.0005615	0.0035	1.288		0	0	0		No
SLV 15	6.45	5347.2	-10142	-0.0001418	0.0005615	0.0035	1.61		7223.11	7223.11	1.35		Si
SLV 16	4.35	-3407.83	1070	0.1186516	0.0005615	0.0035	1.288		0	0	0		No
SLV 16	6.45	4664.17	-9685	-0.0001137	0.0005615	0.0035	1.61		6945.29	6945.29	1.49		Si
SLV 11	4.35	-1826.24	3432	0.3620307	0.0005615	0.0035	1.288		0	0	0		No
SLV 11	6.45	2765.07	-4324	-0.0000979	0.0005615	0.0035	1.61		3458.2	3458.2	1.25		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	4.35	-696.02	-7220	-6013	-4979	1.61	1.61	-13337	8723	3932	40441	13499	4106	17605	No	3.54	Si
SLU 74	6.45	3134.29	-15145	-12612	-7469	1.61	1.61	-27976	10675	4812	40441	13499	4106	17605	No	2.36	Si
SLU 81	4.35	-725.19	-7181	-5980	-5046	1.61	1.61	-13264	8713	3928	40441	13499	4106	17605	No	3.49	Si
SLU 81	6.45	3300.09	-15295	-12737	-7627	1.61	1.61	-28253	10712	4843	40441	13499	4106	17605	No	2.31	Si
SLU 83	4.35	-711.48	-7360	-6129	-5061	1.61	1.61	-13596	8757	3948	40441	13499	4106	17605	No	3.48	Si
SLU 83	6.45	3302.06	-15528	-12930	-7644	1.61	1.61	-28683	10769	4895	40441	13499	4106	17605	No	2.3	Si
SLU 84	4.35	-704.73	-7432	-6188	-5053	1.61	1.61	-13728	8775	3956	40441	13499	4106	17605	No	3.48	Si
SLU 84	6.45	3303.16	-15591	-12983	-7647	1.61	1.61	-28800	10784	4909	40441	13499	4106	17605	No	2.3	Si
SLU 78	4.35	-675.56	-7471	-6221	-4986	1.61	1.61	-13801	8785	3960	40441	13499	4106	17605	No	3.53	Si
SLU 78	6.45	3137.36	-15441	-12858	-7489	1.61	1.61	-28522	10747	4875	40441	13499	4106	17605	No	2.35	Si
SLU 82	4.35	-718.44	-7252	-6039	-5039	1.61	1.61	-13396	8731	3936	40441	13499	4106	17605	No	3.49	Si
SLU 82	6.45	3301.19	-15359	-12789	-7630	1.61	1.61	-28370	10727	4857	40441	13499	4106	17605	No	2.31	Si
SLU 79	4.35	-675.08	-7307	-6085	-4952	1.61	1.61	-13498	8744	3942	40441	13499	4106	17605	No	3.56	Si
SLU 79	6.45	3106.33	-15209	-12665	-7412	1.61	1.61	-28094	10690	4824	40441	13499	4106	17605	No	2.38	Si
SLU 80	4.35	-668.33	-7379	-6144	-4944	1.61	1.61	-13630	8762	3950	40441	13499	4106	17605	No	3.56	Si
SLU 80	6.45	3107.42	-15272	-12718	-7415	1.61	1.61	-28211	10706	4838	40441	13499	4106	17605	No	2.37	Si
SLU 77	4.35	-682.31	-7400	-6162	-4993	1.61	1.61	-13669	8767	3952	40441	13499	4106	17605	No	3.53	Si
SLU 77	6.45	3136.26	-15378	-12805	-7486	1.61	1.61	-28406	10732	4861	40441	13499	4106	17605	No	2.35	Si
SLU 75	4.35	-689.27	-7292	-6072	-4972	1.61	1.61	-13469	8740	3940	40441	13499	4106	17605	No	3.54	Si
SLU 75	6.45	3135.39	-15208	-12664	-7472	1.61	1.61	-28093	10690	4824	40441	13499	4106	17605	No	2.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	4.35	-2670.13	-3167	-2638	-7325	1.288	0	0	0	0	40441	16199	3284	19483		2.66	Si
SLD 13	6.45	4337.54	-12717	-10589	-8984	1.61	1.3917	-23490	15115	5890	40441	20248	4106	24354		2.71	Si
SLD 16	4.35	-2353.09	-1149	-957	-6638	1.288	0	0	0	0	40441	16199	3284	19483		2.93	Si
SLD 16	6.45	3732.85	-9952	-8287	-7866	1.61	1.2898	-18383	14093	5090	40441	20248	4106	24354		3.1	Si
SLV 16	4.35	-3407.83	1070	891	-8408	1.288	0	0	0	0	40441	16199	3284	19483		2.32	Si
SLV 16	6.45	4664.17	-9685	-8065	-9380	1.61	0.9703	-17890	13995	4321	40441	20248	4106	24354		2.6	Si
SLD 15	4.35	-2742.58	-626	-521	-7334	1.288	0	0	0	0	40441	16199	3284	19483		2.66	Si
SLD 15	6.45	4169.24	-10244	-8530	-8631	1.61	1.194	-18923	14201	4748	40441	20248	4106	24354		2.82	Si
SLV 10	4.35	-1031.11	-10761	-8961	-4735	1.61	1.61	-19877	14392	6488	40441	20248	4106	24354		5.14	Si
SLV 10	6.45	3208.13	-17278	-14387	-7233	1.61	1.61	-31915	16250	7326	40441	20248	4106	24354		3.37	Si
SLD 14	4.35	-2280.64	-3691	-3074	-6629	1.288	0.5614	0	0	0	40441	16199	3284	19483		2.94	Si
SLD 14	6.45	3901.15	-12425	-10346	-8219	1.61	1.473	-22950	15007	6190	40441	20248	4106	24354		2.96	Si
SLV 13	4.35	-3902.04	-2203	-1834	-9484	1.288	0	0	0	0	40441	16199	3284	19483		2.05	Si
SLV 13	6.45	5618.07	-14121	-11759	-11146	1.61	1.2214	-26084	15633	5347	40441	20248	4106	24354		2.19	Si
SLV 9	4.35	-1441.54	-10209	-8501	-5468	1.61	1.61	-18858	14188	6396	40441	20248	4106	24354		4.45	Si
SLV 9	6.45	3667.99	-17586	-14644	-8039	1.61	1.61	-32484	16250	7326	40441	20248	4106	24354		3.03	Si
SLV 14	4.35	-3292.42	-3022	-2517	-8396	1.288	0	0	0	0	40441	16199	3284	19483		2.32	Si
SLV 14	6.45	4935.04	-13664	-11378	-9949	1.61	1.3315	-25239	15464	5765	40441	20248	4106	24354		2.45	Si
SLV 15	4.35	-4017.45	1890	1574	-9497	1.288	0	0	0	0	40441	16199	3284	19483		2.05	Si
SLV 15	6.45	5347.2	-10142	-8446	-10577	1.61	0.8333	-18735	14164	4422	40441	20248	4106	24354		2.3	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	7446	-3357	166.24	447.03	2.69	Si
SLV 7	179667	0.38	8129	-3665	166.24	485.73	2.92	Si
SLV 12	179667	0.38	9536	-4299	166.24	564.24	3.39	Si
SLV 11	179667	0.38	10218	-4606	166.24	601.75	3.62	Si
SLV 4	179667	0.38	15137	-6824	166.24	860.63	5.18	Si
SLV 3	179667	0.38	16151	-7281	166.24	911.52	5.48	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.38	22101	-9963	166.24	1193	7.18	Si
SLV 15	179667	0.38	23116	-10420	166.24	1238.05	7.45	Si
SLV 2	179667	0.38	23960	-10801	166.24	1274.92	7.67	Si
SLV 1	179667	0.38	24974	-11258	166.24	1318.42	7.93	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-10758	-11874	-49	0.781	1321.4	0.951	11.94815	6.9554	Si
SLV 1	-10457	-11054	-48	0.8	1291	0.949	12.24883	6.9554	Si
SLV 6	-12674	-13416	-209	0.669	1516.1	0.956	10.17455	4.64355	Si
SLV 4	-8020	-7781	79	0.993	1043.8	0.939	15.36337	6.9554	Si
SLV 5	-12472	-12864	-208	0.679	1495.6	0.956	10.32018	4.64355	Si
SLV 3	-7720	-6961	80	1.024	1013.4	0.938	15.87071	6.9554	Si
SLV 10	-11621	-10761	-217	0.72	1409.1	0.953	10.97079	4.64355	Si
SLV 9	-11419	-10209	-216	0.73	1388.6	0.953	11.14171	4.64355	Si
SLV 14	-7247	-3022	-77	1.078	965.6	0.935	16.75113	6.9554	Si
SLV 13	-6947	-2203	-76	1.115	935.3	0.934	17.36237	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.866	SLU 39	Si
V_SLU	2.302	SLU 84	Si
PF_SLV	0	SLD 11	No
V_SLV	2.052	SLV 15	Si
PFFP_SLV	2.689	SLV 8	Si
R_SLV	1.718	SLV 2	Si

Maschio 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.661	L5	L6	4.455	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	4.35	-20166.25	-33821	-0.0001306	0.0004492	0.0035	4.455	41902.38	72109.32	72109.32	3.58	No	Si
SLU 81	6.45	-11375.82	-30459	-0.0000957	0.0004492	0.0035	4.455	40730.04	67146.75	67146.75	5.9	No	Si
SLU 78	4.35	-20090.81	-34051	-0.0001309	0.0004492	0.0035	4.455	41958.45	72434.79	72434.79	3.61	No	Si
SLU 78	6.45	-11104.51	-30689	-0.0000954	0.0004492	0.0035	4.455	40831.35	67495.81	67495.81	6.08	No	Si
SLU 76	4.35	-19906.44	-32968	-0.0001276	0.0004492	0.0035	4.455	41667.38	70902.21	70902.21	3.56	No	Si
SLU 76	6.45	-10697.75	-29605	-0.0000917	0.0004492	0.0035	4.455	40327.26	65852.16	65852.16	6.16	No	Si
SLU 82	4.35	-20402.21	-33537	-0.0001306	0.0004492	0.0035	4.455	41828.78	71707	71707	3.51	No	Si
SLU 82	6.45	-11190.41	-30174	-0.0000944	0.0004492	0.0035	4.455	40600.53	66715.27	66715.27	5.96	No	Si
SLU 83	4.35	-20336.42	-34455	-0.0001327	0.0004492	0.0035	4.455	42049.25	73005.2	73005.2	3.59	No	Si
SLU 83	6.45	-11569.17	-31092	-0.0000977	0.0004492	0.0035	4.455	41001.44	68107.57	68107.57	5.89	No	Si
SLU 84	4.35	-20572.39	-34170	-0.0001327	0.0004492	0.0035	4.455	41986.2	72602.88	72602.88	3.53	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	6.45	-11383.76	-30808	-0.0000965	0.0004492	0.0035	4.455	40882.46	67676.09	67676.09	5.94	No	Si
SLU 73	4.35	-19736.26	-32334	-0.0001255	0.0004492	0.0035	4.455	41465.43	69991.22	69991.22	3.55	No	Si
SLU 73	6.45	-10504.4	-28972	-0.0000896	0.0004492	0.0035	4.455	40000.79	64891.35	64891.35	6.18	No	Si
SLU 80	4.35	-19919.31	-33791	-0.0001297	0.0004492	0.0035	4.455	41894.74	72066.31	72066.31	3.62	No	Si
SLU 80	6.45	-11014.71	-30428	-0.0000945	0.0004492	0.0035	4.455	40716.42	67100.63	67100.63	6.09	No	Si
SLU 75	4.35	-19920.63	-33418	-0.0001288	0.0004492	0.0035	4.455	41796.64	71538.91	71538.91	3.59	No	Si
SLU 75	6.45	-10911.16	-30055	-0.0000933	0.0004492	0.0035	4.455	40545.01	66535	66535	6.1	No	Si
SLU 61	4.35	-18123.14	-29823	-0.0001145	0.0004492	0.0035	4.455	40434.01	66182.27	66182.27	3.65	No	Si
SLU 61	6.45	-9754.26	-26662	-0.0000822	0.0004492	0.0035	4.455	38611.86	61290.15	61290.15	6.28	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	4.35	-26678.1	-10397	-0.0005492	0.0006738	0.0035	3.564		32907.44	32907.44	1.23		Si
SLD 5	6.45	-222.56	-7853	-0.0000158	0.0006738	0.0035	4.455		27856.9	27856.9	125.16		Si
SLV 1	4.35	-22803.42	-16538	-0.0001182	0.0006738	0.0035	3.564		44757.34	44757.34	1.96		Si
SLV 1	6.45	-3585.99	-13993	-0.000037	0.0006738	0.0035	4.455		39976.17	39976.17	11.15		Si
SLD 9	4.35	-25487.64	-10588	-0.0004619	0.0006738	0.0035	3.564		33283.41	33283.41	1.31		Si
SLD 9	6.45	-320.83	-8044	-0.0000165	0.0006738	0.0035	4.455		28245.44	28245.44	88.04		Si
SLV 9	4.35	-32814.35	-2896	-0.0013808	0.0006738	0.0035	3.564		17622.51	17622.51	0.54		No
SLV 9	6.45	3931.24	-349	-0.0010101	0.0006738	0.0035	3.564		2782.9	2782.9	0.71		No
SLV 5	4.35	-34672.57	-2595	-0.0015167	0.0006738	0.0035	3.564		16989.89	16989.89	0.49		No
SLV 5	6.45	4087.89	-48	-0.0013126	0.0006738	0.0035	3.564		2128	2128	0.52		No
SLV 10	4.35	-32529.7	-3030	-0.0013574	0.0006738	0.0035	3.564		17905.51	17905.51	0.55		No
SLV 10	6.45	3749.71	-484	-0.0008414	0.0006738	0.0035	3.564		3074.36	3074.36	0.82		No
SLD 6	4.35	-26499.04	-10482	-0.0005311	0.0006738	0.0035	3.564		33074.24	33074.24	1.25		Si
SLD 6	6.45	-336.76	-7938	-0.0000163	0.0006738	0.0035	4.455		28028.9	28028.9	83.23		Si
SLV 6	4.35	-34387.92	-2730	-0.0014927	0.0006738	0.0035	3.564		17272.89	17272.89	0.5		No
SLV 6	6.45	3906.35	-182	-0.0011223	0.0006738	0.0035	3.564		2420.36	2420.36	0.62		No
SLD 10	4.35	-25308.58	-10673	-0.0004437	0.0006738	0.0035	3.564		33450.21	33450.21	1.32		Si
SLD 10	6.45	-435.03	-8129	-0.0000169	0.0006738	0.0035	4.455		28417.44	28417.44	65.32		Si
SLV 2	4.35	-22380.64	-16737	-0.0001138	0.0006738	0.0035	3.564		45132.51	45132.51	2.02		Si
SLV 2	6.45	-3855.62	-14193	-0.0000381	0.0006738	0.0035	4.455		40351.34	40351.34	10.47		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	4.35	-19736.26	-32334	-17928	-4372	4.455	4.455	-28744	10833	10774	115546	22414	22720	45135	No	10.32	Si
SLU 73	6.45	-10504.4	-28972	-16064	-4372	4.455	4.455	-25755	10833	10028	115546	22414	22720	45135	No	10.32	Si
SLU 78	4.35	-20090.81	-34051	-18880	-4255	4.455	4.455	-30271	10833	11155	115546	22414	22720	45135	No	10.61	Si
SLU 78	6.45	-11104.51	-30689	-17016	-4255	4.455	4.455	-27282	10833	10409	115546	22414	22720	45135	No	10.61	Si
SLU 83	4.35	-20336.42	-34455	-19104	-4151	4.455	4.455	-30630	10833	11244	115546	22414	22720	45135	No	10.87	Si
SLU 83	6.45	-11569.17	-31092	-17239	-4151	4.455	4.455	-27640	10833	10498	115546	22414	22720	45135	No	10.87	Si
SLU 84	4.35	-20572.39	-34170	-18946	-4352	4.455	4.455	-30377	10833	11181	115546	22414	22720	45135	No	10.37	Si
SLU 84	6.45	-11383.76	-30808	-17082	-4352	4.455	4.455	-27387	10833	10435	115546	22414	22720	45135	No	10.37	Si
SLU 76	4.35	-19906.44	-32968	-18279	-4361	4.455	4.455	-29308	10833	10914	115546	22414	22720	45135	No	10.35	Si
SLU 76	6.45	-10697.75	-29605	-16415	-4361	4.455	4.455	-26318	10833	10169	115546	22414	22720	45135	No	10.35	Si
SLU 80	4.35	-19919.31	-33791	-18736	-4216	4.455	4.455	-30039	10833	11097	115546	22414	22720	45135	No	10.7	Si
SLU 80	6.45	-11014.71	-30428	-16871	-4216	4.455	4.455	-27050	10833	10351	115546	22414	22720	45135	No	10.7	Si
SLU 82	4.35	-20402.21	-33537	-18595	-4363	4.455	4.455	-29813	10833	11041	115546	22414	22720	45135	No	10.35	Si
SLU 82	6.45	-11190.41	-30174	-16730	-4363	4.455	4.455	-26824	10833	10295	115546	22414	22720	45135	No	10.35	Si
SLU 81	4.35	-20166.25	-33821	-18752	-4162	4.455	4.455	-30066	10833	11104	115546	22414	22720	45135	No	10.84	Si
SLU 81	6.45	-11375.82	-30459	-16888	-4162	4.455	4.455	-27077	10833	10358	115546	22414	22720	45135	No	10.84	Si
SLU 65	4.35	-17815.32	-29971	-16617	-4082	4.455	4.455	-26643	10833	10250	115546	22414	22720	45135	No	11.06	Si
SLU 65	6.45	-9192.15	-26608	-14753	-4082	4.455	4.455	-23654	10833	9504	115546	22414	22720	45135	No	11.06	Si
SLU 75	4.35	-19920.63	-33418	-18529	-4266	4.455	4.455	-29708	10833	11014	115546	22414	22720	45135	No	10.58	Si
SLU 75	6.45	-10911.16	-30055	-16664	-4266	4.455	4.455	-26719	10833	10268	115546	22414	22720	45135	No	10.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	4.35	-32814.35	-2896	-1606	-17635	3.564	0	0	0	0	115546	26897	18176	45073		2.56	Si
SLV 9	6.45	3931.24	-349	-194	-17313	3.564	0	0	0	0	115546	26897	18176	45073		2.6	Si
SLD 5	4.35	-26678.1	-10397	-5765	-12674	3.564	0	0	0	0	115546	26897	18176	45073		3.56	Si
SLD 5	6.45	-222.56	-7853	-4354	-12470	4.455	4.455	-6981	13896	8667	115546	33621	22720	56342		4.52	Si
SLV 6	4.35	-34387.92	-2730	-1513	-18374	3.564	0	0	0	0	115546	26897	18176	45073		2.45	Si
SLV 6	6.45	3906.35	-182	-101	-18048	3.564	0	0	0	0	115546	26897	18176	45073		2.5	Si
SLV 12	4.35	7773.52	-43961	-24375	12841	4.455	4.455	-39081	16250	15154	115546	33621	22720	56342		4.39	Si
SLV 12	6.45	-18823.65	-41424	-22968	12516	4.455	4.455	-36825	16250	14591	115546	33621	22720	56342		4.5	Si
SLV 11	4.35	7488.87	-43827	-24300	12619	4.455	4.455	-38961	16250	15124	115546	33621	22720	56342		4.46	Si
SLV 11	6.45	-18642.12	-41290	-22893	12294	4.455	4.455	-36706	16250	14561	115546	33621	22720	56342		4.58	Si
SLD 10	4.35	-25308.58	-10673	-5917	-11920	3.564	0	0	0	0	115546	26897	18176	45073		3.78	Si
SLD 10	6.45	-435.03	-8129	-4507	-11718	4.455	4.455	-7226	13945	8698	115546	33621	22720	56342		4.81	Si
SLD 6	4.35	-26499.04	-10482	-5812	-12535	3.564	0	0	0	0	115546	26897	18176	45073		3.6	Si
SLD 6	6.45	-336.76	-7938	-4401	-12331	4.455	4.455	-7056	13911	8676	115546	33621	22720	56342		4.57	Si
SLD 9	4.35	-25487.64	-10588	-5871	-12060	3.564	0	0	0	0	115546	26897	18176	45073		3.74	Si
SLD 9	6.45	-320.83	-8044	-4460	-11858	4.455	4.455	-7151	13930	8688	115546	33621	22720	56342		4.75	Si
SLV 10	4.35	-32529.7	-3030	-1680	-17413	3.564	0	0	0	0	115546	26897	18176	45073		2.59	Si
SLV 10	6.45	3749.71	-484	-268	-17091	3.564	0	0	0	0	115546	26897	18176	45073		2.64	Si
SLV 5	4.35	-34672.57	-2595	-1439	-18596	3.564	0	0	0	0	115546	26897	18176	45073		2.42	Si
SLV 5	6.45	4087.89	-48	-27	-18270	3.564	0	0	0	0	115546	26897	18176	45073		2.47	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-558	0.38	250.31	0	314.62	157.31	0.63	No
SLV 6	-693	0.38	250.31	0	327.69	163.84	0.65	No
SLV 9	-862	0.38	250.31	0	343.9	171.95	0.69	No
SLV 10	-996	0.38	250.31	0	356.62	178.31	0.71	No
SLV 1	-14493	0.38	250.31	885.87	1525.02	1205.44	4.82	Si
SLV 2	-14692	0.38	250.31	896.28	1541.44	1218.86	4.87	Si
SLV 13	-15505	0.38	250.31	938.14	1608.38	1273.26	5.09	Si
SLV 14	-15705	0.38	250.31	948.3	1624.84	1286.57	5.14	Si
SLD 5	-8358	0.16	103.57	542.29	1007.07	774.68	7.48	Si
SLD 6	-8443	0.16	103.57	547.34	1014.31	780.82	7.54	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-19776	-29017	-461	1.15	2325.4	0.96	17.40641	14.80379	Si
SLV 3	-19740	-28817	-461	1.152	2321.8	0.96	17.4356	14.80379	Si
SLV 16	-19654	-30019	460	1.156	2313.1	0.96	17.50651	14.80379	Si
SLV 15	-19619	-29819	460	1.158	2309.5	0.96	17.53603	14.80379	Si
SLV 2	-13207	-16737	-460	1.638	1658.1	0.946	25.16729	14.80379	Si
SLV 1	-13171	-16538	-460	1.642	1654.4	0.946	25.22866	14.80379	Si
SLV 14	-13085	-17739	461	1.651	1645.8	0.946	25.37567	14.80379	Si
SLV 13	-13050	-17540	461	1.655	1642.1	0.946	25.43807	14.80379	Si
SLV 8	-27391	-43661	-140	0.868	3100.4	0.969	13.01232	6.89731	Si
SLV 7	-27367	-43526	-140	0.869	3098	0.969	13.02305	6.89731	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.515	SLU 82	Si
V_SLU	10.323	SLU 73	Si
PF_SLV	0.49	SLV 5	No
V_SLV	2.424	SLV 5	Si
PFFP_SLV	0.628	SLV 5	No
R_SLV	1.176	SLV 4	Si

Maschio 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L5	Z medio 611 cm	1.281	0.28	1.76	1.76	1.76			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	4.35	-736.27	-18917	-0.0001071	0.0003743	0.0035	1.2809	5838.88	7980	7980	10.84	No	Si
SLU 84	6.11	737.98	-14715	-0.0000837	0.0003743	0.0035	1.2809	5626.35	6760.09	6760.09	9.16	No	Si
SLU 39	4.35	-637.78	-15849	-0.0000874	0.0003743	0.0035	1.2809	5744.8	7265.77	7265.77	11.39	No	Si
SLU 39	6.11	681.68	-12369	-0.0000702	0.0003743	0.0035	1.2809	5238.39	6062.84	6062.84	8.89	No	Si
SLU 83	4.35	-724.39	-18832	-0.0001063	0.0003743	0.0035	1.2809	5840.71	7967.27	7967.27	11	No	Si
SLU 83	6.11	731.42	-14654	-0.0000832	0.0003743	0.0035	1.2809	5618.78	6744.55	6744.55	9.22	No	Si
SLU 82	4.35	-729.72	-18686	-0.0001056	0.0003743	0.0035	1.2809	5843.28	7935.14	7935.14	10.87	No	Si
SLU 82	6.11	736.26	-14501	-0.0000825	0.0003743	0.0035	1.2809	5599.01	6705.27	6705.27	9.11	No	Si
SLU 19	4.35	-548.96	-13951	-0.0000753	0.0003743	0.0035	1.2809	5521.21	6803.35	6803.35	12.39	No	Si
SLU 19	6.11	580.21	-10869	-0.0000604	0.0003743	0.0035	1.2809	4889.14	5473.58	5473.58	9.43	No	Si
SLU 81	4.35	-717.84	-18602	-0.0001048	0.0003743	0.0035	1.2809	5844.43	7915.7	7915.7	11.03	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	6.11	729.71	-14441	-0.000082	0.0003743	0.0035	1.2809	5590.98	6689.84	6689.84	9.17	No	Si
SLU 40	4.35	-649.66	-15934	-0.0000882	0.0003743	0.0035	1.2809	5751.81	7284.54	7284.54	11.21	No	Si
SLU 40	6.11	688.23	-12430	-0.0000706	0.0003743	0.0035	1.2809	5250.81	6087.09	6087.09	8.84	No	Si
SLU 41	4.35	-644.33	-16080	-0.0000889	0.0003743	0.0035	1.2809	5763.34	7317.11	7317.11	11.36	No	Si
SLU 41	6.11	683.39	-12583	-0.0000713	0.0003743	0.0035	1.2809	5281.7	6148.76	6148.76	9	No	Si
SLU 18	4.35	-537.07	-13866	-0.0000746	0.0003743	0.0035	1.2809	5508.33	6774.93	6774.93	12.61	No	Si
SLU 18	6.11	573.66	-10809	-0.00006	0.0003743	0.0035	1.2809	4873.42	5450.33	5450.33	9.5	No	Si
SLU 42	4.35	-656.21	-16164	-0.0000896	0.0003743	0.0035	1.2809	5769.67	7335.9	7335.9	11.18	No	Si
SLU 42	6.11	689.94	-12643	-0.0000718	0.0003743	0.0035	1.2809	5293.66	6173.16	6173.16	8.95	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	4.35	-1142.33	-15585	-0.000093	0.0005615	0.0035	1.2809		8268.16	8268.16	7.24		Si
SLV 14	6.11	999.44	-11473	-0.0000701	0.0005615	0.0035	1.2809		6241.35	6241.35	6.24		Si
SLV 10	4.35	-1633.92	-20868	-0.0001312	0.0005615	0.0035	1.2809		9936.64	9936.64	6.08		Si
SLV 10	6.11	1142.42	-15827	-0.0000942	0.0005615	0.0035	1.2809		7957.91	7957.91	6.97		Si
SLV 13	4.35	-1209.67	-15759	-0.0000953	0.0005615	0.0035	1.2809		8331.1	8331.1	6.89		Si
SLV 13	6.11	1090.57	-11518	-0.0000723	0.0005615	0.0035	1.2809		6263.63	6263.63	5.74		Si
SLV 11	4.35	506.57	-4545	-0.0000289	0.0005615	0.0035	1.2809		2819.52	2819.52	5.57		Si
SLV 11	6.11	-112.45	-3323	-0.000016	0.0005615	0.0035	1.2809		2392.05	2392.05	21.27		Si
SLV 12	4.35	551.92	-4428	-0.0000293	0.0005615	0.0035	1.2809		2753.41	2753.41	4.99		Si
SLV 12	6.11	-173.8	-3293	-0.000017	0.0005615	0.0035	1.2809		2374.23	2374.23	13.66		Si
SLV 9	4.35	-1679.26	-20986	-0.0001329	0.0005615	0.0035	1.2809		9972.08	9972.08	5.94		Si
SLV 9	6.11	1203.77	-15857	-0.0000957	0.0005615	0.0035	1.2809		7969.45	7969.45	6.62		Si
SLV 15	4.35	-553.92	-10827	-0.0000579	0.0005615	0.0035	1.2809		6282.58	6282.58	11.34		Si
SLV 15	6.11	695.7	-7758	-0.0000468	0.0005615	0.0035	1.2809		4440.93	4440.93	6.38		Si
SLV 5	4.35	-1435.45	-20557	-0.000125	0.0005615	0.0035	1.2809		9837.1	9837.1	6.85		Si
SLV 5	6.11	918.69	-15822	-0.0000893	0.0005615	0.0035	1.2809		7956.12	7956.12	8.66		Si
SLV 8	4.35	795.73	-3999	-0.0000323	0.0005615	0.0035	1.2809		2511.43	2511.43	3.16		Si
SLV 8	6.11	-458.88	-3258	-0.0000225	0.0005615	0.0035	1.2809		2353.65	2353.65	5.13		Si
SLV 7	4.35	750.39	-4117	-0.0000319	0.0005615	0.0035	1.2809		2577.97	2577.97	3.44		Si
SLV 7	6.11	-397.53	-3289	-0.0000214	0.0005615	0.0035	1.2809		2371.46	2371.46	5.97		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	4.35	-697.66	-18245	-15193	-5342	1.2809	1.2809	-42362	10833	5679	19031	10740	3266	14006	No	2.62	Si
SLU 76	6.11	655.32	-14118	-11757	-2404	1.2809	1.2809	-32780	10833	4679	19031	10740	3266	14006	No	5.83	Si
SLU 84	4.35	-736.27	-18917	-15752	-5593	1.2809	1.2809	-43920	10833	5842	19031	10740	3266	14006	No	2.5	Si
SLU 84	6.11	737.98	-14715	-12253	-2592	1.2809	1.2809	-34164	10833	4823	19031	10740	3266	14006	No	5.4	Si
SLU 82	4.35	-729.72	-18686	-15560	-5543	1.2809	1.2809	-43385	10833	5786	19031	10740	3266	14006	No	2.53	Si
SLU 82	6.11	736.26	-14501	-12075	-2592	1.2809	1.2809	-33668	10833	4772	19031	10740	3266	14006	No	5.4	Si
SLU 83	4.35	-724.39	-18832	-15682	-5537	1.2809	1.2809	-43724	10833	5822	19031	10740	3266	14006	No	2.53	Si
SLU 83	6.11	731.42	-14654	-12203	-2554	1.2809	1.2809	-34024	10833	4809	19031	10740	3266	14006	No	5.48	Si
SLU 77	4.35	-691.49	-18475	-15384	-5353	1.2809	1.2809	-42895	10833	5735	19031	10740	3266	14006	No	2.62	Si
SLU 77	6.11	653.48	-14351	-11950	-2373	1.2809	1.2809	-33319	10833	4735	19031	10740	3266	14006	No	5.9	Si
SLU 80	4.35	-696.29	-18420	-15338	-5354	1.2809	1.2809	-42766	10833	5722	19031	10740	3266	14006	No	2.62	Si
SLU 80	6.11	652.66	-14292	-11901	-2379	1.2809	1.2809	-33182	10833	4721	19031	10740	3266	14006	No	5.89	Si
SLU 74	4.35	-684.94	-18244	-15192	-5303	1.2809	1.2809	-42360	10833	5679	19031	10740	3266	14006	No	2.64	Si
SLU 74	6.11	651.76	-14137	-11772	-2373	1.2809	1.2809	-32823	10833	4683	19031	10740	3266	14006	No	5.9	Si
SLU 78	4.35	-703.37	-18559	-15455	-5409	1.2809	1.2809	-43091	10833	5755	19031	10740	3266	14006	No	2.59	Si
SLU 78	6.11	660.03	-14411	-12000	-2411	1.2809	1.2809	-33459	10833	4750	19031	10740	3266	14006	No	5.81	Si
SLU 81	4.35	-717.84	-18602	-15490	-5487	1.2809	1.2809	-43189	10833	5766	19031	10740	3266	14006	No	2.55	Si
SLU 81	6.11	729.71	-14441	-12025	-2554	1.2809	1.2809	-33528	10833	4757	19031	10740	3266	14006	No	5.48	Si
SLU 75	4.35	-696.82	-18329	-15263	-5359	1.2809	1.2809	-42556	10833	5700	19031	10740	3266	14006	No	2.61	Si
SLU 75	6.11	658.32	-14198	-11822	-2411	1.2809	1.2809	-32964	10833	4698	19031	10740	3266	14006	No	5.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	4.35	-1435.45	-20557	-17118	-7851	1.2809	1.2809	-47730	16250	6868	19031	16110	3266	19376		2.47	Si
SLV 5	6.11	918.69	-15822	-13175	-4843	1.2809	1.2809	-36736	16250	5828	19031	16110	3266	19376		4	Si
SLV 13	4.35	-1209.67	-15759	-13123	-9108	1.2809	1.2809	-36590	16250	5828	19031	16110	3266	19376		2.13	Si
SLV 13	6.11	1090.57	-11518	-9591	-6541	1.2809	1.2809	-26742	15765	5654	19031	16110	3266	19376		2.96	Si
SLV 6	4.35	-1390.1	-20440	-17021	-7383	1.2809	1.2809	-47457	16250	6840	19031	16110	3266	19376		2.62	Si
SLV 6	6.11	857.34	-15792	-13150	-4403	1.2809	1.2809	-36666	16250	5828	19031	16110	3266	19376		4.4	Si
SLD 10	4.35	-1187.72	-17691	-14732	-7319	1.2809	1.2809	-41075	16250	6173	19031	16110	3266	19376		2.65	Si
SLD 10	6.11	857.21	-13436	-11189	-4615	1.2809	1.2809	-31197	16250	5828	19031	16110	3266	19376		4.2	Si
SLD 13	4.35	-928.36	-14535	-12104	-7067	1.2809	1.2809	-33748	16250	5828	19031	16110	3266	19376		2.74	Si
SLD 13	6.11	829.73	-10773	-8970	-4694	1.2809	1.2809	-25011	15419	5530	19031	16110	3266	19376		4.13	Si
SLD 14	4.35	-885.33	-14424	-12011	-6622	1.2809	1.2809	-33490	16250	5828	19031	16110	3266	19376		2.93	Si
SLD 14	6.11	771.52	-10744	-8947	-4277	1.2809	1.2809	-24945	15406	5525	19031	16110	3266	19376		4.53	Si
SLD 9	4.35	-1216.25	-17765	-14793	-7614	1.2809	1.2809	-41246	16250	6191	19031	16110	3266	19376		2.54	Si
SLD 9	6.11	895.81	-13455	-11205	-4891	1.2809	1.2809	-31241	16250	5828	19031	16110	3266	19376		3.96	Si
SLV 14	4.35	-1142.33	-15585	-12978	-8412	1.2809	1.2809	-36186	16250	5828	19031	16110	3266	19376		2.3	Si
SLV 14	6.11	999.44	-11473	-9554	-5888	1.2809	1.2809	-26639	15744	5647	19031	16110	3266	19376		3.29	Si
SLV 9	4.35	-1679.26	-20986	-17475	-10065	1.2809	1.2809	-48724	16250	6972	19031	16110	3266	19376		1.93	Si
SLV 9	6.11	1203.77	-15857	-13204	-6936	1.2809	1.2809	-36816	16250	5828	19031	16110	3266	19376		2.79	Si
SLV 10	4.35	-1633.92	-20868	-17377	-9597	1.2809	1.2809	-48452	16250	6943	19031	16110	3266	19376		2.02	Si
SLV 10	6.11	1142.42	-15827	-13179	-6497	1.2809	1.2809	-36746	16250	5828	19031	16110	3266	19376		2.98	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.23 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.36	10071	-3612	31.64	472.35	14.93	Si
SLV 7	179667	0.36	10283	-3688	31.64	481.55	15.22	Si
SLV 12	179667	0.36	10753	-3857	31.64	501.93	15.86	Si
SLV 11	179667	0.36	10965	-3933	31.64	511.03	16.15	Si
SLV 4	179667	0.36	23526	-8438	31.64	999.31	31.58	Si
SLV 3	179667	0.36	23840	-8550	31.64	1010.19	31.93	Si
SLV 16	179667	0.36	25800	-9253	31.64	1076.6	34.02	Si
SLV 15	179667	0.36	26114	-9366	31.64	1087.01	34.35	Si
SLV 2	179667	0.36	35785	-12835	31.64	1375.79	43.48	Si
SLV 1	179667	0.36	36099	-12947	31.64	1384.13	43.74	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.23 Wa = 0.05 Ta = 0.0185

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-15857	-20986	71	0.516	1703.8	0.984	7.62497	3.40283	Si
SLV 10	-15827	-20868	71	0.517	1700.7	0.984	7.63656	3.40283	Si
SLV 5	-15822	-20557	36	0.519	1700.2	0.984	7.66983	3.40283	Si
SLV 6	-15792	-20440	37	0.52	1697.2	0.984	7.68152	3.40283	Si
SLV 13	-11518	-15759	78	0.672	1261.7	0.978	9.98727	3.71421	Si
SLV 14	-11473	-15585	79	0.674	1257.1	0.978	10.01977	3.71421	Si
SLV 1	-11402	-14332	-37	0.681	1249.9	0.978	10.12582	3.71421	Si
SLV 2	-11357	-14158	-36	0.684	1245.3	0.978	10.16112	3.71421	Si
SLV 15	-7758	-10827	50	0.943	878.7	0.969	14.14249	3.71421	Si
SLV 16	-7713	-10653	51	0.948	874.2	0.969	14.21316	3.71421	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.845	SLU 40	Si
V_SLU	2.504	SLU 84	Si
PF_SLV	3.156	SLV 8	Si
V_SLV	1.925	SLV 9	Si
PFFP_SLV	14.928	SLV 8	Si
R_SLV	2.241	SLV 9	Si

Maschio 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 611 cm	L6	1.281	0.28	1.79	1.79	1.79			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	6.11	-632.21	-13399	-0.0000744	0.0003743	0.0035	1.2809	5432.46	6618.93	6618.93	10.47	No	Si
SLU 84	7.9	-154.47	-11611	-0.0000548	0.0003743	0.0035	1.2809	5071.59	6055.26	6055.26	39.2	No	Si
SLU 83	6.11	-619.22	-13344	-0.0000738	0.0003743	0.0035	1.2809	5423.07	6600.89	6600.89	10.66	No	Si
SLU 83	7.9	-165.76	-11578	-0.0000549	0.0003743	0.0035	1.2809	5064.06	6045.59	6045.59	36.47	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	6.11	-588.73	-11124	-0.0000619	0.0003743	0.0035	1.2809	4954.06	5911.03	5911.03	10.04	No	Si
SLU 39	7.9	-104.61	-9682	-0.0000445	0.0003743	0.0035	1.2809	4556.7	5403.74	5403.74	51.66	No	Si
SLU 21	6.11	-510.76	-9985	-0.0000546	0.0003743	0.0035	1.2809	4646.22	5523.64	5523.64	10.81	No	Si
SLU 21	7.9	-122.49	-8663	-0.0000401	0.0003743	0.0035	1.2809	4231.88	4978.84	4978.84	40.65	No	Si
SLU 19	6.11	-513.45	-9773	-0.0000536	0.0003743	0.0035	1.2809	4583.91	5439.57	5439.57	10.59	No	Si
SLU 19	7.9	-111.49	-8444	-0.0000389	0.0003743	0.0035	1.2809	4157.26	4884.8	4884.8	43.81	No	Si
SLU 82	6.11	-634.91	-13187	-0.0000733	0.0003743	0.0035	1.2809	5395.54	6549.38	6549.38	10.32	No	Si
SLU 82	7.9	-143.47	-11391	-0.0000535	0.0003743	0.0035	1.2809	5019.64	5989.77	5989.77	41.75	No	Si
SLU 42	6.11	-599.02	-11391	-0.0000634	0.0003743	0.0035	1.2809	5019.57	5989.68	5989.68	10	No	Si
SLU 42	7.9	-104.32	-9933	-0.0000457	0.0003743	0.0035	1.2809	4631.21	5503.13	5503.13	52.75	No	Si
SLU 81	6.11	-621.92	-13132	-0.0000727	0.0003743	0.0035	1.2809	5385.74	6531.52	6531.52	10.5	No	Si
SLU 81	7.9	-154.76	-11359	-0.0000536	0.0003743	0.0035	1.2809	5011.87	5980.22	5980.22	38.64	No	Si
SLU 41	6.11	-586.04	-11336	-0.0000629	0.0003743	0.0035	1.2809	5006.32	5973.43	5973.43	10.19	No	Si
SLU 41	7.9	-115.61	-9901	-0.0000458	0.0003743	0.0035	1.2809	4621.79	5490.33	5490.33	47.49	No	Si
SLU 40	6.11	-601.72	-11179	-0.0000624	0.0003743	0.0035	1.2809	4967.72	5927.09	5927.09	9.85	No	Si
SLU 40	7.9	-93.32	-9714	-0.0000444	0.0003743	0.0035	1.2809	4566.36	5416.41	5416.41	58.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	6.11	666.94	-3283	-0.0000266	0.0005615	0.0035	1.2809		2098.88	2098.88	3.15		Si
SLV 7	7.9	-740.04	-3565	-0.0000293	0.0005615	0.0035	1.2809		2530.92	2530.92	3.42		Si
SLV 16	6.11	-767.39	-7096	-0.0000453	0.0005615	0.0035	1.2809		4464.24	4464.24	5.82		Si
SLV 16	7.9	342.23	-6318	-0.0000334	0.0005615	0.0035	1.2809		3770.45	3770.45	11.02		Si
SLV 4	6.11	792.01	-7422	-0.0000473	0.0005615	0.0035	1.2809		4282.99	4282.99	5.41		Si
SLV 4	7.9	-1015.91	-6540	-0.0000479	0.0005615	0.0035	1.2809		4171.86	4171.86	4.11		Si
SLV 12	6.11	298.33	-3185	-0.000019	0.0005615	0.0035	1.2809		2041.07	2041.07	6.84		Si
SLV 12	7.9	-422.68	-3492	-0.0000227	0.0005615	0.0035	1.2809		2488.73	2488.73	5.89		Si
SLV 8	6.11	766.15	-3282	-0.0000287	0.0005615	0.0035	1.2809		2098.35	2098.35	2.74		Si
SLV 8	7.9	-830.13	-3558	-0.0000311	0.0005615	0.0035	1.2809		2526.97	2526.97	3.04		Si
SLV 15	6.11	-914.74	-7098	-0.0000483	0.0005615	0.0035	1.2809		4464.94	4464.94	4.88		Si
SLV 15	7.9	476.03	-6328	-0.0000361	0.0005615	0.0035	1.2809		3775.17	3775.17	7.93		Si
SLV 3	6.11	644.65	-7423	-0.0000443	0.0005615	0.0035	1.2809		4283.63	4283.63	6.64		Si
SLV 3	7.9	-882.11	-6551	-0.0000452	0.0005615	0.0035	1.2809		4177.27	4177.27	4.74		Si
SLV 9	6.11	-1355.17	-14687	-0.0000932	0.0005615	0.0035	1.2809		7923.16	7923.16	5.85		Si
SLV 9	7.9	557.18	-11800	-0.0000624	0.0005615	0.0035	1.2809		6404.62	6404.62	11.49		Si
SLV 14	6.11	-1233.67	-10547	-0.0000707	0.0005615	0.0035	1.2809		6153.08	6153.08	4.99		Si
SLV 14	7.9	609.16	-8808	-0.0000498	0.0005615	0.0035	1.2809		4939.37	4939.37	8.11		Si
SLV 13	6.11	-1381.03	-10548	-0.0000738	0.0005615	0.0035	1.2809		6153.7	6153.7	4.46		Si
SLV 13	7.9	742.97	-8818	-0.0000526	0.0005615	0.0035	1.2809		4944.28	4944.28	6.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	6.11	-619.22	-13344	-11112	-2275	1.2809	1.2809	-30982	10833	4416	19031	10740	3266	14006	No	6.16	Si
SLU 83	7.9	-165.76	-11578	-9641	543	1.2809	1.2809	-26882	10529	3995	19031	10740	3266	14006	No	25.79	Si
SLU 42	6.11	-599.02	-11391	-9485	-2183	1.2809	1.2809	-26448	10471	3950	19031	10740	3266	14006	No	6.42	Si
SLU 42	7.9	-104.32	-9933	-8272	270	1.2809	1.2809	-23063	10020	3603	19031	10740	3266	14006	No	51.88	Si
SLU 81	6.11	-621.92	-13132	-10935	-2279	1.2809	1.2809	-30490	10833	4365	19031	10740	3266	14006	No	6.15	Si
SLU 81	7.9	-154.76	-11359	-9459	491	1.2809	1.2809	-26373	10461	3943	19031	10740	3266	14006	No	28.5	Si
SLU 84	6.11	-632.21	-13399	-11157	-2348	1.2809	1.2809	-31109	10833	4429	19031	10740	3266	14006	No	5.97	Si
SLU 84	7.9	-154.47	-11611	-9668	482	1.2809	1.2809	-26957	10539	4003	19031	10740	3266	14006	No	29.03	Si
SLU 73	6.11	-556.88	-12798	-10657	-2189	1.2809	1.2809	-29713	10833	4286	19031	10740	3266	14006	No	6.4	Si
SLU 73	7.9	-143.02	-11002	-9162	452	1.2809	1.2809	-25545	10350	3858	19031	10740	3266	14006	No	31	Si
SLU 76	6.11	-554.18	-13010	-10833	-2185	1.2809	1.2809	-30206	10833	4336	19031	10740	3266	14006	No	6.41	Si
SLU 76	7.9	-154.02	-11221	-9344	504	1.2809	1.2809	-26053	10418	3910	19031	10740	3266	14006	No	27.82	Si
SLU 82	6.11	-634.91	-13187	-10981	-2352	1.2809	1.2809	-30617	10833	4378	19031	10740	3266	14006	No	5.96	Si
SLU 82	7.9	-143.47	-11391	-9486	431	1.2809	1.2809	-26448	10471	3951	19031	10740	3266	14006	No	32.51	Si
SLU 78	6.11	-546.26	-13302	-11077	-2162	1.2809	1.2809	-30885	10833	4406	19031	10740	3266	14006	No	6.48	Si
SLU 78	7.9	-170.31	-11535	-9605	589	1.2809	1.2809	-26781	10515	3985	19031	10740	3266	14006	No	23.78	Si
SLU 40	6.11	-601.72	-11179	-9309	-2187	1.2809	1.2809	-25955	10405	3900	19031	10740	3266	14006	No	6.4	Si
SLU 40	7.9	-93.32	-9714	-8089	218	1.2809	1.2809	-22554	9952	3569	19031	10740	3266	14006	No	64.16	Si
SLU 75	6.11	-548.95	-13090	-10901	-2166	1.2809	1.2809	-30393	10833	4355	19031	10740	3266	14006	No	6.47	Si
SLU 75	7.9	-159.31	-11315	-9423	537	1.2809	1.2809	-26272	10447	3932	19031	10740	3266	14006	No	26.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	6.11	-1355.17	-14687	-12230	-6583	1.2809	1.2809	-34101	16250	5828	19031	16110	3266	19376		2.94	Si
SLV 9	7.9	557.18	-11800	-9826	-3849	1.2809	1.2809	-27398	15896	5701	19031	16110	3266	19376		5.03	Si
SLV 4	6.11	792.01	-7422	-6180	4077	1.2809	1.2809	-17231	13863	4972	19031	16110	3266	19376		4.75	Si
SLV 4	7.9	-1015.91	-6540	-5446	5361	1.2809	1.2809	-15185	13454	4825	19031	16110	3266	19376		3.61	Si
SLV 7	6.11	666.94	-3283	-2734	3562	1.2809	1.2809	-7623	11941	4283	19031	16110	3266	19376		5.44	Si
SLV 7	7.9	-740.04	-3565	-2969	4428	1.2809	1.2809	-8278	12072	4330	19031	16110	3266	19376		4.38	Si
SLV 10	6.11	-1255.96	-14686	-12230	-6091	1.2809	1.2809	-34099	16250	5828	19031	16110	3266	19376		3.18	Si
SLV 10	7.9	467.09	-11793	-9821	-3393	1.2809	1.2809	-27382	15893	5700	19031	16110	3266	19376		5.71	Si
SLD 13	6.11	-986.07	-9949	-8285	-4664	1.2809	1.2809	-23099	15037	5393	19031	16110	3266	19376		4.15	Si
SLD 13	7.9	425.41	-8380	-6978	-2568	1.2809	1.2809	-19457	14308	5132	19031	16110	3266	19376		7.55	Si
SLV 8	6.11	766.15	-3282	-2733	4054	1.2809	1.2211	-7621	11941	4083	19031	16110	3266	19376		4.78	Si
SLV 8	7.9	-830.13	-3558	-2963	4884	1.2809	1.2215	-8262	12069	4128	19031	16110	3266	19376		3.97	Si
SLV 3	6.11	644.65	-7423	-6181	3347	1.2809	1.2809	-17234	13864	4972	19031	16110	3266	19376		5.79	Si
SLV 3	7.9	-882.11	-6551	-5455	4683	1.2809	1.2809	-15209	13458	4827	19031	16110	3266	19376		4.14	Si
SLV 14	6.11	-1233.67	-10547	-8782	-5875	1.2809	1.2809	-24487	15314	5492	19031	16110	3266	19376		3.3	Si
SLV 14	7.9	609.16	-8808	-7335	-3648	1.2809	1.2809	-20450	14507	5203	19031	16110	3266	19376		5.31	Si
SLV 13	6.11	-1381.03	-10548	-8784	-6606	1.2809	1.2809	-24491	15315	5493	19031	16110	3266	19376		2.93	Si
SLV 13	7.9	742.97	-8818	-7343	-4326	1.2809	1.2809	-20474	14512	5205	19031	16110	3266	19376		4.48	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	6.11	-958.55	-12513	-10420	-4596	1.2809	1.2809	-29053	16227	5820	19031	16110	3266	19376		4.22	Si
SLD 9	7.9	303.21	-10225	-8514	-2220	1.2809	1.2809	-23739	15165	5439	19031	16110	3266	19376		8.73	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.005 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.39	8520	-3056	36.23	403.92	11.15	Si
SLV 12	179667	0.39	8604	-3086	36.23	407.67	11.25	Si
SLV 7	179667	0.39	9194	-3298	36.23	433.86	11.98	Si
SLV 8	179667	0.39	9278	-3328	36.23	437.57	12.08	Si
SLV 15	179667	0.39	17707	-6351	36.23	786	21.7	Si
SLV 16	179667	0.39	17832	-6395	36.23	790.81	21.83	Si
SLV 3	179667	0.39	19955	-7157	36.23	871.06	24.04	Si
SLV 4	179667	0.39	20080	-7202	36.23	875.69	24.17	Si
SLV 13	179667	0.39	26274	-9423	36.23	1092.28	30.15	Si
SLV 14	179667	0.39	26399	-9468	36.23	1096.38	30.26	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.005 Wa = 0.05 Ta = 0.0191

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-11800	-14687	61	0.658	1291.9	0.978	9.77827	3.68441	Si
SLV 5	-11867	-14785	19	0.658	1298.7	0.978	9.78163	3.68441	Si
SLV 10	-11793	-14686	61	0.658	1291.2	0.978	9.78306	3.68441	Si
SLV 6	-11860	-14784	19	0.659	1298	0.978	9.7864	3.68441	Si
SLV 1	-9041	-10873	-59	0.825	1010.9	0.973	12.32554	4.03424	Si
SLV 2	-9031	-10872	-58	0.826	1009.8	0.973	12.33808	4.03424	Si
SLV 13	-8818	-10548	83	0.84	988.2	0.972	12.55889	4.03424	Si
SLV 14	-8808	-10547	83	0.841	987.1	0.972	12.57143	4.03424	Si
SLV 3	-6551	-7423	-82	1.082	757.3	0.964	16.31548	4.03424	Si
SLV 4	-6540	-7422	-82	1.084	756.3	0.964	16.33846	4.03424	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.85	SLU 40	Si
V_SLU	5.956	SLU 82	Si
PF_SLV	2.739	SLV 8	Si
V_SLV	2.933	SLV 13	Si
PFFP_SLV	11.15	SLV 11	Si
R_SLV	2.654	SLV 9	Si

Maschio 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	-0.354	Z medio 523 cm	L6	3.051	0.28	2.67	1.79	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 62	6.11	4058.68	-34143	-0.0000812	0.0003743	0.0035	3.0507	31633.33	37759.55	37759.55	9.3	No	Si
SLU 62	7.9	1374.5	-27563	-0.0000565	0.0003743	0.0035	3.0507	28718.02	32594.72	32594.72	23.71	No	Si
SLU 74	6.11	4248.38	-37345	-0.0000891	0.0003743	0.0035	3.0507	32502.56	39750.42	39750.42	9.36	No	Si
SLU 74	7.9	1388.2	-30182	-0.000062	0.0003743	0.0035	3.0507	30060.05	35099.74	35099.74	25.28	No	Si
SLU 82	6.11	4375.38	-37742	-0.0000906	0.0003743	0.0035	3.0507	32585.18	40002.88	40002.88	9.14	No	Si
SLU 82	7.9	1564.84	-30451	-0.0000632	0.0003743	0.0035	3.0507	30184.37	35361.83	35361.83	22.6	No	Si
SLU 84	6.11	4460.11	-38415	-0.0000925	0.0003743	0.0035	3.0507	32712.82	40434.49	40434.49	9.07	No	Si
SLU 84	7.9	1626.55	-31087	-0.0000648	0.0003743	0.0035	3.0507	30468.25	35881.93	35881.93	22.06	No	Si
SLU 83	6.11	4509.23	-38304	-0.0000924	0.0003743	0.0035	3.0507	32692.87	40363.07	40363.07	8.95	No	Si
SLU 83	7.9	1593.68	-31005	-0.0000645	0.0003743	0.0035	3.0507	30432.46	35824.71	35824.71	22.48	No	Si
SLU 77	6.11	4333.12	-38018	-0.000091	0.0003743	0.0035	3.0507	32639.56	40179.81	40179.81	9.27	No	Si
SLU 77	7.9	1449.91	-30818	-0.0000636	0.0003743	0.0035	3.0507	30349.94	35691.74	35691.74	24.62	No	Si
SLU 78	6.11	4284	-38129	-0.0000911	0.0003743	0.0035	3.0507	32660.62	40250.96	40250.96	9.4	No	Si
SLU 78	7.9	1482.77	-30900	-0.0000639	0.0003743	0.0035	3.0507	30386.27	35750.44	35750.44	24.11	No	Si
SLU 79	6.11	4304.06	-37661	-0.0000901	0.0003743	0.0035	3.0507	32568.74	39951.15	39951.15	9.28	No	Si
SLU 79	7.9	1432.82	-30482	-0.0000628	0.0003743	0.0035	3.0507	30198.91	35392.88	35392.88	24.7	No	Si
SLU 81	6.11	4424.49	-37631	-0.0000905	0.0003743	0.0035	3.0507	32562.62	39932.09	39932.09	9.03	No	Si
SLU 81	7.9	1531.97	-30369	-0.0000629	0.0003743	0.0035	3.0507	30146.75	35281.87	35281.87	23.03	No	Si
SLU 41	6.11	3933.98	-32690	-0.0000774	0.0003743	0.0035	3.0507	31120.15	36883.96	36883.96	9.38	No	Si
SLU 41	7.9	1519.74	-26591	-0.0000551	0.0003743	0.0035	3.0507	28158.42	31685.11	31685.11	20.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	6.11	5500.9	-19581	-0.0000545	0.0005615	0.0035	3.0507		26361.4	26361.4	4.79		Si
SLD 12	7.9	-146.38	-16002	-0.0000288	0.0005615	0.0035	3.0507		24623.91	24623.91	168.22		Si
SLV 4	6.11	4296.42	-22991	-0.0000567	0.0005615	0.0035	3.0507		30291.66	30291.66	7.05		Si
SLV 4	7.9	61.35	-18686	-0.0000334	0.0005615	0.0035	3.0507		25344.85	25344.85	413.15		Si
SLV 12	6.11	7169.66	-15987	-0.0000537	0.0005615	0.0035	3.0507		22312.51	22312.51	3.11		Si
SLV 12	7.9	-659.92	-13343	-0.0000258	0.0005615	0.0035	3.0507		21235.98	21235.98	32.18		Si
SLV 3	6.11	4345.47	-23072	-0.000057	0.0005615	0.0035	3.0507		30385.51	30385.51	6.99		Si
SLV 3	7.9	69.75	-18791	-0.0000336	0.0005615	0.0035	3.0507		25462.95	25462.95	365.05		Si
SLV 11	6.11	7202.68	-16041	-0.0000539	0.0005615	0.0035	3.0507		22372.88	22372.88	3.11		Si
SLV 11	7.9	-654.26	-13413	-0.0000259	0.0005615	0.0035	3.0507		21325.69	21325.69	32.6		Si
SLD 11	6.11	5521.68	-19615	-0.0000547	0.0005615	0.0035	3.0507		26400.28	26400.28	4.78		Si
SLD 11	7.9	-142.82	-16046	-0.0000289	0.0005615	0.0035	3.0507		24677.78	24677.78	172.79		Si
SLD 8	6.11	5578.6	-19712	-0.000055	0.0005615	0.0035	3.0507		26510.68	26510.68	4.75		Si
SLD 8	7.9	-224.88	-16161	-0.0000294	0.0005615	0.0035	3.0507		24817.48	24817.48	110.36		Si
SLV 8	6.11	7300.13	-16182	-0.0000545	0.0005615	0.0035	3.0507		22529.23	22529.23	3.09		Si
SLV 8	7.9	-788.12	-13586	-0.0000267	0.0005615	0.0035	3.0507		21547.26	21547.26	27.34		Si
SLV 7	6.11	7333.16	-16236	-0.0000547	0.0005615	0.0035	3.0507		22589.68	22589.68	3.08		Si
SLV 7	7.9	-782.46	-13656	-0.0000268	0.0005615	0.0035	3.0507		21637.26	21637.26	27.65		Si
SLD 7	6.11	5599.38	-19746	-0.0000552	0.0005615	0.0035	3.0507		26549.59	26549.59	4.74		Si
SLD 7	7.9	-221.32	-16205	-0.0000294	0.0005615	0.0035	3.0507		24871.42	24871.42	112.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	6.11	4460.11	-38415	-31989	5354	3.0507	3.0507	-37449	10833	16907	28547	25578	7779	33358	No	6.23	Si
SLU 84	7.9	1626.55	-31087	-25887	4684	3.0507	3.0507	-30305	10833	14466	28547	25578	7779	33358	No	7.12	Si
SLU 78	6.11	4284	-38129	-31751	5223	3.0507	3.0507	-37171	10833	16812	28547	25578	7779	33358	No	6.39	Si
SLU 78	7.9	1482.77	-30900	-25731	4684	3.0507	3.0507	-30123	10833	14404	28547	25578	7779	33358	No	7.12	Si
SLU 74	6.11	4248.38	-37345	-31098	5407	3.0507	3.0507	-36406	10833	16551	28547	25578	7779	33358	No	6.17	Si
SLU 74	7.9	1388.2	-30182	-25133	4863	3.0507	3.0507	-29423	10833	14165	28547	25578	7779	33358	No	6.86	Si
SLU 62	6.11	4058.68	-34143	-28432	5271	3.0507	3.0507	-33285	10833	15484	28547	25578	7779	33358	No	6.33	Si
SLU 62	7.9	1374.5	-27563	-22952	4649	3.0507	3.0507	-26870	10527	13293	28547	25578	7779	33358	No	7.18	Si
SLU 60	6.11	3973.95	-33470	-27871	5243	3.0507	3.0507	-32628	10833	15260	28547	25578	7779	33358	No	6.36	Si
SLU 60	7.9	1312.79	-26927	-22422	4613	3.0507	3.0507	-26250	10444	13081	28547	25578	7779	33358	No	7.23	Si
SLU 81	6.11	4424.49	-37631	-31336	5538	3.0507	3.0507	-36684	10833	16646	28547	25578	7779	33358	No	6.02	Si
SLU 81	7.9	1531.97	-30369	-25288	4863	3.0507	3.0507	-29605	10833	14227	28547	25578	7779	33358	No	6.86	Si
SLU 77	6.11	4333.12	-38018	-31658	5435	3.0507	3.0507	-37062	10833	16775	28547	25578	7779	33358	No	6.14	Si
SLU 77	7.9	1449.91	-30818	-25663	4899	3.0507	3.0507	-30043	10833	14377	28547	25578	7779	33358	No	6.81	Si
SLU 82	6.11	4375.38	-37742	-31428	5326	3.0507	3.0507	-36793	10833	16683	28547	25578	7779	33358	No	6.26	Si
SLU 82	7.9	1564.84	-30451	-25357	4649	3.0507	3.0507	-29685	10833	14254	28547	25578	7779	33358	No	7.18	Si
SLU 79	6.11	4304.06	-37661	-31360	5429	3.0507	3.0507	-36714	10833	16656	28547	25578	7779	33358	No	6.14	Si
SLU 79	7.9	1432.82	-30482	-25383	4890	3.0507	3.0507	-29716	10833	14265	28547	25578	7779	33358	No	6.82	Si
SLU 83	6.11	4509.23	-38304	-31896	5566	3.0507	3.0507	-37341	10833	16870	28547	25578	7779	33358	No	5.99	Si
SLU 83	7.9	1593.68	-31005	-25818	4899	3.0507	3.0507	-30226	10833	14439	28547	25578	7779	33358	No	6.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	6.11	7300.13	-16182	-13475	19787	3.0507	3.0507	-15775	13572	11593	28547	38367	7779	40139		2.03	Si
SLV 8	7.9	-788.12	-13586	-11313	19131	3.0507	3.0507	-13244	13066	11160	28547	38367	7779	39707		2.08	Si
SLV 11	6.11	7202.68	-16041	-13358	18353	3.0507	3.0507	-15638	13544	11569	28547	38367	7779	40116		2.19	Si
SLV 11	7.9	-654.26	-13413	-11169	17592	3.0507	3.0507	-13076	13032	11132	28547	38367	7779	39678		2.26	Si
SLV 7	6.11	7333.16	-16236	-13520	19682	3.0507	3.0507	-15827	13582	11602	28547	38367	7779	40148		2.04	Si
SLV 7	7.9	-782.46	-13656	-11372	18997	3.0507	3.0507	-13313	13079	11172	28547	38367	7779	39719		2.09	Si
SLD 11	6.11	5521.68	-19615	-16334	12876	3.0507	3.0507	-19122	14241	12701	28547	38367	7779	41248		3.2	Si
SLD 11	7.9	-142.82	-16046	-13362	12292	3.0507	3.0507	-15643	13545	11570	28547	38367	7779	40117		3.26	Si
SLV 12	6.11	7169.66	-15987	-13313	18458	3.0507	3.0507	-15585	13534	11560	28547	38367	7779	40107		2.17	Si
SLV 12	7.9	-659.92	-13343	-11111	17725	3.0507	3.0507	-13007	13018	11120	28547	38367	7779	39667		2.24	Si
SLD 8	6.11	5578.6	-19712	-16414	13793	3.0507	3.0507	-19216	14260	12734	28547	38367	7779	41280		2.99	Si
SLD 8	7.9	-224.88	-16161	-13457	13276	3.0507	3.0507	-15754	13568	11589	28547	38367	7779	40136		3.02	Si
SLD 7	6.11	5599.38	-19746	-16443	13727	3.0507	3.0507	-19249	14267	12745	28547	38367	7779	41291		3.01	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	7.9	-221.32	-16205	-13494	13192	3.0507	3.0507	-15797	13576	11597	28547	38367	7779	40143		3.04	Si
SLV 10	6.11	-1824.4	-34833	-29006	-11919	3.0507	3.0507	-33957	16250	17770	28547	38367	7779	46147		3.87	Si
SLV 10	7.9	2198.39	-27153	-22611	-11794	3.0507	3.0507	-26470	15711	15212	28547	38367	7779	43759		3.71	Si
SLD 12	6.11	5500.9	-19581	-16305	12942	3.0507	3.0507	-19088	14234	12690	28547	38367	7779	41236		3.19	Si
SLD 12	7.9	-146.38	-16002	-13325	12376	3.0507	3.0507	-15600	13537	11563	28547	38367	7779	40109		3.24	Si
SLV 9	6.11	-1791.38	-34887	-29051	-12024	3.0507	3.0507	-34010	16250	17788	28547	38367	7779	46147		3.84	Si
SLV 9	7.9	2204.05	-27223	-22669	-11927	3.0507	3.0507	-26539	15724	15235	28547	38367	7779	43782		3.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.005 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.39	17568	-15007	191.97	1859.27	9.69	Si
SLV 11	179667	0.39	17622	-15052	191.97	1864.16	9.71	Si
SLV 8	179667	0.39	17924	-15311	191.97	1891.94	9.86	Si
SLV 7	179667	0.39	17978	-15356	191.97	1896.8	9.88	Si
SLV 16	179667	0.39	23679	-20227	191.97	2392.66	12.46	Si
SLV 15	179667	0.39	23758	-20294	191.97	2399.18	12.5	Si
SLV 4	179667	0.39	24866	-21240	191.97	2489.45	12.97	Si
SLV 3	179667	0.39	24945	-21308	191.97	2495.81	13	Si
SLV 14	179667	0.39	29284	-25014	191.97	2830.48	14.74	Si
SLV 13	179667	0.39	29363	-25082	191.97	2836.3	14.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.005 Wa = 0.05 Ta = 0.0425

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-22934	-28726	-820	0.71	2656.1	0.964	10.70361	5.08811	Si
SLV 2	-22829	-28645	-820	0.712	2645.5	0.964	10.74654	5.08811	Si
SLV 13	-22123	-28077	826	0.732	2573.6	0.963	11.04445	5.08811	Si
SLV 14	-22019	-27997	826	0.734	2563	0.962	11.09053	5.08811	Si
SLV 5	-27466	-35082	-270	0.627	3117.5	0.969	9.41365	4.10972	Si
SLV 6	-27396	-35027	-270	0.629	3110.3	0.969	9.43481	4.10972	Si
SLV 9	-27223	-34887	224	0.634	3092.7	0.968	9.51125	4.10972	Si
SLV 10	-27153	-34833	224	0.635	3085.6	0.968	9.53291	4.10972	Si
SLV 3	-18791	-23072	-798	0.841	2234.7	0.957	12.77202	5.08811	Si
SLV 4	-18686	-22991	-798	0.845	2224.1	0.957	12.83455	5.08811	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.951	SLU 83	Si
V_SLU	5.993	SLU 83	Si
PF_SLV	3.08	SLV 7	Si
V_SLV	2.029	SLV 8	Si
PFFP_SLV	9.685	SLV 12	Si
R_SLV	2.104	SLV 1	Si

Maschio 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-0.354	-13.753	1.141	L5	L6	1.495	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	4.35	1721.48	-23040	-0.0001253	0.0003743	0.0035	1.495	7911.77	10811.54	10811.54	6.28	No	Si
SLU 81	7.9	59.57	-17837	-0.0000707	0.0003743	0.0035	1.495	7752.89	9417.17	9417.17	158.08	No	Si
SLU 61	4.35	1569.8	-20480	-0.0001094	0.0003743	0.0035	1.495	7952.26	10221.17	10221.17	6.51	No	Si
SLU 61	7.9	-1.67	-15791	-0.0000608	0.0003743	0.0035	1.495	7430.25	9081.2	9081.2	5425.58	No	Si
SLU 84	4.35	1728.69	-23479	-0.0001278	0.0003743	0.0035	1.495	7881.73	10870.83	10870.83	6.29	No	Si
SLU 84	7.9	99.26	-18310	-0.0000734	0.0003743	0.0035	1.495	7806.52	9558.21	9558.21	96.3	No	Si
SLU 63	4.35	1595.56	-20885	-0.0001119	0.0003743	0.0035	1.495	7961.16	10349.17	10349.17	6.49	No	Si
SLU 63	7.9	17.66	-16224	-0.000063	0.0003743	0.0035	1.495	7510.74	8947.31	8947.31	506.6	No	Si
SLU 82	4.35	1702.92	-23074	-0.0001252	0.0003743	0.0035	1.495	7909.67	10816.12	10816.12	6.35	No	Si
SLU 82	7.9	79.92	-17877	-0.0000712	0.0003743	0.0035	1.495	7757.7	9428.99	9428.99	117.98	No	Si
SLU 62	4.35	1614.12	-20851	-0.000112	0.0003743	0.0035	1.495	7960.63	10338.3	10338.3	6.4	No	Si
SLU 62	7.9	-2.69	-16184	-0.0000625	0.0003743	0.0035	1.495	7503.64	9232.26	9232.26	3435.89	No	Si
SLU 77	4.35	1654.57	-23244	-0.0001251	0.0003743	0.0035	1.495	7898.65	10838.98	10838.98	6.55	No	Si
SLU 77	7.9	173.88	-18165	-0.0000741	0.0003743	0.0035	1.495	7790.95	9515.33	9515.33	54.72	No	Si
SLU 79	4.35	1644.92	-23048	-0.0001239	0.0003743	0.0035	1.495	7911.26	10812.66	10812.66	6.57	No	Si
SLU 79	7.9	165.58	-17964	-0.000073	0.0003743	0.0035	1.495	7768.05	9454.99	9454.99	57.1	No	Si
SLU 60	4.35	1588.35	-20446	-0.0001095	0.0003743	0.0035	1.495	7951.25	10210.41	10210.41	6.43	No	Si
SLU 60	7.9	-22.02	-15751	-0.000061	0.0003743	0.0035	1.495	7422.55	9066.11	9066.11	411.68	No	Si
SLU 83	4.35	1747.24	-23445	-0.000128	0.0003743	0.0035	1.495	7884.31	10866.17	10866.17	6.22	No	Si
SLU 83	7.9	78.91	-18270	-0.0000729	0.0003743	0.0035	1.495	7802.32	9546.46	9546.46	120.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	4.35	1840.93	-15193	-0.0000849	0.0005615	0.0035	1.495		9429.56	9429.56	5.12		Si
SLV 3	7.9	-423.33	-11685	-0.0000491	0.0005615	0.0035	1.495		8054.93	8054.93	19.03		Si
SLV 8	4.35	2769.32	-14099	-0.000095	0.0005615	0.0035	1.495		8886.39	8886.39	3.21		Si
SLV 8	7.9	-1188.35	-9834	-0.0000535	0.0005615	0.0035	1.495		7011.37	7011.37	5.9		Si
SLD 11	4.35	1998.74	-14708	-0.0000854	0.0005615	0.0035	1.495		9218.18	9218.18	4.61		Si
SLD 11	7.9	-596.3	-10439	-0.0000469	0.0005615	0.0035	1.495		7357.31	7357.31	12.34		Si
SLV 4	4.35	1853.6	-15129	-0.0000849	0.0005615	0.0035	1.495		9402.43	9402.43	5.07		Si
SLV 4	7.9	-440.47	-11639	-0.0000492	0.0005615	0.0035	1.495		8029.7	8029.7	18.23		Si
SLD 7	4.35	2117.24	-14700	-0.0000872	0.0005615	0.0035	1.495		9214.28	9214.28	4.35		Si
SLD 7	7.9	-674.11	-10613	-0.0000488	0.0005615	0.0035	1.495		7455.03	7455.03	11.06		Si
SLD 8	4.35	2122.6	-14673	-0.0000872	0.0005615	0.0035	1.495		9200.38	9200.38	4.33		Si
SLD 8	7.9	-681.37	-10593	-0.0000488	0.0005615	0.0035	1.495		7444.17	7444.17	10.93		Si
SLV 7	4.35	2760.79	-14142	-0.000095	0.0005615	0.0035	1.495		8911.32	8911.32	3.23		Si
SLV 7	7.9	-1176.81	-9865	-0.0000534	0.0005615	0.0035	1.495		7029.65	7029.65	5.97		Si
SLD 12	4.35	2004.11	-14681	-0.0000854	0.0005615	0.0035	1.495		9204.3	9204.3	4.59		Si
SLD 12	7.9	-603.56	-10419	-0.000047	0.0005615	0.0035	1.495		7346.39	7346.39	12.17		Si
SLV 11	4.35	2575.24	-14154	-0.0000922	0.0005615	0.0035	1.495		8918.16	8918.16	3.46		Si
SLV 11	7.9	-1054.12	-9598	-0.0000505	0.0005615	0.0035	1.495		6871.79	6871.79	6.52		Si
SLV 12	4.35	2583.77	-14111	-0.0000921	0.0005615	0.0035	1.495		8893.23	8893.23	3.44		Si
SLV 12	7.9	-1065.66	-9567	-0.0000506	0.0005615	0.0035	1.495		6853.59	6853.59	6.43		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	4.35	1728.69	-23479	-19551	4834	1.495	1.495	-46706	10833	6557	40441	12535	3812	16347	No	3.38	Si
SLU 84	7.9	99.26	-18310	-15247	-1297	1.495	1.495	-36423	10833	5409	40441	12535	3812	16347	No	12.61	Si
SLU 82	4.35	1702.92	-23074	-19214	4760	1.495	1.495	-45901	10833	6467	40441	12535	3812	16347	No	3.43	Si
SLU 82	7.9	79.92	-17877	-14886	-1253	1.495	1.495	-35562	10833	5313	40441	12535	3812	16347	No	13.05	Si
SLU 77	4.35	1654.57	-23244	-19356	4837	1.495	1.495	-46239	10833	6505	40441	12535	3812	16347	No	3.38	Si
SLU 77	7.9	173.88	-18165	-15126	-1226	1.495	1.495	-36136	10833	5377	40441	12535	3812	16347	No	13.33	Si
SLU 78	4.35	1636.01	-23278	-19384	4732	1.495	1.495	-46307	10833	6512	40441	12535	3812	16347	No	3.45	Si
SLU 78	7.9	194.23	-18205	-15159	-1347	1.495	1.495	-36215	10833	5386	40441	12535	3812	16347	No	12.14	Si
SLU 74	4.35	1628.8	-22839	-19018	4764	1.495	1.495	-45433	10833	6415	40441	12535	3812	16347	No	3.43	Si
SLU 74	7.9	154.55	-17732	-14766	-1182	1.495	1.495	-35275	10833	5281	40441	12535	3812	16347	No	13.83	Si
SLU 83	4.35	1747.24	-23445	-19523	4939	1.495	1.495	-46638	10833	6549	40441	12535	3812	16347	No	3.31	Si
SLU 83	7.9	78.91	-18270	-15214	-1176	1.495	1.495	-36344	10833	5400	40441	12535	3812	16347	No	13.9	Si
SLU 80	4.35	1626.36	-23083	-19221	4704	1.495	1.495	-45918	10833	6469	40441	12535	3812	16347	No	3.48	Si
SLU 80	7.9	185.93	-18004	-14992	-1318	1.495	1.495	-35814	10833	5341	40441	12535	3812	16347	No	12.4	Si
SLU 79	4.35	1644.92	-23048	-19193	4809	1.495	1.495	-45849	10833	6461	40441	12535	3812	16347	No	3.4	Si
SLU 79	7.9	165.58	-17964	-14959	-1197	1.495	1.495	-35735	10833	5332	40441	12535	3812	16347	No	13.65	Si
SLU 62	4.35	1614.12	-20851	-17363	4720	1.495	1.495	-41478	10833	5973	40441	12535	3812	16347	No	3.46	Si
SLU 62	7.9	-2.69	-16184	-13477	-708	1.495	1.495	-32195	10833	4937	40441	12535	3812	16347	No	23.09	Si
SLU 81	4.35	1721.48	-23040	-19186	4866	1.495	1.495	-45833	10833	6459	40441	12535	3812	16347	No	3.36	Si
SLU 81	7.9	59.57	-17837	-14853	-1132	1.495	1.495	-35483	10833	5304	40441	12535	3812	16347	No	14.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	4.35	2117.24	-14700	-12241	8562	1.495	1.495	-29243	16250	6802	40441	18802	3812	22614		2.64	Si
SLD 7	7.9	-674.11	-10613	-8837	4760	1.495	1.495	-21112	14639	6128	40441	18802	3812	22614		4.75	Si
SLD 8	4.35	2122.6	-14673	-12219	8589	1.495	1.495	-29189	16250	6802	40441	18802	3812	22614		2.63	Si
SLD 8	7.9	-681.37	-10593	-8821	4801	1.495	1.495	-21073	14631	6125	40441	18802	3812	22614		4.71	Si
SLV 7	4.35	2760.79	-14142	-11776	11734	1.495	1.495	-28133	16043	6716	40441	18802	3812	22614		1.93	Si
SLV 7	7.9	-1176.81	-9865	-8215	8074	1.495	1.495	-19625	14342	6003	40441	18802	3812	22614		2.8	Si
SLV 9	4.35	-665.51	-17166	-14294	-5159	1.495	1.495	-34147	16250	6802	40441	18802	3812	22614		4.38	Si
SLV 9	7.9	1499.67	-13887	-11564	-9587	1.495	1.495	-27624	15942	6673	40441	18802	3812	22614		2.36	Si
SLV 6	4.35	-471.44	-17111	-14248	-4344	1.495	1.495	-34038	16250	6802	40441	18802	3812	22614		5.21	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	7.9	1365.44	-14123	-11760	-8672	1.495	1.495	-28094	16035	6712	40441	18802	3812	22614		2.61	Si
SLV 8	4.35	2769.32	-14099	-11740	11777	1.495	1.495	-28047	16026	6709	40441	18802	3812	22614		1.92	Si
SLV 8	7.9	-1188.35	-9834	-8189	8139	1.495	1.495	-19563	14329	5998	40441	18802	3812	22614		2.78	Si
SLV 11	4.35	2575.24	-14154	-11786	10962	1.495	1.495	-28156	16048	6718	40441	18802	3812	22614		2.06	Si
SLV 11	7.9	-1054.12	-9598	-7993	7224	1.495	1.495	-19094	14235	5959	40441	18802	3812	22614		3.13	Si
SLV 5	4.35	-479.97	-17154	-14284	-4388	1.495	1.495	-34124	16250	6802	40441	18802	3812	22614		5.15	Si
SLV 5	7.9	1376.98	-14154	-11786	-8737	1.495	1.495	-28155	16048	6718	40441	18802	3812	22614		2.59	Si
SLV 12	4.35	2583.77	-14111	-11750	11005	1.495	1.495	-28071	16031	6711	40441	18802	3812	22614		2.05	Si
SLV 12	7.9	-1065.66	-9567	-7967	7288	1.495	1.495	-19032	14223	5954	40441	18802	3812	22614		3.1	Si
SLV 10	4.35	-656.98	-17122	-14258	-5116	1.495	1.495	-34061	16250	6802	40441	18802	3812	22614		4.42	Si
SLV 10	7.9	1488.13	-13856	-11538	-9522	1.495	1.495	-27563	15929	6668	40441	18802	3812	22614		2.37	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.38	29852	-12496	158.35	1407.49	8.89	Si
SLV 8	179667	0.38	29856	-12498	158.35	1407.64	8.89	Si
SLV 11	179667	0.38	29931	-12529	158.35	1410.3	8.91	Si
SLV 7	179667	0.38	29935	-12531	158.35	1410.45	8.91	Si
SLV 16	179667	0.38	32623	-13656	158.35	1503.43	9.49	Si
SLV 4	179667	0.38	32637	-13662	158.35	1503.9	9.5	Si
SLV 15	179667	0.38	32740	-13705	158.35	1507.35	9.52	Si
SLV 3	179667	0.38	32754	-13711	158.35	1507.82	9.52	Si
SLV 14	179667	0.38	35018	-14659	158.35	1581.63	9.99	Si
SLV 2	179667	0.38	35032	-14664	158.35	1582.07	9.99	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-12972	-16096	-208	0.615	1530.1	0.959	9.32328	6.9554	Si
SLV 2	-12926	-16032	-208	0.617	1525.5	0.959	9.35247	6.9554	Si
SLV 13	-12082	-16136	230	0.652	1439.7	0.957	9.90081	6.9554	Si
SLV 14	-12036	-16072	230	0.654	1435	0.957	9.93391	6.9554	Si
SLV 3	-11685	-15193	-193	0.674	1399.3	0.956	10.2394	6.9554	Si
SLV 4	-11639	-15129	-193	0.676	1394.7	0.956	10.27492	6.9554	Si
SLV 15	-10795	-15232	245	0.716	1308.9	0.953	10.91145	6.9554	Si
SLV 16	-10749	-15168	245	0.718	1304.3	0.953	10.95216	6.9554	Si
SLV 5	-14154	-17154	-73	0.58	1650.3	0.962	8.76542	4.64355	Si
SLV 6	-14123	-17111	-73	0.581	1647.2	0.962	8.78237	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.219	SLU 83	Si
V_SLU	3.31	SLU 83	Si
PF_SLV	3.209	SLV 8	Si
V_SLV	1.92	SLV 8	Si
PFFP_SLV	8.889	SLV 12	Si
R_SLV	1.34	SLV 1	Si

Maschio 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L5	L6	2.015	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 48	5.25	1487.32	-18912	-0.0000666	0.0003743	0.0035	2.015	12780.68	14648.51	14648.51	9.85	No	Si
SLU 48	7.05	856.27	-16358	-0.0000531	0.0003743	0.0035	2.015	11787.48	13096.71	13096.71	15.3	No	Si
SLU 47	5.25	1374.27	-17915	-0.0000625	0.0003743	0.0035	2.015	12420.17	14034.7	14034.7	10.21	No	Si
SLU 47	7.05	819.64	-15361	-0.0000497	0.0003743	0.0035	2.015	11337.64	12510.05	12510.05	15.26	No	Si
SLU 50	5.25	1465.3	-18602	-0.0000654	0.0003743	0.0035	2.015	12672.32	14456.81	14456.81	9.87	No	Si
SLU 50	7.05	834.29	-16048	-0.0000519	0.0003743	0.0035	2.015	11651.34	12913.33	12913.33	15.48	No	Si
SLU 49	5.25	1446.9	-18888	-0.0000662	0.0003743	0.0035	2.015	12772.24	14633.31	14633.31	10.11	No	Si
SLU 49	7.05	874.13	-16334	-0.0000531	0.0003743	0.0035	2.015	11776.83	13082.16	13082.16	14.97	No	Si
SLU 45	5.25	1463.66	-18266	-0.0000644	0.0003743	0.0035	2.015	12551.03	14250.04	14250.04	9.74	No	Si
SLU 45	7.05	811.85	-15712	-0.0000507	0.0003743	0.0035	2.015	11499.93	12715.77	12715.77	15.66	No	Si
SLU 51	5.25	1424.88	-18578	-0.000065	0.0003743	0.0035	2.015	12663.61	14441.7	14441.7	10.14	No	Si
SLU 51	7.05	852.15	-16024	-0.000052	0.0003743	0.0035	2.015	11640.42	12898.87	12898.87	15.14	No	Si
SLU 43	5.25	1417.98	-17310	-0.0000609	0.0003743	0.0035	2.015	12184.31	13666.65	13666.65	9.64	No	Si
SLU 43	7.05	745.45	-14756	-0.0000472	0.0003743	0.0035	2.015	11047.54	12158.58	12158.58	16.31	No	Si
SLU 66	5.25	1555.19	-21508	-0.0000757	0.0003743	0.0035	2.015	13555.66	16086.99	16086.99	10.34	No	Si
SLU 66	7.05	1117.41	-18911	-0.0000633	0.0003743	0.0035	2.015	12780.3	14647.81	14647.81	13.11	No	Si
SLU 46	5.25	1423.24	-18242	-0.0000639	0.0003743	0.0035	2.015	12542.02	14234.94	14234.94	10	No	Si
SLU 46	7.05	829.71	-15687	-0.0000508	0.0003743	0.0035	2.015	11488.73	12701.34	12701.34	15.31	No	Si
SLU 44	5.25	1350.61	-17269	-0.0000602	0.0003743	0.0035	2.015	12167.92	13641.95	13641.95	10.1	No	Si
SLU 44	7.05	775.23	-14715	-0.0000474	0.0003743	0.0035	2.015	11027.49	12135	12135	15.65	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	5.25	5338.79	-16785	-0.0000907	0.0005615	0.0035	2.015		14440.28	14440.28	2.7		Si
SLV 11	7.05	-1583.67	-14721	-0.0000529	0.0005615	0.0035	2.015		13987.79	13987.79	8.83		Si
SLV 13	5.25	4714.29	-8413	-0.000069	0.0005615	0.0035	2.015		8055.01	8055.01	1.71		Si
SLV 13	7.05	-2626.85	-6248	-0.0000381	0.0005615	0.0035	2.015		6990.64	6990.64	2.66		Si
SLV 12	5.25	6149.35	-15669	-0.0000953	0.0005615	0.0035	2.015		13583.45	13583.45	2.21		Si
SLV 12	7.05	-2225.27	-13605	-0.000055	0.0005615	0.0035	2.015		13127.99	13127.99	5.9		Si
SLV 14	5.25	5918.2	-6756	-0.0002108	0.0005615	0.0035	2.015		6602.52	6602.52	1.12		Si
SLV 14	7.05	-3579.82	-4590	-0.0000732	0.0005615	0.0035	1.612		5478.63	5478.63	1.53		Si
SLD 15	5.25	4590.95	-12068	-0.0000706	0.0005615	0.0035	2.015		10881.19	10881.19	2.37		Si
SLD 15	7.05	-1926.31	-9965	-0.0000422	0.0005615	0.0035	2.015		10208.87	10208.87	5.3		Si
SLV 16	5.25	7761.54	-8372	-0.0006236	0.0005615	0.0035	2.015		8019.03	8019.03	1.03		Si
SLV 16	7.05	-4429.93	-6194	-0.0000778	0.0005615	0.0035	1.612		6942.95	6942.95	1.57		Si
SLV 1	5.25	-5474.53	-23103	-0.000112	0.0005615	0.0035	2.015		19741.94	19741.94	3.61		Si
SLV 1	7.05	6061.03	-21305	-0.0001113	0.0005615	0.0035	2.015		17565.8	17565.8	2.9		Si
SLV 15	5.25	6557.63	-10029	-0.0001071	0.0005615	0.0035	2.015		9392.87	9392.87	1.43		Si
SLV 15	7.05	-3476.95	-7851	-0.0000502	0.0005615	0.0035	2.015		8407.75	8407.75	2.42		Si
SLD 14	5.25	4214.68	-10006	-0.0000622	0.0005615	0.0035	2.015		9375.73	9375.73	2.22		Si
SLD 14	7.05	-2007.77	-7911	-0.0000371	0.0005615	0.0035	2.015		8460.45	8460.45	4.21		Si
SLD 16	5.25	5360.14	-11009	-0.0000781	0.0005615	0.0035	2.015		10104.58	10104.58	1.89		Si
SLD 16	7.05	-2535.16	-8906	-0.0000441	0.0005615	0.0035	2.015		9306.43	9306.43	3.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	5.25	1374.27	-17915	-14918	349	2.015	2.015	-26441	10470	5907	40441	16895	5138	22033	No	63.22	Si
SLU 47	7.05	819.64	-15361	-12791	349	2.015	2.015	-22672	9967	5624	40441	16895	5138	22033	No	63.22	Si
SLU 51	5.25	1424.88	-18578	-15470	359	2.015	2.015	-27419	10600	5981	40441	16895	5138	22033	No	61.45	Si
SLU 51	7.05	852.15	-16024	-13343	359	2.015	2.015	-23650	10098	5697	40441	16895	5138	22033	No	61.45	Si
SLU 48	5.25	1487.32	-18912	-15748	391	2.015	2.015	-27913	10666	6018	40441	16895	5138	22033	No	56.36	Si
SLU 48	7.05	856.27	-16358	-13622	391	2.015	2.015	-24143	10164	5734	40441	16895	5138	22033	No	56.36	Si
SLU 45	5.25	1463.66	-18266	-15210	402	2.015	2.015	-26959	10539	5946	40441	16895	5138	22033	No	54.74	Si
SLU 45	7.05	811.85	-15712	-13084	402	2.015	2.015	-23190	10036	5663	40441	16895	5138	22033	No	54.74	Si
SLU 46	5.25	1423.24	-18242	-15190	370	2.015	2.015	-26923	10534	5943	40441	16895	5138	22033	No	59.53	Si
SLU 46	7.05	829.71	-15687	-13063	370	2.015	2.015	-23153	10032	5660	40441	16895	5138	22033	No	59.53	Si
SLU 64	5.25	1509.51	-20552	-17114	295	2.015	2.015	-30333	10833	6374	40441	16895	5138	22033	No	74.63	Si
SLU 64	7.05	1051.01	-17955	-14951	295	2.015	2.015	-26500	10478	5912	40441	16895	5138	22033	No	74.63	Si
SLU 49	5.25	1446.9	-18888	-15728	359	2.015	2.015	-27877	10661	6015	40441	16895	5138	22033	No	61.44	Si
SLU 49	7.05	874.13	-16334	-13601	359	2.015	2.015	-24107	10159	5732	40441	16895	5138	22033	No	61.44	Si
SLU 43	5.25	1417.98	-17310	-14414	414	2.015	2.015	-25548	10351	5840	40441	16895	5138	22033	No	53.22	Si
SLU 43	7.05	745.45	-14756	-12287	414	2.015	2.015	-21778	9848	5556	40441	16895	5138	22033	No	53.22	Si
SLU 44	5.25	1350.61	-17269	-14380	360	2.015	2.015	-25488	10343	5835	40441	16895	5138	22033	No	61.2	Si
SLU 44	7.05	775.23	-14715	-12253	360	2.015	2.015	-21718	9840	5552	40441	16895	5138	22033	No	61.2	Si
SLU 50	5.25	1465.3	-18602	-15490	391	2.015	2.015	-27455	10605	5983	40441	16895	5138	22033	No	56.36	Si
SLU 50	7.05	834.29	-16048	-13364	391	2.015	2.015	-23686	10103	5700	40441	16895	5138	22033	No	56.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	5.25	5918.2	-6756	-5625	5489	2.015	0.3944	-52452	16250	4216	40441	25342	5138	30480		5.55	Si
SLV 14	7.05	-3579.82	-4590	-3822	5211	1.612	0.6829	0	0	0	40441	20274	4111	24384		4.68	Si
SLV 13	5.25	4714.29	-8413	-7006	4291	2.015	1.3415	-12417	12900	4846	40441	25342	5138	30480		7.1	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	7.05	-2626.85	-6248	-5203	4012	2.015	1.7612	-10602	12537	6183	40441	25342	5138	30480		7.6	Si
SLV 12	5.25	6149.35	-15669	-13048	4707	2.015	1.8452	-23127	15042	7771	40441	25342	5138	30480		6.48	Si
SLV 12	7.05	-2225.27	-13605	-11329	4638	2.015	2.015	-20080	14433	8143	40441	25342	5138	30480		6.57	Si
SLD 16	5.25	5360.14	-11009	-9167	4523	2.015	1.5618	-16248	13666	5976	40441	25342	5138	30480		6.74	Si
SLD 16	7.05	-2535.16	-8906	-7416	4350	2.015	2.015	-13145	13046	7360	40441	25342	5138	30480		7.01	Si
SLV 2	5.25	-4270.61	-21446	-17858	-5344	2.015	2.015	-31652	16250	9168	40441	25342	5138	30480		5.7	Si
SLV 2	7.05	5108.06	-19647	-16361	-5073	2.015	2.015	-28998	16216	9149	40441	25342	5138	30480		6.01	Si
SLV 3	5.25	-3631.18	-24719	-20584	-5062	2.015	2.015	-36484	16250	9168	40441	25342	5138	30480		6.02	Si
SLV 3	7.05	5210.92	-22908	-19076	-4784	2.015	2.015	-33811	16250	9168	40441	25342	5138	30480		6.37	Si
SLV 16	5.25	7761.54	-8372	-6971	6969	2.015	0.2411	-112215	16250	4575	40441	25342	5138	30480		4.37	Si
SLV 16	7.05	-4429.93	-6194	-5157	6698	1.612	0.8768	0	0	0	40441	20274	4111	24384		3.64	Si
SLV 5	5.25	-3862.33	-15806	-13162	-4281	2.015	2.015	-23328	15082	8509	40441	25342	5138	30480		7.12	Si
SLV 5	7.05	3856.38	-13894	-11570	-4211	2.015	2.015	-20506	14518	8191	40441	25342	5138	30480		7.24	Si
SLV 1	5.25	-5474.53	-23103	-19239	-6542	2.015	2.015	-34099	16250	9168	40441	25342	5138	30480		4.66	Si
SLV 1	7.05	6061.03	-21305	-17741	-6271	2.015	2.015	-31444	16250	9168	40441	25342	5138	30480		4.86	Si
SLV 15	5.25	6557.63	-10029	-8352	5770	2.015	1.061	-14803	13377	4943	40441	25342	5138	30480		5.28	Si
SLV 15	7.05	-3476.95	-7851	-6538	5500	2.015	1.6939	-13875	13192	6257	40441	25342	5138	30480		5.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.38	10099	-5698	208.05	744.92	3.58	Si
SLV 16	179667	0.38	12930	-7295	208.05	934.84	4.49	Si
SLV 13	179667	0.38	13037	-7355	208.05	941.84	4.53	Si
SLV 15	179667	0.38	15868	-8953	208.05	1123.15	5.4	Si
SLV 10	179667	0.38	16323	-9209	208.05	1151.51	5.53	Si
SLV 9	179667	0.38	18301	-10326	208.05	1272.34	6.12	Si
SLV 6	179667	0.38	24078	-13585	208.05	1602.03	7.7	Si
SLV 12	179667	0.38	25761	-14534	208.05	1691.57	8.13	Si
SLV 5	179667	0.38	26056	-14701	208.05	1706.98	8.2	Si
SLV 11	179667	0.38	27739	-15650	208.05	1793.08	8.62	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-16508	-26895	-272	0.647	1963.2	0.958	9.81365	6.9554	Si
SLV 4	-15762	-24434	-272	0.672	1887.3	0.956	10.22203	6.9554	Si
SLV 1	-14368	-26469	251	0.728	1745.7	0.953	11.108	6.9554	Si
SLV 2	-13622	-24009	251	0.762	1669.9	0.951	11.63923	6.9554	Si
SLV 7	-16505	-19253	-874	0.614	1962.9	0.958	9.31664	4.64355	Si
SLV 8	-16003	-17597	-873	0.63	1911.8	0.956	9.57316	4.64355	Si
SLV 15	-9715	-4791	-247	1.007	1273.7	0.938	15.59946	6.9554	Si
SLV 11	-14467	-12622	-866	0.686	1755.8	0.953	10.4645	4.64355	Si
SLV 12	-13965	-10966	-866	0.707	1704.7	0.952	10.79325	4.64355	Si
SLV 16	-8968	-2331	-246	1.074	1198.2	0.935	16.69624	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.638	SLU 43	Si
V_SLU	53.219	SLU 43	Si
PF_SLV	1.033	SLV 16	Si
V_SLV	3.641	SLV 16	Si
PFFP_SLV	3.58	SLV 14	Si
R_SLV	1.411	SLV 3	Si

Maschio 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L5	L6	4.025	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	5.25	-1611.56	-58564	-0.0000914	0.0003743	0.0035	4.025	57704.15	78316.7	78316.7	48.6	No	Si
SLU 83	7.05	-424.7	-53405	-0.0000796	0.0003743	0.0035	4.025	57453.29	74995.25	74995.25	176.58	No	Si
SLU 79	5.25	-1628.28	-57653	-0.0000898	0.0003743	0.0035	4.025	57727.73	77750.13	77750.13	47.75	No	Si
SLU 79	7.05	-493.43	-52494	-0.0000782	0.0003743	0.0035	4.025	57312.06	74428.1	74428.1	150.84	No	Si
SLU 77	5.25	-1633.56	-58393	-0.0000912	0.0003743	0.0035	4.025	57710.81	78211.22	78211.22	47.88	No	Si
SLU 77	7.05	-469.88	-53234	-0.0000794	0.0003743	0.0035	4.025	57428.94	74887.76	74887.76	159.37	No	Si
SLU 38	5.25	-1489.78	-49767	-0.000076	0.0003743	0.0035	4.025	56715.19	72790.98	72790.98	48.86	No	Si
SLU 38	7.05	-376.77	-45756	-0.0000669	0.0003743	0.0035	4.025	55363.28	69520.79	69520.79	184.52	No	Si
SLU 80	5.25	-1644.16	-57497	-0.0000896	0.0003743	0.0035	4.025	57728.85	77651.63	77651.63	47.23	No	Si
SLU 80	7.05	-487.6	-52338	-0.000078	0.0003743	0.0035	4.025	57284.95	74331.99	74331.99	152.44	No	Si
SLU 36	5.25	-1495.06	-50507	-0.0000773	0.0003743	0.0035	4.025	56902.79	73225.78	73225.78	48.98	No	Si
SLU 36	7.05	-353.23	-46496	-0.000068	0.0003743	0.0035	4.025	55654.9	70170.88	70170.88	198.65	No	Si
SLU 76	5.25	-1565.13	-56042	-0.0000869	0.0003743	0.0035	4.025	57698.17	76695.28	76695.28	49	No	Si
SLU 76	7.05	-428.74	-50883	-0.0000754	0.0003743	0.0035	4.025	56990.89	73449.63	73449.63	171.32	No	Si
SLU 78	5.25	-1649.44	-58237	-0.0000909	0.0003743	0.0035	4.025	57715.97	78114.76	78114.76	47.36	No	Si
SLU 78	7.05	-464.06	-53078	-0.0000792	0.0003743	0.0035	4.025	57405.88	74790.23	74790.23	161.17	No	Si
SLU 84	5.25	-1627.43	-58408	-0.0000912	0.0003743	0.0035	4.025	57710.25	78220.71	78220.71	48.06	No	Si
SLU 84	7.05	-418.87	-53249	-0.0000793	0.0003743	0.0035	4.025	57431.16	74897.4	74897.4	178.81	No	Si
SLU 37	5.25	-1473.9	-49923	-0.0000762	0.0003743	0.0035	4.025	56756.36	72882.14	72882.14	49.45	No	Si
SLU 37	7.05	-382.6	-45912	-0.0000671	0.0003743	0.0035	4.025	55426.4	69659.56	69659.56	182.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	5.25	-14960.41	-45092	-0.000095	0.0005615	0.0035	4.025		77720.66	77720.66	5.2		Si
SLV 4	7.05	10967.58	-41230	-0.0000803	0.0005615	0.0035	4.025		68328.4	68328.4	6.23		Si
SLV 1	5.25	-18907.67	-38100	-0.0000927	0.0005615	0.0035	4.025		68595.48	68595.48	3.63		Si
SLV 1	7.05	13870.62	-34242	-0.0000759	0.0005615	0.0035	4.025		58853.3	58853.3	4.24		Si
SLV 13	5.25	13020.68	-31025	-0.0000693	0.0005615	0.0035	4.025		53814.09	53814.09	4.13		Si
SLV 13	7.05	-11601.83	-26988	-0.0000604	0.0005615	0.0035	4.025		52373.34	52373.34	4.51		Si
SLD 1	5.25	-12452.58	-38160	-0.0000788	0.0005615	0.0035	4.025		68678.34	68678.34	5.52		Si
SLD 1	7.05	8765.45	-34261	-0.0000651	0.0005615	0.0035	4.025		58882.83	58882.83	6.72		Si
SLV 3	5.25	-18151.75	-45606	-0.0001029	0.0005615	0.0035	4.025		78352	78352	4.32		Si
SLV 3	7.05	13399.64	-41744	-0.0000864	0.0005615	0.0035	4.025		68937.74	68937.74	5.14		Si
SLV 16	5.25	16967.94	-38017	-0.0000883	0.0005615	0.0035	4.025		64551.81	64551.81	3.8		Si
SLV 16	7.05	-14504.87	-33976	-0.0000769	0.0005615	0.0035	4.025		62838.43	62838.43	4.33		Si
SLV 2	5.25	-15716.32	-37586	-0.000085	0.0005615	0.0035	4.025		67877.44	67877.44	4.32		Si
SLV 2	7.05	11438.56	-33728	-0.00007	0.0005615	0.0035	4.025		58042.79	58042.79	5.07		Si
SLV 15	5.25	13776.6	-38531	-0.0000822	0.0005615	0.0035	4.025		65152.55	65152.55	4.73		Si
SLV 15	7.05	-12072.81	-34490	-0.0000725	0.0005615	0.0035	4.025		63575.57	63575.57	5.27		Si
SLD 14	5.25	10040.05	-33290	-0.0000664	0.0005615	0.0035	4.025		57353.88	57353.88	5.71		Si
SLD 14	7.05	-9110.69	-29292	-0.0000586	0.0005615	0.0035	4.025		55953.24	55953.24	6.14		Si
SLV 14	5.25	16212.03	-30511	-0.0000753	0.0005615	0.0035	4.025		53015.76	53015.76	3.27		Si
SLV 14	7.05	-14033.89	-26474	-0.0000647	0.0005615	0.0035	4.025		51581.28	51581.28	3.68		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	5.25	-1611.56	-58564	-48767	-666	4.025	4.025	-43272	10833	24931	40441	33747	10264	44011	No	66.05	Si
SLU 83	7.05	-424.7	-53405	-44471	-666	4.025	4.025	-39460	10833	23213	40441	33747	10264	44011	No	66.05	Si
SLU 80	5.25	-1644.16	-57497	-47879	-649	4.025	4.025	-42483	10833	24576	40441	33747	10264	44011	No	67.76	Si
SLU 80	7.05	-487.6	-52338	-43583	-649	4.025	4.025	-38671	10833	22858	40441	33747	10264	44011	No	67.76	Si
SLU 82	5.25	-1537.82	-57057	-47512	-659	4.025	4.025	-42158	10833	24429	40441	33747	10264	44011	No	66.77	Si
SLU 82	7.05	-363.89	-51898	-43216	-659	4.025	4.025	-38346	10833	22711	40441	33747	10264	44011	No	66.77	Si
SLU 42	5.25	-1473.06	-50678	-42200	-653	4.025	4.025	-37445	10833	22305	40441	33747	10264	44011	No	67.43	Si
SLU 42	7.05	-308.04	-46667	-38860	-653	4.025	4.025	-34481	10833	20969	40441	33747	10264	44011	No	67.43	Si
SLU 84	5.25	-1627.43	-58408	-48637	-678	4.025	4.025	-43156	10833	24879	40441	33747	10264	44011	No	64.88	Si
SLU 84	7.05	-418.87	-53249	-44341	-678	4.025	4.025	-39344	10833	23161	40441	33747	10264	44011	No	64.88	Si
SLU 41	5.25	-1457.18	-50834	-42330	-641	4.025	4.025	-37560	10833	22357	40441	33747	10264	44011	No	68.7	Si
SLU 41	7.05	-313.87	-46823	-38990	-641	4.025	4.025	-34596	10833	21021	40441	33747	10264	44011	No	68.7	Si
SLU 77	5.25	-1633.56	-58393	-48624	-653	4.025	4.025	-43145	10833	24874	40441	33747	10264	44011	No	67.35	Si
SLU 77	7.05	-469.88	-53234	-44328	-653	4.025	4.025	-39333	10833	23156	40441	33747	10264	44011	No	67.35	Si
SLU 75	5.25	-1559.83	-56885	-47369	-646	4.025	4.025	-42031	10833	24372	40441	33747	10264	44011	No	68.1	Si
SLU 75	7.05	-409.08	-51726	-43073	-646	4.025	4.025	-38219	10833	22654	40441	33747	10264	44011	No	68.1	Si
SLU 78	5.25	-1649.44	-58237	-48494	-665	4.025	4.025	-43030	10833	24822	40441	33747	10264	44011	No	66.13	Si
SLU 78	7.05	-464.06	-53078	-44198	-665	4.025	4.025	-39218	10833	23104	40441	33747	10264	44011	No	66.13	Si
SLU 81	5.25	-1521.95	-57213	-47642	-647	4.025	4.025	-42273	10833	24481	40441	33747	10264	44011	No	68.02	Si
SLU 81	7.05	-369.72	-52053	-43346	-647	4.025	4.025	-38461	10833	22763	40441	33747	10264	44011	No	68.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	5.25	-12452.58	-38160	-31776	-12015	4.025	4.025	-28195	16056	20848	40441	50621	10264	60885		5.07	Si
SLD 1	7.05	8765.45	-34261	-28529	-11680	4.025	4.025	-25314	15480	19549	40441	50621	10264	59990		5.14	Si
SLV 2	5.25	-15716.32	-37586	-31298	-15448	4.025	4.025	-27771	15971	20657	40441	50621	10264	60885		3.94	Si
SLV 2	7.05	11438.56	-33728	-28086	-14927	4.025	4.025	-24921	15401	19372	40441	50621	10264	59813		4.01	Si
SLV 16	5.25	16967.94	-38017	-31657	17837	4.025	4.025	-28090	16035	20800	40441	50621	10264	60885		3.41	Si
SLV 16	7.05	-14504.87	-33976	-28292	17316	4.025	4.025	-25104	15437	19454	40441	50621	10264	59895		3.46	Si
SLV 15	5.25	13776.6	-38531	-32086	14713	4.025	4.025	-28470	16111	20972	40441	50621	10264	60885		4.14	Si
SLV 15	7.05	-12072.81	-34490	-28720	14192	4.025	4.025	-25484	15513	19626	40441	50621	10264	60067		4.23	Si
SLV 3	5.25	-18151.75	-45606	-37977	-17891	4.025	4.025	-33697	16250	23328	40441	50621	10264	60885		3.4	Si
SLV 3	7.05	13399.64	-41744	-34761	-17371	4.025	4.025	-30844	16250	22042	40441	50621	10264	60885		3.51	Si
SLV 14	5.25	16212.03	-30511	-25407	17156	4.025	4.025	-22544	14925	18300	40441	50621	10264	58741		3.42	Si
SLV 14	7.05	-14033.89	-26474	-22045	16635	4.025	4.025	-19561	14329	16956	40441	50621	10264	57397		3.45	Si
SLV 1	5.25	-18907.67	-38100	-31726	-18573	4.025	4.025	-28151	16047	20828	40441	50621	10264	60885		3.28	Si
SLV 1	7.05	13870.62	-34242	-28514	-18052	4.025	4.025	-25301	15477	19543	40441	50621	10264	59984		3.32	Si
SLD 3	5.25	-11979.77	-42827	-35663	-11592	4.025	4.025	-31644	16250	22403	40441	50621	10264	60885		5.25	Si
SLD 3	7.05	8476.44	-38926	-32414	-11258	4.025	4.025	-28761	16169	21103	40441	50621	10264	60885		5.41	Si
SLV 4	5.25	-14960.41	-45092	-37549	-14767	4.025	4.025	-33317	16250	23157	40441	50621	10264	60885		4.12	Si
SLV 4	7.05	10967.58	-41230	-34333	-14247	4.025	4.025	-30464	16250	21871	40441	50621	10264	60885		4.27	Si
SLV 13	5.25	13020.68	-31025	-25835	14031	4.025	4.025	-22924	15001	18472	40441	50621	10264	58913		4.2	Si
SLV 13	7.05	-11601.83	-26988	-22473	13511	4.025	4.025	-19941	14405	17127	40441	50621	10264	57568		4.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.38	19608	-22099	415.59	2696.58	6.49	Si
SLV 9	179667	0.38	19916	-22445	415.59	2732.5	6.57	Si
SLV 6	179667	0.38	21534	-24269	415.59	2918.59	7.02	Si
SLV 5	179667	0.38	21842	-24615	415.59	2953.29	7.11	Si
SLV 14	179667	0.38	25051	-28232	415.59	3304.16	7.95	Si
SLV 13	179667	0.38	25507	-28746	415.59	3352.31	8.07	Si
SLV 2	179667	0.38	31471	-35467	415.59	3942.2	9.49	Si
SLV 16	179667	0.38	31705	-35732	415.59	3963.92	9.54	Si
SLV 1	179667	0.38	31927	-35982	415.59	3984.3	9.59	Si
SLV 15	179667	0.38	32162	-36246	415.59	4005.8	9.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-32314	-44609	-569	0.657	3854.2	0.957	9.97977	6.9554	Si
SLV 4	-31977	-44140	-569	0.663	3819.9	0.956	10.07243	6.9554	Si
SLV 15	-27972	-36967	-566	0.742	3413	0.952	11.3297	6.9554	Si
SLV 16	-27634	-36497	-566	0.75	3378.8	0.951	11.45079	6.9554	Si
SLV 1	-26415	-37188	565	0.779	3254.9	0.95	11.91227	6.9554	Si
SLV 2	-26078	-36718	565	0.787	3220.7	0.949	12.04659	6.9554	Si
SLV 7	-37621	-50516	-1892	0.545	4393.9	0.962	8.24312	4.64355	Si
SLV 8	-37394	-50200	-1892	0.548	4370.8	0.961	8.28712	4.64355	Si
SLV 11	-36318	-48224	-1891	0.562	4261.4	0.961	8.50257	4.64355	Si
SLV 12	-36091	-47907	-1891	0.565	4238.3	0.96	8.54958	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	47.229	SLU 80	Si
V_SLU	64.878	SLU 84	Si
PF_SLV	3.27	SLV 14	Si
V_SLV	3.278	SLV 1	Si
PFFP_SLV	6.489	SLV 10	Si
R_SLV	1.435	SLV 3	Si

Maschio 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L5	L6	4.005	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	5.25	-3931.61	-53347	-0.0000885	0.0003743	0.0035	4.005	56911.72	74406.98	74406.98	18.93	No	Si
SLU 79	7.05	1542.79	-48259	-0.0000741	0.0003743	0.0035	4.005	55790.3	67841.75	67841.75	43.97	No	Si
SLU 69	5.25	-3755.34	-48984	-0.0000805	0.0003743	0.0035	4.005	56005.64	71717.35	71717.35	19.1	No	Si
SLU 69	7.05	1434.63	-43896	-0.0000667	0.0003743	0.0035	4.005	54105.43	64266.17	64266.17	44.8	No	Si
SLU 78	5.25	-3872.12	-54031	-0.0000895	0.0003743	0.0035	4.005	56993.21	74836.92	74836.92	19.33	No	Si
SLU 78	7.05	1563.18	-48943	-0.0000753	0.0003743	0.0035	4.005	55993.87	68416.53	68416.53	43.77	No	Si
SLU 50	5.25	-3343.32	-41056	-0.0000665	0.0003743	0.0035	4.005	52650.3	64783.11	64783.11	19.38	No	Si
SLU 50	7.05	1198.02	-36053	-0.0000537	0.0003743	0.0035	4.005	49397.84	56038.99	56038.99	46.78	No	Si
SLU 71	5.25	-3756.09	-48203	-0.0000792	0.0003743	0.0035	4.005	55773.13	71106.99	71106.99	18.93	No	Si
SLU 71	7.05	1394.8	-43115	-0.0000653	0.0003743	0.0035	4.005	53733.6	63643.15	63643.15	45.63	No	Si
SLU 72	5.25	-3697.34	-48107	-0.0000789	0.0003743	0.0035	4.005	55742.87	71029.96	71029.96	19.21	No	Si
SLU 72	7.05	1375.34	-43018	-0.0000651	0.0003743	0.0035	4.005	53686.1	63566.39	63566.39	46.22	No	Si
SLU 77	5.25	-3930.87	-54128	-0.0000898	0.0003743	0.0035	4.005	57003.39	74898.11	74898.11	19.05	No	Si
SLU 77	7.05	1582.63	-49039	-0.0000755	0.0003743	0.0035	4.005	56021.3	68498.03	68498.03	43.28	No	Si
SLU 80	5.25	-3872.87	-53250	-0.0000882	0.0003743	0.0035	4.005	56898.89	74346.72	74346.72	19.2	No	Si
SLU 80	7.05	1523.34	-48162	-0.0000739	0.0003743	0.0035	4.005	55760.23	67760.88	67760.88	44.48	No	Si
SLU 83	5.25	-3873.21	-54586	-0.0000905	0.0003743	0.0035	4.005	57047.27	75190.05	75190.05	19.41	No	Si
SLU 83	7.05	1745.47	-49498	-0.0000766	0.0003743	0.0035	4.005	56147	68885.81	68885.81	39.47	No	Si
SLU 70	5.25	-3696.6	-48887	-0.0000802	0.0003743	0.0035	4.005	55978.02	71642.97	71642.97	19.38	No	Si
SLU 70	7.05	1415.18	-43799	-0.0000665	0.0003743	0.0035	4.005	54060.57	64188.79	64188.79	45.36	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	5.25	-18010.14	-33185	-0.0000838	0.0005615	0.0035	4.005		61334.89	61334.89	3.41		Si
SLV 4	7.05	12586.7	-29399	-0.0000665	0.0005615	0.0035	4.005		51009.68	51009.68	4.05		Si
SLV 3	5.25	-21172.74	-32309	-0.0000893	0.0005615	0.0035	4.005		60046.29	60046.29	2.84		Si
SLV 3	7.05	14816.75	-28523	-0.0000699	0.0005615	0.0035	4.005		49666.11	49666.11	3.35		Si
SLD 3	5.25	-14477.55	-33409	-0.0000765	0.0005615	0.0035	4.005		61663.41	61663.41	4.26		Si
SLD 3	7.05	9944.08	-29581	-0.0000612	0.0005615	0.0035	4.005		51290.57	51290.57	5.16		Si
SLV 14	5.25	15886.43	-38677	-0.0000877	0.0005615	0.0035	4.005		64889.9	64889.9	4.08		Si
SLV 14	7.05	-12244.36	-34672	-0.0000736	0.0005615	0.0035	4.005		63460.45	63460.45	5.18		Si
SLD 1	5.25	-13090.58	-30230	-0.0000688	0.0005615	0.0035	4.005		57017.06	57017.06	4.36		Si
SLD 1	7.05	9425.39	-26396	-0.0000554	0.0005615	0.0035	4.005		46426.76	46426.76	4.93		Si
SLV 2	5.25	-15793.77	-28068	-0.0000713	0.0005615	0.0035	4.005		53751.28	53751.28	3.4		Si
SLV 2	7.05	11758.9	-24268	-0.0000572	0.0005615	0.0035	4.005		43220.68	43220.68	3.68		Si
SLV 16	5.25	13670.06	-43794	-0.0000908	0.0005615	0.0035	4.005		70926.55	70926.55	5.19		Si
SLV 16	7.05	-11416.57	-39803	-0.0000797	0.0005615	0.0035	4.005		70472.79	70472.79	6.17		Si
SLV 13	5.25	12723.83	-37801	-0.0000794	0.0005615	0.0035	4.005		63869.88	63869.88	5.02		Si
SLV 13	7.05	-10014.31	-33796	-0.0000676	0.0005615	0.0035	4.005		62226.47	62226.47	6.21		Si
SLV 1	5.25	-18956.37	-27192	-0.0000768	0.0005615	0.0035	4.005		52400.65	52400.65	2.76		Si
SLV 1	7.05	13988.96	-23392	-0.0000606	0.0005615	0.0035	4.005		41910.01	41910.01	3		Si
SLD 4	5.25	-12456.96	-33969	-0.000073	0.0005615	0.0035	4.005		62475.52	62475.52	5.02		Si
SLD 4	7.05	8519.29	-30141	-0.000059	0.0005615	0.0035	4.005		52152.8	52152.8	6.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	5.25	-3739.59	-53621	-44651	-3142	4.005	4.005	-39817	10833	23258	40441	33580	10213	43792	No	13.94	Si
SLU 81	7.05	1884.73	-48532	-40413	-3142	4.005	4.005	-36038	10833	21563	40441	33580	10213	43792	No	13.94	Si
SLU 82	5.25	-3680.84	-53524	-44570	-3099	4.005	4.005	-39745	10833	23226	40441	33580	10213	43792	No	14.13	Si
SLU 82	7.05	1865.28	-48436	-40333	-3099	4.005	4.005	-35967	10833	21531	40441	33580	10213	43792	No	14.13	Si
SLU 79	5.25	-3931.61	-53347	-44423	-3059	4.005	4.005	-39614	10833	23167	40441	33580	10213	43792	No	14.32	Si
SLU 79	7.05	1542.79	-48259	-40186	-3059	4.005	4.005	-35835	10833	21472	40441	33580	10213	43792	No	14.32	Si
SLU 74	5.25	-3797.25	-53162	-44269	-3084	4.005	4.005	-39476	10833	23105	40441	33580	10213	43792	No	14.2	Si
SLU 74	7.05	1721.89	-48074	-40032	-3084	4.005	4.005	-35698	10833	21410	40441	33580	10213	43792	No	14.2	Si
SLU 75	5.25	-3738.5	-53066	-44188	-3040	4.005	4.005	-39405	10833	23073	40441	33580	10213	43792	No	14.4	Si
SLU 75	7.05	1702.43	-47977	-39951	-3040	4.005	4.005	-35626	10833	21378	40441	33580	10213	43792	No	14.4	Si
SLU 84	5.25	-3814.47	-54489	-45374	-3095	4.005	4.005	-40462	10833	23547	40441	33580	10213	43792	No	14.15	Si
SLU 84	7.05	1726.02	-49401	-41137	-3095	4.005	4.005	-36684	10833	21852	40441	33580	10213	43792	No	14.15	Si
SLU 83	5.25	-3873.21	-54586	-45455	-3139	4.005	4.005	-40534	10833	23579	40441	33580	10213	43792	No	13.95	Si
SLU 83	7.05	1745.47	-49498	-41217	-3139	4.005	4.005	-36755	10833	21885	40441	33580	10213	43792	No	13.95	Si
SLU 78	5.25	-3872.12	-54031	-44992	-3037	4.005	4.005	-40122	10833	23395	40441	33580	10213	43792	No	14.42	Si
SLU 78	7.05	1563.18	-48943	-40755	-3037	4.005	4.005	-36343	10833	21700	40441	33580	10213	43792	No	14.42	Si
SLU 77	5.25	-3930.87	-54128	-45073	-3080	4.005	4.005	-40193	10833	23427	40441	33580	10213	43792	No	14.22	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	7.05	1582.63	-49039	-40836	-3080	4.005	4.005	-36415	10833	21732	40441	33580	10213	43792	No	14.22	Si
SLU 80	5.25	-3872.87	-53250	-44342	-3015	4.005	4.005	-39542	10833	23135	40441	33580	10213	43792	No	14.52	Si
SLU 80	7.05	1523.34	-48162	-40105	-3015	4.005	4.005	-35764	10833	21440	40441	33580	10213	43792	No	14.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	5.25	-13090.58	-30230	-25173	-12614	4.005	4.005	-22448	14906	18166	40441	50370	10213	58607		4.65	Si
SLD 1	7.05	9425.39	-26396	-21980	-12277	4.005	4.005	-19600	14337	16889	40441	50370	10213	57330		4.67	Si
SLV 16	5.25	13670.06	-43794	-36468	14056	4.005	4.005	-32520	16250	22684	40441	50370	10213	60582		4.31	Si
SLV 16	7.05	-11416.57	-39803	-33144	13531	4.005	4.005	-29556	16250	21355	40441	50370	10213	60582		4.48	Si
SLV 3	5.25	-21172.74	-32309	-26904	-20180	4.005	4.005	-23991	15215	18859	40441	50370	10213	59300		2.94	Si
SLV 3	7.05	14816.75	-28523	-23751	-19661	4.005	4.005	-21180	14653	17598	40441	50370	10213	58039		2.95	Si
SLV 13	5.25	12723.83	-37801	-31478	12792	4.005	4.005	-28070	16031	20688	40441	50370	10213	60582		4.74	Si
SLV 13	7.05	-10014.31	-33796	-28143	12272	4.005	4.005	-25096	15436	19354	40441	50370	10213	59795		4.87	Si
SLD 4	5.25	-12456.96	-33969	-28286	-11781	4.005	4.005	-25224	15461	19412	40441	50370	10213	59853		5.08	Si
SLD 4	7.05	8519.29	-30141	-25099	-11448	4.005	4.005	-22382	14893	18137	40441	50370	10213	58578		5.12	Si
SLV 1	5.25	-18956.37	-27192	-22643	-18448	4.005	3.9161	-20862	14589	17154	40441	50370	10213	57595		3.12	Si
SLV 1	7.05	13988.96	-23392	-19479	-17924	4.005	4.005	-17370	13891	15889	40441	50370	10213	56330		3.14	Si
SLD 3	5.25	-14477.55	-33409	-27820	-13695	4.005	4.005	-24809	15378	19225	40441	50370	10213	59666		4.36	Si
SLD 3	7.05	9944.08	-29581	-24633	-13362	4.005	4.005	-21966	14810	17950	40441	50370	10213	58391		4.37	Si
SLV 14	5.25	15886.43	-38677	-32207	15788	4.005	4.005	-28720	16161	20980	40441	50370	10213	60582		3.84	Si
SLV 14	7.05	-12244.36	-34672	-28872	15268	4.005	4.005	-25747	15566	19646	40441	50370	10213	60087		3.94	Si
SLV 4	5.25	-18010.14	-33185	-27633	-17184	4.005	4.005	-24642	15345	19151	40441	50370	10213	59591		3.47	Si
SLV 4	7.05	12586.7	-29399	-24481	-16665	4.005	4.005	-21830	14783	17889	40441	50370	10213	58330		3.5	Si
SLV 2	5.25	-15793.77	-28068	-23372	-15452	4.005	4.005	-20842	14585	17446	40441	50370	10213	57887		3.75	Si
SLV 2	7.05	11758.9	-24268	-20209	-14928	4.005	4.005	-18021	14021	16181	40441	50370	10213	56622		3.79	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.38	20459	-22943	413.53	2781.73	6.73	Si
SLV 6	179667	0.38	20985	-23533	413.53	2841.9	6.87	Si
SLV 1	179667	0.38	22429	-25152	413.53	3004.1	7.26	Si
SLV 2	179667	0.38	23210	-26028	413.53	3090.1	7.47	Si
SLV 9	179667	0.38	23237	-26058	413.53	3093.03	7.48	Si
SLV 10	179667	0.38	23763	-26648	413.53	3150.19	7.62	Si
SLV 3	179667	0.38	27004	-30282	413.53	3489.88	8.44	Si
SLV 4	179667	0.38	27785	-31158	413.53	3568.53	8.63	Si
SLV 13	179667	0.38	31688	-35535	413.53	3942.59	9.53	Si
SLV 14	179667	0.38	32469	-36411	413.53	4013.71	9.71	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-31111	-43208	-521	0.677	3729.1	0.956	10.29345	6.9554	Si
SLV 15	-30557	-42315	-520	0.687	3672.8	0.955	10.4575	6.9554	Si
SLV 14	-26286	-39131	498	0.781	3239	0.95	11.94441	6.9554	Si
SLV 13	-25733	-38238	498	0.795	3182.9	0.949	12.16816	6.9554	Si
SLV 4	-24799	-30640	-496	0.82	3088	0.948	12.56774	6.9554	Si
SLV 3	-24245	-29747	-496	0.835	3031.9	0.947	12.81737	6.9554	Si
SLV 12	-34439	-43420	-1700	0.59	4067.5	0.959	8.94198	4.64355	Si
SLV 11	-34066	-42819	-1700	0.596	4029.6	0.959	9.02801	4.64355	Si
SLV 8	-32545	-39650	-1693	0.619	3875	0.957	9.40033	4.64355	Si
SLV 7	-32173	-39049	-1693	0.625	3837.1	0.957	9.49599	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.925	SLU 79	Si
V_SLU	13.938	SLU 81	Si
PF_SLV	2.764	SLV 1	Si
V_SLV	2.939	SLV 3	Si
PFFP_SLV	6.727	SLV 5	Si
R_SLV	1.48	SLV 16	Si

Maschio 130

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L5	L6	1.995	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	5.25	-2575.4	-14998	-0.0000648	0.0003743	0.0035	1.995	11015.29	13201.35	13201.35	5.13	No	Si
SLU 50	7.05	-150.29	-12465	-0.0000358	0.0003743	0.0035	1.995	9708.65	11533.84	11533.84	76.74	No	Si
SLU 77	5.25	-3079.97	-20517	-0.0000877	0.0003743	0.0035	1.995	13082.54	16024.64	16024.64	5.2	No	Si
SLU 77	7.05	-367.69	-17942	-0.0000543	0.0003743	0.0035	1.995	12250.75	14899.19	14899.19	40.52	No	Si
SLU 71	5.25	-2896.82	-17882	-0.0000771	0.0003743	0.0035	1.995	12228.91	14874.62	14874.62	5.13	No	Si
SLU 71	7.05	-256.34	-15307	-0.0000452	0.0003743	0.0035	1.995	11159.08	13398.04	13398.04	52.27	No	Si
SLU 72	5.25	-2868.38	-17897	-0.0000769	0.0003743	0.0035	1.995	12234.31	14880.67	14880.67	5.19	No	Si
SLU 72	7.05	-260.79	-15321	-0.0000453	0.0003743	0.0035	1.995	11165.79	13407.28	13407.28	51.41	No	Si
SLU 48	5.25	-2605.11	-15404	-0.0000664	0.0003743	0.0035	1.995	11203.62	13459.37	13459.37	5.17	No	Si
SLU 48	7.05	-158.58	-12871	-0.0000371	0.0003743	0.0035	1.995	9933.03	11806.69	11806.69	74.45	No	Si
SLU 69	5.25	-2926.53	-18288	-0.0000787	0.0003743	0.0035	1.995	12376.2	15044.22	15044.22	5.14	No	Si
SLU 69	7.05	-264.62	-15712	-0.0000465	0.0003743	0.0035	1.995	11343.02	13652.45	13652.45	51.59	No	Si
SLU 51	5.25	-2546.96	-15013	-0.0000646	0.0003743	0.0035	1.995	11022.16	13210.67	13210.67	5.19	No	Si
SLU 51	7.05	-154.74	-12480	-0.0000359	0.0003743	0.0035	1.995	9716.82	11543.87	11543.87	74.6	No	Si
SLU 70	5.25	-2898.08	-18303	-0.0000785	0.0003743	0.0035	1.995	12381.39	15050.37	15050.37	5.19	No	Si
SLU 70	7.05	-269.08	-15727	-0.0000466	0.0003743	0.0035	1.995	11349.53	13661.5	13661.5	50.77	No	Si
SLU 79	5.25	-3050.27	-20111	-0.000086	0.0003743	0.0035	1.995	12966.97	15840.1	15840.1	5.19	No	Si
SLU 79	7.05	-359.4	-17536	-0.0000529	0.0003743	0.0035	1.995	12098.53	14730.56	14730.56	40.99	No	Si
SLU 49	5.25	-2576.67	-15418	-0.0000661	0.0003743	0.0035	1.995	11210.28	13468.57	13468.57	5.23	No	Si
SLU 49	7.05	-163.03	-12885	-0.0000372	0.0003743	0.0035	1.995	9940.99	11816.49	11816.49	72.48	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	5.25	-5457.52	-6856	-0.0001281	0.0005615	0.0035	1.596		7449.32	7449.32	1.36		Si
SLD 3	7.05	2107.23	-4852	-0.0000307	0.0005615	0.0035	1.995		4824.73	4824.73	2.29		Si
SLV 1	5.25	-6093.43	-3232	-0.0019904	0.0005615	0.0035	1.596		4182.79	4182.79	0.69		No
SLV 1	7.05	3183.72	-1160	-0.0138243	0.0005615	0.0035	1.596		1349.25	1349.25	0.42		No
SLD 1	5.25	-4661.17	-6958	-0.0000782	0.0005615	0.0035	1.596		7539.36	7539.36	1.62		Si
SLD 1	7.05	1992.89	-4935	-0.0000296	0.0005615	0.0035	1.995		4901.04	4901.04	2.46		Si
SLD 2	5.25	-4018.4	-8422	-0.0000588	0.0005615	0.0035	1.995		8804.11	8804.11	2.19		Si
SLD 2	7.05	1583.71	-6399	-0.0000299	0.0005615	0.0035	1.995		6214.89	6214.89	3.92		Si
SLV 4	5.25	-6366.44	-5363	-0.0009844	0.0005615	0.0035	1.596		6127.26	6127.26	0.96		No
SLV 4	7.05	2726.39	-3322	-0.0000688	0.0005615	0.0035	1.995		3411.89	3411.89	1.25		Si
SLV 2	5.25	-5087.38	-5523	-0.0002282	0.0005615	0.0035	1.596		6273.64	6273.64	1.23		Si
SLV 2	7.05	2543.27	-3450	-0.0000478	0.0005615	0.0035	1.995		3531.92	3531.92	1.39		Si
SLD 4	5.25	-4814.76	-8319	-0.000073	0.0005615	0.0035	1.596		8718.24	8718.24	1.81		Si
SLD 4	7.05	1698.04	-6315	-0.0000306	0.0005615	0.0035	1.995		6140.91	6140.91	3.62		Si
SLV 3	5.25	-7372.49	-3072	-0.0035111	0.0005615	0.0035	1.596		4032.23	4032.23	0.55		No
SLV 3	7.05	3366.84	-1031	-0.0159663	0.0005615	0.0035	1.596		1224.58	1224.58	0.36		No
SLV 7	5.25	-5799.84	-9745	-0.0000901	0.0005615	0.0035	1.596		9918.3	9918.3	1.71		Si
SLV 7	7.05	1297.82	-7801	-0.0000315	0.0005615	0.0035	1.995		7441.89	7441.89	5.73		Si
SLV 8	5.25	-5122.5	-11287	-0.0000765	0.0005615	0.0035	1.995		11168.26	11168.26	2.18		Si
SLV 8	7.05	866.63	-9344	-0.0000323	0.0005615	0.0035	1.995		8752.53	8752.53	10.1		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 71	5.25	-2896.82	-17882	-14891	-1506	1.995	1.995	-26658	10499	5865	40441	16727	5087	21814	No	14.49	Si
SLU 71	7.05	-256.34	-15307	-12746	-1506	1.995	1.995	-22818	9987	5579	40441	16727	5087	21814	No	14.49	Si
SLU 84	5.25	-3012.7	-20954	-17449	-1503	1.995	1.995	-31237	10833	6446	40441	16727	5087	21814	No	14.52	Si
SLU 84	7.05	-377.54	-18379	-15304	-1503	1.995	1.995	-27398	10597	5920	40441	16727	5087	21814	No	14.52	Si
SLU 77	5.25	-3079.97	-20517	-17085	-1545	1.995	1.995	-30585	10833	6349	40441	16727	5087	21814	No	14.11	Si
SLU 77	7.05	-367.69	-17942	-14940	-1545	1.995	1.995	-26746	10511	5871	40441	16727	5087	21814	No	14.11	Si
SLU 80	5.25	-3021.82	-20126	-16759	-1515	1.995	1.995	-30002	10833	6262	40441	16727	5087	21814	No	14.4	Si
SLU 80	7.05	-363.85	-17550	-14615	-1515	1.995	1.995	-26163	10433	5828	40441	16727	5087	21814	No	14.4	Si
SLU 78	5.25	-3051.53	-20532	-17097	-1527	1.995	1.995	-30607	10833	6352	40441	16727	5087	21814	No	14.28	Si
SLU 78	7.05	-372.14	-17956	-14952	-1527	1.995	1.995	-26768	10513	5873	40441	16727	5087	21814	No	14.28	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	5.25	-2926.53	-18288	-15229	-1517	1.995	1.995	-27262	10579	5910	40441	16727	5087	21814	No	14.38	Si
SLU 69	7.05	-264.62	-15712	-13084	-1517	1.995	1.995	-23423	10067	5624	40441	16727	5087	21814	No	14.38	Si
SLU 74	5.25	-3005.09	-20390	-16979	-1521	1.995	1.995	-30396	10833	6320	40441	16727	5087	21814	No	14.34	Si
SLU 74	7.05	-337.21	-17815	-14834	-1521	1.995	1.995	-26556	10485	5857	40441	16727	5087	21814	No	14.34	Si
SLU 75	5.25	-2976.64	-20405	-16991	-1503	1.995	1.995	-30418	10833	6324	40441	16727	5087	21814	No	14.52	Si
SLU 75	7.05	-341.66	-17829	-14847	-1503	1.995	1.995	-26578	10488	5859	40441	16727	5087	21814	No	14.52	Si
SLU 83	5.25	-3041.14	-20940	-17437	-1521	1.995	1.995	-31215	10833	6442	40441	16727	5087	21814	No	14.34	Si
SLU 83	7.05	-373.09	-18364	-15292	-1521	1.995	1.995	-27376	10595	5918	40441	16727	5087	21814	No	14.34	Si
SLU 79	5.25	-3050.27	-20111	-16747	-1534	1.995	1.995	-29980	10833	6258	40441	16727	5087	21814	No	14.22	Si
SLU 79	7.05	-359.4	-17536	-14602	-1534	1.995	1.995	-26141	10430	5826	40441	16727	5087	21814	No	14.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	5.25	-5087.38	-5523	-4599	-4491	1.596	0.2291	0	0	0	40441	20072	4070	24142		5.38	Si
SLV 2	7.05	2543.27	-3450	-2873	-4222	1.995	0.7811	-5143	11445	3455	40441	25090	5087	30178		7.15	Si
SLV 3	5.25	-7372.49	-3072	-2558	-6194	1.596	0	0	0	0	40441	20072	4070	24142		3.9	Si
SLV 3	7.05	3366.84	-1031	-859	-5924	1.596	0	0	0	0	40441	20072	4070	24142		4.08	Si
SLV 8	5.25	-5122.5	-11287	-9399	-3380	1.995	1.631	-20794	14576	6656	40441	25090	5087	30178		8.93	Si
SLV 8	7.05	866.63	-9344	-7780	-3298	1.995	1.995	-13929	13202	7375	40441	25090	5087	30178		9.15	Si
SLV 1	5.25	-6093.43	-3232	-2692	-5405	1.596	0	0	0	0	40441	20072	4070	24142		4.47	Si
SLV 1	7.05	3183.72	-1160	-966	-5137	1.596	0	0	0	0	40441	20072	4070	24142		4.7	Si
SLD 1	5.25	-4661.17	-6958	-5794	-3861	1.596	0.9829	0	0	0	40441	20072	4070	24142		6.25	Si
SLD 1	7.05	1992.89	-4935	-4110	-3690	1.995	1.7811	-7357	11888	5929	40441	25090	5087	30178		8.18	Si
SLV 4	5.25	-6366.44	-5363	-4465	-5279	1.596	0	0	0	0	40441	20072	4070	24142		4.57	Si
SLV 4	7.05	2726.39	-3322	-2766	-5010	1.995	0.5303	-18798	14177	3427	40441	25090	5087	30178		6.02	Si
SLV 7	5.25	-5799.84	-9745	-8115	-3996	1.596	1.207	0	0	0	40441	20072	4070	24142		6.04	Si
SLV 7	7.05	1297.82	-7801	-6496	-3914	1.995	1.995	-11630	12743	7118	40441	25090	5087	30178		7.71	Si
SLD 3	5.25	-5457.52	-6856	-5709	-4354	1.596	0.6043	0	0	0	40441	20072	4070	24142		5.55	Si
SLD 3	7.05	2107.23	-4852	-4040	-4182	1.995	1.6895	-7232	11863	5612	40441	25090	5087	30178		7.22	Si
SLD 4	5.25	-4814.76	-8319	-6927	-3769	1.596	1.2562	0	0	0	40441	20072	4070	24142		6.41	Si
SLD 4	7.05	1698.04	-6315	-5259	-3597	1.995	1.995	-9414	12299	6870	40441	25090	5087	30178		8.39	Si
SLV 14	5.25	3199.86	-24055	-20031	3990	1.995	1.995	-35859	16250	9077	40441	25090	5087	30178		7.56	Si
SLV 14	7.05	-3679.7	-22151	-18446	3721	1.995	1.995	-33021	16250	9077	40441	25090	5087	30178		8.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.38	3355	-1874	205.99	256.63	1.25	Si
SLV 1	179667	0.38	3679	-2055	205.99	280.8	1.36	Si
SLV 4	179667	0.38	7456	-4165	205.99	554.6	2.69	Si
SLV 2	179667	0.38	7780	-4346	205.99	577.41	2.8	Si
SLV 7	179667	0.38	15352	-8576	205.99	1079.92	5.24	Si
SLV 5	179667	0.38	16432	-9179	205.99	1146.79	5.57	Si
SLV 8	179667	0.38	18113	-10118	205.99	1248.5	6.06	Si
SLV 6	179667	0.38	19193	-10721	205.99	1312.32	6.37	Si
SLV 11	179667	0.38	25385	-14180	205.99	1655.23	8.04	Si
SLV 9	179667	0.38	26465	-14783	205.99	1711.01	8.31	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-16738	-25148	-247	0.635	1983.7	0.958	9.62827	6.9554	Si
SLV 14	-16524	-25850	248	0.642	1961.9	0.958	9.73775	6.9554	Si
SLV 15	-15291	-22244	-247	0.685	1836.6	0.955	10.42634	6.9554	Si
SLV 13	-15077	-22946	248	0.693	1814.8	0.955	10.55557	6.9554	Si
SLV 12	-12781	-15396	-824	0.757	1581.7	0.949	11.59395	4.64355	Si
SLV 10	-12067	-17737	828	0.794	1509.2	0.947	12.18333	4.64355	Si
SLV 11	-11807	-13440	-824	0.809	1482.8	0.946	12.42053	4.64355	Si
SLV 9	-11092	-15781	828	0.851	1410.4	0.944	13.10336	4.64355	Si
SLV 8	-9378	-8146	-822	0.976	1236.7	0.937	15.1369	4.64355	Si
SLV 6	-8663	-10487	829	1.039	1164.5	0.934	16.17442	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.126	SLU 50	Si
V_SLU	14.115	SLU 77	Si
PF_SLV	0.364	SLV 3	No
V_SLV	3.898	SLV 3	Si
PFFP_SLV	1.246	SLV 3	Si
R_SLV	1.384	SLV 16	Si

Maschio 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.423	1.141	-24.614	1.141	L5	L6	5.192	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	4.35	-23412.73	-72092	-0.0001024	0.0004492	0.0035	5.1915	111178.89	160094.35	160094.35	6.84	No	Si
SLU 77	6.45	-11601.19	-65350	-0.0000797	0.0004492	0.0035	5.1915	107220.38	149836.64	149836.64	12.92	No	Si
SLU 82	4.35	-23324.13	-70757	-0.0001008	0.0004492	0.0035	5.1915	110500.87	158064.11	158064.11	6.78	No	Si
SLU 82	6.45	-11218.91	-64380	-0.0000782	0.0004492	0.0035	5.1915	106541.74	148361.29	148361.29	13.22	No	Si
SLU 75	4.35	-23130.34	-70779	-0.0001005	0.0004492	0.0035	5.1915	110512.29	158097.05	158097.05	6.84	No	Si
SLU 75	6.45	-11088.53	-63965	-0.0000775	0.0004492	0.0035	5.1915	106242.67	147705.99	147705.99	13.32	No	Si
SLU 74	4.35	-23108.66	-70785	-0.0001005	0.0004492	0.0035	5.1915	110515.31	158105.77	158105.77	6.84	No	Si
SLU 74	6.45	-11224.09	-64044	-0.0000778	0.0004492	0.0035	5.1915	106299.93	147835.67	147835.67	13.17	No	Si
SLU 83	4.35	-23606.52	-72070	-0.0001027	0.0004492	0.0035	5.1915	111168.3	160061.4	160061.4	6.78	No	Si
SLU 83	6.45	-11731.57	-65765	-0.0000803	0.0004492	0.0035	5.1915	107502.64	150468.54	150468.54	12.83	No	Si
SLU 84	4.35	-23628.2	-72064	-0.0001027	0.0004492	0.0035	5.1915	111165.5	160052.68	160052.68	6.77	No	Si
SLU 84	6.45	-11596.02	-65686	-0.0000801	0.0004492	0.0035	5.1915	107449.35	150348.38	150348.38	12.97	No	Si
SLU 78	4.35	-23434.41	-72086	-0.0001025	0.0004492	0.0035	5.1915	111176.09	160085.63	160085.63	6.83	No	Si
SLU 78	6.45	-11465.64	-65271	-0.0000795	0.0004492	0.0035	5.1915	107166.14	149716.49	149716.49	13.06	No	Si
SLU 80	4.35	-23236.02	-71340	-0.0001013	0.0004492	0.0035	5.1915	110803.09	158949.9	158949.9	6.84	No	Si
SLU 80	6.45	-11338.27	-64512	-0.0000785	0.0004492	0.0035	5.1915	106635.62	148561.88	148561.88	13.1	No	Si
SLU 81	4.35	-23302.45	-70763	-0.0001007	0.0004492	0.0035	5.1915	110503.9	158072.83	158072.83	6.78	No	Si
SLU 81	6.45	-11354.46	-64459	-0.0000784	0.0004492	0.0035	5.1915	106598.04	148481.45	148481.45	13.08	No	Si
SLU 76	4.35	-22946.41	-70029	-0.0000994	0.0004492	0.0035	5.1915	110108.68	156955.52	156955.52	6.84	No	Si
SLU 76	6.45	-10870.79	-63153	-0.0000764	0.0004492	0.0035	5.1915	105643.74	146373.39	146373.39	13.46	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	4.35	-26823.07	-37169	-0.0000662	0.0006738	0.0035	5.1915		102619.67	102619.67	3.83		Si
SLV 13	6.45	6485.57	-27644	-0.0000335	0.0006738	0.0035	5.1915		69292.41	69292.41	10.68		Si
SLV 9	4.35	-21599.21	-48126	-0.0000714	0.0006738	0.0035	5.1915		125150	125150	5.79		Si
SLV 9	6.45	5317.75	-35960	-0.0000404	0.0006738	0.0035	5.1915		87615.1	87615.1	16.48		Si
SLV 10	4.35	-21601.11	-47940	-0.0000712	0.0006738	0.0035	5.1915		124784.31	124784.31	5.78		Si
SLV 10	6.45	4985.33	-35973	-0.00004	0.0006738	0.0035	5.1915		87643.2	87643.2	17.58		Si
SLV 15	4.35	-25317.66	-35440	-0.0000627	0.0006738	0.0035	5.1915		98933.41	98933.41	3.91		Si
SLV 15	6.45	1027.29	-29304	-0.000029	0.0006738	0.0035	5.1915		73004.24	73004.24	71.06		Si
SLV 14	4.35	-26825.89	-36893	-0.0000659	0.0006738	0.0035	5.1915		102046.15	102046.15	3.8		Si
SLV 14	6.45	5991.84	-27663	-0.000033	0.0006738	0.0035	5.1915		69335.56	69335.56	11.57		Si
SLD 16	4.35	-21960.71	-40202	-0.0000637	0.0006738	0.0035	5.1915		108923.56	108923.56	4.96		Si
SLD 16	6.45	-2111.9	-34287	-0.0000351	0.0006738	0.0035	5.1915		96410.52	96410.52	45.65		Si
SLD 15	4.35	-21958.9	-40378	-0.0000638	0.0006738	0.0035	5.1915		109289.98	109289.98	4.98		Si
SLD 15	6.45	-1796.45	-34275	-0.0000347	0.0006738	0.0035	5.1915		96383.55	96383.55	53.65		Si
SLD 13	4.35	-22892.85	-41450	-0.000066	0.0006738	0.0035	5.1915		111516.57	111516.57	4.87		Si
SLD 13	6.45	1604.71	-33238	-0.0000335	0.0006738	0.0035	5.1915		81704.66	81704.66	50.92		Si
SLV 16	4.35	-25320.48	-35164	-0.0000624	0.0006738	0.0035	5.1915		98329.53	98329.53	3.88		Si
SLV 16	6.45	533.56	-29323	-0.0000285	0.0006738	0.0035	5.1915		73047.38	73047.38	136.91		Si
SLD 14	4.35	-22894.66	-41273	-0.0000658	0.0006738	0.0035	5.1915		111150.14	111150.14	4.85		Si
SLD 14	6.45	1289.26	-33250	-0.0000332	0.0006738	0.0035	5.1915		81731.77	81731.77	63.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	4.35	-20981.64	-63990	-45649	-8238	5.1915	5.1915	-31403	10833	26656	115546	52240	26477	78717	No	9.56	Si
SLU 64	6.45	-9238.28	-56191	-40085	-8216	5.1915	5.1915	-27576	10833	24431	115546	52240	26477	78717	No	9.58	Si
SLU 47	4.35	-19026.6	-58112	-41455	-8266	5.1915	5.1915	-28519	10833	24979	115546	52240	26477	78717	No	9.52	Si
SLU 47	6.45	-7619.77	-49395	-35237	-8246	5.1915	5.1915	-24241	10833	22492	115546	52240	26477	78717	No	9.55	Si
SLU 43	4.35	-18686.4	-56814	-40530	-8370	5.1915	5.1915	-27882	10833	24609	115546	52240	26477	78717	No	9.41	Si
SLU 43	6.45	-7468.58	-48220	-34399	-8351	5.1915	5.1915	-23664	10833	22156	115546	52240	26477	78717	No	9.43	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	4.35	-18722.53	-56805	-40523	-8319	5.1915	5.1915	-27877	10833	24606	115546	52240	26477	78717	No	9.46	Si
SLU 44	6.45	-7242.66	-48089	-34305	-8301	5.1915	5.1915	-23600	10833	22119	115546	52240	26477	78717	No	9.48	Si
SLU 51	4.35	-19316.21	-59423	-42391	-8232	5.1915	5.1915	-29162	10833	25353	115546	52240	26477	78717	No	9.56	Si
SLU 51	6.45	-8087.24	-50754	-36206	-8212	5.1915	5.1915	-24908	10833	22879	115546	52240	26477	78717	No	9.59	Si
SLU 48	4.35	-19492.92	-60175	-42927	-8301	5.1915	5.1915	-29531	10833	25567	115546	52240	26477	78717	No	9.48	Si
SLU 48	6.45	-8350.17	-51591	-36804	-8281	5.1915	5.1915	-25319	10833	23118	115546	52240	26477	78717	No	9.51	Si
SLU 46	4.35	-19210.53	-58862	-41991	-8325	5.1915	5.1915	-28887	10833	25193	115546	52240	26477	78717	No	9.46	Si
SLU 46	6.45	-7837.51	-50206	-35816	-8305	5.1915	5.1915	-24639	10833	22723	115546	52240	26477	78717	No	9.48	Si
SLU 45	4.35	-19188.85	-58868	-41995	-8355	5.1915	5.1915	-28890	10833	25195	115546	52240	26477	78717	No	9.42	Si
SLU 45	6.45	-7973.06	-50285	-35872	-8335	5.1915	5.1915	-24678	10833	22746	115546	52240	26477	78717	No	9.44	Si
SLU 50	4.35	-19294.53	-59428	-42395	-8262	5.1915	5.1915	-29165	10833	25354	115546	52240	26477	78717	No	9.53	Si
SLU 50	6.45	-8222.8	-50833	-36263	-8242	5.1915	5.1915	-24946	10833	22902	115546	52240	26477	78717	No	9.55	Si
SLU 49	4.35	-19514.59	-60169	-42923	-8271	5.1915	5.1915	-29528	10833	25566	115546	52240	26477	78717	No	9.52	Si
SLU 49	6.45	-8214.61	-51512	-36748	-8251	5.1915	5.1915	-25280	10833	23096	115546	52240	26477	78717	No	9.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	4.35	-26823.07	-37169	-26516	-21553	5.1915	5.1915	-18241	16148	23474	115546	78360	26477	104837		4.86	Si
SLV 13	6.45	6485.57	-27644	-19721	-20520	5.1915	5.1915	-13566	15213	22115	115546	78360	26477	104837		5.11	Si
SLV 15	4.35	-25317.66	-35440	-25282	-22460	5.1915	5.1915	-17392	15978	23227	115546	78360	26477	104837		4.67	Si
SLV 15	6.45	1027.29	-29304	-20905	-21389	5.1915	5.1915	-14381	15376	22351	115546	78360	26477	104837		4.9	Si
SLV 14	4.35	-26825.89	-36893	-26319	-21559	5.1915	5.1915	-18106	16121	23434	115546	78360	26477	104837		4.86	Si
SLV 14	6.45	5991.84	-27663	-19734	-20526	5.1915	5.1915	-13576	15215	22117	115546	78360	26477	104837		5.11	Si
SLD 15	4.35	-21958.9	-40378	-28805	-16613	5.1915	5.1915	-19816	16250	24118	115546	78360	26477	104837		6.31	Si
SLD 15	6.45	-1796.45	-34275	-24451	-15920	5.1915	5.1915	-16820	15864	23061	115546	78360	26477	104837		6.59	Si
SLD 14	4.35	-22894.66	-41273	-29443	-16053	5.1915	5.1915	-20255	16250	24373	115546	78360	26477	104837		6.53	Si
SLD 14	6.45	1289.26	-33250	-23720	-15383	5.1915	5.1915	-16318	15764	22914	115546	78360	26477	104837		6.82	Si
SLV 16	4.35	-25320.48	-35164	-25085	-22466	5.1915	5.1915	-17257	15951	23187	115546	78360	26477	104837		4.67	Si
SLV 16	6.45	533.56	-29323	-20919	-21395	5.1915	5.1915	-14391	15378	22354	115546	78360	26477	104837		4.9	Si
SLD 13	4.35	-22892.85	-41450	-29569	-16049	5.1915	5.1915	-20342	16250	24423	115546	78360	26477	104837		6.53	Si
SLD 13	6.45	1604.71	-33238	-23711	-15379	5.1915	5.1915	-16312	15762	22913	115546	78360	26477	104837		6.82	Si
SLV 11	4.35	-16581.16	-42361	-30219	-12497	5.1915	5.1915	-20789	16250	24683	115546	78360	26477	104837		8.39	Si
SLV 11	6.45	-12876.52	-41493	-29600	-12106	5.1915	5.1915	-20363	16250	24436	115546	78360	26477	104837		8.66	Si
SLV 12	4.35	-16583.06	-42175	-30086	-12501	5.1915	5.1915	-20697	16250	24630	115546	78360	26477	104837		8.39	Si
SLV 12	6.45	-13208.94	-41506	-29609	-12110	5.1915	5.1915	-20369	16250	24439	115546	78360	26477	104837		8.66	Si
SLD 16	4.35	-21960.71	-40202	-28679	-16617	5.1915	5.1915	-19729	16250	24067	115546	78360	26477	104837		6.31	Si
SLD 16	6.45	-2111.9	-34287	-24459	-15924	5.1915	5.1915	-16826	15865	23062	115546	78360	26477	104837		6.58	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-28590	0.38	549.87	3573.08	5030.57	4301.83	7.82	Si
SLV 14	-28609	0.38	549.87	3575.2	5033.44	4304.32	7.83	Si
SLV 15	-30251	0.38	549.87	3754.28	5277.31	4515.79	8.21	Si
SLV 16	-30270	0.38	549.87	3756.36	5280.18	4518.27	8.22	Si
SLV 9	-36891	0.38	549.87	4449.62	6258.43	5354.03	9.74	Si
SLV 10	-36904	0.38	549.87	4450.94	6260.35	5355.64	9.74	Si
SLV 11	-42428	0.38	549.87	4994.02	7071.26	6032.64	10.97	Si
SLV 12	-42441	0.38	549.87	4995.26	7073.16	6034.21	10.97	Si
SLV 5	-45665	0.38	549.87	5297.33	7544.57	6420.95	11.68	Si
SLV 6	-45678	0.38	549.87	5298.53	7546.47	6422.5	11.68	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-48037	-60832	227	0.592	5617.8	0.961	8.95172	6.9554	Si
SLV 3	-48003	-61108	228	0.592	5614.3	0.961	8.95686	6.9554	Si
SLV 2	-47592	-62562	-429	0.593	5572.5	0.961	8.9671	6.9554	Si
SLV 1	-47558	-62838	-427	0.593	5569.1	0.961	8.97322	6.9554	Si
SLV 16	-31235	-35164	412	0.846	3910.6	0.947	12.98487	6.9554	Si
SLV 15	-31201	-35440	414	0.847	3907.1	0.947	12.9965	6.9554	Si
SLV 14	-30790	-36893	-244	0.861	3865.4	0.946	13.22086	6.9554	Si
SLV 13	-30756	-37169	-242	0.862	3862	0.946	13.23426	6.9554	Si
SLV 8	-42670	-49875	1057	0.637	5072	0.958	9.67199	4.64355	Si
SLV 7	-42647	-50061	1058	0.638	5069.7	0.958	9.67622	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.774	SLU 84	Si
V_SLU	9.405	SLU 43	Si
PF_SLV	3.804	SLV 14	Si
V_SLV	4.666	SLV 16	Si
PFFP_SLV	7.823	SLV 13	Si
R_SLV	1.287	SLV 4	Si

Maschio 132

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-18.623	1.141	L5	L6	6.36	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	4.35	8844.37	-119110	-0.0001089	0.0004492	0.0035	6.36	171430.37	271942.61	271942.61	30.75	No	Si
SLU 82	6.85	6864.06	-100224	-0.0000892	0.0004492	0.0035	6.36	171911.34	242005.72	242005.72	35.26	No	Si
SLU 77	4.35	9190.22	-120745	-0.0001108	0.0004492	0.0035	6.36	170898.61	273965.73	273965.73	29.81	No	Si
SLU 77	6.85	6982.28	-101644	-0.0000906	0.0004492	0.0035	6.36	172237.7	244544.16	244544.16	35.02	No	Si
SLU 84	4.35	9089.97	-121377	-0.0001113	0.0004492	0.0035	6.36	170672.11	274747.83	274747.83	30.23	No	Si
SLU 84	6.85	6997.96	-102448	-0.0000914	0.0004492	0.0035	6.36	172396.41	245982.04	245982.04	35.15	No	Si
SLU 80	4.35	8955.53	-119650	-0.0001095	0.0004492	0.0035	6.36	171263.47	272610.42	272610.42	30.44	No	Si
SLU 80	6.85	6832.16	-100701	-0.0000896	0.0004492	0.0035	6.36	172027.6	242858.81	242858.81	35.55	No	Si
SLU 81	4.35	9002.63	-119124	-0.0001091	0.0004492	0.0035	6.36	171426.12	271960.05	271960.05	30.21	No	Si
SLU 81	6.85	6918.17	-100149	-0.0000892	0.0004492	0.0035	6.36	171892.44	241871.51	241871.51	34.96	No	Si
SLU 74	4.35	8944.61	-118479	-0.0001084	0.0004492	0.0035	6.36	171615.02	271160.52	271160.52	30.32	No	Si
SLU 74	6.85	6848.38	-99419	-0.0000885	0.0004492	0.0035	6.36	171700.32	240567.84	240567.84	35.13	No	Si
SLU 75	4.35	8786.34	-118465	-0.0001082	0.0004492	0.0035	6.36	171619	271143.08	271143.08	30.86	No	Si
SLU 75	6.85	6794.26	-99494	-0.0000885	0.0004492	0.0035	6.36	171720.81	240702.05	240702.05	35.43	No	Si
SLU 79	4.35	9113.8	-119664	-0.0001097	0.0004492	0.0035	6.36	171259	272627.86	272627.86	29.91	No	Si
SLU 79	6.85	6886.27	-100626	-0.0000896	0.0004492	0.0035	6.36	172009.75	242724.6	242724.6	35.25	No	Si
SLU 78	4.35	9031.95	-120731	-0.0001107	0.0004492	0.0035	6.36	170903.52	273948.3	273948.3	30.33	No	Si
SLU 78	6.85	6928.16	-101719	-0.0000907	0.0004492	0.0035	6.36	172253.32	244678.36	244678.36	35.32	No	Si
SLU 83	4.35	9248.24	-121391	-0.0001115	0.0004492	0.0035	6.36	170666.93	274765.26	274765.26	29.71	No	Si
SLU 83	6.85	7052.07	-102373	-0.0000914	0.0004492	0.0035	6.36	172382.4	245847.83	245847.83	34.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	4.35	45418.05	-86986	-0.0001059	0.0006738	0.0035	6.36		232148.21	232148.21	5.11		Si
SLV 3	6.85	-8671.89	-73617	-0.0000652	0.0006738	0.0035	6.36		222751.27	222751.27	25.69		Si
SLV 14	4.35	-33423.11	-75571	-0.0000863	0.0006738	0.0035	6.36		227187.89	227187.89	6.8		Si
SLV 14	6.85	17670.56	-59991	-0.0000608	0.0006738	0.0035	6.36		169106.53	169106.53	9.57		Si
SLV 15	4.35	-30701.07	-77954	-0.0000862	0.0006738	0.0035	6.36		232601.9	232601.9	7.58		Si
SLV 15	6.85	17874.58	-58379	-0.0000596	0.0006738	0.0035	6.36		165343.43	165343.43	9.25		Si
SLV 1	4.35	42675.34	-84925	-0.0001019	0.0006738	0.0035	6.36		227333.71	227333.71	5.33		Si
SLV 1	6.85	-8313.55	-75501	-0.0000665	0.0006738	0.0035	6.36		227029.4	227029.4	27.31		Si
SLV 2	4.35	42696.01	-84603	-0.0001016	0.0006738	0.0035	6.36		226581.83	226581.83	5.31		Si
SLV 2	6.85	-8875.91	-75229	-0.0000667	0.0006738	0.0035	6.36		226411.36	226411.36	25.51		Si
SLV 16	4.35	-30680.4	-77632	-0.0000859	0.0006738	0.0035	6.36		231870.6	231870.6	7.56		Si
SLV 16	6.85	17312.21	-58107	-0.000059	0.0006738	0.0035	6.36		164708	164708	9.51		Si
SLD 3	4.35	31249.63	-84911	-0.0000927	0.0006738	0.0035	6.36		227301.63	227301.63	7.27		Si
SLD 3	6.85	-3911.9	-71184	-0.0000594	0.0006738	0.0035	6.36		217224.86	217224.86	55.53		Si
SLV 4	4.35	45438.72	-86664	-0.0001056	0.0006738	0.0035	6.36		231396.33	231396.33	5.09		Si
SLV 4	6.85	-9234.26	-73345	-0.0000654	0.0006738	0.0035	6.36		222133.24	222133.24	24.06		Si
SLV 13	4.35	-33443.78	-75893	-0.0000866	0.0006738	0.0035	6.36		227919.19	227919.19	6.81		Si
SLV 13	6.85	18232.92	-60263	-0.0000615	0.0006738	0.0035	6.36		169741.96	169741.96	9.31		Si
SLD 4	4.35	31262.83	-84705	-0.0000925	0.0006738	0.0035	6.36		226821.25	226821.25	7.26		Si
SLD 4	6.85	-4271.19	-71011	-0.0000596	0.0006738	0.0035	6.36		216830	216830	50.77		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	4.35	8944.61	-118479	-84520	-7212	6.36	6.36	-47462	10833	44094	115546	63998	32436	96434	No	13.37	Si
SLU 74	6.85	6848.38	-99419	-70923	-3063	6.36	6.36	-39827	10833	38655	115546	63998	32436	96434	No	31.48	Si
SLU 83	4.35	9248.24	-121391	-86597	-7316	6.36	6.36	-48628	10833	44925	115546	63998	32436	96434	No	13.18	Si
SLU 83	6.85	7052.07	-102373	-73031	-3089	6.36	6.36	-41010	10833	39498	115546	63998	32436	96434	No	31.22	Si
SLU 80	4.35	8955.53	-119650	-85355	-7259	6.36	6.36	-47931	10833	44428	115546	63998	32436	96434	No	13.28	Si
SLU 80	6.85	6832.16	-100701	-71838	-3073	6.36	6.36	-40340	10833	39021	115546	63998	32436	96434	No	31.38	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	4.35	9031.95	-120731	-86126	-7350	6.36	6.36	-48364	10833	44736	115546	63998	32436	96434	No	13.12	Si
SLU 78	6.85	6928.16	-101719	-72564	-3121	6.36	6.36	-40748	10833	39312	115546	63998	32436	96434	No	30.89	Si
SLU 82	4.35	8844.37	-119110	-84970	-7506	6.36	6.36	-47715	10833	44274	115546	63998	32436	96434	No	12.85	Si
SLU 82	6.85	6864.06	-100224	-71497	-3284	6.36	6.36	-40149	10833	38885	115546	63998	32436	96434	No	29.36	Si
SLU 75	4.35	8786.34	-118465	-84510	-7376	6.36	6.36	-47456	10833	44090	115546	63998	32436	96434	No	13.07	Si
SLU 75	6.85	6794.26	-99494	-70977	-3190	6.36	6.36	-39857	10833	38677	115546	63998	32436	96434	No	30.23	Si
SLU 76	4.35	8604.42	-117374	-83732	-7395	6.36	6.36	-47019	10833	43779	115546	63998	32436	96434	No	13.04	Si
SLU 76	6.85	6662.18	-98526	-70286	-3226	6.36	6.36	-39469	10833	38401	115546	63998	32436	96434	No	29.89	Si
SLU 73	4.35	8358.81	-115108	-82115	-7420	6.36	6.36	-46112	10833	43132	115546	63998	32436	96434	No	13	Si
SLU 73	6.85	6528.28	-96302	-68699	-3294	6.36	6.36	-38578	10833	37766	115546	63998	32436	96434	No	29.27	Si
SLU 84	4.35	9089.97	-121377	-86587	-7480	6.36	6.36	-48623	10833	44921	115546	63998	32436	96434	No	12.89	Si
SLU 84	6.85	6997.96	-102448	-73084	-3215	6.36	6.36	-41040	10833	39520	115546	63998	32436	96434	No	29.99	Si
SLU 81	4.35	9002.63	-119124	-84981	-7342	6.36	6.36	-47720	10833	44278	115546	63998	32436	96434	No	13.13	Si
SLU 81	6.85	6918.17	-100149	-71444	-3157	6.36	6.36	-40119	10833	38864	115546	63998	32436	96434	No	30.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	4.35	-30680.4	-77632	-55381	-31230	6.36	6.36	-31099	16250	37582	115546	95996	32436	128432		4.11	Si
SLV 16	6.85	17312.21	-58107	-41452	-24937	6.36	6.36	-23277	16250	32011	115546	95996	32436	128432		5.15	Si
SLV 15	4.35	-30701.07	-77954	-55611	-31654	6.36	6.36	-31228	16250	37674	115546	95996	32436	128432		4.06	Si
SLV 15	6.85	17874.58	-58379	-41646	-25263	6.36	6.36	-23386	16250	32089	115546	95996	32436	128432		5.08	Si
SLD 13	4.35	-19267.89	-77852	-55538	-26500	6.36	6.36	-31187	16250	37645	115546	95996	32436	128432		4.85	Si
SLD 13	6.85	13269.86	-62598	-44656	-20361	6.36	6.36	-25076	16250	33292	115546	95996	32436	128432		6.31	Si
SLV 3	4.35	45418.05	-86986	-62054	28231	6.36	6.36	-34846	16250	40251	115546	95996	32436	128432		4.55	Si
SLV 3	6.85	-8671.89	-73617	-52517	26146	6.36	6.36	-29491	16250	36437	115546	95996	32436	128432		4.91	Si
SLV 14	4.35	-33423.11	-75571	-53910	-38237	6.36	6.36	-30273	16250	36994	115546	95996	32436	128432		3.36	Si
SLV 14	6.85	17670.56	-59991	-42796	-30358	6.36	6.36	-24032	16250	32549	115546	95996	32436	128432		4.23	Si
SLD 14	4.35	-19254.69	-77646	-55391	-26229	6.36	6.36	-31105	16250	37586	115546	95996	32436	128432		4.9	Si
SLD 14	6.85	12910.56	-62424	-44532	-20153	6.36	6.36	-25007	16250	33243	115546	95996	32436	128432		6.37	Si
SLV 9	4.35	-9998.54	-76596	-54642	-25807	6.36	6.36	-30684	16250	37287	115546	95996	32436	128432		4.98	Si
SLV 9	6.85	9267.85	-67749	-48331	-18962	6.36	6.36	-27140	16250	34762	115546	95996	32436	128432		6.77	Si
SLV 4	4.35	45438.72	-86664	-61824	28655	6.36	6.36	-34717	16250	40160	115546	95996	32436	128432		4.48	Si
SLV 4	6.85	-9234.26	-73345	-52323	26472	6.36	6.36	-29382	16250	36359	115546	95996	32436	128432		4.85	Si
SLV 10	4.35	-9984.62	-76379	-54487	-25522	6.36	6.36	-30597	16250	37225	115546	95996	32436	128432		5.03	Si
SLV 10	6.85	8889.23	-67566	-48200	-18742	6.36	6.36	-27066	16250	34710	115546	95996	32436	128432		6.85	Si
SLV 13	4.35	-33443.78	-75893	-54140	-38661	6.36	6.36	-30402	16250	37086	115546	95996	32436	128432		3.32	Si
SLV 13	6.85	18232.92	-60263	-42990	-30684	6.36	6.36	-24141	16250	32626	115546	95996	32436	128432		4.19	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-66958	0.38	673.63	7451.05	10826.31	9138.68	13.57	Si
SLV 15	-67319	0.38	673.63	7480.75	10878.19	9179.47	13.63	Si
SLV 14	-68491	0.38	673.63	7576.62	11045.62	9311.12	13.82	Si
SLV 12	-68504	0.38	673.63	7577.66	11047.44	9312.55	13.82	Si
SLV 11	-68747	0.38	673.63	7597.34	11082.08	9339.71	13.86	Si
SLV 13	-68852	0.38	673.63	7605.85	11097.07	9351.46	13.88	Si
SLV 8	-71312	0.38	673.63	7802.36	11448.45	9625.4	14.29	Si
SLV 7	-71555	0.38	673.63	7821.46	11483.12	9652.29	14.33	Si
SLV 10	-73615	0.38	673.63	7981.6	11777.52	9879.56	14.67	Si
SLV 9	-73857	0.38	673.63	8000.22	11812.21	9906.21	14.71	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-67478	-84925	-296	0.527	7760.2	0.965	7.9292	6.9554	Si
SLV 2	-67268	-84603	-297	0.528	7738.8	0.965	7.95089	6.9554	Si
SLV 3	-66434	-86986	66	0.537	7654	0.965	8.08725	6.9554	Si
SLV 4	-66224	-86664	65	0.538	7632.6	0.965	8.1101	6.9554	Si
SLV 13	-58055	-75893	-65	0.602	6801.4	0.961	9.11031	6.9554	Si
SLV 14	-57844	-75571	-65	0.604	6780	0.961	9.13934	6.9554	Si
SLV 15	-57011	-77954	298	0.608	6695.2	0.96	9.20128	6.9554	Si
SLV 16	-56800	-77632	297	0.61	6673.8	0.96	9.23155	6.9554	Si
SLV 5	-65364	-79306	-638	0.536	7545.1	0.964	8.08276	4.64355	Si
SLV 6	-65222	-79089	-638	0.537	7530.7	0.964	8.09811	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	29.71	SLU 83	Si
V_SLU	12.848	SLU 82	Si
PF_SLV	5.092	SLV 4	Si
V_SLV	3.322	SLV 13	Si
PFFP_SLV	13.566	SLV 16	Si
R_SLV	1.14	SLV 1	Si

Maschio 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L5	L6	0.676	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	4.35	-121.42	-14358	-0.0001265	0.0004492	0.0035	0.6764	1842.86	3353	3353	27.62	No	Si
SLU 81	6.85	170.6	-12096	-0.0001093	0.0004492	0.0035	0.6764	1952.38	3004.32	3004.32	17.61	No	Si
SLU 83	4.35	-125.66	-14623	-0.0001294	0.0004492	0.0035	0.6764	1820.22	3382.9	3382.9	26.92	No	Si
SLU 83	6.85	175.85	-12323	-0.0001118	0.0004492	0.0035	0.6764	1948.13	3037.08	3037.08	17.27	No	Si
SLU 41	4.35	-110.95	-12400	-0.0001073	0.0004492	0.0035	0.6764	1946.36	3108.6	3108.6	28.02	No	Si
SLU 41	6.85	158.59	-10674	-0.0000956	0.0004492	0.0035	0.6764	1944.69	2740.2	2740.2	17.28	No	Si
SLU 18	4.35	-105.68	-10739	-0.0000921	0.0004492	0.0035	0.6764	1946.33	2846.7	2846.7	26.94	No	Si
SLU 18	6.85	143.94	-8910	-0.0000792	0.0004492	0.0035	0.6764	1852.97	2412.42	2412.42	16.76	No	Si
SLU 56	4.35	-113.53	-13085	-0.0001138	0.0004492	0.0035	0.6764	1922.89	3209.48	3209.48	28.27	No	Si
SLU 56	6.85	150.58	-10624	-0.0000945	0.0004492	0.0035	0.6764	1943.32	2730.78	2730.78	18.14	No	Si
SLU 14	4.35	-98.82	-10862	-0.0000926	0.0004492	0.0035	0.6764	1949.09	2866.01	2866.01	29	No	Si
SLU 14	6.85	133.31	-8975	-0.0000789	0.0004492	0.0035	0.6764	1857.97	2424.5	2424.5	18.19	No	Si
SLU 62	4.35	-124.62	-13228	-0.0001161	0.0004492	0.0035	0.6764	1916.27	3225.58	3225.58	25.88	No	Si
SLU 62	6.85	166.46	-10785	-0.0000972	0.0004492	0.0035	0.6764	1947.42	2760.86	2760.86	16.59	No	Si
SLU 20	4.35	-109.92	-11005	-0.0000947	0.0004492	0.0035	0.6764	1951.75	2888.53	2888.53	26.28	No	Si
SLU 20	6.85	149.19	-9137	-0.0000815	0.0004492	0.0035	0.6764	1869.87	2454.58	2454.58	16.45	No	Si
SLU 39	4.35	-106.71	-12135	-0.0001046	0.0004492	0.0035	0.6764	1951.76	3066.77	3066.77	28.74	No	Si
SLU 39	6.85	153.33	-10447	-0.0000932	0.0004492	0.0035	0.6764	1937.99	2698.04	2698.04	17.6	No	Si
SLU 60	4.35	-120.38	-12962	-0.0001133	0.0004492	0.0035	0.6764	1928.09	3195.67	3195.67	26.55	No	Si
SLU 60	6.85	161.21	-10559	-0.0000947	0.0004492	0.0035	0.6764	1941.46	2718.7	2718.7	16.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	4.35	1870.19	-5256	-0.0091497	0.0006738	0.0035	0.5411		1655.61	1655.61	0.89		No
SLV 1	6.85	-1807.53	-7759	-0.0002823	0.0006738	0.0035	0.5411		2406.3	2406.3	1.33		Si
SLV 6	4.35	1624.34	-3147	-0.0153443	0.0006738	0.0035	0.5411		1052.17	1052.17	0.65		No
SLV 6	6.85	-1623.68	-11435	-0.0002139	0.0006738	0.0035	0.6764		3231.88	3231.88	1.99		Si
SLV 11	4.35	-1747.51	-16354	-0.0002689	0.0006738	0.0035	0.6764		4059.39	4059.39	2.32		Si
SLV 11	6.85	1795.89	-4614	-0.011267	0.0006738	0.0035	0.5411		1478.04	1478.04	0.82		No
SLV 7	4.35	-795.72	-14659	-0.0001746	0.0006738	0.0035	0.6764		3782.49	3782.49	4.75		Si
SLV 7	6.85	873.29	-3783	-0.0001222	0.0006738	0.0035	0.6764		1239.99	1239.99	1.42		Si
SLV 16	4.35	-1993.36	-14245	-0.0002742	0.0006738	0.0035	0.6764		3714.72	3714.72	1.86		Si
SLV 16	6.85	1979.75	-8290	-0.0003306	0.0006738	0.0035	0.6764		2392.81	2392.81	1.21		Si
SLV 2	4.35	1899.39	-5163	-0.0103449	0.0006738	0.0035	0.5411		1631.4	1631.4	0.86		No
SLV 2	6.85	-1838.44	-7807	-0.0002929	0.0006738	0.0035	0.5411		2418.4	2418.4	1.32		Si
SLV 8	4.35	-776.06	-14597	-0.0001725	0.0006738	0.0035	0.6764		3772.25	3772.25	4.86		Si
SLV 8	6.85	852.48	-3816	-0.0001148	0.0006738	0.0035	0.6764		1249.58	1249.58	1.47		Si
SLV 12	4.35	-1727.85	-16291	-0.0002665	0.0006738	0.0035	0.6764		4049.15	4049.15	2.34		Si
SLV 12	6.85	1775.08	-4646	-0.0106449	0.0006738	0.0035	0.5411		1487.29	1487.29	0.84		No
SLV 15	4.35	-2022.57	-14338	-0.0002783	0.0006738	0.0035	0.6764		3729.93	3729.93	1.84		Si
SLV 15	6.85	2010.65	-8241	-0.0003518	0.0006738	0.0035	0.6764		2381.01	2381.01	1.18		Si
SLV 5	4.35	1604.68	-3210	-0.0146725	0.0006738	0.0035	0.5411		1070.86	1070.86	0.67		No
SLV 5	6.85	-1602.87	-11402	-0.0002115	0.0006738	0.0035	0.6764		3225.25	3225.25	2.01		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 62	4.35	-124.62	-13228	-9436	-212	0.6764	0.6764	-49826	10833	3246	115546	6806	3449	10255	No	48.47	Si
SLU 62	6.85	166.46	-10785	-7694	-217	0.6764	0.6764	-40627	10833	2781	115546	6806	3449	10255	No	47.28	Si
SLU 81	4.35	-121.42	-14358	-10242	-194	0.6764	0.6764	-54083	10833	3461	115546	6806	3449	10255	No	52.84	Si
SLU 81	6.85	170.6	-12096	-8629	-200	0.6764	0.6764	-45564	10833	3030	115546	6806	3449	10255	No	51.35	Si
SLU 56	4.35	-113.53	-13085	-9334	-206	0.6764	0.6764	-49288	10833	3218	115546	6806	3449	10255	No	49.9	Si
SLU 56	6.85	150.58	-10624	-7579	-207	0.6764	0.6764	-40017	10833	2750	115546	6806	3449	10255	No	49.58	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 53	4.35	-109.28	-12820	-9145	-199	0.6764	0.6764	-48289	10833	3168	115546	6806	3449	10255	No	51.66	Si
SLU 53	6.85	145.33	-10397	-7417	-200	0.6764	0.6764	-39162	10833	2707	115546	6806	3449	10255	No	51.25	Si
SLU 79	4.35	-113.25	-14368	-10250	-193	0.6764	0.6764	-54121	10833	3462	115546	6806	3449	10255	No	53.02	Si
SLU 79	6.85	158.41	-12053	-8598	-195	0.6764	0.6764	-45402	10833	3022	115546	6806	3449	10255	No	52.61	Si
SLU 77	4.35	-114.56	-14480	-10330	-195	0.6764	0.6764	-54544	10833	3484	115546	6806	3449	10255	No	52.59	Si
SLU 77	6.85	159.97	-12161	-8675	-196	0.6764	0.6764	-45809	10833	3043	115546	6806	3449	10255	No	52.23	Si
SLU 63	4.35	-107.74	-13156	-9385	-188	0.6764	0.6764	-49555	10833	3232	115546	6806	3449	10255	No	54.67	Si
SLU 63	6.85	149.7	-10845	-7736	-193	0.6764	0.6764	-40851	10833	2792	115546	6806	3449	10255	No	53.16	Si
SLU 58	4.35	-112.22	-12972	-9254	-204	0.6764	0.6764	-48865	10833	3197	115546	6806	3449	10255	No	50.28	Si
SLU 58	6.85	149.02	-10516	-7502	-205	0.6764	0.6764	-39610	10833	2730	115546	6806	3449	10255	No	49.93	Si
SLU 83	4.35	-125.66	-14623	-10432	-201	0.6764	0.6764	-55082	10833	3511	115546	6806	3449	10255	No	51.01	Si
SLU 83	6.85	175.85	-12323	-8791	-206	0.6764	0.6764	-46419	10833	3074	115546	6806	3449	10255	No	49.68	Si
SLU 60	4.35	-120.38	-12962	-9247	-205	0.6764	0.6764	-48827	10833	3195	115546	6806	3449	10255	No	50.12	Si
SLU 60	6.85	161.21	-10559	-7532	-210	0.6764	0.6764	-39772	10833	2738	115546	6806	3449	10255	No	48.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	4.35	-1747.51	-16354	-11666	-2315	0.6764	0.6764	-61601	16250	4205	115546	10209	3449	13658		5.9	Si
SLV 11	6.85	1795.89	-4614	-3291	-2244	0.5411	0	0	0	0	115546	8167	2760	10927		4.87	Si
SLV 12	4.35	-1727.85	-16291	-11622	-2291	0.6764	0.6764	-61366	16250	4193	115546	10209	3449	13658		5.96	Si
SLV 12	6.85	1775.08	-4646	-3314	-2221	0.5411	0	0	0	0	115546	8167	2760	10927		4.92	Si
SLV 6	4.35	1624.34	-3147	-2245	2067	0.5411	0	0	0	0	115546	8167	2760	10927		5.29	Si
SLV 6	6.85	-1623.68	-11435	-8157	2002	0.6764	0.5886	-43072	16250	3269	115546	10209	3449	13658		6.82	Si
SLV 16	4.35	-1993.36	-14245	-10162	-2094	0.6764	0.5947	-53658	16250	3804	115546	10209	3449	13658		6.52	Si
SLV 16	6.85	1979.75	-8290	-5914	-1857	0.6764	0.2981	-31226	16250	2671	115546	10209	3449	13658		7.35	Si
SLV 1	4.35	1870.19	-5256	-3749	1846	0.5411	0	0	0	0	115546	8167	2760	10927		5.92	Si
SLV 1	6.85	-1807.53	-7759	-5535	1615	0.5411	0.3156	0	0	0	115546	8167	2760	10927		6.77	Si
SLV 2	4.35	1899.39	-5163	-3683	1881	0.5411	0	0	0	0	115546	8167	2760	10927		5.81	Si
SLV 2	6.85	-1838.44	-7807	-5569	1650	0.5411	0.3081	0	0	0	115546	8167	2760	10927		6.62	Si
SLV 5	4.35	1604.68	-3210	-2290	2043	0.5411	0	0	0	0	115546	8167	2760	10927		5.35	Si
SLV 5	6.85	-1602.87	-11402	-8134	1978	0.6764	0.5928	-42949	16250	3263	115546	10209	3449	13658		6.91	Si
SLD 11	4.35	-1118.94	-13879	-9901	-1496	0.6764	0.6764	-52278	16250	3734	115546	10209	3449	13658		9.13	Si
SLD 11	6.85	1158.55	-5905	-4213	-1450	0.6764	0.426	-22245	16250	2217	115546	10209	3449	13658		9.42	Si
SLV 15	4.35	-2022.57	-14338	-10228	-2129	0.6764	0.5914	-54009	16250	3821	115546	10209	3449	13658		6.42	Si
SLV 15	6.85	2010.65	-8241	-5879	-1893	0.6764	0.2826	-31043	16250	2662	115546	10209	3449	13658		7.22	Si
SLV 7	4.35	-795.72	-14659	-10458	-1435	0.6764	0.6764	-55220	16250	3883	115546	10209	3449	13658		9.51	Si
SLV 7	6.85	873.29	-3783	-2699	-1506	0.6764	0.322	-14250	15350	1814	115546	10209	3449	13658		9.07	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-5696	0.38	71.64	666.57	921.66	794.12	11.08	Si
SLV 8	-5713	0.38	71.64	668.16	924.15	796.15	11.11	Si
SLV 3	-6277	0.38	71.64	719.89	1007.07	863.48	12.05	Si
SLV 4	-6302	0.38	71.64	722.13	1010.7	866.41	12.09	Si
SLV 11	-6395	0.38	71.64	730.39	1024.15	877.27	12.25	Si
SLV 12	-6412	0.38	71.64	731.89	1026.59	879.24	12.27	Si
SLV 1	-7479	0.38	71.64	821.43	1180.67	1001.05	13.97	Si
SLV 2	-7504	0.38	71.64	823.42	1184.3	1003.86	14.01	Si
SLV 15	-8609	0.38	71.64	906.34	1343.26	1124.8	15.7	Si
SLV 16	-8634	0.38	71.64	908.11	1346.74	1127.43	15.74	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-5900	-14338	30	0.623	695.4	0.96	9.43028	6.9554	Si
SLV 16	-5879	-14245	30	0.624	693.3	0.959	9.45977	6.9554	Si
SLV 13	-5140	-10903	15	0.702	618.2	0.955	10.68744	6.9554	Si
SLV 14	-5119	-10810	15	0.705	616	0.955	10.72573	6.9554	Si
SLV 3	-4306	-8691	-10	0.816	533.5	0.949	12.49673	6.9554	Si
SLV 4	-4285	-8598	-10	0.819	531.4	0.949	12.55011	6.9554	Si
SLV 11	-6225	-16354	33	0.594	728.5	0.961	8.98702	4.64355	Si
SLV 12	-6211	-16291	33	0.596	727.1	0.961	9.00494	4.64355	Si
SLV 7	-5747	-14659	21	0.638	679.9	0.959	9.67217	4.64355	Si
SLV 8	-5733	-14597	21	0.639	678.5	0.959	9.69305	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.452	SLU 20	Si
V_SLU	47.281	SLU 62	Si
PF_SLV	0.648	SLV 6	No
V_SLV	4.868	SLV 11	Si
PFFP_SLV	11.085	SLV 7	Si
R_SLV	1.356	SLV 15	Si

Maschio 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L5	L6	1.944	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	4.35	3409.59	-40901	-0.0001499	0.0004492	0.0035	1.9436	15299.61	27098.48	27098.48	7.95	No	Si
SLU 84	6.85	5.02	-32205	-0.0000881	0.0004492	0.0035	1.9436	16139.67	23440.83	23440.83	4670.69	No	Si
SLU 74	4.35	3290.09	-39823	-0.0001448	0.0004492	0.0035	1.9436	15523.88	26698.38	26698.38	8.11	No	Si
SLU 74	6.85	43.62	-31269	-0.0000856	0.0004492	0.0035	1.9436	16098.35	22937.74	22937.74	525.82	No	Si
SLU 79	4.35	3306.77	-40211	-0.0001464	0.0004492	0.0035	1.9436	15447	26842.53	26842.53	8.12	No	Si
SLU 79	6.85	46.74	-31621	-0.0000867	0.0004492	0.0035	1.9436	16116.88	23126.74	23126.74	494.75	No	Si
SLU 81	4.35	3376.85	-40142	-0.0001468	0.0004492	0.0035	1.9436	15461.06	26816.77	26816.77	7.94	No	Si
SLU 81	6.85	-1.2	-31526	-0.000086	0.0004492	0.0035	1.9436	16112.21	24678.82	24678.82	20510.64	No	Si
SLU 80	4.35	3304.29	-40232	-0.0001464	0.0004492	0.0035	1.9436	15442.84	26850.1	26850.1	8.13	No	Si
SLU 80	6.85	45.84	-31641	-0.0000867	0.0004492	0.0035	1.9436	16117.81	23137.4	23137.4	504.71	No	Si
SLU 75	4.35	3287.61	-39843	-0.0001449	0.0004492	0.0035	1.9436	15519.95	26705.96	26705.96	8.12	No	Si
SLU 75	6.85	42.72	-31289	-0.0000857	0.0004492	0.0035	1.9436	16099.5	22948.4	22948.4	537.17	No	Si
SLU 77	4.35	3325.3	-40562	-0.0001478	0.0004492	0.0035	1.9436	15373.88	26972.52	26972.52	8.11	No	Si
SLU 77	6.85	50.75	-31929	-0.0000877	0.0004492	0.0035	1.9436	16130.14	23292.43	23292.43	459	No	Si
SLU 83	4.35	3412.07	-40881	-0.0001498	0.0004492	0.0035	1.9436	15304.17	27090.9	27090.9	7.94	No	Si
SLU 83	6.85	5.92	-32185	-0.000088	0.0004492	0.0035	1.9436	16139.06	23430.17	23430.17	3957.83	No	Si
SLU 82	4.35	3374.37	-40162	-0.0001469	0.0004492	0.0035	1.9436	15456.94	26824.34	26824.34	7.95	No	Si
SLU 82	6.85	-2.1	-31545	-0.0000861	0.0004492	0.0035	1.9436	16113.2	24688.5	24688.5	11731.53	No	Si
SLU 78	4.35	3322.83	-40582	-0.0001478	0.0004492	0.0035	1.9436	15369.51	26980.1	26980.1	8.12	No	Si
SLU 78	6.85	49.84	-31949	-0.0000877	0.0004492	0.0035	1.9436	16130.9	23303.09	23303.09	467.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	4.35	10339.26	-27214	-0.0001635	0.0006738	0.0035	1.9436		22100.86	22100.86	2.14		Si
SLV 2	6.85	-4869.11	-18172	-0.0000872	0.0006738	0.0035	1.9436		17556.61	17556.61	3.61		Si
SLV 3	4.35	10310.37	-26010	-0.0001605	0.0006738	0.0035	1.9436		21253.02	21253.02	2.06		Si
SLV 3	6.85	-4749.71	-17091	-0.0000831	0.0006738	0.0035	1.9436		16755.58	16755.58	3.53		Si
SLD 2	4.35	7411.26	-27200	-0.0001355	0.0006738	0.0035	1.9436		22091.34	22091.34	2.98		Si
SLD 2	6.85	-3077.78	-19214	-0.0000751	0.0006738	0.0035	1.9436		18329.81	18329.81	5.96		Si
SLD 4	4.35	7339.42	-26493	-0.0001327	0.0006738	0.0035	1.9436		21593.01	21593.01	2.94		Si
SLD 4	6.85	-2985.16	-18599	-0.0000726	0.0006738	0.0035	1.9436		17873.34	17873.34	5.99		Si
SLD 3	4.35	7396.21	-26450	-0.000133	0.0006738	0.0035	1.9436		21562.82	21562.82	2.92		Si
SLD 3	6.85	-3005.11	-18540	-0.0000726	0.0006738	0.0035	1.9436		17829.55	17829.55	5.93		Si
SLV 16	4.35	-6023.82	-27272	-0.0001235	0.0006738	0.0035	1.9436		23894.78	23894.78	3.97		Si
SLV 16	6.85	5110.13	-24114	-0.0001062	0.0006738	0.0035	1.9436		19917.33	19917.33	3.9		Si
SLV 1	4.35	10428.15	-27147	-0.0001644	0.0006738	0.0035	1.9436		22053.6	22053.6	2.11		Si
SLV 1	6.85	-4900.33	-18079	-0.0000872	0.0006738	0.0035	1.9436		17488.07	17488.07	3.57		Si
SLV 4	4.35	10221.48	-26077	-0.0001596	0.0006738	0.0035	1.9436		21300.29	21300.29	2.08		Si
SLV 4	6.85	-4718.49	-17184	-0.0000831	0.0006738	0.0035	1.9436		16824.13	16824.13	3.57		Si
SLD 1	4.35	7468.05	-27157	-0.0001358	0.0006738	0.0035	1.9436		22061.14	22061.14	2.95		Si
SLD 1	6.85	-3097.73	-19155	-0.0000751	0.0006738	0.0035	1.9436		18286.02	18286.02	5.9		Si
SLV 15	4.35	-5934.93	-27205	-0.0001225	0.0006738	0.0035	1.9436		23850.46	23850.46	4.02		Si
SLV 15	6.85	5078.91	-24022	-0.0001057	0.0006738	0.0035	1.9436		19852.21	19852.21	3.91		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	4.35	3325.3	-40562	-28936	3783	1.9436	1.9436	-53170	10833	9812	115546	19558	9913	29470	No	7.79	Si
SLU 77	6.85	50.75	-31929	-22777	56	1.9436	1.9436	-41854	10833	8170	115546	19558	9913	29470	No	522.21	Si
SLU 83	4.35	3412.07	-40881	-29163	3862	1.9436	1.9436	-53588	10833	9872	115546	19558	9913	29470	No	7.63	Si
SLU 83	6.85	5.92	-32185	-22960	123	1.9436	1.9436	-42189	10833	8218	115546	19558	9913	29470	No	240.06	Si
SLU 78	4.35	3322.83	-40582	-28950	3782	1.9436	1.9436	-53196	10833	9816	115546	19558	9913	29470	No	7.79	Si
SLU 78	6.85	49.84	-31949	-22792	63	1.9436	1.9436	-41879	10833	8173	115546	19558	9913	29470	No	468.94	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	4.35	3290.09	-39823	-28409	3736	1.9436	1.9436	-52201	10833	9671	115546	19558	9913	29470	No	7.89	Si
SLU 74	6.85	43.62	-31269	-22307	55	1.9436	1.9436	-40989	10833	8044	115546	19558	9913	29470	No	531.98	Si
SLU 80	4.35	3304.29	-40232	-28700	3756	1.9436	1.9436	-52737	10833	9749	115546	19558	9913	29470	No	7.85	Si
SLU 80	6.85	45.84	-31641	-22572	70	1.9436	1.9436	-41476	10833	8115	115546	19558	9913	29470	No	418.4	Si
SLU 84	4.35	3409.59	-40901	-29178	3861	1.9436	1.9436	-53615	10833	9876	115546	19558	9913	29470	No	7.63	Si
SLU 84	6.85	5.02	-32205	-22974	129	1.9436	1.9436	-42215	10833	8222	115546	19558	9913	29470	No	228.14	Si
SLU 81	4.35	3376.85	-40142	-28636	3814	1.9436	1.9436	-52619	10833	9732	115546	19558	9913	29470	No	7.73	Si
SLU 81	6.85	-1.2	-31526	-22490	122	1.9436	1.9436	-41325	10833	8093	115546	19558	9913	29470	No	242.1	Si
SLU 82	4.35	3374.37	-40162	-28651	3814	1.9436	1.9436	-52646	10833	9736	115546	19558	9913	29470	No	7.73	Si
SLU 82	6.85	-2.1	-31545	-22504	128	1.9436	1.9436	-41351	10833	8097	115546	19558	9913	29470	No	229.99	Si
SLU 79	4.35	3306.77	-40211	-28686	3757	1.9436	1.9436	-52710	10833	9745	115546	19558	9913	29470	No	7.84	Si
SLU 79	6.85	46.74	-31621	-22558	64	1.9436	1.9436	-41450	10833	8111	115546	19558	9913	29470	No	460.29	Si
SLU 75	4.35	3287.61	-39843	-28423	3735	1.9436	1.9436	-52228	10833	9675	115546	19558	9913	29470	No	7.89	Si
SLU 75	6.85	42.72	-31289	-22321	62	1.9436	1.9436	-41015	10833	8048	115546	19558	9913	29470	No	476.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	4.35	7411.26	-27200	-19404	6878	1.9436	1.9436	-35655	16250	8844	115546	29337	9913	39249		5.71	Si
SLD 2	6.85	-3077.78	-19214	-13707	2762	1.9436	1.9436	-25187	16250	8844	115546	29337	9913	39249		14.21	Si
SLV 1	4.35	10428.15	-27147	-19366	9394	1.9436	1.763	-35585	16250	8308	115546	29337	9913	39249		4.18	Si
SLV 1	6.85	-4900.33	-18079	-12897	4377	1.9436	1.9436	-23699	16250	8844	115546	29337	9913	39249		8.97	Si
SLD 4	4.35	7339.42	-26493	-18899	6807	1.9436	1.9436	-34728	16250	8844	115546	29337	9913	39249		5.77	Si
SLD 4	6.85	-2985.16	-18599	-13268	2540	1.9436	1.9436	-24380	16250	8844	115546	29337	9913	39249		15.45	Si
SLD 1	4.35	7468.05	-27157	-19373	6918	1.9436	1.9436	-35599	16250	8844	115546	29337	9913	39249		5.67	Si
SLD 1	6.85	-3097.73	-19155	-13665	2771	1.9436	1.9436	-25109	16250	8844	115546	29337	9913	39249		14.16	Si
SLV 3	4.35	10310.37	-26010	-18555	9278	1.9436	1.7263	-34095	16250	8092	115546	29337	9913	39249		4.23	Si
SLV 3	6.85	-4749.71	-17091	-12193	4019	1.9436	1.9436	-22404	16250	8844	115546	29337	9913	39249		9.77	Si
SLV 6	4.35	4805.34	-28947	-20650	4722	1.9436	1.9436	-37944	16250	8844	115546	29337	9913	39249		8.31	Si
SLV 6	6.85	-1609.92	-21735	-15505	1796	1.9436	1.9436	-28490	16250	8844	115546	29337	9913	39249		21.85	Si
SLV 5	4.35	4865.19	-28902	-20618	4765	1.9436	1.9436	-37885	16250	8844	115546	29337	9913	39249		8.24	Si
SLV 5	6.85	-1630.94	-21672	-15461	1806	1.9436	1.9436	-28409	16250	8844	115546	29337	9913	39249		21.73	Si
SLD 3	4.35	7396.21	-26450	-18869	6848	1.9436	1.9436	-34671	16250	8844	115546	29337	9913	39249		5.73	Si
SLD 3	6.85	-3005.11	-18540	-13226	2550	1.9436	1.9436	-24302	16250	8844	115546	29337	9913	39249		15.39	Si
SLV 2	4.35	10339.26	-27214	-19414	9331	1.9436	1.7757	-35672	16250	8321	115546	29337	9913	39249		4.21	Si
SLV 2	6.85	-4869.11	-18172	-12963	4362	1.9436	1.9436	-23820	16250	8844	115546	29337	9913	39249		9	Si
SLV 4	4.35	10221.48	-26077	-18603	9215	1.9436	1.7395	-34183	16250	8104	115546	29337	9913	39249		4.26	Si
SLV 4	6.85	-4718.49	-17184	-12259	4004	1.9436	1.9436	-22525	16250	8844	115546	29337	9913	39249		9.8	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-23399	0.38	205.86	2507.39	3738.96	3123.17	15.17	Si
SLV 8	-23444	0.38	205.86	2510.74	3745.43	3128.09	15.19	Si
SLV 11	-23755	0.38	205.86	2533.68	3790.02	3161.85	15.36	Si
SLV 12	-23800	0.38	205.86	2536.99	3796.49	3166.74	15.38	Si
SLV 3	-24288	0.38	205.86	2572.36	3865.51	3218.93	15.64	Si
SLV 4	-24355	0.38	205.86	2577.17	3874.77	3225.97	15.67	Si
SLV 1	-25416	0.38	205.86	2651.56	4021.11	3336.34	16.21	Si
SLV 15	-25476	0.38	205.86	2655.65	4029.34	3342.49	16.24	Si
SLV 2	-25483	0.38	205.86	2656.16	4030.37	3343.27	16.24	Si
SLV 16	-25543	0.38	205.86	2660.24	4038.6	3349.42	16.27	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-19993	-27205	132	0.539	2307.6	0.965	8.1203	6.9554	Si
SLV 16	-19956	-27272	132	0.54	2303.8	0.964	8.13355	6.9554	Si
SLV 13	-19640	-28341	-145	0.547	2271.7	0.964	8.23928	6.9554	Si
SLV 14	-19603	-28409	-145	0.547	2267.9	0.964	8.25309	6.9554	Si
SLV 3	-17478	-26010	146	0.604	2051.7	0.96	9.1321	6.9554	Si
SLV 4	-17441	-26077	146	0.605	2047.9	0.96	9.14915	6.9554	Si
SLV 1	-17125	-27147	-131	0.615	2015.8	0.96	9.30981	6.9554	Si
SLV 2	-17088	-27214	-131	0.616	2012.1	0.96	9.3277	6.9554	Si
SLV 11	-19518	-25472	460	0.535	2259.2	0.964	8.0614	4.64355	Si
SLV 12	-19493	-25517	460	0.535	2256.7	0.964	8.07044	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.94	SLU 83	Si
V_SLU	7.632	SLU 83	Si
PF_SLV	2.061	SLV 3	Si
V_SLV	4.178	SLV 1	Si
PFFP_SLV	15.171	SLV 7	Si
R_SLV	1.167	SLV 15	Si

Maschio 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L5	L6	1.55	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	4.35	3546.88	-32195	-0.0001705	0.0004492	0.0035	1.55	9802.97	17108.52	17108.52	4.82	No	Si
SLU 83	6.45	-2431.9	-28391	-0.0001357	0.0004492	0.0035	1.55	10223.01	16672.93	16672.93	6.86	No	Si
SLU 74	4.35	3471.56	-31555	-0.0001663	0.0004492	0.0035	1.55	9903.12	16911.57	16911.57	4.87	No	Si
SLU 74	6.45	-2403.6	-27583	-0.0001318	0.0004492	0.0035	1.55	10257.77	16438.05	16438.05	6.84	No	Si
SLU 81	4.35	3530.97	-31594	-0.0001675	0.0004492	0.0035	1.55	9897.32	16923.64	16923.64	4.79	No	Si
SLU 81	6.45	-2433.21	-27864	-0.0001334	0.0004492	0.0035	1.55	10247.82	16519.89	16519.89	6.79	No	Si
SLU 76	4.35	3480.27	-31251	-0.0001651	0.0004492	0.0035	1.55	9946.58	16817.85	16817.85	4.83	No	Si
SLU 76	6.45	-2397.49	-27303	-0.0001305	0.0004492	0.0035	1.55	10265.36	16356.62	16356.62	6.82	No	Si
SLU 80	4.35	3483.31	-31854	-0.0001679	0.0004492	0.0035	1.55	9857.81	17003.59	17003.59	4.88	No	Si
SLU 80	6.45	-2391.05	-27830	-0.0001326	0.0004492	0.0035	1.55	10249.15	16510	16510	6.9	No	Si
SLU 73	4.35	3464.36	-30651	-0.0001621	0.0004492	0.0035	1.55	10024.39	16632.97	16632.97	4.8	No	Si
SLU 73	6.45	-2398.8	-26776	-0.0001283	0.0004492	0.0035	1.55	10273.44	16203.58	16203.58	6.75	No	Si
SLU 84	4.35	3566.18	-32190	-0.0001709	0.0004492	0.0035	1.55	9803.67	17107.22	17107.22	4.8	No	Si
SLU 84	6.45	-2439.59	-28389	-0.0001358	0.0004492	0.0035	1.55	10223.1	16672.43	16672.43	6.83	No	Si
SLU 75	4.35	3490.86	-31551	-0.0001666	0.0004492	0.0035	1.55	9903.74	16910.28	16910.28	4.84	No	Si
SLU 75	6.45	-2411.3	-27581	-0.0001319	0.0004492	0.0035	1.55	10257.82	16437.55	16437.55	6.82	No	Si
SLU 82	4.35	3550.27	-31590	-0.0001678	0.0004492	0.0035	1.55	9897.95	16922.34	16922.34	4.77	No	Si
SLU 82	6.45	-2440.91	-27863	-0.0001336	0.0004492	0.0035	1.55	10247.89	16519.38	16519.38	6.77	No	Si
SLU 78	4.35	3506.76	-32151	-0.0001697	0.0004492	0.0035	1.55	9810.14	17095.15	17095.15	4.87	No	Si
SLU 78	6.45	-2409.99	-28107	-0.0001341	0.0004492	0.0035	1.55	10237.36	16590.59	16590.59	6.88	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	4.35	5210.95	-20914	-0.0001394	0.0006738	0.0035	1.55		13660.18	13660.18	2.62		Si
SLD 4	6.45	-4315.69	-17688	-0.000115	0.0006738	0.0035	1.55		12983.02	12983.02	3.01		Si
SLV 4	4.35	6752.09	-20413	-0.0001634	0.0006738	0.0035	1.55		13372.12	13372.12	1.98		Si
SLV 4	6.45	-5760.27	-17164	-0.0001367	0.0006738	0.0035	1.55		12688.53	12688.53	2.2		Si
SLV 5	4.35	5190.65	-22044	-0.0001434	0.0006738	0.0035	1.55		14309.85	14309.85	2.76		Si
SLV 5	6.45	-3753.26	-18566	-0.0001106	0.0006738	0.0035	1.55		13476.16	13476.16	3.59		Si
SLV 3	4.35	6728.77	-20396	-0.0001629	0.0006738	0.0035	1.55		13362.19	13362.19	1.99		Si
SLV 3	6.45	-5776.91	-17140	-0.0001369	0.0006738	0.0035	1.55		12675.41	12675.41	2.19		Si
SLD 3	4.35	5196.05	-20903	-0.0001391	0.0006738	0.0035	1.55		13653.84	13653.84	2.63		Si
SLD 3	6.45	-4326.32	-17673	-0.0001151	0.0006738	0.0035	1.55		12974.64	12974.64	3		Si
SLV 1	4.35	7533.52	-20762	-0.0001811	0.0006738	0.0035	1.55		13572.6	13572.6	1.8		Si
SLV 1	6.45	-6219.37	-17354	-0.0001466	0.0006738	0.0035	1.55		12795.55	12795.55	2.06		Si
SLD 2	4.35	5711.25	-21142	-0.0001475	0.0006738	0.0035	1.55		13791.49	13791.49	2.41		Si
SLD 2	6.45	-4590.07	-17820	-0.0001192	0.0006738	0.0035	1.55		13057.42	13057.42	2.84		Si
SLV 6	4.35	5206.35	-22055	-0.0001437	0.0006738	0.0035	1.55		14316.54	14316.54	2.75		Si
SLV 6	6.45	-3742.06	-18582	-0.0001105	0.0006738	0.0035	1.55		13484.99	13484.99	3.6		Si
SLV 2	4.35	7556.84	-20779	-0.0001817	0.0006738	0.0035	1.55		13582.53	13582.53	1.8		Si
SLV 2	6.45	-6202.74	-17378	-0.0001463	0.0006738	0.0035	1.55		12808.67	12808.67	2.07		Si
SLD 1	4.35	5696.35	-21131	-0.0001472	0.0006738	0.0035	1.55		13785.14	13785.14	2.42		Si
SLD 1	6.45	-4600.7	-17805	-0.0001193	0.0006738	0.0035	1.55		13049.04	13049.04	2.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	4.35	3480.27	-31251	-22294	3016	1.55	1.55	-51368	10833	7616	115546	15597	7905	23502	No	7.79	Si
SLU 76	6.45	-2397.49	-27303	-19477	3010	1.55	1.55	-44878	10833	6865	115546	15597	7905	23502	No	7.81	Si
SLU 75	4.35	3490.86	-31551	-22508	2990	1.55	1.55	-51861	10833	7673	115546	15597	7905	23502	No	7.86	Si
SLU 75	6.45	-2411.3	-27581	-19676	2983	1.55	1.55	-45336	10833	6918	115546	15597	7905	23502	No	7.88	Si
SLU 84	4.35	3566.18	-32190	-22964	3041	1.55	1.55	-52912	10833	7795	115546	15597	7905	23502	No	7.73	Si
SLU 84	6.45	-2439.59	-28389	-20252	3034	1.55	1.55	-46664	10833	7072	115546	15597	7905	23502	No	7.75	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	4.35	3464.36	-30651	-21866	2989	1.55	1.55	-50382	10833	7502	115546	15597	7905	23502	No	7.86	Si
SLU 73	6.45	-2398.8	-26776	-19102	2983	1.55	1.55	-44013	10833	6765	115546	15597	7905	23502	No	7.88	Si
SLU 78	4.35	3506.76	-32151	-22936	3017	1.55	1.55	-52848	10833	7787	115546	15597	7905	23502	No	7.79	Si
SLU 78	6.45	-2409.99	-28107	-20051	3011	1.55	1.55	-46201	10833	7018	115546	15597	7905	23502	No	7.81	Si
SLU 83	4.35	3546.88	-32195	-22967	2981	1.55	1.55	-52919	10833	7796	115546	15597	7905	23502	No	7.88	Si
SLU 83	6.45	-2431.9	-28391	-20253	2974	1.55	1.55	-46666	10833	7072	115546	15597	7905	23502	No	7.9	Si
SLU 80	4.35	3483.31	-31854	-22724	3004	1.55	1.55	-52359	10833	7731	115546	15597	7905	23502	No	7.82	Si
SLU 80	6.45	-2391.05	-27830	-19853	2997	1.55	1.55	-45745	10833	6965	115546	15597	7905	23502	No	7.84	Si
SLU 77	4.35	3487.46	-32155	-22939	2957	1.55	1.55	-52854	10833	7788	115546	15597	7905	23502	No	7.95	Si
SLU 77	6.45	-2402.29	-28109	-20052	2951	1.55	1.55	-46204	10833	7019	115546	15597	7905	23502	No	7.96	Si
SLU 82	4.35	3550.27	-31590	-22536	3014	1.55	1.55	-51926	10833	7681	115546	15597	7905	23502	No	7.8	Si
SLU 82	6.45	-2440.91	-27863	-19876	3007	1.55	1.55	-45798	10833	6972	115546	15597	7905	23502	No	7.82	Si
SLU 81	4.35	3530.97	-31594	-22539	2954	1.55	1.55	-51933	10833	7681	115546	15597	7905	23502	No	7.96	Si
SLU 81	6.45	-2433.21	-27864	-19878	2947	1.55	1.55	-45801	10833	6972	115546	15597	7905	23502	No	7.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	4.35	5190.65	-22044	-15725	7832	1.55	1.55	-36234	16250	7053	115546	23395	7905	31300		4	Si
SLV 5	6.45	-3753.26	-18566	-13244	7744	1.55	1.55	-30517	16250	7053	115546	23395	7905	31300		4.04	Si
SLV 2	4.35	7556.84	-20779	-14823	8835	1.55	1.234	-34155	16250	6460	115546	23395	7905	31300		3.54	Si
SLV 2	6.45	-6202.74	-17378	-12397	8528	1.55	1.2542	-35911	16250	5813	115546	23395	7905	31300		3.67	Si
SLD 6	4.35	4189.26	-21954	-15662	5736	1.55	1.55	-36087	16250	7053	115546	23395	7905	31300		5.46	Si
SLD 6	6.45	-3004.51	-18589	-13261	5679	1.55	1.55	-30555	16250	7053	115546	23395	7905	31300		5.51	Si
SLD 5	4.35	4179.39	-21947	-15656	5693	1.55	1.55	-36075	16250	7053	115546	23395	7905	31300		5.5	Si
SLD 5	6.45	-3011.56	-18579	-13254	5636	1.55	1.55	-30539	16250	7053	115546	23395	7905	31300		5.55	Si
SLD 1	4.35	5696.35	-21131	-15075	6322	1.55	1.5163	-34734	16250	6899	115546	23395	7905	31300		4.95	Si
SLD 1	6.45	-4600.7	-17805	-12702	6124	1.55	1.5498	-29267	16250	7052	115546	23395	7905	31300		5.11	Si
SLD 2	4.35	5711.25	-21142	-15082	6386	1.55	1.5146	-34752	16250	6891	115546	23395	7905	31300		4.9	Si
SLD 2	6.45	-4590.07	-17820	-12713	6188	1.55	1.55	-29292	16250	7053	115546	23395	7905	31300		5.06	Si
SLV 1	4.35	7533.52	-20762	-14811	8734	1.55	1.2364	-34127	16250	6457	115546	23395	7905	31300		3.58	Si
SLV 1	6.45	-6219.37	-17354	-12380	8428	1.55	1.2499	-35987	16250	5808	115546	23395	7905	31300		3.71	Si
SLV 6	4.35	5206.35	-22055	-15734	7900	1.55	1.55	-36253	16250	7053	115546	23395	7905	31300		3.96	Si
SLV 6	6.45	-3742.06	-18582	-13256	7811	1.55	1.55	-30543	16250	7053	115546	23395	7905	31300		4.01	Si
SLV 3	4.35	6728.77	-20396	-14550	6251	1.55	1.3353	-33525	16250	6387	115546	23395	7905	31300		5.01	Si
SLV 3	6.45	-5776.91	-17140	-12228	5940	1.55	1.3139	-33780	16250	5978	115546	23395	7905	31300		5.27	Si
SLV 4	4.35	6752.09	-20413	-14562	6351	1.55	1.3327	-33554	16250	6390	115546	23395	7905	31300		4.93	Si
SLV 4	6.45	-5760.27	-17164	-12244	6040	1.55	1.3182	-33715	16250	5998	115546	23395	7905	31300		5.18	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-17391	0.38	164.17	1902.4	2797.89	2350.15	14.32	Si
SLV 4	-17414	0.38	164.17	1904.24	2801.25	2352.74	14.33	Si
SLV 1	-17601	0.38	164.17	1918.86	2828.1	2373.48	14.46	Si
SLV 2	-17624	0.38	164.17	1920.68	2831.46	2376.07	14.47	Si
SLV 7	-18126	0.38	164.17	1959.4	2903.79	2431.6	14.81	Si
SLV 8	-18142	0.38	164.17	1960.6	2906.06	2433.33	14.82	Si
SLV 5	-18826	0.38	164.17	2011.85	3004.52	2508.18	15.28	Si
SLV 6	-18842	0.38	164.17	2013	3006.78	2509.89	15.29	Si
SLV 11	-18963	0.38	164.17	2021.95	3024.32	2523.14	15.37	Si
SLV 12	-18979	0.38	164.17	2023.1	3026.59	2524.85	15.38	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-15579	-22831	7	0.555	1803.1	0.964	8.37512	6.9554	Si
SLV 16	-15553	-22848	8	0.556	1800.5	0.964	8.38671	6.9554	Si
SLV 13	-15403	-23197	24	0.56	1785.2	0.963	8.44365	6.9554	Si
SLV 14	-15377	-23214	26	0.561	1782.6	0.963	8.45548	6.9554	Si
SLV 3	-12696	-20396	-32	0.659	1509.9	0.958	10.00633	6.9554	Si
SLV 4	-12670	-20413	-31	0.66	1507.2	0.957	10.02582	6.9554	Si
SLV 1	-12520	-20762	-15	0.668	1492	0.957	10.14945	6.9554	Si
SLV 2	-12494	-20779	-14	0.67	1489.3	0.957	10.16947	6.9554	Si
SLV 11	-14771	-21555	-27	0.58	1720.9	0.962	8.75948	4.64355	Si
SLV 12	-14753	-21566	-27	0.581	1719.1	0.962	8.76945	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.766	SLU 82	Si
V_SLU	7.729	SLU 84	Si
PF_SLV	1.797	SLV 2	Si
V_SLV	3.543	SLV 2	Si
PFFP_SLV	14.315	SLV 3	Si
R_SLV	1.204	SLV 15	Si

Maschio 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L5	L6	3.97	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	4.35	13120.71	-50870	-0.0000947	0.0004492	0.0035	3.97	63157.97	81231.86	81231.86	6.19	No	Si
SLU 74	6.45	4505.1	-45485	-0.0000684	0.0004492	0.0035	3.97	60051.72	74959.18	74959.18	16.64	No	Si
SLU 84	4.35	13357.31	-51693	-0.0000965	0.0004492	0.0035	3.97	63558.12	82152.62	82152.62	6.15	No	Si
SLU 84	6.45	4722.6	-46622	-0.0000705	0.0004492	0.0035	3.97	60778.48	76480.85	76480.85	16.19	No	Si
SLU 75	4.35	13125.63	-50841	-0.0000947	0.0004492	0.0035	3.97	63143.71	81199.88	81199.88	6.19	No	Si
SLU 75	6.45	4504.66	-45456	-0.0000684	0.0004492	0.0035	3.97	60033.26	74918.5	74918.5	16.63	No	Si
SLU 73	4.35	12874.7	-49416	-0.000092	0.0004492	0.0035	3.97	62403.21	79606.37	79606.37	6.18	No	Si
SLU 73	6.45	4241.79	-44011	-0.0000658	0.0004492	0.0035	3.97	59053.69	72829.08	72829.08	17.17	No	Si
SLU 83	4.35	13352.4	-51721	-0.0000965	0.0004492	0.0035	3.97	63571.66	82184.61	82184.61	6.16	No	Si
SLU 83	6.45	4723.05	-46650	-0.0000706	0.0004492	0.0035	3.97	60795.99	76512.34	76512.34	16.2	No	Si
SLU 80	4.35	13165.76	-51117	-0.0000952	0.0004492	0.0035	3.97	63280.11	81508.14	81508.14	6.19	No	Si
SLU 80	6.45	4649.03	-45735	-0.0000691	0.0004492	0.0035	3.97	60214.72	75320.5	75320.5	16.2	No	Si
SLU 82	4.35	13210.14	-50852	-0.0000949	0.0004492	0.0035	3.97	63149.3	81212.4	81212.4	6.15	No	Si
SLU 82	6.45	4519.13	-45769	-0.0000689	0.0004492	0.0035	3.97	60237.26	75370.8	75370.8	16.68	No	Si
SLU 76	4.35	13021.87	-50257	-0.0000936	0.0004492	0.0035	3.97	62847.31	80546.6	80546.6	6.19	No	Si
SLU 76	6.45	4445.26	-44863	-0.0000674	0.0004492	0.0035	3.97	59638.74	74061.23	74061.23	16.66	No	Si
SLU 81	4.35	13205.23	-50881	-0.0000949	0.0004492	0.0035	3.97	63163.54	81244.38	81244.38	6.15	No	Si
SLU 81	6.45	4519.58	-45798	-0.0000689	0.0004492	0.0035	3.97	60255.47	75411.49	75411.49	16.69	No	Si
SLU 78	4.35	13272.8	-51682	-0.0000963	0.0004492	0.0035	3.97	63552.81	82140.11	82140.11	6.19	No	Si
SLU 78	6.45	4708.13	-46309	-0.00007	0.0004492	0.0035	3.97	60582.27	76130.75	76130.75	16.17	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	4.35	17485.39	-28531	-0.0000699	0.0006738	0.0035	3.97		52873.45	52873.45	3.02		Si
SLV 1	6.45	-3816.49	-20900	-0.0000333	0.0006738	0.0035	3.97		47408.22	47408.22	12.42		Si
SLV 2	4.35	17331.35	-28485	-0.0000695	0.0006738	0.0035	3.97		52807.21	52807.21	3.05		Si
SLV 2	6.45	-3880.71	-20872	-0.0000334	0.0006738	0.0035	3.97		47361.03	47361.03	12.2		Si
SLD 2	4.35	14379.29	-30976	-0.000067	0.0006738	0.0035	3.97		56444.08	56444.08	3.93		Si
SLD 2	6.45	-1529.51	-24415	-0.0000334	0.0006738	0.0035	3.97		53294.31	53294.31	34.84		Si
SLV 3	4.35	17106.58	-28612	-0.0000692	0.0006738	0.0035	3.97		52992.99	52992.99	3.1		Si
SLV 3	6.45	-3613.11	-21198	-0.0000333	0.0006738	0.0035	3.97		47907.1	47907.1	13.26		Si
SLD 4	4.35	14146.92	-31028	-0.0000666	0.0006738	0.0035	3.97		56519.81	56519.81	4		Si
SLD 4	6.45	-1404.98	-24600	-0.0000334	0.0006738	0.0035	3.97		53603.9	53603.9	38.15		Si
SLD 1	4.35	14477.71	-31005	-0.0000672	0.0006738	0.0035	3.97		56486.4	56486.4	3.9		Si
SLD 1	6.45	-1488.48	-24433	-0.0000333	0.0006738	0.0035	3.97		53324.45	53324.45	35.82		Si
SLV 6	4.35	12216.42	-33149	-0.0000656	0.0006738	0.0035	3.97		59616.31	59616.31	4.88		Si
SLV 6	6.45	450.31	-27283	-0.000035	0.0006738	0.0035	3.97		50901.7	50901.7	113.04		Si
SLD 3	4.35	14245.34	-31057	-0.0000669	0.0006738	0.0035	3.97		56562.13	56562.13	3.97		Si
SLD 3	6.45	-1363.95	-24618	-0.0000333	0.0006738	0.0035	3.97		53634.05	53634.05	39.32		Si
SLV 5	4.35	12320.14	-33179	-0.0000659	0.0006738	0.0035	3.97		59660.91	59660.91	4.84		Si
SLV 5	6.45	493.55	-27302	-0.0000351	0.0006738	0.0035	3.97		50933.14	50933.14	103.2		Si
SLV 4	4.35	16952.54	-28567	-0.0000689	0.0006738	0.0035	3.97		52926.75	52926.75	3.12		Si
SLV 4	6.45	-3677.32	-21169	-0.0000333	0.0006738	0.0035	3.97		47859.92	47859.92	13.01		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	4.35	12084.34	-46111	-32894	4345	3.97	3.97	-29592	10833	19579	115546	39948	20247	60195	No	13.85	Si
SLU 65	6.45	3595.36	-39950	-28500	4331	3.97	3.97	-25638	10833	17821	115546	39948	20247	60195	No	13.9	Si
SLU 50	4.35	11139.62	-42771	-30512	4791	3.97	3.97	-27448	10833	18626	115546	39948	20247	60195	No	12.56	Si
SLU 50	6.45	3153.67	-36044	-25713	4778	3.97	3.97	-23131	10833	16706	115546	39948	20247	60195	No	12.6	Si
SLU 44	4.35	10853.48	-41042	-29278	4871	3.97	3.97	-26339	10833	18132	115546	39948	20247	60195	No	12.36	Si
SLU 44	6.45	2745.99	-34292	-24463	4858	3.97	3.97	-22007	10833	16206	115546	39948	20247	60195	No	12.39	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	4.35	11144.54	-42742	-30491	4793	3.97	3.97	-27430	10833	18617	115546	39948	20247	60195	No	12.56	Si
SLU 51	6.45	3153.23	-36016	-25693	4780	3.97	3.97	-23113	10833	16698	115546	39948	20247	60195	No	12.59	Si
SLU 46	4.35	11104.41	-42467	-30295	4845	3.97	3.97	-27253	10833	18539	115546	39948	20247	60195	No	12.42	Si
SLU 46	6.45	3008.85	-35738	-25494	4832	3.97	3.97	-22935	10833	16619	115546	39948	20247	60195	No	12.46	Si
SLU 47	4.35	11000.65	-41883	-29878	4833	3.97	3.97	-26878	10833	18372	115546	39948	20247	60195	No	12.46	Si
SLU 47	6.45	2949.46	-35144	-25071	4820	3.97	3.97	-22554	10833	16450	115546	39948	20247	60195	No	12.49	Si
SLU 45	4.35	11099.49	-42495	-30315	4843	3.97	3.97	-27272	10833	18547	115546	39948	20247	60195	No	12.43	Si
SLU 45	6.45	3009.3	-35766	-25514	4830	3.97	3.97	-22953	10833	16627	115546	39948	20247	60195	No	12.46	Si
SLU 49	4.35	11251.58	-43307	-30894	4807	3.97	3.97	-27793	10833	18779	115546	39948	20247	60195	No	12.52	Si
SLU 49	6.45	3212.33	-36590	-26103	4794	3.97	3.97	-23482	10833	16862	115546	39948	20247	60195	No	12.56	Si
SLU 48	4.35	11246.66	-43336	-30915	4805	3.97	3.97	-27811	10833	18787	115546	39948	20247	60195	No	12.53	Si
SLU 48	6.45	3212.77	-36618	-26123	4792	3.97	3.97	-23500	10833	16870	115546	39948	20247	60195	No	12.56	Si
SLU 43	4.35	10845.28	-41090	-29312	4867	3.97	3.97	-26369	10833	18146	115546	39948	20247	60195	No	12.37	Si
SLU 43	6.45	2746.73	-34339	-24496	4855	3.97	3.97	-22037	10833	16220	115546	39948	20247	60195	No	12.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	4.35	17106.58	-28612	-20411	13345	3.97	3.97	-18362	16172	17977	115546	59922	20247	80169		6.01	Si
SLV 3	6.45	-3613.11	-21198	-15122	12507	3.97	3.97	-13604	15221	16919	115546	59922	20247	80169		6.41	Si
SLV 4	4.35	16952.54	-28567	-20379	13286	3.97	3.97	-18333	16167	17971	115546	59922	20247	80169		6.03	Si
SLV 4	6.45	-3677.32	-21169	-15102	12448	3.97	3.97	-13586	15217	16915	115546	59922	20247	80169		6.44	Si
SLD 3	4.35	14245.34	-31057	-22155	9716	3.97	3.97	-19931	16250	18494	115546	59922	20247	80169		8.25	Si
SLD 3	6.45	-1363.95	-24618	-17562	9174	3.97	3.97	-15798	15660	17407	115546	59922	20247	80169		8.74	Si
SLV 15	4.35	1157.93	-42188	-30096	-7160	3.97	3.97	-27075	16250	21670	115546	59922	20247	80169		11.2	Si
SLV 15	6.45	9409.21	-40495	-28888	-6360	3.97	3.97	-25988	16250	21187	115546	59922	20247	80169		12.61	Si
SLD 2	4.35	14379.29	-30976	-22098	9936	3.97	3.97	-19879	16250	18471	115546	59922	20247	80169		8.07	Si
SLD 2	6.45	-1529.51	-24415	-17417	9404	3.97	3.97	-15668	15634	17378	115546	59922	20247	80169		8.52	Si
SLD 1	4.35	14477.71	-31005	-22118	9974	3.97	3.97	-19898	16250	18479	115546	59922	20247	80169		8.04	Si
SLD 1	6.45	-1488.48	-24433	-17430	9442	3.97	3.97	-15680	15636	17381	115546	59922	20247	80169		8.49	Si
SLV 2	4.35	17331.35	-28485	-20321	13703	3.97	3.97	-18281	16156	17959	115546	59922	20247	80169		5.85	Si
SLV 2	6.45	-3880.71	-20872	-14889	12880	3.97	3.97	-13394	15179	16873	115546	59922	20247	80169		6.22	Si
SLD 4	4.35	14146.92	-31028	-22135	9679	3.97	3.97	-19912	16250	18486	115546	59922	20247	80169		8.28	Si
SLD 4	6.45	-1404.98	-24600	-17549	9136	3.97	3.97	-15787	15657	17405	115546	59922	20247	80169		8.77	Si
SLV 1	4.35	17485.39	-28531	-20353	13762	3.97	3.97	-18310	16162	17966	115546	59922	20247	80169		5.83	Si
SLV 1	6.45	-3816.49	-20900	-14909	12940	3.97	3.97	-13413	15183	16877	115546	59922	20247	80169		6.2	Si
SLV 16	4.35	1003.89	-42143	-30064	-7219	3.97	3.97	-27046	16250	21657	115546	59922	20247	80169		11.1	Si
SLV 16	6.45	9345	-40467	-28868	-6419	3.97	3.97	-25970	16250	21179	115546	59922	20247	80169		12.49	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-21709	0.38	420.49	2715.41	3828.06	3271.74	7.78	Si
SLV 1	-21737	0.38	420.49	2718.52	3832.28	3275.4	7.79	Si
SLV 4	-22007	0.38	420.49	2748.22	3872.76	3310.49	7.87	Si
SLV 3	-22036	0.38	420.49	2751.31	3876.98	3314.15	7.88	Si
SLV 6	-28030	0.38	420.49	3384.34	4766.89	4075.62	9.69	Si
SLV 5	-28049	0.38	420.49	3386.27	4769.69	4077.98	9.7	Si
SLV 8	-29025	0.38	420.49	3484.57	4913.52	4199.05	9.99	Si
SLV 7	-29044	0.38	420.49	3486.47	4916.32	4201.4	9.99	Si
SLV 10	-33743	0.38	420.49	3941.62	5604.05	4772.84	11.35	Si
SLV 9	-33762	0.38	420.49	3943.4	5606.82	4775.11	11.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-32854	-42188	278	0.648	3901.3	0.958	9.83473	6.9554	Si
SLV 16	-32776	-42143	279	0.649	3893.4	0.958	9.85498	6.9554	Si
SLV 13	-32664	-42107	-342	0.65	3882	0.958	9.85864	6.9554	Si
SLV 14	-32586	-42061	-341	0.651	3874.1	0.958	9.87974	6.9554	Si
SLV 3	-22723	-28612	341	0.88	2872.5	0.945	13.54445	6.9554	Si
SLV 4	-22646	-28567	342	0.883	2864.6	0.945	13.5843	6.9554	Si
SLV 1	-22533	-28531	-279	0.889	2853.3	0.944	13.67956	6.9554	Si
SLV 2	-22455	-28485	-279	0.892	2845.4	0.944	13.72112	6.9554	Si
SLV 11	-29517	-37525	1024	0.687	3562.2	0.954	10.46363	4.64355	Si
SLV 12	-29465	-37494	1025	0.688	3556.9	0.954	10.47971	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.148	SLU 82	Si
V_SLU	12.359	SLU 44	Si
PF_SLV	3.024	SLV 1	Si
V_SLV	5.825	SLV 1	Si
PFFP_SLV	7.781	SLV 2	Si
R_SLV	1.414	SLV 15	Si

Maschio 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	L5	Z medio 611 cm	1.281	0.28	1.76	1.76	1.76			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	4.35	-517.93	-17107	-0.0000915	0.0003743	0.0035	1.2809	5823.23	7551.54	7551.54	14.58	No	Si
SLU 75	6.11	286.5	-14111	-0.0000702	0.0003743	0.0035	1.2809	5544.85	6606	6606	23.06	No	Si
SLU 82	4.35	-535.37	-17464	-0.0000939	0.0003743	0.0035	1.2809	5835.4	7636.04	7636.04	14.26	No	Si
SLU 82	6.11	349.83	-14421	-0.0000732	0.0003743	0.0035	1.2809	5588.36	6684.9	6684.9	19.11	No	Si
SLU 78	4.35	-520.05	-17319	-0.0000927	0.0003743	0.0035	1.2809	5830.99	7601.51	7601.51	14.62	No	Si
SLU 78	6.11	282.64	-14316	-0.0000712	0.0003743	0.0035	1.2809	5573.97	6658.02	6658.02	23.56	No	Si
SLU 74	4.35	-505.39	-17022	-0.0000907	0.0003743	0.0035	1.2809	5819.65	7531.52	7531.52	14.9	No	Si
SLU 74	6.11	279.59	-14048	-0.0000697	0.0003743	0.0035	1.2809	5535.67	6590.19	6590.19	23.57	No	Si
SLU 84	4.35	-537.48	-17676	-0.0000951	0.0003743	0.0035	1.2809	5840.51	7686.93	7686.93	14.3	No	Si
SLU 84	6.11	345.96	-14627	-0.0000742	0.0003743	0.0035	1.2809	5615.24	6737.45	6737.45	19.47	No	Si
SLU 81	4.35	-522.83	-17379	-0.0000931	0.0003743	0.0035	1.2809	5832.89	7615.66	7615.66	14.57	No	Si
SLU 81	6.11	342.92	-14359	-0.0000727	0.0003743	0.0035	1.2809	5579.86	6668.93	6668.93	19.45	No	Si
SLU 73	4.35	-518.35	-16828	-0.00009	0.0003743	0.0035	1.2809	5810.59	7486.49	7486.49	14.44	No	Si
SLU 73	6.11	290.8	-13836	-0.0000689	0.0003743	0.0035	1.2809	5503.6	6536.98	6536.98	22.48	No	Si
SLU 83	4.35	-524.95	-17591	-0.0000943	0.0003743	0.0035	1.2809	5838.64	7666.33	7666.33	14.6	No	Si
SLU 83	6.11	339.06	-14564	-0.0000737	0.0003743	0.0035	1.2809	5607.19	6721.37	6721.37	19.82	No	Si
SLU 80	4.35	-514.23	-17195	-0.0000919	0.0003743	0.0035	1.2809	5826.62	7572.08	7572.08	14.73	No	Si
SLU 80	6.11	278.47	-14205	-0.0000705	0.0003743	0.0035	1.2809	5558.4	6629.84	6629.84	23.81	No	Si
SLU 76	4.35	-520.47	-17040	-0.0000912	0.0003743	0.0035	1.2809	5820.43	7535.74	7535.74	14.48	No	Si
SLU 76	6.11	286.93	-14041	-0.0000698	0.0003743	0.0035	1.2809	5534.69	6588.53	6588.53	22.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	4.35	-1591.19	-19902	-0.0001251	0.0005615	0.0035	1.2809		9621.34	9621.34	6.05		Si
SLV 5	6.11	895.75	-15767	-0.0000885	0.0005615	0.0035	1.2809		7935.01	7935.01	8.86		Si
SLV 6	4.35	-1648.81	-19954	-0.0001267	0.0005615	0.0035	1.2809		9638.41	9638.41	5.85		Si
SLV 6	6.11	948.77	-15797	-0.0000898	0.0005615	0.0035	1.2809		7946.46	7946.46	8.38		Si
SLV 9	4.35	-1377.12	-20272	-0.0001221	0.0005615	0.0035	1.2809		9742.77	9742.77	7.07		Si
SLV 9	6.11	673.26	-16197	-0.0000858	0.0005615	0.0035	1.2809		8100.23	8100.23	12.03		Si
SLV 7	4.35	752.3	-2997	-0.0000273	0.0005615	0.0035	1.2809		1930.81	1930.81	2.57		Si
SLV 7	6.11	-462.41	-2822	-0.0000207	0.0005615	0.0035	1.2809		2096.63	2096.63	4.53		Si
SLV 8	4.35	694.68	-3049	-0.0000262	0.0005615	0.0035	1.2809		1961.44	1961.44	2.82		Si
SLV 8	6.11	-409.4	-2852	-0.0000198	0.0005615	0.0035	1.2809		2114.16	2114.16	5.16		Si
SLV 1	4.35	-1006.73	-13541	-0.0000801	0.0005615	0.0035	1.2809		7461.28	7461.28	7.41		Si
SLV 1	6.11	667.1	-10728	-0.0000597	0.0005615	0.0035	1.2809		5871.7	5871.7	8.8		Si
SLV 2	4.35	-1092.32	-13619	-0.0000823	0.0005615	0.0035	1.2809		7493.49	7493.49	6.86		Si
SLV 2	6.11	745.84	-10772	-0.0000616	0.0005615	0.0035	1.2809		5893.58	5893.58	7.9		Si
SLV 10	4.35	-1434.75	-20324	-0.0001237	0.0005615	0.0035	1.2809		9759.96	9759.96	6.8		Si
SLV 10	6.11	726.28	-16227	-0.0000871	0.0005615	0.0035	1.2809		8111.73	8111.73	11.17		Si
SLV 11	4.35	966.37	-3367	-0.000034	0.0005615	0.0035	1.2809		2147.77	2147.77	2.22		Si
SLV 11	6.11	-684.9	-3252	-0.0000268	0.0005615	0.0035	1.2809		2349.88	2349.88	3.43		Si
SLV 12	4.35	908.74	-3419	-0.0000325	0.0005615	0.0035	1.2809		2177.86	2177.86	2.4		Si
SLV 12	6.11	-631.89	-3282	-0.0000259	0.0005615	0.0035	1.2809		2367.56	2367.56	3.75		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	4.35	-524.95	-17591	-14648	-2884	1.2809	1.2809	-40842	10833	5521	19031	10740	3266	14006	No	4.86	Si
SLU 83	6.11	339.06	-14564	-12128	100	1.2809	1.2809	-33815	10833	4787	19031	10740	3266	14006	No	139.88	Si
SLU 76	4.35	-520.47	-17040	-14189	-2838	1.2809	1.2809	-39563	10833	5387	19031	10740	3266	14006	No	4.93	Si
SLU 76	6.11	286.93	-14041	-11693	105	1.2809	1.2809	-32601	10833	4660	19031	10740	3266	14006	No	133.41	Si
SLU 84	4.35	-537.48	-17676	-14719	-2944	1.2809	1.2809	-41040	10833	5541	19031	10740	3266	14006	No	4.76	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	6.11	345.96	-14627	-12180	58	1.2809	1.2809	-33960	10833	4802	19031	10740	3266	14006	No	239.97	Si
SLU 73	4.35	-518.35	-16828	-14013	-2829	1.2809	1.2809	-39071	10833	5336	19031	10740	3266	14006	No	4.95	Si
SLU 73	6.11	290.8	-13836	-11522	67	1.2809	1.2809	-32125	10833	4610	19031	10740	3266	14006	No	210.47	Si
SLU 82	4.35	-535.37	-17464	-14543	-2935	1.2809	1.2809	-40548	10833	5490	19031	10740	3266	14006	No	4.77	Si
SLU 82	6.11	349.83	-14421	-12009	20	1.2809	1.2809	-33484	10833	4752	19031	10740	3266	14006	No	702.81	Si
SLU 80	4.35	-514.23	-17195	-14318	-2807	1.2809	1.2809	-39922	10833	5425	19031	10740	3266	14006	No	4.99	Si
SLU 80	6.11	278.47	-14205	-11829	171	1.2809	1.2809	-32981	10833	4700	19031	10740	3266	14006	No	81.78	Si
SLU 81	4.35	-522.83	-17379	-14471	-2875	1.2809	1.2809	-40350	10833	5469	19031	10740	3266	14006	No	4.87	Si
SLU 81	6.11	342.92	-14359	-11957	62	1.2809	1.2809	-33338	10833	4737	19031	10740	3266	14006	No	227.05	Si
SLU 78	4.35	-520.05	-17319	-14422	-2843	1.2809	1.2809	-40211	10833	5455	19031	10740	3266	14006	No	4.93	Si
SLU 78	6.11	282.64	-14316	-11921	158	1.2809	1.2809	-33239	10833	4727	19031	10740	3266	14006	No	88.68	Si
SLU 77	4.35	-507.51	-17234	-14351	-2783	1.2809	1.2809	-40013	10833	5434	19031	10740	3266	14006	No	5.03	Si
SLU 77	6.11	275.73	-14253	-11869	200	1.2809	1.2809	-33093	10833	4712	19031	10740	3266	14006	No	70.14	Si
SLU 75	4.35	-517.93	-17107	-14245	-2834	1.2809	1.2809	-39719	10833	5403	19031	10740	3266	14006	No	4.94	Si
SLU 75	6.11	286.5	-14111	-11750	119	1.2809	1.2809	-32762	10833	4677	19031	10740	3266	14006	No	117.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	4.35	966.37	-3367	-2804	4897	1.2809	1.0603	-7817	11980	3557	19031	16109	3266	19376		3.96	Si
SLV 11	6.11	-684.9	-3252	-2708	5787	1.2809	1.2809	-7551	11927	4278	19031	16109	3266	19376		3.35	Si
SLV 9	4.35	-1377.12	-20272	-16881	-6431	1.2809	1.2809	-47067	16250	6799	19031	16109	3266	19376		3.01	Si
SLV 9	6.11	673.26	-16197	-13488	-3171	1.2809	1.2809	-37607	16250	5828	19031	16109	3266	19376		6.11	Si
SLD 6	4.35	-1158.99	-16801	-13990	-6066	1.2809	1.2809	-39007	16250	5957	19031	16109	3266	19376		3.19	Si
SLD 6	6.11	645.35	-13400	-11159	-3287	1.2809	1.2809	-31113	16250	5828	19031	16109	3266	19376		5.89	Si
SLV 12	4.35	908.74	-3419	-2847	4469	1.2809	1.124	-7939	12004	3778	19031	16109	3266	19376		4.34	Si
SLV 12	6.11	-631.89	-3282	-2733	5386	1.2809	1.2809	-7620	11941	4283	19031	16109	3266	19376		3.6	Si
SLV 10	4.35	-1434.75	-20324	-16924	-6859	1.2809	1.2809	-47189	16250	6811	19031	16109	3266	19376		2.83	Si
SLV 10	6.11	726.28	-16227	-13513	-3572	1.2809	1.2809	-37676	16250	5828	19031	16109	3266	19376		5.42	Si
SLV 2	4.35	-1092.32	-13619	-11340	-6764	1.2809	1.2809	-31619	16250	5828	19031	16109	3266	19376		2.86	Si
SLV 2	6.11	745.84	-10772	-8970	-4446	1.2809	1.2809	-25010	15419	5530	19031	16109	3266	19376		4.36	Si
SLV 6	4.35	-1648.81	-19954	-16616	-8597	1.2809	1.2809	-46330	16250	6722	19031	16109	3266	19376		2.25	Si
SLV 6	6.11	948.77	-15797	-13155	-5378	1.2809	1.2809	-36678	16250	5828	19031	16109	3266	19376		3.6	Si
SLV 5	4.35	-1591.19	-19902	-16573	-8169	1.2809	1.2809	-46208	16250	6709	19031	16109	3266	19376		2.37	Si
SLV 5	6.11	895.75	-15767	-13130	-4977	1.2809	1.2809	-36608	16250	5828	19031	16109	3266	19376		3.89	Si
SLV 1	4.35	-1006.73	-13541	-11276	-6128	1.2809	1.2809	-31440	16250	5828	19031	16109	3266	19376		3.16	Si
SLV 1	6.11	667.1	-10728	-8933	-3851	1.2809	1.2809	-24907	15398	5523	19031	16109	3266	19376		5.03	Si
SLD 5	4.35	-1122.74	-16768	-13963	-5797	1.2809	1.2809	-38931	16250	5949	19031	16109	3266	19376		3.34	Si
SLD 5	6.11	612	-13382	-11143	-3035	1.2809	1.2809	-31069	16250	5828	19031	16109	3266	19376		6.38	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.23 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.36	8550	-3066	31.64	405.27	12.81	Si
SLV 8	179667	0.36	8722	-3128	31.64	412.95	13.05	Si
SLV 11	179667	0.36	9393	-3369	31.64	442.63	13.99	Si
SLV 12	179667	0.36	9566	-3431	31.64	450.22	14.23	Si
SLV 3	179667	0.36	22199	-7962	31.64	952.61	30.11	Si
SLV 4	179667	0.36	22455	-8054	31.64	961.71	30.39	Si
SLV 15	179667	0.36	25010	-8970	31.64	1050.12	33.19	Si
SLV 16	179667	0.36	25266	-9062	31.64	1058.75	33.46	Si
SLV 1	179667	0.36	34777	-12473	31.64	1348.55	42.62	Si
SLV 2	179667	0.36	35034	-12565	31.64	1355.54	42.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.23 Wa = 0.05 Ta = 0.0185

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-16227	-20324	-29	0.509	1741.5	0.984	7.51674	3.40283	Si
SLV 9	-16197	-20272	-30	0.51	1738.5	0.984	7.52781	3.40283	Si
SLV 6	-15797	-19954	-59	0.518	1697.7	0.984	7.65899	3.40283	Si
SLV 5	-15767	-19902	-60	0.519	1694.6	0.983	7.67062	3.40283	Si
SLV 14	-12205	-14852	35	0.644	1331.7	0.979	9.55304	3.71421	Si
SLV 13	-12161	-14774	34	0.646	1327.2	0.979	9.58374	3.71421	Si
SLV 2	-10772	-13619	-67	0.712	1185.7	0.977	10.59529	3.71421	Si
SLV 1	-10728	-13541	-68	0.715	1181.2	0.977	10.63221	3.71421	Si
SLV 16	-8322	-9780	59	0.887	936.1	0.971	13.28214	3.71421	Si
SLV 15	-8277	-9703	58	0.892	931.6	0.971	13.34584	3.71421	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.263	SLU 82	Si
V_SLU	4.757	SLU 84	Si
PF_SLV	2.223	SLV 11	Si
V_SLV	2.254	SLV 6	Si
PFFP_SLV	12.808	SLV 7	Si
R_SLV	2.209	SLV 10	Si

Maschio 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	Z medio 611 cm	L6	1.281	0.28	1.79	1.79	1.79			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	6.11	68.96	-10869	-0.0000494	0.0003743	0.0035	1.2809	4888.99	5473.39	5473.39	79.37	No	Si
SLU 50	7.9	-443.63	-9434	-0.0000505	0.0003743	0.0035	1.2809	4480.98	5304.45	5304.45	11.96	No	Si
SLU 62	6.11	-125.79	-12133	-0.0000567	0.0003743	0.0035	1.2809	5188.67	6214.61	6214.61	49.41	No	Si
SLU 62	7.9	-480.74	-10660	-0.0000572	0.0003743	0.0035	1.2809	4834.13	5776.97	5776.97	12.02	No	Si
SLU 79	6.11	-88.89	-13279	-0.0000615	0.0003743	0.0035	1.2809	5411.77	6579.56	6579.56	74.02	No	Si
SLU 79	7.9	-515.82	-11716	-0.0000632	0.0003743	0.0035	1.2809	5095.94	6087.01	6087.01	11.8	No	Si
SLU 71	6.11	40.57	-12250	-0.0000554	0.0003743	0.0035	1.2809	5213.39	6014.91	6014.91	148.28	No	Si
SLU 71	7.9	-478.36	-10708	-0.0000574	0.0003743	0.0035	1.2809	4846.74	5790.51	5790.51	12.1	No	Si
SLU 74	6.11	-100.04	-13183	-0.0000613	0.0003743	0.0035	1.2809	5394.76	6548	6548	65.45	No	Si
SLU 74	7.9	-499.24	-11610	-0.0000623	0.0003743	0.0035	1.2809	5071.53	6055.19	6055.19	12.13	No	Si
SLU 56	6.11	-61.85	-12008	-0.0000547	0.0003743	0.0035	1.2809	5161.54	6176.1	6176.1	99.86	No	Si
SLU 56	7.9	-480.91	-10551	-0.0000567	0.0003743	0.0035	1.2809	4804.83	5743.45	5743.45	11.94	No	Si
SLU 48	6.11	67.61	-10979	-0.0000498	0.0003743	0.0035	1.2809	4917.26	5515.79	5515.79	81.58	No	Si
SLU 48	7.9	-443.45	-9543	-0.000051	0.0003743	0.0035	1.2809	4514.42	5349.1	5349.1	12.06	No	Si
SLU 83	6.11	-154.18	-13514	-0.0000642	0.0003743	0.0035	1.2809	5451.82	6657.01	6657.01	43.18	No	Si
SLU 83	7.9	-515.47	-11934	-0.0000643	0.0003743	0.0035	1.2809	5145.1	6153.26	6153.26	11.94	No	Si
SLU 58	6.11	-60.5	-11899	-0.0000541	0.0003743	0.0035	1.2809	5137.24	6142.46	6142.46	101.53	No	Si
SLU 58	7.9	-481.09	-10442	-0.0000562	0.0003743	0.0035	1.2809	4775.24	5707.58	5707.58	11.86	No	Si
SLU 77	6.11	-90.24	-13389	-0.0000621	0.0003743	0.0035	1.2809	5430.75	6615.68	6615.68	73.31	No	Si
SLU 77	7.9	-515.64	-11825	-0.0000638	0.0003743	0.0035	1.2809	5120.68	6119.96	6119.96	11.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	6.11	707.23	-5582	-0.0000374	0.0005615	0.0035	1.2809		3393.75	3393.75	4.8		Si
SLD 11	7.9	-858.97	-5394	-0.0000396	0.0005615	0.0035	1.2809		3556	3556	4.14		Si
SLV 11	6.11	1136.65	-3403	-0.0000398	0.0005615	0.0035	1.2809		2168.53	2168.53	1.91		Si
SLV 11	7.9	-1154.67	-3836	-0.0000405	0.0005615	0.0035	1.2809		2685.01	2685.01	2.33		Si
SLV 2	6.11	-1064.67	-9965	-0.0000645	0.0005615	0.0035	1.2809		5884.98	5884.98	5.53		Si
SLV 2	7.9	552.89	-8512	-0.0000473	0.0005615	0.0035	1.2809		4797.97	4797.97	8.68		Si
SLD 12	6.11	649.04	-5583	-0.0000363	0.0005615	0.0035	1.2809		3394.38	3394.38	5.23		Si
SLD 12	7.9	-805.92	-5408	-0.0000386	0.0005615	0.0035	1.2809		3563.65	3563.65	4.42		Si
SLV 15	6.11	1035.41	-8227	-0.0000559	0.0005615	0.0035	1.2809		4662.4	4662.4	4.5		Si
SLV 15	7.9	-1244.48	-7318	-0.000056	0.0005615	0.0035	1.2809		4578.5	4578.5	3.68		Si
SLV 12	6.11	1044.14	-3405	-0.0000365	0.0005615	0.0035	1.2809		2169.59	2169.59	2.08		Si
SLV 12	7.9	-1070.33	-3858	-0.000038	0.0005615	0.0035	1.2809		2697.63	2697.63	2.52		Si
SLV 16	6.11	898.01	-8230	-0.0000531	0.0005615	0.0035	1.2809		4663.7	4663.7	5.19		Si
SLV 16	7.9	-1119.22	-7351	-0.0000536	0.0005615	0.0035	1.2809		4595.42	4595.42	4.11		Si
SLV 8	6.11	615.68	-2851	-0.0000238	0.0005615	0.0035	1.2809		1845.14	1845.14	3		Si
SLV 8	7.9	-670.74	-3436	-0.0000274	0.0005615	0.0035	1.2809		2456.92	2456.92	3.66		Si
SLV 7	6.11	708.19	-2849	-0.0000258	0.0005615	0.0035	1.2809		1844.05	1844.05	2.6		Si
SLV 7	7.9	-755.08	-3414	-0.0000289	0.0005615	0.0035	1.2809		2444.18	2444.18	3.24		Si
SLD 15	6.11	653.45	-8580	-0.0000497	0.0005615	0.0035	1.2809		4830.2	4830.2	7.39		Si
SLD 15	7.9	-919.91	-7561	-0.0000505	0.0005615	0.0035	1.2809		4702.45	4702.45	5.11		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	6.11	-90.24	-13389	-11149	-26	1.2809	1.2809	-31087	10833	4427	19031	10740	3266	14006	No	544.26	Si
SLU 77	7.9	-515.64	-11825	-9847	2714	1.2809	1.2809	-27455	10605	4054	19031	10740	3266	14006	No	5.16	Si
SLU 69	6.11	39.22	-12359	-10292	147	1.2809	1.2809	-28696	10771	4181	19031	10740	3266	14006	No	95.33	Si
SLU 69	7.9	-478.18	-10816	-9007	2548	1.2809	1.2809	-25113	10293	3813	19031	10740	3266	14006	No	5.5	Si
SLU 75	6.11	-114.78	-13240	-11025	-146	1.2809	1.2809	-30740	10833	4391	19031	10740	3266	14006	No	96.25	Si
SLU 75	7.9	-485.92	-11645	-9697	2561	1.2809	1.2809	-27038	10550	4011	19031	10740	3266	14006	No	5.47	Si
SLU 78	6.11	-104.97	-13446	-11197	-106	1.2809	1.2809	-31219	10833	4440	19031	10740	3266	14006	No	132	Si
SLU 78	7.9	-502.33	-11860	-9876	2645	1.2809	1.2809	-27536	10616	4062	19031	10740	3266	14006	No	5.29	Si
SLU 80	6.11	-103.63	-13336	-11105	-90	1.2809	1.2809	-30964	10833	4414	19031	10740	3266	14006	No	155.73	Si
SLU 80	7.9	-502.51	-11751	-9785	2640	1.2809	1.2809	-27283	10582	4036	19031	10740	3266	14006	No	5.31	Si
SLU 83	6.11	-154.18	-13514	-11253	-123	1.2809	1.2809	-31377	10833	4456	19031	10740	3266	14006	No	113.89	Si
SLU 83	7.9	-515.47	-11934	-9938	2695	1.2809	1.2809	-27708	10639	4080	19031	10740	3266	14006	No	5.2	Si
SLU 81	6.11	-163.99	-13308	-11082	-162	1.2809	1.2809	-30898	10833	4407	19031	10740	3266	14006	No	86.25	Si
SLU 81	7.9	-499.06	-11720	-9759	2611	1.2809	1.2809	-27211	10573	4029	19031	10740	3266	14006	No	5.37	Si
SLU 79	6.11	-88.89	-13279	-11058	-10	1.2809	1.2809	-30832	10833	4400	19031	10740	3266	14006	No	1463.54	Si
SLU 79	7.9	-515.82	-11716	-9756	2708	1.2809	1.2809	-27202	10571	4028	19031	10740	3266	14006	No	5.17	Si
SLU 84	6.11	-168.92	-13571	-11301	-203	1.2809	1.2809	-31509	10833	4470	19031	10740	3266	14006	No	68.88	Si
SLU 84	7.9	-502.16	-11969	-9967	2626	1.2809	1.2809	-27789	10650	4088	19031	10740	3266	14006	No	5.33	Si
SLU 74	6.11	-100.04	-13183	-10977	-65	1.2809	1.2809	-30608	10833	4377	19031	10740	3266	14006	No	215.01	Si
SLU 74	7.9	-499.24	-11610	-9668	2629	1.2809	1.2809	-26957	10539	4003	19031	10740	3266	14006	No	5.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	6.11	-1073.4	-14787	-12314	-5296	1.2809	1.2809	-34333	16250	5828	19031	16109	3266	19376		3.66	Si
SLV 5	7.9	378.73	-11972	-9970	-2633	1.2809	1.2809	-27797	15976	5730	19031	16109	3266	19376		7.36	Si
SLV 12	6.11	1044.14	-3405	-2835	5373	1.2809	1.0013	-7905	11998	3364	19031	16109	3266	19376		3.61	Si
SLV 12	7.9	-1070.33	-3858	-3213	6293	1.2809	1.0891	-10587	12534	3822	19031	16109	3266	19376		3.08	Si
SLV 15	6.11	1035.41	-8227	-6851	5123	1.2809	1.2809	-19101	14237	5106	19031	16109	3266	19376		3.78	Si
SLV 15	7.9	-1244.48	-7318	-6094	6695	1.2809	1.2809	-16992	13815	4955	19031	16109	3266	19376		2.89	Si
SLV 16	6.11	898.01	-8230	-6853	4447	1.2809	1.2809	-19107	14238	5107	19031	16109	3266	19376		4.36	Si
SLV 16	7.9	-1119.22	-7351	-6122	6057	1.2809	1.2809	-17069	13830	4960	19031	16109	3266	19376		3.2	Si
SLV 11	6.11	1136.65	-3403	-2834	5828	1.2809	0.9193	-7901	11997	3088	19031	16109	3266	19376		3.32	Si
SLV 11	7.9	-1154.67	-3836	-3194	6723	1.2809	1.0183	-11259	12669	3612	19031	16109	3266	19376		2.88	Si
SLD 15	6.11	653.45	-8580	-7144	3270	1.2809	1.2809	-19920	14401	5165	19031	16109	3266	19376		5.93	Si
SLD 15	7.9	-919.91	-7561	-6296	4926	1.2809	1.2809	-17555	13928	4995	19031	16109	3266	19376		3.93	Si
SLV 7	6.11	708.19	-2849	-2373	3799	1.2809	1.1757	-6615	11740	3865	19031	16109	3266	19376		5.1	Si
SLV 7	7.9	-755.08	-3414	-2843	4651	1.2809	1.2578	-7926	12002	4227	19031	16109	3266	19376		4.17	Si
SLV 2	6.11	-1064.67	-9965	-8298	-5046	1.2809	1.2809	-23137	15044	5396	19031	16109	3266	19376		3.84	Si
SLV 2	7.9	552.89	-8512	-7088	-3035	1.2809	1.2809	-19763	14369	5154	19031	16109	3266	19376		6.38	Si
SLV 6	6.11	-1165.91	-14789	-12315	-5751	1.2809	1.2809	-34337	16250	5828	19031	16109	3266	19376		3.37	Si
SLV 6	7.9	463.07	-11995	-9988	-3063	1.2809	1.2809	-27849	15986	5734	19031	16109	3266	19376		6.33	Si
SLD 11	6.11	707.23	-5582	-4648	3661	1.2809	1.2809	-12960	13009	4666	19031	16109	3266	19376		5.29	Si
SLD 11	7.9	-858.97	-5394	-4491	4894	1.2809	1.2809	-12523	12921	4634	19031	16109	3266	19376		3.96	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.005 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.39	8728	-3130	36.23	413.2	11.41	Si
SLV 7	179667	0.39	8791	-3153	36.23	416.01	11.48	Si
SLV 12	179667	0.39	10558	-3786	36.23	493.46	13.62	Si
SLV 11	179667	0.39	10621	-3809	36.23	496.19	13.7	Si
SLV 4	179667	0.39	16759	-6011	36.23	749.13	20.68	Si
SLV 3	179667	0.39	16853	-6044	36.23	752.81	20.78	Si
SLV 16	179667	0.39	22857	-8198	36.23	975.9	26.94	Si
SLV 15	179667	0.39	22951	-8231	36.23	979.2	27.03	Si
SLV 2	179667	0.39	25485	-9140	36.23	1066.08	29.43	Si
SLV 1	179667	0.39	25579	-9174	36.23	1069.21	29.51	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.005 Wa = 0.05 Ta = 0.0191

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-12417	-15343	-16	0.634	1354.7	0.979	9.41147	3.68441	Si
SLV 9	-12394	-15341	-17	0.635	1352.5	0.979	9.42581	3.68441	Si
SLV 6	-11995	-14789	-55	0.65	1311.7	0.979	9.64968	3.68441	Si
SLV 5	-11972	-14787	-55	0.651	1309.5	0.979	9.66493	3.68441	Si
SLV 14	-9919	-11811	52	0.763	1100.3	0.975	11.37698	4.03424	Si
SLV 13	-9886	-11808	52	0.765	1096.9	0.975	11.41027	4.03424	Si
SLV 2	-8512	-9965	-76	0.866	957	0.971	12.96642	4.03424	Si
SLV 1	-8479	-9963	-76	0.869	953.6	0.971	13.01043	4.03424	Si
SLV 16	-7351	-8230	73	0.982	838.8	0.967	14.75582	4.03424	Si
SLV 15	-7318	-8227	72	0.986	835.5	0.967	14.81474	4.03424	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.801	SLU 79	Si
V_SLU	5.161	SLU 77	Si
PF_SLV	1.908	SLV 11	Si
V_SLV	2.882	SLV 11	Si
PFFP_SLV	11.406	SLV 8	Si
R_SLV	2.554	SLV 10	Si

Maschio 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.404	-11.003	-0.749	L5	L6	2.656	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	4.35	2521.48	-40853	-0.0001079	0.0003743	0.0035	2.6557	24973.11	34065.87	34065.87	13.51	No	Si
SLU 84	7.9	-77.56	-27367	-0.0000596	0.0003743	0.0035	2.6557	23202.67	28432.45	28432.45	366.57	No	Si
SLU 74	4.35	2490.76	-39416	-0.0001037	0.0003743	0.0035	2.6557	25088.17	33703.41	33703.41	13.53	No	Si
SLU 74	7.9	-93.38	-26590	-0.0000578	0.0003743	0.0035	2.6557	22906.01	27963	27963	299.45	No	Si
SLU 79	4.35	2534.87	-39672	-0.0001047	0.0003743	0.0035	2.6557	25072.98	33771.56	33771.56	13.32	No	Si
SLU 79	7.9	-69.05	-26847	-0.0000583	0.0003743	0.0035	2.6557	23006.48	28117.17	28117.17	407.22	No	Si
SLU 69	4.35	2339.47	-36225	-0.0000941	0.0003743	0.0035	2.6557	25084.58	32183.52	32183.52	13.76	No	Si
SLU 69	7.9	-41.74	-24861	-0.0000535	0.0003743	0.0035	2.6557	22170.63	26955.15	26955.15	645.72	No	Si
SLU 78	4.35	2500.29	-40091	-0.0001057	0.0003743	0.0035	2.6557	25043.19	33878.29	33878.29	13.55	No	Si
SLU 78	7.9	-34.97	-27190	-0.0000589	0.0003743	0.0035	2.6557	23136.98	28324.66	28324.66	809.94	No	Si
SLU 80	4.35	2488.56	-39799	-0.0001048	0.0003743	0.0035	2.6557	25064.6	33803.81	33803.81	13.58	No	Si
SLU 80	7.9	-39.14	-26925	-0.0000583	0.0003743	0.0035	2.6557	23036.55	28164.24	28164.24	719.49	No	Si
SLU 77	4.35	2546.61	-39964	-0.0001056	0.0003743	0.0035	2.6557	25052.87	33845.85	33845.85	13.29	No	Si
SLU 77	7.9	-64.87	-27112	-0.0000589	0.0003743	0.0035	2.6557	23107.63	28277.25	28277.25	435.88	No	Si
SLU 71	4.35	2327.74	-35934	-0.0000933	0.0003743	0.0035	2.6557	25066.44	32018.54	32018.54	13.76	No	Si
SLU 71	7.9	-45.92	-24596	-0.0000529	0.0003743	0.0035	2.6557	22048.54	26804.89	26804.89	583.77	No	Si
SLU 81	4.35	2511.94	-40179	-0.000106	0.0003743	0.0035	2.6557	25036.14	33900.88	33900.88	13.5	No	Si
SLU 81	7.9	-135.97	-26767	-0.0000584	0.0003743	0.0035	2.6557	22975.44	28069.04	28069.04	206.43	No	Si
SLU 83	4.35	2567.79	-40726	-0.0001078	0.0003743	0.0035	2.6557	24986.18	34036.29	34036.29	13.26	No	Si
SLU 83	7.9	-107.47	-27289	-0.0000595	0.0003743	0.0035	2.6557	23173.81	28384.81	28384.81	264.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	4.35	5864.15	-15698	-0.0000596	0.0005615	0.0035	2.6557		18688.26	18688.26	3.19		Si
SLV 8	7.9	-1559.09	-10822	-0.000029	0.0005615	0.0035	2.6557		15171.63	15171.63	9.73		Si
SLV 11	4.35	6515.35	-16636	-0.0000648	0.0005615	0.0035	2.6557		19603.08	19603.08	3.01		Si
SLV 11	7.9	-1317	-12073	-0.0000305	0.0005615	0.0035	2.6557		16566.33	16566.33	12.58		Si
SLV 7	4.35	5947.89	-15539	-0.0000597	0.0005615	0.0035	2.6557		18534.21	18534.21	3.12		Si
SLV 7	7.9	-1555.65	-10763	-0.0000289	0.0005615	0.0035	2.6557		15106.11	15106.11	9.71		Si
SLV 16	4.35	3936.27	-25649	-0.0000726	0.0005615	0.0035	2.6557		28634.87	28634.87	7.27		Si
SLV 16	7.9	-96.34	-18340	-0.0000381	0.0005615	0.0035	2.6557		23249.27	23249.27	241.32		Si
SLD 12	4.35	4644.78	-20635	-0.0000647	0.0005615	0.0035	2.6557		23575.06	23575.06	5.08		Si
SLD 12	7.9	-858.89	-14403	-0.0000333	0.0005615	0.0035	2.6557		19124.24	19124.24	22.27		Si
SLD 8	4.35	4281.54	-19932	-0.0000614	0.0005615	0.0035	2.6557		22868.66	22868.66	5.34		Si
SLD 8	7.9	-1013.83	-13566	-0.0000322	0.0005615	0.0035	2.6557		18231.96	18231.96	17.98		Si
SLD 11	4.35	4697.46	-20535	-0.0000648	0.0005615	0.0035	2.6557		23474.53	23474.53	5		Si
SLD 11	7.9	-856.73	-14366	-0.0000332	0.0005615	0.0035	2.6557		19084.42	19084.42	22.28		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	4.35	4334.21	-19832	-0.0000615	0.0005615	0.0035	2.6557		22768.6	22768.6	5.25		Si
SLD 7	7.9	-1011.67	-13528	-0.0000321	0.0005615	0.0035	2.6557		18192.48	18192.48	17.98		Si
SLV 12	4.35	6431.61	-16794	-0.0000647	0.0005615	0.0035	2.6557		19758.44	19758.44	3.07		Si
SLV 12	7.9	-1320.43	-12132	-0.0000306	0.0005615	0.0035	2.6557		16632.73	16632.73	12.6		Si
SLV 15	4.35	4060.64	-25413	-0.0000727	0.0005615	0.0035	2.6557		28432.96	28432.96	7		Si
SLV 15	7.9	-91.24	-18252	-0.0000378	0.0005615	0.0035	2.6557		23158.31	23158.31	253.82		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	4.35	2500.29	-40091	-33384	4718	2.6557	2.6557	-44896	10833	12667	40441	22266	6772	29038	No	6.15	Si
SLU 78	7.9	-34.97	-27190	-22642	5206	2.6557	2.6557	-30449	10833	9453	40441	22266	6772	29038	No	5.58	Si
SLU 83	4.35	2567.79	-40726	-33913	4968	2.6557	2.6557	-45608	10833	12825	40441	22266	6772	29038	No	5.85	Si
SLU 83	7.9	-107.47	-27289	-22724	5482	2.6557	2.6557	-30560	10833	9477	40441	22266	6772	29038	No	5.3	Si
SLU 79	4.35	2534.87	-39672	-33035	4866	2.6557	2.6557	-44427	10833	12563	40441	22266	6772	29038	No	5.97	Si
SLU 79	7.9	-69.05	-26847	-22356	5367	2.6557	2.6557	-30065	10833	9367	40441	22266	6772	29038	No	5.41	Si
SLU 75	4.35	2444.44	-39543	-32928	4676	2.6557	2.6557	-44282	10833	12530	40441	22266	6772	29038	No	6.21	Si
SLU 75	7.9	-63.48	-26668	-22207	5143	2.6557	2.6557	-29864	10833	9322	40441	22266	6772	29038	No	5.65	Si
SLU 82	4.35	2465.63	-40306	-33563	4766	2.6557	2.6557	-45137	10833	12720	40441	22266	6772	29038	No	6.09	Si
SLU 82	7.9	-106.07	-26845	-22354	5238	2.6557	2.6557	-30063	10833	9367	40441	22266	6772	29038	No	5.54	Si
SLU 74	4.35	2490.76	-39416	-32822	4834	2.6557	2.6557	-44140	10833	12499	40441	22266	6772	29038	No	6.01	Si
SLU 74	7.9	-93.38	-26590	-22141	5324	2.6557	2.6557	-29777	10833	9303	40441	22266	6772	29038	No	5.45	Si
SLU 84	4.35	2521.48	-40853	-34019	4809	2.6557	2.6557	-45750	10833	12857	40441	22266	6772	29038	No	6.04	Si
SLU 84	7.9	-77.56	-27367	-22789	5301	2.6557	2.6557	-30648	10833	9497	40441	22266	6772	29038	No	5.48	Si
SLU 80	4.35	2488.56	-39799	-33141	4707	2.6557	2.6557	-44569	10833	12594	40441	22266	6772	29038	No	6.17	Si
SLU 80	7.9	-39.14	-26925	-22421	5186	2.6557	2.6557	-30152	10833	9387	40441	22266	6772	29038	No	5.6	Si
SLU 81	4.35	2511.94	-40179	-33457	4925	2.6557	2.6557	-44995	10833	12689	40441	22266	6772	29038	No	5.9	Si
SLU 81	7.9	-135.97	-26767	-22289	5419	2.6557	2.6557	-29975	10833	9347	40441	22266	6772	29038	No	5.36	Si
SLU 77	4.35	2546.61	-39964	-33278	4877	2.6557	2.6557	-44754	10833	12635	40441	22266	6772	29038	No	5.95	Si
SLU 77	7.9	-64.87	-27112	-22577	5387	2.6557	2.6557	-30362	10833	9433	40441	22266	6772	29038	No	5.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	4.35	5947.89	-15539	-12940	16147	2.6557	2.6557	-17401	13897	10334	40441	33399	6772	40171		2.49	Si
SLV 7	7.9	-1555.65	-10763	-8963	15979	2.6557	2.6557	-12053	12827	9538	40441	33399	6772	40171		2.51	Si
SLD 7	4.35	4334.21	-19832	-16515	11351	2.6557	2.6557	-22209	14859	11049	40441	33399	6772	40171		3.54	Si
SLD 7	7.9	-1011.67	-13528	-11265	11348	2.6557	2.6557	-15150	13447	9999	40441	33399	6772	40171		3.54	Si
SLV 11	4.35	6515.35	-16636	-13853	15762	2.6557	2.6557	-18630	14143	10516	40441	33399	6772	40171		2.55	Si
SLV 11	7.9	-1317	-12073	-10054	16414	2.6557	2.6557	-13520	13121	9756	40441	33399	6772	40171		2.45	Si
SLV 10	4.35	-2531.4	-38326	-31914	-9289	2.6557	2.6557	-42920	16250	13566	40441	33399	6772	40171		4.32	Si
SLV 10	7.9	1383.84	-25460	-21201	-8528	2.6557	2.6557	-28511	16119	11986	40441	33399	6772	40171		4.71	Si
SLV 12	4.35	6431.61	-16794	-13985	15686	2.6557	2.6557	-18807	14178	10543	40441	33399	6772	40171		2.56	Si
SLV 12	7.9	-1320.43	-12132	-10103	16254	2.6557	2.6557	-13587	13134	9766	40441	33399	6772	40171		2.47	Si
SLV 9	4.35	-2447.66	-38167	-31782	-9213	2.6557	2.6557	-42742	16250	13527	40441	33399	6772	40171		4.36	Si
SLV 9	7.9	1387.27	-25401	-21151	-8368	2.6557	2.6557	-28445	16106	11976	40441	33399	6772	40171		4.8	Si
SLV 8	4.35	5864.15	-15698	-13072	16071	2.6557	2.6557	-17579	13932	10360	40441	33399	6772	40171		2.5	Si
SLV 8	7.9	-1559.09	-10822	-9012	15819	2.6557	2.6557	-12119	12841	9548	40441	33399	6772	40171		2.54	Si
SLD 11	4.35	4697.46	-20535	-17100	11105	2.6557	2.6557	-22996	15016	11166	40441	33399	6772	40171		3.62	Si
SLD 11	7.9	-856.73	-14366	-11963	11626	2.6557	2.6557	-16088	13634	10138	40441	33399	6772	40171		3.46	Si
SLD 12	4.35	4644.78	-20635	-17183	11057	2.6557	2.6557	-23108	15038	11182	40441	33399	6772	40171		3.63	Si
SLD 12	7.9	-858.89	-14403	-11994	11525	2.6557	2.6557	-16129	13643	10144	40441	33399	6772	40171		3.49	Si
SLD 8	4.35	4281.54	-19932	-16598	11304	2.6557	2.6557	-22321	14881	11065	40441	33399	6772	40171		3.55	Si
SLD 8	7.9	-1013.83	-13566	-11296	11247	2.6557	2.6557	-15191	13455	10005	40441	33399	6772	40171		3.57	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.38	16613	-12353	281.28	1541.32	5.48	Si
SLV 8	179667	0.38	16629	-12365	281.28	1542.62	5.48	Si
SLV 11	179667	0.38	18890	-14046	281.28	1723.21	6.13	Si
SLV 12	179667	0.38	18905	-14058	281.28	1724.46	6.13	Si
SLV 3	179667	0.38	22774	-16934	281.28	2017.26	7.17	Si
SLV 4	179667	0.38	22798	-16952	281.28	2019	7.18	Si
SLV 1	179667	0.38	30334	-22556	281.28	2530.61	9	Si
SLV 2	179667	0.38	30358	-22574	281.28	2532.1	9	Si
SLV 15	179667	0.38	30362	-22577	281.28	2532.35	9	Si
SLV 16	179667	0.38	30386	-22594	281.28	2533.83	9.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-22338	-32108	592	0.623	2646.5	0.958	9.44519	6.9554	Si
SLV 13	-22250	-31872	593	0.625	2637.5	0.958	9.47788	6.9554	Si
SLV 16	-18340	-25649	609	0.735	2240.1	0.952	11.21896	6.9554	Si
SLV 15	-18252	-25413	609	0.738	2231.2	0.952	11.26604	6.9554	Si
SLV 2	-17971	-28452	-576	0.749	2202.7	0.951	11.4446	6.9554	Si
SLV 1	-17883	-28216	-576	0.752	2193.7	0.951	11.49391	6.9554	Si
SLV 10	-25460	-38326	164	0.573	2964	0.962	8.64946	4.64355	Si
SLV 9	-25401	-38167	165	0.574	2957.9	0.962	8.66716	4.64355	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-24150	-37229	-186	0.598	2830.7	0.961	9.05	4.64355	Si
SLV 5	-24090	-37070	-186	0.6	2824.7	0.961	9.0697	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.255	SLU 83	Si
V_SLU	5.297	SLU 83	Si
PF_SLV	3.009	SLV 11	Si
V_SLV	2.447	SLV 11	Si
PFFP_SLV	5.48	SLV 7	Si
R_SLV	1.358	SLV 14	Si

Maschio 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	0.907	-11.003	1.141	L5	L6	0.234	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 56	4.35	106.39	-3462	-0.0001712	0.0003743	0.0035	0.1873	195.01	260.24	260.24	2.45	No	Si
SLU 56	7.9	70.66	-3105	-0.00013	0.0003743	0.0035	0.1873	194.35	246.66	246.66	3.49	No	Si
SLU 49	4.35	103.01	-3169	-0.0001573	0.0003743	0.0035	0.1873	194.79	249.06	249.06	2.42	No	Si
SLU 49	7.9	51.84	-2801	-0.0001063	0.0003743	0.0035	0.1873	190.26	233.39	233.39	4.5	No	Si
SLU 50	4.35	104	-3141	-0.0001571	0.0003743	0.0035	0.1873	194.62	248.02	248.02	2.38	No	Si
SLU 50	7.9	48.36	-2762	-0.0001025	0.0003743	0.0035	0.1873	189.49	231.02	231.02	4.78	No	Si
SLU 43	4.35	98.93	-3003	-0.0001481	0.0003743	0.0035	0.1873	193.34	242.58	242.58	2.45	No	Si
SLU 43	7.9	47.31	-2601	-0.0000969	0.0003743	0.0035	0.1873	185.79	221.59	221.59	4.68	No	Si
SLU 45	4.35	102.37	-3102	-0.0001544	0.0003743	0.0035	0.1873	194.32	246.53	246.53	2.41	No	Si
SLU 45	7.9	48.49	-2713	-0.0001011	0.0003743	0.0035	0.1873	188.46	228.13	228.13	4.7	No	Si
SLU 39	4.35	79.8	-3186	-0.0001398	0.0003743	0.0035	0.1873	194.89	249.68	249.68	3.13	No	Si
SLU 39	7.9	98.84	-2965	-0.0001467	0.0003743	0.0035	0.1873	192.86	240.98	240.98	2.44	No	Si
SLU 48	4.35	104.9	-3171	-0.0001589	0.0003743	0.0035	0.1873	194.81	249.13	249.13	2.37	No	Si
SLU 48	7.9	49.01	-2793	-0.000104	0.0003743	0.0035	0.1873	190.11	232.92	232.92	4.75	No	Si
SLU 51	4.35	102.11	-3139	-0.0001555	0.0003743	0.0035	0.1873	194.6	247.95	247.95	2.43	No	Si
SLU 51	7.9	51.18	-2770	-0.0001048	0.0003743	0.0035	0.1873	189.65	231.49	231.49	4.52	No	Si
SLU 40	4.35	77.91	-3184	-0.0001383	0.0003743	0.0035	0.1873	194.88	249.61	249.61	3.2	No	Si
SLU 40	7.9	101.66	-2973	-0.0001492	0.0003743	0.0035	0.1873	192.96	241.31	241.31	2.37	No	Si
SLU 42	4.35	80.44	-3253	-0.0001426	0.0003743	0.0035	0.1873	195.17	252.16	252.16	3.13	No	Si
SLU 42	7.9	102.19	-3053	-0.0001525	0.0003743	0.0035	0.1873	193.88	244.61	244.61	2.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	4.35	-81.01	-2198	-0.0001032	0.0005615	0.0035	0.1873		216.77	216.77	2.68		Si
SLV 6	7.9	230.25	-2633	-0.0004623	0.0005615	0.0035	0.1873		250.23	250.23	1.09		Si
SLV 7	4.35	245.38	-3057	-0.0004101	0.0005615	0.0035	0.1873		279.85	279.85	1.14		Si
SLV 7	7.9	-177.01	-2162	-0.0002651	0.0005615	0.0035	0.1873		213.85	213.85	1.21		Si
SLV 13	4.35	12.66	-2350	-0.0000636	0.0005615	0.0035	0.1873		228.87	228.87	18.08		Si
SLV 13	7.9	214.92	-2110	-0.0061393	0.0005615	0.0035	0.1873		209.74	209.74	0.98		No
SLD 9	4.35	-26.75	-2304	-0.0000713	0.0005615	0.0035	0.1873		225.21	225.21	8.42		Si
SLD 9	7.9	200.89	-2411	-0.0003254	0.0005615	0.0035	0.1873		233.65	233.65	1.16		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	4.35	11	-2350	-0.0000625	0.0005615	0.0035	0.1873		228.86	228.86	20.8		Si
SLV 14	7.9	217.12	-2113	-0.0067316	0.0005615	0.0035	0.1873		209.93	209.93	0.97		No
SLV 5	4.35	-79.89	-2198	-0.0001025	0.0005615	0.0035	0.1873		216.77	216.77	2.71		Si
SLV 5	7.9	228.77	-2632	-0.0004474	0.0005615	0.0035	0.1873		250.12	250.12	1.09		Si
SLV 9	4.35	-89.85	-2129	-0.0001075	0.0005615	0.0035	0.1873		211.24	211.24	2.35		Si
SLV 9	7.9	288.09	-2467	-0.3844722	0.0005615	0.0035	0.1873		237.82	237.82	0.83		No
SLV 8	4.35	244.26	-3057	-0.0004035	0.0005615	0.0035	0.1873		279.85	279.85	1.15		Si
SLV 8	7.9	-175.53	-2163	-0.0002582	0.0005615	0.0035	0.1873		213.97	213.97	1.22		Si
SLD 10	4.35	-27.45	-2304	-0.0000717	0.0005615	0.0035	0.1873		225.21	225.21	8.2		Si
SLD 10	7.9	201.82	-2412	-0.0003305	0.0005615	0.0035	0.1873		233.72	233.72	1.16		Si
SLV 10	4.35	-90.96	-2129	-0.0001083	0.0005615	0.0035	0.1873		211.24	211.24	2.32		Si
SLV 10	7.9	289.57	-2469	0	0.0005615	0.0035	0.1873		237.93	237.93	0.82		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	4.35	104.84	-3794	-3159	851	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.41	Si
SLU 80	7.9	97.77	-3492	-2908	-875	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.34	Si
SLU 75	4.35	103.21	-3755	-3127	840	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.44	Si
SLU 75	7.9	97.9	-3443	-2867	-872	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.35	Si
SLU 73	4.35	98.51	-3655	-3044	808	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.53	Si
SLU 73	7.9	98.61	-3336	-2778	-867	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.36	Si
SLU 76	4.35	101.05	-3724	-3101	826	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.48	Si
SLU 76	7.9	99.13	-3417	-2845	-877	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.33	Si
SLU 78	4.35	105.75	-3824	-3184	858	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.39	Si
SLU 78	7.9	98.43	-3524	-2934	-883	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.32	Si
SLU 82	4.35	100.41	-3781	-3149	834	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.46	Si
SLU 82	7.9	106.01	-3465	-2885	-915	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.24	Si
SLU 84	4.35	102.95	-3850	-3206	852	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.4	Si
SLU 84	7.9	106.53	-3545	-2952	-926	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.21	Si
SLU 83	4.35	104.84	-3852	-3207	863	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.37	Si
SLU 83	7.9	103.7	-3537	-2945	-907	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.26	Si
SLU 81	4.35	102.3	-3783	-3150	845	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.42	Si
SLU 81	7.9	103.18	-3457	-2878	-896	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.28	Si
SLU 77	4.35	107.64	-3825	-3186	869	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.36	Si
SLU 77	7.9	95.6	-3516	-2928	-864	0.1873	0.2341	0	0	0	40441	1570	478	2048	No	2.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	4.35	245.38	-3057	-2546	1562	0.1873	0.1104	0	0	0	40441	2355	478	2833		1.81	Si
SLV 7	7.9	-177.01	-2162	-1800	1012	0.1873	0.1055	0	0	0	40441	2355	478	2833		2.8	Si
SLV 6	4.35	-81.01	-2198	-1830	-335	0.1873	0.2341	0	0	0	40441	2355	478	2833		8.46	Si
SLV 6	7.9	230.25	-2633	-2193	-1674	0.1873	0.0888	0	0	0	40441	2355	478	2833		1.69	Si
SLV 13	4.35	12.66	-2350	-1957	299	0.1873	0.2341	0	0	0	40441	2355	478	2833		9.49	Si
SLV 13	7.9	214.92	-2110	-1757	-1606	0.1873	0.0456	0	0	0	40441	2355	478	2833		1.76	Si
SLV 14	4.35	11	-2350	-1956	288	0.1873	0.2341	0	0	0	40441	2355	478	2833		9.83	Si
SLV 14	7.9	217.12	-2113	-1759	-1620	0.1873	0.0429	0	0	0	40441	2355	478	2833		1.75	Si
SLV 11	4.35	235.43	-2988	-2488	1545	0.1873	0.1148	0	0	0	40441	2355	478	2833		1.83	Si
SLV 11	7.9	-117.69	-1997	-1663	606	0.1873	0.1744	0	0	0	40441	2355	478	2833		4.68	Si
SLV 12	4.35	234.31	-2988	-2488	1538	0.1873	0.1159	0	0	0	40441	2355	478	2833		1.84	Si
SLV 12	7.9	-116.21	-1999	-1664	596	0.1873	0.1767	0	0	0	40441	2355	478	2833		4.75	Si
SLV 8	4.35	244.26	-3057	-2546	1555	0.1873	0.1115	0	0	0	40441	2355	478	2833		1.82	Si
SLV 8	7.9	-175.53	-2163	-1801	1002	0.1873	0.1077	0	0	0	40441	2355	478	2833		2.83	Si
SLV 5	4.35	-79.89	-2198	-1830	-328	0.1873	0.2341	0	0	0	40441	2355	478	2833		8.64	Si
SLV 5	7.9	228.77	-2632	-2192	-1665	0.1873	0.0904	0	0	0	40441	2355	478	2833		1.7	Si
SLV 9	4.35	-89.85	-2129	-1773	-345	0.1873	0.2246	0	0	0	40441	2355	478	2833		8.22	Si
SLV 9	7.9	288.09	-2467	-2055	-2071	0.1873	0.0009	0	0	0	40441	2355	478	2833		1.37	Si
SLV 10	4.35	-90.96	-2129	-1773	-352	0.1873	0.223	0	0	0	40441	2355	478	2833		8.05	Si
SLV 10	7.9	289.57	-2469	-2056	-2081	0.1873	0	0	0	0	40441	2355	478	2833		1.36	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.38	20317	-1332	24.8	161.65	6.52	Si
SLV 4	179667	0.38	20373	-1335	24.8	162.02	6.53	Si
SLV 1	179667	0.38	20447	-1340	24.8	162.52	6.55	Si
SLV 3	179667	0.38	20502	-1344	24.8	162.89	6.57	Si
SLV 6	179667	0.38	32091	-2104	24.8	232.61	9.38	Si
SLV 5	179667	0.38	32178	-2109	24.8	233.07	9.4	Si
SLV 8	179667	0.38	32275	-2116	24.8	233.59	9.42	Si
SLV 7	179667	0.38	32362	-2121	24.8	234.05	9.44	Si
SLV 10	179667	0.38	42219	-2767	24.8	280.33	11.31	Si
SLV 9	179667	0.38	42306	-2773	24.8	280.69	11.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-2661	-2579	2	0.5	303.7	0.967	7.50938	6.9554	Si
SLV 1	-2659	-2579	2	0.5	303.5	0.967	7.51514	6.9554	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-2520	-2837	3	0.523	289.3	0.966	7.87446	6.9554	Si
SLV 3	-2518	-2837	3	0.524	289.1	0.966	7.88085	6.9554	Si
SLV 14	-2113	-2350	-3	0.608	247.9	0.961	9.20118	6.9554	Si
SLV 13	-2110	-2350	-3	0.609	247.7	0.961	9.20986	6.9554	Si
SLV 16	-1972	-2607	-2	0.645	233.5	0.958	9.78576	6.9554	Si
SLV 15	-1969	-2607	-2	0.646	233.3	0.958	9.79566	6.9554	Si
SLV 6	-2633	-2198	-1	0.505	300.9	0.967	7.58444	4.64355	Si
SLV 5	-2632	-2198	-1	0.505	300.7	0.967	7.58829	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.374	SLU 40	Si
V_SLU	2.211	SLU 84	Si
PF_SLV	0.822	SLV 10	No
V_SLV	1.362	SLV 10	Si
PFFP_SLV	6.519	SLV 2	Si
R_SLV	1.08	SLV 2	Si

Maschio 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.661	L5	L6	5.52	0.2	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	4.35	-32225.23	-42994	-0.0000992	0.0004492	0.0035	5.52	80843.1	117040.45	117040.45	3.63	No	Si
SLU 40	7.9	3818.78	-31251	-0.0000431	0.0004492	0.0035	5.52	66270.65	77879.77	77879.77	20.39	No	Si
SLU 83	4.35	-36888.26	-52301	-0.0001198	0.0004492	0.0035	5.52	88383.53	133983.36	133983.36	3.63	No	Si
SLU 83	7.9	3984.06	-37842	-0.0000518	0.0004492	0.0035	5.52	75144.52	90987.33	90987.33	22.84	No	Si
SLU 76	4.35	-36563.38	-50315	-0.0001164	0.0004492	0.0035	5.52	87071.82	130535.99	130535.99	3.57	No	Si
SLU 76	7.9	3773.84	-36461	-0.0000497	0.0004492	0.0035	5.52	73432.89	88241.67	88241.67	23.38	No	Si
SLU 78	4.35	-36557.08	-51976	-0.0001188	0.0004492	0.0035	5.52	88180.15	133419.84	133419.84	3.65	No	Si
SLU 78	7.9	3846.37	-37851	-0.0000516	0.0004492	0.0035	5.52	75155.15	91004.77	91004.77	23.66	No	Si
SLU 73	4.35	-36441.72	-49240	-0.0001146	0.0004492	0.0035	5.52	86294.59	128670.25	128670.25	3.53	No	Si
SLU 73	7.9	3725.37	-35527	-0.0000484	0.0004492	0.0035	5.52	72229.63	86382.55	86382.55	23.19	No	Si
SLU 61	4.35	-33398.63	-45476	-0.0001045	0.0004492	0.0035	5.52	83200.31	121668.75	121668.75	3.64	No	Si
SLU 61	7.9	3085.01	-32555	-0.0000437	0.0004492	0.0035	5.52	68167.5	80473.23	80473.23	26.09	No	Si
SLU 81	4.35	-36766.6	-51226	-0.000118	0.0004492	0.0035	5.52	87693.66	132117.62	132117.62	3.59	No	Si
SLU 81	7.9	3935.59	-36907	-0.0000505	0.0004492	0.0035	5.52	73994.08	89128.21	89128.21	22.65	No	Si
SLU 75	4.35	-36435.42	-50901	-0.000117	0.0004492	0.0035	5.52	87476	131554.1	131554.1	3.61	No	Si
SLU 75	7.9	3797.9	-36916	-0.0000503	0.0004492	0.0035	5.52	74005.04	89145.65	89145.65	23.47	No	Si
SLU 84	4.35	-37618.6	-52019	-0.0001205	0.0004492	0.0035	5.52	88207.46	133494.8	133494.8	3.55	No	Si
SLU 84	7.9	4059.36	-37715	-0.0000517	0.0004492	0.0035	5.52	74989.97	90734.18	90734.18	22.35	No	Si
SLU 82	4.35	-37496.94	-50945	-0.0001187	0.0004492	0.0035	5.52	87505.21	131629.06	131629.06	3.51	No	Si
SLU 82	7.9	4010.89	-36780	-0.0000504	0.0004492	0.0035	5.52	73834.66	88875.05	88875.05	22.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	4.35	-50198.34	-27830	-0.0001343	0.0006738	0.0035	4.416		87724.29	87724.29	1.75		Si
SLV 13	7.9	2826.03	-22653	-0.0000306	0.0006738	0.0035	5.52		60913.26	60913.26	21.55		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	4.35	-52185.51	-27294	-0.0001492	0.0006738	0.0035	4.416		86478.36	86478.36	1.66		Si
SLV 14	7.9	3257.79	-22467	-0.000031	0.0006738	0.0035	5.52		60465.84	60465.84	18.56		Si
SLD 5	4.35	-57507.94	-21936	-0.0003987	0.0006738	0.0035	4.416		74018.68	74018.68	1.29		Si
SLD 5	7.9	2678.47	-18144	-0.000025	0.0006738	0.0035	5.52		49961.35	49961.35	18.65		Si
SLD 10	4.35	-62083.95	-21267	-0.0006132	0.0006738	0.0035	4.416		72386.76	72386.76	1.17		Si
SLD 10	7.9	3067.62	-18335	-0.0000257	0.0006738	0.0035	5.52		50428.6	50428.6	16.44		Si
SLD 6	4.35	-58349.57	-21708	-0.0004427	0.0006738	0.0035	4.416		73464.19	73464.19	1.26		Si
SLD 6	7.9	2861.33	-18065	-0.0000251	0.0006738	0.0035	5.52		49767.93	49767.93	17.39		Si
SLV 10	4.35	-84793.91	-12774	-0.0022163	0.0006738	0.0035	4.416		51588.29	51588.29	0.61		No
SLV 10	7.9	3530.94	-14117	-0.0000212	0.0006738	0.0035	5.52		39919.63	39919.63	11.31		Si
SLV 9	4.35	-83456.02	-13135	-0.0021261	0.0006738	0.0035	4.416		52497.72	52497.72	0.63		No
SLV 9	7.9	3240.25	-14242	-0.000021	0.0006738	0.0035	5.52		40235.85	40235.85	12.42		Si
SLV 6	4.35	-78968.11	-13467	-0.0018791	0.0006738	0.0035	4.416		53333	53333	0.68		No
SLV 6	7.9	3204.29	-13698	-0.0000203	0.0006738	0.0035	5.52		38862.89	38862.89	12.13		Si
SLV 5	4.35	-77630.22	-13828	-0.0017947	0.0006738	0.0035	4.416		54240.53	54240.53	0.7		No
SLV 5	7.9	2913.6	-13823	-0.0000201	0.0006738	0.0035	5.52		39179.11	39179.11	13.45		Si
SLD 9	4.35	-61242.32	-21494	-0.000564	0.0006738	0.0035	4.416		72941.26	72941.26	1.19		Si
SLD 9	7.9	2884.75	-18414	-0.0000256	0.0006738	0.0035	5.52		50621.25	50621.25	17.55		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	4.35	-37496.94	-50945	-32604	-8475	5.52	5.52	-29533	10833	19419	115546	39675	28152	67827	No	8	Si
SLU 82	7.9	4010.89	-36780	-23539	-8471	5.52	5.52	-21322	10833	15793	115546	39675	28152	67827	No	8.01	Si
SLU 78	4.35	-36557.08	-51976	-33265	-8195	5.52	5.52	-30131	10833	19683	115546	39675	28152	67827	No	8.28	Si
SLU 78	7.9	3846.37	-37851	-24225	-8189	5.52	5.52	-21943	10833	16067	115546	39675	28152	67827	No	8.28	Si
SLU 75	4.35	-36435.42	-50901	-32577	-8256	5.52	5.52	-29508	10833	19408	115546	39675	28152	67827	No	8.22	Si
SLU 75	7.9	3797.9	-36916	-23626	-8250	5.52	5.52	-21401	10833	15828	115546	39675	28152	67827	No	8.22	Si
SLU 73	4.35	-36441.72	-49240	-31514	-8449	5.52	5.52	-28545	10833	18982	115546	39675	28152	67827	No	8.03	Si
SLU 73	7.9	3725.37	-35527	-22737	-8443	5.52	5.52	-20595	10833	15472	115546	39675	28152	67827	No	8.03	Si
SLU 76	4.35	-36563.38	-50315	-32201	-8388	5.52	5.52	-29168	10833	19258	115546	39675	28152	67827	No	8.09	Si
SLU 76	7.9	3773.84	-36461	-23335	-8381	5.52	5.52	-21137	10833	15711	115546	39675	28152	67827	No	8.09	Si
SLU 80	4.35	-36198.15	-51577	-33009	-8096	5.52	5.52	-29900	10833	19581	115546	39675	28152	67827	No	8.38	Si
SLU 80	7.9	3772.12	-37481	-23988	-8089	5.52	5.52	-21728	10833	15972	115546	39675	28152	67827	No	8.38	Si
SLU 83	4.35	-36888.26	-52301	-33473	-8068	5.52	5.52	-30319	10833	19766	115546	39675	28152	67827	No	8.41	Si
SLU 83	7.9	3984.06	-37842	-24219	-8063	5.52	5.52	-21937	10833	16065	115546	39675	28152	67827	No	8.41	Si
SLU 74	4.35	-35705.07	-51183	-32757	-7909	5.52	5.52	-29671	10833	19480	115546	39675	28152	67827	No	8.58	Si
SLU 74	7.9	3722.6	-37043	-23708	-7903	5.52	5.52	-21474	10833	15860	115546	39675	28152	67827	No	8.58	Si
SLU 81	4.35	-36766.6	-51226	-32785	-8129	5.52	5.52	-29696	10833	19491	115546	39675	28152	67827	No	8.34	Si
SLU 81	7.9	3935.59	-36907	-23621	-8124	5.52	5.52	-21396	10833	15825	115546	39675	28152	67827	No	8.35	Si
SLU 84	4.35	-37618.6	-52019	-33292	-8415	5.52	5.52	-30156	10833	19694	115546	39675	28152	67827	No	8.06	Si
SLU 84	7.9	4059.36	-37715	-24138	-8409	5.52	5.52	-21864	10833	16032	115546	39675	28152	67827	No	8.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	4.35	-84793.91	-12774	-8175	-32900	4.416	0	0	0	0	115546	47610	22522	70132		2.13	Si
SLV 10	7.9	3530.94	-14117	-9035	-30894	5.52	5.52	-8184	14137	15607	115546	59513	28152	87665		2.84	Si
SLV 6	4.35	-78968.11	-13467	-8619	-30310	4.416	0	0	0	0	115546	47610	22522	70132		2.31	Si
SLV 6	7.9	3204.29	-13698	-8767	-28304	5.52	5.52	-7941	14088	15553	115546	59513	28152	87665		3.1	Si
SLV 5	4.35	-77630.22	-13828	-8850	-29668	4.416	0	0	0	0	115546	47610	22522	70132		2.36	Si
SLV 5	7.9	2913.6	-13823	-8847	-27663	5.52	5.52	-8013	14103	15569	115546	59513	28152	87665		3.17	Si
SLD 9	4.35	-61242.32	-21494	-13756	-22223	4.416	0	0	0	0	115546	47610	22522	70132		3.16	Si
SLD 9	7.9	2884.75	-18414	-11785	-20992	5.52	5.52	-10675	14635	16157	115546	59513	28152	87665		4.18	Si
SLD 5	4.35	-57507.94	-21936	-14039	-20566	4.416	0.415	0	0	0	115546	47610	22522	70132		3.41	Si
SLD 5	7.9	2678.47	-18144	-11612	-19332	5.52	5.52	-10518	14604	16122	115546	59513	28152	87665		4.53	Si
SLV 9	4.35	-83456.02	-13135	-8407	-32257	4.416	0	0	0	0	115546	47610	22522	70132		2.17	Si
SLV 9	7.9	3240.25	-14242	-9115	-30253	5.52	5.52	-8256	14151	15623	115546	59513	28152	87665		2.9	Si
SLV 14	4.35	-52185.51	-27294	-17468	-18096	4.416	2.544	0	0	0	115546	47610	22522	70132		3.88	Si
SLV 14	7.9	3257.79	-22467	-14379	-17491	5.52	5.52	-13024	15105	16676	115546	59513	28152	87665		5.01	Si
SLD 6	4.35	-58349.57	-21708	-13893	-20970	4.416	0.2163	0	0	0	115546	47610	22522	70132		3.34	Si
SLD 6	7.9	2861.33	-18065	-11561	-19736	5.52	5.52	-10472	14594	16112	115546	59513	28152	87665		4.44	Si
SLV 7	4.35	35883.51	-57875	-37040	21706	5.52	5.52	-33551	16250	24382	115546	59513	28152	87665		4.04	Si
SLV 7	7.9	842.83	-36372	-23278	19711	5.52	5.52	-21086	16250	18877	115546	59513	28152	87665		4.45	Si
SLD 10	4.35	-62083.95	-21267	-13611	-22627	4.416	0	0	0	0	115546	47610	22522	70132		3.1	Si
SLD 10	7.9	3067.62	-18335	-11734	-21396	5.52	5.52	-10629	14626	16147	115546	59513	28152	87665		4.1	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-9210	0.38	427.79	879.08	1572.49	1225.78	2.87	Si
SLV 9	-9571	0.38	427.79	911.85	1614.25	1263.05	2.95	Si
SLV 6	-9899	0.38	427.79	941.45	1652.08	1296.76	3.03	Si
SLV 5	-10260	0.38	427.79	973.98	1693.71	1333.84	3.12	Si
SLV 14	-23775	0.38	427.79	2098.17	3223.23	2660.7	6.22	Si
SLV 13	-24312	0.38	427.79	2139.08	3282.72	2710.9	6.34	Si
SLV 2	-26071	0.38	427.79	2271.19	3476.42	2873.81	6.72	Si
SLV 1	-26608	0.38	427.79	2310.88	3535.58	2923.23	6.83	Si
SLV 16	-37024	0.38	427.79	3024.93	4675.78	3850.35	9	Si
SLV 15	-37560	0.38	427.79	3058.81	4733.07	3895.94	9.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.04 Ta = 0.1052

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-29418	-41044	1094	0.939	3548.3	0.954	14.30099	9.72403	Si
SLV 16	-29232	-40508	1094	0.944	3529.4	0.954	14.38305	9.72403	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-28022	-43355	-1233	0.975	3406.5	0.953	14.87354	9.72403	Si
SLV 4	-27836	-42818	-1233	0.981	3387.6	0.952	14.96297	9.72403	Si
SLV 13	-22653	-27830	1230	1.169	2861.5	0.945	17.98442	9.72403	Si
SLV 14	-22467	-27294	1230	1.177	2842.6	0.945	18.11608	9.72403	Si
SLV 1	-21257	-30141	-1097	1.239	2720	0.942	19.10466	9.72403	Si
SLV 2	-21071	-29604	-1097	1.248	2701.1	0.942	19.25297	9.72403	Si
SLV 7	-36372	-57875	-578	0.793	4255.3	0.961	11.99341	5.41577	Si
SLV 8	-36247	-57513	-578	0.796	4242.6	0.961	12.0312	5.41577	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.51	SLU 82	Si
V_SLU	8.003	SLU 82	Si
PF_SLV	0.608	SLV 10	No
V_SLV	2.132	SLV 10	Si
PFFP_SLV	2.865	SLV 10	Si
R_SLV	1.471	SLV 15	Si

Maschio 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L5	L6	1.559	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	4.35	723.74	-15446	-0.0000675	0.0003743	0.0035	1.5594	7859	9213.67	9213.67	12.73	No	Si
SLU 84	6.45	-3127.09	-18650	-0.0001198	0.0003743	0.0035	1.5594	8441.15	10724.65	10724.65	3.43	No	Si
SLU 82	4.35	751.05	-15215	-0.0000669	0.0003743	0.0035	1.5594	7803.06	9097.96	9097.96	12.11	No	Si
SLU 82	6.45	-3138.8	-18421	-0.0001188	0.0003743	0.0035	1.5594	8411.48	10661.43	10661.43	3.4	No	Si
SLU 39	4.35	704.37	-12724	-0.0000561	0.0003743	0.0035	1.5594	7081.51	7868.9	7868.9	11.17	No	Si
SLU 39	6.45	-2776.95	-15676	-0.0001001	0.0003743	0.0035	1.5594	7912.79	9661.81	9661.81	3.48	No	Si
SLU 73	4.35	723.44	-14731	-0.0000645	0.0003743	0.0035	1.5594	7679.96	8853.8	8853.8	12.24	No	Si
SLU 73	6.45	-2956.12	-17796	-0.0001128	0.0003743	0.0035	1.5594	8321.14	10447.87	10447.87	3.53	No	Si
SLU 42	4.35	679.54	-13034	-0.000057	0.0003743	0.0035	1.5594	7183.06	8018.21	8018.21	11.8	No	Si
SLU 42	6.45	-2779.42	-15987	-0.0001015	0.0003743	0.0035	1.5594	7982.47	9772.34	9772.34	3.52	No	Si
SLU 83	4.35	721.26	-15368	-0.0000671	0.0003743	0.0035	1.5594	7840.25	9175.69	9175.69	12.72	No	Si
SLU 83	6.45	-3112.92	-18569	-0.0001191	0.0003743	0.0035	1.5594	8430.81	10702.69	10702.69	3.44	No	Si
SLU 41	4.35	677.06	-12955	-0.0000566	0.0003743	0.0035	1.5594	7157.66	7980.3	7980.3	11.79	No	Si
SLU 41	6.45	-2765.25	-15905	-0.000101	0.0003743	0.0035	1.5594	7964.52	9743.2	9743.2	3.52	No	Si
SLU 75	4.35	702.22	-15036	-0.0000655	0.0003743	0.0035	1.5594	7758.48	9007.34	9007.34	12.83	No	Si
SLU 75	6.45	-2967.02	-18148	-0.0001147	0.0003743	0.0035	1.5594	8373.62	10580	10580	3.57	No	Si
SLU 40	4.35	706.85	-12803	-0.0000565	0.0003743	0.0035	1.5594	7107.54	7906.6	7906.6	11.19	No	Si
SLU 40	6.45	-2791.12	-15758	-0.0001007	0.0003743	0.0035	1.5594	7931.39	9690.65	9690.65	3.47	No	Si
SLU 81	4.35	748.57	-15137	-0.0000666	0.0003743	0.0035	1.5594	7783.66	9058.2	9058.2	12.1	No	Si
SLU 81	6.45	-3124.63	-18340	-0.0001182	0.0003743	0.0035	1.5594	8400.49	10637.88	10637.88	3.4	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	4.35	4516.63	-8668	-0.0001288	0.0005615	0.0035	1.5594		6090.38	6090.38	1.35		Si
SLV 2	6.45	-6043.97	-17039	-0.0001577	0.0005615	0.0035	1.5594		11423.29	11423.29	1.89		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	4.35	3924.63	-9025	-0.0000981	0.0005615	0.0035	1.5594		6299.47	6299.47	1.61		Si
SLV 1	6.45	-5409.18	-16401	-0.0001415	0.0005615	0.0035	1.5594		11109.25	11109.25	2.05		Si
SLD 1	4.35	2682.45	-9456	-0.0000699	0.0005615	0.0035	1.5594		6553.51	6553.51	2.44		Si
SLD 1	6.45	-4154.79	-14902	-0.0001129	0.0005615	0.0035	1.5594		10336.42	10336.42	2.49		Si
SLV 7	4.35	1044.4	-2541	-0.0000244	0.0005615	0.0035	1.5594		2057.11	2057.11	1.97		Si
SLV 7	6.45	-1412.68	-5050	-0.0000361	0.0005615	0.0035	1.5594		4341.42	4341.42	3.07		Si
SLV 8	4.35	1442.98	-2301	-0.0000547	0.0005615	0.0035	1.5594		1881.3	1881.3	1.3		Si
SLV 8	6.45	-1840.07	-5480	-0.0000444	0.0005615	0.0035	1.5594		4635.3	4635.3	2.52		Si
SLD 2	4.35	3060.68	-9228	-0.0000759	0.0005615	0.0035	1.5594		6419.05	6419.05	2.1		Si
SLD 2	6.45	-4560.36	-15309	-0.0001214	0.0005615	0.0035	1.5594		10546.93	10546.93	2.31		Si
SLD 4	4.35	2939.76	-6670	-0.0000723	0.0005615	0.0035	1.5594		4931.37	4931.37	1.68		Si
SLD 4	6.45	-4063.99	-12432	-0.0001031	0.0005615	0.0035	1.5594		8983.53	8983.53	2.21		Si
SLV 3	4.35	3729.92	-4916	-0.0021348	0.0005615	0.0035	1.5594		3750.8	3750.8	1.01		Si
SLV 3	6.45	-4611.72	-11778	-0.0001153	0.0005615	0.0035	1.5594		8606.44	8606.44	1.87		Si
SLD 3	4.35	2561.53	-6898	-0.0000616	0.0005615	0.0035	1.5594		5067.21	5067.21	1.98		Si
SLD 3	6.45	-3658.42	-12025	-0.0000946	0.0005615	0.0035	1.5594		8748.17	8748.17	2.39		Si
SLV 4	4.35	4321.92	-4559	-0.0118457	0.0005615	0.0035	1.2475		3502.69	3502.69	0.81		No
SLV 4	6.45	-5246.51	-12416	-0.0001341	0.0005615	0.0035	1.2475		8974	8974	1.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	4.35	674.91	-15267	-12713	2866	1.5594	1.5594	-29116	10827	4791	40441	13075	3977	17052	No	5.95	Si
SLU 78	6.45	-2955.31	-18377	-15303	5932	1.5594	1.5594	-35046	10833	5482	40441	13075	3977	17052	No	2.87	Si
SLU 76	4.35	696.14	-14962	-12459	2859	1.5594	1.5594	-28535	10749	4724	40441	13075	3977	17052	No	5.96	Si
SLU 76	6.45	-2944.41	-18025	-15010	5892	1.5594	1.5594	-34376	10833	5404	40441	13075	3977	17052	No	2.89	Si
SLU 73	4.35	723.44	-14731	-12267	2879	1.5594	1.5594	-28094	10690	4672	40441	13075	3977	17052	No	5.92	Si
SLU 73	6.45	-2956.12	-17796	-14819	5907	1.5594	1.5594	-33939	10833	5353	40441	13075	3977	17052	No	2.89	Si
SLU 75	4.35	702.22	-15036	-12521	2886	1.5594	1.5594	-28675	10768	4740	40441	13075	3977	17052	No	5.91	Si
SLU 75	6.45	-2967.02	-18148	-15112	5947	1.5594	1.5594	-34609	10833	5431	40441	13075	3977	17052	No	2.87	Si
SLU 84	4.35	723.74	-15446	-12862	2909	1.5594	1.5594	-29457	10833	4831	40441	13075	3977	17052	No	5.86	Si
SLU 84	6.45	-3127.09	-18650	-15530	6049	1.5594	1.5594	-35568	10833	5543	40441	13075	3977	17052	No	2.82	Si
SLU 74	4.35	699.73	-14958	-12455	2879	1.5594	1.5594	-28526	10748	4723	40441	13075	3977	17052	No	5.92	Si
SLU 74	6.45	-2952.85	-18066	-15044	5925	1.5594	1.5594	-34454	10833	5413	40441	13075	3977	17052	No	2.88	Si
SLU 81	4.35	748.57	-15137	-12604	2923	1.5594	1.5594	-28867	10793	4762	40441	13075	3977	17052	No	5.83	Si
SLU 81	6.45	-3124.63	-18340	-15272	6041	1.5594	1.5594	-34976	10833	5474	40441	13075	3977	17052	No	2.82	Si
SLU 83	4.35	721.26	-15368	-12797	2903	1.5594	1.5594	-29308	10833	4814	40441	13075	3977	17052	No	5.87	Si
SLU 83	6.45	-3112.92	-18569	-15463	6026	1.5594	1.5594	-35413	10833	5525	40441	13075	3977	17052	No	2.83	Si
SLU 77	4.35	672.43	-15189	-12648	2859	1.5594	1.5594	-28967	10807	4774	40441	13075	3977	17052	No	5.96	Si
SLU 77	6.45	-2941.14	-18295	-15235	5910	1.5594	1.5594	-34891	10833	5464	40441	13075	3977	17052	No	2.89	Si
SLU 82	4.35	751.05	-15215	-12670	2930	1.5594	1.5594	-29016	10813	4780	40441	13075	3977	17052	No	5.82	Si
SLU 82	6.45	-3138.8	-18421	-15340	6063	1.5594	1.5594	-35131	10833	5492	40441	13075	3977	17052	No	2.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	4.35	3729.92	-4916	-4094	6820	1.5594	0.063	-148785	16250	3194	40441	19612	3977	23589		3.46	Si
SLV 3	6.45	-4611.72	-11778	-9807	8629	1.5594	1.1645	-30569	16250	5298	40441	19612	3977	23589		2.73	Si
SLD 3	4.35	2561.53	-6898	-5744	5104	1.5594	1.2251	-13155	13048	4476	40441	19612	3977	23589		4.62	Si
SLD 3	6.45	-3658.42	-12025	-10013	7018	1.5594	1.4264	-25403	15497	6190	40441	19612	3977	23589		3.36	Si
SLD 2	4.35	3060.68	-9228	-7684	6015	1.5594	1.3441	-17598	13936	5245	40441	19612	3977	23589		3.92	Si
SLD 2	6.45	-4560.36	-15309	-12748	8574	1.5594	1.4455	-32045	16250	6577	40441	19612	3977	23589		2.75	Si
SLV 6	4.35	2092	-15996	-13320	4845	1.5594	1.5594	-30505	16250	7095	40441	19612	3977	23589		4.87	Si
SLV 6	6.45	-4498.27	-20890	-17395	8537	1.5594	1.5594	-39839	16250	7095	40441	19612	3977	23589		2.76	Si
SLV 4	4.35	4321.92	-4559	-3797	7753	1.2475	0	0	0	0	40441	15690	3181	18871		2.43	Si
SLV 4	6.45	-5246.51	-12416	-10339	9699	1.2475	1.0715	0	0	0	40441	15690	3181	18871		1.95	Si
SLD 1	4.35	2682.45	-9456	-7874	5419	1.5594	1.4881	-18033	14023	5843	40441	19612	3977	23589		4.35	Si
SLD 1	6.45	-4154.79	-14902	-12409	7890	1.5594	1.5027	-29966	16250	6837	40441	19612	3977	23589		2.99	Si
SLD 4	4.35	2939.76	-6670	-5554	5700	1.5594	1.0169	-12720	12961	3690	40441	19612	3977	23589		4.14	Si
SLD 4	6.45	-4063.99	-12432	-10353	7702	1.5594	1.3585	-27506	15918	6055	40441	19612	3977	23589		3.06	Si
SLV 5	4.35	1693.42	-16236	-13520	4217	1.5594	1.5594	-30963	16250	7095	40441	19612	3977	23589		5.59	Si
SLV 5	6.45	-4070.89	-20460	-17038	7817	1.5594	1.5594	-39019	16250	7095	40441	19612	3977	23589		3.02	Si
SLV 2	4.35	4516.63	-8668	-7218	8260	1.5594	0.7759	-16530	13723	4027	40441	19612	3977	23589		2.86	Si
SLV 2	6.45	-6043.97	-17039	-14189	11101	1.5594	1.275	-40651	16250	5885	40441	19612	3977	23589		2.12	Si
SLV 1	4.35	3924.63	-9025	-7515	7328	1.5594	1.0345	-17211	13859	4106	40441	19612	3977	23589		3.22	Si
SLV 1	6.45	-5409.18	-16401	-13657	10031	1.5594	1.3497	-36878	16250	6141	40441	19612	3977	23589		2.35	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.38	9441	-4122	161.02	541.46	3.36	Si
SLV 12	179667	0.38	10425	-4552	161.02	593.8	3.69	Si
SLV 7	179667	0.38	12261	-5354	161.02	689.35	4.28	Si
SLV 8	179667	0.38	13245	-5784	161.02	739.47	4.59	Si
SLV 15	179667	0.38	18264	-7975	161.02	982.97	6.1	Si
SLV 16	179667	0.38	19726	-8613	161.02	1050.1	6.52	Si
SLV 3	179667	0.38	27665	-12080	161.02	1384.78	8.6	Si
SLV 13	179667	0.38	28852	-12598	161.02	1430.5	8.88	Si
SLV 4	179667	0.38	29126	-12718	161.02	1440.91	8.95	Si
SLV 14	179667	0.38	30314	-13236	161.02	1485.24	9.22	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-11848	-16100	-56	0.701	1425.1	0.955	10.66464	6.9554	Si
SLV 14	-11650	-15743	-55	0.711	1404.9	0.954	10.82483	6.9554	Si
SLV 15	-9288	-11991	54	0.859	1165	0.946	13.19974	6.9554	Si
SLV 16	-9090	-11634	55	0.875	1145	0.945	13.44801	6.9554	Si
SLV 9	-13285	-18358	-184	0.627	1571.1	0.959	9.50913	4.64355	Si
SLV 10	-13152	-18118	-184	0.633	1557.5	0.958	9.59459	4.64355	Si
SLV 5	-11983	-16236	-184	0.685	1438.7	0.955	10.41301	4.64355	Si
SLV 6	-11850	-15996	-184	0.691	1425.2	0.955	10.51656	4.64355	Si
SLV 1	-7509	-9025	-56	1.023	984.8	0.938	15.85047	6.9554	Si
SLV 2	-7311	-8668	-55	1.046	964.8	0.937	16.21697	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.397	SLU 82	Si
V_SLU	2.812	SLU 82	Si
PF_SLV	0.81	SLV 4	No
V_SLV	1.946	SLV 4	Si
PFFP_SLV	3.363	SLV 11	Si
R_SLV	1.533	SLV 13	Si

Maschio 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L5	L6	4.31	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	4.35	8245.56	-33304	-0.0000972	0.0004492	0.0035	4.31	39350.56	59864.78	59864.78	7.26	No	Si
SLU 83	7.9	4011.53	-22270	-0.0000583	0.0004492	0.0035	4.31	33495.83	42790.05	42790.05	10.67	No	Si
SLU 77	4.35	8225.33	-32825	-0.0000959	0.0004492	0.0035	4.31	39244.08	59122.94	59122.94	7.19	No	Si
SLU 77	7.9	4122.19	-22250	-0.0000586	0.0004492	0.0035	4.31	33478.22	42758.12	42758.12	10.37	No	Si
SLU 79	4.35	8167.77	-32525	-0.000095	0.0004492	0.0035	4.31	39170.72	58659.35	58659.35	7.18	No	Si
SLU 79	7.9	4096.11	-21949	-0.0000579	0.0004492	0.0035	4.31	33218.38	42292.26	42292.26	10.32	No	Si
SLU 69	4.35	7643.37	-29975	-0.0000873	0.0004492	0.0035	4.31	38333.82	54712.99	54712.99	7.16	No	Si
SLU 69	7.9	3867.23	-20471	-0.0000539	0.0004492	0.0035	4.31	31866.22	40005.77	40005.77	10.34	No	Si
SLU 71	4.35	7585.81	-29676	-0.0000864	0.0004492	0.0035	4.31	38210.55	54249.39	54249.39	7.15	No	Si
SLU 71	7.9	3841.16	-20170	-0.0000532	0.0004492	0.0035	4.31	31575.08	39539.91	39539.91	10.29	No	Si
SLU 70	4.35	7559.44	-30033	-0.0000872	0.0004492	0.0035	4.31	38357.11	54802.86	54802.86	7.25	No	Si
SLU 70	7.9	3882.53	-20495	-0.000054	0.0004492	0.0035	4.31	31888.72	40042.11	40042.11	10.31	No	Si
SLU 50	4.35	6678.48	-25959	-0.0000749	0.0004492	0.0035	4.31	36245.24	48498.66	48498.66	7.26	No	Si
SLU 50	7.9	3343.8	-17612	-0.0000461	0.0004492	0.0035	4.31	28887.91	35582.11	35582.11	10.64	No	Si
SLU 72	4.35	7501.88	-29734	-0.0000863	0.0004492	0.0035	4.31	38234.86	54339.26	54339.26	7.24	No	Si
SLU 72	7.9	3856.45	-20193	-0.0000533	0.0004492	0.0035	4.31	31597.99	39576.26	39576.26	10.26	No	Si
SLU 74	4.35	8053.7	-32383	-0.0000943	0.0004492	0.0035	4.31	39133.91	58438.4	58438.4	7.26	No	Si
SLU 74	7.9	3928.34	-21809	-0.0000571	0.0004492	0.0035	4.31	33096.14	42076.33	42076.33	10.71	No	Si
SLU 66	4.35	7471.75	-29533	-0.0000857	0.0004492	0.0035	4.31	38149.95	54028.44	54028.44	7.23	No	Si
SLU 66	7.9	3673.38	-20030	-0.0000524	0.0004492	0.0035	4.31	31438.33	39323.98	39323.98	10.71	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	4.35	9344.99	-17400	-0.0000626	0.0006738	0.0035	4.31		36004.36	36004.36	3.85		Si
SLD 7	7.9	2503.69	-12282	-0.0000319	0.0006738	0.0035	4.31		26481.35	26481.35	10.58		Si
SLD 12	4.35	8547.75	-17814	-0.0000611	0.0006738	0.0035	4.31		36754.85	36754.85	4.3		Si
SLD 12	7.9	2050.97	-12865	-0.0000318	0.0006738	0.0035	4.31		27593.03	27593.03	13.45		Si
SLV 3	4.35	9160.21	-19024	-0.0000655	0.0006738	0.0035	4.31		38935.56	38935.56	4.25		Si
SLV 3	7.9	3681.54	-12210	-0.0000352	0.0006738	0.0035	4.31		26345.22	26345.22	7.16		Si
SLV 4	4.35	8946.59	-19301	-0.0000655	0.0006738	0.0035	4.31		39428.9	39428.9	4.41		Si
SLV 4	7.9	3733.99	-12231	-0.0000354	0.0006738	0.0035	4.31		26384.22	26384.22	7.07		Si
SLD 11	4.35	8638.22	-17697	-0.0000611	0.0006738	0.0035	4.31		36542.25	36542.25	4.23		Si
SLD 11	7.9	2028.75	-12856	-0.0000318	0.0006738	0.0035	4.31		27576.51	27576.51	13.59		Si
SLV 11	4.35	10529.09	-15011	-0.0000609	0.0006738	0.0035	4.31		31620.32	31620.32	3		Si
SLV 11	7.9	1678.49	-11679	-0.0000283	0.0006738	0.0035	4.31		25332.39	25332.39	15.09		Si
SLV 12	4.35	10385.26	-15197	-0.0000609	0.0006738	0.0035	4.31		31964.08	31964.08	3.08		Si
SLV 12	7.9	1713.8	-11692	-0.0000285	0.0006738	0.0035	4.31		25358.65	25358.65	14.8		Si
SLV 8	4.35	11507.98	-14719	-0.0000633	0.0006738	0.0035	4.31		31075.44	31075.44	2.7		Si
SLV 8	7.9	2465.12	-10793	-0.0000288	0.0006738	0.0035	4.31		23630.56	23630.56	9.59		Si
SLV 7	4.35	11651.81	-14532	-0.0000634	0.0006738	0.0035	4.31		30725.87	30725.87	2.64		Si
SLV 7	7.9	2429.8	-10779	-0.0000286	0.0006738	0.0035	4.31		23603.87	23603.87	9.71		Si
SLD 8	4.35	9254.51	-17517	-0.0000625	0.0006738	0.0035	4.31		36216.96	36216.96	3.91		Si
SLD 8	7.9	2525.9	-12290	-0.000032	0.0006738	0.0035	4.31		26497.87	26497.87	10.49		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	4.35	8225.33	-32825	-18200	4613	4.31	4.31	-30162	10833	10765	115546	21685	21981	43666	No	9.47	Si
SLU 77	7.9	4122.19	-22250	-12336	4594	4.31	4.31	-20445	10833	8420	115546	21685	21981	43666	No	9.51	Si
SLU 83	4.35	8245.56	-33304	-18466	4706	4.31	4.31	-30603	10833	10872	115546	21685	21981	43666	No	9.28	Si
SLU 83	7.9	4011.53	-22270	-12348	4686	4.31	4.31	-20464	10833	8425	115546	21685	21981	43666	No	9.32	Si
SLU 60	4.35	7166.59	-29146	-16160	4450	4.31	4.31	-26782	10833	9949	115546	21685	21981	43666	No	9.81	Si
SLU 60	7.9	3320.32	-19272	-10686	4432	4.31	4.31	-17709	10695	7760	115546	21685	21981	43666	No	9.85	Si
SLU 82	4.35	7990	-32920	-18253	4490	4.31	4.31	-30250	10833	10786	115546	21685	21981	43666	No	9.73	Si
SLU 82	7.9	3832.98	-21853	-12117	4576	4.31	4.31	-20081	10833	8332	115546	21685	21981	43666	No	9.54	Si
SLU 84	4.35	8161.62	-33362	-18498	4449	4.31	4.31	-30656	10833	10885	115546	21685	21981	43666	No	9.82	Si
SLU 84	7.9	4026.83	-22294	-12361	4535	4.31	4.31	-20485	10833	8430	115546	21685	21981	43666	No	9.63	Si
SLU 74	4.35	8053.7	-32383	-17955	4654	4.31	4.31	-29756	10833	10667	115546	21685	21981	43666	No	9.38	Si
SLU 74	7.9	3928.34	-21809	-12092	4635	4.31	4.31	-20040	10833	8322	115546	21685	21981	43666	No	9.42	Si
SLU 81	4.35	8073.93	-32862	-18220	4747	4.31	4.31	-30196	10833	10774	115546	21685	21981	43666	No	9.2	Si
SLU 81	7.9	3817.68	-21830	-12104	4727	4.31	4.31	-20059	10833	8327	115546	21685	21981	43666	No	9.24	Si
SLU 75	4.35	7969.77	-32441	-17987	4397	4.31	4.31	-29809	10833	10680	115546	21685	21981	43666	No	9.93	Si
SLU 75	7.9	3943.63	-21833	-12105	4484	4.31	4.31	-20062	10833	8328	115546	21685	21981	43666	No	9.74	Si
SLU 78	4.35	8141.39	-32883	-18232	4356	4.31	4.31	-30216	10833	10778	115546	21685	21981	43666	No	10.03	Si
SLU 78	7.9	4137.48	-22273	-12349	4443	4.31	4.31	-20466	10833	8425	115546	21685	21981	43666	No	9.83	Si
SLU 79	4.35	8167.77	-32525	-18034	4560	4.31	4.31	-29887	10833	10699	115546	21685	21981	43666	No	9.57	Si
SLU 79	7.9	4096.11	-21949	-12170	4541	4.31	4.31	-20168	10833	8353	115546	21685	21981	43666	No	9.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	4.35	8638.22	-17697	-9812	11838	4.31	4.31	-16261	15752	9505	115546	32527	21981	54508		4.6	Si
SLD 11	7.9	2028.75	-12856	-7128	11054	4.31	4.31	-11813	14863	8968	115546	32527	21981	54508		4.93	Si
SLD 7	4.35	9344.99	-17400	-9647	11343	4.31	4.31	-15988	15698	9472	115546	32527	21981	54508		4.81	Si
SLD 7	7.9	2503.69	-12282	-6810	10628	4.31	4.31	-11285	14757	8904	115546	32527	21981	54508		5.13	Si
SLD 8	4.35	9254.51	-17517	-9712	11188	4.31	4.31	-16096	15719	9485	115546	32527	21981	54508		4.87	Si
SLD 8	7.9	2525.9	-12290	-6814	10473	4.31	4.31	-11293	14759	8905	115546	32527	21981	54508		5.2	Si
SLV 12	4.35	10385.26	-15197	-8426	16702	4.31	4.31	-13965	15293	9228	115546	32527	21981	54508		3.26	Si
SLV 12	7.9	1713.8	-11692	-6483	15454	4.31	4.31	-10744	14649	8839	115546	32527	21981	54508		3.53	Si
SLV 6	4.35	547.04	-29278	-16233	-10175	4.31	4.31	-26903	16250	11722	115546	32527	21981	54508		5.36	Si
SLV 6	7.9	3561.6	-17889	-9918	-8952	4.31	4.31	-16438	15788	9526	115546	32527	21981	54508		6.09	Si
SLV 11	4.35	10529.09	-15011	-8323	16949	4.31	4.31	-13793	15259	9207	115546	32527	21981	54508		3.22	Si
SLV 11	7.9	1678.49	-11679	-6475	15701	4.31	4.31	-10731	14646	8838	115546	32527	21981	54508		3.47	Si
SLD 12	4.35	8547.75	-17814	-9877	11682	4.31	4.31	-16369	15774	9518	115546	32527	21981	54508		4.67	Si
SLD 12	7.9	2050.97	-12865	-7133	10899	4.31	4.31	-11821	14864	8969	115546	32527	21981	54508		5	Si
SLV 7	4.35	11651.81	-14532	-8058	16163	4.31	4.0597	-13354	15171	8622	115546	32527	21981	54508		3.37	Si
SLV 7	7.9	2429.8	-10779	-5977	15031	4.31	4.31	-9905	14481	8738	115546	32527	21981	54508		3.63	Si
SLV 8	4.35	11507.98	-14719	-8161	15915	4.31	4.1194	-13525	15205	8769	115546	32527	21981	54508		3.42	Si
SLV 8	7.9	2465.12	-10793	-5984	14785	4.31	4.31	-9918	14484	8739	115546	32527	21981	54508		3.69	Si
SLV 5	4.35	690.86	-29091	-16130	-9927	4.31	4.31	-26731	16250	11680	115546	32527	21981	54508		5.49	Si
SLV 5	7.9	3526.29	-17875	-9911	-8705	4.31	4.31	-16425	15785	9525	115546	32527	21981	54508		6.26	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-13392	0.38	242.16	823.9	1431.36	1127.63	4.66	Si
SLV 8	-13471	0.38	242.16	828.13	1437.91	1133.02	4.68	Si
SLV 3	-14983	0.38	242.16	906.69	1562.15	1234.42	5.1	Si
SLV 11	-15058	0.38	242.16	910.52	1568.33	1239.42	5.12	Si
SLV 4	-15101	0.38	242.16	912.74	1571.93	1242.33	5.13	Si
SLV 12	-15137	0.38	242.16	914.58	1574.91	1244.74	5.14	Si
SLV 1	-18029	0.38	242.16	1056.29	1812.29	1434.29	5.92	Si
SLV 2	-18148	0.38	242.16	1061.87	1822.01	1441.94	5.95	Si
SLV 15	-20536	0.38	242.16	1170.58	2016.27	1593.43	6.58	Si
SLV 16	-20655	0.38	242.16	1175.79	2025.77	1600.78	6.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-17357	-25264	316	1.261	2069.3	0.957	19.1458	14.80379	Si
SLV 13	-17337	-24987	316	1.262	2067.2	0.957	19.16666	14.80379	Si
SLV 16	-15228	-20897	274	1.417	1853	0.952	21.62147	14.80379	Si
SLV 15	-15208	-20620	274	1.419	1850.9	0.952	21.64806	14.80379	Si
SLV 2	-14359	-23669	-276	1.492	1764.7	0.95	22.80822	14.80379	Si
SLV 1	-14339	-23392	-276	1.493	1762.6	0.95	22.83771	14.80379	Si
SLV 4	-12231	-19301	-317	1.71	1548.7	0.944	26.31203	14.80379	Si
SLV 3	-12210	-19024	-317	1.712	1546.6	0.944	26.35139	14.80379	Si
SLV 10	-18788	-29756	157	1.183	2214.8	0.96	17.91247	6.89731	Si
SLV 9	-18774	-29570	157	1.183	2213.4	0.959	17.92466	6.89731	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.151	SLU 71	Si
V_SLU	9.198	SLU 81	Si
PF_SLV	2.637	SLV 7	Si
V_SLV	3.216	SLV 11	Si
PFFP_SLV	4.657	SLV 7	Si
R_SLV	1.293	SLV 14	Si

Maschio 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L5	L6	1.141	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	5.25	608.11	-12441	-0.0000804	0.0003743	0.0035	1.1406	4380.31	5200.61	5200.61	8.55	No	Si
SLU 75	7.05	-1543.77	-10925	-0.0000984	0.0003743	0.0035	1.1406	4136.95	5019.16	5019.16	3.25	No	Si
SLU 77	5.25	582.24	-12545	-0.0000803	0.0003743	0.0035	1.1406	4393.95	5224.43	5224.43	8.97	No	Si
SLU 77	7.05	-1533.32	-10974	-0.0000984	0.0003743	0.0035	1.1406	4146.19	5031.81	5031.81	3.28	No	Si
SLU 76	5.25	605.85	-12343	-0.0000798	0.0003743	0.0035	1.1406	4366.89	5177.87	5177.87	8.55	No	Si
SLU 76	7.05	-1532.14	-10824	-0.0000975	0.0003743	0.0035	1.1406	4117.88	4993.56	4993.56	3.26	No	Si
SLU 83	5.25	578.85	-12737	-0.0000813	0.0003743	0.0035	1.1406	4418.36	5269.05	5269.05	9.1	No	Si
SLU 83	7.05	-1550.16	-11145	-0.0001	0.0003743	0.0035	1.1406	4177.33	5075.63	5075.63	3.27	No	Si
SLU 84	5.25	590.6	-12793	-0.000082	0.0003743	0.0035	1.1406	4425.14	5281.95	5281.95	8.94	No	Si
SLU 84	7.05	-1565.36	-11209	-0.0001008	0.0003743	0.0035	1.1406	4188.7	5092.12	5092.12	3.25	No	Si
SLU 74	5.25	596.37	-12386	-0.0000797	0.0003743	0.0035	1.1406	4372.85	5187.88	5187.88	8.7	No	Si
SLU 74	7.05	-1528.56	-10861	-0.0000976	0.0003743	0.0035	1.1406	4124.94	5002.96	5002.96	3.27	No	Si
SLU 73	5.25	619.97	-12184	-0.0000792	0.0003743	0.0035	1.1406	4344.66	5141.58	5141.58	8.29	No	Si
SLU 73	7.05	-1527.37	-10710	-0.0000966	0.0003743	0.0035	1.1406	4096.03	4965	4965	3.25	No	Si
SLU 78	5.25	593.98	-12600	-0.0000809	0.0003743	0.0035	1.1406	4401.1	5237.24	5237.24	8.82	No	Si
SLU 78	7.05	-1548.53	-11038	-0.0000993	0.0003743	0.0035	1.1406	4157.95	5048.13	5048.13	3.26	No	Si
SLU 82	5.25	604.72	-12634	-0.0000815	0.0003743	0.0035	1.1406	4405.42	5245.07	5245.07	8.67	No	Si
SLU 82	7.05	-1560.6	-11096	-0.0001	0.0003743	0.0035	1.1406	4168.38	5062.84	5062.84	3.24	No	Si
SLU 81	5.25	592.98	-12579	-0.0000808	0.0003743	0.0035	1.1406	4398.33	5232.24	5232.24	8.82	No	Si
SLU 81	7.05	-1545.39	-11032	-0.0000992	0.0003743	0.0035	1.1406	4156.76	5046.46	5046.46	3.27	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	5.25	2788.74	-6802	-0.0001685	0.0005615	0.0035	1.1406		3462.32	3462.32	1.24		Si
SLD 2	7.05	-2593.16	-9098	-0.0001219	0.0005615	0.0035	1.1406		4801.43	4801.43	1.85		Si
SLD 4	5.25	2212.14	-5125	-0.0001438	0.0005615	0.0035	1.1406		2757.06	2757.06	1.25		Si
SLD 4	7.05	-2012.4	-6971	-0.0000924	0.0005615	0.0035	1.1406		3880.74	3880.74	1.93		Si
SLV 3	5.25	2612.84	-3582	-0.015158	0.0005615	0.0035	0.9125		1996.56	1996.56	0.76		No
SLV 3	7.05	-2143.41	-6245	-0.0001035	0.0005615	0.0035	0.9125		3547.77	3547.77	1.66		Si
SLD 3	5.25	1843.91	-5361	-0.0000881	0.0005615	0.0035	1.1406		2856.99	2856.99	1.55		Si
SLD 3	7.05	-1764.22	-6683	-0.0000807	0.0005615	0.0035	1.1406		3749.66	3749.66	2.13		Si
SLV 2	5.25	4115.87	-5904	-0.0214569	0.0005615	0.0035	0.9125		3083.39	3083.39	0.75		No
SLV 2	7.05	-3463.9	-10115	-0.0001773	0.0005615	0.0035	0.9125		5213.78	5213.78	1.51		Si
SLV 12	5.25	-1776.33	-4976	-0.0000866	0.0005615	0.0035	0.9125		2948.42	2948.42	1.66		Si
SLV 12	7.05	877.86	-1596	-0.0002759	0.0005615	0.0035	1.1406		956.49	956.49	1.09		Si
SLV 1	5.25	3539.53	-6274	-0.0083102	0.0005615	0.0035	1.1406		3238.87	3238.87	0.92		No
SLV 1	7.05	-3075.45	-9664	-0.0001498	0.0005615	0.0035	0.9125		5033.02	5033.02	1.64		Si
SLV 11	5.25	-2164.36	-5225	-0.0001277	0.0005615	0.0035	0.9125		3068.71	3068.71	1.42		Si
SLV 11	7.05	1139.39	-1292	-0.0090338	0.0005615	0.0035	0.9125		791.84	791.84	0.69		No
SLV 4	5.25	3189.18	-3212	-0.0305282	0.0005615	0.0035	0.9125		1808.23	1808.23	0.57		No
SLV 4	7.05	-2531.87	-6696	-0.0001341	0.0005615	0.0035	0.9125		3755.62	3755.62	1.48		Si
SLD 1	5.25	2420.51	-7038	-0.0001185	0.0005615	0.0035	1.1406		3563.16	3563.16	1.47		Si
SLD 1	7.05	-2344.98	-8810	-0.0001096	0.0005615	0.0035	1.1406		4679.79	4679.79	2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	5.25	608.11	-12441	-10360	1263	1.1406	1.1406	-32440	10833	3788	40441	9563	2908	12472	No	9.88	Si
SLU 75	7.05	-1543.77	-10925	-9097	1504	1.1406	1.1406	-28486	10743	3451	40441	9563	2908	12472	No	8.29	Si
SLU 70	5.25	611.3	-11464	-9546	1227	1.1406	1.1406	-29891	10833	3570	40441	9563	2908	12472	No	10.16	Si
SLU 70	7.05	-1447.35	-10040	-8361	1487	1.1406	1.1406	-26179	10435	3333	40441	9563	2908	12472	No	8.39	Si
SLU 78	5.25	593.98	-12600	-10492	1235	1.1406	1.1406	-32854	10833	3823	40441	9563	2908	12472	No	10.1	Si
SLU 78	7.05	-1548.53	-11038	-9192	1507	1.1406	1.1406	-28781	10782	3476	40441	9563	2908	12472	No	8.28	Si
SLU 74	5.25	596.37	-12386	-10314	1244	1.1406	1.1406	-32296	10833	3775	40441	9563	2908	12472	No	10.02	Si
SLU 74	7.05	-1528.56	-10861	-9044	1484	1.1406	1.1406	-28319	10720	3437	40441	9563	2908	12472	No	8.41	Si
SLU 67	5.25	625.43	-11305	-9414	1255	1.1406	1.1406	-29478	10833	3535	40441	9563	2908	12472	No	9.94	Si
SLU 67	7.05	-1442.59	-9927	-8266	1484	1.1406	1.1406	-25883	10396	3320	40441	9563	2908	12472	No	8.41	Si
SLU 84	5.25	590.6	-12793	-10653	1244	1.1406	1.1406	-33356	10833	3865	40441	9563	2908	12472	No	10.02	Si
SLU 84	7.05	-1565.36	-11209	-9334	1488	1.1406	1.1406	-29227	10833	3514	40441	9563	2908	12472	No	8.38	Si
SLU 73	5.25	619.97	-12184	-10146	1281	1.1406	1.1406	-31769	10833	3730	40441	9563	2908	12472	No	9.74	Si
SLU 73	7.05	-1527.37	-10710	-8919	1490	1.1406	1.1406	-27926	10668	3407	40441	9563	2908	12472	No	8.37	Si
SLU 77	5.25	582.24	-12545	-10446	1216	1.1406	1.1406	-32710	10833	3810	40441	9563	2908	12472	No	10.25	Si
SLU 77	7.05	-1533.32	-10974	-9139	1487	1.1406	1.1406	-28615	10760	3462	40441	9563	2908	12472	No	8.39	Si
SLU 82	5.25	604.72	-12634	-10520	1272	1.1406	1.1406	-32942	10833	3830	40441	9563	2908	12472	No	9.81	Si
SLU 82	7.05	-1560.6	-11096	-9239	1485	1.1406	1.1406	-28931	10802	3489	40441	9563	2908	12472	No	8.4	Si
SLU 76	5.25	605.85	-12343	-10278	1253	1.1406	1.1406	-32182	10833	3766	40441	9563	2908	12472	No	9.95	Si
SLU 76	7.05	-1532.14	-10824	-9013	1493	1.1406	1.1406	-28222	10707	3428	40441	9563	2908	12472	No	8.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	5.25	2788.74	-6802	-5664	4789	1.1406	0.4808	-17735	13964	3048	40441	14345	2908	17253		3.6	Si
SLD 2	7.05	-2593.16	-9098	-7576	3193	1.1406	0.8558	-32163	16250	3894	40441	14345	2908	17253		5.4	Si
SLV 15	5.25	-3218.26	-11037	-9190	-5165	1.1406	0.8361	-40145	16250	3988	40441	14345	2908	17253		3.34	Si
SLV 15	7.05	1331.81	-4648	-3870	-2255	1.1406	0.8512	-12119	12840	3060	40441	14345	2908	17253		7.65	Si
SLV 6	5.25	3061.97	-11716	-9756	4968	1.1406	0.9268	-30547	16250	4217	40441	14345	2908	17253		3.47	Si
SLV 6	7.05	-3271.49	-13471	-11217	4176	1.1406	0.9823	-41756	16250	4529	40441	14345	2908	17253		4.13	Si
SLV 16	5.25	-2641.92	-10667	-8882	-4220	1.1406	0.9678	-33371	16250	4404	40441	14345	2908	17253		4.09	Si
SLV 16	7.05	943.35	-5099	-4246	-1705	1.1406	1.1406	-13296	13076	4176	40441	14345	2908	17253		10.12	Si
SLV 4	5.25	3189.18	-3212	-2674	5629	0.9125	0	0	0	0	40441	11476	2327	13803		2.45	Si
SLV 4	7.05	-2531.87	-6696	-5576	3083	0.9125	0.5765	0	0	0	40441	11476	2327	13803		4.48	Si
SLV 5	5.25	2673.93	-11965	-9963	4332	1.1406	1.0404	-31197	16250	4734	40441	14345	2908	17253		3.98	Si
SLV 5	7.05	-3009.96	-13167	-10964	3806	1.1406	1.0251	-39042	16250	4664	40441	14345	2908	17253		4.53	Si
SLV 2	5.25	4115.87	-5904	-4917	6986	0.9125	0	0	0	0	40441	11476	2327	13803		1.98	Si
SLV 2	7.05	-3463.9	-10115	-8423	4403	0.9125	0.6835	0	0	0	40441	11476	2327	13803		3.13	Si
SLD 1	5.25	2420.51	-7038	-5861	4185	1.1406	0.6791	-18351	14087	3100	40441	14345	2908	17253		4.12	Si
SLD 1	7.05	-2344.98	-8810	-7336	2842	1.1406	0.9123	-29153	16248	4151	40441	14345	2908	17253		6.07	Si
SLV 1	5.25	3539.53	-6274	-5225	6041	1.1406	0.0185	-216427	16250	2931	40441	14345	2908	17253		2.86	Si
SLV 1	7.05	-3075.45	-9664	-8047	3853	0.9125	0.7561	0	0	0	40441	11476	2327	13803		3.58	Si
SLV 3	5.25	2612.84	-3582	-2982	4683	0.9125	0	0	0	0	40441	11476	2327	13803		2.95	Si
SLV 3	7.05	-2143.41	-6245	-5200	2534	0.9125	0.6812	0	0	0	40441	11476	2327	13803		5.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	7043	-2249	117.77	300.39	2.55	Si
SLV 7	179667	0.38	7823	-2498	117.77	331.86	2.82	Si
SLV 4	179667	0.38	8546	-2729	117.77	360.72	3.06	Si
SLV 3	179667	0.38	9704	-3099	117.77	406.32	3.45	Si
SLV 12	179667	0.38	14045	-4485	117.77	570.21	4.84	Si
SLV 11	179667	0.38	14825	-4735	117.77	598.49	5.08	Si
SLV 2	179667	0.38	16998	-5429	117.77	675.4	5.74	Si
SLV 1	179667	0.38	18156	-5798	117.77	715.27	6.07	Si
SLV 16	179667	0.38	31885	-10183	117.77	1127.97	9.58	Si
SLV 15	179667	0.38	33044	-10553	117.77	1157.74	9.83	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-7918	-12192	-65	0.753	966.3	0.952	11.50368	6.9554	Si
SLV 1	-7588	-11626	-67	0.781	932.7	0.95	11.9367	6.9554	Si
SLV 6	-9654	-15794	-292	0.616	1142.7	0.959	9.34093	4.64355	Si
SLV 14	-6240	-9744	-101	0.913	796.1	0.943	14.0778	6.9554	Si
SLV 5	-9431	-15412	-293	0.628	1120.1	0.958	9.53207	4.64355	Si
SLV 10	-9151	-15059	-302	0.644	1091.5	0.957	9.77537	4.64355	Si
SLV 13	-5910	-9178	-103	0.955	762.6	0.941	14.74736	6.9554	Si
SLV 4	-5880	-8292	118	0.957	759.6	0.941	14.77779	6.9554	Si
SLV 9	-8928	-14678	-304	0.657	1068.9	0.956	9.98651	4.64355	Si
SLV 3	-5550	-7725	116	1.003	726.2	0.938	15.53306	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.244	SLU 82	Si
V_SLU	8.277	SLU 78	Si
PF_SLV	0.567	SLV 4	No
V_SLV	1.976	SLV 2	Si
PFFP_SLV	2.551	SLV 8	Si
R_SLV	1.654	SLV 2	Si

Maschio 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L5	L6	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	4.35	-5643.6	-38452	-0.0000912	0.0004492	0.0035	4.67	46568.54	83680.85	83680.85	14.83	No	Si
SLU 81	7.9	-3582.58	-24216	-0.0000556	0.0004492	0.0035	4.67	39404.08	61010.94	61010.94	17.03	No	Si
SLU 84	4.35	-5717.59	-39191	-0.0000931	0.0004492	0.0035	4.67	46617.03	84771.24	84771.24	14.83	No	Si
SLU 84	7.9	-3410.02	-25163	-0.0000571	0.0004492	0.0035	4.67	40248.79	62619.04	62619.04	18.36	No	Si
SLU 61	4.35	-5177.21	-33877	-0.00008	0.0004492	0.0035	4.67	45558.03	76880.9	76880.9	14.85	No	Si
SLU 61	7.9	-3100.36	-21234	-0.0000483	0.0004492	0.0035	4.67	36402.07	55666.93	55666.93	17.95	No	Si
SLU 52	4.35	-5004.63	-32492	-0.0000766	0.0004492	0.0035	4.67	45010.94	74679.01	74679.01	14.92	No	Si
SLU 52	7.9	-2873.06	-20460	-0.0000462	0.0004492	0.0035	4.67	35538.35	54270.44	54270.44	18.89	No	Si
SLU 63	4.35	-5169.88	-34770	-0.0000819	0.0004492	0.0035	4.67	45851.38	78222.26	78222.26	15.13	No	Si
SLU 63	7.9	-2921.85	-22273	-0.00005	0.0004492	0.0035	4.67	37507.75	57543.75	57543.75	19.69	No	Si
SLU 82	4.35	-5724.93	-38298	-0.0000911	0.0004492	0.0035	4.67	46554.47	83453.37	83453.37	14.58	No	Si
SLU 82	7.9	-3588.53	-24124	-0.0000554	0.0004492	0.0035	4.67	39318.78	60853.9	60853.9	16.96	No	Si
SLU 76	4.35	-5545.01	-37806	-0.0000895	0.0004492	0.0035	4.67	46500.12	82724.27	82724.27	14.92	No	Si
SLU 76	7.9	-3182.72	-24390	-0.0000549	0.0004492	0.0035	4.67	39562.81	61305.64	61305.64	19.26	No	Si
SLU 73	4.35	-5552.34	-36913	-0.0000876	0.0004492	0.0035	4.67	46365.27	81400.22	81400.22	14.66	No	Si
SLU 73	7.9	-3361.23	-23350	-0.0000533	0.0004492	0.0035	4.67	38585.77	59486.64	59486.64	17.7	No	Si
SLU 75	4.35	-5545.81	-38218	-0.0000905	0.0004492	0.0035	4.67	46546.54	83333.99	83333.99	15.03	No	Si
SLU 75	7.9	-3281.41	-24676	-0.0000558	0.0004492	0.0035	4.67	39820.91	61792.01	61792.01	18.83	No	Si
SLU 83	4.35	-5636.26	-39345	-0.0000932	0.0004492	0.0035	4.67	46623.09	84982.23	84982.23	15.08	No	Si
SLU 83	7.9	-3404.07	-25256	-0.0000573	0.0004492	0.0035	4.67	40328.47	62776.08	62776.08	18.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	4.35	-11377.12	-16320	-0.0000585	0.0006738	0.0035	4.67		47179.21	47179.21	4.15		Si
SLV 9	7.9	-4547.25	-9677	-0.0000289	0.0006738	0.0035	4.67		33630.91	33630.91	7.4		Si
SLD 9	4.35	-8513.34	-20059	-0.0000588	0.0006738	0.0035	4.67		54541.98	54541.98	6.41		Si
SLD 9	7.9	-3658.36	-12322	-0.0000318	0.0006738	0.0035	4.67		39100.62	39100.62	10.69		Si
SLV 14	4.35	-7831	-25545	-0.000068	0.0006738	0.0035	4.67		64808.47	64808.47	8.28		Si
SLV 14	7.9	-3936.8	-16280	-0.0000401	0.0006738	0.0035	4.67		47099.56	47099.56	11.96		Si
SLV 5	4.35	-10396.1	-14480	-0.0000525	0.0006738	0.0035	4.67		43554.69	43554.69	4.19		Si
SLV 5	7.9	-3861.42	-8454	-0.0000249	0.0006738	0.0035	4.67		31080.75	31080.75	8.05		Si
SLD 6	4.35	-8083.5	-18552	-0.0000548	0.0006738	0.0035	4.67		51574.6	51574.6	6.38		Si
SLD 6	7.9	-3213.16	-11450	-0.0000291	0.0006738	0.0035	4.67		37298.15	37298.15	11.61		Si
SLD 10	4.35	-8708.29	-19733	-0.0000587	0.0006738	0.0035	4.67		53900.29	53900.29	6.19		Si
SLD 10	7.9	-3648.23	-12232	-0.0000316	0.0006738	0.0035	4.67		38914.97	38914.97	10.67		Si
SLV 10	4.35	-11687.02	-15801	-0.0000583	0.0006738	0.0035	4.67		46156.78	46156.78	3.95		Si
SLV 10	7.9	-4531.14	-9534	-0.0000286	0.0006738	0.0035	4.67		33335.8	33335.8	7.36		Si
SLV 6	4.35	-10706	-13961	-0.0000522	0.0006738	0.0035	4.67		42487.62	42487.62	3.97		Si
SLV 6	7.9	-3845.31	-8311	-0.0000246	0.0006738	0.0035	4.67		30776.45	30776.45	8		Si
SLV 13	4.35	-7370.7	-26316	-0.0000684	0.0006738	0.0035	4.67		66188.5	66188.5	8.98		Si
SLV 13	7.9	-3960.73	-16492	-0.0000406	0.0006738	0.0035	4.67		47517.12	47517.12	12		Si
SLD 5	4.35	-7888.55	-18878	-0.0000549	0.0006738	0.0035	4.67		52217.78	52217.78	6.62		Si
SLD 5	7.9	-3223.29	-11540	-0.0000293	0.0006738	0.0035	4.67		37483.8	37483.8	11.63		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	4.35	-5009.26	-36118	-20026	-6101	4.67	4.67	-30630	10833	11787	115546	23496	23817	47313	No	7.75	Si
SLU 70	7.9	-2563.28	-24055	-13337	-3355	4.67	4.67	-20400	10833	9112	115546	23496	23817	47313	No	14.1	Si
SLU 76	4.35	-5545.01	-37806	-20962	-6131	4.67	4.67	-32062	10833	12161	115546	23496	23817	47313	No	7.72	Si
SLU 76	7.9	-3182.72	-24390	-13523	-3554	4.67	4.67	-20684	10833	9186	115546	23496	23817	47313	No	13.31	Si
SLU 80	4.35	-5483.45	-38802	-21514	-6182	4.67	4.67	-32906	10833	12382	115546	23496	23817	47313	No	7.65	Si
SLU 80	7.9	-3000.24	-25491	-14134	-3398	4.67	4.67	-21618	10833	9430	115546	23496	23817	47313	No	13.92	Si
SLU 75	4.35	-5545.81	-38218	-21190	-6017	4.67	4.67	-32410	10833	12252	115546	23496	23817	47313	No	7.86	Si
SLU 75	7.9	-3281.41	-24676	-13682	-3415	4.67	4.67	-20927	10833	9249	115546	23496	23817	47313	No	13.86	Si
SLU 84	4.35	-5717.59	-39191	-21730	-6050	4.67	4.67	-33236	10833	12468	115546	23496	23817	47313	No	7.82	Si
SLU 84	7.9	-3410.02	-25163	-13952	-3431	4.67	4.67	-21340	10833	9357	115546	23496	23817	47313	No	13.79	Si
SLU 72	4.35	-4954.24	-35809	-19855	-6099	4.67	4.67	-30368	10833	11718	115546	23496	23817	47313	No	7.76	Si
SLU 72	7.9	-2460.63	-23830	-13213	-3352	4.67	4.67	-20209	10833	9062	115546	23496	23817	47313	No	14.12	Si
SLU 68	4.35	-5015.8	-34814	-19303	-6049	4.67	4.67	-29524	10833	11498	115546	23496	23817	47313	No	7.82	Si
SLU 68	7.9	-2643.11	-22728	-12602	-3507	4.67	4.67	-19275	10833	8817	115546	23496	23817	47313	No	13.49	Si
SLU 79	4.35	-5402.12	-38955	-21599	-6007	4.67	4.67	-33036	10833	12416	115546	23496	23817	47313	No	7.88	Si
SLU 79	7.9	-2994.3	-25584	-14185	-3185	4.67	4.67	-21696	10833	9451	115546	23496	23817	47313	No	14.85	Si
SLU 77	4.35	-5457.14	-39264	-21770	-6009	4.67	4.67	-33298	10833	12485	115546	23496	23817	47313	No	7.87	Si
SLU 77	7.9	-3096.95	-25809	-14310	-3188	4.67	4.67	-21887	10833	9500	115546	23496	23817	47313	No	14.84	Si
SLU 78	4.35	-5538.47	-39111	-21685	-6184	4.67	4.67	-33168	10833	12451	115546	23496	23817	47313	No	7.65	Si
SLU 78	7.9	-3102.9	-25716	-14258	-3402	4.67	4.67	-21808	10833	9480	115546	23496	23817	47313	No	13.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	4.35	3124.99	-38386	-21283	9579	4.67	4.67	-32553	16250	14178	115546	35244	23817	59061		6.17	Si
SLV 11	7.9	-574.17	-24972	-13846	13533	4.67	4.67	-21178	16250	11203	115546	35244	23817	59061		4.36	Si
SLV 8	4.35	3796.11	-36026	-19975	7707	4.67	4.67	-30552	16250	13655	115546	35244	23817	59061		7.66	Si
SLV 8	7.9	127.77	-23607	-13089	12420	4.67	4.67	-20020	16250	10901	115546	35244	23817	59061		4.76	Si
SLV 5	4.35	-10396.1	-14480	-8028	-18239	4.67	4.67	-12280	14956	9778	115546	35244	23817	59061		3.24	Si
SLV 5	7.9	-3861.42	-8454	-4687	-18133	4.67	4.67	-7169	13934	9110	115546	35244	23817	59061		3.26	Si
SLV 9	4.35	-11377.12	-16320	-9049	-16262	4.67	4.67	-13840	15268	9982	115546	35244	23817	59061		3.63	Si
SLV 9	7.9	-4547.25	-9677	-5365	-17328	4.67	4.67	-8206	14141	9246	115546	35244	23817	59061		3.41	Si
SLD 6	4.35	-8083.5	-18552	-10286	-12930	4.67	4.67	-15733	15647	10230	115546	35244	23817	59061		4.57	Si
SLD 6	7.9	-3213.16	-11450	-6349	-12410	4.67	4.67	-9711	14442	9442	115546	35244	23817	59061		4.76	Si
SLV 7	4.35	4106.01	-36545	-20263	7603	4.67	4.67	-30992	16250	13770	115546	35244	23817	59061		7.77	Si
SLV 7	7.9	111.66	-23749	-13168	12728	4.67	4.67	-20141	16250	10932	115546	35244	23817	59061		4.64	Si
SLV 10	4.35	-11687.02	-15801	-8761	-16158	4.67	4.67	-13400	15180	9925	115546	35244	23817	59061		3.66	Si
SLV 10	7.9	-4531.14	-9534	-5286	-17636	4.67	4.67	-8085	14117	9230	115546	35244	23817	59061		3.35	Si
SLV 6	4.35	-10706	-13961	-7741	-18134	4.67	4.67	-11839	14868	9721	115546	35244	23817	59061		3.26	Si
SLV 6	7.9	-3845.31	-8311	-4608	-18441	4.67	4.67	-7048	13910	9094	115546	35244	23817	59061		3.2	Si
SLD 5	4.35	-7888.55	-18878	-10467	-12996	4.67	4.67	-16010	15702	10266	115546	35244	23817	59061		4.54	Si
SLD 5	7.9	-3223.29	-11540	-6399	-12216	4.67	4.67	-9787	14457	9452	115546	35244	23817	59061		4.83	Si
SLV 12	4.35	2815.09	-37866	-20995	9683	4.67	4.67	-32113	16250	14063	115546	35244	23817	59061		6.1	Si
SLV 12	7.9	-558.06	-24830	-13767	13225	4.67	4.67	-21057	16250	11172	115546	35244	23817	59061		4.47	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.125 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-12985	0.38	262.39	810.44	1414.26	1112.35	4.24	Si
SLV 5	-13392	0.38	262.39	832.66	1448.43	1140.54	4.35	Si
SLV 10	-13685	0.38	262.39	848.54	1472.68	1160.61	4.42	Si
SLV 9	-14092	0.38	262.39	870.42	1506.39	1188.4	4.53	Si
SLV 2	-18560	0.38	262.39	1097.97	1874.39	1486.18	5.66	Si
SLV 1	-19165	0.38	262.39	1126.97	1923.91	1525.44	5.81	Si
SLV 14	-20894	0.38	262.39	1207.54	2065.72	1636.63	6.24	Si
SLV 13	-21498	0.38	262.39	1234.89	2115.33	1675.11	6.38	Si
SLV 4	-24124	0.38	262.39	1348.7	2325.7	1837.2	7	Si
SLV 3	-24728	0.38	262.39	1373.77	2374.19	1873.98	7.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-21080	-32936	413	1.136	2473.3	0.961	17.18437	14.80379	Si
SLV 16	-20868	-32165	413	1.146	2451.7	0.96	17.34601	14.80379	Si
SLV 3	-17004	-26801	-432	1.373	2058.8	0.954	20.92937	14.80379	Si
SLV 4	-16791	-26030	-432	1.388	2037.3	0.953	21.17067	14.80379	Si
SLV 13	-16492	-26316	431	1.411	2006.8	0.952	21.52207	14.80379	Si
SLV 14	-16280	-25545	431	1.427	1985.3	0.952	21.77744	14.80379	Si
SLV 1	-12415	-20182	-414	1.803	1593.2	0.942	27.81324	14.80379	Si
SLV 2	-12203	-19410	-414	1.829	1571.7	0.941	28.24147	14.80379	Si
SLV 11	-24972	-38386	97	0.987	2869.3	0.966	14.8553	6.89731	Si
SLV 12	-24830	-37866	97	0.992	2854.7	0.965	14.935	6.89731	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.577	SLU 82	Si
V_SLU	7.651	SLU 78	Si
PF_SLV	3.949	SLV 10	Si
V_SLV	3.203	SLV 6	Si
PFFP_SLV	4.239	SLV 6	Si
R_SLV	1.161	SLV 15	Si

Maschio 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L5	L6	0.565	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	6.35	37.42	-6523	-0.0000715	0.0003743	0.0035	0.565	1096.46	1317.83	1317.83	35.22	No	Si
SLU 81	7.15	-565.57	-6569	-0.0001369	0.0003743	0.0035	0.565	1098.91	1366.18	1366.18	2.42	No	Si
SLU 68	6.35	43.25	-5704	-0.0000628	0.0003743	0.0035	0.565	1040.69	1224.26	1224.26	28.3	No	Si
SLU 68	7.15	-520.28	-5693	-0.0001193	0.0003743	0.0035	0.565	1039.8	1254.21	1254.21	2.41	No	Si
SLU 82	6.35	34.04	-6556	-0.0000715	0.0003743	0.0035	0.565	1098.2	1321.67	1321.67	38.82	No	Si
SLU 82	7.15	-566.75	-6584	-0.0001373	0.0003743	0.0035	0.565	1099.65	1367.61	1367.61	2.41	No	Si
SLU 65	6.35	48.77	-5625	-0.0000625	0.0003743	0.0035	0.565	1034.14	1211.62	1211.62	24.84	No	Si
SLU 65	7.15	-521.53	-5634	-0.0001187	0.0003743	0.0035	0.565	1034.84	1245.37	1245.37	2.39	No	Si
SLU 64	6.35	54.39	-5571	-0.0000625	0.0003743	0.0035	0.565	1029.44	1202.48	1202.48	22.11	No	Si
SLU 64	7.15	-519.56	-5610	-0.0001181	0.0003743	0.0035	0.565	1032.78	1241.81	1241.81	2.39	No	Si
SLU 74	6.35	36.54	-6401	-0.00007	0.0003743	0.0035	0.565	1089.66	1303.61	1303.61	35.68	No	Si
SLU 74	7.15	-558.14	-6426	-0.000134	0.0003743	0.0035	0.565	1091.08	1352.07	1352.07	2.42	No	Si
SLU 66	6.35	48.42	-5735	-0.0000637	0.0003743	0.0035	0.565	1043.23	1228.05	1228.05	25.36	No	Si
SLU 66	7.15	-525.93	-5754	-0.0001208	0.0003743	0.0035	0.565	1044.81	1263.41	1263.41	2.4	No	Si
SLU 73	6.35	36.89	-6292	-0.0000688	0.0003743	0.0035	0.565	1083.12	1290.98	1290.98	35	No	Si
SLU 73	7.15	-553.74	-6306	-0.0001317	0.0003743	0.0035	0.565	1083.95	1340.4	1340.4	2.42	No	Si
SLU 67	6.35	45.04	-5767	-0.0000637	0.0003743	0.0035	0.565	1045.88	1231.68	1231.68	27.34	No	Si
SLU 67	7.15	-527.12	-5769	-0.0001211	0.0003743	0.0035	0.565	1045.97	1265.58	1265.58	2.4	No	Si
SLU 75	6.35	33.16	-6434	-0.00007	0.0003743	0.0035	0.565	1091.54	1307.42	1307.42	39.42	No	Si
SLU 75	7.15	-559.32	-6441	-0.0001343	0.0003743	0.0035	0.565	1091.9	1353.48	1353.48	2.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	6.35	344.79	-2456	-0.000063	0.0005615	0.0035	0.565		658.96	658.96	1.91		Si
SLD 3	7.15	-688.18	-3396	-0.0001681	0.0005615	0.0035	0.452		925.4	925.4	1.34		Si
SLV 6	6.35	272.45	-5089	-0.0000789	0.0005615	0.0035	0.565		1222.11	1222.11	4.49		Si
SLV 6	7.15	-974.61	-4813	-0.0002562	0.0005615	0.0035	0.452		1227.82	1227.82	1.26		Si
SLD 2	6.35	429.31	-2841	-0.0000799	0.0005615	0.0035	0.565		740.18	740.18	1.72		Si
SLD 2	7.15	-909.23	-3661	-0.0005515	0.0005615	0.0035	0.452		984.2	984.2	1.08		Si
SLD 1	6.35	357.13	-3078	-0.0000677	0.0005615	0.0035	0.565		789.41	789.41	2.21		Si
SLD 1	7.15	-815.15	-3728	-0.0002447	0.0005615	0.0035	0.452		998.94	998.94	1.23		Si
SLD 4	6.35	416.97	-2219	-0.0000872	0.0005615	0.0035	0.565		601.33	601.33	1.44		Si
SLD 4	7.15	-782.27	-3330	-0.0003027	0.0005615	0.0035	0.452		910.63	910.63	1.16		Si
SLV 5	6.35	196.39	-5339	-0.0000733	0.0005615	0.0035	0.565		1271.16	1271.16	6.47		Si
SLV 5	7.15	-875.47	-4884	-0.0001911	0.0005615	0.0035	0.452		1241.66	1241.66	1.42		Si
SLV 1	6.35	537.22	-2409	-0.0001595	0.0005615	0.0035	0.565		647.7	647.7	1.21		Si
SLV 1	7.15	-1054.61	-3400	-0.0043273	0.0005615	0.0035	0.452		926.27	926.27	0.88		No
SLV 3	6.35	517.98	-1400	-0.011986	0.0005615	0.0035	0.452		395.64	395.64	0.76		No
SLV 3	7.15	-850.18	-2867	-0.0022133	0.0005615	0.0035	0.452		804.39	804.39	0.95		No
SLV 4	6.35	630.96	-1029	-0.0278286	0.0005615	0.0035	0.452		298.96	298.96	0.47		No
SLV 4	7.15	-997.44	-2762	-0.0051926	0.0005615	0.0035	0.452		779.94	779.94	0.78		No
SLV 2	6.35	650.19	-2038	-0.009977	0.0005615	0.0035	0.452		556.84	556.84	0.86		No
SLV 2	7.15	-1201.87	-3296	-0.0067089	0.0005615	0.0035	0.452		903.15	903.15	0.75		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	6.35	36.54	-6401	-5330	448	0.565	0.565	-33694	10833	1929	40441	4737	1441	6178	No	13.8	Si
SLU 74	7.15	-558.14	-6426	-5351	683	0.565	0.565	-33825	10833	1935	40441	4737	1441	6178	No	9.04	Si
SLU 81	6.35	37.42	-6523	-5432	447	0.565	0.565	-34336	10833	1956	40441	4737	1441	6178	No	13.81	Si
SLU 81	7.15	-565.57	-6569	-5470	701	0.565	0.565	-34579	10833	1966	40441	4737	1441	6178	No	8.81	Si
SLU 78	6.35	27.65	-6512	-5423	429	0.565	0.565	-34278	10833	1954	40441	4737	1441	6178	No	14.39	Si
SLU 78	7.15	-558.07	-6500	-5412	672	0.565	0.565	-34213	10833	1951	40441	4737	1441	6178	No	9.19	Si
SLU 83	6.35	31.91	-6601	-5497	431	0.565	0.565	-34747	10833	1974	40441	4737	1441	6178	No	14.32	Si
SLU 83	7.15	-564.31	-6629	-5520	696	0.565	0.565	-34891	10833	1980	40441	4737	1441	6178	No	8.87	Si
SLU 84	6.35	28.53	-6634	-5524	429	0.565	0.565	-34920	10833	1981	40441	4737	1441	6178	No	14.41	Si
SLU 84	7.15	-565.5	-6643	-5532	690	0.565	0.565	-34967	10833	1983	40441	4737	1441	6178	No	8.95	Si
SLU 82	6.35	34.04	-6556	-5459	444	0.565	0.565	-34508	10833	1963	40441	4737	1441	6178	No	13.9	Si
SLU 82	7.15	-566.75	-6584	-5482	695	0.565	0.565	-34655	10833	1970	40441	4737	1441	6178	No	8.89	Si
SLU 77	6.35	31.02	-6479	-5396	432	0.565	0.565	-34106	10833	1946	40441	4737	1441	6178	No	14.3	Si
SLU 77	7.15	-556.89	-6485	-5400	679	0.565	0.565	-34137	10833	1948	40441	4737	1441	6178	No	9.1	Si
SLU 73	6.35	36.89	-6292	-5240	453	0.565	0.565	-33120	10833	1905	40441	4737	1441	6178	No	13.63	Si
SLU 73	7.15	-553.74	-6306	-5251	671	0.565	0.565	-33190	10833	1908	40441	4737	1441	6178	No	9.21	Si
SLU 79	6.35	31.48	-6394	-5324	426	0.565	0.565	-33655	10833	1927	40441	4737	1441	6178	No	14.49	Si
SLU 79	7.15	-549.26	-6400	-5329	672	0.565	0.565	-33688	10833	1929	40441	4737	1441	6178	No	9.19	Si
SLU 75	6.35	33.16	-6434	-5358	445	0.565	0.565	-33867	10833	1936	40441	4737	1441	6178	No	13.89	Si
SLU 75	7.15	-559.32	-6441	-5363	677	0.565	0.565	-33901	10833	1938	40441	4737	1441	6178	No	9.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	6.35	429.31	-2841	-2366	1991	0.565	0.3941	-14953	13407	1480	40441	7106	1441	8547		4.29	Si
SLD 2	7.15	-909.23	-3661	-3049	939	0.452	0.1025	0	0	0	40441	5685	1153	6837		7.28	Si
SLV 3	6.35	517.98	-1400	-1166	2049	0.452	0	0	0	0	40441	5685	1153	6837		3.34	Si
SLV 3	7.15	-850.18	-2867	-2387	1053	0.452	0	0	0	0	40441	5685	1153	6837		6.49	Si
SLV 2	6.35	650.19	-2038	-1697	2916	0.452	0	0	0	0	40441	5685	1153	6837		2.34	Si
SLV 2	7.15	-1201.87	-3296	-2745	1191	0.452	0	0	0	0	40441	5685	1153	6837		5.74	Si
SLV 13	6.35	-553.44	-7586	-6317	-1791	0.565	0.565	-39933	16250	2571	40441	7106	1441	8547		4.77	Si
SLV 13	7.15	207.37	-5908	-4920	-246	0.565	0.565	-31100	16250	2571	40441	7106	1441	8547		34.79	Si
SLV 15	6.35	-572.68	-6577	-5477	-2205	0.565	0.565	-34619	16250	2571	40441	7106	1441	8547		3.88	Si
SLV 15	7.15	411.8	-5375	-4476	-217	0.565	0.565	-28291	16075	2543	40441	7106	1441	8547		39.42	Si
SLV 16	6.35	-459.71	-6206	-5168	-1752	0.565	0.565	-32666	16250	2571	40441	7106	1441	8547		4.88	Si
SLV 16	7.15	264.55	-5271	-4389	-50	0.565	0.565	-27743	15965	2526	40441	7106	1441	8547		171.71	Si
SLV 4	6.35	630.96	-1029	-857	2502	0.452	0	0	0	0	40441	5685	1153	6837		2.73	Si
SLV 4	7.15	-997.44	-2762	-2300	1220	0.452	0	0	0	0	40441	5685	1153	6837		5.6	Si
SLD 4	6.35	416.97	-2219	-1847	1733	0.565	0.2837	-11678	12752	1254	40441	7106	1441	8547		4.93	Si
SLD 4	7.15	-782.27	-3330	-2773	957	0.452	0.1427	0	0	0	40441	5685	1153	6837		7.14	Si
SLV 6	6.35	272.45	-5089	-4237	1836	0.565	0.565	-26785	15774	2495	40441	7106	1441	8547		4.65	Si
SLV 6	7.15	-974.61	-4813	-4008	686	0.452	0.2401	0	0	0	40441	5685	1153	6837		9.97	Si
SLV 1	6.35	537.22	-2409	-2006	2463	0.565	0.1786	-41064	16250	1297	40441	7106	1441	8547		3.47	Si
SLV 1	7.15	-1054.61	-3400	-2831	1024	0.452	0	0	0	0	40441	5685	1153	6837		6.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	7032	-1113	58.34	148.58	2.55	Si
SLV 7	179667	0.38	7417	-1173	58.34	156.29	2.68	Si
SLV 4	179667	0.38	10674	-1689	58.34	219.89	3.77	Si
SLV 3	179667	0.38	11245	-1779	58.34	230.72	3.95	Si
SLV 12	179667	0.38	11302	-1788	58.34	231.79	3.97	Si
SLV 11	179667	0.38	11687	-1849	58.34	239.03	4.1	Si
SLV 2	179667	0.38	18146	-2871	58.34	354.14	6.07	Si
SLV 1	179667	0.38	18717	-2961	58.34	363.73	6.23	Si
SLV 16	179667	0.38	24907	-3940	58.34	461.67	7.91	Si
SLV 15	179667	0.38	25478	-4031	58.34	470.14	8.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.

- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-3538	-4142	-32	0.821	439.6	0.948	12.59192	6.9554	Si
SLV 14	-3492	-4310	-31	0.831	435	0.948	12.74026	6.9554	Si
SLV 15	-3055	-2571	-56	0.921	390.7	0.943	14.19683	6.9554	Si
SLV 16	-3009	-2738	-55	0.933	386	0.942	14.38806	6.9554	Si
SLV 9	-3629	-6027	10	0.809	448.9	0.949	12.39587	4.64355	Si
SLV 10	-3598	-6140	10	0.815	445.8	0.949	12.486	4.64355	Si
SLV 1	-2212	-4211	6	1.212	305.4	0.93	18.95419	6.9554	Si
SLV 2	-2166	-4379	7	1.232	300.8	0.929	19.28059	6.9554	Si
SLV 5	-3232	-6048	21	0.888	408.6	0.945	13.66669	4.64355	Si
SLV 6	-3201	-6161	22	0.895	405.4	0.944	13.77783	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.388	SLU 65	Si
V_SLU	8.813	SLU 81	Si
PF_SLV	0.474	SLV 4	No
V_SLV	2.344	SLV 2	Si
PFFP_SLV	2.547	SLV 8	Si
R_SLV	1.81	SLV 13	Si

Maschio 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L5	L6	2.325	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	6.35	2815.44	-21991	-0.0000728	0.0003743	0.0035	2.325	17082.26	19658.6	19658.6	6.98	No	Si
SLU 77	7.15	1185.72	-19263	-0.0000544	0.0003743	0.0035	2.325	15884.75	17693.37	17693.37	14.92	No	Si
SLU 69	6.35	2592.07	-19988	-0.0000657	0.0003743	0.0035	2.325	16228.89	18208.05	18208.05	7.02	No	Si
SLU 69	7.15	996.11	-17352	-0.0000481	0.0003743	0.0035	2.325	14890.66	16364.87	16364.87	16.43	No	Si
SLU 83	6.35	2864.15	-22351	-0.0000741	0.0003743	0.0035	2.325	17221.07	19923.76	19923.76	6.96	No	Si
SLU 83	7.15	1204.65	-19607	-0.0000554	0.0003743	0.0035	2.325	16050.58	17937.15	17937.15	14.89	No	Si
SLU 84	6.35	2857.98	-22542	-0.0000746	0.0003743	0.0035	2.325	17292.69	20064.74	20064.74	7.02	No	Si
SLU 84	7.15	1205.27	-19773	-0.0000559	0.0003743	0.0035	2.325	16128.66	18054.63	18054.63	14.98	No	Si
SLU 64	6.35	2531.48	-19314	-0.0000634	0.0003743	0.0035	2.325	15910	17730	17730	7	No	Si
SLU 64	7.15	894.39	-16706	-0.0000458	0.0003743	0.0035	2.325	14525.79	15924.73	15924.73	17.81	No	Si
SLU 66	6.35	2578.49	-19812	-0.0000651	0.0003743	0.0035	2.325	16146.85	18082.25	18082.25	7.01	No	Si
SLU 66	7.15	956.72	-17180	-0.0000474	0.0003743	0.0035	2.325	14795.04	16247.32	16247.32	16.98	No	Si
SLU 81	6.35	2850.57	-22175	-0.0000735	0.0003743	0.0035	2.325	17153.67	19793.74	19793.74	6.94	No	Si
SLU 81	7.15	1165.27	-19436	-0.0000547	0.0003743	0.0035	2.325	15968.54	17815.61	17815.61	15.29	No	Si
SLU 82	6.35	2844.41	-22366	-0.000074	0.0003743	0.0035	2.325	17226.48	19934.32	19934.32	7.01	No	Si
SLU 82	7.15	1165.89	-19601	-0.0000552	0.0003743	0.0035	2.325	16047.63	17932.75	17932.75	15.38	No	Si
SLU 74	6.35	2801.86	-21814	-0.0000722	0.0003743	0.0035	2.325	17012.63	19529.33	19529.33	6.97	No	Si
SLU 74	7.15	1146.34	-19091	-0.0000537	0.0003743	0.0035	2.325	15800.64	17572.52	17572.52	15.33	No	Si
SLU 79	6.35	2782	-21670	-0.0000716	0.0003743	0.0035	2.325	16955.03	19424.12	19424.12	6.98	No	Si
SLU 79	7.15	1162.77	-18960	-0.0000534	0.0003743	0.0035	2.325	15736.06	17480.95	17480.95	15.03	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	6.35	582.89	-12123	-0.0000316	0.0005615	0.0035	2.325		12876.6	12876.6	22.09		Si
SLV 16	7.15	3416.34	-11791	-0.0000481	0.0005615	0.0035	2.325		12592.72	12592.72	3.69		Si
SLV 4	6.35	3013.96	-12850	-0.0000482	0.0005615	0.0035	2.325		13498.99	13498.99	4.48		Si
SLV 4	7.15	-2581.22	-9646	-0.0000378	0.0005615	0.0035	2.325		11886.4	11886.4	4.6		Si
SLV 11	6.35	568.46	-5185	-0.0000152	0.0005615	0.0035	2.325		6046.9	6046.9	10.64		Si
SLV 11	7.15	2117.44	-5288	-0.0000246	0.0005615	0.0035	2.325		6156.73	6156.73	2.91		Si
SLV 13	6.35	864.24	-16868	-0.0000449	0.0005615	0.0035	2.325		17011.92	17011.92	19.68		Si
SLV 13	7.15	3977.12	-16080	-0.0000623	0.0005615	0.0035	2.325		16313.95	16313.95	4.1		Si
SLV 15	6.35	314.8	-11296	-0.000028	0.0005615	0.0035	2.325		12172.14	12172.14	38.67		Si
SLV 15	7.15	4142.39	-11417	-0.0000516	0.0005615	0.0035	2.325		12275.32	12275.32	2.96		Si
SLV 3	6.35	2745.87	-12022	-0.0000446	0.0005615	0.0035	2.325		12790.06	12790.06	4.66		Si
SLV 3	7.15	-1855.18	-9273	-0.0000325	0.0005615	0.0035	2.325		11516.26	11516.26	6.21		Si
SLV 7	6.35	1297.78	-5403	-0.00002	0.0005615	0.0035	2.325		6278.92	6278.92	4.84		Si
SLV 7	7.15	318.17	-4645	-0.0000125	0.0005615	0.0035	2.325		5465.73	5465.73	17.18		Si
SLD 15	6.35	907.59	-12634	-0.0000348	0.0005615	0.0035	2.325		13313.65	13313.65	14.67		Si
SLD 15	7.15	2905.88	-11981	-0.0000454	0.0005615	0.0035	2.325		12755.33	12755.33	4.39		Si
SLV 12	6.35	748.95	-5742	-0.0000175	0.0005615	0.0035	2.325		6639.72	6639.72	8.87		Si
SLV 12	7.15	1628.62	-5539	-0.0000223	0.0005615	0.0035	2.325		6424.64	6424.64	3.94		Si
SLV 8	6.35	1478.27	-5960	-0.0000224	0.0005615	0.0035	2.325		6869.93	6869.93	4.65		Si
SLV 8	7.15	-170.65	-4896	-0.0000122	0.0005615	0.0035	2.325		6987.13	6987.13	40.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	6.35	2809.27	-22182	-18471	4515	2.325	2.325	-28373	10728	7015	40441	19494	5929	25423	No	5.63	Si
SLU 78	7.15	1186.34	-19428	-16178	3498	2.325	2.325	-24851	10258	6678	40441	19494	5929	25423	No	7.27	Si
SLU 73	6.35	2744.57	-21635	-18016	4544	2.325	2.325	-27674	10634	6923	40441	19494	5929	25423	No	5.59	Si
SLU 73	7.15	1085.04	-18893	-15732	3526	2.325	2.325	-24166	10167	6618	40441	19494	5929	25423	No	7.21	Si
SLU 75	6.35	2795.69	-22005	-18324	4540	2.325	2.325	-28147	10697	6975	40441	19494	5929	25423	No	5.6	Si
SLU 75	7.15	1146.96	-19256	-16035	3525	2.325	2.325	-24631	10229	6659	40441	19494	5929	25423	No	7.21	Si
SLU 74	6.35	2801.86	-21814	-18165	4508	2.325	2.325	-27903	10665	6943	40441	19494	5929	25423	No	5.64	Si
SLU 74	7.15	1146.34	-19091	-15897	3515	2.325	2.325	-24420	10200	6640	40441	19494	5929	25423	No	7.23	Si
SLU 82	6.35	2844.41	-22366	-18624	4600	2.325	2.325	-28609	10759	7056	40441	19494	5929	25423	No	5.53	Si
SLU 82	7.15	1165.89	-19601	-16322	3585	2.325	2.325	-25073	10287	6697	40441	19494	5929	25423	No	7.09	Si
SLU 84	6.35	2857.98	-22542	-18771	4575	2.325	2.325	-28835	10789	7095	40441	19494	5929	25423	No	5.56	Si
SLU 84	7.15	1205.27	-19773	-16465	3559	2.325	2.325	-25292	10317	6716	40441	19494	5929	25423	No	7.14	Si
SLU 77	6.35	2815.44	-21991	-18312	4483	2.325	2.325	-28129	10695	6972	40441	19494	5929	25423	No	5.67	Si
SLU 77	7.15	1185.72	-19263	-16040	3489	2.325	2.325	-24639	10230	6660	40441	19494	5929	25423	No	7.29	Si
SLU 83	6.35	2864.15	-22351	-18612	4544	2.325	2.325	-28590	10757	7052	40441	19494	5929	25423	No	5.6	Si
SLU 83	7.15	1204.65	-19607	-16327	3549	2.325	2.325	-25081	10289	6698	40441	19494	5929	25423	No	7.16	Si
SLU 81	6.35	2850.57	-22175	-18465	4569	2.325	2.325	-28365	10726	7013	40441	19494	5929	25423	No	5.56	Si
SLU 81	7.15	1165.27	-19436	-16184	3575	2.325	2.325	-24861	10259	6679	40441	19494	5929	25423	No	7.11	Si
SLU 76	6.35	2758.14	-21812	-18163	4519	2.325	2.325	-27900	10664	6943	40441	19494	5929	25423	No	5.63	Si
SLU 76	7.15	1124.42	-19064	-15875	3500	2.325	2.325	-24386	10196	6638	40441	19494	5929	25423	No	7.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	6.35	3129.25	-23976	-19965	8807	2.325	2.325	-30668	16250	10579	40441	29241	5929	35170		3.99	Si
SLV 5	7.15	-232.72	-20187	-16810	6333	2.325	2.325	-25822	15581	10143	40441	29241	5929	35170		5.55	Si
SLD 1	6.35	2799.32	-16555	-13785	8273	2.325	2.325	-21176	14652	9538	40441	29241	5929	35170		4.25	Si
SLD 1	7.15	-1046.12	-13506	-11247	6352	2.325	2.325	-17276	13872	9031	40441	29241	5929	35170		5.54	Si
SLD 4	6.35	2628.19	-13625	-11346	8076	2.325	2.325	-17428	13902	9050	40441	29241	5929	35170		4.35	Si
SLD 4	7.15	-1404.69	-10851	-9035	6372	2.325	2.325	-13879	13193	8588	40441	29241	5929	35170		5.52	Si
SLD 6	6.35	2798.97	-20867	-17377	7591	2.325	2.325	-26692	15755	10257	40441	29241	5929	35170		4.63	Si
SLD 6	7.15	-208.3	-17561	-14623	5566	2.325	2.325	-22462	14909	9706	40441	29241	5929	35170		6.32	Si
SLV 3	6.35	2745.87	-12022	-10011	8777	2.325	2.325	-15378	13492	8783	40441	29241	5929	35170		4.01	Si
SLV 3	7.15	-1855.18	-9273	-7722	7012	2.325	2.325	-11861	12789	8326	40441	29241	5929	35170		5.02	Si
SLV 2	6.35	3563.4	-18422	-15340	13078	2.325	2.325	-23564	15129	9849	40441	29241	5929	35170		2.69	Si
SLV 2	7.15	-2746.49	-14309	-11915	9996	2.325	2.325	-18303	14077	9164	40441	29241	5929	35170		3.52	Si
SLV 6	6.35	3309.74	-24533	-20429	10131	2.325	2.325	-31381	16250	10579	40441	29241	5929	35170		3.47	Si
SLV 6	7.15	-721.54	-20438	-17019	7335	2.325	2.325	-26143	15645	10185	40441	29241	5929	35170		4.79	Si
SLD 2	6.35	2970.61	-17084	-14226	9529	2.325	2.325	-21852	14787	9626	40441	29241	5929	35170		3.69	Si
SLD 2	7.15	-1509.99	-13745	-11446	7303	2.325	2.325	-17581	13933	9070	40441	29241	5929	35170		4.82	Si
SLV 4	6.35	3013.96	-12850	-10700	10744	2.325	2.325	-16436	13704	8921	40441	29241	5929	35170		3.27	Si
SLV 4	7.15	-2581.22	-9646	-8032	8501	2.325	2.325	-12339	12884	8388	40441	29241	5929	35170		4.14	Si
SLV 1	6.35	3295.31	-17594	-14651	11111	2.325	2.325	-22505	14918	9711	40441	29241	5929	35170		3.17	Si
SLV 1	7.15	-2020.45	-13936	-11604	8508	2.325	2.325	-17825	13982	9102	40441	29241	5929	35170		4.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.38	7951	-5176	240.06	686.93	2.86	Si
SLV 11	179667	0.38	8329	-5422	240.06	717.73	2.99	Si
SLV 8	179667	0.38	8580	-5586	240.06	738.05	3.07	Si
SLV 12	179667	0.38	8958	-5832	240.06	768.57	3.2	Si
SLV 3	179667	0.38	16432	-10697	240.06	1336.46	5.57	Si
SLV 4	179667	0.38	17366	-11305	240.06	1402.77	5.84	Si
SLV 15	179667	0.38	17693	-11518	240.06	1425.69	5.94	Si
SLV 16	179667	0.38	18627	-12126	240.06	1490.59	6.21	Si
SLV 1	179667	0.38	24210	-15761	240.06	1856.71	7.73	Si
SLV 2	179667	0.38	25144	-16369	240.06	1914.34	7.97	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-13297	-15577	-278	0.876	1681.2	0.945	13.47552	6.9554	Si
SLV 13	-13000	-15314	-278	0.892	1651.1	0.944	13.7417	6.9554	Si
SLV 2	-11809	-11683	-96	0.979	1530.4	0.94	15.13038	6.9554	Si
SLV 1	-11512	-11420	-96	0.999	1500.3	0.939	15.46446	6.9554	Si
SLV 10	-16715	-19478	-642	0.705	2028.1	0.953	10.74261	4.64355	Si
SLV 9	-16515	-19301	-642	0.712	2007.8	0.953	10.85653	4.64355	Si
SLV 6	-16268	-18310	-587	0.724	1982.8	0.952	11.04586	4.64355	Si
SLV 5	-16068	-18133	-587	0.731	1962.4	0.952	11.16614	4.64355	Si
SLV 16	-9879	-11029	89	1.131	1335.2	0.933	17.61598	6.9554	Si
SLV 15	-9582	-10766	89	1.159	1305.2	0.932	18.07323	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.944	SLU 81	Si
V_SLU	5.527	SLU 82	Si
PF_SLV	2.908	SLV 11	Si
V_SLV	2.689	SLV 2	Si
PFFP_SLV	2.861	SLV 7	Si
R_SLV	1.937	SLV 14	Si

Maschio 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L5	L6	2.09	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	5.25	1040.04	-13105	-0.0000428	0.0003743	0.0035	2.09	10682.81	11643.2	11643.2	11.19	No	Si
SLU 44	7.05	361.37	-11675	-0.0000335	0.0003743	0.0035	2.09	9809.4	10476.53	10476.53	28.99	No	Si
SLU 49	5.25	1022.96	-13462	-0.0000437	0.0003743	0.0035	2.09	10888.99	11937.59	11937.59	11.67	No	Si
SLU 49	7.05	428.34	-12143	-0.0000353	0.0003743	0.0035	2.09	10103.54	10855.47	10855.47	25.34	No	Si
SLU 5	5.25	821.61	-10680	-0.0000343	0.0003743	0.0035	2.09	9160.17	9686.53	9686.53	11.79	No	Si
SLU 5	7.05	350.19	-9662	-0.0000278	0.0003743	0.0035	2.09	8459.11	8893.78	8893.78	25.4	No	Si
SLU 50	5.25	954	-13107	-0.0000421	0.0003743	0.0035	2.09	10683.76	11644.54	11644.54	12.21	No	Si
SLU 50	7.05	433.96	-11874	-0.0000346	0.0003743	0.0035	2.09	9935.22	10636.62	10636.62	24.51	No	Si
SLU 45	5.25	965	-13203	-0.0000425	0.0003743	0.0035	2.09	10739.86	11723.88	11723.88	12.15	No	Si
SLU 45	7.05	431.49	-11979	-0.0000349	0.0003743	0.0035	2.09	10001.5	10722.27	10722.27	24.85	No	Si
SLU 2	5.25	818.73	-10562	-0.0000339	0.0003743	0.0035	2.09	9080.91	9593.95	9593.95	11.72	No	Si
SLU 2	7.05	331.82	-9533	-0.0000274	0.0003743	0.0035	2.09	8367.82	8794.67	8794.67	26.5	No	Si
SLU 47	5.25	1042.92	-13223	-0.0000432	0.0003743	0.0035	2.09	10751.54	11740.48	11740.48	11.26	No	Si
SLU 47	7.05	379.74	-11803	-0.000034	0.0003743	0.0035	2.09	9891	10580.09	10580.09	27.86	No	Si
SLU 51	5.25	1009.08	-13248	-0.000043	0.0003743	0.0035	2.09	10765.61	11760.49	11760.49	11.65	No	Si
SLU 51	7.05	412.45	-11909	-0.0000345	0.0003743	0.0035	2.09	9957.32	10665.1	10665.1	25.86	No	Si
SLU 43	5.25	948.24	-12871	-0.0000414	0.0003743	0.0035	2.09	10544.83	11450.47	11450.47	12.08	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	7.05	397.23	-11616	-0.0000336	0.0003743	0.0035	2.09	9772.06	10429.47	10429.47	26.26	No	Si
SLU 46	5.25	1020.08	-13344	-0.0000433	0.0003743	0.0035	2.09	10821.24	11839.99	11839.99	11.61	No	Si
SLU 46	7.05	409.98	-12015	-0.0000348	0.0003743	0.0035	2.09	10023.47	10750.82	10750.82	26.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	5.25	3136.44	-12351	-0.0000558	0.0005615	0.0035	2.09		11596	11596	3.7		Si
SLD 2	7.05	-1887.62	-8110	-0.0000348	0.0005615	0.0035	2.09		8964.1	8964.1	4.75		Si
SLV 3	5.25	2406.15	-6532	-0.0000345	0.0005615	0.0035	2.09		6669.81	6669.81	2.77		Si
SLV 3	7.05	-1504.45	-5008	-0.0000237	0.0005615	0.0035	2.09		6077.1	6077.1	4.04		Si
SLV 2	5.25	4524.7	-13108	-0.0000686	0.0005615	0.0035	2.09		12172.68	12172.68	2.69		Si
SLV 2	7.05	-3244.25	-6789	-0.000043	0.0005615	0.0035	2.09		7749.8	7749.8	2.39		Si
SLV 7	5.25	-949.64	-944	-0.0000448	0.0005615	0.0035	1.672		2090.62	2090.62	2.2		Si
SLV 7	7.05	1462.43	-5395	-0.0000244	0.0005615	0.0035	2.09		5600.47	5600.47	3.83		Si
SLV 15	5.25	-3114.87	-9187	-0.0000469	0.0005615	0.0035	2.09		9917.21	9917.21	3.18		Si
SLV 15	7.05	4248.24	-14297	-0.0000699	0.0005615	0.0035	2.09		13087.77	13087.77	3.08		Si
SLV 1	5.25	3736.59	-12240	-0.0000601	0.0005615	0.0035	2.09		11512.07	11512.07	3.08		Si
SLV 1	7.05	-2435	-7380	-0.0000369	0.0005615	0.0035	2.09		8293.52	8293.52	3.41		Si
SLV 11	5.25	-2605.94	-1740	-0.0004052	0.0005615	0.0035	1.672		2892.15	2892.15	1.11		Si
SLV 11	7.05	3188.23	-8182	-0.0000449	0.0005615	0.0035	2.09		8182.78	8182.78	2.57		Si
SLV 16	5.25	-2326.76	-10054	-0.0000433	0.0005615	0.0035	2.09		10686.31	10686.31	4.59		Si
SLV 16	7.05	3438.99	-13706	-0.0000619	0.0005615	0.0035	2.09		12631.7	12631.7	3.67		Si
SLV 12	5.25	-2075.33	-2324	-0.0000526	0.0005615	0.0035	1.672		3474.4	3474.4	1.67		Si
SLV 12	7.05	2643.39	-7784	-0.0000395	0.0005615	0.0035	2.09		7821.03	7821.03	2.96		Si
SLV 4	5.25	3194.26	-7399	-0.0000434	0.0005615	0.0035	2.09		7469.62	7469.62	2.34		Si
SLV 4	7.05	-2313.7	-4417	-0.0000301	0.0005615	0.0035	2.09		5515.49	5515.49	2.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	5.25	897.3	-16412	-13667	-1378	2.09	2.09	-23354	10058	5886	40441	17524	5330	22853	No	16.58	Si
SLU 82	7.05	946.36	-16120	-13424	-1366	2.09	2.09	-22938	10003	5854	40441	17524	5330	22853	No	16.73	Si
SLU 41	5.25	623.78	-13847	-11530	-1494	2.09	2.09	-19703	9572	5601	40441	17524	5330	22853	No	15.29	Si
SLU 41	7.05	956.69	-14072	-11718	-1493	2.09	2.09	-20024	9614	5626	40441	17524	5330	22853	No	15.3	Si
SLU 83	5.25	845.09	-16390	-13648	-1491	2.09	2.09	-23322	10054	5884	40441	17524	5330	22853	No	15.33	Si
SLU 83	7.05	986.24	-16214	-13502	-1490	2.09	2.09	-23072	10021	5864	40441	17524	5330	22853	No	15.34	Si
SLU 84	5.25	900.18	-16530	-13765	-1393	2.09	2.09	-23522	10081	5899	40441	17524	5330	22853	No	16.41	Si
SLU 84	7.05	964.72	-16249	-13531	-1381	2.09	2.09	-23122	10027	5868	40441	17524	5330	22853	No	16.55	Si
SLU 35	5.25	669.53	-13644	-11362	-1338	2.09	2.09	-19415	9533	5579	40441	17524	5330	22853	No	17.08	Si
SLU 35	7.05	890.41	-13708	-11415	-1337	2.09	2.09	-19505	9545	5586	40441	17524	5330	22853	No	17.09	Si
SLU 81	5.25	842.21	-16272	-13550	-1476	2.09	2.09	-23154	10032	5871	40441	17524	5330	22853	No	15.48	Si
SLU 81	7.05	967.87	-16085	-13394	-1475	2.09	2.09	-22888	9996	5850	40441	17524	5330	22853	No	15.5	Si
SLU 39	5.25	620.9	-13729	-11432	-1479	2.09	2.09	-19535	9549	5588	40441	17524	5330	22853	No	15.45	Si
SLU 39	7.05	938.32	-13943	-11611	-1478	2.09	2.09	-19841	9590	5612	40441	17524	5330	22853	No	15.46	Si
SLU 77	5.25	890.84	-16187	-13479	-1335	2.09	2.09	-23034	10016	5861	40441	17524	5330	22853	No	17.12	Si
SLU 77	7.05	919.97	-15850	-13198	-1334	2.09	2.09	-22553	9952	5824	40441	17524	5330	22853	No	17.14	Si
SLU 40	5.25	675.99	-13869	-11549	-1381	2.09	2.09	-19735	9576	5604	40441	17524	5330	22853	No	16.54	Si
SLU 40	7.05	916.8	-13978	-11640	-1370	2.09	2.09	-19891	9597	5616	40441	17524	5330	22853	No	16.69	Si
SLU 42	5.25	678.87	-13987	-11647	-1396	2.09	2.09	-19903	9598	5617	40441	17524	5330	22853	No	16.36	Si
SLU 42	7.05	935.17	-14107	-11747	-1385	2.09	2.09	-20074	9621	5630	40441	17524	5330	22853	No	16.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	5.25	-2326.76	-10054	-8372	-6799	2.09	2.09	-14306	13278	7770	40441	26285	5330	31615		4.65	Si
SLV 16	7.05	3438.99	-13706	-11413	-6327	2.09	2.09	-19503	14317	8378	40441	26285	5330	31615		5	Si
SLV 5	5.25	3485.17	-19971	-16630	5707	2.09	2.09	-28417	16100	9422	40441	26285	5330	31615		5.54	Si
SLV 5	7.05	-1639.41	-13302	-11077	5598	2.09	2.09	-18928	14202	8311	40441	26285	5330	31615		5.65	Si
SLV 12	5.25	-2075.33	-2324	-1935	-7098	1.672	0.4557	0	0	0	40441	21028	4264	25292		3.56	Si
SLV 12	7.05	2643.39	-7784	-6482	-6988	2.09	2.09	-11076	12632	7392	40441	26285	5330	31615		4.52	Si
SLV 15	5.25	-3114.87	-9187	-7650	-8532	2.09	2.09	-13072	13031	7626	40441	26285	5330	31615		3.71	Si
SLV 15	7.05	4248.24	-14297	-11905	-8060	2.09	2.09	-20344	14485	8477	40441	26285	5330	31615		3.92	Si
SLD 15	5.25	-1726.61	-9943	-8280	-5681	2.09	2.09	-14149	13246	7752	40441	26285	5330	31615		5.56	Si
SLD 15	7.05	2891.61	-12976	-10806	-5378	2.09	2.09	-18465	14110	8257	40441	26285	5330	31615		5.88	Si
SLD 11	5.25	-1389.62	-5341	-4448	-5441	2.09	2.09	-7601	11937	6985	40441	26285	5330	31615		5.81	Si
SLD 11	7.05	2191.29	-9141	-7612	-5370	2.09	2.09	-13007	13018	7618	40441	26285	5330	31615		5.89	Si
SLV 11	5.25	-2605.94	-1740	-1449	-8265	1.672	0	0	0	0	40441	21028	4264	25292		3.06	Si
SLV 11	7.05	3188.23	-8182	-6813	-8155	2.09	1.966	-11643	12745	7016	40441	26285	5330	31615		3.88	Si
SLV 2	5.25	4524.7	-13108	-10915	7141	2.09	2.09	-18651	14147	8279	40441	26285	5330	31615		4.43	Si
SLV 2	7.05	-3244.25	-6789	-5653	6671	2.09	1.7014	-11932	12803	6099	40441	26285	5330	31615		4.74	Si
SLV 7	5.25	-949.64	-944	-786	-5051	1.672	0.1159	0	0	0	40441	21028	4264	25292		5.01	Si
SLV 7	7.05	1462.43	-5395	-4493	-5230	2.09	2.09	-7677	11952	6994	40441	26285	5330	31615		6.05	Si
SLV 6	5.25	4015.78	-20554	-17116	6874	2.09	2.09	-29248	16250	9510	40441	26285	5330	31615		4.6	Si
SLV 6	7.05	-2184.25	-12904	-10745	6765	2.09	2.09	-18362	14089	8245	40441	26285	5330	31615		4.67	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.38	7145	-4181	215.8	557.99	2.59	Si
SLV 7	179667	0.38	7159	-4189	215.8	559.02	2.59	Si
SLV 4	179667	0.38	10258	-6003	215.8	784	3.63	Si
SLV 3	179667	0.38	10279	-6015	215.8	785.45	3.64	Si
SLV 12	179667	0.38	10474	-6130	215.8	799.28	3.7	Si
SLV 11	179667	0.38	10488	-6138	215.8	800.26	3.71	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.38	16259	-9515	215.8	1190.26	5.52	Si
SLV 1	179667	0.38	16280	-9527	215.8	1191.58	5.52	Si
SLV 16	179667	0.38	21356	-12497	215.8	1504.98	6.97	Si
SLV 15	179667	0.38	21376	-12509	215.8	1506.19	6.98	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-13530	-15679	78	0.802	1671.2	0.949	12.27022	6.9554	Si
SLV 14	-13279	-16032	78	0.814	1645.8	0.949	12.47156	6.9554	Si
SLV 15	-11554	-10965	319	0.896	1470.8	0.943	13.79806	6.9554	Si
SLV 16	-11303	-11318	320	0.912	1445.4	0.943	14.06089	6.9554	Si
SLV 9	-13653	-18905	-347	0.778	1683.8	0.95	11.9077	4.64355	Si
SLV 10	-13484	-19143	-346	0.786	1666.6	0.949	12.03803	4.64355	Si
SLV 5	-11818	-16908	-469	0.868	1497.6	0.944	13.36211	4.64355	Si
SLV 1	-7413	-9021	-330	1.276	1052.2	0.926	20.04345	6.9554	Si
SLV 6	-11650	-17146	-469	0.879	1480.5	0.944	13.52962	4.64355	Si
SLV 2	-7163	-9374	-329	1.311	1027	0.924	20.61484	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.195	SLU 44	Si
V_SLU	15.292	SLU 41	Si
PF_SLV	1.11	SLV 11	Si
V_SLV	3.06	SLV 11	Si
PFFP_SLV	2.586	SLV 8	Si
R_SLV	1.764	SLV 13	Si

Maschio 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.158	5.951	L5	L6	2.305	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	5.25	-65.48	-21180	-0.0000526	0.0003743	0.0035	2.305	16541.76	20293.43	20293.43	309.9	No	Si
SLU 73	7.05	-1575.11	-23614	-0.0000696	0.0003743	0.0035	2.305	17434.72	21467.86	21467.86	13.63	No	Si
SLU 52	5.25	35.29	-18564	-0.0000455	0.0003743	0.0035	2.305	15350.33	17018.46	17018.46	482.18	No	Si
SLU 52	7.05	-1428.82	-20523	-0.00006	0.0003743	0.0035	2.305	16265.35	19934.87	19934.87	13.95	No	Si
SLU 64	5.25	86.02	-19966	-0.0000495	0.0003743	0.0035	2.305	16019.02	18002.53	18002.53	209.29	No	Si
SLU 64	7.05	-1447.72	-21965	-0.0000641	0.0003743	0.0035	2.305	16852.68	20661.77	20661.77	14.27	No	Si
SLU 81	5.25	-61.82	-22046	-0.0000549	0.0003743	0.0035	2.305	16883.22	20699.96	20699.96	334.85	No	Si
SLU 81	7.05	-1662.56	-24653	-0.0000732	0.0003743	0.0035	2.305	17752.66	21999.28	21999.28	13.23	No	Si
SLU 83	5.25	-76.02	-22872	-0.0000573	0.0003743	0.0035	2.305	17184.44	21099.32	21099.32	277.55	No	Si
SLU 83	7.05	-1592.62	-25549	-0.0000753	0.0003743	0.0035	2.305	17996.35	22471.67	22471.67	14.11	No	Si
SLU 74	5.25	-55.56	-22456	-0.000056	0.0003743	0.0035	2.305	17035.72	20896.77	20896.77	376.14	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	7.05	-1549.21	-24977	-0.0000734	0.0003743	0.0035	2.305	17843.88	22168.28	22168.28	14.31	No	Si
SLU 61	5.25	10.15	-19284	-0.0000472	0.0003743	0.0035	2.305	15702.46	17521.09	17521.09	1726.12	No	Si
SLU 61	7.05	-1502.47	-21423	-0.000063	0.0003743	0.0035	2.305	16640.26	20406.29	20406.29	13.58	No	Si
SLU 82	5.25	-90.63	-21900	-0.0000547	0.0003743	0.0035	2.305	16827.77	20630.9	20630.9	227.65	No	Si
SLU 82	7.05	-1648.76	-24513	-0.0000727	0.0003743	0.0035	2.305	17712.11	21926.78	21926.78	13.3	No	Si
SLU 84	5.25	-104.83	-22726	-0.0000571	0.0003743	0.0035	2.305	17133.2	21028.27	21028.27	200.6	No	Si
SLU 84	7.05	-1578.82	-25409	-0.0000748	0.0003743	0.0035	2.305	17960.19	22397.12	22397.12	14.19	No	Si
SLU 60	5.25	38.96	-19429	-0.0000478	0.0003743	0.0035	2.305	15771.24	17623.15	17623.15	452.34	No	Si
SLU 60	7.05	-1516.27	-21563	-0.0000635	0.0003743	0.0035	2.305	16695.97	20471.63	20471.63	13.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	5.25	4032.58	-18537	-0.0000698	0.0005615	0.0035	2.305		18332.82	18332.82	4.55		Si
SLV 3	7.05	-3846.16	-24157	-0.0000834	0.0005615	0.0035	2.305		24294.36	24294.36	6.32		Si
SLD 10	5.25	-1754.95	-7325	-0.0000276	0.0005615	0.0035	2.305		9455.1	9455.1	5.39		Si
SLD 10	7.05	-140.95	-8267	-0.00002	0.0005615	0.0035	2.305		10398.79	10398.79	73.77		Si
SLV 13	5.25	-2959.39	-12822	-0.0000484	0.0005615	0.0035	2.305		14807.94	14807.94	5		Si
SLV 13	7.05	841.52	-11416	-0.0000318	0.0005615	0.0035	2.305		12139.06	12139.06	14.43		Si
SLV 2	5.25	2088.28	-10002	-0.0000361	0.0005615	0.0035	2.305		10902.38	10902.38	5.22		Si
SLV 2	7.05	-2698.82	-14831	-0.0000518	0.0005615	0.0035	2.305		16651.68	16651.68	6.17		Si
SLV 6	5.25	-1010.14	-1972	-0.0000108	0.0005615	0.0035	2.305		3770.85	3770.85	3.73		Si
SLV 6	7.05	-861.79	-4777	-0.0000161	0.0005615	0.0035	2.305		6805	6805	7.9		Si
SLV 10	5.25	-2811.15	-2530	-0.0001081	0.0005615	0.0035	1.844		4384.43	4384.43	1.56		Si
SLV 10	7.05	427.03	-3134	-0.0000097	0.0005615	0.0035	2.305		3779.57	3779.57	8.85		Si
SLV 4	5.25	3076.89	-17577	-0.0000612	0.0005615	0.0035	2.305		17476.8	17476.8	5.68		Si
SLV 4	7.05	-3090.42	-22094	-0.000073	0.0005615	0.0035	2.305		22739.94	22739.94	7.36		Si
SLV 1	5.25	3043.98	-10961	-0.0000443	0.0005615	0.0035	2.305		11756.69	11756.69	3.86		Si
SLV 1	7.05	-3454.56	-16894	-0.0000618	0.0005615	0.0035	2.305		18477.89	18477.89	5.35		Si
SLV 9	5.25	-2167.71	-3176	-0.0000239	0.0005615	0.0035	1.844		5088.47	5088.47	2.35		Si
SLV 9	7.05	-81.78	-4523	-0.0000109	0.0005615	0.0035	2.305		6535.97	6535.97	79.92		Si
SLV 14	5.25	-3915.08	-11863	-0.000052	0.0005615	0.0035	2.305		13920.96	13920.96	3.56		Si
SLV 14	7.05	1597.26	-9352	-0.0000315	0.0005615	0.0035	2.305		10261.75	10261.75	6.42		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	5.25	-90.63	-21900	-18237	4271	2.305	2.305	-28256	10712	6934	40441	19326	5878	25204	No	5.9	Si
SLU 82	7.05	-1648.76	-24513	-20413	4275	2.305	2.305	-31628	10833	7514	40441	19326	5878	25204	No	5.9	Si
SLU 74	5.25	-55.56	-22456	-18699	4176	2.305	2.305	-28973	10807	7058	40441	19326	5878	25204	No	6.04	Si
SLU 74	7.05	-1549.21	-24977	-20798	4180	2.305	2.305	-32226	10833	7617	40441	19326	5878	25204	No	6.03	Si
SLU 80	5.25	-74.68	-22929	-19093	4139	2.305	2.305	-29583	10833	7163	40441	19326	5878	25204	No	6.09	Si
SLU 80	7.05	-1444.44	-25499	-21233	4143	2.305	2.305	-32900	10833	7733	40441	19326	5878	25204	No	6.08	Si
SLU 84	5.25	-104.83	-22726	-18925	4269	2.305	2.305	-29322	10833	7118	40441	19326	5878	25204	No	5.9	Si
SLU 84	7.05	-1578.82	-25409	-21159	4273	2.305	2.305	-32784	10833	7713	40441	19326	5878	25204	No	5.9	Si
SLU 83	5.25	-76.02	-22872	-19045	4289	2.305	2.305	-29510	10833	7150	40441	19326	5878	25204	No	5.88	Si
SLU 83	7.05	-1592.62	-25549	-21275	4293	2.305	2.305	-32964	10833	7744	40441	19326	5878	25204	No	5.87	Si
SLU 81	5.25	-61.82	-22046	-18358	4291	2.305	2.305	-28444	10737	6966	40441	19326	5878	25204	No	5.87	Si
SLU 81	7.05	-1662.56	-24653	-20529	4295	2.305	2.305	-31808	10833	7545	40441	19326	5878	25204	No	5.87	Si
SLU 78	5.25	-98.57	-23136	-19266	4154	2.305	2.305	-29851	10833	7209	40441	19326	5878	25204	No	6.07	Si
SLU 78	7.05	-1465.48	-25733	-21428	4158	2.305	2.305	-33201	10833	7785	40441	19326	5878	25204	No	6.06	Si
SLU 77	5.25	-69.76	-23282	-19387	4174	2.305	2.305	-30039	10833	7241	40441	19326	5878	25204	No	6.04	Si
SLU 77	7.05	-1479.28	-25873	-21544	4178	2.305	2.305	-33382	10833	7816	40441	19326	5878	25204	No	6.03	Si
SLU 75	5.25	-84.37	-22310	-18578	4156	2.305	2.305	-28785	10783	7025	40441	19326	5878	25204	No	6.06	Si
SLU 75	7.05	-1535.41	-24837	-20682	4160	2.305	2.305	-32045	10833	7586	40441	19326	5878	25204	No	6.06	Si
SLU 79	5.25	-45.87	-23074	-19214	4159	2.305	2.305	-29771	10833	7195	40441	19326	5878	25204	No	6.06	Si
SLU 79	7.05	-1458.24	-25639	-21350	4163	2.305	2.305	-33080	10833	7764	40441	19326	5878	25204	No	6.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	5.25	1981.44	-12560	-10458	6803	2.305	2.305	-16205	13658	8815	40441	28989	5878	34867		5.12	Si
SLD 1	7.05	-2615.65	-16902	-14075	6522	2.305	2.305	-21808	14778	9538	40441	28989	5878	34867		5.35	Si
SLV 2	5.25	2088.28	-10002	-8329	7295	2.305	2.305	-12905	12998	8389	40441	28989	5878	34867		4.78	Si
SLV 2	7.05	-2698.82	-14831	-12350	6857	2.305	2.305	-19135	14244	9193	40441	28989	5878	34867		5.08	Si
SLD 4	5.25	1990.72	-16656	-13870	6151	2.305	2.305	-21490	14715	9497	40441	28989	5878	34867		5.67	Si
SLD 4	7.05	-2379.7	-20100	-16738	5828	2.305	2.305	-25934	15603	10070	40441	28989	5878	34867		5.98	Si
SLV 1	5.25	3043.98	-10961	-9128	8952	2.305	2.305	-14143	13245	8548	40441	28989	5878	34867		3.89	Si
SLV 1	7.05	-3454.56	-16894	-14068	8515	2.305	2.305	-21797	14776	9537	40441	28989	5878	34867		4.09	Si
SLV 4	5.25	3076.89	-17577	-14637	7948	2.305	2.305	-22679	14952	9650	40441	28989	5878	34867		4.39	Si
SLV 4	7.05	-3090.42	-22094	-18398	7439	2.305	2.305	-28506	16118	10402	40441	28989	5878	34867		4.69	Si
SLV 8	5.25	2285.21	-27223	-22669	5149	2.305	2.305	-35124	16250	10488	40441	28989	5878	34867		6.77	Si
SLV 8	7.05	-2167.11	-28987	-24138	4891	2.305	2.305	-37400	16250	10488	40441	28989	5878	34867		7.13	Si
SLV 3	5.25	4032.58	-18537	-15436	9605	2.305	2.305	-23917	15200	9810	40441	28989	5878	34867		3.63	Si
SLV 3	7.05	-3846.16	-24157	-20116	9096	2.305	2.305	-31168	16250	10488	40441	28989	5878	34867		3.83	Si
SLD 3	5.25	2601.31	-17269	-14380	7210	2.305	2.305	-22281	14873	9599	40441	28989	5878	34867		4.84	Si
SLD 3	7.05	-2862.54	-21418	-17835	6887	2.305	2.305	-27635	15944	10290	40441	28989	5878	34867		5.06	Si
SLD 2	5.25	1370.84	-11947	-9948	5745	2.305	2.305	-15414	13499	8713	40441	28989	5878	34867		6.07	Si
SLD 2	7.05	-2132.81	-15584	-12977	5463	2.305	2.305	-20107	14438	9318	40441	28989	5878	34867		6.38	Si
SLV 7	5.25	2928.64	-27869	-23207	6265	2.305	2.305	-35957	16250	10488	40441	28989	5878	34867		5.57	Si
SLV 7	7.05	-2675.93	-30376	-25294	6007	2.305	2.305	-39192	16250	10488	40441	28989	5878	34867		5.8	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.38	4428	-2858	238	388.46	1.63	Si
SLV 6	179667	0.38	5846	-3773	238	508.04	2.13	Si
SLV 9	179667	0.38	6198	-4000	238	537.3	2.26	Si
SLV 5	179667	0.38	7617	-4916	238	653.92	2.75	Si
SLV 14	179667	0.38	16189	-10448	238	1307.7	5.49	Si
SLV 13	179667	0.38	18819	-12146	238	1490.85	6.26	Si
SLV 2	179667	0.38	20919	-13501	238	1631.23	6.85	Si
SLV 1	179667	0.38	23549	-15198	238	1799.66	7.56	Si
SLV 16	179667	0.38	28057	-18108	238	2069.39	8.69	Si
SLV 15	179667	0.38	30687	-19805	238	2215.6	9.31	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-19328	-19044	265	0.636	2290.9	0.958	9.64797	6.9554	Si
SLV 4	-17752	-17785	263	0.684	2130.6	0.955	10.4001	6.9554	Si
SLV 15	-15860	-18739	347	0.747	1938.5	0.952	11.40938	6.9554	Si
SLV 7	-22976	-27596	990	0.52	2661.9	0.964	7.84642	4.64355	Si
SLV 1	-14941	-11446	-333	0.786	1845.1	0.949	12.03321	6.9554	Si
SLV 11	-21935	-27504	1015	0.54	2556	0.962	8.15696	4.64355	Si
SLV 8	-21914	-26748	989	0.542	2553.9	0.962	8.18024	4.64355	Si
SLV 16	-14283	-17480	345	0.815	1778.4	0.948	12.5036	6.9554	Si
SLV 12	-20873	-26657	1014	0.563	2448	0.961	8.5212	4.64355	Si
SLV 2	-13364	-10187	-335	0.862	1685.1	0.945	13.25771	6.9554	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.232	SLU 81	Si
V_SLU	5.868	SLU 81	Si
PF_SLV	1.56	SLV 10	Si
V_SLV	3.63	SLV 3	Si
PFFP_SLV	1.632	SLV 10	Si
R_SLV	1.387	SLV 3	Si

Maschio 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L5	L6	1.83	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	5.25	1407.75	-12226	-0.0000516	0.0003743	0.0035	1.83	8565.32	9395.25	9395.25	6.67	No	Si
SLU 47	7.05	470.88	-10893	-0.0000376	0.0003743	0.0035	1.83	7885.87	8529.4	8529.4	18.11	No	Si
SLU 44	5.25	1378.18	-11761	-0.0000497	0.0003743	0.0035	1.83	8335.1	9154.76	9154.76	6.64	No	Si
SLU 44	7.05	428.12	-10395	-0.0000355	0.0003743	0.0035	1.83	7616.22	8168.9	8168.9	19.08	No	Si
SLU 50	5.25	1486.97	-12848	-0.0000545	0.0003743	0.0035	1.83	8860.69	9720.15	9720.15	6.54	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	7.05	488.11	-11427	-0.0000395	0.0003743	0.0035	1.83	8165.53	8919.02	8919.02	18.27	No	Si
SLU 64	5.25	1493.68	-13660	-0.0000573	0.0003743	0.0035	1.83	9226.05	10150.89	10150.89	6.8	No	Si
SLU 64	7.05	618.05	-12474	-0.0000442	0.0003743	0.0035	1.83	8684.75	9524.3	9524.3	15.41	No	Si
SLU 48	5.25	1499.21	-13016	-0.0000552	0.0003743	0.0035	1.83	8938.22	9808.78	9808.78	6.54	No	Si
SLU 48	7.05	498.65	-11597	-0.0000401	0.0003743	0.0035	1.83	8252.14	9043.19	9043.19	18.14	No	Si
SLU 51	5.25	1457.19	-12755	-0.0000539	0.0003743	0.0035	1.83	8817.13	9671	9671	6.64	No	Si
SLU 51	7.05	503.43	-11405	-0.0000396	0.0003743	0.0035	1.83	8154.31	8903.07	8903.07	17.68	No	Si
SLU 46	5.25	1439.85	-12457	-0.0000527	0.0003743	0.0035	1.83	8676.38	9515.15	9515.15	6.61	No	Si
SLU 46	7.05	471.21	-11077	-0.0000382	0.0003743	0.0035	1.83	7983.32	8663.27	8663.27	18.39	No	Si
SLU 43	5.25	1427.82	-11917	-0.0000507	0.0003743	0.0035	1.83	8412.96	9234.92	9234.92	6.47	No	Si
SLU 43	7.05	402.58	-10431	-0.0000354	0.0003743	0.0035	1.83	7636.19	8195.11	8195.11	20.36	No	Si
SLU 49	5.25	1469.43	-12923	-0.0000545	0.0003743	0.0035	1.83	8895.22	9759.44	9759.44	6.64	No	Si
SLU 49	7.05	513.98	-11575	-0.0000402	0.0003743	0.0035	1.83	8241.06	9027.2	9027.2	17.56	No	Si
SLU 45	5.25	1469.64	-12550	-0.0000533	0.0003743	0.0035	1.83	8720.91	9563.98	9563.98	6.51	No	Si
SLU 45	7.05	455.89	-11099	-0.0000381	0.0003743	0.0035	1.83	7994.78	8679.15	8679.15	19.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	5.25	2215.72	-8556	-0.0000468	0.0005615	0.0035	1.83		7351.02	7351.02	3.32		Si
SLD 1	7.05	-688.97	-6744	-0.0000263	0.0005615	0.0035	1.83		6607.27	6607.27	9.59		Si
SLV 1	5.25	2825.38	-7415	-0.0000502	0.0005615	0.0035	1.83		6473.22	6473.22	2.29		Si
SLV 1	7.05	-1336.97	-5113	-0.0000277	0.0005615	0.0035	1.83		5289.42	5289.42	3.96		Si
SLV 2	5.25	2078.66	-6493	-0.0000391	0.0005615	0.0035	1.83		5740.35	5740.35	2.76		Si
SLV 2	7.05	-753.45	-5570	-0.0000234	0.0005615	0.0035	1.83		5663.15	5663.15	7.52		Si
SLV 9	5.25	-1047.77	-1073	-0.000104	0.0005615	0.0035	1.464		1841.99	1841.99	1.76		Si
SLV 9	7.05	1978.31	-5391	-0.0000351	0.0005615	0.0035	1.83		4846.53	4846.53	2.45		Si
SLV 3	5.25	3944.39	-13290	-0.0000794	0.0005615	0.0035	1.83		10555.75	10555.75	2.68		Si
SLV 3	7.05	-2015.58	-8000	-0.0000431	0.0005615	0.0035	1.83		7589.69	7589.69	3.77		Si
SLD 3	5.25	2916.7	-12194	-0.0000654	0.0005615	0.0035	1.83		9799.16	9799.16	3.36		Si
SLD 3	7.05	-1104.06	-8517	-0.0000358	0.0005615	0.0035	1.83		7991.23	7991.23	7.24		Si
SLV 6	5.25	-421.75	-146	-0.0001331	0.0005615	0.0035	1.464		1017.15	1017.15	2.41		Si
SLV 6	7.05	1250.45	-4050	-0.0000236	0.0005615	0.0035	1.83		3733.41	3733.41	2.99		Si
SLV 4	5.25	3197.68	-12368	-0.0000688	0.0005615	0.0035	1.83		9918.64	9918.64	3.1		Si
SLV 4	7.05	-1432.06	-8458	-0.0000388	0.0005615	0.0035	1.83		7944.84	7944.84	5.55		Si
SLV 14	5.25	-1683.87	-7513	-0.0000383	0.0005615	0.0035	1.83		7214.27	7214.27	4.28		Si
SLV 14	7.05	2982.3	-11066	-0.0000624	0.0005615	0.0035	1.83		9029.73	9029.73	3.03		Si
SLV 10	5.25	-1550.51	-452	-0.0005859	0.0005615	0.0035	1.464		1291.36	1291.36	0.83		No
SLV 10	7.05	2371.17	-5699	-0.000041	0.0005615	0.0035	1.83		5098.23	5098.23	2.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 33	5.25	1178.72	-12880	-10726	-519	1.83	1.83	-20932	9735	4988	40441	15344	4667	20010	No	38.52	Si
SLU 33	7.05	844.12	-12605	-10496	-520	1.83	1.83	-20484	9676	4958	40441	15344	4667	20010	No	38.45	Si
SLU 39	5.25	1160.32	-12756	-10622	-568	1.83	1.83	-20730	9708	4975	40441	15344	4667	20010	No	35.26	Si
SLU 39	7.05	858.42	-12539	-10441	-568	1.83	1.83	-20377	9661	4951	40441	15344	4667	20010	No	35.2	Si
SLU 34	5.25	1146.62	-12650	-10534	-561	1.83	1.83	-20558	9685	4963	40441	15344	4667	20010	No	35.69	Si
SLU 34	7.05	843.79	-12421	-10343	-562	1.83	1.83	-20185	9636	4937	40441	15344	4667	20010	No	35.63	Si
SLU 42	5.25	1160.11	-13128	-10932	-653	1.83	1.83	-21335	9789	5016	40441	15344	4667	20010	No	30.66	Si
SLU 42	7.05	916.51	-13015	-10838	-654	1.83	1.83	-21151	9765	5003	40441	15344	4667	20010	No	30.62	Si
SLU 36	5.25	1208.3	-13346	-11113	-543	1.83	1.83	-21689	9836	5040	40441	15344	4667	20010	No	36.85	Si
SLU 36	7.05	886.88	-13102	-10911	-544	1.83	1.83	-21293	9784	5013	40441	15344	4667	20010	No	36.78	Si
SLU 41	5.25	1189.9	-13222	-11010	-591	1.83	1.83	-21487	9809	5026	40441	15344	4667	20010	No	33.85	Si
SLU 41	7.05	901.18	-13037	-10856	-592	1.83	1.83	-21186	9769	5006	40441	15344	4667	20010	No	33.8	Si
SLU 40	5.25	1130.53	-12662	-10544	-629	1.83	1.83	-20578	9688	4964	40441	15344	4667	20010	No	31.81	Si
SLU 40	7.05	873.74	-12517	-10423	-630	1.83	1.83	-20342	9657	4948	40441	15344	4667	20010	No	31.77	Si
SLU 84	5.25	1472.24	-15418	-12839	-525	1.83	1.83	-25057	10285	5270	40441	15344	4667	20010	No	38.15	Si
SLU 84	7.05	952.58	-14883	-12394	-526	1.83	1.83	-24187	10169	5211	40441	15344	4667	20010	No	38.07	Si
SLU 38	5.25	1196.06	-13178	-10974	-543	1.83	1.83	-21416	9800	5021	40441	15344	4667	20010	No	36.83	Si
SLU 38	7.05	876.34	-12933	-10769	-544	1.83	1.83	-21018	9747	4994	40441	15344	4667	20010	No	36.76	Si
SLU 31	5.25	1117.05	-12184	-10146	-537	1.83	1.83	-19801	9585	4911	40441	15344	4667	20010	No	37.26	Si
SLU 31	7.05	801.03	-11923	-9928	-538	1.83	1.83	-19376	9528	4882	40441	15344	4667	20010	No	37.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	5.25	-1683.87	-7513	-6256	-5455	1.83	1.83	-12210	12859	6589	40441	23015	4667	27682		5.07	Si
SLV 14	7.05	2982.3	-11066	-9215	-5004	1.83	1.83	-17984	14013	7180	40441	23015	4667	27682		5.53	Si
SLV 10	5.25	-1550.51	-452	-377	-5762	1.464	0	0	0	0	40441	18412	3733	22145		3.84	Si
SLV 10	7.05	2371.17	-5699	-4746	-5632	1.83	1.4968	-9262	12269	5142	40441	23015	4667	27682		4.92	Si
SLV 7	5.25	3811.04	-20351	-16947	5703	1.83	1.83	-33073	16250	8327	40441	23015	4667	27682		4.85	Si
SLV 7	7.05	-1404.46	-13368	-11131	5572	1.83	1.83	-21724	14761	7564	40441	23015	4667	27682		4.97	Si
SLV 4	5.25	3197.68	-12368	-10299	3957	1.83	1.83	-20100	14437	7397	40441	23015	4667	27682		7	Si
SLV 4	7.05	-1432.06	-8458	-7043	3504	1.83	1.83	-13745	13166	6746	40441	23015	4667	27682		7.9	Si
SLV 8	5.25	3308.3	-19730	-16430	4734	1.83	1.83	-32064	16250	8327	40441	23015	4667	27682		5.85	Si
SLV 8	7.05	-1011.59	-13676	-11388	4603	1.83	1.83	-22225	14862	7615	40441	23015	4667	27682		6.01	Si
SLV 13	5.25	-937.15	-8435	-7024	-4015	1.83	1.83	-13709	13158	6742	40441	23015	4667	27682		6.89	Si
SLV 13	7.05	2398.77	-10609	-8834	-3564	1.83	1.83	-17240	13865	7104	40441	23015	4667	27682		7.77	Si
SLV 3	5.25	3944.39	-13290	-11067	5397	1.83	1.83	-21598	14736	7551	40441	23015	4667	27682		5.13	Si
SLV 3	7.05	-2015.58	-8000	-6662	4944	1.83	1.83	-13002	13017	6670	40441	23015	4667	27682		5.6	Si
SLV 9	5.25	-1047.77	-1073	-894	-4792	1.464	0	0	0	0	40441	18412	3733	22145		4.62	Si
SLV 9	7.05	1978.31	-5391	-4489	-4663	1.83	1.6441	-8761	12169	5602	40441	23015	4667	27682		5.94	Si
SLV 6	5.25	-421.75	-146	-122	-3697	1.464	0	0	0	0	40441	18412	3733	22145		5.99	Si
SLV 6	7.05	1250.45	-4050	-3373	-3839	1.83	1.8188	-6582	11733	5975	40441	23015	4667	27682		7.21	Si
SLV 11	5.25	2682.28	-20657	-17202	3638	1.83	1.83	-33571	16250	8327	40441	23015	4667	27682		7.61	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	7.05	-283.74	-15016	-12504	3779	1.83	1.83	-24403	15297	7838	40441	23015	4667	27682		7.32	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.38	4920	-2521	188.95	341.58	1.81	Si
SLV 5	179667	0.38	5051	-2588	188.95	350.35	1.85	Si
SLV 10	179667	0.38	7073	-3624	188.95	483.91	2.56	Si
SLV 9	179667	0.38	7204	-3691	188.95	492.41	2.61	Si
SLV 2	179667	0.38	12004	-6151	188.95	793.44	4.2	Si
SLV 1	179667	0.38	12198	-6250	188.95	805.17	4.26	Si
SLV 14	179667	0.38	19181	-9828	188.95	1203.16	6.37	Si
SLV 13	179667	0.38	19376	-9928	188.95	1213.58	6.42	Si
SLV 4	179667	0.38	20256	-10379	188.95	1260.37	6.67	Si
SLV 3	179667	0.38	20451	-10479	188.95	1270.6	6.72	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-10866	-13759	-59	0.862	1363.8	0.946	13.24077	6.9554	Si
SLV 15	-10748	-14117	-59	0.87	1351.8	0.946	13.36635	6.9554	Si
SLV 4	-8417	-9183	342	1.034	1115.7	0.936	16.05403	6.9554	Si
SLV 14	-8339	-8734	-336	1.043	1107.8	0.936	16.19147	6.9554	Si
SLV 3	-8299	-9541	342	1.046	1103.8	0.936	16.24862	6.9554	Si
SLV 13	-8221	-9092	-337	1.055	1095.9	0.935	16.3873	6.9554	Si
SLV 12	-12938	-18078	405	0.721	1574.2	0.953	11.00543	4.64355	Si
SLV 11	-12859	-18319	405	0.725	1566.1	0.952	11.06552	4.64355	Si
SLV 8	-12204	-16705	526	0.749	1499.6	0.95	11.4499	4.64355	Si
SLV 7	-12124	-16946	525	0.753	1491.5	0.95	11.51596	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.468	SLU 43	Si
V_SLU	30.618	SLU 42	Si
PF_SLV	0.833	SLV 10	No
V_SLV	3.844	SLV 10	Si
PFFP_SLV	1.808	SLV 6	Si
R_SLV	1.904	SLV 16	Si

Maschio 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L5	L6	9.12	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 19	4.35	-11324.76	-71252	-0.0000486	0.0003743	0.0035	9.12	235863.15	285801.71	285801.71	25.24	No	Si
SLU 19	7.9	-2880.9	-48856	-0.0000305	0.0003743	0.0035	9.12	180918.97	217097.96	217097.96	75.36	No	Si
SLU 73	4.35	-13582.01	-92818	-0.0000643	0.0003743	0.0035	9.12	272144.67	336125.76	336125.76	24.75	No	Si
SLU 73	7.9	-2769.19	-64069	-0.0000402	0.0003743	0.0035	9.12	220157.45	265185.92	265185.92	95.76	No	Si
SLU 81	4.35	-13356.88	-96566	-0.0000669	0.0003743	0.0035	9.12	276785.75	343167.51	343167.51	25.69	No	Si
SLU 81	7.9	-3137.84	-66525	-0.000042	0.0003743	0.0035	9.12	225730.82	272570.2	272570.2	86.87	No	Si
SLU 61	4.35	-13624.55	-85290	-0.0000591	0.0003743	0.0035	9.12	261334.04	321275.18	321275.18	23.58	No	Si
SLU 61	7.9	-3398.86	-58417	-0.0000368	0.0003743	0.0035	9.12	206527.27	247890.73	247890.73	72.93	No	Si
SLU 44	4.35	-11380.62	-73384	-0.00005	0.0003743	0.0035	9.12	240177.08	291663.99	291663.99	25.63	No	Si
SLU 44	7.9	-2027.87	-50526	-0.0000312	0.0003743	0.0035	9.12	185622.76	222827.49	222827.49	109.88	No	Si
SLU 10	4.35	-10937.41	-67624	-0.000046	0.0003743	0.0035	9.12	228156.69	275820.19	275820.19	25.22	No	Si
SLU 10	7.9	-2483.17	-46461	-0.0000289	0.0003743	0.0035	9.12	174000.49	208930.71	208930.71	84.14	No	Si
SLU 63	4.35	-12461.87	-86791	-0.0000596	0.0003743	0.0035	9.12	263647.78	324381.36	324381.36	26.03	No	Si
SLU 63	7.9	-2101.96	-59854	-0.0000372	0.0003743	0.0035	9.12	210099.85	252336.22	252336.22	120.05	No	Si
SLU 52	4.35	-13237.2	-81662	-0.0000564	0.0003743	0.0035	9.12	255414.2	313458.49	313458.49	23.68	No	Si
SLU 52	7.9	-3001.13	-56022	-0.0000351	0.0003743	0.0035	9.12	200412.17	240413.76	240413.76	80.11	No	Si
SLU 60	4.35	-13012.07	-85410	-0.0000589	0.0003743	0.0035	9.12	261522	321526.37	321526.37	24.71	No	Si
SLU 60	7.9	-3369.78	-58477	-0.0000369	0.0003743	0.0035	9.12	206678.78	248078.07	248078.07	73.62	No	Si
SLU 82	4.35	-13969.36	-96446	-0.0000671	0.0003743	0.0035	9.12	276644.76	342943.19	342943.19	24.55	No	Si
SLU 82	7.9	-3166.92	-66464	-0.000042	0.0003743	0.0035	9.12	225596.34	272388.96	272388.96	86.01	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	4.35	-55600.21	-58593	-0.0000571	0.0005615	0.0035	9.12		261375.94	261375.94	4.7		Si
SLD 5	7.9	-15593.84	-41277	-0.0000304	0.0005615	0.0035	9.12		197213.27	197213.27	12.65		Si
SLV 6	4.35	-86699.01	-54819	-0.0000674	0.0005615	0.0035	9.12		247668.83	247668.83	2.86		Si
SLV 6	7.9	-23112.85	-39171	-0.0000321	0.0005615	0.0035	9.12		189248.81	189248.81	8.19		Si
SLV 5	4.35	-84574.97	-54826	-0.0000665	0.0005615	0.0035	9.12		247694.81	247694.81	2.93		Si
SLV 5	7.9	-24106.73	-39058	-0.0000324	0.0005615	0.0035	9.12		188821.95	188821.95	7.83		Si
SLV 9	4.35	-87913.89	-68362	-0.0000767	0.0005615	0.0035	9.12		295335.27	295335.27	3.36		Si
SLV 9	7.9	-26437.76	-44698	-0.0000368	0.0005615	0.0035	9.12		210268.48	210268.48	7.95		Si
SLD 6	4.35	-56936.39	-58588	-0.0000577	0.0005615	0.0035	9.12		261360.5	261360.5	4.59		Si
SLD 6	7.9	-14968.62	-41349	-0.0000302	0.0005615	0.0035	9.12		197483.56	197483.56	13.19		Si
SLV 8	4.35	70535.89	-61834	-0.0000653	0.0005615	0.0035	9.12		246630.61	246630.61	3.5		Si
SLV 8	7.9	23091.25	-45172	-0.0000357	0.0005615	0.0035	9.12		190339.6	190339.6	8.24		Si
SLV 10	4.35	-90037.93	-68355	-0.0000776	0.0005615	0.0035	9.12		295310.83	295310.83	3.28		Si
SLV 10	7.9	-25443.89	-44812	-0.0000365	0.0005615	0.0035	9.12		210703.06	210703.06	8.28		Si
SLV 7	4.35	72659.93	-61841	-0.0000662	0.0005615	0.0035	9.12		246654.95	246654.95	3.39		Si
SLV 7	7.9	22097.38	-45059	-0.0000353	0.0005615	0.0035	9.12		189963.92	189963.92	8.6		Si
SLV 11	4.35	69321.01	-75377	-0.0000737	0.0005615	0.0035	9.12		293874.84	293874.84	4.24		Si
SLV 11	7.9	19766.34	-50699	-0.0000378	0.0005615	0.0035	9.12		208789.46	208789.46	10.56		Si
SLV 12	4.35	67196.97	-75370	-0.0000728	0.0005615	0.0035	9.12		293849.8	293849.8	4.37		Si
SLV 12	7.9	20760.22	-50812	-0.0000383	0.0005615	0.0035	9.12		209169.73	209169.73	10.08		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	4.35	-12074.51	-83163	-69251	-1807	9.12	9.12	-27119	10560	39992	40441	76466	23256	80433	No	44.51	Si
SLU 55	7.9	-1704.23	-57459	-47847	-1692	9.12	9.12	-18737	9443	31431	40441	76466	23256	71872	No	42.49	Si
SLU 10	4.35	-10937.41	-67624	-56311	-1480	9.12	9.12	-22052	9885	34817	40441	76466	23256	75257	No	50.86	Si
SLU 10	7.9	-2483.17	-46461	-38689	-1366	9.12	9.12	-15151	8965	27768	40441	76466	23256	68209	No	49.94	Si
SLU 68	4.35	-10562.75	-86041	-71647	-1587	9.12	9.12	-28057	10685	40951	40441	76466	23256	81392	No	51.27	Si
SLU 68	7.9	-499.04	-60011	-49972	-1471	9.12	9.12	-19569	9554	32281	40441	76466	23256	72722	No	49.42	Si
SLU 44	4.35	-11380.62	-73384	-61108	-1750	9.12	9.12	-23930	10135	36735	40441	76466	23256	77176	No	44.09	Si
SLU 44	7.9	-2027.87	-50526	-42074	-1635	9.12	9.12	-16476	9141	29122	40441	76466	23256	69563	No	42.53	Si
SLU 2	4.35	-9080.83	-59345	-49418	-1508	9.12	9.12	-19352	9525	32059	40441	76466	23256	72500	No	48.09	Si
SLU 2	7.9	-1509.91	-40965	-34112	-1394	9.12	9.12	-13359	8726	25937	40441	76466	23256	66378	No	47.62	Si
SLU 13	4.35	-9774.72	-69124	-57561	-1564	9.12	9.12	-22541	9950	35316	40441	76466	23256	75757	No	48.43	Si
SLU 13	7.9	-1186.28	-47898	-39885	-1450	9.12	9.12	-15619	9027	28246	40441	76466	23256	68687	No	47.37	Si
SLU 52	4.35	-13237.2	-81662	-68001	-1723	9.12	9.12	-26630	10495	39492	40441	76466	23256	79933	No	46.4	Si
SLU 52	7.9	-3001.13	-56022	-46650	-1607	9.12	9.12	-18268	9380	30952	40441	76466	23256	71393	No	44.42	Si
SLU 51	4.35	-8646.93	-76465	-63674	-1527	9.12	9.12	-24935	10269	37761	40441	76466	23256	78202	No	51.21	Si
SLU 51	7.9	585.31	-53441	-44501	-1455	9.12	9.12	-17427	9268	30093	40441	76466	23256	70534	No	48.47	Si
SLU 5	4.35	-7918.15	-60846	-50667	-1592	9.12	9.12	-19841	9590	32559	40441	76466	23256	73000	No	45.85	Si
SLU 5	7.9	-213.02	-42403	-35309	-1478	9.12	9.12	-13827	8788	26416	40441	76466	23256	66857	No	45.23	Si
SLU 47	4.35	-10217.93	-74885	-62357	-1835	9.12	9.12	-24419	10200	37235	40441	76466	23256	77676	No	42.33	Si
SLU 47	7.9	-730.97	-51963	-43271	-1720	9.12	9.12	-16945	9204	29601	40441	76466	23256	70041	No	40.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	4.35	72659.93	-61841	-51496	40339	9.12	9.12	-20166	14450	39037	40441	114699	23256	79478		1.97	Si
SLV 7	7.9	22097.38	-45059	-37521	37652	9.12	9.12	-14693	13355	34104	40441	114699	23256	74545		1.98	Si
SLD 6	4.35	-56936.39	-58588	-48787	-26944	9.12	9.12	-19105	14238	37954	40441	114699	23256	78394		2.91	Si
SLD 6	7.9	-14968.62	-41349	-34432	-25240	9.12	9.12	-13484	13113	33486	40441	114699	23256	73927		2.93	Si
SLV 8	4.35	70535.89	-61834	-51490	35360	9.12	9.12	-20164	14449	39035	40441	114699	23256	79476		2.25	Si
SLV 8	7.9	23091.25	-45172	-37616	32673	9.12	9.12	-14730	13363	34123	40441	114699	23256	74564		2.28	Si
SLV 9	4.35	-87913.89	-68362	-56926	-36255	9.12	9.12	-22292	14875	41209	40441	114699	23256	81650		2.25	Si
SLV 9	7.9	-26437.76	-44698	-37221	-33559	9.12	9.12	-14576	13332	34044	40441	114699	23256	74485		2.22	Si
SLV 6	4.35	-86699.01	-54819	-45648	-42940	9.12	8.9353	-18409	14098	36698	40441	114699	23256	77139		1.8	Si
SLV 6	7.9	-23112.85	-39171	-32619	-40226	9.12	9.12	-12774	12971	33124	40441	114699	23256	73565		1.83	Si
SLV 12	4.35	67196.97	-75370	-62762	37065	9.12	9.12	-24578	15332	43543	40441	114699	23256	83984		2.27	Si
SLV 12	7.9	20760.22	-50812	-42312	34362	9.12	9.12	-16570	13731	35364	40441	114699	23256	75805		2.21	Si
SLD 11	4.35	39558.39	-71608	-59629	26049	9.12	9.12	-23351	15087	42290	40441	114699	23256	82731		3.18	Si
SLD 11	7.9	11622.11	-48522	-40405	24354	9.12	9.12	-15823	13581	34681	40441	114699	23256	75122		3.08	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	4.35	-84574.97	-54826	-45654	-37960	9.12	9.0522	-18172	14051	36700	40441	114699	23256	77141		2.03	Si
SLV 5	7.9	-24106.73	-39058	-32524	-35247	9.12	9.12	-12737	12964	33105	40441	114699	23256	73546		2.09	Si
SLV 10	4.35	-90037.93	-68355	-56920	-41234	9.12	9.12	-22290	14875	41206	40441	114699	23256	81647		1.98	Si
SLV 10	7.9	-25443.89	-44812	-37315	-38538	9.12	9.12	-14613	13339	34063	40441	114699	23256	74504		1.93	Si
SLV 11	4.35	69321.01	-75377	-62768	42045	9.12	9.12	-24580	15333	43545	40441	114699	23256	83986		2	Si
SLV 11	7.9	19766.34	-50699	-42218	39341	9.12	9.12	-16533	13723	35326	40441	114699	23256	75767		1.93	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.125 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.38	15019	-38351	941.67	4841.17	5.14	Si
SLV 2	179667	0.38	15067	-38475	941.67	4855.11	5.16	Si
SLV 3	179667	0.38	15956	-40744	941.67	5108.2	5.42	Si
SLV 4	179667	0.38	16004	-40868	941.67	5121.93	5.44	Si
SLV 5	179667	0.38	17929	-45783	941.67	5657.16	6.01	Si
SLV 6	179667	0.38	17962	-45867	941.67	5666.09	6.02	Si
SLV 7	179667	0.38	21052	-53759	941.67	6488.73	6.89	Si
SLV 8	179667	0.38	21085	-53842	941.67	6497.19	6.9	Si
SLV 9	179667	0.38	21354	-54529	941.67	6566.58	6.97	Si
SLV 10	179667	0.38	21386	-54612	941.67	6575	6.98	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.125 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-55320	-88705	2114	0.818	6915.2	0.947	12.5571	6.9554	Si
SLV 15	-55152	-88716	2114	0.82	6898.1	0.947	12.5904	6.9554	Si
SLV 14	-53520	-86600	2123	0.841	6732.6	0.946	12.92069	6.9554	Si
SLV 13	-53351	-86611	2123	0.843	6715.5	0.946	12.95602	6.9554	Si
SLV 4	-36519	-43585	-2096	1.146	5012	0.931	17.90298	6.9554	Si
SLV 3	-36351	-43595	-2096	1.15	4995	0.93	17.97192	6.9554	Si
SLV 2	-34719	-41480	-2087	1.193	4830.4	0.928	18.6737	6.9554	Si
SLV 1	-34551	-41491	-2087	1.198	4813.4	0.928	18.7488	6.9554	Si
SLV 12	-50812	-75370	630	0.903	6458.1	0.944	13.90409	4.64355	Si
SLV 11	-50699	-75377	630	0.905	6446.6	0.944	13.93096	4.64355	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	23.581	SLU 61	Si
V_SLU	40.729	SLU 47	Si
PF_SLV	2.857	SLV 6	Si
V_SLV	1.796	SLV 6	Si
PFFP_SLV	5.141	SLV 1	Si
R_SLV	1.805	SLV 16	Si

Maschio 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	-3.169	-24.614	5.951	L6	L7	9.121	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 63	7.9	-3694.47	-59404	-0.0000376	0.0003743	0.0035	9.1207	209009.3	250969.14	250969.14	67.93	No	Si
SLU 63	11.45	-222.66	-31723	-0.0000189	0.0003743	0.0035	9.1207	127018.29	156212.49	156212.49	701.59	No	Si
SLU 60	7.9	-3849.86	-57742	-0.0000366	0.0003743	0.0035	9.1207	204843.28	245812.39	245812.39	63.85	No	Si
SLU 60	11.45	-597.38	-30213	-0.0000181	0.0003743	0.0035	9.1207	121772.35	150612.31	150612.31	252.12	No	Si
SLU 18	7.9	-3099.33	-48086	-0.0000301	0.0003743	0.0035	9.1207	178732.17	214475.45	214475.45	69.2	No	Si
SLU 18	11.45	-492.79	-25151	-0.000015	0.0003743	0.0035	9.1207	103601.34	131030.11	131030.11	265.89	No	Si
SLU 62	7.9	-3535.13	-59426	-0.0000375	0.0003743	0.0035	9.1207	209064.18	251037.6	251037.6	71.01	No	Si
SLU 62	11.45	-445.57	-31744	-0.000019	0.0003743	0.0035	9.1207	127090.61	156290.87	156290.87	350.77	No	Si
SLU 10	7.9	-3083.11	-45889	-0.0000287	0.0003743	0.0035	9.1207	172334.49	207015.66	207015.66	67.14	No	Si
SLU 10	11.45	-7.96	-24114	-0.0000142	0.0003743	0.0035	9.1207	99768.58	126998.53	126998.53	15958.69	No	Si
SLU 61	7.9	-4009.2	-57719	-0.0000366	0.0003743	0.0035	9.1207	204787.09	245743.37	245743.37	61.29	No	Si
SLU 61	11.45	-374.47	-30192	-0.000018	0.0003743	0.0035	9.1207	121698.9	150534.98	150534.98	402	No	Si
SLU 44	7.9	-3176.16	-50505	-0.0000317	0.0003743	0.0035	9.1207	185580.22	222773.26	222773.26	70.14	No	Si
SLU 44	11.45	151.86	-26838	-0.0000159	0.0003743	0.0035	9.1207	109759	116926.45	116926.45	769.95	No	Si
SLU 55	7.9	-3518.92	-57229	-0.0000361	0.0003743	0.0035	9.1207	203540.48	244215.68	244215.68	69.4	No	Si
SLU 55	11.45	39.27	-30707	-0.0000182	0.0003743	0.0035	9.1207	123497.69	130390.19	130390.19	3320.59	No	Si
SLU 19	7.9	-3258.67	-48064	-0.0000302	0.0003743	0.0035	9.1207	178668.47	214399.67	214399.67	65.79	No	Si
SLU 19	11.45	-269.88	-25130	-0.0000149	0.0003743	0.0035	9.1207	103524.16	130948.11	130948.11	485.21	No	Si
SLU 52	7.9	-3833.65	-55545	-0.0000352	0.0003743	0.0035	9.1207	199189.74	238924.81	238924.81	62.32	No	Si
SLU 52	11.45	-112.54	-29176	-0.0000173	0.0003743	0.0035	9.1207	118123.73	146803.05	146803.05	1304.4	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	7.9	31621.88	-41492	-0.0000368	0.0005615	0.0035	9.1207		177866.25	177866.25	5.62		Si
SLV 11	11.45	30.78	-23378	-0.0000136	0.0005615	0.0035	9.1207		105438.58	105438.58	3425.14		Si
SLV 5	7.9	-36254.03	-47663	-0.0000425	0.0005615	0.0035	9.1207		221667.27	221667.27	6.11		Si
SLV 5	11.45	1490.67	-24051	-0.0000146	0.0005615	0.0035	9.1207		108213.22	108213.22	72.59		Si
SLD 6	7.9	-23182.56	-46390	-0.0000365	0.0005615	0.0035	9.1207		216793.98	216793.98	9.35		Si
SLD 6	11.45	-119.07	-23909	-0.000014	0.0005615	0.0035	9.1207		128110.96	128110.96	1075.89		Si
SLV 6	7.9	-36146.86	-47510	-0.0000424	0.0005615	0.0035	9.1207		221085.06	221085.06	6.12		Si
SLV 6	11.45	-295.23	-24047	-0.0000141	0.0005615	0.0035	9.1207		128683.75	128683.75	435.87		Si
SLD 5	7.9	-23249.97	-46487	-0.0000366	0.0005615	0.0035	9.1207		217167.02	217167.02	9.34		Si
SLD 5	11.45	1004.39	-23911	-0.0000143	0.0005615	0.0035	9.1207		107640.16	107640.16	107.17		Si
SLV 10	7.9	-31877.2	-41800	-0.0000371	0.0005615	0.0035	9.1207		199212.28	199212.28	6.25		Si
SLV 10	11.45	1486.77	-23269	-0.0000141	0.0005615	0.0035	9.1207		104983.66	104983.66	70.61		Si
SLV 12	7.9	31729.05	-41338	-0.0000368	0.0005615	0.0035	9.1207		177268.98	177268.98	5.59		Si
SLV 12	11.45	-1755.12	-23375	-0.0000143	0.0005615	0.0035	9.1207		125898.49	125898.49	71.73		Si
SLV 8	7.9	27459.38	-47048	-0.0000386	0.0005615	0.0035	9.1207		196594.6	196594.6	7.16		Si
SLV 8	11.45	-3537.12	-24153	-0.0000154	0.0005615	0.0035	9.1207		129123.06	129123.06	36.51		Si
SLV 9	7.9	-31984.36	-41953	-0.0000373	0.0005615	0.0035	9.1207		199796.66	199796.66	6.25		Si
SLV 9	11.45	3272.67	-23272	-0.0000148	0.0005615	0.0035	9.1207		104998.42	104998.42	32.08		Si
SLV 7	7.9	27352.22	-47202	-0.0000387	0.0005615	0.0035	9.1207		197106.98	197106.98	7.21		Si
SLV 7	11.45	-1751.22	-24157	-0.0000148	0.0005615	0.0035	9.1207		129137.79	129137.79	73.74		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 13	7.9	-2768.39	-47574	-39615	-988	9.1207	9.1207	-15512	9013	28139	40441	76472	23258	68580	No	69.38	Si
SLU 13	11.45	143.85	-25645	-21355	-878	9.1207	9.1207	-8362	8059	20835	40441	76472	23258	61276	No	69.75	Si
SLU 44	7.9	-3176.16	-50505	-42056	-1117	9.1207	9.1207	-16468	9140	29116	40441	76472	23258	69557	No	62.29	Si
SLU 44	11.45	151.86	-26838	-22349	-1007	9.1207	9.1207	-8751	8111	21233	40441	76472	23258	61674	No	61.23	Si
SLU 5	7.9	-2110.9	-42534	-35418	-957	9.1207	9.1207	-13869	8794	26461	40441	76472	23258	66902	No	69.92	Si
SLU 5	11.45	408.26	-23307	-19408	-846	9.1207	9.1207	-7600	7958	20322	40441	76472	23258	60763	No	71.79	Si
SLU 52	7.9	-3833.65	-55545	-46253	-1148	9.1207	9.1207	-18111	9359	30794	40441	76472	23258	71235	No	62.03	Si
SLU 52	11.45	-112.54	-29176	-24296	-1039	9.1207	9.1207	-9514	8213	22012	40441	76472	23258	62453	No	60.09	Si
SLU 2	7.9	-2425.63	-40849	-34015	-942	9.1207	9.1207	-13320	8720	25899	40441	76472	23258	66340	No	70.46	Si
SLU 2	11.45	256.45	-21776	-18133	-832	9.1207	9.1207	-7100	7891	20152	40441	76472	23258	60593	No	72.82	Si
SLU 59	7.9	-3097.97	-58929	-49071	-917	9.1207	9.1207	-19215	9506	31921	40441	76472	23258	72362	No	78.94	Si
SLU 59	11.45	42.47	-32252	-26857	-850	9.1207	9.1207	-10517	8347	23036	40441	76472	23258	63477	No	74.72	Si
SLU 10	7.9	-3083.11	-45889	-38212	-973	9.1207	9.1207	-14963	8940	27578	40441	76472	23258	68019	No	69.89	Si
SLU 10	11.45	-7.96	-24114	-20080	-864	9.1207	9.1207	-7863	7993	20412	40441	76472	23258	60853	No	70.42	Si
SLU 47	7.9	-2861.43	-52189	-43459	-1132	9.1207	9.1207	-17017	9213	29677	40441	76472	23258	70118	No	61.95	Si
SLU 47	11.45	303.67	-28370	-23624	-1021	9.1207	9.1207	-9250	8178	21743	40441	76472	23258	62184	No	60.88	Si
SLU 55	7.9	-3518.92	-57229	-47656	-1164	9.1207	9.1207	-18661	9433	31355	40441	76472	23258	71796	No	61.71	Si
SLU 55	11.45	39.27	-30707	-25570	-1054	9.1207	9.1207	-10013	8279	22522	40441	76472	23258	62963	No	59.76	Si
SLU 63	7.9	-3694.47	-59404	-49467	-915	9.1207	9.1207	-19370	9527	32080	40441	76472	23258	72521	No	79.26	Si
SLU 63	11.45	-222.66	-31723	-26416	-849	9.1207	9.1207	-10344	8324	22860	40441	76472	23258	63301	No	74.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	7.9	-23249.97	-46487	-38710	-21113	9.1207	9.1207	-15158	13448	34344	40441	114708	23258	74785		3.54	Si
SLD 5	11.45	1004.39	-23911	-19911	-18676	9.1207	9.1207	-7797	11976	30584	40441	114708	23258	71025		3.8	Si
SLV 10	7.9	-31877.2	-41800	-34807	-29552	9.1207	9.1207	-13630	13143	33563	40441	114708	23258	74004		2.5	Si
SLV 10	11.45	1486.77	-23269	-19376	-25668	9.1207	9.1207	-7587	11934	30477	40441	114708	23258	70918		2.76	Si
SLV 9	7.9	-31984.36	-41953	-34935	-33219	9.1207	9.1207	-13680	13153	33589	40441	114708	23258	74030		2.23	Si
SLV 9	11.45	3272.67	-23272	-19379	-29333	9.1207	9.1207	-7588	11934	30478	40441	114708	23258	70919		2.42	Si
SLV 8	7.9	27459.38	-47048	-39177	32777	9.1207	9.1207	-15341	13485	34438	40441	114708	23258	74878		2.28	Si
SLV 8	11.45	-3537.12	-24153	-20113	28891	9.1207	9.1207	-7876	11992	30625	40441	114708	23258	71066		2.46	Si
SLV 6	7.9	-36146.86	-47510	-39562	-30196	9.1207	9.1207	-15491	13515	34514	40441	114708	23258	74955		2.48	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	11.45	-295.23	-24047	-20025	-26336	9.1207	9.1207	-7841	11985	30607	40441	114708	23258	71048		2.7	Si
SLV 12	7.9	31729.05	-41338	-34423	33421	9.1207	9.1207	-13479	13112	33487	40441	114708	23258	73928		2.21	Si
SLV 12	11.45	-1755.12	-23375	-19464	29559	9.1207	9.1207	-7622	11941	30495	40441	114708	23258	70936		2.4	Si
SLV 11	7.9	31621.88	-41492	-34551	29754	9.1207	9.1207	-13529	13122	33512	40441	114708	23258	73953		2.49	Si
SLV 11	11.45	30.78	-23378	-19467	25893	9.1207	9.1207	-7623	11941	30495	40441	114708	23258	70936		2.74	Si
SLV 7	7.9	27352.22	-47202	-39305	29110	9.1207	9.1207	-15391	13495	34463	40441	114708	23258	74904		2.57	Si
SLV 7	11.45	-1751.22	-24157	-20116	25225	9.1207	9.1207	-7877	11992	30625	40441	114708	23258	71066		2.82	Si
SLV 5	7.9	-36254.03	-47663	-39690	-33863	9.1207	9.1207	-15542	13525	34540	40441	114708	23258	74981		2.21	Si
SLV 5	11.45	1490.67	-24051	-20028	-30001	9.1207	9.1207	-7842	11985	30608	40441	114708	23258	71048		2.37	Si
SLD 9	7.9	-20585.45	-42905	-35728	-20700	9.1207	9.1207	-13990	13215	33748	40441	114708	23258	74189		3.58	Si
SLD 9	11.45	2103.57	-23454	-19530	-18248	9.1207	9.1207	-7648	11946	30508	40441	114708	23258	70949		3.89	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.45	11304	-28869	1132.74	3742.53	3.3	Si
SLV 15	179667	0.45	11350	-28986	1132.74	3756.42	3.32	Si
SLV 14	179667	0.45	11362	-29017	1132.74	3760.18	3.32	Si
SLV 13	179667	0.45	11408	-29134	1132.74	3774.05	3.33	Si
SLV 12	179667	0.45	12490	-31897	1132.74	4100.36	3.62	Si
SLV 11	179667	0.45	12521	-31975	1132.74	4109.54	3.63	Si
SLV 10	179667	0.45	12683	-32390	1132.74	4158.05	3.67	Si
SLV 9	179667	0.45	12714	-32469	1132.74	4167.2	3.68	Si
SLV 8	179667	0.45	13558	-34624	1132.74	4417	3.9	Si
SLV 7	179667	0.45	13589	-34702	1132.74	4426.03	3.91	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-25029	-54062	-2526	1.517	3857.3	0.915	24.08522	8.02002	Si
SLV 4	-25024	-53834	-2526	1.517	3856.8	0.915	24.08908	8.02002	Si
SLV 1	-24998	-54201	-2518	1.518	3854.1	0.915	24.11308	8.02002	Si
SLV 2	-24992	-53972	-2518	1.519	3853.6	0.915	24.11694	8.02002	Si
SLV 15	-22433	-35029	2513	1.642	3598.4	0.911	26.20419	8.02002	Si
SLV 16	-22428	-34801	2513	1.643	3597.9	0.911	26.20896	8.02002	Si
SLV 13	-22401	-35167	2521	1.644	3595.2	0.911	26.22795	8.02002	Si
SLV 14	-22396	-34939	2521	1.644	3594.7	0.911	26.23273	8.02002	Si
SLV 7	-24157	-47202	-772	1.611	3770.2	0.914	25.6193	5.35431	Si
SLV 8	-24153	-47048	-773	1.611	3769.8	0.914	25.62214	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	61.295	SLU 61	Si
V_SLU	59.763	SLU 55	Si
PF_SLV	5.587	SLV 12	Si
V_SLV	2.212	SLV 12	Si
PFFP_SLV	3.304	SLV 16	Si
R_SLV	3.003	SLV 3	Si

Maschio 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L6	L7	1.837	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 34	8.8	-340.1	-8554	-0.0000287	0.0003743	0.0035	1.8365	6571.3	7780.21	7780.21	22.88	No	Si
SLU 34	10.6	-863.7	-8455	-0.0000336	0.0003743	0.0035	1.8365	6510.07	7711.97	7711.97	8.93	No	Si
SLU 40	8.8	-308.62	-8338	-0.0000278	0.0003743	0.0035	1.8365	6437.15	7630.65	7630.65	24.73	No	Si
SLU 40	10.6	-915.49	-8326	-0.0000337	0.0003743	0.0035	1.8365	6429.68	7622.3	7622.3	8.33	No	Si
SLU 39	8.8	-334.51	-8368	-0.0000281	0.0003743	0.0035	1.8365	6455.84	7651.51	7651.51	22.87	No	Si
SLU 39	10.6	-900.69	-8303	-0.0000335	0.0003743	0.0035	1.8365	6415.39	7606.35	7606.35	8.44	No	Si
SLU 42	8.8	-321	-8757	-0.0000292	0.0003743	0.0035	1.8365	6696.47	7921.57	7921.57	24.68	No	Si
SLU 42	10.6	-933.28	-8788	-0.0000354	0.0003743	0.0035	1.8365	6715.53	7943.32	7943.32	8.51	No	Si
SLU 82	8.8	-470.86	-9959	-0.0000344	0.0003743	0.0035	1.8365	7405.43	8748.71	8748.71	18.58	No	Si
SLU 82	10.6	-963.55	-9545	-0.0000381	0.0003743	0.0035	1.8365	7166.91	8474.38	8474.38	8.79	No	Si
SLU 81	8.8	-496.75	-9989	-0.0000348	0.0003743	0.0035	1.8365	7422.42	8768.34	8768.34	17.65	No	Si
SLU 81	10.6	-948.75	-9522	-0.0000378	0.0003743	0.0035	1.8365	7153.6	8459.01	8459.01	8.92	No	Si
SLU 33	8.8	-368.99	-8761	-0.0000297	0.0003743	0.0035	1.8365	6698.98	7924.43	7924.43	21.48	No	Si
SLU 33	10.6	-880.87	-8643	-0.0000344	0.0003743	0.0035	1.8365	6626.42	7842.15	7842.15	8.9	No	Si
SLU 31	8.8	-327.71	-8134	-0.0000273	0.0003743	0.0035	1.8365	6308.99	7487.31	7487.31	22.85	No	Si
SLU 31	10.6	-845.91	-7992	-0.000032	0.0003743	0.0035	1.8365	6218.81	7385.81	7385.81	8.73	No	Si
SLU 84	8.8	-483.25	-10378	-0.0000359	0.0003743	0.0035	1.8365	7640.91	9025.75	9025.75	18.68	No	Si
SLU 84	10.6	-981.34	-10007	-0.0000397	0.0003743	0.0035	1.8365	7432.99	8780.58	8780.58	8.95	No	Si
SLU 41	8.8	-346.9	-8787	-0.0000295	0.0003743	0.0035	1.8365	6714.72	7942.4	7942.4	22.9	No	Si
SLU 41	10.6	-918.48	-8766	-0.0000351	0.0003743	0.0035	1.8365	6701.61	7927.43	7927.43	8.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	8.8	1430.21	-2443	-0.000026	0.0005615	0.0035	1.8365		2366.49	2366.49	1.65		Si
SLV 9	10.6	-1497.5	-6112	-0.0000321	0.0005615	0.0035	1.8365		6118.89	6118.89	4.09		Si
SLV 12	8.8	-2932.14	-12094	-0.0000649	0.0005615	0.0035	1.8365		10666.68	10666.68	3.64		Si
SLV 12	10.6	1198.33	-5881	-0.0000285	0.0005615	0.0035	1.8365		5267.24	5267.24	4.4		Si
SLV 10	8.8	1013.22	-2742	-0.0000176	0.0005615	0.0035	1.8365		2627.22	2627.22	2.59		Si
SLV 10	10.6	-1132.03	-5651	-0.0000272	0.0005615	0.0035	1.8365		5748.48	5748.48	5.08		Si
SLV 2	8.8	792.71	-5332	-0.000023	0.0005615	0.0035	1.8365		4817.33	4817.33	6.08		Si
SLV 2	10.6	-1877.32	-7140	-0.0000389	0.0005615	0.0035	1.8365		6953.91	6953.91	3.7		Si
SLD 1	8.8	722.89	-5713	-0.0000235	0.0005615	0.0035	1.8365		5130.21	5130.21	7.1		Si
SLD 1	10.6	-1727.43	-7281	-0.0000379	0.0005615	0.0035	1.8365		7062.78	7062.78	4.09		Si
SLV 16	8.8	-2331.74	-9301	-0.00005	0.0005615	0.0035	1.8365		8622.58	8622.58	3.7		Si
SLV 16	10.6	1359.63	-4870	-0.000027	0.0005615	0.0035	1.8365		4434.68	4434.68	3.26		Si
SLV 1	8.8	1412.07	-4887	-0.0000276	0.0005615	0.0035	1.8365		4448.71	4448.71	3.15		Si
SLV 1	10.6	-2420.16	-7825	-0.0000463	0.0005615	0.0035	1.8365		7481.84	7481.84	3.09		Si
SLV 6	8.8	1595.47	-2393	-0.0000339	0.0005615	0.0035	1.8365		2323.39	2323.39	1.46		Si
SLV 6	10.6	-1893.38	-6353	-0.0000366	0.0005615	0.0035	1.8365		6313.58	6313.58	3.33		Si
SLD 5	8.8	1083.68	-4003	-0.0000218	0.0005615	0.0035	1.8365		3708.22	3708.22	3.42		Si
SLD 5	10.6	-1609.97	-6655	-0.0000348	0.0005615	0.0035	1.8365		6558.72	6558.72	4.07		Si
SLV 5	8.8	2012.47	-2093	-0.0007984	0.0005615	0.0035	1.4692		2062.39	2062.39	1.02		Si
SLV 5	10.6	-2258.85	-6814	-0.0000417	0.0005615	0.0035	1.8365		6687.78	6687.78	2.96		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	8.8	-470.86	-9959	-8293	1252	1.8365	1.8365	-16127	9095	4677	40441	15398	4683	20082	No	16.04	Si
SLU 82	10.6	-963.55	-9545	-7948	1251	1.8365	1.8365	-15456	9005	4631	40441	15398	4683	20082	No	16.05	Si
SLU 42	8.8	-321	-8757	-7292	1281	1.8365	1.8365	-14181	8835	4543	40441	15398	4683	20082	No	15.68	Si
SLU 42	10.6	-933.28	-8788	-7318	1280	1.8365	1.8365	-14231	8842	4547	40441	15398	4683	20082	No	15.68	Si
SLU 78	8.8	-543.62	-10802	-8995	1170	1.8365	1.8365	-17491	9277	4770	40441	15398	4683	20082	No	17.16	Si
SLU 78	10.6	-946.71	-10324	-8597	1169	1.8365	1.8365	-16719	9174	4717	40441	15398	4683	20082	No	17.18	Si
SLU 84	8.8	-483.25	-10378	-8642	1277	1.8365	1.8365	-16806	9185	4723	40441	15398	4683	20082	No	15.73	Si
SLU 84	10.6	-981.34	-10007	-8333	1276	1.8365	1.8365	-16205	9105	4682	40441	15398	4683	20082	No	15.74	Si
SLU 40	8.8	-308.62	-8338	-6943	1256	1.8365	1.8365	-13502	8745	4497	40441	15398	4683	20082	No	15.99	Si
SLU 40	10.6	-915.49	-8326	-6933	1255	1.8365	1.8365	-13483	8742	4495	40441	15398	4683	20082	No	16	Si
SLU 39	8.8	-334.51	-8368	-6968	1206	1.8365	1.8365	-13550	8751	4500	40441	15398	4683	20082	No	16.65	Si
SLU 39	10.6	-900.69	-8303	-6914	1206	1.8365	1.8365	-13446	8737	4493	40441	15398	4683	20082	No	16.65	Si
SLU 36	8.8	-381.38	-9181	-7645	1174	1.8365	1.8365	-14867	8927	4590	40441	15398	4683	20082	No	17.11	Si
SLU 36	10.6	-898.66	-9105	-7582	1173	1.8365	1.8365	-14745	8910	4582	40441	15398	4683	20082	No	17.12	Si
SLU 83	8.8	-509.14	-10408	-8667	1227	1.8365	1.8365	-16854	9192	4727	40441	15398	4683	20082	No	16.36	Si
SLU 83	10.6	-966.54	-9985	-8314	1227	1.8365	1.8365	-16168	9100	4680	40441	15398	4683	20082	No	16.37	Si
SLU 41	8.8	-346.9	-8787	-7317	1231	1.8365	1.8365	-14229	8842	4547	40441	15398	4683	20082	No	16.31	Si
SLU 41	10.6	-918.48	-8766	-7299	1231	1.8365	1.8365	-14195	8837	4544	40441	15398	4683	20082	No	16.32	Si
SLU 81	8.8	-496.75	-9989	-8318	1202	1.8365	1.8365	-16175	9101	4680	40441	15398	4683	20082	No	16.7	Si
SLU 81	10.6	-948.75	-9522	-7929	1202	1.8365	1.8365	-15419	9000	4628	40441	15398	4683	20082	No	16.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	8.8	1595.47	-2393	-1993	4848	1.8365	0.7547	-3875	11192	3007	40441	23098	4683	27781		5.73	Si
SLV 6	10.6	-1893.38	-6353	-5290	4773	1.8365	1.8365	-10287	12474	6415	40441	23098	4683	27781		5.82	Si
SLD 5	8.8	1083.68	-4003	-3333	3753	1.8365	1.8365	-6482	11713	6023	40441	23098	4683	27781		7.4	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	10.6	-1609.97	-6655	-5542	3701	1.8365	1.8365	-10777	12572	6465	40441	23098	4683	27781		7.51	Si
SLV 2	8.8	792.71	-5332	-4440	3501	1.8365	1.8365	-8634	12143	6245	40441	23098	4683	27781		7.94	Si
SLV 2	10.6	-1877.32	-7140	-5946	3065	1.8365	1.8365	-11562	12729	6546	40441	23098	4683	27781		9.06	Si
SLV 16	8.8	-2331.74	-9301	-7745	-3585	1.8365	1.8365	-15061	13429	6906	40441	23098	4683	27781		7.75	Si
SLV 16	10.6	1359.63	-4870	-4055	-3150	1.8365	1.8365	-7886	11994	6168	40441	23098	4683	27781		8.82	Si
SLV 11	8.8	-2515.14	-11795	-9821	-3710	1.8365	1.8365	-19099	14237	7321	40441	23098	4683	27781		7.49	Si
SLV 11	10.6	832.85	-6342	-5281	-3636	1.8365	1.8365	-10269	12470	6413	40441	23098	4683	27781		7.64	Si
SLV 9	8.8	1430.21	-2443	-2034	4262	1.8365	0.9982	-3955	11208	3133	40441	23098	4683	27781		6.52	Si
SLV 9	10.6	-1497.5	-6112	-5090	4459	1.8365	1.8365	-9897	12396	6374	40441	23098	4683	27781		6.23	Si
SLV 10	8.8	1013.22	-2742	-2284	3440	1.8365	1.6464	-4441	11305	5211	40441	23098	4683	27781		8.08	Si
SLV 10	10.6	-1132.03	-5651	-4706	3637	1.8365	1.8365	-9151	12247	6298	40441	23098	4683	27781		7.64	Si
SLV 1	8.8	1412.07	-4887	-4069	4722	1.8365	1.8365	-7913	11999	6170	40441	23098	4683	27781		5.88	Si
SLV 1	10.6	-2420.16	-7825	-6516	4287	1.8365	1.8269	-12671	12951	6625	40441	23098	4683	27781		6.48	Si
SLV 12	8.8	-2932.14	-12094	-10071	-4532	1.8365	1.8365	-19585	14334	7371	40441	23098	4683	27781		6.13	Si
SLV 12	10.6	1198.33	-5881	-4897	-4459	1.8365	1.8365	-9523	12321	6336	40441	23098	4683	27781		6.23	Si
SLV 5	8.8	2012.47	-2093	-1743	5670	1.4692	0	0	0	0	40441	18478	3747	22225		3.92	Si
SLV 5	10.6	-2258.85	-6814	-5674	5595	1.8365	1.7603	-11034	12623	6222	40441	23098	4683	27781		4.96	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	9309	-4787	228.09	629.33	2.76	Si
SLV 9	179667	0.45	9614	-4944	228.09	648.55	2.84	Si
SLV 6	179667	0.45	9905	-5093	228.09	666.83	2.92	Si
SLV 5	179667	0.45	10210	-5250	228.09	685.88	3.01	Si
SLV 14	179667	0.45	11098	-5707	228.09	740.91	3.25	Si
SLV 13	179667	0.45	11550	-5940	228.09	768.65	3.37	Si
SLV 2	179667	0.45	13084	-6728	228.09	861.25	3.78	Si
SLV 16	179667	0.45	13290	-6834	228.09	873.54	3.83	Si
SLV 1	179667	0.45	13537	-6961	228.09	888.15	3.89	Si
SLV 15	179667	0.45	13743	-7067	228.09	900.36	3.95	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-5796	-6249	-339	1.389	852.5	0.921	21.92758	8.02002	Si
SLV 3	-5912	-8498	-123	1.397	864	0.922	22.0344	8.02002	Si
SLV 2	-5429	-6213	-340	1.459	815.7	0.918	23.09858	8.02002	Si
SLV 4	-5545	-8462	-124	1.467	827.2	0.919	23.19228	8.02002	Si
SLV 15	-5001	-7125	345	1.55	772.8	0.915	24.62122	8.02002	Si
SLV 13	-4886	-4875	129	1.61	761.3	0.914	25.59535	8.02002	Si
SLV 16	-4634	-7088	345	1.638	736.2	0.912	26.11091	8.02002	Si
SLV 14	-4519	-4839	129	1.703	724.7	0.911	27.17417	8.02002	Si
SLV 7	-5667	-10635	293	1.419	839.5	0.92	22.42598	5.35431	Si
SLV 11	-5394	-10223	433	1.453	812.2	0.918	23.00684	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.326	SLU 40	Si
V_SLU	15.677	SLU 42	Si
PF_SLV	1.025	SLV 5	Si
V_SLV	3.92	SLV 5	Si
PFFP_SLV	2.759	SLV 10	Si
R_SLV	2.734	SLV 1	Si

Maschio 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.878	5.951	L6	L7	2.26	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	8.8	-373.67	-13169	-0.0000346	0.0003743	0.0035	2.26	11838.95	14013.64	14013.64	37.5	No	Si
SLU 47	10.6	1170.94	-10397	-0.0000327	0.0003743	0.0035	2.26	9852.46	10336.72	10336.72	8.83	No	Si
SLU 50	8.8	-319.52	-13595	-0.0000353	0.0003743	0.0035	2.26	12120.6	14362.52	14362.52	44.95	No	Si
SLU 50	10.6	1276.33	-10823	-0.0000345	0.0003743	0.0035	2.26	10175.57	10703.52	10703.52	8.39	No	Si
SLU 46	8.8	-380.85	-13558	-0.0000356	0.0003743	0.0035	2.26	12096.37	14332.52	14332.52	37.63	No	Si
SLU 46	10.6	1193.47	-10786	-0.0000338	0.0003743	0.0035	2.26	10147.74	10671.52	10671.52	8.94	No	Si
SLU 51	8.8	-298.43	-13537	-0.000035	0.0003743	0.0035	2.26	12082.95	14315.9	14315.9	47.97	No	Si
SLU 51	10.6	1251.53	-10766	-0.0000342	0.0003743	0.0035	2.26	10132.32	10653.82	10653.82	8.51	No	Si
SLU 45	8.8	-401.94	-13615	-0.0000359	0.0003743	0.0035	2.26	12133.98	14379.09	14379.09	35.77	No	Si
SLU 45	10.6	1218.28	-10844	-0.0000341	0.0003743	0.0035	2.26	10190.94	10721.23	10721.23	8.8	No	Si
SLU 8	8.8	-202.58	-11120	-0.0000282	0.0003743	0.0035	2.26	10396.54	12312.01	12312.01	60.78	No	Si
SLU 8	10.6	1031.36	-8974	-0.0000282	0.0003743	0.0035	2.26	8727.97	9134.15	9134.15	8.86	No	Si
SLU 9	8.8	-181.49	-11062	-0.0000279	0.0003743	0.0035	2.26	10353.89	12262.57	12262.57	67.57	No	Si
SLU 9	10.6	1006.56	-8916	-0.0000279	0.0003743	0.0035	2.26	8680.98	9086.2	9086.2	9.03	No	Si
SLU 43	8.8	-498.11	-12934	-0.0000348	0.0003743	0.0035	2.26	11681.33	13821.73	13821.73	27.75	No	Si
SLU 43	10.6	1148.24	-10162	-0.0000319	0.0003743	0.0035	2.26	9672.04	10136.26	10136.26	8.83	No	Si
SLU 49	8.8	-291.55	-13888	-0.0000359	0.0003743	0.0035	2.26	12310.69	14597.39	14597.39	50.07	No	Si
SLU 49	10.6	1257.52	-11117	-0.0000351	0.0003743	0.0035	2.26	10394.18	10957.64	10957.64	8.71	No	Si
SLU 48	8.8	-312.64	-13946	-0.0000362	0.0003743	0.0035	2.26	12347.63	14640.83	14640.83	46.83	No	Si
SLU 48	10.6	1282.33	-11174	-0.0000354	0.0003743	0.0035	2.26	10436.72	11007.67	11007.67	8.58	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	8.8	1876.56	-5352	-0.0000243	0.0005615	0.0035	2.26		6063.45	6063.45	3.23		Si
SLV 5	10.6	-1946.72	-3164	-0.0000217	0.0005615	0.0035	2.26		4808.99	4808.99	2.47		Si
SLD 12	8.8	-1812.25	-15040	-0.000048	0.0005615	0.0035	2.26		16311.53	16311.53	9		Si
SLD 12	10.6	2716.12	-12895	-0.0000484	0.0005615	0.0035	2.26		13102.73	13102.73	4.82		Si
SLV 12	8.8	-2667.01	-17298	-0.0000594	0.0005615	0.0035	2.26		18237.72	18237.72	6.84		Si
SLV 12	10.6	3794.35	-15165	-0.0000613	0.0005615	0.0035	2.26		15027.99	15027.99	3.96		Si
SLV 16	8.8	-3295.02	-14322	-0.0000558	0.0005615	0.0035	2.26		15682.98	15682.98	4.76		Si
SLV 16	10.6	3569.77	-12110	-0.000052	0.0005615	0.0035	2.26		12445.22	12445.22	3.49		Si
SLV 1	8.8	2504.57	-8328	-0.0000356	0.0005615	0.0035	2.26		9069.06	9069.06	3.62		Si
SLV 1	10.6	-1722.13	-6219	-0.0000254	0.0005615	0.0035	2.26		7983.87	7983.87	4.64		Si
SLV 15	8.8	-2265.43	-13248	-0.0000464	0.0005615	0.0035	2.26		14732.09	14732.09	6.5		Si
SLV 15	10.6	2898.55	-11036	-0.0000449	0.0005615	0.0035	2.26		11553.63	11553.63	3.99		Si
SLV 6	8.8	1183.37	-6075	-0.0000217	0.0005615	0.0035	2.26		6807.21	6807.21	5.75		Si
SLV 6	10.6	-1494.81	-3887	-0.0000184	0.0005615	0.0035	2.26		5576.1	5576.1	3.73		Si
SLD 16	8.8	-2215.68	-13188	-0.0000459	0.0005615	0.0035	2.26		14676.24	14676.24	6.62		Si
SLD 16	10.6	2597.22	-11003	-0.0000429	0.0005615	0.0035	2.26		11526.29	11526.29	4.44		Si
SLV 11	8.8	-1973.82	-16575	-0.000053	0.0005615	0.0035	2.26		17636.25	17636.25	8.94		Si
SLV 11	10.6	3342.44	-14441	-0.0000565	0.0005615	0.0035	2.26		14410.24	14410.24	4.31		Si
SLV 14	8.8	-2497.42	-11109	-0.0000425	0.0005615	0.0035	2.26		12765.39	12765.39	5.11		Si
SLV 14	10.6	2283.08	-8868	-0.0000355	0.0005615	0.0035	2.26		9599.16	9599.16	4.2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	8.8	-368.73	-16626	-13845	-977	2.26	2.26	-21879	9862	6240	40441	18949	5763	24712	No	25.29	Si
SLU 79	10.6	1348.26	-13803	-11494	-977	2.26	2.26	-18163	9366	5927	40441	18949	5763	24712	No	25.29	Si
SLU 62	8.8	-489.9	-14835	-12353	-967	2.26	2.26	-19522	9547	6042	40441	18949	5763	24712	No	25.56	Si
SLU 62	10.6	1206.67	-12063	-10045	-967	2.26	2.26	-15874	9061	5734	40441	18949	5763	24712	No	25.56	Si
SLU 60	8.8	-579.19	-14505	-12078	-981	2.26	2.26	-19087	9489	6005	40441	18949	5763	24712	No	25.19	Si
SLU 60	10.6	1142.63	-11733	-9770	-981	2.26	2.26	-15440	9003	5697	40441	18949	5763	24712	No	25.19	Si
SLU 64	8.8	-490.55	-14866	-12379	-976	2.26	2.26	-19563	9553	6045	40441	18949	5763	24712	No	25.32	Si
SLU 64	10.6	1224.1	-12042	-10028	-976	2.26	2.26	-15847	9057	5731	40441	18949	5763	24712	No	25.32	Si
SLU 84	8.8	-461.26	-16710	-13914	-978	2.26	2.26	-21988	9876	6250	40441	18949	5763	24712	No	25.26	Si
SLU 84	10.6	1257.73	-13886	-11563	-978	2.26	2.26	-18273	9381	5936	40441	18949	5763	24712	No	25.26	Si
SLU 74	8.8	-451.14	-16647	-13862	-991	2.26	2.26	-21906	9865	6243	40441	18949	5763	24712	No	24.94	Si
SLU 74	10.6	1290.21	-13823	-11511	-991	2.26	2.26	-18190	9370	5929	40441	18949	5763	24712	No	24.94	Si
SLU 77	8.8	-361.85	-16977	-14137	-977	2.26	2.26	-22341	9923	6279	40441	18949	5763	24712	No	25.3	Si
SLU 77	10.6	1354.26	-14153	-11786	-977	2.26	2.26	-18625	9428	5966	40441	18949	5763	24712	No	25.3	Si
SLU 81	8.8	-571.64	-16437	-13687	-1018	2.26	2.26	-21629	9828	6219	40441	18949	5763	24712	No	24.28	Si
SLU 81	10.6	1218.49	-13613	-11336	-1018	2.26	2.26	-17913	9333	5906	40441	18949	5763	24712	No	24.28	Si
SLU 83	8.8	-482.35	-16767	-13962	-1004	2.26	2.26	-22064	9886	6256	40441	18949	5763	24712	No	24.62	Si
SLU 83	10.6	1282.53	-13943	-11611	-1004	2.26	2.26	-18348	9391	5943	40441	18949	5763	24712	No	24.62	Si
SLU 82	8.8	-550.55	-16379	-13639	-992	2.26	2.26	-21554	9818	6213	40441	18949	5763	24712	No	24.9	Si
SLU 82	10.6	1193.68	-13555	-11288	-992	2.26	2.26	-17838	9323	5899	40441	18949	5763	24712	No	24.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	8.8	-2667.01	-17298	-14405	-3625	2.26	2.26	-22763	14969	9473	40441	28423	5763	34186		9.43	Si
SLV 12	10.6	3794.35	-15165	-12628	-3517	2.26	2.26	-19955	14408	9117	40441	28423	5763	34186		9.72	Si
SLV 15	8.8	-2265.43	-13248	-11032	-3047	2.26	2.26	-17433	13903	8798	40441	28423	5763	34186		11.22	Si
SLV 15	10.6	2898.55	-11036	-9189	-2649	2.26	2.26	-14522	13321	8430	40441	28423	5763	34186		12.91	Si
SLV 1	8.8	2504.57	-8328	-6935	2490	2.26	2.26	-10959	12608	7979	40441	28423	5763	34186		13.73	Si
SLV 1	10.6	-1722.13	-6219	-5178	2092	2.26	2.26	-8183	12053	7627	40441	28423	5763	34186		16.34	Si
SLD 16	8.8	-2215.68	-13188	-10982	-2803	2.26	2.26	-17354	13887	8788	40441	28423	5763	34186		12.2	Si
SLD 16	10.6	2597.22	-11003	-9162	-2543	2.26	2.26	-14478	13312	8424	40441	28423	5763	34186		13.44	Si
SLD 12	8.8	-1812.25	-15040	-12524	-2550	2.26	2.26	-19792	14375	9097	40441	28423	5763	34186		13.41	Si
SLD 12	10.6	2716.12	-12895	-10738	-2479	2.26	2.26	-16969	13810	8739	40441	28423	5763	34186		13.79	Si
SLD 15	8.8	-1557.87	-12501	-10410	-2199	2.26	2.26	-16451	13707	8674	40441	28423	5763	34186		15.55	Si
SLD 15	10.6	2168.38	-10316	-8590	-1939	2.26	2.26	-13575	13132	8310	40441	28423	5763	34186		17.63	Si
SLV 11	8.8	-1973.82	-16575	-13802	-2989	2.26	2.26	-21812	14779	9352	40441	28423	5763	34186		11.44	Si
SLV 11	10.6	3342.44	-14441	-12026	-2881	2.26	2.26	-19004	14217	8997	40441	28423	5763	34186		11.87	Si
SLV 16	8.8	-3295.02	-14322	-11926	-3991	2.26	2.26	-18847	14186	8977	40441	28423	5763	34186		8.56	Si
SLV 16	10.6	3569.77	-12110	-10084	-3594	2.26	2.26	-15935	13604	8608	40441	28423	5763	34186		9.51	Si
SLV 8	8.8	-1475.29	-16786	-13978	-2305	2.26	2.26	-22089	14835	9387	40441	28423	5763	34186		14.83	Si
SLV 8	10.6	2794.15	-14692	-12234	-2439	2.26	2.26	-19333	14283	9038	40441	28423	5763	34186		14.02	Si
SLV 14	8.8	-2497.42	-11109	-9250	-2854	2.26	2.26	-14618	13340	8442	40441	28423	5763	34186		11.98	Si
SLV 14	10.6	2283.08	-8868	-7385	-2448	2.26	2.26	-11670	12751	8069	40441	28423	5763	34186		13.96	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.45	6897	-4364	280.68	583.4	2.08	Si
SLV 9	179667	0.45	7613	-4817	280.68	640.82	2.28	Si
SLV 6	179667	0.45	8040	-5087	280.68	674.74	2.4	Si
SLV 10	179667	0.45	8756	-5541	280.68	731.21	2.61	Si
SLV 1	179667	0.45	11763	-7444	280.68	961.85	3.43	Si
SLV 2	179667	0.45	13461	-8518	280.68	1087.39	3.87	Si
SLV 13	179667	0.45	14150	-8954	280.68	1137.44	4.05	Si
SLV 14	179667	0.45	15848	-10028	280.68	1258.28	4.48	Si
SLV 3	179667	0.45	16888	-10687	280.68	1330.71	4.74	Si
SLV 4	179667	0.45	18586	-11761	280.68	1446.16	5.15	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-8739	-12192	249	1.203	1210.7	0.929	18.82333	8.02002	Si
SLV 3	-8333	-10433	249	1.249	1169.8	0.927	19.57783	8.02002	Si
SLV 16	-7899	-17240	395	1.287	1126	0.925	20.22592	8.02002	Si
SLV 15	-7493	-15481	395	1.34	1085.2	0.923	21.11128	8.02002	Si
SLV 8	-10784	-18451	1051	0.955	1417.3	0.938	14.80047	5.35431	Si
SLV 12	-10532	-19966	1094	0.97	1391.8	0.937	15.04659	5.35431	Si
SLV 7	-10511	-17267	1051	0.975	1389.7	0.937	15.12632	5.35431	Si
SLV 11	-10259	-18782	1094	0.99	1364.2	0.936	15.38503	5.35431	Si
SLV 2	-6677	-8095	-394	1.463	1003.4	0.918	23.15178	8.02002	Si
SLV 1	-6272	-6336	-394	1.532	962.8	0.916	24.31987	8.02002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.386	SLU 50	Si
V_SLU	24.28	SLU 81	Si
PF_SLV	2.47	SLV 5	Si
V_SLV	8.565	SLV 16	Si
PFFP_SLV	2.079	SLV 5	Si
R_SLV	2.347	SLV 4	Si

Maschio 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L6	L7	2.137	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	8.8	138.51	-9511	-0.0000252	0.0003743	0.0035	2.1365	8573.67	8968.04	8968.04	64.75	No	Si
SLU 39	10.6	-1085.61	-9259	-0.0000314	0.0003743	0.0035	2.1365	8387.38	10060.02	10060.02	9.27	No	Si
SLU 40	8.8	97.05	-9563	-0.0000251	0.0003743	0.0035	2.1365	8611.83	9010.34	9010.34	92.84	No	Si
SLU 40	10.6	-1070.95	-9247	-0.0000313	0.0003743	0.0035	2.1365	8378.63	10050.02	10050.02	9.38	No	Si
SLU 31	8.8	1.77	-9340	-0.0000238	0.0003743	0.0035	2.1365	8447.72	8829.44	8829.44	4999.84	No	Si
SLU 31	10.6	-962.6	-8819	-0.0000294	0.0003743	0.0035	2.1365	8057.13	9688.36	9688.36	10.06	No	Si
SLU 33	8.8	-11.35	-9896	-0.0000253	0.0003743	0.0035	2.1365	8853.97	10595.09	10595.09	933.74	No	Si
SLU 33	10.6	-984.65	-9462	-0.0000313	0.0003743	0.0035	2.1365	8537.8	10233.44	10233.44	10.39	No	Si
SLU 82	8.8	-5.61	-11463	-0.0000295	0.0003743	0.0035	2.1365	9940.72	11857.72	11857.72	2114.86	No	Si
SLU 82	10.6	-1131.11	-10658	-0.0000356	0.0003743	0.0035	2.1365	9393.6	11205.17	11205.17	9.91	No	Si
SLU 42	8.8	57.14	-9968	-0.0000258	0.0003743	0.0035	2.1365	8905.71	9341.3	9341.3	163.47	No	Si
SLU 42	10.6	-1033.93	-9662	-0.0000322	0.0003743	0.0035	2.1365	8684.41	10403.59	10403.59	10.06	No	Si
SLU 41	8.8	98.59	-9916	-0.000026	0.0003743	0.0035	2.1365	8868.29	9298.65	9298.65	94.31	No	Si
SLU 41	10.6	-1048.59	-9674	-0.0000323	0.0003743	0.0035	2.1365	8692.98	10413.29	10413.29	9.93	No	Si
SLU 81	8.8	35.84	-11411	-0.0000295	0.0003743	0.0035	2.1365	9906.03	10544.08	10544.08	294.17	No	Si
SLU 81	10.6	-1145.78	-10670	-0.0000357	0.0003743	0.0035	2.1365	9401.76	11214.61	11214.61	9.79	No	Si
SLU 83	8.8	-4.07	-11816	-0.0000304	0.0003743	0.0035	2.1365	10173.66	12126.69	12126.69	2981.47	No	Si
SLU 83	10.6	-1108.76	-11085	-0.0000366	0.0003743	0.0035	2.1365	9686.82	11549.82	11549.82	10.42	No	Si
SLU 32	8.8	30.1	-9844	-0.0000253	0.0003743	0.0035	2.1365	8816.41	9239.77	9239.77	306.93	No	Si
SLU 32	10.6	-999.31	-9474	-0.0000314	0.0003743	0.0035	2.1365	8546.46	10243.5	10243.5	10.25	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	8.8	2881.01	-3693	-0.0000462	0.0005615	0.0035	2.1365		4057.46	4057.46	1.41		Si
SLV 8	10.6	-2962.13	-8060	-0.0000413	0.0005615	0.0035	2.1365		9277.41	9277.41	3.13		Si
SLV 4	8.8	2380.85	-7485	-0.0000356	0.0005615	0.0035	2.1365		7733.01	7733.01	3.25		Si
SLV 4	10.6	-3428.33	-10061	-0.0000499	0.0005615	0.0035	2.1365		11093.12	11093.12	3.24		Si
SLV 11	8.8	1556.35	-3324	-0.0000195	0.0005615	0.0035	2.1365		3688.88	3688.88	2.37		Si
SLV 11	10.6	-1318.46	-5975	-0.0000241	0.0005615	0.0035	2.1365		7313.94	7313.94	5.55		Si
SLV 14	8.8	-1985.96	-8323	-0.000035	0.0005615	0.0035	2.1365		9523.78	9523.78	4.8		Si
SLV 14	10.6	1512.02	-4885	-0.0000227	0.0005615	0.0035	2.1365		5238.66	5238.66	3.46		Si
SLV 15	8.8	-1227.4	-5891	-0.0000233	0.0005615	0.0035	2.1365		7232.51	7232.51	5.89		Si
SLV 15	10.6	1252	-4072	-0.0000188	0.0005615	0.0035	2.1365		4436.22	4436.22	3.54		Si
SLV 13	8.8	-2634.79	-8617	-0.0000404	0.0005615	0.0035	2.1365		9795.95	9795.95	3.72		Si
SLV 13	10.6	2153.82	-4114	-0.0000268	0.0005615	0.0035	2.1365		4478.04	4478.04	2.08		Si
SLV 3	8.8	1732.02	-7779	-0.0000317	0.0005615	0.0035	2.1365		8008.52	8008.52	4.62		Si
SLV 3	10.6	-2786.54	-9290	-0.0000432	0.0005615	0.0035	2.1365		10401.6	10401.6	3.73		Si
SLD 8	8.8	1744.29	-5354	-0.0000255	0.0005615	0.0035	2.1365		5697.21	5697.21	3.27		Si
SLD 8	10.6	-2092.42	-7720	-0.0000341	0.0005615	0.0035	2.1365		8957.98	8957.98	4.28		Si
SLV 12	8.8	1993.19	-3126	-0.0000257	0.0005615	0.0035	2.1365		3489.58	3489.58	1.75		Si
SLV 12	10.6	-1750.57	-6494	-0.0000285	0.0005615	0.0035	2.1365		7814.61	7814.61	4.46		Si
SLV 7	8.8	2444.18	-3891	-0.0000315	0.0005615	0.0035	2.1365		4255.35	4255.35	1.74		Si
SLV 7	10.6	-2530.02	-7540	-0.0000368	0.0005615	0.0035	2.1365		8789.92	8789.92	3.47		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	8.8	-4.07	-11816	-9839	1839	2.1365	2.1365	-16447	9137	5466	40441	17914	5448	23362	No	12.7	Si
SLU 83	10.6	-1108.76	-11085	-9231	1839	2.1365	2.1365	-15430	9002	5385	40441	17914	5448	23362	No	12.71	Si
SLU 82	8.8	-5.61	-11463	-9545	1812	2.1365	2.1365	-15956	9072	5427	40441	17914	5448	23362	No	12.89	Si
SLU 82	10.6	-1131.11	-10658	-8875	1801	2.1365	2.1365	-14836	8923	5338	40441	17914	5448	23362	No	12.97	Si
SLU 39	8.8	138.51	-9511	-7920	1821	2.1365	2.1365	-13239	8710	5210	40441	17914	5448	23362	No	12.83	Si
SLU 39	10.6	-1085.61	-9259	-7710	1820	2.1365	2.1365	-12888	8663	5182	40441	17914	5448	23362	No	12.83	Si
SLU 74	8.8	-72.56	-11744	-9779	1698	2.1365	2.1365	-16347	9124	5458	40441	17914	5448	23362	No	13.76	Si
SLU 74	10.6	-1059.47	-10885	-9064	1697	2.1365	2.1365	-15152	8965	5363	40441	17914	5448	23362	No	13.77	Si
SLU 40	8.8	97.05	-9563	-7963	1757	2.1365	2.1365	-13311	8719	5216	40441	17914	5448	23362	No	13.29	Si
SLU 40	10.6	-1070.95	-9247	-7700	1746	2.1365	2.1365	-12872	8661	5181	40441	17914	5448	23362	No	13.38	Si
SLU 81	8.8	35.84	-11411	-9502	1876	2.1365	2.1365	-15883	9062	5421	40441	17914	5448	23362	No	12.45	Si
SLU 81	10.6	-1145.78	-10670	-8885	1875	2.1365	2.1365	-14852	8925	5339	40441	17914	5448	23362	No	12.46	Si
SLU 77	8.8	-112.47	-12149	-10116	1661	2.1365	2.1365	-16910	9199	5503	40441	17914	5448	23362	No	14.07	Si
SLU 77	10.6	-1022.45	-11300	-9410	1660	2.1365	2.1365	-15730	9042	5409	40441	17914	5448	23362	No	14.07	Si
SLU 41	8.8	98.59	-9916	-8257	1784	2.1365	2.1365	-13802	8785	5255	40441	17914	5448	23362	No	13.1	Si
SLU 41	10.6	-1048.59	-9674	-8056	1783	2.1365	2.1365	-13466	8740	5228	40441	17914	5448	23362	No	13.1	Si
SLU 42	8.8	57.14	-9968	-8300	1721	2.1365	2.1365	-13875	8794	5261	40441	17914	5448	23362	No	13.58	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	10.6	-1033.93	-9662	-8046	1709	2.1365	2.1365	-13449	8738	5227	40441	17914	5448	23362	No	13.67	Si
SLU 84	8.8	-45.52	-11868	-9882	1776	2.1365	2.1365	-16519	9147	5472	40441	17914	5448	23362	No	13.16	Si
SLU 84	10.6	-1094.09	-11074	-9221	1764	2.1365	2.1365	-15414	9000	5384	40441	17914	5448	23362	No	13.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	8.8	2881.01	-3693	-3075	7192	2.1365	0.8642	-5140	11445	3700	40441	26871	5448	32319		4.49	Si
SLV 8	10.6	-2962.13	-8060	-6711	7065	2.1365	2.1022	-11219	12660	7452	40441	26871	5448	32319		4.57	Si
SLV 13	8.8	-2634.79	-8617	-7176	-4334	2.1365	2.1365	-11994	12816	7667	40441	26871	5448	32319		7.46	Si
SLV 13	10.6	2153.82	-4114	-3426	-3749	2.1365	1.6341	-5726	11562	5290	40441	26871	5448	32319		8.62	Si
SLV 4	8.8	2380.85	-7485	-6233	6296	2.1365	2.1365	-10419	12500	7478	40441	26871	5448	32319		5.13	Si
SLV 4	10.6	-3428.33	-10061	-8378	5711	2.1365	2.1365	-14004	13218	7907	40441	26871	5448	32319		5.66	Si
SLV 7	8.8	2444.18	-3891	-3240	6283	2.1365	1.3202	-5416	11500	4251	40441	26871	5448	32319		5.14	Si
SLV 7	10.6	-2530.02	-7540	-6279	6157	2.1365	2.1365	-10496	12516	7487	40441	26871	5448	32319		5.25	Si
SLV 3	8.8	1732.02	-7779	-6478	4947	2.1365	2.1365	-10828	12582	7527	40441	26871	5448	32319		6.53	Si
SLV 3	10.6	-2786.54	-9290	-7736	4362	2.1365	2.1365	-12931	13003	7779	40441	26871	5448	32319		7.41	Si
SLD 4	8.8	1451.6	-7712	-6422	4342	2.1365	2.1365	-10735	12564	7516	40441	26871	5448	32319		7.44	Si
SLD 4	10.6	-2409.34	-8978	-7476	3963	2.1365	2.1365	-12498	12916	7727	40441	26871	5448	32319		8.16	Si
SLV 9	8.8	-3134.96	-12409	-10334	-5229	2.1365	2.1365	-17273	13871	8298	40441	26871	5448	32319		6.18	Si
SLV 9	10.6	1687.61	-6115	-5092	-5103	2.1365	2.1365	-8512	12119	7250	40441	26871	5448	32319		6.33	Si
SLD 8	8.8	1744.29	-5354	-4458	4858	2.1365	2.1365	-7452	11907	7123	40441	26871	5448	32319		6.65	Si
SLD 8	10.6	-2092.42	-7720	-6429	4774	2.1365	2.1365	-10746	12566	7517	40441	26871	5448	32319		6.77	Si
SLV 11	8.8	1556.35	-3324	-2768	4362	2.1365	1.8003	-4627	11342	5717	40441	26871	5448	32319		7.41	Si
SLV 11	10.6	-1318.46	-5975	-4975	4597	2.1365	2.1365	-8317	12080	7227	40441	26871	5448	32319		7.03	Si
SLV 12	8.8	1993.19	-3126	-2603	5270	2.1365	1.2921	-4352	11287	4084	40441	26871	5448	32319		6.13	Si
SLV 12	10.6	-1750.57	-6494	-5408	5505	2.1365	2.1365	-9040	12225	7313	40441	26871	5448	32319		5.87	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	8284	-4956	265.35	656.18	2.47	Si
SLV 11	179667	0.45	8595	-5142	265.35	679.38	2.56	Si
SLV 16	179667	0.45	8862	-5301	265.35	699.11	2.63	Si
SLV 12	179667	0.45	8984	-5375	265.35	708.19	2.67	Si
SLV 13	179667	0.45	10069	-6024	265.35	787.69	2.97	Si
SLV 7	179667	0.45	10566	-6321	265.35	823.72	3.1	Si
SLV 14	179667	0.45	10646	-6369	265.35	829.49	3.13	Si
SLV 8	179667	0.45	10955	-6554	265.35	851.69	3.21	Si
SLV 9	179667	0.45	14544	-8701	265.35	1102.12	4.15	Si
SLV 3	179667	0.45	14853	-8886	265.35	1123	4.23	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-7127	-9521	525	1.318	1030.2	0.923	20.74533	8.02002	Si
SLV 2	-7333	-11766	237	1.32	1051	0.924	20.75942	8.02002	Si
SLV 1	-6921	-11588	238	1.38	1009.6	0.922	21.75242	8.02002	Si
SLV 3	-6715	-9343	525	1.378	988.9	0.921	21.76161	8.02002	Si
SLV 14	-4744	-6377	-525	1.775	792.2	0.907	28.4373	8.02002	Si
SLV 16	-4538	-4133	-238	1.875	771.8	0.906	30.09322	8.02002	Si
SLV 13	-4332	-6200	-525	1.89	751.5	0.904	30.37757	8.02002	Si
SLV 15	-4126	-3955	-237	2	731.2	0.902	32.21696	8.02002	Si
SLV 6	-6600	-12470	-365	1.415	977.4	0.92	22.36078	5.35431	Si
SLV 5	-6323	-12350	-365	1.462	949.6	0.918	23.13674	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.267	SLU 39	Si
V_SLU	12.455	SLU 81	Si
PF_SLV	1.408	SLV 8	Si
V_SLV	4.494	SLV 8	Si
PFFP_SLV	2.473	SLV 15	Si
R_SLV	2.587	SLV 4	Si

Maschio 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L6	L7	2.285	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	9.9	-1182.4	-13303	-0.0000397	0.0003743	0.0035	2.285	12094.93	14299.65	14299.65	12.09	No	Si
SLU 75	10.7	-542.32	-10920	-0.0000295	0.0003743	0.0035	2.285	10384.52	12288.12	12288.12	22.66	No	Si
SLU 73	9.9	-1166.4	-12783	-0.0000383	0.0003743	0.0035	2.285	11738.49	13869.12	13869.12	11.89	No	Si
SLU 73	10.7	-507.34	-10439	-0.0000281	0.0003743	0.0035	2.285	10015.31	11874.83	11874.83	23.41	No	Si
SLU 65	9.9	-1092.17	-11872	-0.0000355	0.0003743	0.0035	2.285	11091.52	13118.3	13118.3	12.01	No	Si
SLU 65	10.7	-393.39	-9543	-0.0000252	0.0003743	0.0035	2.285	9305.91	11067.91	11067.91	28.13	No	Si
SLU 82	9.9	-1202.66	-13119	-0.0000394	0.0003743	0.0035	2.285	11969.89	14146.69	14146.69	11.76	No	Si
SLU 82	10.7	-568	-10782	-0.0000293	0.0003743	0.0035	2.285	10279.35	12168.97	12168.97	21.42	No	Si
SLU 83	9.9	-1189.82	-13259	-0.0000397	0.0003743	0.0035	2.285	12064.77	14262.55	14262.55	11.99	No	Si
SLU 83	10.7	-567.38	-10899	-0.0000296	0.0003743	0.0035	2.285	10368.54	12269.94	12269.94	21.63	No	Si
SLU 66	9.9	-1114.82	-12311	-0.0000367	0.0003743	0.0035	2.285	11406.9	13483.26	13483.26	12.09	No	Si
SLU 66	10.7	-446.11	-9963	-0.0000265	0.0003743	0.0035	2.285	9641.43	11453.76	11453.76	25.67	No	Si
SLU 81	9.9	-1209.33	-13038	-0.0000392	0.0003743	0.0035	2.285	11914.28	14079.33	14079.33	11.64	No	Si
SLU 81	10.7	-585.74	-10720	-0.0000293	0.0003743	0.0035	2.285	10232.19	12115.91	12115.91	20.68	No	Si
SLU 60	9.9	-1065.64	-11502	-0.0000344	0.0003743	0.0035	2.285	10820.33	12794.65	12794.65	12.01	No	Si
SLU 60	10.7	-451.54	-9272	-0.0000248	0.0003743	0.0035	2.285	9085.1	10819.83	10819.83	23.96	No	Si
SLU 64	9.9	-1103.27	-11736	-0.0000352	0.0003743	0.0035	2.285	10992.77	13000.9	13000.9	11.78	No	Si
SLU 64	10.7	-422.95	-9441	-0.0000251	0.0003743	0.0035	2.285	9222.77	10973.96	10973.96	25.95	No	Si
SLU 74	9.9	-1189.06	-13222	-0.0000396	0.0003743	0.0035	2.285	12039.84	14231.99	14231.99	11.97	No	Si
SLU 74	10.7	-560.06	-10858	-0.0000295	0.0003743	0.0035	2.285	10337.65	12234.88	12234.88	21.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	9.9	-220.18	-7688	-0.0000193	0.0005615	0.0035	2.285		9559.6	9559.6	43.42		Si
SLV 3	10.7	-2426.69	-6995	-0.0000313	0.0005615	0.0035	2.285		8866.92	8866.92	3.65		Si
SLV 15	9.9	-1622.83	-8121	-0.000029	0.0005615	0.0035	2.285		9995.93	9995.93	6.16		Si
SLV 15	10.7	1720.55	-5684	-0.0000237	0.0005615	0.0035	2.285		6485.04	6485.04	3.77		Si
SLV 8	9.9	-450.63	-4490	-0.0000132	0.0005615	0.0035	2.285		6272.08	6272.08	13.92		Si
SLV 8	10.7	-2247.81	-4369	-0.0000246	0.0005615	0.0035	2.285		6144.8	6144.8	2.73		Si
SLV 4	9.9	6.75	-7234	-0.0000169	0.0005615	0.0035	2.285		8079.72	8079.72	1196.25		Si
SLV 4	10.7	-3033.25	-6915	-0.0000351	0.0005615	0.0035	2.285		8787.96	8787.96	2.9		Si
SLV 7	9.9	-603.42	-4796	-0.0000148	0.0005615	0.0035	2.285		6589.19	6589.19	10.92		Si
SLV 7	10.7	-1839.44	-4423	-0.0000215	0.0005615	0.0035	2.285		6200.98	6200.98	3.37		Si
SLV 2	9.9	-53.77	-9780	-0.0000233	0.0005615	0.0035	2.285		11628.71	11628.71	216.26		Si
SLV 2	10.7	-2377.37	-8715	-0.0000352	0.0005615	0.0035	2.285		10594.47	10594.47	4.46		Si
SLD 4	9.9	-306.48	-7882	-0.0000203	0.0005615	0.0035	2.285		9754.86	9754.86	31.83		Si
SLD 4	10.7	-2050.24	-7037	-0.000029	0.0005615	0.0035	2.285		8908.82	8908.82	4.35		Si
SLV 14	9.9	-1456.42	-10213	-0.0000331	0.0005615	0.0035	2.285		12047.08	12047.08	8.27		Si
SLV 14	10.7	1769.87	-7405	-0.0000282	0.0005615	0.0035	2.285		8252.66	8252.66	4.66		Si
SLD 8	9.9	-593.65	-6179	-0.000018	0.0005615	0.0035	2.285		8030.5	8030.5	13.53		Si
SLD 8	10.7	-1533.8	-5445	-0.000022	0.0005615	0.0035	2.285		7262.79	7262.79	4.74		Si
SLV 13	9.9	-1683.35	-10667	-0.0000356	0.0005615	0.0035	2.285		12487.97	12487.97	7.42		Si
SLV 13	10.7	2376.43	-7484	-0.0000321	0.0005615	0.0035	2.285		8333.1	8333.1	3.51		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	9.9	-1072.66	-12093	-10070	-2333	2.285	2.285	-15739	9043	5786	40441	19158	5827	24985	No	10.71	Si
SLU 68	10.7	-375.02	-9722	-8096	-1808	2.285	2.285	-12653	8632	5522	40441	19158	5827	24985	No	13.82	Si
SLU 71	9.9	-1064.26	-12178	-10141	-2324	2.285	2.285	-15850	9058	5795	40441	19158	5827	24985	No	10.75	Si
SLU 71	10.7	-386.23	-9798	-8159	-1788	2.285	2.285	-12752	8645	5531	40441	19158	5827	24985	No	13.98	Si
SLU 72	9.9	-1057.6	-12259	-10209	-2368	2.285	2.285	-15956	9072	5804	40441	19158	5827	24985	No	10.55	Si
SLU 72	10.7	-368.49	-9860	-8210	-1815	2.285	2.285	-12832	8655	5538	40441	19158	5827	24985	No	13.77	Si
SLU 70	9.9	-1088.66	-12613	-10503	-2370	2.285	2.285	-16416	9133	5843	40441	19158	5827	24985	No	10.54	Si
SLU 70	10.7	-410.01	-10203	-8496	-1819	2.285	2.285	-13279	8715	5576	40441	19158	5827	24985	No	13.74	Si
SLU 69	9.9	-1095.32	-12532	-10435	-2325	2.285	2.285	-16310	9119	5834	40441	19158	5827	24985	No	10.75	Si
SLU 69	10.7	-427.75	-10141	-8445	-1792	2.285	2.285	-13199	8704	5569	40441	19158	5827	24985	No	13.94	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	9.9	-1146.9	-13004	-10828	-2301	2.285	2.285	-16925	9201	5887	40441	19158	5827	24985	No	10.86	Si
SLU 76	10.7	-488.98	-10618	-8842	-1812	2.285	2.285	-13819	8787	5622	40441	19158	5827	24985	No	13.79	Si
SLU 80	9.9	-1131.84	-13170	-10967	-2336	2.285	2.285	-17142	9230	5905	40441	19158	5827	24985	No	10.7	Si
SLU 80	10.7	-482.44	-10755	-8956	-1819	2.285	2.285	-13998	8811	5637	40441	19158	5827	24985	No	13.74	Si
SLU 78	9.9	-1162.9	-13524	-11262	-2337	2.285	2.285	-17602	9291	5945	40441	19158	5827	24985	No	10.69	Si
SLU 78	10.7	-523.96	-11099	-9242	-1823	2.285	2.285	-14445	8870	5675	40441	19158	5827	24985	No	13.71	Si
SLU 77	9.9	-1169.56	-13443	-11194	-2293	2.285	2.285	-17496	9277	5936	40441	19158	5827	24985	No	10.9	Si
SLU 77	10.7	-541.7	-11037	-9191	-1796	2.285	2.285	-14365	8860	5668	40441	19158	5827	24985	No	13.91	Si
SLU 67	9.9	-1108.16	-12392	-10319	-2305	2.285	2.285	-16129	9095	5819	40441	19158	5827	24985	No	10.84	Si
SLU 67	10.7	-428.37	-10024	-8347	-1794	2.285	2.285	-13047	8684	5556	40441	19158	5827	24985	No	13.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	9.9	-1225.97	-13411	-11167	-7167	2.285	2.285	-17455	13908	8898	40441	28738	5827	34564		4.82	Si
SLV 9	10.7	1590.99	-10030	-8352	-5127	2.285	2.285	-13054	13028	8335	40441	28738	5827	34564		6.74	Si
SLD 9	9.9	-1082.95	-11722	-9761	-5109	2.285	2.285	-15257	13468	8617	40441	28738	5827	34564		6.77	Si
SLD 9	10.7	876.98	-8954	-7456	-3703	2.285	2.285	-11654	12747	8156	40441	28738	5827	34564		9.33	Si
SLV 13	9.9	-1683.35	-10667	-8882	-8459	2.285	2.285	-13883	13193	8441	40441	28738	5827	34564		4.09	Si
SLV 13	10.7	2376.43	-7484	-6232	-6413	2.285	2.285	-9741	12365	7911	40441	28738	5827	34564		5.39	Si
SLV 4	9.9	6.75	-7234	-6024	5146	2.285	2.285	-9416	12300	7869	40441	28738	5827	34564		6.72	Si
SLV 4	10.7	-3033.25	-6915	-5758	3785	2.285	2.1116	-9779	12372	7315	40441	28738	5827	34564		9.13	Si
SLV 15	9.9	-1622.83	-8121	-6763	-6372	2.285	2.285	-10570	12531	8017	40441	28738	5827	34564		5.42	Si
SLV 15	10.7	1720.55	-5684	-4733	-5058	2.285	2.285	-7398	11896	7611	40441	28738	5827	34564		6.83	Si
SLD 14	9.9	-1225.13	-9729	-8101	-4927	2.285	2.285	-12662	12949	8285	40441	28738	5827	34564		7.02	Si
SLD 14	10.7	1005.89	-7312	-6089	-3763	2.285	2.285	-9517	12320	7882	40441	28738	5827	34564		9.19	Si
SLV 10	9.9	-1073.18	-13105	-10913	-6068	2.285	2.285	-17057	13828	8847	40441	28738	5827	34564		5.7	Si
SLV 10	10.7	1182.62	-9977	-8308	-4301	2.285	2.285	-12985	13014	8326	40441	28738	5827	34564		8.04	Si
SLD 13	9.9	-1370.12	-10019	-8343	-5970	2.285	2.285	-13040	13025	8333	40441	28738	5827	34564		5.79	Si
SLD 13	10.7	1393.42	-7363	-6131	-4547	2.285	2.285	-9583	12333	7891	40441	28738	5827	34564		7.6	Si
SLV 14	9.9	-1456.42	-10213	-8505	-6827	2.285	2.285	-13293	13075	8365	40441	28738	5827	34564		5.06	Si
SLV 14	10.7	1769.87	-7405	-6166	-5186	2.285	2.285	-9637	12344	7898	40441	28738	5827	34564		6.66	Si
SLV 16	9.9	-1395.9	-7668	-6385	-4740	2.285	2.285	-9979	12413	7942	40441	28738	5827	34564		7.29	Si
SLV 16	10.7	1113.99	-5604	-4667	-3832	2.285	2.285	-7294	11876	7598	40441	28738	5827	34564		9.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.45	6473	-4141	283.78	555.21	1.96	Si
SLV 11	179667	0.45	6638	-4247	283.78	568.71	2	Si
SLV 8	179667	0.45	7093	-4538	283.78	605.86	2.13	Si
SLV 7	179667	0.45	7258	-4644	283.78	619.24	2.18	Si
SLV 16	179667	0.45	9556	-6114	283.78	802.38	2.83	Si
SLV 15	179667	0.45	9801	-6271	283.78	821.53	2.89	Si
SLV 4	179667	0.45	11624	-7437	283.78	961.96	3.39	Si
SLV 3	179667	0.45	11869	-7594	283.78	980.53	3.46	Si
SLV 14	179667	0.45	12853	-8224	283.78	1054.4	3.72	Si
SLV 13	179667	0.45	13098	-8380	283.78	1072.61	3.78	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-6748	-10591	-341	1.47	1014.2	0.918	23.26322	8.02002	Si
SLV 2	-6663	-10598	-341	1.484	1005.6	0.918	23.49764	8.02002	Si
SLV 13	-6291	-7223	-111	1.576	968.4	0.915	25.01698	8.02002	Si
SLV 14	-6206	-7230	-112	1.591	959.9	0.915	25.28354	8.02002	Si
SLV 3	-5419	-8078	115	1.755	881.5	0.91	28.03765	8.02002	Si
SLV 4	-5333	-8085	114	1.775	873	0.909	28.37307	8.02002	Si
SLV 5	-8125	-12345	-793	1.232	1152.5	0.926	19.33509	5.35431	Si
SLV 6	-8068	-12350	-793	1.238	1146.7	0.925	19.44727	5.35431	Si
SLV 15	-4962	-4710	345	1.834	836.1	0.906	29.40419	8.02002	Si
SLV 9	-7988	-11335	-724	1.255	1138.7	0.925	19.71364	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.642	SLU 81	Si
V_SLU	10.544	SLU 70	Si
PF_SLV	2.734	SLV 8	Si
V_SLV	4.086	SLV 13	Si
PFFP_SLV	1.956	SLV 12	Si
R_SLV	2.901	SLV 1	Si

Maschio 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L6	L7	0.58	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	9.9	-38.99	-2738	-0.0000296	0.0003743	0.0035	0.58	662.56	768.9	768.9	19.72	No	Si
SLU 45	10.7	286.83	-2679	-0.0000542	0.0003743	0.0035	0.58	651.12	684.52	684.52	2.39	No	Si
SLU 44	9.9	-44.33	-2594	-0.0000287	0.0003743	0.0035	0.58	634.27	736.38	736.38	16.61	No	Si
SLU 44	10.7	280.95	-2549	-0.0000524	0.0003743	0.0035	0.58	625.34	656.19	656.19	2.34	No	Si
SLU 43	9.9	-44.79	-2587	-0.0000287	0.0003743	0.0035	0.58	632.77	734.67	734.67	16.4	No	Si
SLU 43	10.7	279.41	-2542	-0.0000521	0.0003743	0.0035	0.58	623.78	654.5	654.5	2.34	No	Si
SLU 46	9.9	-38.71	-2743	-0.0000296	0.0003743	0.0035	0.58	663.44	769.92	769.92	19.89	No	Si
SLU 46	10.7	287.75	-2684	-0.0000543	0.0003743	0.0035	0.58	652.03	685.54	685.54	2.38	No	Si
SLU 65	9.9	-42.1	-3014	-0.0000326	0.0003743	0.0035	0.58	714.69	829.07	829.07	19.69	No	Si
SLU 65	10.7	317.48	-2992	-0.0000607	0.0003743	0.0035	0.58	710.65	753.74	753.74	2.37	No	Si
SLU 47	9.9	-41.48	-2642	-0.0000289	0.0003743	0.0035	0.58	643.77	747.21	747.21	18.01	No	Si
SLU 47	10.7	282.17	-2590	-0.0000529	0.0003743	0.0035	0.58	633.44	664.99	664.99	2.36	No	Si
SLU 51	9.9	-38.83	-2687	-0.0000291	0.0003743	0.0035	0.58	652.59	757.35	757.35	19.51	No	Si
SLU 51	10.7	282.78	-2627	-0.0000533	0.0003743	0.0035	0.58	640.86	673.14	673.14	2.38	No	Si
SLU 68	9.9	-39.26	-3062	-0.0000328	0.0003743	0.0035	0.58	723.47	839.24	839.24	21.38	No	Si
SLU 68	10.7	318.7	-3032	-0.0000612	0.0003743	0.0035	0.58	718.12	762.83	762.83	2.39	No	Si
SLU 50	9.9	-39.1	-2682	-0.0000291	0.0003743	0.0035	0.58	651.7	756.32	756.32	19.34	No	Si
SLU 50	10.7	281.86	-2623	-0.0000531	0.0003743	0.0035	0.58	639.94	672.12	672.12	2.38	No	Si
SLU 64	9.9	-42.56	-3006	-0.0000326	0.0003743	0.0035	0.58	713.29	827.46	827.46	19.44	No	Si
SLU 64	10.7	315.94	-2984	-0.0000604	0.0003743	0.0035	0.58	709.21	752	752	2.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	9.9	-198.58	-1885	-0.0000365	0.0005615	0.0035	0.58		582.89	582.89	2.94		Si
SLV 10	10.7	475.04	-2292	-0.0001044	0.0005615	0.0035	0.58		637.6	637.6	1.34		Si
SLD 15	9.9	-282.01	-917	-0.0003393	0.0005615	0.0035	0.464		327.29	327.29	1.16		Si
SLD 15	10.7	478.5	-1755	-0.0005098	0.0005615	0.0035	0.464		500.37	500.37	1.05		Si
SLV 14	9.9	-371.04	-557	-0.0019075	0.0005615	0.0035	0.464		228.03	228.03	0.61		No
SLV 14	10.7	599.31	-1681	-0.0111602	0.0005615	0.0035	0.464		481.28	481.28	0.8		No
SLD 16	9.9	-213.69	-1183	-0.0000387	0.0005615	0.0035	0.464		398.69	398.69	1.87		Si
SLD 16	10.7	406.06	-1827	-0.0001014	0.0005615	0.0035	0.58		518.89	518.89	1.28		Si
SLV 9	9.9	-270.57	-1604	-0.0000476	0.0005615	0.0035	0.464		510.1	510.1	1.89		Si
SLV 9	10.7	551.37	-2217	-0.0002228	0.0005615	0.0035	0.58		618.44	618.44	1.12		Si
SLD 13	9.9	-316.71	-928	-0.0005624	0.0005615	0.0035	0.464		330.21	330.21	1.04		Si
SLD 13	10.7	539.73	-1822	-0.0045004	0.0005615	0.0035	0.464		517.59	517.59	0.96		No
SLV 16	9.9	-314.59	-541	-0.0013187	0.0005615	0.0035	0.464		223.61	223.61	0.71		No
SLV 16	10.7	500.92	-1574	-0.0061047	0.0005615	0.0035	0.464		453.04	453.04	0.9		No
SLV 13	9.9	-477.96	-140	-0.005465	0.0005615	0.0035	0.464		111.13	111.13	0.23		No
SLV 13	10.7	712.69	-1569	-0.0211518	0.0005615	0.0035	0.464		451.78	451.78	0.63		No
SLD 14	9.9	-248.4	-1194	-0.0000525	0.0005615	0.0035	0.464		401.53	401.53	1.62		Si
SLD 14	10.7	467.29	-1894	-0.0001745	0.0005615	0.0035	0.58		536.12	536.12	1.15		Si
SLV 15	9.9	-421.52	-124	-0.0045811	0.0005615	0.0035	0.464		106.62	106.62	0.25		No
SLV 15	10.7	614.3	-1461	-0.0161843	0.0005615	0.0035	0.464		423.55	423.55	0.69		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	9.9	-42.56	-3006	-2503	-392	0.58	0.58	-15415	9000	1462	40441	4863	1479	6342	No	16.17	Si
SLU 64	10.7	315.94	-2984	-2485	-274	0.58	0.5524	-15301	8985	1390	40441	4863	1479	6342	No	23.12	Si
SLU 72	9.9	-36.6	-3107	-2587	-380	0.58	0.58	-15929	9068	1473	40441	4863	1479	6342	No	16.71	Si
SLU 72	10.7	319.32	-3070	-2556	-278	0.58	0.558	-15741	9043	1413	40441	4863	1479	6342	No	22.84	Si
SLU 68	9.9	-39.26	-3062	-2549	-386	0.58	0.58	-15699	9038	1468	40441	4863	1479	6342	No	16.41	Si
SLU 68	10.7	318.7	-3032	-2525	-278	0.58	0.5547	-15549	9018	1401	40441	4863	1479	6342	No	22.83	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	9.9	-44.33	-2594	-2160	-369	0.58	0.58	-13302	8718	1416	40441	4863	1479	6342	No	17.18	Si
SLU 44	10.7	280.95	-2549	-2123	-250	0.58	0.5394	-13072	8687	1312	40441	4863	1479	6342	No	25.32	Si
SLU 71	9.9	-36.88	-3102	-2583	-379	0.58	0.58	-15906	9065	1472	40441	4863	1479	6342	No	16.73	Si
SLU 71	10.7	318.39	-3065	-2552	-276	0.58	0.5584	-15717	9040	1413	40441	4863	1479	6342	No	22.96	Si
SLU 66	9.9	-36.76	-3158	-2629	-383	0.58	0.58	-16191	9103	1478	40441	4863	1479	6342	No	16.54	Si
SLU 66	10.7	323.36	-3122	-2600	-278	0.58	0.5593	-16008	9079	1422	40441	4863	1479	6342	No	22.78	Si
SLU 65	9.9	-42.1	-3014	-2510	-393	0.58	0.58	-15453	9005	1462	40441	4863	1479	6342	No	16.14	Si
SLU 65	10.7	317.48	-2992	-2491	-277	0.58	0.5517	-15341	8990	1389	40441	4863	1479	6342	No	22.91	Si
SLU 70	9.9	-33.64	-3210	-2673	-377	0.58	0.58	-16460	9139	1484	40441	4863	1479	6342	No	16.8	Si
SLU 70	10.7	325.5	-3167	-2637	-281	0.58	0.5617	-16240	9110	1433	40441	4863	1479	6342	No	22.58	Si
SLU 67	9.9	-36.48	-3162	-2633	-384	0.58	0.58	-16215	9106	1479	40441	4863	1479	6342	No	16.52	Si
SLU 67	10.7	324.28	-3127	-2604	-280	0.58	0.5589	-16032	9082	1421	40441	4863	1479	6342	No	22.65	Si
SLU 69	9.9	-33.92	-3206	-2669	-377	0.58	0.58	-16437	9136	1484	40441	4863	1479	6342	No	16.83	Si
SLU 69	10.7	324.58	-3162	-2633	-279	0.58	0.5621	-16216	9107	1433	40441	4863	1479	6342	No	22.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	9.9	-314.59	-541	-450	-1417	0.464	0	0	0	0	40441	5836	1183	7019		4.95	Si
SLV 16	10.7	500.92	-1574	-1311	-507	0.464	0	0	0	0	40441	5836	1183	7019		13.84	Si
SLV 15	9.9	-421.52	-124	-103	-1839	0.464	0	0	0	0	40441	5836	1183	7019		3.82	Si
SLV 15	10.7	614.3	-1461	-1217	-640	0.464	0	0	0	0	40441	5836	1183	7019		10.97	Si
SLD 13	9.9	-316.71	-928	-772	-1461	0.464	0	0	0	0	40441	5836	1183	7019		4.8	Si
SLD 13	10.7	539.73	-1822	-1517	-543	0.464	0	0	0	0	40441	5836	1183	7019		12.92	Si
SLV 13	9.9	-477.96	-140	-116	-2131	0.464	0	0	0	0	40441	5836	1183	7019		3.29	Si
SLV 13	10.7	712.69	-1569	-1307	-738	0.464	0	0	0	0	40441	5836	1183	7019		9.51	Si
SLD 15	9.9	-282.01	-917	-763	-1280	0.464	0	0	0	0	40441	5836	1183	7019		5.48	Si
SLD 15	10.7	478.5	-1755	-1461	-483	0.464	0.0521	0	0	0	40441	5836	1183	7019		14.53	Si
SLD 14	9.9	-248.4	-1194	-994	-1192	0.464	0.2458	0	0	0	40441	5836	1183	7019		5.89	Si
SLD 14	10.7	467.29	-1894	-1577	-458	0.58	0.1297	-44487	16250	1202	40441	7294	1479	8773		19.14	Si
SLV 14	9.9	-371.04	-557	-463	-1708	0.464	0	0	0	0	40441	5836	1183	7019		4.11	Si
SLV 14	10.7	599.31	-1681	-1400	-606	0.464	0	0	0	0	40441	5836	1183	7019		11.59	Si
SLD 16	9.9	-213.69	-1183	-985	-1010	0.464	0.3282	0	0	0	40441	5836	1183	7019		6.95	Si
SLD 16	10.7	406.06	-1827	-1521	-398	0.58	0.2032	-9367	12290	1187	40441	7294	1479	8773		22.03	Si
SLV 4	9.9	416.17	-4478	-3729	1553	0.58	0.58	-22961	15009	2437	40441	7294	1479	8773		5.65	Si
SLV 4	10.7	-235.03	-3013	-2509	317	0.58	0.58	-15449	13506	2193	40441	7294	1479	8773		27.65	Si
SLV 9	9.9	-270.57	-1604	-1336	-1363	0.464	0.3641	0	0	0	40441	5836	1183	7019		5.15	Si
SLV 9	10.7	551.37	-2217	-1846	-543	0.58	0.1237	-54980	16250	1274	40441	7294	1479	8773		16.16	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	5380	-874	72.03	118.02	1.64	Si
SLV 16	179667	0.45	6308	-1024	72.03	137.5	1.91	Si
SLV 13	179667	0.45	6790	-1103	72.03	147.51	2.05	Si
SLV 11	179667	0.45	7703	-1251	72.03	166.3	2.31	Si
SLV 14	179667	0.45	7718	-1253	72.03	166.61	2.31	Si
SLV 12	179667	0.45	8328	-1352	72.03	179.01	2.49	Si
SLV 7	179667	0.45	10973	-1782	72.03	231.56	3.21	Si
SLV 8	179667	0.45	11598	-1884	72.03	243.67	3.38	Si
SLV 9	179667	0.45	12401	-2014	72.03	259.06	3.6	Si
SLV 10	179667	0.45	13026	-2115	72.03	270.9	3.76	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-1979	-2590	-51	1.332	284.1	0.924	20.94637	8.02002	Si
SLV 1	-1872	-2660	-50	1.39	273.4	0.922	21.91145	8.02002	Si
SLV 4	-1876	-1826	-25	1.398	273.7	0.922	22.04431	8.02002	Si
SLV 3	-1769	-1896	-24	1.462	263	0.919	23.10757	8.02002	Si
SLV 6	-1641	-3346	-61	1.529	250.2	0.916	24.24935	5.35431	Si
SLV 5	-1569	-3393	-61	1.58	243	0.915	25.11387	5.35431	Si
SLV 14	-718	-2169	4	2.686	159.6	0.891	43.78955	8.02002	Si
SLV 8	-1296	-798	24	1.832	215.9	0.907	29.3472	5.35431	Si
SLV 10	-1263	-3219	-45	1.854	212.6	0.906	29.7312	5.35431	Si
SLV 7	-1225	-846	24	1.906	208.8	0.905	30.59279	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.336	SLU 44	Si
V_SLU	16.138	SLU 65	Si
PF_SLV	0.233	SLV 13	No
V_SLV	3.294	SLV 13	Si
PFFP_SLV	1.638	SLV 15	Si
R_SLV	2.612	SLV 2	Si

Maschio 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L6	L7	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	7.9	-3753.47	-18098	-0.0000437	0.0004492	0.0035	4.6702	32686.29	49937.54	49937.54	13.3	No	Si
SLU 44	11.45	-353.07	-10246	-0.00002	0.0004492	0.0035	4.6702	20856.05	34553.43	34553.43	97.87	No	Si
SLU 60	7.9	-4107.53	-20565	-0.0000495	0.0004492	0.0035	4.6702	35659.63	54462.53	54462.53	13.26	No	Si
SLU 60	11.45	-445.32	-11418	-0.0000224	0.0004492	0.0035	4.6702	22851.02	36921.08	36921.08	82.91	No	Si
SLU 65	7.9	-4094.93	-20818	-0.00005	0.0004492	0.0035	4.6702	35943.57	54917.9	54917.9	13.41	No	Si
SLU 65	11.45	-475.28	-11854	-0.0000233	0.0004492	0.0035	4.6702	23571.99	37801.03	37801.03	79.53	No	Si
SLU 61	7.9	-4162.27	-20485	-0.0000495	0.0004492	0.0035	4.6702	35568.39	54317.46	54317.46	13.05	No	Si
SLU 61	11.45	-405.98	-11389	-0.0000223	0.0004492	0.0035	4.6702	22803.04	36862.99	36862.99	90.8	No	Si
SLU 55	7.9	-3997.05	-20493	-0.0000491	0.0004492	0.0035	4.6702	35578.13	54332.92	54332.92	13.59	No	Si
SLU 55	11.45	-309.75	-11781	-0.0000228	0.0004492	0.0035	4.6702	23452.07	37653.73	37653.73	121.56	No	Si
SLU 81	7.9	-4448.98	-23285	-0.0000559	0.0004492	0.0035	4.6702	38524.58	59371.77	59371.77	13.35	No	Si
SLU 81	11.45	-567.53	-13026	-0.0000258	0.0004492	0.0035	4.6702	25456.78	40168.68	40168.68	70.78	No	Si
SLU 73	7.9	-4406.64	-22451	-0.0000541	0.0004492	0.0035	4.6702	37692.02	57866.37	57866.37	13.13	No	Si
SLU 73	11.45	-493.96	-12641	-0.0000249	0.0004492	0.0035	4.6702	24846.26	39390.61	39390.61	79.74	No	Si
SLU 82	7.9	-4503.73	-23205	-0.0000559	0.0004492	0.0035	4.6702	38446.13	59226.71	59226.71	13.15	No	Si
SLU 82	11.45	-528.19	-12997	-0.0000257	0.0004492	0.0035	4.6702	25411.5	40110.59	40110.59	75.94	No	Si
SLU 52	7.9	-4065.18	-19731	-0.0000478	0.0004492	0.0035	4.6702	34694.46	52957.12	52957.12	13.03	No	Si
SLU 52	11.45	-371.75	-11033	-0.0000215	0.0004492	0.0035	4.6702	22204.29	36143.02	36143.02	97.22	No	Si
SLU 54	7.9	-4043.37	-20836	-0.0000499	0.0004492	0.0035	4.6702	35964.12	54951.08	54951.08	13.59	No	Si
SLU 54	11.45	-438.62	-12035	-0.0000236	0.0004492	0.0035	4.6702	23868.99	38167.52	38167.52	87.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	7.9	-9151.37	-8827	-0.0000396	0.0006738	0.0035	4.6702		31876.29	31876.29	3.48		Si
SLV 9	11.45	1941.7	-5914	-0.0000156	0.0006738	0.0035	4.6702		15530.6	15530.6	8		Si
SLD 10	7.9	-7007.56	-11468	-0.0000383	0.0006738	0.0035	4.6702		37335.04	37335.04	5.33		Si
SLD 10	11.45	842.35	-6969	-0.0000149	0.0006738	0.0035	4.6702		17821.39	17821.39	21.16		Si
SLD 6	7.9	-6686.32	-12751	-0.00004	0.0006738	0.0035	4.6702		39989.12	39989.12	5.98		Si
SLD 6	11.45	1133.62	-8076	-0.0000177	0.0006738	0.0035	4.6702		20215.14	20215.14	17.83		Si
SLV 13	7.9	-5541.37	-10844	-0.0000336	0.0006738	0.0035	4.6702		36044.79	36044.79	6.5		Si
SLV 13	11.45	-182.96	-5568	-0.0000107	0.0006738	0.0035	4.6702		24892.43	24892.43	136.05		Si
SLV 10	7.9	-9401.01	-8760	-0.0000405	0.0006738	0.0035	4.6702		31734.8	31734.8	3.38		Si
SLV 10	11.45	1598.8	-5749	-0.0000144	0.0006738	0.0035	4.6702		15169.09	15169.09	9.49		Si
SLV 14	7.9	-5912.16	-10743	-0.0000343	0.0006738	0.0035	4.6702		35837.47	35837.47	6.06		Si
SLV 14	11.45	-692.27	-5323	-0.0000115	0.0006738	0.0035	4.6702		24363.13	24363.13	35.19		Si
SLV 6	7.9	-8887.86	-10761	-0.0000416	0.0006738	0.0035	4.6702		35873.21	35873.21	4.04		Si
SLV 6	11.45	2055.41	-7478	-0.0000188	0.0006738	0.0035	4.6702		18925.21	18925.21	9.21		Si
SLV 5	7.9	-8638.22	-10828	-0.0000411	0.0006738	0.0035	4.6702		36012.79	36012.79	4.17		Si
SLV 5	11.45	2398.31	-7643	-0.0000199	0.0006738	0.0035	4.6702		19283.35	19283.35	8.04		Si
SLD 5	7.9	-6529.28	-12794	-0.0000397	0.0006738	0.0035	4.6702		40076.93	40076.93	6.14		Si
SLD 5	11.45	1349.33	-8180	-0.0000184	0.0006738	0.0035	4.6702		20437.03	20437.03	15.15		Si
SLD 9	7.9	-6850.51	-11510	-0.000038	0.0006738	0.0035	4.6702		37422.85	37422.85	5.46		Si
SLD 9	11.45	1058.06	-7073	-0.0000156	0.0006738	0.0035	4.6702		18046.69	18046.69	17.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	7.9	-3685.35	-18860	-10457	-2323	4.6702	4.6702	-15994	10466	7960	115546	23497	23818	47314	No	20.37	Si
SLU 47	11.45	-291.07	-10994	-6095	-1068	4.6702	4.6702	-9323	9576	6261	115546	23497	23818	47314	No	44.3	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	7.9	-3731.66	-19202	-10647	-2206	4.6702	4.6702	-16284	10505	8036	115546	23497	23818	47314	No	21.44	Si
SLU 46	11.45	-419.94	-11248	-6236	-929	4.6702	4.6702	-9539	9605	6280	115546	23497	23818	47314	No	50.95	Si
SLU 50	7.9	-3525.98	-19756	-10954	-2153	4.6702	4.6702	-16754	10567	8158	115546	23497	23818	47314	No	21.98	Si
SLU 50	11.45	-294.63	-11789	-6537	-815	4.6702	4.6702	-9998	9666	6392	115546	23497	23818	47314	No	58.03	Si
SLU 44	7.9	-3753.47	-18098	-10034	-2274	4.6702	4.6702	-15347	10380	7791	115546	23497	23818	47314	No	20.8	Si
SLU 44	11.45	-353.07	-10246	-5681	-1090	4.6702	4.6702	-8689	9492	6206	115546	23497	23818	47314	No	43.4	Si
SLU 49	7.9	-3663.53	-19965	-11070	-2255	4.6702	4.6702	-16931	10591	8205	115546	23497	23818	47314	No	20.99	Si
SLU 49	11.45	-357.94	-11996	-6651	-906	4.6702	4.6702	-10173	9690	6437	115546	23497	23818	47314	No	52.2	Si
SLU 43	7.9	-3662.23	-18232	-10109	-2057	4.6702	4.6702	-15461	10395	7820	115546	23497	23818	47314	No	23	Si
SLU 43	11.45	-418.63	-10294	-5707	-860	4.6702	4.6702	-8729	9497	6209	115546	23497	23818	47314	No	55.02	Si
SLU 45	7.9	-3676.91	-19283	-10691	-2076	4.6702	4.6702	-16352	10514	8053	115546	23497	23818	47314	No	22.79	Si
SLU 45	11.45	-459.29	-11277	-6252	-791	4.6702	4.6702	-9563	9608	6282	115546	23497	23818	47314	No	59.85	Si
SLU 48	7.9	-3608.79	-20045	-11114	-2124	4.6702	4.6702	-16999	10600	8222	115546	23497	23818	47314	No	22.28	Si
SLU 48	11.45	-397.28	-12025	-6667	-768	4.6702	4.6702	-10197	9693	6444	115546	23497	23818	47314	No	61.59	Si
SLU 51	7.9	-3580.72	-19676	-10909	-2284	4.6702	4.6702	-16686	10558	8141	115546	23497	23818	47314	No	20.72	Si
SLU 51	11.45	-255.29	-11761	-6521	-954	4.6702	4.6702	-9973	9663	6385	115546	23497	23818	47314	No	49.62	Si
SLU 55	7.9	-3997.05	-20493	-11363	-2063	4.6702	4.6702	-17379	10651	8322	115546	23497	23818	47314	No	22.93	Si
SLU 55	11.45	-309.75	-11781	-6532	-742	4.6702	4.6702	-9990	9665	6390	115546	23497	23818	47314	No	63.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	7.9	2450.67	-21143	-11723	10186	4.6702	4.6702	-17930	16086	10517	115546	35245	23818	59063		5.8	Si
SLV 12	11.45	-3187.34	-10410	-5772	10844	4.6702	4.6702	-8828	14266	9327	115546	35245	23818	59063		5.45	Si
SLD 5	7.9	-6529.28	-12794	-7094	-8541	4.6702	4.6702	-10850	14670	9591	115546	35245	23818	59063		6.92	Si
SLD 5	11.45	1349.33	-8180	-4535	-7270	4.6702	4.6702	-6937	13887	9080	115546	35245	23818	59063		8.12	Si
SLV 6	7.9	-8887.86	-10761	-5966	-12736	4.6702	4.5273	-9454	14391	9121	115546	35245	23818	59063		4.64	Si
SLV 6	11.45	2055.41	-7478	-4146	-11273	4.6702	4.6702	-6341	13768	9002	115546	35245	23818	59063		5.24	Si
SLD 9	7.9	-6850.51	-11510	-6382	-8449	4.6702	4.6702	-9761	14452	9449	115546	35245	23818	59063		6.99	Si
SLD 9	11.45	1058.06	-7073	-3922	-7067	4.6702	4.6702	-5998	13700	8957	115546	35245	23818	59063		8.36	Si
SLV 10	7.9	-9401.01	-8760	-4857	-12591	4.6702	3.7857	-9200	14340	7608	115546	35245	23818	59063		4.69	Si
SLV 10	11.45	1598.8	-5749	-3187	-10955	4.6702	4.6702	-4875	13475	8810	115546	35245	23818	59063		5.39	Si
SLV 8	7.9	2963.82	-23144	-12832	10042	4.6702	4.6702	-19626	16250	10798	115546	35245	23818	59063		5.88	Si
SLV 8	11.45	-2730.72	-12139	-6731	10526	4.6702	4.6702	-10294	14559	9519	115546	35245	23818	59063		5.61	Si
SLV 5	7.9	-8638.22	-10828	-6004	-12905	4.6702	4.612	-9183	14337	9257	115546	35245	23818	59063		4.58	Si
SLV 5	11.45	2398.31	-7643	-4237	-11509	4.6702	4.6702	-6481	13796	9020	115546	35245	23818	59063		5.13	Si
SLV 7	7.9	3213.46	-23211	-12870	9873	4.6702	4.6702	-19684	16250	10813	115546	35245	23818	59063		5.98	Si
SLV 7	11.45	-2387.82	-12304	-6822	10290	4.6702	4.6702	-10434	14587	9537	115546	35245	23818	59063		5.74	Si
SLV 11	7.9	2700.31	-21210	-11760	10017	4.6702	4.6702	-17987	16097	10525	115546	35245	23818	59063		5.9	Si
SLV 11	11.45	-2844.44	-10575	-5864	10609	4.6702	4.6702	-8968	14294	9345	115546	35245	23818	59063		5.57	Si
SLV 9	7.9	-9151.37	-8827	-4894	-12760	4.6702	3.8951	-9011	14302	7799	115546	35245	23818	59063		4.63	Si
SLV 9	11.45	1941.7	-5914	-3279	-11190	4.6702	4.6702	-5015	13503	8829	115546	35245	23818	59063		5.28	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-6467	0.45	315.61	428.27	857.89	643.08	2.04	Si
SLV 9	-6593	0.45	315.61	436.09	868.73	652.41	2.07	Si
SLV 14	-7240	0.45	315.61	476.2	924.78	700.49	2.22	Si
SLV 13	-7426	0.45	315.61	487.63	940.89	714.26	2.26	Si
SLV 6	-8822	0.45	315.61	572.07	1060.64	816.36	2.59	Si
SLV 5	-8947	0.45	315.61	579.54	1071.37	825.46	2.62	Si
SLV 16	-10284	0.45	315.61	658.08	1185.52	921.8	2.92	Si
SLV 15	-10470	0.45	315.61	668.85	1201.4	935.13	2.96	Si
SLV 2	-15089	0.45	315.61	923.24	1588.53	1255.89	3.98	Si
SLV 1	-15275	0.45	315.61	932.97	1603.85	1268.41	4.02	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-12730	-21228	-347	1.769	1625.1	0.943	27.27077	17.06971	Si
SLV 4	-12485	-21127	-347	1.799	1600.3	0.942	27.74642	17.06971	Si
SLV 1	-11331	-17513	-376	1.949	1483.5	0.938	30.19374	17.06971	Si
SLV 2	-11086	-17413	-376	1.985	1458.7	0.937	30.77834	17.06971	Si
SLV 15	-6967	-14559	376	2.88	1043.5	0.918	45.56262	17.06971	Si
SLV 16	-6722	-14458	376	2.959	1018.9	0.917	46.89468	17.06971	Si
SLV 13	-5568	-10844	347	3.406	903.8	0.91	54.40493	17.06971	Si
SLV 14	-5323	-10743	347	3.518	879.5	0.908	56.29597	17.06971	Si
SLV 7	-12304	-23211	-60	1.841	1582	0.942	28.41526	7.95304	Si
SLV 8	-12139	-23144	-60	1.862	1565.3	0.941	28.75737	7.95304	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.027	SLU 52	Si
V_SLU	20.372	SLU 47	Si
PF_SLV	3.376	SLV 10	Si
V_SLV	4.577	SLV 5	Si
PFFP_SLV	2.038	SLV 10	Si
R_SLV	1.598	SLV 3	Si

Maschio 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.811	-19.618	6.521	L6	L7	0.71	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	7.9	366.35	-3535	-0.0000518	0.0003743	0.0035	0.71	1035.81	1096.16	1096.16	2.99	No	Si
SLU 39	11.45	164.3	-3524	-0.000038	0.0003743	0.0035	0.71	1033.1	1093.06	1093.06	6.65	No	Si
SLU 82	7.9	434.4	-4188	-0.0000621	0.0003743	0.0035	0.71	1179.17	1272.22	1272.22	2.93	No	Si
SLU 82	11.45	200.13	-4156	-0.0000458	0.0003743	0.0035	0.71	1172.5	1263.45	1263.45	6.31	No	Si
SLU 61	7.9	388.98	-3705	-0.0000548	0.0003743	0.0035	0.71	1074.46	1141.2	1141.2	2.93	No	Si
SLU 61	11.45	181.19	-3644	-0.0000402	0.0003743	0.0035	0.71	1060.62	1124.88	1124.88	6.21	No	Si
SLU 60	7.9	395.42	-3754	-0.0000556	0.0003743	0.0035	0.71	1085.43	1154.29	1154.29	2.92	No	Si
SLU 60	11.45	178.79	-3634	-0.0000399	0.0003743	0.0035	0.71	1058.41	1122.29	1122.29	6.28	No	Si
SLU 43	7.9	374.71	-3594	-0.0000529	0.0003743	0.0035	0.71	1049.39	1111.8	1111.8	2.97	No	Si
SLU 43	11.45	166.51	-3286	-0.0000362	0.0003743	0.0035	0.71	977.13	1030.79	1030.79	6.19	No	Si
SLU 64	7.9	420.14	-4078	-0.0000602	0.0003743	0.0035	0.71	1155.98	1241.98	1241.98	2.96	No	Si
SLU 64	11.45	185.46	-3799	-0.0000418	0.0003743	0.0035	0.71	1095.45	1166.38	1166.38	6.29	No	Si
SLU 81	7.9	440.85	-4237	-0.000063	0.0003743	0.0035	0.71	1189.31	1285.68	1285.68	2.92	No	Si
SLU 81	11.45	197.73	-4147	-0.0000455	0.0003743	0.0035	0.71	1170.47	1260.79	1260.79	6.38	No	Si
SLU 52	7.9	378.47	-3624	-0.0000534	0.0003743	0.0035	0.71	1056.25	1119.77	1119.77	2.96	No	Si
SLU 52	11.45	179.1	-3546	-0.0000392	0.0003743	0.0035	0.71	1038.21	1098.9	1098.9	6.14	No	Si
SLU 73	7.9	423.89	-4108	-0.0000607	0.0003743	0.0035	0.71	1162.33	1250.18	1250.18	2.95	No	Si
SLU 73	11.45	198.04	-4058	-0.0000448	0.0003743	0.0035	0.71	1151.86	1236.68	1236.68	6.24	No	Si
SLU 65	7.9	409.4	-3996	-0.0000587	0.0003743	0.0035	0.71	1138.58	1219.77	1219.77	2.98	No	Si
SLU 65	11.45	189.45	-3815	-0.0000422	0.0003743	0.0035	0.71	1099.04	1170.73	1170.73	6.18	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	7.9	-439.86	1707	0.421776	0.0005615	0.0035	0.568		0	0	0		No
SLV 5	11.45	245.13	-3329	-0.0000411	0.0005615	0.0035	0.71		1113.15	1113.15	4.54		Si
SLD 10	7.9	0.81	138	0.0331848	0.0005615	0.0035	0.568		0	0	0		No
SLD 10	11.45	197.9	-2632	-0.0000325	0.0005615	0.0035	0.71		902.62	902.62	4.56		Si
SLD 6	7.9	-112.13	-38	-0.0003352	0.0005615	0.0035	0.568		141.59	141.59	1.26		Si
SLD 6	11.45	201.05	-3034	-0.0000359	0.0005615	0.0035	0.71		1025.76	1025.76	5.1		Si
SLV 6	7.9	-374.66	1816	0.4469651	0.0005615	0.0035	0.568		0	0	0		No
SLV 6	11.45	238.39	-3117	-0.000039	0.0005615	0.0035	0.71		1050.84	1050.84	4.41		Si
SLD 5	7.9	-153.15	-106	-0.0003839	0.0005615	0.0035	0.568		165.41	165.41	1.08		Si
SLD 5	11.45	205.29	-3167	-0.0000372	0.0005615	0.0035	0.71		1066.04	1066.04	5.19		Si
SLV 10	7.9	-197.66	2093	0	0.0005615	0.0035	0.568		0	0	0		No
SLV 10	11.45	233.53	-2488	-0.0000337	0.0005615	0.0035	0.71		858.19	858.19	3.67		Si
SLD 9	7.9	-40.21	70	0.0174961	0.0005615	0.0035	0.568		0	0	0		No
SLD 9	11.45	202.13	-2765	-0.0000338	0.0005615	0.0035	0.71		943.91	943.91	4.67		Si
SLV 9	7.9	-262.86	1984	0.4855557	0.0005615	0.0035	0.568		0	0	0		No
SLV 9	11.45	240.27	-2700	-0.0000358	0.0005615	0.0035	0.71		923.89	923.89	3.85		Si
SLV 13	7.9	373.08	-1192	-0.0001063	0.0005615	0.0035	0.71		440	440	1.18		Si
SLV 13	11.45	167.37	-1997	-0.0000256	0.0005615	0.0035	0.71		702.74	702.74	4.2		Si
SLV 14	7.9	469.94	-1031	-0.0053763	0.0005615	0.0035	0.568		386.04	386.04	0.82		No
SLV 14	11.45	157.36	-1682	-0.0000225	0.0005615	0.0035	0.71		601.15	601.15	3.82		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	7.9	455.54	-4531	-3773	828	0.71	0.71	-18980	9475	1884	40441	5953	1811	7763	No	9.38	Si
SLU 74	11.45	208.86	-4402	-3666	-703	0.71	0.71	-18440	9403	1869	40441	5953	1811	7763	No	11.05	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	7.9	458.34	-4735	-3943	835	0.71	0.71	-19835	9589	1906	40441	5953	1811	7763	No	9.3	Si
SLU 80	11.45	223.51	-4682	-3899	-740	0.71	0.71	-19613	9559	1900	40441	5953	1811	7763	No	10.49	Si
SLU 69	7.9	456.12	-4717	-3928	833	0.71	0.71	-19759	9579	1904	40441	5953	1811	7763	No	9.32	Si
SLU 69	11.45	213.8	-4474	-3726	-701	0.71	0.71	-18741	9443	1877	40441	5953	1811	7763	No	11.08	Si
SLU 84	7.9	449.48	-4486	-3735	813	0.71	0.71	-18789	9450	1879	40441	5953	1811	7763	No	9.55	Si
SLU 84	11.45	213.66	-4472	-3723	-721	0.71	0.71	-18730	9442	1877	40441	5953	1811	7763	No	10.77	Si
SLU 77	7.9	470.61	-4829	-4021	862	0.71	0.71	-20226	9641	1917	40441	5953	1811	7763	No	9	Si
SLU 77	11.45	222.39	-4718	-3928	-739	0.71	0.71	-19761	9579	1904	40441	5953	1811	7763	No	10.51	Si
SLU 70	7.9	449.67	-4668	-3887	817	0.71	0.71	-19554	9552	1899	40441	5953	1811	7763	No	9.5	Si
SLU 70	11.45	216.19	-4484	-3734	-708	0.71	0.71	-18781	9449	1878	40441	5953	1811	7763	No	10.96	Si
SLU 71	7.9	450.29	-4673	-3891	820	0.71	0.71	-19573	9554	1899	40441	5953	1811	7763	No	9.46	Si
SLU 71	11.45	212.52	-4429	-3688	-695	0.71	0.71	-18552	9418	1872	40441	5953	1811	7763	No	11.18	Si
SLU 83	7.9	455.92	-4535	-3776	828	0.71	0.71	-18994	9477	1884	40441	5953	1811	7763	No	9.38	Si
SLU 83	11.45	211.27	-4462	-3715	-713	0.71	0.71	-18689	9436	1876	40441	5953	1811	7763	No	10.89	Si
SLU 78	7.9	464.17	-4780	-3980	847	0.71	0.71	-20021	9614	1911	40441	5953	1811	7763	No	9.17	Si
SLU 78	11.45	224.79	-4727	-3936	-746	0.71	0.71	-19801	9585	1905	40441	5953	1811	7763	No	10.4	Si
SLU 79	7.9	464.78	-4784	-3984	850	0.71	0.71	-20040	9616	1912	40441	5953	1811	7763	No	9.13	Si
SLU 79	11.45	221.11	-4673	-3891	-733	0.71	0.71	-19572	9554	1899	40441	5953	1811	7763	No	10.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	7.9	633.87	-6263	-5215	1371	0.71	0.71	-26233	15663	3114	40441	8929	1811	10740		7.83	Si
SLD 7	11.45	84.01	-3126	-2603	-240	0.71	0.71	-13095	13036	2591	40441	8929	1811	10740		44.74	Si
SLD 12	7.9	787.84	-6018	-5012	1568	0.71	0.6723	-25209	15459	2910	40441	8929	1811	10740		6.85	Si
SLD 12	11.45	76.61	-2591	-2157	-181	0.71	0.71	-10851	12587	2502	40441	8929	1811	10740		59.46	Si
SLD 8	7.9	674.89	-6194	-5158	1426	0.71	0.71	-25947	15606	3102	40441	8929	1811	10740		7.53	Si
SLD 8	11.45	79.77	-2993	-2492	-226	0.71	0.71	-12536	12924	2569	40441	8929	1811	10740		47.44	Si
SLV 12	7.9	1074.55	-7832	-6522	2177	0.71	0.6534	-32806	16250	2973	40441	8929	1811	10740		4.93	Si
SLV 12	11.45	36.78	-2429	-2022	-1	0.71	0.71	-10173	12451	2475	40441	8929	1811	10740		13550.67	Si
SLV 7	7.9	832.34	-8218	-6843	1867	0.71	0.71	-34421	16250	3231	40441	8929	1811	10740		5.75	Si
SLV 7	11.45	48.37	-3270	-2723	-94	0.71	0.71	-13696	13156	2615	40441	8929	1811	10740		114.59	Si
SLV 5	7.9	-439.86	1707	1422	-1048	0.568	0.2921	0	0	0	40441	7144	1448	8592		8.19	Si
SLV 5	11.45	245.13	-3329	-2772	-951	0.71	0.71	-13945	13206	2625	40441	8929	1811	10740		11.29	Si
SLV 16	7.9	851.6	-4009	-3338	1437	0.71	0.4277	-16792	13775	1847	40441	8929	1811	10740		7.47	Si
SLV 16	11.45	98.34	-1665	-1386	-212	0.71	0.71	-6972	11811	2348	40441	8929	1811	10740		50.54	Si
SLV 8	7.9	897.55	-8109	-6753	1955	0.71	0.71	-33967	16250	3231	40441	8929	1811	10740		5.49	Si
SLV 8	11.45	41.64	-3058	-2546	-72	0.71	0.71	-12807	12978	2580	40441	8929	1811	10740		149.12	Si
SLD 11	7.9	746.81	-6087	-5068	1512	0.71	0.6969	-25495	15516	3028	40441	8929	1811	10740		7.1	Si
SLD 11	11.45	80.85	-2724	-2268	-194	0.71	0.71	-11410	12699	2524	40441	8929	1811	10740		55.28	Si
SLV 11	7.9	1009.34	-7941	-6612	2089	0.71	0.6837	-33261	16250	3111	40441	8929	1811	10740		5.14	Si
SLV 11	11.45	43.51	-2641	-2199	-22	0.71	0.71	-11062	12629	2511	40441	8929	1811	10740		477.34	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	3189	-634	88.18	86.91	0.99	No, M>Mu
SLV 9	179667	0.45	4015	-798	88.18	108.81	1.23	Si
SLV 6	179667	0.45	5461	-1086	88.18	146.56	1.66	Si
SLV 5	179667	0.45	6287	-1250	88.18	167.78	1.9	Si
SLV 14	179667	0.45	6853	-1362	88.18	182.18	2.07	Si
SLV 13	179667	0.45	8080	-1606	88.18	212.98	2.42	Si
SLV 16	179667	0.45	12437	-2473	88.18	317.97	3.61	Si
SLV 15	179667	0.45	13664	-2716	88.18	346.28	3.93	Si
SLV 2	179667	0.45	14426	-2868	88.18	363.58	4.12	Si
SLV 1	179667	0.45	15653	-3112	88.18	391	4.43	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-4093	-2116	-182	0.85	516.7	0.945	13.06695	8.02002	Si
SLV 3	-4076	-5094	-161	0.857	514.9	0.945	13.18366	8.02002	Si
SLV 2	-3778	-1955	-182	0.908	484.8	0.942	14.00198	8.02002	Si
SLV 4	-3761	-4932	-161	0.916	483	0.942	14.13136	8.02002	Si
SLV 13	-1997	-1192	160	1.503	305.2	0.916	23.84267	8.02002	Si
SLV 15	-1979	-4170	181	1.505	303.4	0.916	23.88584	8.02002	Si
SLV 5	-3329	1707	-86	1.03	439.3	0.937	15.97708	5.35431	Si, Trazione
SLV 7	-3270	-8218	-17	1.063	433.3	0.936	16.49648	5.35431	Si
SLV 6	-3117	1816	-86	1.086	417.9	0.934	16.89351	5.35431	Si, Trazione
SLV 8	-3058	-8109	-17	1.121	411.8	0.934	17.45944	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.916	SLU 81	Si
V_SLU	9.002	SLU 77	Si
PF_SLV	0	SLD 9	No
V_SLV	4.933	SLV 12	Si

Stato limite	Coeff.s.	Comb.	Verifica
PFFP_SLV	0.986	SLV 10	No
R_SLV	1.629	SLV 1	Si

Maschio 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.263	-3.169	-17.313	-3.169	L6	L7	1.05	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	8.8	-610.9	-4703	-0.0000429	0.0003743	0.0035	1.05	2081.25	2429.45	2429.45	3.98	No	Si
SLU 43	10.6	823.94	-3960	-0.0000458	0.0003743	0.0035	1.05	1803.87	1893.93	1893.93	2.3	No	Si
SLU 71	8.8	-683.4	-5460	-0.0000495	0.0003743	0.0035	1.05	2343.55	2731.54	2731.54	4	No	Si
SLU 71	10.6	943.77	-4758	-0.0000539	0.0003743	0.0035	1.05	2100.97	2207.78	2207.78	2.34	No	Si
SLU 44	8.8	-612.84	-4757	-0.0000433	0.0003743	0.0035	1.05	2100.52	2451.21	2451.21	4	No	Si
SLU 44	10.6	829.44	-4008	-0.0000462	0.0003743	0.0035	1.05	1822.38	1912.52	1912.52	2.31	No	Si
SLU 67	8.8	-697.41	-5530	-0.0000503	0.0003743	0.0035	1.05	2366.99	2758.87	2758.87	3.96	No	Si
SLU 67	10.6	961.34	-4858	-0.000055	0.0003743	0.0035	1.05	2136.66	2247.97	2247.97	2.34	No	Si
SLU 72	8.8	-684.57	-5492	-0.0000497	0.0003743	0.0035	1.05	2354.27	2744	2744	4.01	No	Si
SLU 72	10.6	947.07	-4787	-0.0000541	0.0003743	0.0035	1.05	2111.28	2219.33	2219.33	2.34	No	Si
SLU 64	8.8	-696.3	-5233	-0.0000486	0.0003743	0.0035	1.05	2266.89	2644.2	2644.2	3.8	No	Si
SLU 64	10.6	935.54	-4590	-0.0000528	0.0003743	0.0035	1.05	2040.25	2140.79	2140.79	2.29	No	Si
SLU 47	8.8	-606.39	-4871	-0.0000437	0.0003743	0.0035	1.05	2140.97	2497.48	2497.48	4.12	No	Si
SLU 47	10.6	833.55	-4092	-0.0000467	0.0003743	0.0035	1.05	1854.58	1945.14	1945.14	2.33	No	Si
SLU 65	8.8	-698.24	-5286	-0.0000489	0.0003743	0.0035	1.05	2285.16	2664.74	2664.74	3.82	No	Si
SLU 65	10.6	941.04	-4638	-0.0000532	0.0003743	0.0035	1.05	2057.7	2159.88	2159.88	2.3	No	Si
SLU 66	8.8	-696.24	-5498	-0.0000501	0.0003743	0.0035	1.05	2356.31	2746.38	2746.38	3.94	No	Si
SLU 66	10.6	958.04	-4830	-0.0000548	0.0003743	0.0035	1.05	2126.42	2236.38	2236.38	2.33	No	Si
SLU 68	8.8	-691.79	-5400	-0.0000494	0.0003743	0.0035	1.05	2323.51	2708.4	2708.4	3.92	No	Si
SLU 68	10.6	945.16	-4722	-0.0000538	0.0003743	0.0035	1.05	2088.04	2193.39	2193.39	2.32	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	8.8	-2223.58	-2527	-0.0036981	0.0005615	0.0035	0.84		1506.59	1506.59	0.68		No
SLV 14	10.6	1910.61	-4216	-0.0002487	0.0005615	0.0035	1.05		2126.4	2126.4	1.11		Si
SLV 13	8.8	-2685.1	-2053	-0.0067721	0.0005615	0.0035	0.84		1278.43	1278.43	0.48		No
SLV 13	10.6	2249.59	-4378	-0.005065	0.0005615	0.0035	0.84		2195.91	2195.91	0.98		No
SLV 15	8.8	-2335.04	-856	-0.007311	0.0005615	0.0035	0.84		685.69	685.69	0.29		No
SLV 15	10.6	1878.5	-3057	-0.0091455	0.0005615	0.0035	0.84		1591.1	1591.1	0.85		No
SLD 13	8.8	-1899.01	-2745	-0.00177	0.0005615	0.0035	0.84		1610.18	1610.18	0.85		No
SLD 13	10.6	1687.22	-4043	-0.0001464	0.0005615	0.0035	1.05		2047.41	2047.41	1.21		Si
SLV 11	8.8	-616.35	-1159	-0.0001674	0.0005615	0.0035	0.84		837.98	837.98	1.36		Si
SLV 11	10.6	555.71	-1388	-0.0000399	0.0005615	0.0035	1.05		782.14	782.14	1.41		Si
SLD 16	8.8	-1386.43	-2304	-0.0007259	0.0005615	0.0035	0.84		1399.09	1399.09	1.01		Si
SLD 16	10.6	1240.05	-3119	-0.0000913	0.0005615	0.0035	1.05		1620.6	1620.6	1.31		Si
SLD 15	8.8	-1681.29	-2001	-0.0020449	0.0005615	0.0035	0.84		1253.75	1253.75	0.75		No
SLD 15	10.6	1456.62	-3223	-0.000176	0.0005615	0.0035	1.05		1669.36	1669.36	1.15		Si
SLV 9	8.8	-1783.21	-5149	-0.0001088	0.0005615	0.0035	0.84		2705.95	2705.95	1.52		Si
SLV 9	10.6	1792.69	-5791	-0.000101	0.0005615	0.0035	1.05		2751.82	2751.82	1.54		Si
SLD 14	8.8	-1604.14	-3047	-0.0004864	0.0005615	0.0035	0.84		1752.85	1752.85	1.09		Si
SLD 14	10.6	1470.65	-3940	-0.0000973	0.0005615	0.0035	1.05		2000.44	2000.44	1.36		Si
SLV 16	8.8	-1873.52	-1330	-0.0042195	0.0005615	0.0035	0.84		923.31	923.31	0.49		No
SLV 16	10.6	1539.52	-2896	-0.0027993	0.0005615	0.0035	0.84		1514.86	1514.86	0.98		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	8.8	-689.15	-5764	-4800	-1427	1.05	1.05	-16327	9121	2682	40441	8804	2678	11481	No	8.04	Si
SLU 82	10.6	975.57	-5114	-4259	-615	1.05	1.0028	-14486	8876	2492	40441	8804	2678	11481	No	18.67	Si
SLU 76	8.8	-685.97	-5750	-4788	-1396	1.05	1.05	-16285	9116	2680	40441	8804	2678	11481	No	8.23	Si
SLU 76	10.6	970.86	-5069	-4221	-650	1.05	1.0004	-14357	8859	2481	40441	8804	2678	11481	No	17.66	Si
SLU 73	8.8	-692.42	-5636	-4693	-1412	1.05	1.05	-15963	9073	2667	40441	8804	2678	11481	No	8.13	Si
SLU 73	10.6	966.75	-4985	-4151	-643	1.05	0.9932	-14119	8827	2455	40441	8804	2678	11481	No	17.85	Si
SLU 74	8.8	-690.42	-5848	-4870	-1412	1.05	1.05	-16563	9153	2691	40441	8804	2678	11481	No	8.13	Si
SLU 74	10.6	983.74	-5176	-4310	-656	1.05	1.0049	-14661	8899	2504	40441	8804	2678	11481	No	17.51	Si
SLU 84	8.8	-682.7	-5878	-4895	-1411	1.05	1.05	-16648	9164	2694	40441	8804	2678	11481	No	8.14	Si
SLU 84	10.6	979.68	-5198	-4329	-622	1.05	1.0096	-14724	8908	2518	40441	8804	2678	11481	No	18.47	Si
SLU 81	8.8	-687.98	-5732	-4773	-1426	1.05	1.05	-16235	9109	2678	40441	8804	2678	11481	No	8.05	Si
SLU 81	10.6	972.27	-5086	-4235	-612	1.05	1.0015	-14404	8865	2486	40441	8804	2678	11481	No	18.77	Si
SLU 78	8.8	-685.14	-5994	-4991	-1396	1.05	1.05	-16976	9208	2707	40441	8804	2678	11481	No	8.22	Si
SLU 78	10.6	991.16	-5289	-4405	-665	1.05	1.0128	-14981	8942	2536	40441	8804	2678	11481	No	17.25	Si
SLU 83	8.8	-681.53	-5846	-4868	-1410	1.05	1.05	-16557	9152	2691	40441	8804	2678	11481	No	8.14	Si
SLU 83	10.6	976.38	-5170	-4305	-619	1.05	1.0084	-14642	8897	2512	40441	8804	2678	11481	No	18.56	Si
SLU 77	8.8	-683.97	-5961	-4964	-1395	1.05	1.05	-16885	9196	2704	40441	8804	2678	11481	No	8.23	Si
SLU 77	10.6	987.86	-5261	-4380	-662	1.05	1.0116	-14900	8931	2530	40441	8804	2678	11481	No	17.33	Si
SLU 75	8.8	-691.59	-5880	-4896	-1413	1.05	1.05	-16654	9165	2695	40441	8804	2678	11481	No	8.13	Si
SLU 75	10.6	987.04	-5205	-4334	-659	1.05	1.0061	-14743	8910	2510	40441	8804	2678	11481	No	17.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	8.8	-1386.43	-2304	-1919	-2559	0.84	0	0	0	0	40441	10564	2142	12706		4.97	Si
SLD 16	10.6	1240.05	-3119	-2598	-956	1.05	0.3824	-8835	12184	2108	40441	13206	2678	15883		16.62	Si
SLD 13	8.8	-1899.01	-2745	-2285	-3316	0.84	0	0	0	0	40441	10564	2142	12706		3.83	Si
SLD 13	10.6	1687.22	-4043	-3367	-1488	1.05	0.323	-38015	16250	2313	40441	13206	2678	15883		10.67	Si
SLV 14	8.8	-2223.58	-2527	-2104	-3858	0.84	0	0	0	0	40441	10564	2142	12706		3.29	Si
SLV 14	10.6	1910.61	-4216	-3511	-1679	1.05	0.2156	-60275	16250	2352	40441	13206	2678	15883		9.46	Si
SLD 9	8.8	-1314.03	-4702	-3915	-2215	0.84	0.7366	0	0	0	40441	10564	2142	12706		5.74	Si
SLD 9	10.6	1386.94	-4920	-4097	-1295	1.05	0.7293	-13935	13204	2696	40441	13206	2678	15883		12.27	Si
SLV 16	8.8	-1873.52	-1330	-1107	-3418	0.84	0	0	0	0	40441	10564	2142	12706		3.72	Si
SLV 16	10.6	1539.52	-2896	-2411	-1204	0.84	0	0	0	0	40441	10564	2142	12706		10.56	Si
SLV 15	8.8	-2335.04	-856	-713	-4176	0.84	0	0	0	0	40441	10564	2142	12706		3.04	Si
SLV 15	10.6	1878.5	-3057	-2546	-1575	0.84	0	0	0	0	40441	10564	2142	12706		8.07	Si
SLV 9	8.8	-1783.21	-5149	-4288	-2910	0.84	0.536	0	0	0	40441	10564	2142	12706		4.37	Si
SLV 9	10.6	1792.69	-5791	-4822	-1762	1.05	0.6463	-16402	13697	2701	40441	13206	2678	15883		9.01	Si
SLD 14	8.8	-1604.14	-3047	-2537	-2832	0.84	0	0	0	0	40441	10564	2142	12706		4.49	Si
SLD 14	10.6	1470.65	-3940	-3281	-1251	1.05	0.4552	-11159	12648	2290	40441	13206	2678	15883		12.69	Si
SLD 15	8.8	-1681.29	-2001	-1666	-3043	0.84	0	0	0	0	40441	10564	2142	12706		4.18	Si
SLD 15	10.6	1456.62	-3223	-2683	-1193	1.05	0.219	-44822	16250	2131	40441	13206	2678	15883		13.32	Si
SLV 13	8.8	-2685.1	-2053	-1709	-4616	0.84	0	0	0	0	40441	10564	2142	12706		2.75	Si
SLV 13	10.6	2249.59	-4378	-3645	-2051	0.84	0.0334	0	0	0	40441	10564	2142	12706		6.2	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.45	0	-277	130.4	0	0	No, e>t/2
SLV 12	179667	0.45	0	-868	130.4	0	0	No, e>t/2
SLV 11	179667	0.45	0	-549	130.4	0	0	No, e>t/2
SLV 16	179667	0.45	0	-751	130.4	0	0	No, e>t/2
SLV 13	179667	0.45	5106	-1501	130.4	203.13	1.56	Si
SLV 7	179667	0.45	6598	-1940	130.4	259.84	1.99	Si
SLV 14	179667	0.45	6717	-1975	130.4	264.32	2.03	Si
SLV 8	179667	0.45	7683	-2259	130.4	300.32	2.3	Si
SLV 9	179667	0.45	15748	-4630	130.4	581.35	4.46	Si
SLV 3	179667	0.45	16714	-4914	130.4	612.65	4.7	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-4354	-6881	-34	1.154	592.1	0.932	18.00096	8.02002	Si
SLV 14	-4126	-6518	-33	1.205	569.1	0.93	18.83058	8.02002	Si
SLV 15	-3635	-5205	10	1.335	519.6	0.925	20.97937	8.02002	Si
SLV 16	-3407	-4842	11	1.402	496.7	0.922	22.1092	8.02002	Si
SLV 1	-3050	-4904	-15	1.523	460.9	0.917	24.13293	8.02002	Si
SLV 9	-4699	-8085	-79	1.078	626.9	0.935	16.75691	5.35431	Si
SLV 2	-2822	-4542	-15	1.614	438.1	0.914	25.64779	8.02002	Si
SLV 10	-4545	-7841	-78	1.107	611.4	0.934	17.2351	5.35431	Si
SLV 5	-4307	-7492	-73	1.157	587.4	0.932	18.04516	5.35431	Si
SLV 6	-4154	-7248	-73	1.19	571.9	0.93	18.60182	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.288	SLU 64	Si
V_SLU	8.044	SLU 82	Si
PF_SLV	0.294	SLV 15	No
V_SLV	2.753	SLV 13	Si
PFFP_SLV	0	SLV 11	No
R_SLV	2.245	SLV 13	Si

Maschio 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L6	L7	3.211	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	7.9	2729.57	-10649	-0.0000436	0.0004492	0.0035	3.2107	13781	16574.13	16574.13	6.07	No	Si
SLU 50	10	201.43	-7491	-0.0000214	0.0004492	0.0035	3.2107	10386.02	12214.96	12214.96	60.64	No	Si
SLU 66	7.9	3007.82	-12060	-0.0000492	0.0004492	0.0035	3.2107	15109.58	18455.32	18455.32	6.14	No	Si
SLU 66	10	230.46	-8578	-0.0000246	0.0004492	0.0035	3.2107	11619.65	13736.5	13736.5	59.6	No	Si
SLU 60	7.9	2907.18	-11601	-0.0000473	0.0004492	0.0035	3.2107	14690.06	17850.12	17850.12	6.14	No	Si
SLU 60	10	160.6	-8068	-0.0000228	0.0004492	0.0035	3.2107	11048.92	13026.31	13026.31	81.11	No	Si
SLU 71	7.9	2997.85	-12082	-0.0000492	0.0004492	0.0035	3.2107	15128.85	18483.47	18483.47	6.17	No	Si
SLU 71	10	375.04	-8630	-0.0000255	0.0004492	0.0035	3.2107	11676.78	13808.65	13808.65	36.82	No	Si
SLU 46	7.9	2686.05	-10653	-0.0000434	0.0004492	0.0035	3.2107	13784.69	16579.17	16579.17	6.17	No	Si
SLU 46	10	124.12	-7506	-0.000021	0.0004492	0.0035	3.2107	10402.43	12234.9	12234.9	98.58	No	Si
SLU 45	7.9	2739.54	-10628	-0.0000436	0.0004492	0.0035	3.2107	13759.94	16545.43	16545.43	6.04	No	Si
SLU 45	10	56.85	-7440	-0.0000205	0.0004492	0.0035	3.2107	10325.45	12141.47	12141.47	213.58	No	Si
SLU 48	7.9	2757.54	-10850	-0.0000443	0.0004492	0.0035	3.2107	13976.73	16842.69	16842.69	6.11	No	Si
SLU 48	10	191.71	-7693	-0.0000219	0.0004492	0.0035	3.2107	10620.3	12500.99	12500.99	65.21	No	Si
SLU 44	7.9	2604.42	-10248	-0.0000418	0.0004492	0.0035	3.2107	13381.62	16032.18	16032.18	6.16	No	Si
SLU 44	10	43.81	-7094	-0.0000195	0.0004492	0.0035	3.2107	9917.66	11651.64	11651.64	265.95	No	Si
SLU 43	7.9	2693.56	-10206	-0.0000421	0.0004492	0.0035	3.2107	13339.35	15974.85	15974.85	5.93	No	Si
SLU 43	10	-68.3	-6984	-0.0000193	0.0004492	0.0035	3.2107	9786.58	16186.52	16186.52	236.99	No	Si
SLU 64	7.9	2961.84	-11638	-0.0000477	0.0004492	0.0035	3.2107	14724.34	17899.73	17899.73	6.04	No	Si
SLU 64	10	105.31	-8123	-0.0000227	0.0004492	0.0035	3.2107	11111.07	13102.74	13102.74	124.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	7.9	4511.65	-7261	-0.0000431	0.0006738	0.0035	3.2107		12029.9	12029.9	2.67		Si
SLD 12	10	-2349.3	-3135	-0.0000211	0.0006738	0.0035	3.2107		10665.63	10665.63	4.54		Si
SLV 8	7.9	5502.77	-6947	-0.0000501	0.0006738	0.0035	3.2107		11574.28	11574.28	2.1		Si
SLV 8	10	-3718.99	-2306	-0.0000986	0.0006738	0.0035	2.5686		9418.98	9418.98	2.53		Si
SLV 16	7.9	3943.36	-7052	-0.0000393	0.0006738	0.0035	3.2107		11727.93	11727.93	2.97		Si
SLV 16	10	-1324.8	-3170	-0.0000152	0.0006738	0.0035	3.2107		10717.98	10717.98	8.09		Si
SLV 7	7.9	5527.72	-7046	-0.0000503	0.0006738	0.0035	3.2107		11718.85	11718.85	2.12		Si
SLV 7	10	-3584.93	-2359	-0.0000802	0.0006738	0.0035	2.5686		9499.67	9499.67	2.65		Si
SLD 11	7.9	4527.34	-7323	-0.0000433	0.0006738	0.0035	3.2107		12119.38	12119.38	2.68		Si
SLD 11	10	-2264.97	-3169	-0.0000205	0.0006738	0.0035	3.2107		10716.12	10716.12	4.73		Si
SLD 8	7.9	4257.79	-7686	-0.0000427	0.0006738	0.0035	3.2107		12641.84	12641.84	2.97		Si
SLD 8	10	-2281.75	-3782	-0.0000218	0.0006738	0.0035	3.2107		11632.42	11632.42	5.1		Si
SLD 7	7.9	4273.48	-7748	-0.0000429	0.0006738	0.0035	3.2107		12731.31	12731.31	2.98		Si
SLD 7	10	-2197.42	-3815	-0.0000214	0.0006738	0.0035	3.2107		11682.35	11682.35	5.32		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	7.9	5926.17	-6377	-0.0000554	0.0006738	0.0035	3.2107		10740.17	10740.17	1.81		Si
SLV 11	10	-3690.45	-1346	-0.0001785	0.0006738	0.0035	2.5686		7963.07	7963.07	2.16		Si
SLV 15	7.9	3980.42	-7199	-0.0000399	0.0006738	0.0035	3.2107		11941.22	11941.22	3		Si
SLV 15	10	-1125.68	-3249	-0.0000144	0.0006738	0.0035	3.2107		10837.22	10837.22	9.63		Si
SLV 12	7.9	5901.22	-6279	-0.0000555	0.0006738	0.0035	3.2107		10595.6	10595.6	1.8		Si
SLV 12	10	-3824.51	-1293	-0.0001912	0.0006738	0.0035	2.5686		7881.99	7881.99	2.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	7.9	3175.35	-13259	-7351	2182	3.2107	3.2107	-16355	10514	5008	115546	16154	16375	32528	No	14.9	Si
SLU 77	10	525.56	-9590	-5317	2172	3.2107	3.2107	-11829	9910	4455	115546	16154	16375	32528	No	14.98	Si
SLU 61	7.9	2853.69	-11626	-6446	2120	3.2107	3.2107	-14341	10245	4680	115546	16154	16375	32528	No	15.35	Si
SLU 61	10	227.87	-8134	-4510	2182	3.2107	3.2107	-10033	9671	4347	115546	16154	16375	32528	No	14.9	Si
SLU 60	7.9	2907.18	-11601	-6432	2238	3.2107	3.2107	-14310	10241	4675	115546	16154	16375	32528	No	14.54	Si
SLU 60	10	160.6	-8068	-4473	2228	3.2107	3.2107	-9951	9660	4342	115546	16154	16375	32528	No	14.6	Si
SLU 81	7.9	3175.46	-13034	-7227	2395	3.2107	3.2107	-16077	10477	4963	115546	16154	16375	32528	No	13.58	Si
SLU 81	10	334.22	-9206	-5104	2384	3.2107	3.2107	-11355	9847	4426	115546	16154	16375	32528	No	13.65	Si
SLU 82	7.9	3121.97	-13059	-7241	2277	3.2107	3.2107	-16108	10481	4968	115546	16154	16375	32528	No	14.29	Si
SLU 82	10	401.48	-9272	-5141	2338	3.2107	3.2107	-11437	9858	4431	115546	16154	16375	32528	No	13.91	Si
SLU 83	7.9	3193.46	-13255	-7350	2315	3.2107	3.2107	-16351	10513	5007	115546	16154	16375	32528	No	14.05	Si
SLU 83	10	469.08	-9459	-5245	2304	3.2107	3.2107	-11668	9889	4445	115546	16154	16375	32528	No	14.12	Si
SLU 84	7.9	3139.98	-13281	-7363	2197	3.2107	3.2107	-16382	10518	5012	115546	16154	16375	32528	No	14.81	Si
SLU 84	10	536.35	-9525	-5281	2258	3.2107	3.2107	-11749	9900	4450	115546	16154	16375	32528	No	14.4	Si
SLU 73	7.9	3022.23	-12657	-7018	2128	3.2107	3.2107	-15612	10415	4887	115546	16154	16375	32528	No	15.28	Si
SLU 73	10	377.66	-8991	-4985	2238	3.2107	3.2107	-11090	9812	4410	115546	16154	16375	32528	No	14.53	Si
SLU 74	7.9	3157.35	-13037	-7229	2262	3.2107	3.2107	-16081	10478	4963	115546	16154	16375	32528	No	14.38	Si
SLU 74	10	390.69	-9336	-5176	2252	3.2107	3.2107	-11516	9869	4436	115546	16154	16375	32528	No	14.45	Si
SLU 75	7.9	3103.87	-13062	-7242	2144	3.2107	3.2107	-16112	10482	4968	115546	16154	16375	32528	No	15.17	Si
SLU 75	10	457.96	-9402	-5213	2206	3.2107	3.2107	-11597	9880	4441	115546	16154	16375	32528	No	14.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	7.9	4511.65	-7261	-4026	5214	3.2107	2.9519	-8956	14291	5906	115546	24231	16375	40605		7.79	Si
SLD 12	10	-2349.3	-3135	-1738	4732	3.2107	2.5681	-4844	13469	4842	115546	24231	16375	40605		8.58	Si
SLD 11	7.9	4527.34	-7323	-4060	5204	3.2107	2.9613	-9033	14307	5931	115546	24231	16375	40605		7.8	Si
SLD 11	10	-2264.97	-3169	-1757	4721	3.2107	2.6718	-4706	13441	5028	115546	24231	16375	40605		8.6	Si
SLV 15	7.9	3980.42	-7199	-3992	4157	3.2107	3.1573	-8880	14276	6310	115546	24231	16375	40605		9.77	Si
SLV 15	10	-1125.68	-3249	-1802	3932	3.2107	3.2107	-4008	13302	5979	115546	24231	16375	40605		10.33	Si
SLD 7	7.9	4273.48	-7748	-4296	4872	3.2107	3.1613	-9557	14411	6378	115546	24231	16375	40605		8.33	Si
SLD 7	10	-2197.42	-3815	-2115	4385	3.2107	3.0882	-4904	13481	5828	115546	24231	16375	40605		9.26	Si
SLV 11	7.9	5926.17	-6377	-3536	7352	3.2107	2.0283	-7866	14073	4802	115546	24231	16375	40605		5.52	Si
SLV 11	10	-3690.45	-1346	-746	6590	2.5686	0	0	0	0	115546	19385	13100	32484		4.93	Si
SLD 8	7.9	4257.79	-7686	-4261	4883	3.2107	3.1541	-9480	14396	6357	115546	24231	16375	40605		8.32	Si
SLD 8	10	-2281.75	-3782	-2097	4396	3.2107	3.006	-4993	13499	5681	115546	24231	16375	40605		9.24	Si
SLV 16	7.9	3943.36	-7052	-3910	4182	3.2107	3.1386	-8699	14240	6257	115546	24231	16375	40605		9.71	Si
SLV 16	10	-1324.8	-3170	-1758	3958	3.2107	3.2107	-3910	13282	5970	115546	24231	16375	40605		10.26	Si
SLV 12	7.9	5901.22	-6279	-3481	7369	3.2107	1.9963	-7745	14049	4782	115546	24231	16375	40605		5.51	Si
SLV 12	10	-3824.51	-1293	-717	6607	2.5686	0	0	0	0	115546	19385	13100	32484		4.92	Si
SLV 7	7.9	5527.72	-7046	-3907	6832	3.2107	2.4625	-8691	14238	4936	115546	24231	16375	40605		5.94	Si
SLV 7	10	-3584.93	-2359	-1308	6064	2.5686	0.2572	0	0	0	115546	19385	13100	32484		5.36	Si
SLV 8	7.9	5502.77	-6947	-3852	6849	3.2107	2.4398	-8570	14214	4916	115546	24231	16375	40605		5.93	Si
SLV 8	10	-3718.99	-2306	-1278	6081	2.5686	0	0	0	0	115546	19385	13100	32484		5.34	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-2064	0.45	216.98	0	382.26	191.13	0.88	No
SLV 11	-2136	0.45	216.98	0	388.65	194.33	0.9	No
SLV 8	-2982	0.45	216.98	0	463.49	231.74	1.07	Si
SLV 7	-3054	0.45	216.98	0	469.81	234.91	1.08	Si
SLV 16	-3907	0.45	216.98	260.53	544.46	402.49	1.85	Si
SLV 15	-4014	0.45	216.98	267.29	553.77	410.53	1.89	Si
SLV 14	-6419	0.45	216.98	414.31	761.3	587.8	2.71	Si
SLV 13	-6526	0.45	216.98	420.62	770.46	595.54	2.74	Si
SLV 4	-6965	0.45	216.98	446.34	808.05	627.19	2.89	Si
SLV 3	-7072	0.45	216.98	452.54	817.18	634.86	2.93	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-5414	-10781	-292	2.614	780	0.923	41.1386	17.06971	Si
SLV 2	-5301	-10634	-292	2.658	768.7	0.923	41.86179	17.06971	Si
SLV 3	-4447	-9428	-267	3.044	683.1	0.916	48.32761	17.06971	Si
SLV 4	-4334	-9282	-267	3.104	671.8	0.915	49.32138	17.06971	Si
SLV 13	-4074	-8552	268	3.249	645.9	0.912	51.77065	17.06971	Si
SLV 14	-3961	-8405	268	3.317	634.6	0.911	52.90885	17.06971	Si
SLV 15	-3108	-7199	292	3.931	550.1	0.902	63.30151	17.06971	Si
SLV 16	-2995	-7052	292	4.03	539	0.901	64.99075	17.06971	Si
SLV 5	-6054	-11555	-124	2.415	844.5	0.928	37.81169	7.95304	Si
SLV 6	-5978	-11456	-124	2.439	836.8	0.928	38.21749	7.95304	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.931	SLU 43	Si
V_SLU	13.583	SLU 81	Si
PF_SLV	1.795	SLV 12	Si
V_SLV	4.917	SLV 12	Si
PFFP_SLV	0.881	SLV 12	No
R_SLV	2.41	SLV 1	Si

Maschio 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.363	-3.169	L6	L7	1.61	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	7.9	-1801.31	-7235	-0.0000478	0.0003743	0.0035	1.61	4906.11	5820.32	5820.32	3.23	No	Si
SLU 42	10	2144.4	-10446	-0.0000646	0.0003743	0.0035	1.61	6494.96	7101.71	7101.71	3.31	No	Si
SLU 40	7.9	-1816.38	-6996	-0.0000471	0.0003743	0.0035	1.61	4773.17	5668.24	5668.24	3.12	No	Si
SLU 40	10	2152.67	-10259	-0.000064	0.0003743	0.0035	1.61	6412.48	7015.38	7015.38	3.26	No	Si
SLU 82	7.9	-2055.45	-8539	-0.0000561	0.0003743	0.0035	1.61	5595.2	6613.89	6613.89	3.22	No	Si
SLU 82	10	2429.93	-11999	-0.0000748	0.0003743	0.0035	1.61	7134.06	7835.3	7835.3	3.22	No	Si
SLU 41	7.9	-1805.49	-7183	-0.0000476	0.0003743	0.0035	1.61	4877.16	5787.42	5787.42	3.21	No	Si
SLU 41	10	2141.13	-10413	-0.0000645	0.0003743	0.0035	1.61	6480.55	7086.5	7086.5	3.31	No	Si
SLU 83	7.9	-2044.56	-8726	-0.0000566	0.0003743	0.0035	1.61	5689.07	6721.02	6721.02	3.29	No	Si
SLU 83	10	2418.39	-12153	-0.0000753	0.0003743	0.0035	1.61	7192.73	7909.28	7909.28	3.27	No	Si
SLU 31	7.9	-1732.26	-6875	-0.0000455	0.0003743	0.0035	1.61	4705.37	5589.96	5589.96	3.23	No	Si
SLU 31	10	2003.89	-9918	-0.0000607	0.0003743	0.0035	1.61	6258.87	6843.78	6843.78	3.42	No	Si
SLU 84	7.9	-2040.38	-8779	-0.0000568	0.0003743	0.0035	1.61	5715.18	6751.2	6751.2	3.31	No	Si
SLU 84	10	2421.66	-12186	-0.0000754	0.0003743	0.0035	1.61	7205.14	7925.09	7925.09	3.27	No	Si
SLU 32	7.9	-1742.71	-7172	-0.0000468	0.0003743	0.0035	1.61	4871.22	5780.61	5780.61	3.32	No	Si
SLU 32	10	2028.18	-10275	-0.0000624	0.0003743	0.0035	1.61	6419.63	7022.79	7022.79	3.46	No	Si
SLU 39	7.9	-1820.57	-6943	-0.0000469	0.0003743	0.0035	1.61	4743.78	5634.28	5634.28	3.09	No	Si
SLU 39	10	2149.4	-10226	-0.0000638	0.0003743	0.0035	1.61	6397.85	7000.24	7000.24	3.26	No	Si
SLU 81	7.9	-2059.63	-8487	-0.0000559	0.0003743	0.0035	1.61	5568.65	6583.96	6583.96	3.2	No	Si
SLU 81	10	2426.66	-11966	-0.0000746	0.0003743	0.0035	1.61	7121.44	7819.55	7819.55	3.22	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	7.9	-3182.86	-5227	-0.0000991	0.0005615	0.0035	1.288		4609.93	4609.93	1.45		Si
SLD 13	10	3099.07	-10562	-0.0000761	0.0005615	0.0035	1.61		7479.8	7479.8	2.41		Si
SLD 15	7.9	-3224.75	-3503	-0.0006198	0.0005615	0.0035	1.288		3359.28	3359.28	1.04		Si
SLD 15	10	2936.02	-9225	-0.0000695	0.0005615	0.0035	1.61		6667.28	6667.28	2.27		Si
SLV 12	7.9	-2053.21	-893	-0.0010405	0.0005615	0.0035	1.288		1382.38	1382.38	0.67		No
SLV 12	10	1537.1	-5089	-0.0000362	0.0005615	0.0035	1.61		4010.29	4010.29	2.61		Si
SLD 16	7.9	-2858.28	-3804	-0.0002075	0.0005615	0.0035	1.288		3579.98	3579.98	1.25		Si
SLD 16	10	2620.77	-8815	-0.0000634	0.0005615	0.0035	1.61		6420.83	6420.83	2.45		Si
SLV 13	7.9	-4214.5	-4777	-0.000793	0.0005615	0.0035	1.288		4293.36	4293.36	1.02		Si
SLV 13	10	4000.51	-11940	-0.000095	0.0005615	0.0035	1.61		8330.96	8330.96	2.08		Si
SLV 11	7.9	-2439.38	-575	-0.0017261	0.0005615	0.0035	1.288		1134.78	1134.78	0.47		No
SLV 11	10	1869.31	-5521	-0.0000425	0.0005615	0.0035	1.61		4318.82	4318.82	2.31		Si
SLD 11	7.9	-2044.43	-2652	-0.0001666	0.0005615	0.0035	1.288		2729.96	2729.96	1.34		Si
SLD 11	10	1745.04	-6545	-0.0000437	0.0005615	0.0035	1.61		5035.66	5035.66	2.89		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	7.9	-3640.92	-5249	-0.0001763	0.0005615	0.0035	1.288		4625.39	4625.39	1.27		Si
SLV 14	10	3507.08	-11298	-0.0000848	0.0005615	0.0035	1.61		7932.65	7932.65	2.26		Si
SLV 15	7.9	-4281.11	-2002	-0.0032257	0.0005615	0.0035	1.288		2236.79	2236.79	0.52		No
SLV 15	10	3737.8	-9787	-0.0000859	0.0005615	0.0035	1.61		7006.82	7006.82	1.87		Si
SLV 16	7.9	-3707.53	-2474	-0.0018417	0.0005615	0.0035	1.288		2595.17	2595.17	0.7		No
SLV 16	10	3244.37	-9145	-0.0000748	0.0005615	0.0035	1.61		6618.87	6618.87	2.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7.9	-1971.33	-8419	-7010	-3436	1.61	1.61	-15551	9018	4065	40441	13499	4106	17605	No	5.12	Si
SLU 73	10	2281.15	-11659	-9708	-5450	1.61	1.61	-21536	9816	4425	40441	13499	4106	17605	No	3.23	Si
SLU 77	7.9	-1966.71	-8955	-7457	-3441	1.61	1.61	-16541	9150	4125	40441	13499	4106	17605	No	5.12	Si
SLU 77	10	2297.18	-12202	-10161	-5467	1.61	1.61	-22539	9950	4485	40441	13499	4106	17605	No	3.22	Si
SLU 82	7.9	-2055.45	-8539	-7111	-3530	1.61	1.61	-15774	9048	4079	40441	13499	4106	17605	No	4.99	Si
SLU 82	10	2429.93	-11999	-9992	-5584	1.61	1.61	-22165	9900	4463	40441	13499	4106	17605	No	3.15	Si
SLU 78	7.9	-1962.52	-9007	-7501	-3432	1.61	1.61	-16638	9163	4131	40441	13499	4106	17605	No	5.13	Si
SLU 78	10	2300.45	-12235	-10188	-5467	1.61	1.61	-22600	9958	4489	40441	13499	4106	17605	No	3.22	Si
SLU 84	7.9	-2040.38	-8779	-7310	-3501	1.61	1.61	-16216	9107	4105	40441	13499	4106	17605	No	5.03	Si
SLU 84	10	2421.66	-12186	-10147	-5544	1.61	1.61	-22510	9946	4484	40441	13499	4106	17605	No	3.18	Si
SLU 74	7.9	-1981.78	-8716	-7258	-3471	1.61	1.61	-16099	9091	4098	40441	13499	4106	17605	No	5.07	Si
SLU 74	10	2305.45	-12015	-10005	-5507	1.61	1.61	-22195	9904	4465	40441	13499	4106	17605	No	3.2	Si
SLU 83	7.9	-2044.56	-8726	-7266	-3511	1.61	1.61	-16119	9094	4099	40441	13499	4106	17605	No	5.01	Si
SLU 83	10	2418.39	-12153	-10120	-5543	1.61	1.61	-22449	9938	4480	40441	13499	4106	17605	No	3.18	Si
SLU 76	7.9	-1956.25	-8658	-7210	-3407	1.61	1.61	-15993	9077	4092	40441	13499	4106	17605	No	5.17	Si
SLU 76	10	2272.88	-11845	-9864	-5410	1.61	1.61	-21881	9862	4446	40441	13499	4106	17605	No	3.25	Si
SLU 81	7.9	-2059.63	-8487	-7067	-3540	1.61	1.61	-15677	9035	4073	40441	13499	4106	17605	No	4.97	Si
SLU 81	10	2426.66	-11966	-9965	-5584	1.61	1.61	-22104	9892	4459	40441	13499	4106	17605	No	3.15	Si
SLU 75	7.9	-1977.6	-8768	-7301	-3461	1.61	1.61	-16196	9104	4104	40441	13499	4106	17605	No	5.09	Si
SLU 75	10	2308.72	-12048	-10033	-5507	1.61	1.61	-22255	9912	4468	40441	13499	4106	17605	No	3.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	7.9	-2858.28	-3804	-3168	-5000	1.288	0.1611	0	0	0	40441	16199	3284	19483		3.9	Si
SLD 16	10	2620.77	-8815	-7340	-5740	1.61	1.5231	-16283	13673	5831	40441	20248	4106	24354		4.24	Si
SLD 15	7.9	-3224.75	-3503	-2917	-5591	1.288	0	0	0	0	40441	16199	3284	19483		3.48	Si
SLD 15	10	2936.02	-9225	-7682	-6368	1.61	1.4602	-17041	13825	5652	40441	20248	4106	24354		3.82	Si
SLD 13	7.9	-3182.86	-5227	-4353	-5420	1.288	0.5884	0	0	0	40441	16199	3284	19483		3.59	Si
SLD 13	10	3099.07	-10562	-8795	-6563	1.61	1.5348	-19511	14319	6153	40441	20248	4106	24354		3.71	Si
SLV 11	7.9	-2439.38	-575	-479	-4500	1.288	0	0	0	0	40441	16199	3284	19483		4.33	Si
SLV 11	10	1869.31	-5521	-4597	-4737	1.61	1.3993	-10198	12456	4880	40441	20248	4106	24354		5.14	Si
SLV 13	7.9	-4214.5	-4777	-3978	-7102	1.288	0	0	0	0	40441	16199	3284	19483		2.74	Si
SLV 13	10	4000.51	-11940	-9943	-8105	1.61	1.4098	-22055	14828	5853	40441	20248	4106	24354		3	Si
SLD 14	7.9	-2816.39	-5529	-4604	-4829	1.288	0.8868	0	0	0	40441	16199	3284	19483		4.03	Si
SLD 14	10	2783.82	-10152	-8454	-5936	1.61	1.5924	-18753	14167	6317	40441	20248	4106	24354		4.1	Si
SLV 16	7.9	-3707.53	-2474	-2060	-6452	1.288	0	0	0	0	40441	16199	3284	19483		3.02	Si
SLV 16	10	3244.37	-9145	-7615	-6809	1.61	1.3507	-16892	13795	5217	40441	20248	4106	24354		3.58	Si
SLV 14	7.9	-3640.92	-5249	-4371	-6177	1.288	0.3342	0	0	0	40441	16199	3284	19483		3.15	Si
SLV 14	10	3507.08	-11298	-9408	-7123	1.61	1.4838	-20870	14591	6062	40441	20248	4106	24354		3.42	Si
SLV 9	7.9	-2217.35	-9826	-8182	-3586	1.61	1.61	-18150	14047	6332	40441	20248	4106	24354		6.79	Si
SLV 9	10	2745	-12699	-10575	-5786	1.61	1.61	-23457	15108	6811	40441	20248	4106	24354		4.21	Si
SLV 15	7.9	-4281.11	-2002	-1667	-7376	1.288	0	0	0	0	40441	16199	3284	19483		2.64	Si
SLV 15	10	3737.8	-9787	-8149	-7790	1.61	1.2692	-18078	14032	4987	40441	20248	4106	24354		3.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.45	7675	-3460	199.95	460.03	2.3	Si
SLV 7	179667	0.45	8389	-3782	199.95	500.35	2.5	Si
SLV 12	179667	0.45	9844	-4438	199.95	581.23	2.91	Si
SLV 11	179667	0.45	10558	-4760	199.95	620.27	3.1	Si
SLV 4	179667	0.45	10812	-4874	199.95	634.04	3.17	Si
SLV 3	179667	0.45	11872	-5352	199.95	691.03	3.46	Si
SLV 2	179667	0.45	15818	-7131	199.95	894.91	4.48	Si
SLV 1	179667	0.45	16878	-7609	199.95	947.5	4.74	Si
SLV 16	179667	0.45	18042	-8133	199.95	1004.16	5.02	Si
SLV 15	179667	0.45	19103	-8611	199.95	1054.8	5.28	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-5558	-10201	-61	1.331	795.2	0.924	20.92615	8.02002	Si
SLV 1	-5336	-9730	-60	1.374	772.9	0.923	21.63261	8.02002	Si
SLV 4	-4302	-7426	83	1.61	669.2	0.914	25.59572	8.02002	Si
SLV 3	-4079	-6954	84	1.673	647.1	0.912	26.65832	8.02002	Si
SLV 6	-6358	-11629	-235	1.176	875.8	0.93	18.38266	5.35431	Si
SLV 5	-6208	-11311	-234	1.199	860.7	0.929	18.75076	5.35431	Si
SLV 14	-3758	-5249	-81	1.775	615.1	0.909	28.3732	8.02002	Si
SLV 10	-5818	-10143	-241	1.26	821.4	0.926	19.76937	5.35431	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-3536	-4777	-80	1.852	593.1	0.907	29.68604	8.02002	Si
SLV 9	-5668	-9826	-240	1.286	806.3	0.925	20.1967	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.095	SLU 39	Si
V_SLU	3.153	SLU 82	Si
PF_SLV	0.465	SLV 11	No
V_SLV	2.641	SLV 15	Si
PFFP_SLV	2.301	SLV 8	Si
R_SLV	2.609	SLV 2	Si

Maschio 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.521	L6	L7	4.315	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	7.9	-5884.6	-18226	-0.000055	0.0004492	0.0035	4.315	29613.3	45624.76	45624.76	7.75	No	Si
SLU 77	10	-8884.4	-14972	-0.0000567	0.0004492	0.0035	4.315	25749.5	39961.14	39961.14	4.5	No	Si
SLU 42	7.9	-5347.42	-15032	-0.0000464	0.0004492	0.0035	4.315	25827.13	40067.87	40067.87	7.49	No	Si
SLU 42	10	-7857.21	-12432	-0.0000481	0.0004492	0.0035	4.315	22304.31	35453.79	35453.79	4.51	No	Si
SLU 81	7.9	-6082.54	-17683	-0.0000544	0.0004492	0.0035	4.315	29011.26	44722.97	44722.97	7.35	No	Si
SLU 81	10	-8662.59	-14428	-0.0000549	0.0004492	0.0035	4.315	25044.08	39004.56	39004.56	4.5	No	Si
SLU 82	7.9	-6219.41	-17521	-0.0000544	0.0004492	0.0035	4.315	28828.83	44449.42	44449.42	7.15	No	Si
SLU 82	10	-8530.57	-14267	-0.0000541	0.0004492	0.0035	4.315	24830.89	38719.99	38719.99	4.54	No	Si
SLU 83	7.9	-6073.18	-18085	-0.0000552	0.0004492	0.0035	4.315	29458.66	45390.64	45390.64	7.47	No	Si
SLU 83	10	-8954.13	-14830	-0.0000566	0.0004492	0.0035	4.315	25568.02	39712.8	39712.8	4.44	No	Si
SLU 84	7.9	-6210.05	-17923	-0.0000553	0.0004492	0.0035	4.315	29280.03	45122.37	45122.37	7.27	No	Si
SLU 84	10	-8822.11	-14669	-0.0000559	0.0004492	0.0035	4.315	25358.64	39428.23	39428.23	4.47	No	Si
SLU 78	7.9	-6021.47	-18065	-0.000055	0.0004492	0.0035	4.315	29436	45356.49	45356.49	7.53	No	Si
SLU 78	10	-8752.38	-14810	-0.000056	0.0004492	0.0035	4.315	25541.45	39676.57	39676.57	4.53	No	Si
SLU 39	7.9	-5219.91	-14792	-0.0000455	0.0004492	0.0035	4.315	25517.68	39644.2	39644.2	7.59	No	Si
SLU 39	10	-7697.69	-12191	-0.0000472	0.0004492	0.0035	4.315	21958.27	35005.85	35005.85	4.55	No	Si
SLU 41	7.9	-5210.55	-15194	-0.0000463	0.0004492	0.0035	4.315	26033.08	40352.44	40352.44	7.74	No	Si
SLU 41	10	-7989.23	-12593	-0.0000489	0.0004492	0.0035	4.315	22534.83	35754.66	35754.66	4.48	No	Si
SLU 79	7.9	-5806.77	-18088	-0.0000544	0.0004492	0.0035	4.315	29461.77	45395.34	45395.34	7.82	No	Si
SLU 79	10	-8747.49	-14833	-0.000056	0.0004492	0.0035	4.315	25571.67	39717.78	39717.78	4.54	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	7.9	-12167.37	-4702	-0.0002482	0.0006738	0.0035	3.452		20813.09	20813.09	1.71		Si
SLD 9	10	12.88	-2242	-0.0000045	0.0006738	0.0035	4.315		6531.98	6531.98	507.06		Si
SLV 6	7.9	-18352.67	436	-0.0006777	0.0006738	0.0035	3.452		10331.92	10331.92	0.56		No
SLV 6	10	3025.66	2893	-0.0044007	0.0006738	0.0035	4.315		0	0	0		No
SLD 10	7.9	-12101.74	-4758	-0.0002412	0.0006738	0.0035	3.452		20926.08	20926.08	1.73		Si
SLD 10	10	-70.54	-2298	-0.0000048	0.0006738	0.0035	4.315		15948.75	15948.75	226.1		Si
SLV 9	7.9	-17165.55	16	-0.00062	0.0006738	0.0035	3.452		11201.94	11201.94	0.65		No
SLV 9	10	3288.07	2475	-0.0040618	0.0006738	0.0035	4.315		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	7.9	-10229.66	-7867	-0.0000537	0.0006738	0.0035	3.452		27084.24	27084.24	2.65		Si
SLV 2	10	-3168.03	-5409	-0.0000197	0.0006738	0.0035	4.315		22224.49	22224.49	7.02		Si
SLV 10	7.9	-17061.22	-73	-0.0006143	0.0006738	0.0035	3.452		11386.54	11386.54	0.67		No
SLV 10	10	3155.46	2385	-0.0038065	0.0006738	0.0035	4.315		0	0	0		No
SLV 5	7.9	-18457.01	525	-0.0006833	0.0006738	0.0035	3.452		10147.32	10147.32	0.55		No
SLV 5	10	3158.27	2982	-0.0046404	0.0006738	0.0035	4.315		0	0	0		No
SLV 1	7.9	-10384.63	-7734	-0.0000556	0.0006738	0.0035	3.452		26824	26824	2.58		Si
SLV 1	10	-2971.07	-5277	-0.0000189	0.0006738	0.0035	4.315		21960.77	21960.77	7.39		Si
SLD 5	7.9	-12993.92	-4377	-0.0003072	0.0006738	0.0035	3.452		20158.62	20158.62	1.55		Si
SLD 5	10	-71.59	-1918	-0.000004	0.0006738	0.0035	4.315		15175.63	15175.63	211.99		Si
SLD 6	7.9	-12928.29	-4433	-0.0003009	0.0006738	0.0035	3.452		20271.61	20271.61	1.57		Si
SLD 6	10	-155.01	-1974	-0.0000044	0.0006738	0.0035	4.315		15289.77	15289.77	98.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	7.9	-5210.55	-15194	-8424	1340	4.315	4.315	-13945	10193	6859	115546	21710	22006	43716	No	32.63	Si
SLU 41	10	-7989.23	-12593	-6983	1340	4.315	4.315	-11559	9874	6283	115546	21710	22006	43716	No	32.63	Si
SLU 80	7.9	-5943.64	-17926	-9939	1294	4.315	4.315	-16453	10527	7465	115546	21710	22006	43716	No	33.78	Si
SLU 80	10	-8615.47	-14672	-8135	1294	4.315	4.315	-13466	10129	6744	115546	21710	22006	43716	No	33.78	Si
SLU 37	7.9	-4944.14	-15197	-8426	1368	4.315	4.315	-13948	10193	6860	115546	21710	22006	43716	No	31.95	Si
SLU 37	10	-7782.6	-12596	-6984	1368	4.315	4.315	-11561	9875	6283	115546	21710	22006	43716	No	31.95	Si
SLU 77	7.9	-5884.6	-18226	-10106	1450	4.315	4.315	-16728	10564	7532	115546	21710	22006	43716	No	30.14	Si
SLU 77	10	-8884.4	-14972	-8301	1450	4.315	4.315	-13741	10165	6810	115546	21710	22006	43716	No	30.14	Si
SLU 35	7.9	-5021.97	-15335	-8503	1396	4.315	4.315	-14075	10210	6891	115546	21710	22006	43716	No	31.31	Si
SLU 35	10	-7919.51	-12735	-7061	1396	4.315	4.315	-11688	9892	6314	115546	21710	22006	43716	No	31.31	Si
SLU 79	7.9	-5806.77	-18088	-10029	1422	4.315	4.315	-16602	10547	7501	115546	21710	22006	43716	No	30.74	Si
SLU 79	10	-8747.49	-14833	-8224	1422	4.315	4.315	-13614	10149	6779	115546	21710	22006	43716	No	30.74	Si
SLU 78	7.9	-6021.47	-18065	-10016	1322	4.315	4.315	-16580	10544	7496	115546	21710	22006	43716	No	33.06	Si
SLU 78	10	-8752.38	-14810	-8211	1322	4.315	4.315	-13593	10146	6774	115546	21710	22006	43716	No	33.06	Si
SLU 83	7.9	-6073.18	-18085	-10027	1394	4.315	4.315	-16599	10547	7501	115546	21710	22006	43716	No	31.36	Si
SLU 83	10	-8954.13	-14830	-8223	1394	4.315	4.315	-13612	10148	6779	115546	21710	22006	43716	No	31.36	Si
SLU 36	7.9	-5158.84	-15173	-8413	1268	4.315	4.315	-13926	10190	6855	115546	21710	22006	43716	No	34.47	Si
SLU 36	10	-7787.49	-12573	-6971	1268	4.315	4.315	-11540	9872	6278	115546	21710	22006	43716	No	34.47	Si
SLU 74	7.9	-5893.95	-17824	-9883	1307	4.315	4.315	-16359	10515	7443	115546	21710	22006	43716	No	33.44	Si
SLU 74	10	-8592.86	-14569	-8078	1307	4.315	4.315	-13372	10116	6721	115546	21710	22006	43716	No	33.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	7.9	-17061.22	-73	-41	-9778	3.452	0	0	0	0	115546	26052	17605	43657		4.46	Si
SLV 10	10	3155.46	2385	1323	-9307	4.315	2.5042	78731	16250	5697	115546	32565	22006	54571		5.86	Si
SLD 5	7.9	-12993.92	-4377	-2427	-6242	3.452	0	0	0	0	115546	26052	17605	43657		6.99	Si
SLD 5	10	-71.59	-1918	-1063	-5944	4.315	4.315	-1760	12852	7764	115546	32565	22006	54571		9.18	Si
SLV 7	7.9	8984.12	-24831	-13768	11137	4.315	4.315	-22790	16250	10741	115546	32565	22006	54571		4.9	Si
SLV 7	10	-14013.38	-22369	-12402	10665	4.315	4.315	-20530	16250	10195	115546	32565	22006	54571		5.12	Si
SLV 9	7.9	-17165.55	16	9	-9891	3.452	0	0	0	0	115546	26052	17605	43657		4.41	Si
SLV 9	10	3288.07	2475	1372	-9420	4.315	2.4863	79853	16250	5656	115546	32565	22006	54571		5.79	Si
SLV 11	7.9	10275.58	-25340	-14050	11689	4.315	4.315	-23257	16250	10854	115546	32565	22006	54571		4.67	Si
SLV 11	10	-13883.58	-22876	-12684	11215	4.315	4.315	-20996	16250	10308	115546	32565	22006	54571		4.87	Si
SLD 6	7.9	-12928.29	-4433	-2458	-6171	3.452	0	0	0	0	115546	26052	17605	43657		7.07	Si
SLD 6	10	-155.01	-1974	-1094	-5873	4.315	4.315	-1812	12862	7770	115546	32565	22006	54571		9.29	Si
SLV 12	7.9	10379.91	-25429	-14099	11802	4.315	4.315	-23339	16250	10874	115546	32565	22006	54571		4.62	Si
SLV 12	10	-14016.19	-22965	-12733	11328	4.315	4.315	-21078	16250	10328	115546	32565	22006	54571		4.82	Si
SLV 6	7.9	-18352.67	436	242	-10331	3.452	0	0	0	0	115546	26052	17605	43657		4.23	Si
SLV 6	10	3025.66	2893	1604	-9857	4.315	3.3348	92547	14995	7001	115546	32565	22006	54571		5.54	Si
SLV 8	7.9	9088.46	-24920	-13817	11250	4.315	4.315	-22872	16250	10761	115546	32565	22006	54571		4.85	Si
SLV 8	10	-14145.99	-22458	-12452	10778	4.315	4.315	-20612	16250	10215	115546	32565	22006	54571		5.06	Si
SLV 5	7.9	-18457.01	525	291	-10443	3.452	0	0	0	0	115546	26052	17605	43657		4.18	Si
SLV 5	10	3158.27	2982	1653	-9970	4.315	3.2952	93897	14449	6666	115546	32565	22006	54571		5.47	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	2370	0.45	291.61	0	0	0	0	No
SLV 5	2459	0.45	291.61	0	0	0	0	No
SLV 9	1950	0.45	291.61	0	0	0	0	No
SLV 10	1861	0.45	291.61	0	0	0	0	No
SLV 1	-5770	0.45	291.61	382.87	782.19	582.53	2	Si
SLV 2	-5903	0.45	291.61	391.16	793.72	592.44	2.03	Si
SLV 13	-7467	0.45	291.61	487.45	929.08	708.27	2.43	Si
SLV 14	-7600	0.45	291.61	495.46	940.46	717.96	2.46	Si
SLD 5	-2424	0.19	120.67	165.93	486.47	326.2	2.7	Si
SLD 6	-2480	0.19	120.67	169.68	491.53	330.6	2.74	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-7942	-17170	412	2.437	1115.3	0.927	38.20315	17.06971	Si
SLV 15	-7907	-17038	412	2.445	1111.9	0.927	38.34297	17.06971	Si
SLV 4	-7196	-15473	-414	2.634	1040.3	0.923	41.47879	17.06971	Si
SLV 3	-7161	-15341	-414	2.644	1036.8	0.923	41.64333	17.06971	Si
SLV 14	-4685	-9563	414	3.627	789.5	0.906	58.15418	17.06971	Si
SLV 13	-4651	-9431	414	3.646	786.1	0.906	58.4731	17.06971	Si
SLV 12	-11474	-25429	121	1.822	1472.4	0.942	28.10669	7.95304	Si
SLV 11	-11451	-25340	121	1.825	1470.1	0.942	28.15713	7.95304	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-11251	-24920	-127	1.852	1449.8	0.941	28.59493	7.95304	Si
SLV 7	-11228	-24831	-127	1.855	1447.4	0.941	28.64716	7.95304	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.435	SLU 83	Si
V_SLU	30.14	SLU 77	Si
PF_SLV	0	SLV 5	No
V_SLV	4.18	SLV 5	Si
PFFP_SLV	0	SLV 5	No
R_SLV	2.238	SLV 16	Si

Maschio 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L6	Z medio 959 cm	1.281	0.28	1.69	1.69	1.69			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	7.9	-751.26	-11011	-0.0000649	0.0003743	0.0035	1.2809	4925.42	5877.91	5877.91	7.82	No	Si
SLU 81	9.59	580.2	-8540	-0.0000492	0.0003743	0.0035	1.2809	4190.3	4606.16	4606.16	7.94	No	Si
SLU 83	7.9	-755.43	-11233	-0.0000661	0.0003743	0.0035	1.2809	4981.08	5942.97	5942.97	7.87	No	Si
SLU 83	9.59	569.05	-8762	-0.00005	0.0003743	0.0035	1.2809	4265.17	4686.31	4686.31	8.24	No	Si
SLU 82	7.9	-753.72	-11038	-0.0000651	0.0003743	0.0035	1.2809	4932.31	5885.82	5885.82	7.81	No	Si
SLU 82	9.59	583.7	-8556	-0.0000493	0.0003743	0.0035	1.2809	4195.89	4612.05	4612.05	7.9	No	Si
SLU 41	7.9	-670.67	-9560	-0.000056	0.0003743	0.0035	1.2809	4519.58	5355.7	5355.7	7.99	No	Si
SLU 41	9.59	537.94	-7508	-0.0000434	0.0003743	0.0035	1.2809	3819.68	4119.45	4119.45	7.66	No	Si
SLU 40	7.9	-668.96	-9364	-0.000055	0.0003743	0.0035	1.2809	4459.36	5275.37	5275.37	7.89	No	Si
SLU 40	9.59	552.59	-7302	-0.0000428	0.0003743	0.0035	1.2809	3741.35	4016.17	4016.17	7.27	No	Si
SLU 39	7.9	-666.5	-9337	-0.0000548	0.0003743	0.0035	1.2809	4450.87	5263.99	5263.99	7.9	No	Si
SLU 39	9.59	549.09	-7285	-0.0000426	0.0003743	0.0035	1.2809	3735.04	4007.96	4007.96	7.3	No	Si
SLU 18	7.9	-550.74	-8175	-0.0000468	0.0003743	0.0035	1.2809	4063.67	4767.11	4767.11	8.66	No	Si
SLU 18	9.59	456.9	-6356	-0.0000364	0.0003743	0.0035	1.2809	3362.27	3551.45	3551.45	7.77	No	Si
SLU 42	7.9	-673.13	-9587	-0.0000562	0.0003743	0.0035	1.2809	4527.86	5366.33	5366.33	7.97	No	Si
SLU 42	9.59	541.45	-7524	-0.0000436	0.0003743	0.0035	1.2809	3825.86	4127.7	4127.7	7.62	No	Si
SLU 84	7.9	-757.89	-11260	-0.0000663	0.0003743	0.0035	1.2809	4987.76	5950.97	5950.97	7.85	No	Si
SLU 84	9.59	572.56	-8779	-0.0000501	0.0003743	0.0035	1.2809	4270.62	4692.25	4692.25	8.2	No	Si
SLU 19	7.9	-553.2	-8203	-0.000047	0.0003743	0.0035	1.2809	4073.26	4779.12	4779.12	8.64	No	Si
SLU 19	9.59	460.4	-6373	-0.0000366	0.0003743	0.0035	1.2809	3369.11	3559.38	3559.38	7.73	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	7.9	-1150.96	-8599	-0.0000599	0.0005615	0.0035	1.2809		5225.7	5225.7	4.54		Si
SLV 14	9.59	769.28	-6291	-0.0000418	0.0005615	0.0035	1.2809		3758.31	3758.31	4.89		Si
SLD 9	7.9	-1013.15	-9772	-0.0000625	0.0005615	0.0035	1.2809		5794.59	5794.59	5.72		Si
SLD 9	9.59	735.44	-7181	-0.0000451	0.0005615	0.0035	1.2809		4170.76	4170.76	5.67		Si
SLV 13	7.9	-1244.46	-8636	-0.000062	0.0005615	0.0035	1.2809		5244.2	5244.2	4.21		Si
SLV 13	9.59	837.69	-6296	-0.0000432	0.0005615	0.0035	1.2809		3760.46	3760.46	4.49		Si
SLV 16	7.9	-743.78	-6399	-0.0000418	0.0005615	0.0035	1.2809		4097.51	4097.51	5.51		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	9.59	410.21	-4855	-0.0000284	0.0005615	0.0035	1.2809		2993.3	2993.3	7.3		Si
SLD 14	7.9	-903.36	-8176	-0.0000529	0.0005615	0.0035	1.2809		5013.1	5013.1	5.55		Si
SLD 14	9.59	591.31	-6073	-0.0000373	0.0005615	0.0035	1.2809		3652.27	3652.27	6.18		Si
SLV 15	7.9	-837.28	-6436	-0.0000438	0.0005615	0.0035	1.2809		4116.94	4116.94	4.92		Si
SLV 15	9.59	478.62	-4860	-0.0000297	0.0005615	0.0035	1.2809		2995.88	2995.88	6.26		Si
SLD 13	7.9	-963.09	-8200	-0.0000543	0.0005615	0.0035	1.2809		5025.08	5025.08	5.22		Si
SLD 13	9.59	635.02	-6076	-0.0000382	0.0005615	0.0035	1.2809		3653.79	3653.79	5.75		Si
SLV 9	7.9	-1340.91	-11178	-0.0000759	0.0005615	0.0035	1.2809		6443	6443	4.8		Si
SLV 9	9.59	1008.15	-8080	-0.0000547	0.0005615	0.0035	1.2809		4592.86	4592.86	4.56		Si
SLV 8	7.9	390.75	-3805	-0.0000235	0.0005615	0.0035	1.2809		2400.06	2400.06	6.14		Si
SLV 8	9.59	-438.21	-3384	-0.0000226	0.0005615	0.0035	1.2809		2426.97	2426.97	5.54		Si
SLV 10	7.9	-1277.96	-11154	-0.0000745	0.0005615	0.0035	1.2809		6431.71	6431.71	5.03		Si
SLV 10	9.59	962.09	-8077	-0.0000537	0.0005615	0.0035	1.2809		4591.37	4591.37	4.77		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7.9	-714.58	-10675	-8889	-3603	1.2809	1.2809	-24786	10249	4004	16652	10740	3266	14006	No	3.89	Si
SLU 73	9.59	511.69	-8234	-6856	-1891	1.2809	1.2809	-19117	9493	3405	16652	10740	3266	14006	No	7.41	Si
SLU 81	7.9	-751.26	-11011	-9169	-3779	1.2809	1.2809	-25564	10353	4088	16652	10740	3266	14006	No	3.71	Si
SLU 81	9.59	580.2	-8540	-7111	-2064	1.2809	1.2809	-19828	9588	3465	16652	10740	3266	14006	No	6.78	Si
SLU 82	7.9	-753.72	-11038	-9191	-3799	1.2809	1.2809	-25628	10361	4095	16652	10740	3266	14006	No	3.69	Si
SLU 82	9.59	583.7	-8556	-7125	-2074	1.2809	1.2809	-19866	9593	3469	16652	10740	3266	14006	No	6.75	Si
SLU 78	7.9	-732.17	-11215	-9339	-3675	1.2809	1.2809	-26039	10416	4140	16652	10740	3266	14006	No	3.81	Si
SLU 78	9.59	500.57	-8763	-7297	-1845	1.2809	1.2809	-20345	9657	3521	16652	10740	3266	14006	No	7.59	Si
SLU 77	7.9	-729.71	-11188	-9316	-3654	1.2809	1.2809	-25976	10408	4133	16652	10740	3266	14006	No	3.83	Si
SLU 77	9.59	497.07	-8746	-7283	-1835	1.2809	1.2809	-20307	9652	3517	16652	10740	3266	14006	No	7.63	Si
SLU 83	7.9	-755.43	-11233	-9354	-3785	1.2809	1.2809	-26081	10422	4144	16652	10740	3266	14006	No	3.7	Si
SLU 83	9.59	569.05	-8762	-7296	-2017	1.2809	1.2809	-20344	9657	3521	16652	10740	3266	14006	No	6.94	Si
SLU 74	7.9	-725.54	-10965	-9131	-3648	1.2809	1.2809	-25459	10339	4077	16652	10740	3266	14006	No	3.84	Si
SLU 74	9.59	508.21	-8524	-7098	-1883	1.2809	1.2809	-19791	9583	3460	16652	10740	3266	14006	No	7.44	Si
SLU 84	7.9	-757.89	-11260	-9377	-3805	1.2809	1.2809	-26144	10430	4151	16652	10740	3266	14006	No	3.68	Si
SLU 84	9.59	572.56	-8779	-7310	-2027	1.2809	1.2809	-20382	9662	3525	16652	10740	3266	14006	No	6.91	Si
SLU 75	7.9	-728	-10993	-9154	-3669	1.2809	1.2809	-25522	10347	4084	16652	10740	3266	14006	No	3.82	Si
SLU 75	9.59	511.72	-8541	-7112	-1893	1.2809	1.2809	-19829	9588	3465	16652	10740	3266	14006	No	7.4	Si
SLU 76	7.9	-718.75	-10898	-9075	-3609	1.2809	1.2809	-25302	10318	4060	16652	10740	3266	14006	No	3.88	Si
SLU 76	9.59	500.54	-8456	-7041	-1844	1.2809	1.2809	-19633	9562	3443	16652	10740	3266	14006	No	7.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	7.9	-966.53	-11138	-9275	-4918	1.2809	1.2809	-25861	15589	5591	16652	16110	3266	19376		3.94	Si
SLV 6	9.59	758.69	-8171	-6804	-3129	1.2809	1.2809	-18970	14211	5097	16652	16110	3266	19376		6.19	Si
SLD 14	7.9	-903.36	-8176	-6808	-4864	1.2809	1.2809	-18982	14213	5098	16652	16110	3266	19376		3.98	Si
SLD 14	9.59	591.31	-6073	-5057	-3412	1.2809	1.2809	-14101	13237	4747	16652	16110	3266	19376		5.68	Si
SLD 10	7.9	-973.55	-9757	-8125	-5129	1.2809	1.2809	-22653	14947	5361	16652	16110	3266	19376		3.78	Si
SLD 10	9.59	706.47	-7179	-5978	-3480	1.2809	1.2809	-16669	13751	4932	16652	16110	3266	19376		5.57	Si
SLV 5	7.9	-1029.48	-11163	-9296	-5321	1.2809	1.2809	-25919	15600	5595	16652	16110	3266	19376		3.64	Si
SLV 5	9.59	804.75	-8174	-6806	-3505	1.2809	1.2809	-18978	14212	5097	16652	16110	3266	19376		5.53	Si
SLD 13	7.9	-963.09	-8200	-6828	-5246	1.2809	1.2809	-19037	14224	5102	16652	16110	3266	19376		3.69	Si
SLD 13	9.59	635.02	-6076	-5060	-3768	1.2809	1.2809	-14108	13238	4748	16652	16110	3266	19376		5.14	Si
SLV 10	7.9	-1277.96	-11154	-9288	-6788	1.2809	1.2809	-25896	15596	5594	16652	16110	3266	19376		2.85	Si
SLV 10	9.59	962.09	-8077	-6726	-4894	1.2809	1.2809	-18753	14167	5081	16652	16110	3266	19376		3.96	Si
SLV 9	7.9	-1340.91	-11178	-9308	-7190	1.2809	1.2809	-25954	15607	5598	16652	16110	3266	19376		2.69	Si
SLV 9	9.59	1008.15	-8080	-6728	-5269	1.2809	1.2809	-18760	14169	5082	16652	16110	3266	19376		3.68	Si
SLD 9	7.9	-1013.15	-9772	-8138	-5382	1.2809	1.2809	-22689	14955	5363	16652	16110	3266	19376		3.6	Si
SLD 9	9.59	735.44	-7181	-5980	-3716	1.2809	1.2809	-16674	13751	4932	16652	16110	3266	19376		5.21	Si
SLV 13	7.9	-1244.46	-8636	-7191	-6894	1.2809	1.2809	-20050	14427	5174	16652	16110	3266	19376		2.81	Si
SLV 13	9.59	837.69	-6296	-5243	-5276	1.2809	1.2809	-14617	13340	4784	16652	16110	3266	19376		3.67	Si
SLV 14	7.9	-1150.96	-8599	-7160	-6296	1.2809	1.2809	-19964	14409	5168	16652	16110	3266	19376		3.08	Si
SLV 14	9.59	769.28	-6291	-5239	-4718	1.2809	1.2809	-14607	13338	4784	16652	16110	3266	19376		4.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.745 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.43	10604	-3803	35.35	495.47	14.02	Si
SLV 7	179667	0.43	10693	-3835	35.35	499.32	14.13	Si
SLV 12	179667	0.43	10701	-3838	35.35	499.64	14.13	Si
SLV 11	179667	0.43	10790	-3870	35.35	503.49	14.24	Si
SLV 4	179667	0.43	16415	-5887	35.35	735.61	20.81	Si
SLV 3	179667	0.43	16547	-5935	35.35	740.82	20.96	Si
SLV 16	179667	0.43	16736	-6003	35.35	748.26	21.17	Si
SLV 15	179667	0.43	16869	-6050	35.35	753.45	21.31	Si
SLV 2	179667	0.43	21510	-7715	35.35	927.93	26.25	Si
SLV 1	179667	0.43	21642	-7762	35.35	932.69	26.39	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.745 Wa = 0.05 Ta = 0.017

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-8174	-11163	47	0.908	917.5	0.972	13.57951	3.91342	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-8171	-11138	48	0.908	917.2	0.972	13.58339	3.91342	Si
SLV 9	-8080	-11178	83	0.913	908	0.971	13.65554	3.91342	Si
SLV 10	-8077	-11154	84	0.913	907.6	0.971	13.65949	3.91342	Si
SLV 1	-6609	-8585	-39	1.089	758.2	0.966	16.39053	4.24123	Si
SLV 2	-6604	-8548	-38	1.09	757.7	0.966	16.40202	4.24123	Si
SLV 13	-6296	-8636	81	1.129	726.3	0.965	17.01494	4.24123	Si
SLV 14	-6291	-8599	81	1.13	725.9	0.965	17.02475	4.24123	Si
SLV 3	-5173	-6385	-77	1.336	612.1	0.959	20.24815	4.24123	Si
SLV 4	-5168	-6348	-76	1.337	611.6	0.959	20.26588	4.24123	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.268	SLU 40	Si
V_SLU	3.681	SLU 84	Si
PF_SLV	4.214	SLV 13	Si
V_SLV	2.695	SLV 9	Si
PFFP_SLV	14.017	SLV 8	Si
R_SLV	3.47	SLV 5	Si

Maschio 176

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	Z medio 959 cm	L7	1.281	0.28	1.86	1.86	1.86			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	9.59	-541.84	-6382	-0.0000383	0.0003743	0.0035	1.2809	3372.98	3941.49	3941.49	7.27	No	Si
SLU 42	11.45	57.7	-4693	-0.0000209	0.0003743	0.0035	1.2809	2619.18	2770	2770	48	No	Si
SLU 18	9.59	-453.24	-5361	-0.0000319	0.0003743	0.0035	1.2809	2929.4	3437.46	3437.46	7.58	No	Si
SLU 18	11.45	36.85	-3848	-0.0000169	0.0003743	0.0035	1.2809	2204.64	2367.87	2367.87	64.26	No	Si
SLU 84	9.59	-567.51	-7585	-0.0000444	0.0003743	0.0035	1.2809	3848.74	4502.89	4502.89	7.93	No	Si
SLU 84	11.45	35.37	-5534	-0.0000242	0.0003743	0.0035	1.2809	3007.13	3159.58	3159.58	89.32	No	Si
SLU 19	9.59	-460.05	-5375	-0.0000321	0.0003743	0.0035	1.2809	2935.72	3444.8	3444.8	7.49	No	Si
SLU 19	11.45	46.01	-3849	-0.0000171	0.0003743	0.0035	1.2809	2205.37	2368.66	2368.66	51.49	No	Si
SLU 41	9.59	-535.03	-6368	-0.0000381	0.0003743	0.0035	1.2809	3367.16	3934.83	3934.83	7.35	No	Si
SLU 41	11.45	48.55	-4691	-0.0000208	0.0003743	0.0035	1.2809	2618.5	2769.34	2769.34	57.04	No	Si
SLU 82	9.59	-574.37	-7363	-0.0000435	0.0003743	0.0035	1.2809	3764.86	4402.36	4402.36	7.66	No	Si
SLU 82	11.45	68.64	-5311	-0.0000239	0.0003743	0.0035	1.2809	2906.62	3055.09	3055.09	44.51	No	Si
SLU 21	9.59	-453.19	-5597	-0.0000329	0.0003743	0.0035	1.2809	3035.06	3554.12	3554.12	7.84	No	Si
SLU 21	11.45	12.74	-4072	-0.0000174	0.0003743	0.0035	1.2809	2317.32	2487.88	2487.88	195.25	No	Si
SLU 39	9.59	-541.89	-6146	-0.0000372	0.0003743	0.0035	1.2809	3273.81	3825.98	3825.98	7.06	No	Si
SLU 39	11.45	81.81	-4468	-0.0000204	0.0003743	0.0035	1.2809	2511.39	2667.92	2667.92	32.61	No	Si
SLU 81	9.59	-567.56	-7349	-0.0000433	0.0003743	0.0035	1.2809	3759.52	4395.98	4395.98	7.75	No	Si
SLU 81	11.45	59.48	-5309	-0.0000237	0.0003743	0.0035	1.2809	2905.97	3054.42	3054.42	51.35	No	Si
SLU 40	9.59	-548.7	-6160	-0.0000374	0.0003743	0.0035	1.2809	3279.74	3832.97	3832.97	6.99	No	Si
SLU 40	11.45	90.97	-4469	-0.0000206	0.0003743	0.0035	1.2809	2512.09	2668.57	2668.57	29.34	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	9.59	496.58	-4885	-0.0000302	0.0005615	0.0035	1.2809		3009.86	3009.86	6.06		Si
SLV 3	11.45	-610.11	-3647	-0.0000271	0.0005615	0.0035	1.2809		2577.35	2577.35	4.22		Si
SLV 13	9.59	-1155.7	-5531	-0.0000462	0.0005615	0.0035	1.2809		3631.45	3631.45	3.14		Si
SLV 13	11.45	722.11	-3863	-0.0000302	0.0005615	0.0035	1.2809		2433.05	2433.05	3.37		Si
SLV 9	9.59	-957.39	-7247	-0.0000499	0.0005615	0.0035	1.2809		4541.84	4541.84	4.74		Si
SLV 9	11.45	675.5	-4658	-0.0000327	0.0005615	0.0035	1.2809		2883.11	2883.11	4.27		Si
SLV 15	9.59	-891.36	-4254	-0.0000353	0.0005615	0.0035	1.2809		2922.56	2922.56	3.28		Si
SLV 15	11.45	433.72	-3290	-0.0000221	0.0005615	0.0035	1.2809		2102.56	2102.56	4.85		Si
SLV 7	9.59	340.14	-3179	-0.0000198	0.0005615	0.0035	1.2809		2037.42	2037.42	5.99		Si
SLV 7	11.45	-598.94	-2854	-0.0000235	0.0005615	0.0035	1.2809		2115.1	2115.1	3.53		Si
SLD 13	9.59	-831.76	-5405	-0.0000391	0.0005615	0.0035	1.2809		3562.09	3562.09	4.28		Si
SLD 13	11.45	459.48	-3817	-0.0000249	0.0005615	0.0035	1.2809		2406.73	2406.73	5.24		Si
SLV 16	9.59	-763.19	-4283	-0.0000328	0.0005615	0.0035	1.2809		2938.83	2938.83	3.85		Si
SLV 16	11.45	325.28	-3295	-0.00002	0.0005615	0.0035	1.2809		2105.78	2105.78	6.47		Si
SLV 8	9.59	426.44	-3198	-0.0000216	0.0005615	0.0035	1.2809		2048.77	2048.77	4.8		Si
SLV 8	11.45	-671.95	-2857	-0.000025	0.0005615	0.0035	1.2809		2117.27	2117.27	3.15		Si
SLV 14	9.59	-1027.53	-5560	-0.0000437	0.0005615	0.0035	1.2809		3647.2	3647.2	3.55		Si
SLV 14	11.45	613.66	-3868	-0.0000281	0.0005615	0.0035	1.2809		2436.2	2436.2	3.97		Si
SLV 4	9.59	624.75	-4914	-0.0000329	0.0005615	0.0035	1.2809		3025.73	3025.73	4.84		Si
SLV 4	11.45	-718.56	-3652	-0.0000292	0.0005615	0.0035	1.2809		2580.48	2580.48	3.59		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	9.59	-548.7	-6160	-5130	-1846	1.2809	1.2809	-14303	8851	3175	19031	10740	3266	14006	No	7.59	Si
SLU 40	11.45	90.97	-4469	-3722	-505	1.2809	1.2809	-10377	8328	2987	19031	10740	3266	14006	No	27.72	Si
SLU 83	9.59	-560.7	-7571	-6304	-1855	1.2809	1.2809	-17578	9288	3331	19031	10740	3266	14006	No	7.55	Si
SLU 83	11.45	26.22	-5533	-4607	-251	1.2809	1.2809	-12845	8657	3105	19031	10740	3266	14006	No	55.71	Si
SLU 76	9.59	-492.13	-7458	-6211	-1746	1.2809	1.2809	-17316	9253	3319	19031	10740	3266	14006	No	8.02	Si
SLU 76	11.45	23.51	-5435	-4526	-212	1.2809	1.2809	-12618	8627	3094	19031	10740	3266	14006	No	66.18	Si
SLU 81	9.59	-567.56	-7349	-6120	-1911	1.2809	1.2809	-17063	9220	3307	19031	10740	3266	14006	No	7.33	Si
SLU 81	11.45	59.48	-5309	-4421	-363	1.2809	1.2809	-12327	8588	3080	19031	10740	3266	14006	No	38.54	Si
SLU 73	9.59	-499	-7236	-6026	-1802	1.2809	1.2809	-16801	9185	3294	19031	10740	3266	14006	No	7.77	Si
SLU 73	11.45	56.77	-5211	-4340	-324	1.2809	1.2809	-12100	8558	3069	19031	10740	3266	14006	No	43.27	Si
SLU 39	9.59	-541.89	-6146	-5118	-1800	1.2809	1.2809	-14270	8847	3173	19031	10740	3266	14006	No	7.78	Si
SLU 39	11.45	81.81	-4468	-3721	-466	1.2809	1.2809	-10374	8328	2987	19031	10740	3266	14006	No	30.04	Si
SLU 82	9.59	-574.37	-7363	-6131	-1957	1.2809	1.2809	-17096	9224	3308	19031	10740	3266	14006	No	7.16	Si
SLU 82	11.45	68.64	-5311	-4422	-402	1.2809	1.2809	-12331	8589	3080	19031	10740	3266	14006	No	34.8	Si
SLU 42	9.59	-541.84	-6382	-5314	-1790	1.2809	1.2809	-14818	8920	3199	19031	10740	3266	14006	No	7.82	Si
SLU 42	11.45	57.7	-4693	-3908	-393	1.2809	1.2809	-10895	8397	3012	19031	10740	3266	14006	No	35.62	Si
SLU 75	9.59	-493.83	-7541	-6280	-1772	1.2809	1.2809	-17509	9279	3328	19031	10740	3266	14006	No	7.9	Si
SLU 75	11.45	31.25	-5520	-4597	-229	1.2809	1.2809	-12816	8653	3104	19031	10740	3266	14006	No	61.27	Si
SLU 84	9.59	-567.51	-7585	-6316	-1901	1.2809	1.2809	-17611	9293	3333	19031	10740	3266	14006	No	7.37	Si
SLU 84	11.45	35.37	-5534	-4608	-290	1.2809	1.2809	-12849	8658	3105	19031	10740	3266	14006	No	48.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	9.59	-957.39	-7247	-6035	-4835	1.2809	1.2809	-16826	13782	4943	19031	16110	3266	19376		4.01	Si
SLV 9	11.45	675.5	-4658	-3878	-3220	1.2809	1.2809	-10814	12579	4512	19031	16110	3266	19376		6.02	Si
SLD 13	9.59	-831.76	-5405	-4501	-3661	1.2809	1.2809	-12548	12926	4636	19031	16110	3266	19376		5.29	Si
SLD 13	11.45	459.48	-3817	-3179	-2451	1.2809	1.2809	-8862	12189	4372	19031	16110	3266	19376		7.91	Si
SLD 14	9.59	-749.87	-5423	-4516	-3293	1.2809	1.2809	-12591	12935	4639	19031	16110	3266	19376		5.88	Si
SLD 14	11.45	390.19	-3821	-3181	-2106	1.2809	1.2809	-8871	12191	4372	19031	16110	3266	19376		9.2	Si
SLV 14	9.59	-1027.53	-5560	-4630	-4592	1.2809	1.2809	-12909	12998	4662	19031	16110	3266	19376		4.22	Si
SLV 14	11.45	613.66	-3868	-3221	-3295	1.2809	1.2809	-8981	12213	4380	19031	16110	3266	19376		5.88	Si
SLV 15	9.59	-891.36	-4254	-3542	-3551	1.2809	1.2809	-9877	12392	4444	19031	16110	3266	19376		5.46	Si
SLV 15	11.45	433.72	-3290	-2739	-2553	1.2809	1.2809	-7638	11944	4284	19031	16110	3266	19376		7.59	Si
SLV 10	9.59	-871.09	-7266	-6051	-4447	1.2809	1.2809	-16871	13791	4946	19031	16110	3266	19376		4.36	Si
SLV 10	11.45	602.48	-4661	-3882	-2857	1.2809	1.2809	-10823	12581	4512	19031	16110	3266	19376		6.78	Si
SLV 3	9.59	496.58	-4885	-4068	2524	1.2809	1.2809	-11342	12685	4550	19031	16110	3266	19376		7.68	Si
SLV 3	11.45	-610.11	-3647	-3037	3228	1.2809	1.2809	-8467	12110	4343	19031	16110	3266	19376		6	Si
SLV 4	9.59	624.75	-4914	-4092	3100	1.2809	1.2809	-11409	12698	4554	19031	16110	3266	19376		6.25	Si
SLV 4	11.45	-718.56	-3652	-3041	3768	1.2809	1.2809	-8479	12113	4344	19031	16110	3266	19376		5.14	Si
SLD 9	9.59	-695.98	-6468	-5386	-3403	1.2809	1.2809	-15018	13420	4813	19031	16110	3266	19376		5.69	Si
SLD 9	11.45	422.15	-4308	-3587	-2019	1.2809	1.2809	-10003	12417	4453	19031	16110	3266	19376		9.6	Si
SLV 13	9.59	-1155.7	-5531	-4606	-5168	1.2809	1.2809	-12842	12985	4657	19031	16110	3266	19376		3.75	Si
SLV 13	11.45	722.11	-3863	-3217	-3835	1.2809	1.2809	-8969	12210	4379	19031	16110	3266	19376		5.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.52 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.47	7538	-2703	46.6	359.79	7.72	Si
SLV 12	179667	0.47	7648	-2743	46.6	364.78	7.83	Si
SLV 7	179667	0.47	8321	-2984	46.6	395.03	8.48	Si
SLV 8	179667	0.47	8431	-3024	46.6	399.96	8.58	Si
SLV 15	179667	0.47	9785	-3510	46.6	459.85	9.87	Si
SLV 16	179667	0.47	9949	-3568	46.6	467.02	10.02	Si
SLV 3	179667	0.47	12396	-4446	46.6	571.88	12.27	Si
SLV 13	179667	0.47	12518	-4490	46.6	577.02	12.38	Si
SLV 4	179667	0.47	12559	-4504	46.6	578.76	12.42	Si
SLV 14	179667	0.47	12682	-4548	46.6	583.9	12.53	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.52 Wa = 0.05 Ta = 0.0206

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-4768	-7456	34	1.417	579.7	0.953	21.62227	4.25198	Si
SLV 5	-4765	-7436	34	1.418	579.3	0.953	21.63804	4.25198	Si
SLV 2	-4225	-6191	-73	1.56	524.6	0.948	23.91218	4.69124	Si
SLV 1	-4220	-6162	-74	1.562	524	0.948	23.93749	4.69124	Si
SLV 10	-4661	-7266	90	1.434	568.8	0.952	21.89679	4.25198	Si
SLV 9	-4658	-7247	90	1.435	568.4	0.952	21.91309	4.25198	Si
SLV 14	-3868	-5560	111	1.67	488.3	0.945	25.68938	4.69124	Si
SLV 13	-3863	-5531	111	1.673	487.8	0.945	25.7229	4.69124	Si
SLV 4	-3652	-4914	-110	1.752	466.4	0.943	27.00402	4.69124	Si
SLV 3	-3647	-4885	-111	1.754	465.9	0.943	27.03702	4.69124	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.986	SLU 40	Si
V_SLU	7.156	SLU 82	Si
PF_SLV	3.142	SLV 13	Si
V_SLV	3.749	SLV 13	Si
PFFP_SLV	7.722	SLV 11	Si
R_SLV	5.085	SLV 6	Si

Maschio 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	-0.354	Z medio 874 cm	L7	3.051	0.28	2.705	1.86	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	9.59	2635.3	-18054	-0.0000422	0.0003743	0.0035	3.0507	21821.35	23564.81	23564.81	8.94	No	Si
SLU 39	11.45	1139.06	-12472	-0.0000262	0.0003743	0.0035	3.0507	16295.66	17054.96	17054.96	14.97	No	Si
SLU 81	9.59	2961.65	-21410	-0.0000501	0.0003743	0.0035	3.0507	24617.94	26998.23	26998.23	9.12	No	Si
SLU 81	11.45	1207.89	-14740	-0.0000307	0.0003743	0.0035	3.0507	18672.52	19636.71	19636.71	16.26	No	Si
SLU 40	9.59	2636.82	-18127	-0.0000424	0.0003743	0.0035	3.0507	21886.78	23653.8	23653.8	8.97	No	Si
SLU 40	11.45	1170.33	-12511	-0.0000264	0.0003743	0.0035	3.0507	16337.81	17098.41	17098.41	14.61	No	Si
SLU 83	9.59	3049.39	-22018	-0.0000516	0.0003743	0.0035	3.0507	25082.26	27534.36	27534.36	9.03	No	Si
SLU 83	11.45	1283.03	-15236	-0.0000319	0.0003743	0.0035	3.0507	19168.59	20212.76	20212.76	15.75	No	Si
SLU 42	9.59	2724.55	-18735	-0.0000439	0.0003743	0.0035	3.0507	22421.12	24392.93	24392.93	8.95	No	Si
SLU 42	11.45	1245.47	-13007	-0.0000276	0.0003743	0.0035	3.0507	16872.69	17656.59	17656.59	14.18	No	Si
SLU 21	9.59	2349.44	-16274	-0.0000377	0.0003743	0.0035	3.0507	20177.97	21430.23	21430.23	9.12	No	Si
SLU 21	11.45	1050.86	-11276	-0.0000237	0.0003743	0.0035	3.0507	14969.38	15726.66	15726.66	14.97	No	Si
SLU 20	9.59	2347.93	-16200	-0.0000376	0.0003743	0.0035	3.0507	20107.76	21343.48	21343.48	9.09	No	Si
SLU 20	11.45	1019.59	-11237	-0.0000235	0.0003743	0.0035	3.0507	14925.55	15683.99	15683.99	15.38	No	Si
SLU 84	9.59	3050.9	-22092	-0.0000518	0.0003743	0.0035	3.0507	25137.47	27599.14	27599.14	9.05	No	Si
SLU 84	11.45	1314.3	-15275	-0.0000321	0.0003743	0.0035	3.0507	19206.98	20257.93	20257.93	15.41	No	Si
SLU 41	9.59	2723.04	-18662	-0.0000437	0.0003743	0.0035	3.0507	22357.25	24303.4	24303.4	8.93	No	Si
SLU 41	11.45	1214.19	-12968	-0.0000274	0.0003743	0.0035	3.0507	16831.22	17612.84	17612.84	14.51	No	Si
SLU 18	9.59	2260.19	-15592	-0.0000361	0.0003743	0.0035	3.0507	19519.36	20628.73	20628.73	9.13	No	Si
SLU 18	11.45	944.45	-10741	-0.0000223	0.0003743	0.0035	3.0507	14359.85	15139.91	15139.91	16.03	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	9.59	1326.64	-21148	-0.0000425	0.0005615	0.0035	3.0507		28156.41	28156.41	21.22		Si
SLV 10	11.45	2670.51	-13239	-0.0000326	0.0005615	0.0035	3.0507		19109.61	19109.61	7.16		Si
SLV 15	9.59	2247.05	-11792	-0.0000285	0.0005615	0.0035	3.0507		17215.74	17215.74	7.66		Si
SLV 15	11.45	167.73	-8216	-0.0000149	0.0005615	0.0035	3.0507		12384.56	12384.56	73.84		Si
SLV 5	9.59	1216.57	-21849	-0.0000434	0.0005615	0.0035	3.0507		28965.19	28965.19	23.81		Si
SLV 5	11.45	2574.91	-13890	-0.0000335	0.0005615	0.0035	3.0507		19951.01	19951.01	7.75		Si
SLV 11	9.59	2386.79	-8148	-0.0000224	0.0005615	0.0035	3.0507		12290.68	12290.68	5.15		Si
SLV 11	11.45	-1359.87	-6662	-0.0000162	0.0005615	0.0035	3.0507		12248.97	12248.97	9.01		Si
SLD 12	9.59	2106.62	-10764	-0.0000261	0.0005615	0.0035	3.0507		15846.44	15846.44	7.52		Si
SLD 12	11.45	-617.85	-8011	-0.0000161	0.0005615	0.0035	3.0507		14118.91	14118.91	22.85		Si
SLV 12	9.59	2328.3	-8198	-0.0000223	0.0005615	0.0035	3.0507		12359.16	12359.16	5.31		Si
SLV 12	11.45	-1362.96	-6656	-0.0000162	0.0005615	0.0035	3.0507		12239.79	12239.79	8.98		Si
SLV 8	9.59	2159.74	-8948	-0.0000231	0.0005615	0.0035	3.0507		13393.07	13393.07	6.2		Si
SLV 8	11.45	-1461.65	-7300	-0.0000177	0.0005615	0.0035	3.0507		13129.67	13129.67	8.98		Si
SLV 7	9.59	2218.23	-8899	-0.0000232	0.0005615	0.0035	3.0507		13324.88	13324.88	6.01		Si
SLV 7	11.45	-1458.56	-7307	-0.0000177	0.0005615	0.0035	3.0507		13138.93	13138.93	9.01		Si
SLD 11	9.59	2143.41	-10732	-0.0000262	0.0005615	0.0035	3.0507		15804.57	15804.57	7.37		Si
SLD 11	11.45	-615.91	-8016	-0.0000161	0.0005615	0.0035	3.0507		14124.77	14124.77	22.93		Si
SLV 9	9.59	1385.13	-21098	-0.0000426	0.0005615	0.0035	3.0507		28099.05	28099.05	20.29		Si
SLV 9	11.45	2673.6	-13246	-0.0000326	0.0005615	0.0035	3.0507		19118.25	19118.25	7.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 58	9.59	2538.92	-19688	-16394	1547	3.0507	3.0507	-19193	9503	10669	30925	25578	7779	33358	No	21.56	Si
SLU 58	11.45	1015.77	-13640	-11358	1558	3.0507	3.0507	-13297	8717	8655	30925	25578	7779	33358	No	21.41	Si
SLU 51	9.59	2019.86	-18648	-15528	1409	3.0507	3.0507	-18179	9368	10323	30925	25578	7779	33358	No	23.67	Si
SLU 51	11.45	702.23	-12837	-10690	1578	3.0507	3.0507	-12514	8613	8388	30925	25578	7779	33358	No	21.13	Si
SLU 46	9.59	1962.02	-18369	-15296	1400	3.0507	3.0507	-17907	9332	10230	30925	25578	7779	33358	No	23.83	Si
SLU 46	11.45	641.61	-12628	-10515	1570	3.0507	3.0507	-12310	8586	8318	30925	25578	7779	33358	No	21.24	Si
SLU 50	9.59	2018.35	-18574	-15467	1540	3.0507	3.0507	-18107	9359	10299	30925	25578	7779	33358	No	21.66	Si
SLU 50	11.45	670.96	-12798	-10657	1707	3.0507	3.0507	-12477	8608	8375	30925	25578	7779	33358	No	19.55	Si
SLU 48	9.59	2048.25	-18904	-15742	1486	3.0507	3.0507	-18429	9402	10408	30925	25578	7779	33358	No	22.45	Si
SLU 48	11.45	685.48	-13085	-10896	1670	3.0507	3.0507	-12756	8645	8470	30925	25578	7779	33358	No	19.97	Si
SLU 45	9.59	1960.51	-18296	-15235	1531	3.0507	3.0507	-17836	9323	10206	30925	25578	7779	33358	No	21.79	Si
SLU 45	11.45	610.34	-12589	-10483	1699	3.0507	3.0507	-12272	8581	8305	30925	25578	7779	33358	No	19.64	Si
SLU 43	9.59	1842.88	-17358	-14455	1629	3.0507	3.0507	-16922	9201	9894	30925	25578	7779	33358	No	20.47	Si
SLU 43	11.45	520.68	-11806	-9831	1763	3.0507	3.0507	-11509	8479	8044	30925	25578	7779	33358	No	18.92	Si
SLU 62	9.59	2674.28	-19557	-16285	1595	3.0507	3.0507	-19065	9486	10626	30925	25578	7779	33358	No	20.92	Si
SLU 62	11.45	1088.42	-13505	-11246	1523	3.0507	3.0507	-13165	8700	8610	30925	25578	7779	33358	No	21.9	Si
SLU 60	9.59	2586.54	-18949	-15779	1640	3.0507	3.0507	-18472	9407	10423	30925	25578	7779	33358	No	20.34	Si
SLU 60	11.45	1013.28	-13009	-10832	1552	3.0507	3.0507	-12681	8635	8445	30925	25578	7779	33358	No	21.5	Si
SLU 64	9.59	2217.99	-19820	-16504	1420	3.0507	3.0507	-19321	9521	10713	30925	25578	7779	33358	No	23.49	Si
SLU 64	11.45	715.29	-13537	-11272	1567	3.0507	3.0507	-13197	8704	8621	30925	25578	7779	33358	No	21.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	9.59	1385.13	-21098	-17568	-10880	3.0507	3.0507	-20567	14530	13195	30925	38367	7779	44121		4.06	Si
SLV 9	11.45	2673.6	-13246	-11030	-9726	3.0507	3.0507	-12913	12999	11104	30925	38367	7779	42029		4.32	Si
SLV 11	9.59	2386.79	-8148	-6785	11944	3.0507	3.0507	-7943	12005	10255	30925	38367	7779	41180		3.45	Si
SLV 11	11.45	-1359.87	-6662	-5548	10749	3.0507	3.0507	-6495	11716	10007	30925	38367	7779	40933		3.81	Si
SLV 12	9.59	2328.3	-8198	-6826	11989	3.0507	3.0507	-7991	12015	10263	30925	38367	7779	41189		3.44	Si
SLV 12	11.45	-1362.96	-6656	-5542	10815	3.0507	3.0507	-6488	11714	10006	30925	38367	7779	40932		3.78	Si
SLV 7	9.59	2218.23	-8899	-7410	13117	3.0507	3.0507	-8675	12152	10380	30925	38367	7779	41305		3.15	Si
SLV 7	11.45	-1458.56	-7307	-6085	12072	3.0507	3.0507	-7123	11841	10115	30925	38367	7779	41040		3.4	Si
SLV 6	9.59	1158.08	-21898	-18235	-9663	3.0507	3.0507	-21348	14686	13462	30925	38367	7779	44387		4.59	Si
SLV 6	11.45	2571.82	-13884	-11561	-8336	3.0507	3.0507	-13535	13124	11210	30925	38367	7779	42136		5.05	Si
SLV 5	9.59	1216.57	-21849	-18194	-9708	3.0507	3.0507	-21299	14677	13445	30925	38367	7779	44371		4.57	Si
SLV 5	11.45	2574.91	-13890	-11567	-8403	3.0507	3.0507	-13541	13125	11211	30925	38367	7779	42137		5.01	Si
SLV 8	9.59	2159.74	-8948	-7451	13161	3.0507	3.0507	-8723	12161	10388	30925	38367	7779	41314		3.14	Si
SLV 8	11.45	-1461.65	-7300	-6079	12138	3.0507	3.0507	-7117	11840	10114	30925	38367	7779	41039		3.38	Si
SLD 8	9.59	2004.15	-11248	-9367	8603	3.0507	3.0507	-10965	12610	10771	30925	38367	7779	41697		4.85	Si
SLD 8	11.45	-681.24	-8426	-7017	7986	3.0507	3.0507	-8214	12060	10301	30925	38367	7779	41227		5.16	Si
SLD 7	9.59	2040.94	-11217	-9340	8575	3.0507	3.0507	-10935	12604	10766	30925	38367	7779	41691		4.86	Si
SLD 7	11.45	-679.3	-8430	-7020	7944	3.0507	3.0507	-8218	12060	10302	30925	38367	7779	41227		5.19	Si
SLV 10	9.59	1326.64	-21148	-17610	-10836	3.0507	3.0507	-20616	14540	13212	30925	38367	7779	44137		4.07	Si
SLV 10	11.45	2670.51	-13239	-11024	-9660	3.0507	3.0507	-12906	12998	11103	30925	38367	7779	42028		4.35	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.52 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.47	9712	-8296	234.71	1087.56	4.63	Si
SLV 12	179667	0.47	9760	-8337	234.71	1092.61	4.66	Si
SLV 7	179667	0.47	10711	-9149	234.71	1191.06	5.07	Si
SLV 8	179667	0.47	10759	-9191	234.71	1196.03	5.1	Si
SLV 15	179667	0.47	11929	-10190	234.71	1315.14	5.6	Si
SLV 16	179667	0.47	12001	-10251	234.71	1322.39	5.63	Si
SLV 13	179667	0.47	14839	-12675	234.71	1602.1	6.83	Si
SLV 14	179667	0.47	14911	-12737	234.71	1609.02	6.86	Si
SLV 3	179667	0.47	15259	-13034	234.71	1642.48	7	Si
SLV 4	179667	0.47	15331	-13096	234.71	1649.35	7.03	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.52 Wa = 0.05 Ta = 0.0436

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-12340	-18180	-880	1.187	1584.1	0.942	18.30833	5.89878	Si
SLV 2	-12330	-18254	-881	1.187	1583.1	0.942	18.32081	5.89878	Si
SLV 3	-10365	-14295	-857	1.368	1384.2	0.935	21.27232	5.89878	Si
SLV 4	-10355	-14369	-858	1.369	1383.2	0.935	21.28932	5.89878	Si
SLV 5	-13890	-21849	-290	1.113	1741.3	0.946	17.09623	4.73503	Si
SLV 6	-13884	-21898	-291	1.114	1740.6	0.946	17.10327	4.73503	Si
SLV 13	-10191	-15677	881	1.385	1366.6	0.934	21.54791	5.89878	Si
SLV 14	-10181	-15751	881	1.386	1365.6	0.934	21.56581	5.89878	Si
SLV 9	-13246	-21098	238	1.161	1675.9	0.945	17.86837	4.73503	Si
SLV 10	-13239	-21148	238	1.162	1675.2	0.945	17.87629	4.73503	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.925	SLU 41	Si
V_SLU	18.916	SLU 43	Si
PF_SLV	5.149	SLV 11	Si
V_SLV	3.139	SLV 8	Si
PFFP_SLV	4.634	SLV 11	Si
R_SLV	3.104	SLV 1	Si

Maschio 179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-0.354	-13.753	1.141	L6	L7	1.495	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 62	7.9	892.83	-14207	-0.0000686	0.0003743	0.0035	1.495	7079.71	8138.32	8138.32	9.12	No	Si
SLU 62	11.45	338.62	-8893	-0.0000379	0.0003743	0.0035	1.495	5260.43	5673.35	5673.35	16.75	No	Si
SLU 18	7.9	754.39	-11335	-0.0000542	0.0003743	0.0035	1.495	6219.3	6873.47	6873.47	9.11	No	Si
SLU 18	11.45	238.79	-7011	-0.0000291	0.0003743	0.0035	1.495	4378.69	4615.7	4615.7	19.33	No	Si
SLU 61	7.9	867.16	-13811	-0.0000665	0.0003743	0.0035	1.495	6978.13	7958.53	7958.53	9.18	No	Si
SLU 61	11.45	309.79	-8490	-0.0000359	0.0003743	0.0035	1.495	5082.17	5441.73	5441.73	17.57	No	Si
SLU 60	7.9	877.84	-13773	-0.0000665	0.0003743	0.0035	1.495	6968.23	7941.62	7941.62	9.05	No	Si
SLU 60	11.45	293.17	-8457	-0.0000355	0.0003743	0.0035	1.495	5067.16	5422.72	5422.72	18.5	No	Si
SLU 19	7.9	743.71	-11372	-0.0000542	0.0003743	0.0035	1.495	6232.41	6889.47	6889.47	9.26	No	Si
SLU 19	11.45	255.41	-7045	-0.0000295	0.0003743	0.0035	1.495	4395.4	4633.94	4633.94	18.14	No	Si
SLU 28	7.9	489.53	-12970	-0.0000568	0.0003743	0.0035	1.495	6744.58	7582.75	7582.75	15.49	No	Si
SLU 28	11.45	574.07	-8394	-0.0000395	0.0003743	0.0035	1.495	5038.65	5386.8	5386.8	9.38	No	Si
SLU 20	7.9	769.39	-11769	-0.0000562	0.0003743	0.0035	1.495	6367.92	7058.97	7058.97	9.17	No	Si
SLU 20	11.45	284.24	-7447	-0.0000315	0.0003743	0.0035	1.495	4594.09	4855.58	4855.58	17.08	No	Si
SLU 63	7.9	882.16	-14245	-0.0000686	0.0003743	0.0035	1.495	7089.04	8155.43	8155.43	9.24	No	Si
SLU 63	11.45	355.24	-8926	-0.0000383	0.0003743	0.0035	1.495	5274.94	5692.64	5692.64	16.02	No	Si
SLU 30	7.9	487.27	-12769	-0.0000559	0.0003743	0.0035	1.495	6685.07	7493.92	7493.92	15.38	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 30	11.45	553.7	-8196	-0.0000385	0.0003743	0.0035	1.495	4948.24	5274.47	5274.47	9.53	No	Si
SLU 21	7.9	758.71	-11806	-0.0000562	0.0003743	0.0035	1.495	6380.46	7075.08	7075.08	9.33	No	Si
SLU 21	11.45	300.86	-7481	-0.0000319	0.0003743	0.0035	1.495	4610.29	4874.06	4874.06	16.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	7.9	-780.08	-12669	-0.0000584	0.0005615	0.0035	1.495		8584.19	8584.19	11		Si
SLV 9	11.45	1587.06	-8446	-0.000054	0.0005615	0.0035	1.495		5742.92	5742.92	3.62		Si
SLV 5	7.9	-586.41	-13036	-0.0000569	0.0005615	0.0035	1.495		8781.24	8781.24	14.97		Si
SLV 5	11.45	1536.42	-9121	-0.0000559	0.0005615	0.0035	1.495		6105.56	6105.56	3.97		Si
SLV 8	7.9	1803.46	-9053	-0.0000596	0.0005615	0.0035	1.495		6069.1	6069.1	3.37		Si
SLV 8	11.45	-904.83	-4836	-0.0000303	0.0005615	0.0035	1.495		3906.61	3906.61	4.32		Si
SLV 11	7.9	1610.23	-8714	-0.0000554	0.0005615	0.0035	1.495		5886.35	5886.35	3.66		Si
SLV 11	11.45	-848.96	-4179	-0.0000271	0.0005615	0.0035	1.495		3473.09	3473.09	4.09		Si
SLV 7	7.9	1803.91	-9081	-0.0000597	0.0005615	0.0035	1.495		6083.92	6083.92	3.37		Si
SLV 7	11.45	-899.61	-4853	-0.0000303	0.0005615	0.0035	1.495		3917.64	3917.64	4.35		Si
SLV 10	7.9	-780.53	-12642	-0.0000583	0.0005615	0.0035	1.495		8569.49	8569.49	10.98		Si
SLV 10	11.45	1581.85	-8430	-0.0000539	0.0005615	0.0035	1.495		5734	5734	3.62		Si
SLV 6	7.9	-586.86	-13008	-0.0000568	0.0005615	0.0035	1.495		8766.53	8766.53	14.94		Si
SLV 6	11.45	1531.2	-9104	-0.0000557	0.0005615	0.0035	1.495		6096.55	6096.55	3.98		Si
SLD 9	7.9	-290.38	-11995	-0.0000483	0.0005615	0.0035	1.495		8224.71	8224.71	28.32		Si
SLD 9	11.45	1114.22	-7768	-0.0000444	0.0005615	0.0035	1.495		5381.51	5381.51	4.83		Si
SLD 10	7.9	-290.67	-11978	-0.0000483	0.0005615	0.0035	1.495		8215.31	8215.31	28.26		Si
SLD 10	11.45	1110.94	-7757	-0.0000443	0.0005615	0.0035	1.495		5375.95	5375.95	4.84		Si
SLV 12	7.9	1609.79	-8686	-0.0000553	0.0005615	0.0035	1.495		5871.6	5871.6	3.65		Si
SLV 12	11.45	-854.18	-4162	-0.0000271	0.0005615	0.0035	1.495		3462.03	3462.03	4.05		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	7.9	908.5	-15988	-13313	1596	1.495	1.495	-31804	10833	4893	40441	12535	3812	16347	No	10.24	Si
SLU 84	11.45	478.87	-10080	-8393	-2317	1.495	1.495	-20051	9618	4026	40441	12535	3812	16347	No	7.06	Si
SLU 77	7.9	842.61	-16221	-13507	1609	1.495	1.495	-32268	10833	4945	40441	12535	3812	16347	No	10.16	Si
SLU 77	11.45	553.2	-10418	-8675	-2347	1.495	1.495	-20725	9708	4064	40441	12535	3812	16347	No	6.96	Si
SLU 79	7.9	840.34	-16020	-13340	1617	1.495	1.495	-31868	10833	4901	40441	12535	3812	16347	No	10.11	Si
SLU 79	11.45	532.83	-10220	-8510	-2281	1.495	1.495	-20331	9655	4042	40441	12535	3812	16347	No	7.17	Si
SLU 80	7.9	829.67	-16058	-13371	1550	1.495	1.495	-31943	10833	4909	40441	12535	3812	16347	No	10.54	Si
SLU 80	11.45	549.44	-10253	-8538	-2358	1.495	1.495	-20397	9664	4045	40441	12535	3812	16347	No	6.93	Si
SLU 78	7.9	831.93	-16259	-13539	1542	1.495	1.495	-32343	10833	4954	40441	12535	3812	16347	No	10.6	Si
SLU 78	11.45	569.82	-10451	-8703	-2425	1.495	1.495	-20791	9717	4067	40441	12535	3812	16347	No	6.74	Si
SLU 75	7.9	816.93	-15824	-13177	1530	1.495	1.495	-31479	10833	4857	40441	12535	3812	16347	No	10.69	Si
SLU 75	11.45	524.37	-10015	-8340	-2304	1.495	1.495	-19923	9601	4019	40441	12535	3812	16347	No	7.09	Si
SLU 83	7.9	919.18	-15950	-13282	1663	1.495	1.495	-31729	10833	4885	40441	12535	3812	16347	No	9.83	Si
SLU 83	11.45	462.25	-10046	-8366	-2239	1.495	1.495	-19985	9609	4022	40441	12535	3812	16347	No	7.3	Si
SLU 70	7.9	612.98	-15408	-12831	1406	1.495	1.495	-30652	10833	4765	40441	12535	3812	16347	No	11.62	Si
SLU 70	11.45	628.45	-9840	-8194	-2240	1.495	1.495	-19574	9554	3999	40441	12535	3812	16347	No	7.3	Si
SLU 36	7.9	708.48	-13820	-11508	1118	1.495	1.495	-27492	10610	4441	40441	12535	3812	16347	No	14.62	Si
SLU 36	11.45	515.45	-9006	-7499	-2292	1.495	1.495	-17915	9333	3907	40441	12535	3812	16347	No	7.13	Si
SLU 76	7.9	807.55	-15648	-13031	1494	1.495	1.495	-31129	10833	4818	40441	12535	3812	16347	No	10.95	Si
SLU 76	11.45	515.07	-9840	-8194	-2290	1.495	1.495	-19574	9554	3999	40441	12535	3812	16347	No	7.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	7.9	1803.46	-9053	-7539	7907	1.495	1.495	-18009	14018	5868	40441	18802	3812	22614		2.86	Si
SLV 8	11.45	-904.83	-4836	-4027	5041	1.495	1.495	-9621	12341	5166	40441	18802	3812	22614		4.49	Si
SLV 6	7.9	-586.86	-13008	-10832	-4829	1.495	1.495	-25877	15592	6527	40441	18802	3812	22614		4.68	Si
SLV 6	11.45	1531.2	-9104	-7581	-7186	1.495	1.495	-18110	14039	5877	40441	18802	3812	22614		3.15	Si
SLV 10	7.9	-780.53	-12642	-10527	-5507	1.495	1.495	-25147	15446	6466	40441	18802	3812	22614		4.11	Si
SLV 10	11.45	1581.85	-8430	-7019	-7728	1.495	1.495	-16769	13770	5764	40441	18802	3812	22614		2.93	Si
SLV 5	7.9	-586.41	-13036	-10855	-4832	1.495	1.495	-25932	15603	6531	40441	18802	3812	22614		4.68	Si
SLV 5	11.45	1536.42	-9121	-7595	-7197	1.495	1.495	-18143	14045	5879	40441	18802	3812	22614		3.14	Si
SLD 7	7.9	1314.04	-9744	-8114	5370	1.495	1.495	-19383	14293	5983	40441	18802	3812	22614		4.21	Si
SLD 7	11.45	-428.7	-5525	-4601	2613	1.495	1.495	-10991	12615	5281	40441	18802	3812	22614		8.65	Si
SLD 8	7.9	1313.76	-9727	-8100	5372	1.495	1.495	-19349	14286	5980	40441	18802	3812	22614		4.21	Si
SLD 8	11.45	-431.98	-5515	-4592	2620	1.495	1.495	-10971	12611	5279	40441	18802	3812	22614		8.63	Si
SLV 9	7.9	-780.08	-12669	-10550	-5510	1.495	1.495	-25202	15457	6470	40441	18802	3812	22614		4.1	Si
SLV 9	11.45	1587.06	-8446	-7033	-7738	1.495	1.495	-16802	13777	5767	40441	18802	3812	22614		2.92	Si
SLV 7	7.9	1803.91	-9081	-7561	7904	1.495	1.495	-18064	14029	5873	40441	18802	3812	22614		2.86	Si
SLV 7	11.45	-899.61	-4853	-4041	5030	1.495	1.495	-9654	12348	5169	40441	18802	3812	22614		4.5	Si
SLV 11	7.9	1610.23	-8714	-7256	7226	1.495	1.495	-17334	13883	5812	40441	18802	3812	22614		3.13	Si
SLV 11	11.45	-848.96	-4179	-3480	4489	1.495	1.495	-8313	12079	5056	40441	18802	3812	22614		5.04	Si
SLV 12	7.9	1609.79	-8686	-7233	7229	1.495	1.495	-17279	13873	5807	40441	18802	3812	22614		3.13	Si
SLV 12	11.45	-854.18	-4162	-3466	4500	1.495	1.495	-8280	12073	5054	40441	18802	3812	22614		5.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.45	16218	-6789	190.46	849.5	4.46	Si
SLV 11	179667	0.45	16259	-6806	190.46	851.42	4.47	Si
SLV 8	179667	0.45	17206	-7203	190.46	894.75	4.7	Si
SLV 7	179667	0.45	17248	-7220	190.46	896.64	4.71	Si
SLV 16	179667	0.45	18331	-7673	190.46	945.34	4.96	Si
SLV 15	179667	0.45	18393	-7699	190.46	948.1	4.98	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.45	21140	-8849	190.46	1067.4	5.6	Si
SLV 13	179667	0.45	21202	-8875	190.46	1070.02	5.62	Si
SLV 4	179667	0.45	21626	-9053	190.46	1087.92	5.71	Si
SLV 3	179667	0.45	21688	-9079	190.46	1090.52	5.73	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-8418	-12086	-314	0.873	1067.6	0.944	13.44488	8.02002	Si
SLV 2	-8393	-12045	-314	0.876	1065.1	0.944	13.47915	8.02002	Si
SLV 3	-7137	-10899	-286	1.003	937.9	0.938	15.54213	8.02002	Si
SLV 4	-7113	-10859	-286	1.006	935.4	0.938	15.58819	8.02002	Si
SLV 13	-6170	-10863	309	1.124	840.1	0.932	17.528	8.02002	Si
SLV 14	-6145	-10823	309	1.127	837.6	0.932	17.58706	8.02002	Si
SLV 5	-9121	-13036	-129	0.835	1138.9	0.947	12.81352	5.35431	Si
SLV 6	-9104	-13008	-129	0.836	1137.2	0.947	12.83393	5.35431	Si
SLV 9	-8446	-12669	58	0.897	1070.5	0.944	13.80888	5.35431	Si
SLV 10	-8430	-12642	58	0.899	1068.8	0.944	13.83252	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.047	SLU 60	Si
V_SLU	6.742	SLU 78	Si
PF_SLV	3.365	SLV 8	Si
V_SLV	2.86	SLV 8	Si
PFFP_SLV	4.46	SLV 12	Si
R_SLV	1.676	SLV 1	Si

Maschio 180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L6	L7	2.015	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	8.8	177.81	-13334	-0.0000382	0.0003743	0.0035	2.015	10315.67	11342.95	11342.95	63.79	No	Si
SLU 40	10.6	1045.71	-11404	-0.0000398	0.0003743	0.0035	2.015	9208.22	9853.83	9853.83	9.42	No	Si
SLU 37	8.8	239.11	-14161	-0.0000411	0.0003743	0.0035	2.015	10749.88	11817.31	11817.31	49.42	No	Si
SLU 37	10.6	1088.99	-12230	-0.0000426	0.0003743	0.0035	2.015	9698.42	10505.63	10505.63	9.65	No	Si
SLU 39	8.8	198.4	-13352	-0.0000384	0.0003743	0.0035	2.015	10325.53	11354.16	11354.16	57.23	No	Si
SLU 39	10.6	1038.55	-11422	-0.0000398	0.0003743	0.0035	2.015	9219.31	9868.09	9868.09	9.5	No	Si
SLU 42	8.8	179.38	-13987	-0.0000401	0.0003743	0.0035	2.015	10660.68	11718.5	11718.5	65.33	No	Si
SLU 42	10.6	1107.59	-12057	-0.0000423	0.0003743	0.0035	2.015	9597.45	10367.78	10367.78	9.36	No	Si
SLU 31	8.8	201.66	-12824	-0.0000369	0.0003743	0.0035	2.015	10035.9	10979.4	10979.4	54.45	No	Si
SLU 31	10.6	977.16	-10894	-0.0000378	0.0003743	0.0035	2.015	8893.91	9457.94	9457.94	9.68	No	Si
SLU 41	8.8	199.97	-14006	-0.0000403	0.0003743	0.0035	2.015	10670.12	11728.88	11728.88	58.65	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	10.6	1100.43	-12075	-0.0000423	0.0003743	0.0035	2.015	9608.13	10382.27	10382.27	9.43	No	Si
SLU 84	8.8	305.86	-16141	-0.0000476	0.0003743	0.0035	2.015	11692.64	12968.37	12968.37	42.4	No	Si
SLU 84	10.6	1197.9	-13662	-0.0000478	0.0003743	0.0035	2.015	10490.67	11534.28	11534.28	9.63	No	Si
SLU 34	8.8	203.23	-13477	-0.0000388	0.0003743	0.0035	2.015	10392.59	11429.08	11429.08	56.24	No	Si
SLU 34	10.6	1039.04	-11547	-0.0000402	0.0003743	0.0035	2.015	9294.83	9965.74	9965.74	9.59	No	Si
SLU 36	8.8	233.45	-14478	-0.000042	0.0003743	0.0035	2.015	10910.24	11998.88	11998.88	51.4	No	Si
SLU 36	10.6	1115.36	-12548	-0.0000438	0.0003743	0.0035	2.015	9880.27	10758.38	10758.38	9.65	No	Si
SLU 38	8.8	218.52	-14143	-0.0000409	0.0003743	0.0035	2.015	10740.55	11806.9	11806.9	54.03	No	Si
SLU 38	10.6	1096.15	-12212	-0.0000426	0.0003743	0.0035	2.015	9687.84	10491.11	10491.11	9.57	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	8.8	-2128.71	-11840	-0.0000491	0.0005615	0.0035	2.015		11741.57	11741.57	5.52		Si
SLD 1	10.6	2820.79	-9939	-0.0000494	0.0005615	0.0035	2.015		9325.78	9325.78	3.31		Si
SLV 16	8.8	4202.27	-8463	-0.0000603	0.0005615	0.0035	2.015		8097.88	8097.88	1.93		Si
SLV 16	10.6	-2682.19	-6576	-0.0000393	0.0005615	0.0035	2.015		7278.83	7278.83	2.71		Si
SLV 15	8.8	3391.91	-9133	-0.0000519	0.0005615	0.0035	2.015		8671.96	8671.96	2.56		Si
SLV 15	10.6	-2020.82	-7246	-0.0000353	0.0005615	0.0035	2.015		7871.36	7871.36	3.9		Si
SLV 3	8.8	-2537.47	-13884	-0.0000584	0.0005615	0.0035	2.015		13347.44	13347.44	5.26		Si
SLV 3	10.6	3646.73	-11932	-0.0000619	0.0005615	0.0035	2.015		10780.91	10780.91	2.96		Si
SLV 2	8.8	-2729.42	-11909	-0.0000543	0.0005615	0.0035	2.015		11797.63	11797.63	4.32		Si
SLV 2	10.6	3378.13	-10002	-0.0000541	0.0005615	0.0035	2.015		9372.51	9372.51	2.77		Si
SLV 13	8.8	2389.61	-7827	-0.0000399	0.0005615	0.0035	2.015		7548.3	7548.3	3.16		Si
SLV 13	10.6	-1628.05	-5986	-0.0000287	0.0005615	0.0035	2.015		6759.21	6759.21	4.15		Si
SLV 14	8.8	3199.97	-7157	-0.000046	0.0005615	0.0035	2.015		6958.64	6958.64	2.17		Si
SLV 14	10.6	-2289.43	-5316	-0.0000329	0.0005615	0.0035	2.015		6145.46	6145.46	2.68		Si
SLV 1	8.8	-3539.78	-12579	-0.0000629	0.0005615	0.0035	2.015		12329.63	12329.63	3.48		Si
SLV 1	10.6	4039.5	-10672	-0.0000618	0.0005615	0.0035	2.015		9859.49	9859.49	2.44		Si
SLD 16	8.8	2791.2	-9202	-0.000047	0.0005615	0.0035	2.015		8730.15	8730.15	3.13		Si
SLD 16	10.6	-1463.49	-7309	-0.000031	0.0005615	0.0035	2.015		7926.99	7926.99	5.42		Si
SLV 5	8.8	-2501.46	-9283	-0.0000449	0.0005615	0.0035	2.015		9627.58	9627.58	3.85		Si
SLV 5	10.6	2406.04	-7453	-0.000039	0.0005615	0.0035	2.015		7219.13	7219.13	3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	8.8	239.11	-14161	-11792	-448	2.015	2.015	-20900	9731	5490	40441	16895	5138	22033	No	49.14	Si
SLU 37	10.6	1088.99	-12230	-10184	-448	2.015	2.015	-18051	9351	5276	40441	16895	5138	22033	No	49.14	Si
SLU 35	8.8	254.04	-14497	-12071	-451	2.015	2.015	-21396	9797	5528	40441	16895	5138	22033	No	48.88	Si
SLU 35	10.6	1108.2	-12566	-10464	-451	2.015	2.015	-18546	9417	5313	40441	16895	5138	22033	No	48.88	Si
SLU 84	8.8	305.86	-16141	-13441	-464	2.015	2.015	-23823	10121	5710	40441	16895	5138	22033	No	47.45	Si
SLU 84	10.6	1197.9	-13662	-11376	-464	2.015	2.015	-20164	9633	5435	40441	16895	5138	22033	No	47.45	Si
SLU 36	8.8	233.45	-14478	-12056	-466	2.015	2.015	-21369	9794	5526	40441	16895	5138	22033	No	47.26	Si
SLU 36	10.6	1115.36	-12548	-10449	-466	2.015	2.015	-18519	9414	5311	40441	16895	5138	22033	No	47.26	Si
SLU 39	8.8	198.4	-13352	-11119	-443	2.015	2.015	-19707	9572	5401	40441	16895	5138	22033	No	49.74	Si
SLU 39	10.6	1038.55	-11422	-9511	-443	2.015	2.015	-16858	9192	5186	40441	16895	5138	22033	No	49.74	Si
SLU 41	8.8	199.97	-14006	-11663	-476	2.015	2.015	-20671	9701	5473	40441	16895	5138	22033	No	46.24	Si
SLU 41	10.6	1100.43	-12075	-10055	-476	2.015	2.015	-17822	9321	5259	40441	16895	5138	22033	No	46.24	Si
SLU 83	8.8	326.45	-16160	-13456	-449	2.015	2.015	-23850	10124	5712	40441	16895	5138	22033	No	49.08	Si
SLU 83	10.6	1190.74	-13680	-11392	-449	2.015	2.015	-20191	9637	5437	40441	16895	5138	22033	No	49.08	Si
SLU 42	8.8	179.38	-13987	-11647	-492	2.015	2.015	-20644	9697	5471	40441	16895	5138	22033	No	44.79	Si
SLU 42	10.6	1107.59	-12057	-10040	-492	2.015	2.015	-17795	9317	5257	40441	16895	5138	22033	No	44.79	Si
SLU 40	8.8	177.81	-13334	-11104	-458	2.015	2.015	-19680	9568	5399	40441	16895	5138	22033	No	48.07	Si
SLU 40	10.6	1045.71	-11404	-9496	-458	2.015	2.015	-16831	9189	5184	40441	16895	5138	22033	No	48.07	Si
SLU 38	8.8	218.52	-14143	-11777	-464	2.015	2.015	-20873	9728	5488	40441	16895	5138	22033	No	47.5	Si
SLU 38	10.6	1096.15	-12212	-10169	-464	2.015	2.015	-18024	9348	5274	40441	16895	5138	22033	No	47.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	8.8	-2537.47	-13884	-11562	-3547	2.015	2.015	-20492	14515	8189	40441	25342	5138	30480		8.59	Si
SLV 3	10.6	3646.73	-11932	-9936	-3184	2.015	2.015	-17610	13939	7864	40441	25342	5138	30480		9.57	Si
SLV 15	8.8	3391.91	-9133	-7605	3172	2.015	1.9083	-13480	13113	7007	40441	25342	5138	30480		9.61	Si
SLV 15	10.6	-2020.82	-7246	-6034	2809	2.015	2.015	-10695	12556	7084	40441	25342	5138	30480		10.85	Si
SLV 16	8.8	4202.27	-8463	-7047	3990	2.015	1.5329	-12491	12915	5543	40441	25342	5138	30480		7.64	Si
SLV 16	10.6	-2682.19	-6576	-5476	3627	2.015	1.7989	-10913	12599	6346	40441	25342	5138	30480		8.4	Si
SLD 16	8.8	2791.2	-9202	-7662	2482	2.015	2.015	-13581	13133	7410	40441	25342	5138	30480		12.28	Si
SLD 16	10.6	-1463.49	-7309	-6086	2246	2.015	2.015	-10787	12574	7094	40441	25342	5138	30480		13.57	Si
SLV 1	8.8	-3539.78	-12579	-10475	-4327	2.015	2.015	-18565	14130	7972	40441	25342	5138	30480		7.04	Si
SLV 1	10.6	4039.5	-10672	-8887	-3964	2.015	1.887	-15751	13567	7168	40441	25342	5138	30480		7.69	Si
SLV 4	8.8	-1727.11	-13214	-11004	-2730	2.015	2.015	-19503	14317	8078	40441	25342	5138	30480		11.17	Si
SLV 4	10.6	2985.36	-11262	-9378	-2366	2.015	2.015	-16621	13741	7753	40441	25342	5138	30480		12.88	Si
SLV 14	8.8	3199.97	-7157	-5960	3210	2.015	1.6812	-10564	12529	5898	40441	25342	5138	30480		9.5	Si
SLV 14	10.6	-2289.43	-5316	-4427	2846	2.015	1.7306	-9174	12252	5937	40441	25342	5138	30480		10.71	Si
SLD 1	8.8	-2128.71	-11840	-9859	-2820	2.015	2.015	-17475	13912	7849	40441	25342	5138	30480		10.81	Si
SLD 1	10.6	2820.79	-9939	-8277	-2584	2.015	2.015	-14670	13351	7532	40441	25342	5138	30480		11.8	Si
SLV 2	8.8	-2729.42	-11909	-9917	-3510	2.015	2.015	-17576	13932	7860	40441	25342	5138	30480		8.68	Si
SLV 2	10.6	3378.13	-10002	-8329	-3147	2.015	2.0093	-14762	13369	7521	40441	25342	5138	30480		9.69	Si
SLV 5	8.8	-2501.46	-9283	-7730	-2752	2.015	2.015	-13701	13157	7423	40441	25342	5138	30480		11.08	Si
SLV 5	10.6	2406.04	-7453	-6206	-2644	2.015	2.015	-11000	12617	7118	40441	25342	5138	30480		11.53	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.45	10873	-6134	250.25	797.67	3.19	Si
SLV 10	179667	0.45	11351	-6404	250.25	829.96	3.32	Si
SLV 13	179667	0.45	12060	-6804	250.25	877.39	3.51	Si
SLV 9	179667	0.45	12151	-6855	250.25	883.4	3.53	Si
SLV 16	179667	0.45	13157	-7423	250.25	949.72	3.8	Si
SLV 6	179667	0.45	13879	-7831	250.25	996.67	3.98	Si
SLV 15	179667	0.45	14345	-8093	250.25	1026.63	4.1	Si
SLV 5	179667	0.45	14679	-8282	250.25	1048.01	4.19	Si
SLV 12	179667	0.45	18966	-10701	250.25	1312.03	5.24	Si
SLV 2	179667	0.45	19300	-10889	250.25	1331.82	5.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-7722	-6074	-269	1.207	1072.4	0.929	18.88725	8.02002	Si
SLV 16	-7719	-4725	-269	1.207	1072	0.929	18.89382	8.02002	Si
SLV 3	-7434	-16276	-254	1.245	1043.3	0.927	19.51615	8.02002	Si
SLV 4	-7431	-14928	-253	1.245	1043	0.927	19.52316	8.02002	Si
SLV 11	-9577	-10009	-872	0.964	1259.8	0.938	14.93827	5.35431	Si
SLV 12	-9575	-9101	-872	0.964	1259.6	0.938	14.94118	5.35431	Si
SLV 7	-9491	-13070	-867	0.971	1251.1	0.937	15.06014	5.35431	Si
SLV 8	-9489	-12162	-867	0.971	1250.9	0.937	15.06309	5.35431	Si
SLV 13	-6044	-5573	252	1.459	903.7	0.919	23.07649	8.02002	Si
SLV 14	-6041	-4224	252	1.459	903.4	0.919	23.08598	8.02002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.361	SLU 42	Si
V_SLU	44.791	SLU 42	Si
PF_SLV	1.927	SLV 16	Si
V_SLV	7.044	SLV 1	Si
PFFP_SLV	3.187	SLV 14	Si
R_SLV	2.355	SLV 15	Si

Maschio 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L6	L7	4.025	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	8.8	-1048.67	-39560	-0.0000585	0.0003743	0.0035	4.025	52165.22	63911.14	63911.14	60.94	No	Si
SLU 79	10.6	543.07	-35033	-0.0000504	0.0003743	0.0035	4.025	48977.12	55101.08	55101.08	101.46	No	Si
SLU 77	8.8	-1043.5	-40361	-0.0000598	0.0003743	0.0035	4.025	52654.53	64604.69	64604.69	61.91	No	Si
SLU 77	10.6	586.41	-35834	-0.0000517	0.0003743	0.0035	4.025	49593.68	56098.35	56098.35	95.66	No	Si
SLU 29	8.8	-875	-31367	-0.0000456	0.0003743	0.0035	4.025	45869.45	55364.8	55364.8	63.27	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 29	10.6	389.49	-27835	-0.0000393	0.0003743	0.0035	4.025	42428.73	46446.42	46446.42	119.25	No	Si
SLU 37	8.8	-973.53	-34324	-0.0000502	0.0003743	0.0035	4.025	48413.12	58936.85	58936.85	60.54	No	Si
SLU 37	10.6	520.28	-30792	-0.0000439	0.0003743	0.0035	4.025	45338.75	49936.8	49936.8	95.98	No	Si
SLU 80	8.8	-1056.45	-39501	-0.0000584	0.0003743	0.0035	4.025	52128.12	63860.25	63860.25	60.45	No	Si
SLU 80	10.6	552.25	-34973	-0.0000503	0.0003743	0.0035	4.025	48930.61	55027.6	55027.6	99.64	No	Si
SLU 30	8.8	-882.78	-31308	-0.0000455	0.0003743	0.0035	4.025	45815.32	55290.89	55290.89	62.63	No	Si
SLU 30	10.6	398.66	-27776	-0.0000392	0.0003743	0.0035	4.025	42367.25	46377.49	46377.49	116.33	No	Si
SLU 35	8.8	-968.36	-35125	-0.0000515	0.0003743	0.0035	4.025	49049.59	59887.47	59887.47	61.84	No	Si
SLU 35	10.6	563.61	-31593	-0.0000452	0.0003743	0.0035	4.025	46074.49	50900.25	50900.25	90.31	No	Si
SLU 36	8.8	-976.14	-35066	-0.0000514	0.0003743	0.0035	4.025	49003.28	59816.76	59816.76	61.28	No	Si
SLU 36	10.6	572.79	-31534	-0.0000452	0.0003743	0.0035	4.025	46020.83	50828.71	50828.71	88.74	No	Si
SLU 78	8.8	-1051.28	-40302	-0.0000597	0.0003743	0.0035	4.025	52619.1	64553.01	64553.01	61.4	No	Si
SLU 78	10.6	595.58	-35774	-0.0000516	0.0003743	0.0035	4.025	49548.84	56024.31	56024.31	94.07	No	Si
SLU 38	8.8	-981.31	-34265	-0.0000502	0.0003743	0.0035	4.025	48365.14	58866.95	58866.95	59.99	No	Si
SLU 38	10.6	529.46	-30733	-0.0000439	0.0003743	0.0035	4.025	45283.42	49865.81	49865.81	94.18	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	8.8	-8149.28	-26155	-0.000052	0.0005615	0.0035	4.025		51091.07	51091.07	6.27		Si
SLD 1	10.6	8297.26	-22711	-0.0000474	0.0005615	0.0035	4.025		41143.29	41143.29	4.96		Si
SLV 13	8.8	8244.24	-22245	-0.0000466	0.0005615	0.0035	4.025		40448.72	40448.72	4.91		Si
SLV 13	10.6	-8872.91	-18759	-0.000043	0.0005615	0.0035	4.025		39071.33	39071.33	4.4		Si
SLV 14	8.8	10811.39	-21925	-0.0000514	0.0005615	0.0035	4.025		39972.59	39972.59	3.7		Si
SLV 14	10.6	-11307.77	-18439	-0.0000475	0.0005615	0.0035	4.025		38530	38530	3.41		Si
SLV 2	8.8	-9901.63	-26117	-0.0000556	0.0005615	0.0035	4.025		51033.48	51033.48	5.15		Si
SLV 2	10.6	10336.39	-22686	-0.0000515	0.0005615	0.0035	4.025		41107.12	41107.12	3.98		Si
SLV 16	8.8	11363.06	-24729	-0.0000566	0.0005615	0.0035	4.025		44172.2	44172.2	3.89		Si
SLV 16	10.6	-12028.16	-21239	-0.0000529	0.0005615	0.0035	4.025		43228.7	43228.7	3.59		Si
SLD 3	8.8	-7806.69	-27899	-0.0000538	0.0005615	0.0035	4.025		53784.05	53784.05	6.89		Si
SLD 3	10.6	7850.21	-24453	-0.000049	0.0005615	0.0035	4.025		43756.23	43756.23	5.57		Si
SLV 1	8.8	-12468.78	-26437	-0.0000614	0.0005615	0.0035	4.025		51524.66	51524.66	4.13		Si
SLV 1	10.6	12771.25	-23006	-0.000057	0.0005615	0.0035	4.025		41584.92	41584.92	3.26		Si
SLV 3	8.8	-11917.1	-29241	-0.0000644	0.0005615	0.0035	4.025		55874.38	55874.38	4.69		Si
SLV 3	10.6	12050.86	-25806	-0.0000596	0.0005615	0.0035	4.025		45800.8	45800.8	3.8		Si
SLV 15	8.8	8795.91	-25049	-0.0000518	0.0005615	0.0035	4.025		44654.93	44654.93	5.08		Si
SLV 15	10.6	-9593.3	-21558	-0.0000484	0.0005615	0.0035	4.025		43741.21	43741.21	4.56		Si
SLV 4	8.8	-9349.96	-28921	-0.0000585	0.0005615	0.0035	4.025		55375.85	55375.85	5.92		Si
SLV 4	10.6	9616	-25486	-0.0000541	0.0005615	0.0035	4.025		45316.43	45316.43	4.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	8.8	-984.31	-39334	-32754	-964	4.025	4.025	-29063	10819	18526	40441	33747	10264	44011	No	45.63	Si
SLU 83	10.6	636.02	-34806	-28984	-964	4.025	4.025	-25718	10373	17018	40441	33747	10264	44011	No	45.63	Si
SLU 78	8.8	-1051.28	-40302	-33560	-979	4.025	4.025	-29778	10833	18849	40441	33747	10264	44011	No	44.95	Si
SLU 78	10.6	595.58	-35774	-29790	-979	4.025	4.025	-26433	10469	17341	40441	33747	10264	44011	No	44.95	Si
SLU 81	8.8	-877.72	-37841	-31510	-926	4.025	4.025	-27959	10672	18029	40441	33747	10264	44011	No	47.54	Si
SLU 81	10.6	672.91	-33313	-27740	-926	4.025	4.025	-24614	10226	16521	40441	33747	10264	44011	No	47.54	Si
SLU 74	8.8	-936.91	-38868	-32366	-931	4.025	4.025	-28718	10774	18371	40441	33747	10264	44011	No	47.27	Si
SLU 74	10.6	623.3	-34340	-28596	-931	4.025	4.025	-25373	10328	16863	40441	33747	10264	44011	No	47.27	Si
SLU 79	8.8	-1048.67	-39560	-32942	-949	4.025	4.025	-29230	10833	18602	40441	33747	10264	44011	No	46.4	Si
SLU 79	10.6	543.07	-35033	-29172	-949	4.025	4.025	-25885	10396	17094	40441	33747	10264	44011	No	46.4	Si
SLU 80	8.8	-1056.45	-39501	-32893	-958	4.025	4.025	-29186	10833	18582	40441	33747	10264	44011	No	45.94	Si
SLU 80	10.6	552.25	-34973	-29123	-958	4.025	4.025	-25841	10390	17074	40441	33747	10264	44011	No	45.94	Si
SLU 77	8.8	-1043.5	-40361	-33609	-970	4.025	4.025	-29822	10833	18868	40441	33747	10264	44011	No	45.38	Si
SLU 77	10.6	586.41	-35834	-29839	-970	4.025	4.025	-26477	10475	17361	40441	33747	10264	44011	No	45.38	Si
SLU 84	8.8	-992.09	-39274	-32704	-974	4.025	4.025	-29019	10814	18507	40441	33747	10264	44011	No	45.19	Si
SLU 84	10.6	645.2	-34747	-28934	-974	4.025	4.025	-25674	10368	16999	40441	33747	10264	44011	No	45.19	Si
SLU 82	8.8	-885.5	-37781	-31461	-935	4.025	4.025	-27916	10667	18009	40441	33747	10264	44011	No	47.06	Si
SLU 82	10.6	682.09	-33254	-27691	-935	4.025	4.025	-24571	10221	16501	40441	33747	10264	44011	No	47.06	Si
SLU 75	8.8	-944.7	-38809	-32316	-940	4.025	4.025	-28675	10768	18351	40441	33747	10264	44011	No	46.8	Si
SLU 75	10.6	632.48	-34281	-28546	-940	4.025	4.025	-25330	10322	16843	40441	33747	10264	44011	No	46.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	8.8	-9901.63	-26117	-21748	-11739	4.025	4.025	-19297	14276	16837	40441	50621	10264	57278		4.88	Si
SLV 2	10.6	10336.39	-22686	-18891	-10927	4.025	4.025	-16762	13769	15694	40441	50621	10264	56135		5.14	Si
SLV 15	8.8	8795.91	-25049	-20858	10613	4.025	4.025	-18508	14118	16481	40441	50621	10264	56922		5.36	Si
SLV 15	10.6	-9593.3	-21558	-17952	9801	4.025	4.025	-15929	13602	15330	40441	50621	10264	55771		5.69	Si
SLV 1	8.8	-12468.78	-26437	-22014	-14518	4.025	4.025	-19534	14323	16943	40441	50621	10264	57384		3.95	Si
SLV 1	10.6	12771.25	-23006	-19158	-13706	4.025	4.025	-16999	13816	15801	40441	50621	10264	56242		4.1	Si
SLV 13	8.8	8244.24	-22245	-18524	9933	4.025	4.025	-16436	13704	15547	40441	50621	10264	55988		5.64	Si
SLV 13	10.6	-8872.91	-18759	-15620	9116	4.025	4.025	-13860	13189	14864	40441	50621	10264	55305		6.07	Si
SLV 4	8.8	-9349.96	-28921	-24083	-11059	4.025	4.025	-21369	14690	17771	40441	50621	10264	58212		5.26	Si
SLV 4	10.6	9616	-25486	-21223	-10242	4.025	4.025	-18831	14183	16627	40441	50621	10264	57068		5.57	Si
SLV 14	8.8	10811.39	-21925	-18257	12711	4.025	4.025	-16200	13657	15441	40441	50621	10264	55882		4.4	Si
SLV 14	10.6	-11307.77	-18439	-15354	11895	4.025	4.025	-13624	13141	14810	40441	50621	10264	55251		4.65	Si
SLV 3	8.8	-11917.1	-29241	-24349	-13838	4.025	4.025	-21605	14738	17877	40441	50621	10264	58318		4.21	Si
SLV 3	10.6	12050.86	-25806	-21489	-13021	4.025	4.025	-19067	14230	16733	40441	50621	10264	57174		4.39	Si
SLD 3	8.8	-7806.69	-27899	-23232	-9047	4.025	4.025	-20614	14539	17430	40441	50621	10264	57871		6.4	Si
SLD 3	10.6	7850.21	-24453	-20362	-8519	4.025	4.025	-18068	14030	16283	40441	50621	10264	56724		6.66	Si
SLV 16	8.8	11363.06	-24729	-20592	13391	4.025	4.025	-18272	14071	16375	40441	50621	10264	56816		4.24	Si
SLV 16	10.6	-12028.16	-21239	-17686	12580	4.025	4.025	-15693	13555	15277	40441	50621	10264	55718		4.43	Si
SLD 1	8.8	-8149.28	-26155	-21779	-9470	4.025	4.025	-19325	14282	16849	40441	50621	10264	57290		6.05	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	10.6	8297.26	-22711	-18911	-8945	4.025	4.025	-16780	13773	15702	40441	50621	10264	56143		6.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	16370	-18449	499.88	2306	4.61	Si
SLV 9	179667	0.45	16561	-18664	499.88	2329.65	4.66	Si
SLV 6	179667	0.45	17508	-19731	499.88	2445.69	4.89	Si
SLV 5	179667	0.45	17699	-19947	499.88	2468.88	4.94	Si
SLV 14	179667	0.45	17902	-20175	499.88	2493.41	4.99	Si
SLV 13	179667	0.45	18185	-20495	499.88	2527.6	5.06	Si
SLV 16	179667	0.45	20392	-22981	499.88	2787.78	5.58	Si
SLV 15	179667	0.45	20675	-23301	499.88	2820.51	5.64	Si
SLV 2	179667	0.45	21694	-24449	499.88	2936.62	5.87	Si
SLV 1	179667	0.45	21977	-24769	499.88	2968.58	5.94	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-18442	-30018	-671	1.041	2446.9	0.936	16.16402	8.02002	Si
SLV 4	-18303	-29593	-671	1.047	2432.8	0.936	16.26829	8.02002	Si
SLV 1	-16775	-26874	667	1.123	2278.4	0.932	17.51223	8.02002	Si
SLV 2	-16636	-26449	667	1.131	2264.3	0.932	17.63488	8.02002	Si
SLV 15	-16445	-24415	-674	1.141	2245.1	0.931	17.80012	8.02002	Si
SLV 16	-16306	-23990	-674	1.148	2231	0.931	17.92713	8.02002	Si
SLV 13	-14778	-21271	665	1.241	2076.9	0.927	19.45869	8.02002	Si
SLV 14	-14639	-20846	665	1.25	2062.9	0.927	19.6107	8.02002	Si
SLV 7	-19666	-31656	-2233	0.921	2570.6	0.939	14.26461	5.35431	Si
SLV 8	-19572	-31370	-2233	0.925	2561.2	0.938	14.32281	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	59.988	SLU 38	Si
V_SLU	44.945	SLU 78	Si
PF_SLV	3.256	SLV 1	Si
V_SLV	3.953	SLV 1	Si
PFFP_SLV	4.613	SLV 10	Si
R_SLV	2.015	SLV 3	Si

Maschio 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L6	L7	4.005	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	8.8	-2898.3	-37320	-0.0000595	0.0003743	0.0035	4.005	50304.32	61614.74	61614.74	21.26	No	Si
SLU 77	10.6	604.89	-33193	-0.000048	0.0003743	0.0035	4.005	47144.56	52516.1	52516.1	86.82	No	Si
SLU 79	8.8	-2910.49	-36439	-0.0000581	0.0003743	0.0035	4.005	49680.43	60901.96	60901.96	20.92	No	Si
SLU 79	10.6	551.21	-32306	-0.0000465	0.0003743	0.0035	4.005	46387.45	51443.09	51443.09	93.33	No	Si
SLU 71	8.8	-2792.53	-33455	-0.0000532	0.0003743	0.0035	4.005	47362.5	57564.85	57564.85	20.61	No	Si
SLU 71	10.6	436.47	-29301	-0.0000418	0.0003743	0.0035	4.005	43616.76	47852.59	47852.59	109.64	No	Si
SLU 80	8.8	-2870.45	-36438	-0.000058	0.0003743	0.0035	4.005	49679.55	60900.99	60900.99	21.22	No	Si
SLU 80	10.6	539.44	-32304	-0.0000465	0.0003743	0.0035	4.005	46385.6	51440.51	51440.51	95.36	No	Si
SLU 50	8.8	-2498.88	-28573	-0.0000451	0.0003743	0.0035	4.005	42898.11	51517.37	51517.37	20.62	No	Si
SLU 50	10.6	329.3	-24483	-0.0000344	0.0003743	0.0035	4.005	38514.18	41923.19	41923.19	127.31	No	Si
SLU 58	8.8	-2616.85	-31558	-0.0000499	0.0003743	0.0035	4.005	45727.14	55270.55	55270.55	21.12	No	Si
SLU 58	10.6	444.04	-27489	-0.0000391	0.0003743	0.0035	4.005	41792.76	45738.48	45738.48	103.01	No	Si
SLU 72	8.8	-2752.49	-33453	-0.0000531	0.0003743	0.0035	4.005	47361.49	57563.45	57563.45	20.91	No	Si
SLU 72	10.6	424.71	-29299	-0.0000417	0.0003743	0.0035	4.005	43614.68	47850.08	47850.08	112.67	No	Si
SLU 69	8.8	-2780.34	-34335	-0.0000545	0.0003743	0.0035	4.005	48078.54	58591.15	58591.15	21.07	No	Si
SLU 69	10.6	490.15	-30188	-0.0000432	0.0003743	0.0035	4.005	44467.36	48901.15	48901.15	99.77	No	Si
SLU 48	8.8	-2486.69	-29453	-0.0000464	0.0003743	0.0035	4.005	43764.88	52637.82	52637.82	21.17	No	Si
SLU 48	10.6	382.98	-25370	-0.0000358	0.0003743	0.0035	4.005	39514.66	43221.84	43221.84	112.86	No	Si
SLU 51	8.8	-2458.84	-28572	-0.000045	0.0003743	0.0035	4.005	42896.89	51515.8	51515.8	20.95	No	Si
SLU 51	10.6	317.53	-24481	-0.0000344	0.0003743	0.0035	4.005	38511.75	41919.77	41919.77	132.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	8.8	-8165.24	-21100	-0.0000451	0.0005615	0.0035	4.005		42777.58	42777.58	5.24		Si
SLD 1	10.6	7694.34	-18032	-0.0000398	0.0005615	0.0035	4.005		34007.05	34007.05	4.42		Si
SLD 2	8.8	-6657.28	-21610	-0.0000428	0.0005615	0.0035	4.005		43590.31	43590.31	6.55		Si
SLD 2	10.6	6295.07	-18513	-0.0000376	0.0005615	0.0035	4.005		34712.67	34712.67	5.51		Si
SLV 1	8.8	-11696.29	-19468	-0.0000501	0.0005615	0.0035	4.005		40067.12	40067.12	3.43		Si
SLV 1	10.6	11572.49	-16464	-0.0000456	0.0005615	0.0035	4.005		31362.07	31362.07	2.71		Si
SLV 16	8.8	7854.94	-28518	-0.0000552	0.0005615	0.0035	4.005		49658.82	49658.82	6.32		Si
SLV 16	10.6	-9976.63	-25145	-0.0000547	0.0005615	0.0035	4.005		49268.34	49268.34	4.94		Si
SLV 14	8.8	9418.9	-28229	-0.0000581	0.0005615	0.0035	4.005		49216.92	49216.92	5.23		Si
SLV 14	10.6	-10480.61	-24819	-0.0000553	0.0005615	0.0035	4.005		48761.12	48761.12	4.65		Si
SLD 3	8.8	-9139.23	-21281	-0.0000474	0.0005615	0.0035	4.005		43065.99	43065.99	4.71		Si
SLD 3	10.6	8008.59	-18237	-0.0000408	0.0005615	0.0035	4.005		34311.42	34311.42	4.28		Si
SLV 2	8.8	-9336.04	-20266	-0.0000464	0.0005615	0.0035	4.005		41421.96	41421.96	4.44		Si
SLV 2	10.6	9382.37	-17216	-0.0000421	0.0005615	0.0035	4.005		32646.88	32646.88	3.48		Si
SLD 4	8.8	-7631.27	-21791	-0.000045	0.0005615	0.0035	4.005		43879.72	43879.72	5.75		Si
SLD 4	10.6	6609.32	-18717	-0.0000386	0.0005615	0.0035	4.005		35011.15	35011.15	5.3		Si
SLV 4	8.8	-10900	-20555	-0.00005	0.0005615	0.0035	4.005		41906.13	41906.13	3.84		Si
SLV 4	10.6	9886.35	-17541	-0.0000436	0.0005615	0.0035	4.005		33201.36	33201.36	3.36		Si
SLV 3	8.8	-13260.25	-19757	-0.0000537	0.0005615	0.0035	4.005		40556.88	40556.88	3.06		Si
SLV 3	10.6	12076.47	-16789	-0.0000472	0.0005615	0.0035	4.005		31919.03	31919.03	2.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	8.8	-2705.48	-35741	-29762	-2292	4.005	4.005	-26540	10483	17303	40441	33580	10213	43792	No	19.1	Si
SLU 81	10.6	1189.22	-31599	-26313	-2441	4.005	4.005	-23465	10073	15923	40441	33580	10213	43792	No	17.94	Si
SLU 84	8.8	-2793.23	-36728	-30584	-2176	4.005	4.005	-27273	10581	17632	40441	33580	10213	43792	No	20.13	Si
SLU 84	10.6	883.04	-32595	-27142	-2327	4.005	4.005	-24204	10172	16255	40441	33580	10213	43792	No	18.82	Si
SLU 82	8.8	-2665.44	-35739	-29761	-2263	4.005	4.005	-26539	10483	17302	40441	33580	10213	43792	No	19.35	Si
SLU 82	10.6	1177.46	-31597	-26311	-2411	4.005	4.005	-23463	10073	15922	40441	33580	10213	43792	No	18.16	Si
SLU 77	8.8	-2898.3	-37320	-31077	-2085	4.005	4.005	-27712	10639	17828	40441	33580	10213	43792	No	21.01	Si
SLU 77	10.6	604.89	-33193	-27640	-2238	4.005	4.005	-24648	10231	16454	40441	33580	10213	43792	No	19.57	Si
SLU 73	8.8	-2588.19	-34459	-28695	-2185	4.005	4.005	-25588	10356	16876	40441	33580	10213	43792	No	20.05	Si
SLU 73	10.6	1120.45	-30308	-25238	-2328	4.005	4.005	-22505	9945	15493	40441	33580	10213	43792	No	18.81	Si
SLU 64	8.8	-2536.96	-31477	-26211	-2094	4.005	4.005	-23374	10061	15882	40441	33580	10213	43792	No	20.91	Si
SLU 64	10.6	1025.31	-27306	-22738	-2228	4.005	4.005	-20276	9648	14493	40441	33580	10213	43792	No	19.66	Si
SLU 75	8.8	-2730.48	-36329	-30252	-2143	4.005	4.005	-26977	10541	17499	40441	33580	10213	43792	No	20.44	Si
SLU 75	10.6	887.55	-32194	-26808	-2293	4.005	4.005	-23906	10132	16121	40441	33580	10213	43792	No	19.1	Si
SLU 83	8.8	-2833.27	-36730	-30585	-2205	4.005	4.005	-27274	10581	17632	40441	33580	10213	43792	No	19.86	Si
SLU 83	10.6	894.8	-32597	-27144	-2357	4.005	4.005	-24205	10172	16255	40441	33580	10213	43792	No	18.58	Si
SLU 74	8.8	-2770.52	-36331	-30253	-2172	4.005	4.005	-26978	10541	17499	40441	33580	10213	43792	No	20.16	Si
SLU 74	10.6	899.31	-32196	-26810	-2322	4.005	4.005	-23907	10132	16122	40441	33580	10213	43792	No	18.86	Si
SLU 76	8.8	-2715.98	-35448	-29518	-2097	4.005	4.005	-26323	10454	17205	40441	33580	10213	43792	No	20.88	Si
SLU 76	10.6	826.02	-31305	-26068	-2243	4.005	4.005	-23246	10044	15825	40441	33580	10213	43792	No	19.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	8.8	7854.94	-28518	-23747	10198	4.005	4.005	-21176	14652	17596	40441	50370	10213	58037		5.69	Si
SLV 16	10.6	-9976.63	-25145	-20939	9552	4.005	4.005	-18672	14151	16473	40441	50370	10213	56914		5.96	Si
SLD 3	8.8	-9139.23	-21281	-17721	-9860	4.005	4.005	-15803	13577	15225	40441	50370	10213	55666		5.65	Si
SLD 3	10.6	8008.59	-18237	-15186	-9620	4.005	4.005	-13542	13125	14719	40441	50370	10213	55159		5.73	Si
SLV 3	8.8	-13260.25	-19757	-16452	-14549	4.005	3.994	-14671	13351	14930	40441	50370	10213	55371		3.81	Si
SLV 3	10.6	12076.47	-16789	-13981	-14125	4.005	3.8496	-12467	12910	13916	40441	50370	10213	54357		3.85	Si
SLV 13	8.8	7058.65	-27431	-22842	8835	4.005	4.005	-20369	14491	17234	40441	50370	10213	57675		6.53	Si
SLV 13	10.6	-8290.49	-24068	-20041	8152	4.005	4.005	-17872	13991	16114	40441	50370	10213	56555		6.94	Si
SLV 14	8.8	9418.9	-28229	-23507	11353	4.005	4.005	-20962	14609	17500	40441	50370	10213	57941		5.1	Si
SLV 14	10.6	-10480.61	-24819	-20667	10726	4.005	4.005	-18430	14103	16364	40441	50370	10213	56805		5.3	Si
SLD 1	8.8	-8165.24	-21100	-17570	-9139	4.005	4.005	-15668	13550	15195	40441	50370	10213	55636		6.09	Si
SLD 1	10.6	7694.34	-18032	-15016	-8887	4.005	4.005	-13390	13095	14684	40441	50370	10213	55125		6.2	Si
SLV 1	8.8	-11696.29	-19468	-16211	-13394	4.005	4.005	-14456	13308	14923	40441	50370	10213	55364		4.13	Si
SLV 1	10.6	11572.49	-16464	-13710	-12951	4.005	3.8988	-12225	12862	14041	40441	50370	10213	54482		4.21	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	8.8	-10900	-20555	-17116	-12031	4.005	4.005	-15263	13469	15105	40441	50370	10213	55545		4.62	Si
SLV 4	10.6	9886.35	-17541	-14607	-11551	4.005	4.005	-13026	13022	14603	40441	50370	10213	55044		4.77	Si
SLV 2	8.8	-9336.04	-20266	-16876	-10876	4.005	4.005	-15049	13426	15056	40441	50370	10213	55497		5.1	Si
SLV 2	10.6	9382.37	-17216	-14336	-10377	4.005	4.005	-12784	12973	14548	40441	50370	10213	54989		5.3	Si
SLD 4	8.8	-7631.27	-21791	-18146	-8251	4.005	4.005	-16181	13653	15356	40441	50370	10213	55797		6.76	Si
SLD 4	10.6	6609.32	-18717	-15586	-7975	4.005	4.005	-13899	13196	14799	40441	50370	10213	55239		6.93	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	16161	-18123	497.4	2268.77	4.56	Si
SLV 3	179667	0.45	16464	-18462	497.4	2306.08	4.64	Si
SLV 2	179667	0.45	16832	-18875	497.4	2351.28	4.73	Si
SLV 4	179667	0.45	17134	-19214	497.4	2388.17	4.8	Si
SLV 5	179667	0.45	18297	-20518	497.4	2528.39	5.08	Si
SLV 6	179667	0.45	18748	-21024	497.4	2582.06	5.19	Si
SLV 7	179667	0.45	19304	-21648	497.4	2647.59	5.32	Si
SLV 8	179667	0.45	19756	-22154	497.4	2700.32	5.43	Si
SLV 9	179667	0.45	20336	-22804	497.4	2767.49	5.56	Si
SLV 10	179667	0.45	20787	-23311	497.4	2819.27	5.67	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-18583	-29295	-691	1.03	2458.2	0.937	15.97654	8.02002	Si
SLV 14	-18365	-29269	614	1.043	2436.1	0.936	16.19198	8.02002	Si
SLV 15	-18117	-28426	-691	1.051	2411.1	0.936	16.3242	8.02002	Si
SLV 13	-17899	-28401	614	1.065	2389	0.935	16.54787	8.02002	Si
SLV 4	-13863	-19955	-620	1.301	1981.8	0.925	20.45851	8.02002	Si
SLV 2	-13644	-19929	684	1.314	1959.9	0.924	20.66592	8.02002	Si
SLV 3	-13397	-19086	-620	1.336	1935	0.923	21.03465	8.02002	Si
SLV 1	-13179	-19061	685	1.349	1913.1	0.922	21.25533	8.02002	Si
SLV 12	-17109	-25913	-2188	1.028	2309.2	0.933	16.00503	5.35431	Si
SLV 11	-16796	-25328	-2188	1.043	2277.6	0.932	16.25504	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.614	SLU 71	Si
V_SLU	17.939	SLU 81	Si
PF_SLV	2.643	SLV 3	Si
V_SLV	3.806	SLV 3	Si
PFFP_SLV	4.561	SLV 1	Si
R_SLV	1.992	SLV 16	Si

Maschio 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L6	L7	1.995	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	8.8	-1081.71	-9802	-0.0000359	0.0003743	0.0035	1.995	8092.19	9604.57	9604.57	8.88	No	Si
SLU 44	10.6	-102.5	-7435	-0.000021	0.0003743	0.0035	1.995	6446.94	7766.05	7766.05	75.77	No	Si
SLU 66	8.8	-1264.78	-12100	-0.0000443	0.0003743	0.0035	1.995	9501.8	11279.88	11279.88	8.92	No	Si
SLU 66	10.6	-247.91	-9687	-0.0000286	0.0003743	0.0035	1.995	8016.85	9518.2	9518.2	38.39	No	Si
SLU 45	8.8	-1124.36	-10349	-0.0000379	0.0003743	0.0035	1.995	8444.47	10018.5	10018.5	8.91	No	Si
SLU 45	10.6	-143.23	-7982	-0.0000229	0.0003743	0.0035	1.995	6844.63	8195.61	8195.61	57.22	No	Si
SLU 47	8.8	-1084.44	-9906	-0.0000363	0.0003743	0.0035	1.995	8160.27	9683.32	9683.32	8.93	No	Si
SLU 47	10.6	-138.82	-7540	-0.0000216	0.0003743	0.0035	1.995	6523.7	7850.6	7850.6	56.55	No	Si
SLU 64	8.8	-1230.53	-11563	-0.0000424	0.0003743	0.0035	1.995	9189.23	10895.84	10895.84	8.85	No	Si
SLU 64	10.6	-199.05	-9150	-0.0000266	0.0003743	0.0035	1.995	7658.86	9117.33	9117.33	45.81	No	Si
SLU 71	8.8	-1235.99	-11772	-0.0000431	0.0003743	0.0035	1.995	9312.11	11046.91	11046.91	8.94	No	Si
SLU 71	10.6	-271.7	-9359	-0.0000278	0.0003743	0.0035	1.995	7799.42	9273.4	9273.4	34.13	No	Si
SLU 50	8.8	-1095.57	-10021	-0.0000367	0.0003743	0.0035	1.995	8234.64	9770.18	9770.18	8.92	No	Si
SLU 50	10.6	-167.02	-7654	-0.0000221	0.0003743	0.0035	1.995	6607.6	7939.67	7939.67	47.54	No	Si
SLU 43	8.8	-1090.11	-9812	-0.000036	0.0003743	0.0035	1.995	8098.93	9612.34	9612.34	8.82	No	Si
SLU 43	10.6	-94.37	-7445	-0.000021	0.0003743	0.0035	1.995	6454.55	7774.54	7774.54	82.39	No	Si
SLU 46	8.8	-1119.32	-10343	-0.0000378	0.0003743	0.0035	1.995	8440.54	10013.86	10013.86	8.95	No	Si
SLU 46	10.6	-148.11	-7976	-0.0000229	0.0003743	0.0035	1.995	6840.19	8190.75	8190.75	55.3	No	Si
SLU 65	8.8	-1222.13	-11553	-0.0000423	0.0003743	0.0035	1.995	9183.12	10888.4	10888.4	8.91	No	Si
SLU 65	10.6	-207.18	-9140	-0.0000267	0.0003743	0.0035	1.995	7651.87	9109.36	9109.36	43.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	8.8	931.78	-11693	-0.0000394	0.0005615	0.0035	1.995		10476.2	10476.2	11.24		Si
SLV 16	10.6	-2807.55	-9751	-0.0000495	0.0005615	0.0035	1.995		9923.34	9923.34	3.53		Si
SLV 15	8.8	462.29	-11051	-0.0000337	0.0005615	0.0035	1.995		10009.97	10009.97	21.65		Si
SLV 15	10.6	-2237.91	-9109	-0.0000429	0.0005615	0.0035	1.995		9381.16	9381.16	4.19		Si
SLV 4	8.8	-2522.66	-7324	-0.0000402	0.0005615	0.0035	1.995		7860.63	7860.63	3.12		Si
SLV 4	10.6	2109.6	-5544	-0.000032	0.0005615	0.0035	1.995		5451.1	5451.1	2.58		Si
SLD 3	8.8	-2240.25	-7457	-0.0000382	0.0005615	0.0035	1.995		7977.29	7977.29	3.56		Si
SLD 3	10.6	1651.13	-5647	-0.0000284	0.0005615	0.0035	1.995		5543.71	5543.71	3.36		Si
SLV 13	8.8	655.82	-10296	-0.0000332	0.0005615	0.0035	1.995		9465.44	9465.44	14.43		Si
SLV 13	10.6	-2424.17	-8385	-0.0000424	0.0005615	0.0035	1.995		8773.16	8773.16	3.62		Si
SLV 14	8.8	1125.31	-10938	-0.0000389	0.0005615	0.0035	1.995		9928.04	9928.04	8.82		Si
SLV 14	10.6	-2993.82	-9026	-0.0000489	0.0005615	0.0035	1.995		9311.2	9311.2	3.11		Si
SLV 3	8.8	-2992.15	-6683	-0.0000437	0.0005615	0.0035	1.995		7298.27	7298.27	2.44		Si
SLV 3	10.6	2679.24	-4902	-0.0000389	0.0005615	0.0035	1.995		4870.87	4870.87	1.82		Si
SLV 2	8.8	-2329.12	-6569	-0.0000365	0.0005615	0.0035	1.995		7199.57	7199.57	3.09		Si
SLV 2	10.6	1923.33	-4819	-0.0000286	0.0005615	0.0035	1.995		4795.36	4795.36	2.49		Si
SLV 1	8.8	-2798.61	-5928	-0.0000404	0.0005615	0.0035	1.995		6639.59	6639.59	2.37		Si
SLV 1	10.6	2492.98	-4178	-0.0000373	0.0005615	0.0035	1.995		4206.39	4206.39	1.69		Si
SLD 1	8.8	-2118.44	-6992	-0.0000359	0.0005615	0.0035	1.995		7568.74	7568.74	3.57		Si
SLD 1	10.6	1535.05	-5199	-0.0000262	0.0005615	0.0035	1.995		5139.73	5139.73	3.35		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	8.8	-1259.74	-12094	-10071	-591	1.995	1.995	-18028	9348	5222	40441	16727	5087	21814	No	36.89	Si
SLU 67	10.6	-252.79	-9681	-8061	-591	1.995	1.995	-14431	8869	4954	40441	16727	5087	21814	No	36.89	Si
SLU 73	8.8	-1284.15	-12604	-10496	-577	1.995	1.995	-18789	9450	5279	40441	16727	5087	21814	No	37.78	Si
SLU 73	10.6	-302.31	-10191	-8486	-577	1.995	1.995	-15192	8970	5011	40441	16727	5087	21814	No	37.78	Si
SLU 74	8.8	-1326.8	-13151	-10951	-578	1.995	1.995	-19605	9558	5339	40441	16727	5087	21814	No	37.71	Si
SLU 74	10.6	-343.05	-10738	-8942	-578	1.995	1.995	-16008	9079	5071	40441	16727	5087	21814	No	37.71	Si
SLU 69	8.8	-1267.51	-12204	-10163	-578	1.995	1.995	-18193	9370	5234	40441	16727	5087	21814	No	37.73	Si
SLU 69	10.6	-284.24	-9791	-8153	-578	1.995	1.995	-14596	8891	4966	40441	16727	5087	21814	No	37.73	Si
SLU 43	8.8	-1090.11	-9812	-8171	-586	1.995	1.995	-14627	8895	4969	40441	16727	5087	21814	No	37.24	Si
SLU 43	10.6	-94.37	-7445	-6200	-586	1.995	1.995	-11099	8424	4706	40441	16727	5087	21814	No	37.24	Si
SLU 65	8.8	-1222.13	-11553	-9620	-596	1.995	1.995	-17222	9241	5162	40441	16727	5087	21814	No	36.61	Si
SLU 65	10.6	-207.18	-9140	-7611	-596	1.995	1.995	-13625	8761	4894	40441	16727	5087	21814	No	36.61	Si
SLU 66	8.8	-1264.78	-12100	-10076	-597	1.995	1.995	-18038	9349	5223	40441	16727	5087	21814	No	36.55	Si
SLU 66	10.6	-247.91	-9687	-8066	-597	1.995	1.995	-14440	8870	4955	40441	16727	5087	21814	No	36.55	Si
SLU 64	8.8	-1230.53	-11563	-9629	-605	1.995	1.995	-17238	9243	5163	40441	16727	5087	21814	No	36.06	Si
SLU 64	10.6	-199.05	-9150	-7620	-605	1.995	1.995	-13640	8763	4895	40441	16727	5087	21814	No	36.06	Si
SLU 45	8.8	-1124.36	-10349	-8618	-578	1.995	1.995	-15427	9001	5028	40441	16727	5087	21814	No	37.76	Si
SLU 45	10.6	-143.23	-7982	-6647	-578	1.995	1.995	-11899	8531	4765	40441	16727	5087	21814	No	37.76	Si
SLU 81	8.8	-1319.13	-13065	-10880	-579	1.995	1.995	-19476	9541	5330	40441	16727	5087	21814	No	37.7	Si
SLU 81	10.6	-334.95	-10652	-8870	-579	1.995	1.995	-15879	9062	5062	40441	16727	5087	21814	No	37.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	8.8	-2118.44	-6992	-5822	-2165	1.995	1.995	-10423	12501	6983	40441	25090	5087	30178		13.94	Si
SLD 1	10.6	1535.05	-5199	-4329	-1904	1.995	1.995	-7750	11967	6685	40441	25090	5087	30178		15.85	Si
SLV 1	8.8	-2798.61	-5928	-4936	-3135	1.995	1.5762	-11240	12665	5589	40441	25090	5087	30178		9.63	Si
SLV 1	10.6	2492.98	-4178	-3479	-2727	1.995	1.2022	-6228	11662	3926	40441	25090	5087	30178		11.07	Si
SLV 3	8.8	-2992.15	-6683	-5565	-3349	1.995	1.6493	-12118	12840	5930	40441	25090	5087	30178		9.01	Si
SLV 3	10.6	2679.24	-4902	-4082	-2944	1.995	1.3529	-7308	11878	4500	40441	25090	5087	30178		10.25	Si
SLV 14	8.8	1125.31	-10938	-9108	2437	1.995	1.995	-16306	13678	7640	40441	25090	5087	30178		12.38	Si
SLV 14	10.6	-2993.82	-9026	-7516	2032	1.995	1.995	-13456	13108	7322	40441	25090	5087	30178		14.85	Si
SLV 2	8.8	-2329.12	-6569	-5470	-2557	1.995	1.9289	-9793	12375	6684	40441	25090	5087	30178		11.8	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	10.6	1923.33	-4819	-4013	-2149	1.995	1.7952	-7184	11853	5958	40441	25090	5087	30178		14.04	Si
SLV 13	8.8	655.82	-10296	-8574	1860	1.995	1.995	-15349	13486	7534	40441	25090	5087	30178		16.23	Si
SLV 13	10.6	-2424.17	-8385	-6982	1455	1.995	1.995	-12499	12917	7215	40441	25090	5087	30178		20.75	Si
SLD 3	8.8	-2240.25	-7457	-6209	-2299	1.995	1.995	-11116	12640	7061	40441	25090	5087	30178		13.12	Si
SLD 3	10.6	1651.13	-5647	-4702	-2039	1.995	1.995	-8418	12100	6759	40441	25090	5087	30178		14.8	Si
SLD 4	8.8	-1940.29	-7867	-6551	-1931	1.995	1.995	-11727	12762	7129	40441	25090	5087	30178		15.63	Si
SLD 4	10.6	1287.19	-6057	-5044	-1671	1.995	1.995	-9029	12222	6827	40441	25090	5087	30178		18.06	Si
SLV 16	8.8	931.78	-11693	-9737	2223	1.995	1.995	-17431	13903	7766	40441	25090	5087	30178		13.58	Si
SLV 16	10.6	-2807.55	-9751	-8120	1815	1.995	1.995	-14536	13324	7443	40441	25090	5087	30178		16.63	Si
SLV 4	8.8	-2522.66	-7324	-6099	-2771	1.995	1.9592	-10918	12600	6912	40441	25090	5087	30178		10.89	Si
SLV 4	10.6	2109.6	-5544	-4617	-2366	1.995	1.8509	-8264	12070	6255	40441	25090	5087	30178		12.75	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	9048	-5054	247.77	665.67	2.69	Si
SLV 2	179667	0.45	10197	-5696	247.77	744.18	3	Si
SLV 3	179667	0.45	10384	-5801	247.77	756.85	3.05	Si
SLV 5	179667	0.45	10451	-5838	247.77	761.38	3.07	Si
SLV 6	179667	0.45	11224	-6270	247.77	813.27	3.28	Si
SLV 4	179667	0.45	11533	-6442	247.77	833.79	3.37	Si
SLV 9	179667	0.45	12829	-7166	247.77	918.97	3.71	Si
SLV 10	179667	0.45	13602	-7598	247.77	968.98	3.91	Si
SLV 7	179667	0.45	14904	-8325	247.77	1051.81	4.25	Si
SLV 8	179667	0.45	15677	-8757	247.77	1100.18	4.44	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-6346	-13541	-270	1.393	931	0.921	21.9797	8.02002	Si
SLV 15	-6236	-12356	-271	1.412	919.9	0.92	22.29032	8.02002	Si
SLV 4	-6026	-4476	-290	1.446	898.9	0.919	22.86703	8.02002	Si
SLV 3	-5916	-3291	-291	1.466	887.8	0.918	23.20409	8.02002	Si
SLV 14	-5459	-13100	288	1.556	842.1	0.915	24.72113	8.02002	Si
SLV 13	-5348	-11915	287	1.58	831.1	0.914	25.11618	8.02002	Si
SLV 2	-5139	-4035	268	1.63	810.2	0.913	25.94823	8.02002	Si
SLV 1	-5028	-2850	267	1.655	799.2	0.912	26.38274	8.02002	Si
SLV 12	-7251	-10689	-929	1.185	1022	0.927	18.58079	5.35431	Si
SLV 11	-7177	-9891	-929	1.194	1014.5	0.926	18.73798	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.818	SLU 43	Si
V_SLU	36.058	SLU 64	Si
PF_SLV	1.687	SLV 1	Si
V_SLV	9.012	SLV 3	Si
PFFP_SLV	2.687	SLV 1	Si
R_SLV	2.741	SLV 16	Si

Maschio 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.423	1.141	-24.614	1.141	L6	L7	5.192	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	7.9	-13049.75	-44233	-0.0000586	0.0004492	0.0035	5.1915	86224.27	113446.95	113446.95	8.69	No	Si
SLU 75	10	-7690.15	-38639	-0.0000465	0.0004492	0.0035	5.1915	78479	102782.66	102782.66	13.37	No	Si
SLU 74	7.9	-13039.8	-44271	-0.0000587	0.0004492	0.0035	5.1915	86274.59	113519.71	113519.71	8.71	No	Si
SLU 74	10	-7808.52	-38719	-0.0000467	0.0004492	0.0035	5.1915	78596.35	102943.15	102943.15	13.18	No	Si
SLU 76	7.9	-12876.66	-43407	-0.0000575	0.0004492	0.0035	5.1915	85139.04	111892.67	111892.67	8.69	No	Si
SLU 76	10	-7447.18	-37705	-0.0000452	0.0004492	0.0035	5.1915	77096.56	100910.9	100910.9	13.55	No	Si
SLU 82	7.9	-12801.46	-42931	-0.000057	0.0004492	0.0035	5.1915	84503.66	110995.64	110995.64	8.67	No	Si
SLU 82	10	-7172.59	-37719	-0.0000449	0.0004492	0.0035	5.1915	77118.21	100939.94	100939.94	14.07	No	Si
SLU 84	7.9	-13062.75	-44156	-0.0000586	0.0004492	0.0035	5.1915	86124.86	113303.38	113303.38	8.67	No	Si
SLU 84	10	-7863.36	-38960	-0.000047	0.0004492	0.0035	5.1915	78948.33	103426.09	103426.09	13.15	No	Si
SLU 83	7.9	-13052.8	-44195	-0.0000586	0.0004492	0.0035	5.1915	86175.26	113376.14	113376.14	8.69	No	Si
SLU 83	10	-7981.73	-39040	-0.0000472	0.0004492	0.0035	5.1915	79064.93	103586.58	103586.58	12.98	No	Si
SLU 80	7.9	-13131.32	-44659	-0.0000592	0.0004492	0.0035	5.1915	86776.43	114248.92	114248.92	8.7	No	Si
SLU 80	10	-8216.86	-38999	-0.0000474	0.0004492	0.0035	5.1915	79004.98	103504.04	103504.04	12.6	No	Si
SLU 78	7.9	-13311.04	-45458	-0.0000602	0.0004492	0.0035	5.1915	87798.85	115754.69	115754.69	8.7	No	Si
SLU 78	10	-8380.92	-39880	-0.0000485	0.0004492	0.0035	5.1915	80275.78	105248.85	105248.85	12.56	No	Si
SLU 81	7.9	-12791.51	-42970	-0.000057	0.0004492	0.0035	5.1915	84555.45	111068.4	111068.4	8.68	No	Si
SLU 81	10	-7290.95	-37800	-0.0000451	0.0004492	0.0035	5.1915	77237.71	101100.43	101100.43	13.87	No	Si
SLU 73	7.9	-12615.37	-42182	-0.0000559	0.0004492	0.0035	5.1915	83491.01	109584.93	109584.93	8.69	No	Si
SLU 73	10	-6756.4	-36464	-0.0000431	0.0004492	0.0035	5.1915	75220.93	98424.75	98424.75	14.57	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	7.9	-5898.92	-33167	-0.0000383	0.0006738	0.0035	5.1915		93959.78	93959.78	15.93		Si
SLV 7	10	-16228.38	-32583	-0.0000494	0.0006738	0.0035	5.1915		92680.47	92680.47	5.71		Si
SLV 14	7.9	-14956.92	-24165	-0.0000396	0.0006738	0.0035	5.1915		73987.68	73987.68	4.95		Si
SLV 14	10	7946.55	-16239	-0.0000241	0.0006738	0.0035	5.1915		42883.89	42883.89	5.4		Si
SLV 4	7.9	-3858.31	-37541	-0.0000403	0.0006738	0.0035	5.1915		103392.71	103392.71	26.8		Si
SLV 4	10	-17565.4	-35354	-0.0000537	0.0006738	0.0035	5.1915		98746.5	98746.5	5.62		Si
SLD 13	7.9	-12610.64	-26519	-0.0000393	0.0006738	0.0035	5.1915		79398.32	79398.32	6.3		Si
SLD 13	10	3518.35	-19599	-0.0000224	0.0006738	0.0035	5.1915		50813.7	50813.7	14.44		Si
SLD 14	7.9	-12816.71	-26545	-0.0000396	0.0006738	0.0035	5.1915		79456.67	79456.67	6.2		Si
SLD 14	10	3368.25	-19677	-0.0000223	0.0006738	0.0035	5.1915		50995.61	50995.61	15.14		Si
SLV 3	7.9	-3535.78	-37502	-0.0000399	0.0006738	0.0035	5.1915		103310.13	103310.13	29.22		Si
SLV 3	10	-17330.47	-35233	-0.0000533	0.0006738	0.0035	5.1915		98480.81	98480.81	5.68		Si
SLV 8	7.9	-6116.07	-33194	-0.0000386	0.0006738	0.0035	5.1915		94018.33	94018.33	15.37		Si
SLV 8	10	-16386.55	-32664	-0.0000497	0.0006738	0.0035	5.1915		92859.36	92859.36	5.67		Si
SLV 16	7.9	-13919.07	-24390	-0.0000387	0.0006738	0.0035	5.1915		74504.06	74504.06	5.35		Si
SLV 16	10	2811.13	-18889	-0.000021	0.0006738	0.0035	5.1915		49149.34	49149.34	17.48		Si
SLV 15	7.9	-13596.54	-24350	-0.0000383	0.0006738	0.0035	5.1915		74412.73	74412.73	5.47		Si
SLV 15	10	3046.07	-18768	-0.0000211	0.0006738	0.0035	5.1915		48864.61	48864.61	16.04		Si
SLV 13	7.9	-14634.38	-24126	-0.0000392	0.0006738	0.0035	5.1915		73896.35	73896.35	5.05		Si
SLV 13	10	8181.48	-16117	-0.0000242	0.0006738	0.0035	5.1915		42594.74	42594.74	5.21		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	7.9	-11646.04	-39113	-27903	-3325	5.1915	5.1915	-19195	10833	19558	115546	52240	26477	78717	No	23.67	Si
SLU 51	10	-6171.75	-31369	-22378	-3317	5.1915	5.1915	-15395	10386	17348	115546	52240	26477	78717	No	23.73	Si
SLU 46	7.9	-11564.47	-38688	-27599	-3601	5.1915	5.1915	-18986	10833	19436	115546	52240	26477	78717	No	21.86	Si
SLU 46	10	-5645.04	-31010	-22121	-3593	5.1915	5.1915	-15218	10362	17246	115546	52240	26477	78717	No	21.91	Si
SLU 52	7.9	-11579.77	-38325	-27340	-3202	5.1915	5.1915	-18808	10833	19333	115546	52240	26477	78717	No	24.59	Si
SLU 52	10	-5498.25	-31639	-22570	-3193	5.1915	5.1915	-15527	10404	17425	115546	52240	26477	78717	No	24.65	Si
SLU 43	7.9	-11113.51	-36701	-26182	-3961	5.1915	5.1915	-18011	10735	18870	115546	52240	26477	78717	No	19.87	Si
SLU 43	10	-4908.57	-28968	-20665	-3953	5.1915	5.1915	-14216	10229	16663	115546	52240	26477	78717	No	19.91	Si
SLU 49	7.9	-11825.76	-39913	-28473	-3287	5.1915	5.1915	-19587	10833	19786	115546	52240	26477	78717	No	23.95	Si
SLU 49	10	-6335.81	-32250	-23006	-3278	5.1915	5.1915	-15827	10444	17600	115546	52240	26477	78717	No	24.01	Si
SLU 50	7.9	-11636.09	-39152	-27930	-3333	5.1915	5.1915	-19214	10833	19569	115546	52240	26477	78717	No	23.61	Si
SLU 50	10	-6290.11	-31450	-22435	-3325	5.1915	5.1915	-15434	10391	17371	115546	52240	26477	78717	No	23.67	Si
SLU 48	7.9	-11815.81	-39952	-28500	-3295	5.1915	5.1915	-19606	10833	19797	115546	52240	26477	78717	No	23.89	Si
SLU 48	10	-6454.18	-32330	-23064	-3287	5.1915	5.1915	-15866	10449	17622	115546	52240	26477	78717	No	23.95	Si
SLU 47	7.9	-11391.38	-37862	-27010	-3634	5.1915	5.1915	-18581	10811	19201	115546	52240	26477	78717	No	21.66	Si
SLU 47	10	-5402.06	-30075	-21455	-3625	5.1915	5.1915	-14760	10301	16979	115546	52240	26477	78717	No	21.71	Si
SLU 45	7.9	-11554.52	-38726	-27626	-3609	5.1915	5.1915	-19005	10833	19447	115546	52240	26477	78717	No	21.81	Si
SLU 45	10	-5763.4	-31090	-22179	-3601	5.1915	5.1915	-15257	10368	17268	115546	52240	26477	78717	No	21.86	Si
SLU 44	7.9	-11130.1	-36637	-26136	-3948	5.1915	5.1915	-17980	10731	18851	115546	52240	26477	78717	No	19.94	Si
SLU 44	10	-4711.29	-28835	-20570	-3940	5.1915	5.1915	-14151	10220	16625	115546	52240	26477	78717	No	19.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	7.9	-12816.71	-26545	-18936	-9866	5.1915	5.1915	-13027	15105	21958	115546	78360	26477	104837		10.63	Si
SLD 14	10	3368.25	-19677	-14037	-9098	5.1915	5.1915	-9656	14431	20978	115546	78360	26477	104837		11.52	Si
SLD 13	7.9	-12610.64	-26519	-18918	-9648	5.1915	5.1915	-13014	15103	21954	115546	78360	26477	104837		10.87	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	10	3518.35	-19599	-13982	-8880	5.1915	5.1915	-9618	14424	20967	115546	78360	26477	104837		11.81	Si
SLV 1	7.9	-4573.63	-37277	-26592	9381	5.1915	5.1915	-18294	16159	23489	115546	78360	26477	104837		11.18	Si
SLV 1	10	-12195.05	-32582	-23243	8305	5.1915	5.1915	-15990	15698	22819	115546	78360	26477	104837		12.62	Si
SLV 13	7.9	-14634.38	-24126	-17211	-13797	5.1915	5.1915	-11840	14868	21613	115546	78360	26477	104837		7.6	Si
SLV 13	10	8181.48	-16117	-11498	-12625	5.1915	5.1915	-7910	14082	20470	115546	78360	26477	104837		8.3	Si
SLV 16	7.9	-13919.07	-24390	-17399	-14164	5.1915	5.1915	-11969	14894	21650	115546	78360	26477	104837		7.4	Si
SLV 16	10	2811.13	-18889	-13475	-13073	5.1915	5.1915	-9270	14354	20865	115546	78360	26477	104837		8.02	Si
SLD 15	7.9	-11968.84	-26662	-19020	-9665	5.1915	5.1915	-13084	15117	21974	115546	78360	26477	104837		10.85	Si
SLD 15	10	321.97	-21250	-15159	-8947	5.1915	5.1915	-10428	14586	21202	115546	78360	26477	104837		11.72	Si
SLV 15	7.9	-13596.54	-24350	-17371	-13822	5.1915	5.1915	-11950	14890	21645	115546	78360	26477	104837		7.58	Si
SLV 15	10	3046.07	-18768	-13389	-12731	5.1915	5.1915	-9211	14342	20848	115546	78360	26477	104837		8.23	Si
SLD 16	7.9	-12174.9	-26687	-19038	-9884	5.1915	5.1915	-13097	15119	21978	115546	78360	26477	104837		10.61	Si
SLD 16	10	171.87	-21327	-15215	-9165	5.1915	5.1915	-10467	14593	21213	115546	78360	26477	104837		11.44	Si
SLV 3	7.9	-3535.78	-37502	-26753	9355	5.1915	5.1915	-18404	16181	23521	115546	78360	26477	104837		11.21	Si
SLV 3	10	-17330.47	-35233	-25134	8198	5.1915	5.1915	-17291	15958	23197	115546	78360	26477	104837		12.79	Si
SLV 14	7.9	-14956.92	-24165	-17239	-14138	5.1915	5.1915	-11859	14872	21618	115546	78360	26477	104837		7.42	Si
SLV 14	10	7946.55	-16239	-11584	-12967	5.1915	5.1915	-7969	14094	20487	115546	78360	26477	104837		8.08	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-17074	0.45	661.4	2237.14	3291.36	2764.25	4.18	Si
SLV 14	-17195	0.45	661.4	2251.95	3309.9	2780.92	4.2	Si
SLV 15	-19725	0.45	661.4	2557.02	3694.77	3125.9	4.73	Si
SLV 9	-19743	0.45	661.4	2559.19	3697.53	3128.36	4.73	Si
SLV 10	-19825	0.45	661.4	2568.94	3709.92	3139.43	4.75	Si
SLV 16	-19846	0.45	661.4	2571.5	3713.17	3142.33	4.75	Si
SLV 5	-24665	0.45	661.4	3133.41	4442.64	3788.03	5.73	Si
SLV 6	-24747	0.45	661.4	3142.73	4455	3798.86	5.74	Si
SLV 11	-28580	0.45	661.4	3571.96	5029.06	4300.51	6.5	Si
SLV 12	-28662	0.45	661.4	3580.94	5041.2	4311.07	6.52	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-26696	-37541	336	0.965	3450.4	0.941	14.91025	8.02002	Si
SLV 3	-26557	-37502	337	0.969	3436.4	0.94	14.9765	8.02002	Si
SLV 2	-25450	-37317	-554	0.996	3324.3	0.939	15.4211	8.02002	Si
SLV 1	-25312	-37277	-553	1.001	3310.2	0.939	15.49379	8.02002	Si
SLV 16	-19277	-24390	544	1.243	2700.6	0.927	19.484	8.02002	Si
SLV 15	-19138	-24350	545	1.25	2686.7	0.927	19.59952	8.02002	Si
SLV 14	-18031	-24165	-345	1.318	2575.2	0.925	20.71923	8.02002	Si
SLV 13	-17893	-24126	-344	1.326	2561.3	0.924	20.85077	8.02002	Si
SLV 8	-25530	-33194	1447	0.964	3332.3	0.939	14.92189	5.35431	Si
SLV 7	-25437	-33167	1448	0.967	3322.9	0.939	14.96823	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.671	SLU 82	Si
V_SLU	19.871	SLU 43	Si
PF_SLV	4.947	SLV 14	Si
V_SLV	7.401	SLV 16	Si
PFFP_SLV	4.179	SLV 13	Si
R_SLV	1.859	SLV 4	Si

Maschio 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-18.623	1.141	L6	L7	6.36	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	7.9	-556.82	-77239	-0.0000632	0.0004492	0.0035	6.36	158431.82	219703.69	219703.69	394.57	No	Si
SLU 77	10.4	2673.84	-65335	-0.0000547	0.0004492	0.0035	6.36	145380.88	174864	174864	65.4	No	Si
SLU 41	7.9	-882.19	-63088	-0.0000513	0.0004492	0.0035	6.36	142453	190458.55	190458.55	215.89	No	Si
SLU 41	10.4	2252.85	-54475	-0.0000452	0.0004492	0.0035	6.36	129861.33	149761.28	149761.28	66.48	No	Si
SLU 32	7.9	-844.9	-62657	-0.0000509	0.0004492	0.0035	6.36	141874.61	189530.74	189530.74	224.32	No	Si
SLU 32	10.4	2209.82	-53789	-0.0000445	0.0004492	0.0035	6.36	128764.8	148174.97	148174.97	67.05	No	Si
SLU 14	7.9	-26.94	-58044	-0.0000464	0.0004492	0.0035	6.36	135341.83	179460.38	179460.38	6661.77	No	Si
SLU 14	10.4	2057.49	-48881	-0.0000403	0.0004492	0.0035	6.36	120522.25	136831.22	136831.22	66.5	No	Si
SLU 27	7.9	-518.73	-61555	-0.0000497	0.0004492	0.0035	6.36	140370.75	187157.99	187157.99	360.8	No	Si
SLU 27	10.4	2142.94	-52232	-0.0000432	0.0004492	0.0035	6.36	126226.49	144576.73	144576.73	67.47	No	Si
SLU 38	7.9	-784.9	-64063	-0.0000521	0.0004492	0.0035	6.36	143741.39	192557.38	192557.38	245.33	No	Si
SLU 38	10.4	2261.92	-55404	-0.0000459	0.0004492	0.0035	6.36	131324.34	151909.51	151909.51	67.16	No	Si
SLU 79	7.9	-584.58	-76152	-0.0000623	0.0004492	0.0035	6.36	157411.46	217523.78	217523.78	372.1	No	Si
SLU 79	10.4	2589.84	-64230	-0.0000537	0.0004492	0.0035	6.36	143959.81	172310.69	172310.69	66.53	No	Si
SLU 37	7.9	-568.75	-64011	-0.0000519	0.0004492	0.0035	6.36	143673.08	192444.97	192444.97	338.37	No	Si
SLU 37	10.4	2355.34	-55306	-0.0000459	0.0004492	0.0035	6.36	131170.95	151682.53	151682.53	64.4	No	Si
SLU 35	7.9	-540.99	-65098	-0.0000528	0.0004492	0.0035	6.36	145079.36	194786.54	194786.54	360.06	No	Si
SLU 35	10.4	2439.33	-56411	-0.0000469	0.0004492	0.0035	6.36	132880.17	154235.84	154235.84	63.23	No	Si
SLU 36	7.9	-757.14	-65151	-0.000053	0.0004492	0.0035	6.36	145146	194898.95	194898.95	257.41	No	Si
SLU 36	10.4	2345.92	-56509	-0.0000469	0.0004492	0.0035	6.36	133030.38	154462.82	154462.82	65.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	7.9	-9426.98	-48511	-0.0000451	0.0006738	0.0035	6.36		161932.37	161932.37	17.18		Si
SLD 15	10.4	15322.01	-36257	-0.0000396	0.0006738	0.0035	6.36		110480.37	110480.37	7.21		Si
SLV 14	7.9	-22688.86	-47868	-0.0000547	0.0006738	0.0035	6.36		160298.65	160298.65	7.07		Si
SLV 14	10.4	19624.98	-36834	-0.0000433	0.0006738	0.0035	6.36		112061.11	112061.11	5.71		Si
SLV 13	7.9	-22409.49	-48052	-0.0000546	0.0006738	0.0035	6.36		160765.9	160765.9	7.17		Si
SLV 13	10.4	19726.46	-36973	-0.0000435	0.0006738	0.0035	6.36		112441.53	112441.53	5.7		Si
SLV 3	7.9	21101.88	-55251	-0.0000595	0.0006738	0.0035	6.36		158037.42	158037.42	7.49		Si
SLV 3	10.4	-16801.29	-46563	-0.0000491	0.0006738	0.0035	6.36		156980.21	156980.21	9.34		Si
SLV 4	7.9	20822.52	-55067	-0.0000592	0.0006738	0.0035	6.36		157608.25	157608.25	7.57		Si
SLV 4	10.4	-16902.76	-46424	-0.0000491	0.0006738	0.0035	6.36		156627.09	156627.09	9.27		Si
SLV 12	7.9	7401.88	-48202	-0.0000433	0.0006738	0.0035	6.36		141577.24	141577.24	19.13		Si
SLV 12	10.4	13088.87	-33322	-0.0000356	0.0006738	0.0035	6.36		102430.1	102430.1	7.83		Si
SLD 16	7.9	-9605.46	-48393	-0.0000451	0.0006738	0.0035	6.36		161633.84	161633.84	16.83		Si
SLD 16	10.4	15257.18	-36168	-0.0000395	0.0006738	0.0035	6.36		110237.32	110237.32	7.23		Si
SLV 15	7.9	-14253.84	-46832	-0.0000474	0.0006738	0.0035	6.36		157665.13	157665.13	11.06		Si
SLV 15	10.4	23156.93	-33180	-0.000043	0.0006738	0.0035	6.36		102034.41	102034.41	4.41		Si
SLV 11	7.9	7589.96	-48326	-0.0000435	0.0006738	0.0035	6.36		141866.19	141866.19	18.69		Si
SLV 11	10.4	13157.19	-33415	-0.0000357	0.0006738	0.0035	6.36		102690.4	102690.4	7.8		Si
SLV 16	7.9	-14533.2	-46649	-0.0000475	0.0006738	0.0035	6.36		157197.88	157197.88	10.82		Si
SLV 16	10.4	23055.45	-33041	-0.0000429	0.0006738	0.0035	6.36		101647.8	101647.8	4.41		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	7.9	-800.73	-76204	-54362	-7943	6.36	6.36	-30527	10833	32031	115546	63998	32436	96434	No	12.14	Si
SLU 80	10.4	2496.42	-64329	-45891	-5494	6.36	6.36	-25770	10833	28643	115546	63998	32436	96434	No	17.55	Si
SLU 75	7.9	-1076.88	-74850	-53396	-8111	6.36	6.36	-29985	10833	31645	115546	63998	32436	96434	No	11.89	Si
SLU 75	10.4	2350.9	-62811	-44808	-5628	6.36	6.36	-25162	10833	28210	115546	63998	32436	96434	No	17.13	Si
SLU 82	7.9	-1418.09	-72840	-51963	-8245	6.36	6.36	-29179	10833	31071	115546	63998	32436	96434	No	11.7	Si
SLU 82	10.4	2164.41	-60875	-43427	-5776	6.36	6.36	-24386	10833	27657	115546	63998	32436	96434	No	16.69	Si
SLU 78	7.9	-772.97	-77291	-55138	-8075	6.36	6.36	-30962	10833	32341	115546	63998	32436	96434	No	11.94	Si
SLU 78	10.4	2580.42	-65433	-46679	-5580	6.36	6.36	-26212	10833	28958	115546	63998	32436	96434	No	17.28	Si
SLU 83	7.9	-898.02	-75229	-53667	-8076	6.36	6.36	-30136	10833	31753	115546	63998	32436	96434	No	11.94	Si
SLU 83	10.4	2487.35	-63399	-45228	-5623	6.36	6.36	-25397	10833	28378	115546	63998	32436	96434	No	17.15	Si
SLU 81	7.9	-1201.93	-72788	-51925	-8111	6.36	6.36	-29158	10833	31057	115546	63998	32436	96434	No	11.89	Si
SLU 81	10.4	2257.83	-60777	-43357	-5671	6.36	6.36	-24347	10833	27629	115546	63998	32436	96434	No	17	Si
SLU 74	7.9	-860.73	-74798	-53359	-7977	6.36	6.36	-29964	10833	31630	115546	63998	32436	96434	No	12.09	Si
SLU 74	10.4	2444.32	-62713	-44738	-5523	6.36	6.36	-25122	10833	28182	115546	63998	32436	96434	No	17.46	Si
SLU 76	7.9	-1248.74	-73798	-52646	-8068	6.36	6.36	-29563	10833	31345	115546	63998	32436	96434	No	11.95	Si
SLU 76	10.4	2204.62	-61772	-44067	-5612	6.36	6.36	-24745	10833	27913	115546	63998	32436	96434	No	17.18	Si
SLU 73	7.9	-1552.65	-71357	-50904	-8104	6.36	6.36	-28585	10833	30648	115546	63998	32436	96434	No	11.9	Si
SLU 73	10.4	1975.11	-59150	-42196	-5660	6.36	6.36	-23695	10833	27165	115546	63998	32436	96434	No	17.04	Si
SLU 84	7.9	-1114.18	-75281	-53704	-8210	6.36	6.36	-30157	10833	31768	115546	63998	32436	96434	No	11.75	Si
SLU 84	10.4	2393.93	-63497	-45298	-5728	6.36	6.36	-25437	10833	28406	115546	63998	32436	96434	No	16.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	7.9	-19783.65	-52267	-37286	-22970	6.36	6.36	-20938	16250	30345	115546	95996	32436	128432		5.59	Si
SLV 10	10.4	1653.97	-45967	-32792	-17779	6.36	6.36	-18414	16183	28818	115546	95996	32436	128432		7.22	Si
SLV 15	7.9	-14253.84	-46832	-33409	-25137	6.36	6.36	-18761	16250	28938	115546	95996	32436	128432		5.11	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	10.4	23156.93	-33180	-23670	-20107	6.36	6.36	-13292	15158	26994	115546	95996	32436	128432		6.39	Si
SLV 14	7.9	-22688.86	-47868	-34148	-31558	6.36	6.36	-19176	16250	29090	115546	95996	32436	128432		4.07	Si
SLV 14	10.4	19624.98	-36834	-26277	-25183	6.36	6.36	-14756	15451	27515	115546	95996	32436	128432		5.1	Si
SLV 13	7.9	-22409.49	-48052	-34279	-31494	6.36	6.36	-19249	16250	29142	115546	95996	32436	128432		4.08	Si
SLV 13	10.4	19726.46	-36973	-26376	-25106	6.36	6.36	-14811	15462	27535	115546	95996	32436	128432		5.12	Si
SLV 16	7.9	-14533.2	-46649	-33278	-25201	6.36	6.36	-18687	16237	28916	115546	95996	32436	128432		5.1	Si
SLV 16	10.4	23055.45	-33041	-23570	-20185	6.36	6.36	-13236	15147	26974	115546	95996	32436	128432		6.36	Si
SLV 4	7.9	20822.52	-55067	-39283	20494	6.36	6.36	-22059	16250	31144	115546	95996	32436	128432		6.27	Si
SLV 4	10.4	-16902.76	-46424	-33118	17597	6.36	6.36	-18597	16219	28884	115546	95996	32436	128432		7.3	Si
SLV 9	7.9	-19595.56	-52391	-37375	-22927	6.36	6.36	-20988	16250	30380	115546	95996	32436	128432		5.6	Si
SLV 9	10.4	1722.29	-46060	-32858	-17727	6.36	6.36	-18451	16190	28832	115546	95996	32436	128432		7.24	Si
SLV 3	7.9	21101.88	-55251	-39414	20558	6.36	6.36	-22133	16250	31196	115546	95996	32436	128432		6.25	Si
SLV 3	10.4	-16801.29	-46563	-33217	17674	6.36	6.36	-18653	16231	28903	115546	95996	32436	128432		7.27	Si
SLD 13	7.9	-14481.56	-49274	-35151	-22059	6.36	6.36	-19739	16250	29491	115546	95996	32436	128432		5.82	Si
SLD 13	10.4	13196.17	-38621	-27551	-17349	6.36	6.36	-15471	15594	27770	115546	95996	32436	128432		7.4	Si
SLD 14	7.9	-14660.05	-49157	-35067	-22100	6.36	6.36	-19692	16250	29457	115546	95996	32436	128432		5.81	Si
SLD 14	10.4	13131.33	-38532	-27488	-17398	6.36	6.36	-15436	15587	27758	115546	95996	32436	128432		7.38	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-37802	0.45	810.26	4679.33	6569.94	5624.64	6.94	Si
SLV 11	-37907	0.45	810.26	4690.64	6585.57	5638.1	6.96	Si
SLV 16	-39102	0.45	810.26	4818.43	6763.33	5790.88	7.15	Si
SLV 15	-39258	0.45	810.26	4835.04	6786.43	5810.74	7.17	Si
SLV 8	-40516	0.45	810.26	4968.08	6971.72	5969.9	7.37	Si
SLV 7	-40621	0.45	810.26	4979.13	6987.21	5983.17	7.38	Si
SLV 14	-42951	0.45	810.26	5221.89	7330.88	6276.38	7.75	Si
SLV 13	-43108	0.45	810.26	5237.98	7353.91	6295.95	7.77	Si
SLV 4	-48147	0.45	810.26	5746.26	8098.09	6922.17	8.54	Si
SLV 3	-48303	0.45	810.26	5761.66	8120.99	6941.32	8.57	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-43977	-56470	-359	0.756	5370.5	0.952	11.54427	8.02002	Si
SLV 2	-43870	-56286	-360	0.758	5359.6	0.952	11.56875	8.02002	Si
SLV 3	-41294	-55251	114	0.802	5098	0.949	12.27814	8.02002	Si
SLV 4	-41186	-55067	114	0.804	5087.1	0.949	12.30629	8.02002	Si
SLV 13	-35453	-48052	-108	0.911	4505.4	0.944	14.02217	8.02002	Si
SLV 14	-35345	-47868	-109	0.913	4494.6	0.944	14.05866	8.02002	Si
SLV 15	-32769	-46832	366	0.965	4233.5	0.941	14.90334	8.02002	Si
SLV 16	-32662	-46649	365	0.967	4222.6	0.941	14.94561	8.02002	Si
SLV 5	-44107	-54917	-824	0.745	5383.7	0.952	11.37195	5.35431	Si
SLV 6	-44035	-54793	-825	0.746	5376.4	0.952	11.38812	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	63.229	SLU 35	Si
V_SLU	11.695	SLU 82	Si
PF_SLV	4.406	SLV 15	Si
V_SLV	4.07	SLV 14	Si
PFFP_SLV	6.942	SLV 12	Si
R_SLV	1.439	SLV 1	Si

Maschio 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L6	L7	0.676	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	7.9	125.53	-6992	-0.0000618	0.0004492	0.0035	0.6764	1650.13	1991.97	1991.97	15.87	No	Si
SLU 65	10.4	-36.79	-6995	-0.0000555	0.0004492	0.0035	0.6764	1650.49	2125.46	2125.46	57.77	No	Si
SLU 25	7.9	102.05	-6036	-0.0000524	0.0004492	0.0035	0.6764	1508.8	1762.36	1762.36	17.27	No	Si
SLU 25	10.4	-22.41	-6268	-0.0000487	0.0004492	0.0035	0.6764	1545.64	1954.59	1954.59	87.21	No	Si
SLU 5	7.9	91.22	-5280	-0.0000457	0.0004492	0.0035	0.6764	1378.17	1580.88	1580.88	17.33	No	Si
SLU 5	10.4	-27.93	-5104	-0.0000399	0.0004492	0.0035	0.6764	1345.3	1666.02	1666.02	59.64	No	Si
SLU 44	7.9	104.76	-6345	-0.0000551	0.0004492	0.0035	0.6764	1557.46	1836.67	1836.67	17.53	No	Si
SLU 44	10.4	-32.57	-5905	-0.0000465	0.0004492	0.0035	0.6764	1487.37	1867.13	1867.13	57.32	No	Si
SLU 30	7.9	101.62	-6185	-0.0000536	0.0004492	0.0035	0.6764	1532.61	1798.18	1798.18	17.7	No	Si
SLU 30	10.4	-20.49	-6403	-0.0000496	0.0004492	0.0035	0.6764	1566.22	1986.6	1986.6	96.95	No	Si
SLU 23	7.9	112.52	-5688	-0.0000504	0.0004492	0.0035	0.6764	1450.68	1678.73	1678.73	14.92	No	Si
SLU 23	10.4	-35.3	-5943	-0.000047	0.0004492	0.0035	0.6764	1493.69	1876.74	1876.74	53.16	No	Si
SLU 28	7.9	101.52	-6275	-0.0000543	0.0004492	0.0035	0.6764	1546.67	1819.81	1819.81	17.92	No	Si
SLU 28	10.4	-19.27	-6519	-0.0000505	0.0004492	0.0035	0.6764	1583.52	2014.18	2014.18	104.55	No	Si
SLU 26	7.9	111.99	-5927	-0.0000523	0.0004492	0.0035	0.6764	1490.98	1736.18	1736.18	15.5	No	Si
SLU 26	10.4	-32.15	-6194	-0.0000488	0.0004492	0.0035	0.6764	1533.95	1936.76	1936.76	60.23	No	Si
SLU 68	7.9	125.01	-7231	-0.0000637	0.0004492	0.0035	0.6764	1681.31	2049.41	2049.41	16.39	No	Si
SLU 68	10.4	-33.65	-7245	-0.0000573	0.0004492	0.0035	0.6764	1683.05	2181.86	2181.86	64.85	No	Si
SLU 2	7.9	91.74	-5041	-0.0000438	0.0004492	0.0035	0.6764	1333.34	1523.43	1523.43	16.61	No	Si
SLU 2	10.4	-31.08	-4853	-0.0000382	0.0004492	0.0035	0.6764	1297.07	1600.06	1600.06	51.48	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	7.9	1670.7	-2170	-0.0206062	0.0006738	0.0035	0.5411		754.88	754.88	0.45		No
SLV 6	10.4	-1442.49	-9833	-0.0001851	0.0006738	0.0035	0.6764		2891.56	2891.56	2		Si
SLV 11	7.9	-1540.08	-8630	-0.0001961	0.0006738	0.0035	0.6764		2615.71	2615.71	1.7		Si
SLV 11	10.4	1444.41	-645	-0.022922	0.0006738	0.0035	0.5411		269.45	269.45	0.19		No
SLV 16	7.9	-1757.55	-7061	-0.0003068	0.0006738	0.0035	0.5411		2232.51	2232.51	1.27		Si
SLV 16	10.4	1612.62	-4025	-0.0106862	0.0006738	0.0035	0.5411		1310.08	1310.08	0.81		No
SLV 1	7.9	1888.17	-3739	-0.0175425	0.0006738	0.0035	0.5411		1227.03	1227.03	0.65		No
SLV 1	10.4	-1610.7	-6453	-0.000277	0.0006738	0.0035	0.5411		2075.25	2075.25	1.29		Si
SLV 2	7.9	1904.39	-3693	-0.0180634	0.0006738	0.0035	0.5411		1213.71	1213.71	0.64		No
SLV 2	10.4	-1624.54	-6490	-0.0002816	0.0006738	0.0035	0.5411		2085.01	2085.01	1.28		Si
SLV 5	7.9	1659.78	-2200	-0.0202747	0.0006738	0.0035	0.5411		764.32	764.32	0.46		No
SLV 5	10.4	-1433.17	-9808	-0.0001839	0.0006738	0.0035	0.6764		2885.87	2885.87	2.01		Si
SLV 8	7.9	-638.4	-8125	-0.0001054	0.0006738	0.0035	0.6764		2495.8	2495.8	3.91		Si
SLV 8	10.4	652.49	-577	-0.0087521	0.0006738	0.0035	0.5411		247.07	247.07	0.38		No
SLV 7	7.9	-649.31	-8156	-0.0001064	0.0006738	0.0035	0.6764		2503.06	2503.06	3.85		Si
SLV 7	10.4	661.81	-551	-0.00904	0.0006738	0.0035	0.5411		238.82	238.82	0.36		No
SLV 15	7.9	-1773.77	-7106	-0.0003122	0.0006738	0.0035	0.5411		2243.83	2243.83	1.27		Si
SLV 15	10.4	1626.46	-3988	-0.0111741	0.0006738	0.0035	0.5411		1299.29	1299.29	0.8		No
SLV 12	7.9	-1529.16	-8599	-0.0001944	0.0006738	0.0035	0.6764		2608.45	2608.45	1.71		Si
SLV 12	10.4	1435.09	-670	-0.0226514	0.0006738	0.0035	0.5411		277.7	277.7	0.19		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7.9	98.42	-7436	-5305	157	0.6764	0.6764	-28012	10833	2144	115546	6806	3449	10255	No	65.52	Si
SLU 73	10.4	5.06	-7613	-5431	148	0.6764	0.6764	-28676	10833	2178	115546	6806	3449	10255	No	69.25	Si
SLU 26	7.9	111.99	-5927	-4228	155	0.6764	0.6764	-22325	10833	2052	115546	6806	3449	10255	No	65.99	Si
SLU 26	10.4	-32.15	-6194	-4418	157	0.6764	0.6764	-23330	10833	2052	115546	6806	3449	10255	No	65.28	Si
SLU 67	7.9	115.06	-7341	-5237	151	0.6764	0.6764	-27651	10833	2126	115546	6806	3449	10255	No	68.03	Si
SLU 67	10.4	-23.9	-7320	-5222	153	0.6764	0.6764	-27574	10833	2122	115546	6806	3449	10255	No	66.88	Si
SLU 23	7.9	112.52	-5688	-4057	156	0.6764	0.6764	-21424	10833	2052	115546	6806	3449	10255	No	65.69	Si
SLU 23	10.4	-35.3	-5943	-4240	157	0.6764	0.6764	-22387	10833	2052	115546	6806	3449	10255	No	65.13	Si
SLU 68	7.9	125.01	-7231	-5159	161	0.6764	0.6764	-27240	10833	2105	115546	6806	3449	10255	No	63.53	Si
SLU 68	10.4	-33.65	-7245	-5169	164	0.6764	0.6764	-27291	10833	2108	115546	6806	3449	10255	No	62.59	Si
SLU 72	7.9	114.63	-7490	-5343	149	0.6764	0.6764	-28213	10833	2154	115546	6806	3449	10255	No	69.03	Si
SLU 72	10.4	-21.98	-7455	-5318	151	0.6764	0.6764	-28080	10833	2147	115546	6806	3449	10255	No	67.78	Si
SLU 70	7.9	114.54	-7580	-5407	150	0.6764	0.6764	-28552	10833	2171	115546	6806	3449	10255	No	68.34	Si
SLU 70	10.4	-20.76	-7570	-5401	153	0.6764	0.6764	-28516	10833	2169	115546	6806	3449	10255	No	67.04	Si
SLU 31	7.9	85.41	-6132	-4374	151	0.6764	0.6764	-23098	10833	2052	115546	6806	3449	10255	No	68.13	Si
SLU 31	10.4	6.56	-6561	-4681	141	0.6764	0.6764	-24715	10833	2052	115546	6806	3449	10255	No	72.57	Si
SLU 76	7.9	97.89	-7676	-5476	156	0.6764	0.6764	-28913	10833	2189	115546	6806	3449	10255	No	65.81	Si
SLU 76	10.4	8.21	-7863	-5609	148	0.6764	0.6764	-29619	10833	2225	115546	6806	3449	10255	No	69.42	Si
SLU 65	7.9	125.53	-6992	-4988	162	0.6764	0.6764	-26338	10833	2059	115546	6806	3449	10255	No	63.26	Si
SLU 65	10.4	-36.79	-6995	-4990	164	0.6764	0.6764	-26348	10833	2060	115546	6806	3449	10255	No	62.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	7.9	1888.17	-3739	-2667	1813	0.5411	0	0	0	0	115546	8167	2760	10927		6.03	Si
SLV 1	10.4	-1610.7	-6453	-4603	1542	0.5411	0.2657	0	0	0	115546	8167	2760	10927		7.09	Si
SLD 5	7.9	1064.83	-3412	-2434	1265	0.5411	0.0783	0	0	0	115546	8167	2760	10927		8.64	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	10.4	-897.88	-8084	-5767	1211	0.6764	0.6764	-30450	16250	3077	115546	10209	3449	13658		11.27	Si
SLV 5	7.9	1659.78	-2200	-1570	1971	0.5411	0	0	0	0	115546	8167	2760	10927		5.54	Si
SLV 5	10.4	-1433.17	-9808	-6997	1885	0.6764	0.5762	-36944	16250	2960	115546	10209	3449	13658		7.24	Si
SLV 16	7.9	-1757.55	-7061	-5037	-1635	0.5411	0.2678	0	0	0	115546	8167	2760	10927		6.68	Si
SLV 16	10.4	1612.62	-4025	-2871	-1367	0.5411	0	0	0	0	115546	8167	2760	10927		8	Si
SLD 6	7.9	1071.7	-3393	-2420	1273	0.5411	0.0669	0	0	0	115546	8167	2760	10927		8.58	Si
SLD 6	10.4	-903.74	-8100	-5778	1219	0.6764	0.6764	-30510	16250	3077	115546	10209	3449	13658		11.2	Si
SLV 12	7.9	-1529.16	-8599	-6135	-1793	0.6764	0.4811	-46629	16250	2730	115546	10209	3449	13658		7.62	Si
SLV 12	10.4	1435.09	-670	-478	-1710	0.5411	0	0	0	0	115546	8167	2760	10927		6.39	Si
SLV 6	7.9	1670.7	-2170	-1548	1984	0.5411	0	0	0	0	115546	8167	2760	10927		5.51	Si
SLV 6	10.4	-1442.49	-9833	-7015	1898	0.6764	0.5745	-37039	16250	2965	115546	10209	3449	13658		7.2	Si
SLV 11	7.9	-1540.08	-8630	-6156	-1806	0.6764	0.4792	-46990	16250	2736	115546	10209	3449	13658		7.56	Si
SLV 11	10.4	1444.41	-645	-460	-1723	0.5411	0	0	0	0	115546	8167	2760	10927		6.34	Si
SLV 2	7.9	1904.39	-3693	-2635	1831	0.5411	0	0	0	0	115546	8167	2760	10927		5.97	Si
SLV 2	10.4	-1624.54	-6490	-4630	1560	0.5411	0.2636	0	0	0	115546	8167	2760	10927		7	Si
SLV 15	7.9	-1773.77	-7106	-5070	-1654	0.5411	0.2657	0	0	0	115546	8167	2760	10927		6.61	Si
SLV 15	10.4	1626.46	-3988	-2845	-1385	0.5411	0	0	0	0	115546	8167	2760	10927		7.89	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-2777	0.45	86.17	357.67	484.24	420.95	4.89	Si
SLV 8	-2784	0.45	86.17	358.52	485.34	421.93	4.9	Si
SLV 11	-2855	0.45	86.17	366.82	496.11	431.47	5.01	Si
SLV 12	-2862	0.45	86.17	367.67	497.22	432.44	5.02	Si
SLV 3	-4150	0.45	86.17	511.51	691.91	601.71	6.98	Si
SLV 4	-4160	0.45	86.17	512.65	693.53	603.09	7	Si
SLV 15	-4410	0.45	86.17	538.95	730.9	634.93	7.37	Si
SLV 16	-4421	0.45	86.17	540.08	732.51	636.29	7.38	Si
SLV 1	-5406	0.45	86.17	638.97	878.98	758.97	8.81	Si
SLV 2	-5417	0.45	86.17	640	880.57	760.29	8.82	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-3188	-7106	18	1.043	420.2	0.937	16.16713	8.02002	Si
SLV 16	-3176	-7061	18	1.046	418.9	0.937	16.2217	8.02002	Si
SLV 13	-3167	-5320	-4	1.052	418	0.937	16.31991	8.02002	Si
SLV 14	-3154	-5274	-4	1.055	416.7	0.937	16.37579	8.02002	Si
SLV 3	-2662	-5525	7	1.208	367	0.93	18.87699	8.02002	Si
SLV 4	-2649	-5480	7	1.212	365.7	0.93	18.95169	8.02002	Si
SLV 1	-2640	-3739	-15	1.213	364.8	0.93	18.96439	8.02002	Si
SLV 2	-2627	-3693	-15	1.218	363.5	0.929	19.04047	8.02002	Si
SLV 11	-3027	-8630	39	1.081	403.9	0.935	16.80484	5.35431	Si
SLV 12	-3018	-8599	39	1.084	403	0.935	16.84478	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.919	SLU 23	Si
V_SLU	62.453	SLU 65	Si
PF_SLV	0.187	SLV 11	No
V_SLV	5.508	SLV 6	Si
PFFP_SLV	4.885	SLV 7	Si
R_SLV	2.016	SLV 15	Si

Maschio 187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L6	L7	1.944	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	7.9	3664.5	-20866	-0.0000871	0.0004492	0.0035	1.9436	13914.91	16949.63	16949.63	4.63	No	Si
SLU 42	10.4	-1659.27	-15477	-0.0000541	0.0004492	0.0035	1.9436	11539.96	15038.65	15038.65	9.06	No	Si
SLU 39	7.9	3598.86	-20078	-0.0000842	0.0004492	0.0035	1.9436	13620.51	16400.18	16400.18	4.56	No	Si
SLU 39	10.4	-1606.67	-14756	-0.0000517	0.0004492	0.0035	1.9436	11158.07	14526.85	14526.85	9.04	No	Si
SLU 81	7.9	4041.48	-23972	-0.0001	0.0004492	0.0035	1.9436	14897.95	19013.02	19013.02	4.7	No	Si
SLU 81	10.4	-1728.07	-17454	-0.0000603	0.0004492	0.0035	1.9436	12510.08	16443.27	16443.27	9.52	No	Si
SLU 41	7.9	3663.73	-20884	-0.0000872	0.0004492	0.0035	1.9436	13921.47	16962.28	16962.28	4.63	No	Si
SLU 41	10.4	-1649.5	-15495	-0.0000541	0.0004492	0.0035	1.9436	11549.57	15051.79	15051.79	9.13	No	Si
SLU 83	7.9	4106.35	-24778	-0.0001031	0.0004492	0.0035	1.9436	15107.12	19446.75	19446.75	4.74	No	Si
SLU 83	10.4	-1770.9	-18194	-0.0000628	0.0004492	0.0035	1.9436	12843.29	16941.97	16941.97	9.57	No	Si
SLU 34	7.9	3482.73	-20290	-0.0000838	0.0004492	0.0035	1.9436	13701.51	16548.02	16548.02	4.75	No	Si
SLU 34	10.4	-1569.77	-14989	-0.000052	0.0004492	0.0035	1.9436	11283.27	14692.41	14692.41	9.36	No	Si
SLU 84	7.9	4107.12	-24760	-0.0001031	0.0004492	0.0035	1.9436	15102.62	19436.99	19436.99	4.73	No	Si
SLU 84	10.4	-1780.67	-18175	-0.0000628	0.0004492	0.0035	1.9436	12835.14	16929.66	16929.66	9.51	No	Si
SLU 82	7.9	4042.25	-23954	-0.0001	0.0004492	0.0035	1.9436	14893.03	19003.26	19003.26	4.7	No	Si
SLU 82	10.4	-1737.85	-17436	-0.0000603	0.0004492	0.0035	1.9436	12501.54	16430.13	16430.13	9.45	No	Si
SLU 31	7.9	3417.86	-19483	-0.0000808	0.0004492	0.0035	1.9436	13386.54	15985.91	15985.91	4.68	No	Si
SLU 31	10.4	-1526.95	-14250	-0.0000496	0.0004492	0.0035	1.9436	10880.83	14151.57	14151.57	9.27	No	Si
SLU 40	7.9	3599.63	-20060	-0.0000841	0.0004492	0.0035	1.9436	13613.52	16387.53	16387.53	4.55	No	Si
SLU 40	10.4	-1616.45	-14738	-0.0000517	0.0004492	0.0035	1.9436	11148.07	14513.72	14513.72	8.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	7.9	6489.32	-15615	-0.0000958	0.0006738	0.0035	1.9436		13929.95	13929.95	2.15		Si
SLD 1	10.4	-4100.47	-9502	-0.0000587	0.0006738	0.0035	1.9436		10662.11	10662.11	2.6		Si
SLV 4	7.9	8355.57	-15498	-0.0001244	0.0006738	0.0035	1.9436		13847.53	13847.53	1.66		Si
SLV 4	10.4	-5242.67	-8693	-0.0000796	0.0006738	0.0035	1.5549		9964.23	9964.23	1.9		Si
SLV 2	7.9	8504.6	-14880	-0.0001295	0.0006738	0.0035	1.9436		13411.97	13411.97	1.58		Si
SLV 2	10.4	-5736.92	-8051	-0.0001056	0.0006738	0.0035	1.5549		9410.11	9410.11	1.64		Si
SLD 3	7.9	6396.29	-15999	-0.0000955	0.0006738	0.0035	1.9436		14200.04	14200.04	2.22		Si
SLD 3	10.4	-3792.78	-9902	-0.0000561	0.0006738	0.0035	1.9436		11002.86	11002.86	2.9		Si
SLV 1	7.9	8688.31	-14934	-0.0001337	0.0006738	0.0035	1.9436		13449.85	13449.85	1.55		Si
SLV 1	10.4	-5825.13	-8039	-0.0001106	0.0006738	0.0035	1.5549		9400.11	9400.11	1.61		Si
SLV 3	7.9	8539.29	-15552	-0.0001281	0.0006738	0.0035	1.9436		13885.41	13885.41	1.63		Si
SLV 3	10.4	-5330.88	-8681	-0.000082	0.0006738	0.0035	1.5549		9954.23	9954.23	1.87		Si
SLV 6	7.9	4568.35	-15300	-0.0000766	0.0006738	0.0035	1.9436		13708.04	13708.04	3		Si
SLV 6	10.4	-3193.88	-9911	-0.0000507	0.0006738	0.0035	1.9436		11010.44	11010.44	3.45		Si
SLD 2	7.9	6371.95	-15581	-0.0000944	0.0006738	0.0035	1.9436		13905.75	13905.75	2.18		Si
SLD 2	10.4	-4044.12	-9509	-0.0000581	0.0006738	0.0035	1.9436		10668.49	10668.49	2.64		Si
SLD 4	7.9	6278.91	-15964	-0.0000941	0.0006738	0.0035	1.9436		14175.84	14175.84	2.26		Si
SLD 4	10.4	-3736.42	-9909	-0.0000555	0.0006738	0.0035	1.9436		11008.95	11008.95	2.95		Si
SLV 5	7.9	4692.04	-15337	-0.0000778	0.0006738	0.0035	1.9436		13733.55	13733.55	2.93		Si
SLV 5	10.4	-3253.26	-9903	-0.0000512	0.0006738	0.0035	1.9436		11004.02	11004.02	3.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	7.9	4018.03	-25354	-18087	4076	1.9436	1.9436	-33235	10833	6919	115546	19558	9913	29470	No	7.23	Si
SLU 78	10.4	-1744.9	-18758	-13382	1992	1.9436	1.9436	-24589	10833	5896	115546	19558	9913	29470	No	14.79	Si
SLU 74	7.9	3952.4	-24566	-17525	3993	1.9436	1.9436	-32202	10833	6769	115546	19558	9913	29470	No	7.38	Si
SLU 74	10.4	-1692.3	-18038	-12868	1920	1.9436	1.9436	-23644	10833	5896	115546	19558	9913	29470	No	15.35	Si
SLU 81	7.9	4041.48	-23972	-17101	4034	1.9436	1.9436	-31423	10833	6656	115546	19558	9913	29470	No	7.31	Si
SLU 81	10.4	-1728.07	-17454	-12452	1975	1.9436	1.9436	-22880	10833	5896	115546	19558	9913	29470	No	14.92	Si
SLU 80	7.9	3989.7	-25002	-17836	4039	1.9436	1.9436	-32774	10833	6852	115546	19558	9913	29470	No	7.3	Si
SLU 80	10.4	-1727.48	-18439	-13154	1981	1.9436	1.9436	-24170	10833	5896	115546	19558	9913	29470	No	14.88	Si
SLU 83	7.9	4106.35	-24778	-17676	4113	1.9436	1.9436	-32480	10833	6809	115546	19558	9913	29470	No	7.17	Si
SLU 83	10.4	-1770.9	-18194	-12979	2038	1.9436	1.9436	-23849	10833	5896	115546	19558	9913	29470	No	14.46	Si
SLU 84	7.9	4107.12	-24760	-17663	4117	1.9436	1.9436	-32456	10833	6806	115546	19558	9913	29470	No	7.16	Si
SLU 84	10.4	-1780.67	-18175	-12966	2048	1.9436	1.9436	-23824	10833	5896	115546	19558	9913	29470	No	14.39	Si
SLU 75	7.9	3953.17	-24548	-17512	3997	1.9436	1.9436	-32178	10833	6766	115546	19558	9913	29470	No	7.37	Si
SLU 75	10.4	-1702.08	-18019	-12854	1929	1.9436	1.9436	-23620	10833	5896	115546	19558	9913	29470	No	15.27	Si
SLU 82	7.9	4042.25	-23954	-17088	4038	1.9436	1.9436	-31399	10833	6652	115546	19558	9913	29470	No	7.3	Si
SLU 82	10.4	-1737.85	-17436	-12438	1985	1.9436	1.9436	-22856	10833	5896	115546	19558	9913	29470	No	14.85	Si
SLU 79	7.9	3988.93	-25021	-17849	4035	1.9436	1.9436	-32798	10833	6855	115546	19558	9913	29470	No	7.3	Si
SLU 79	10.4	-1717.7	-18457	-13167	1971	1.9436	1.9436	-24195	10833	5896	115546	19558	9913	29470	No	14.95	Si
SLU 77	7.9	4017.26	-25373	-18100	4072	1.9436	1.9436	-33259	10833	6922	115546	19558	9913	29470	No	7.24	Si
SLU 77	10.4	-1735.13	-18777	-13395	1982	1.9436	1.9436	-24613	10833	5896	115546	19558	9913	29470	No	14.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	7.9	4692.04	-15337	-10941	4820	1.9436	1.9436	-20104	16250	8844	115546	29337	9913	39249		8.14	Si
SLV 5	10.4	-3253.26	-9903	-7065	3092	1.9436	1.9299	-12981	15096	8158	115546	29337	9913	39249		12.69	Si
SLD 1	7.9	6489.32	-15615	-11140	6285	1.9436	1.6687	-20469	16250	7593	115546	29337	9913	39249		6.24	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	10.4	-4100.47	-9502	-6778	3613	1.9436	1.6208	-15036	15507	7038	115546	29337	9913	39249		10.86	Si
SLV 6	7.9	4568.35	-15300	-10915	4721	1.9436	1.9436	-20056	16250	8844	115546	29337	9913	39249		8.31	Si
SLV 6	10.4	-3193.88	-9911	-7070	3047	1.9436	1.9436	-12991	15098	8217	115546	29337	9913	39249		12.88	Si
SLV 3	7.9	8539.29	-15552	-11094	8052	1.9436	1.2682	-20386	16250	6102	115546	29337	9913	39249		4.87	Si
SLV 3	10.4	-5330.88	-8681	-6193	4502	1.5549	1.0733	0	0	0	115546	23469	7930	31399		6.97	Si
SLV 1	7.9	8688.31	-14934	-10653	8334	1.9436	1.1701	-19576	16250	5985	115546	29337	9913	39249		4.71	Si
SLV 1	10.4	-5825.13	-8039	-5735	5005	1.5549	0.7417	0	0	0	115546	23469	7930	31399		6.27	Si
SLD 2	7.9	6371.95	-15581	-11115	6192	1.9436	1.6886	-20424	16250	7683	115546	29337	9913	39249		6.34	Si
SLD 2	10.4	-4044.12	-9509	-6784	3571	1.9436	1.6396	-14874	15475	7104	115546	29337	9913	39249		10.99	Si
SLV 4	7.9	8355.57	-15498	-11056	7906	1.9436	1.2981	-20316	16250	6092	115546	29337	9913	39249		4.96	Si
SLV 4	10.4	-5242.67	-8693	-6201	4436	1.5549	1.1062	0	0	0	115546	23469	7930	31399		7.08	Si
SLV 2	7.9	8504.6	-14880	-10615	8188	1.9436	1.2008	-19505	16250	5974	115546	29337	9913	39249		4.79	Si
SLV 2	10.4	-5736.92	-8051	-5743	4938	1.5549	0.7777	0	0	0	115546	23469	7930	31399		6.36	Si
SLD 3	7.9	6396.29	-15999	-11413	6110	1.9436	1.716	-20972	16250	7808	115546	29337	9913	39249		6.42	Si
SLD 3	10.4	-3792.78	-9902	-7064	3301	1.9436	1.7663	-14362	15372	7603	115546	29337	9913	39249		11.89	Si
SLD 4	7.9	6278.91	-15964	-11389	6017	1.9436	1.7355	-20927	16250	7897	115546	29337	9913	39249		6.52	Si
SLD 4	10.4	-3736.42	-9909	-7069	3258	1.9436	1.7842	-14230	15346	7667	115546	29337	9913	39249		12.05	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-13600	0.45	247.62	1644.37	2316.35	1980.36	8	Si
SLV 1	-13660	0.45	247.62	1650.52	2325.32	1987.92	8.03	Si
SLV 6	-13970	0.45	247.62	1681.91	2371.39	2026.65	8.18	Si
SLV 5	-14011	0.45	247.62	1686.01	2377.43	2031.72	8.21	Si
SLV 4	-14193	0.45	247.62	1704.3	2404.5	2054.4	8.3	Si
SLV 3	-14254	0.45	247.62	1710.35	2413.47	2061.91	8.33	Si
SLV 10	-14873	0.45	247.62	1771.73	2505.31	2138.52	8.64	Si
SLV 9	-14914	0.45	247.62	1775.72	2511.29	2143.51	8.66	Si
SLV 8	-15948	0.45	247.62	1875.78	2663.22	2269.5	9.17	Si
SLV 7	-15989	0.45	247.62	1879.65	2669.18	2274.42	9.19	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-14460	-18789	153	0.708	1744.9	0.954	10.78535	8.02002	Si
SLV 16	-14373	-18735	153	0.712	1736	0.954	10.84264	8.02002	Si
SLV 13	-13279	-18170	-205	0.757	1625	0.951	11.5698	8.02002	Si
SLV 14	-13192	-18117	-204	0.762	1616.1	0.951	11.63688	8.02002	Si
SLV 3	-10624	-15552	218	0.91	1355.6	0.943	14.03094	8.02002	Si
SLV 4	-10537	-15498	218	0.917	1346.7	0.943	14.13081	8.02002	Si
SLV 11	-14481	-18368	593	0.68	1747	0.954	10.35855	5.35431	Si
SLV 12	-14422	-18332	593	0.683	1741	0.954	10.39539	5.35431	Si
SLV 1	-9443	-14934	-139	1.009	1236	0.938	15.63354	8.02002	Si
SLV 2	-9356	-14880	-139	1.017	1227.1	0.938	15.75803	8.02002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.553	SLU 40	Si
V_SLU	7.159	SLU 84	Si
PF_SLV	1.548	SLV 1	Si
V_SLV	4.709	SLV 1	Si
PFFP_SLV	7.998	SLV 2	Si
R_SLV	1.345	SLV 15	Si

Maschio 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L6	L7	1.55	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	7.9	1908.83	-15430	-0.0000768	0.0004492	0.0035	1.55	8478.6	10130.7	10130.7	5.31	No	Si
SLU 52	10	-1552.2	-13325	-0.0000643	0.0004492	0.0035	1.55	7732.08	10093.66	10093.66	6.5	No	Si
SLU 65	7.9	2011.77	-16344	-0.0000816	0.0004492	0.0035	1.55	8762.69	10651.13	10651.13	5.29	No	Si
SLU 65	10	-1645.11	-14088	-0.0000683	0.0004492	0.0035	1.55	8017.48	10519.99	10519.99	6.39	No	Si
SLU 82	7.9	2119.44	-17250	-0.0000865	0.0004492	0.0035	1.55	9019.93	11166.52	11166.52	5.27	No	Si
SLU 82	10	-1720.56	-15776	-0.0000755	0.0004492	0.0035	1.55	8588.95	11421.45	11421.45	6.64	No	Si
SLU 44	7.9	1827.1	-14802	-0.0000733	0.0004492	0.0035	1.55	8269.4	9773.37	9773.37	5.35	No	Si
SLU 44	10	-1496.09	-12146	-0.0000593	0.0004492	0.0035	1.55	7257	9422.5	9422.5	6.3	No	Si
SLU 31	7.9	1725.81	-13958	-0.0000689	0.0004492	0.0035	1.55	7970.16	9293.26	9293.26	5.38	No	Si
SLU 31	10	-1398	-12975	-0.000061	0.0004492	0.0035	1.55	7595.21	9894.3	9894.3	7.08	No	Si
SLU 61	7.9	1934.77	-15707	-0.0000781	0.0004492	0.0035	1.55	8567.47	10288.76	10288.76	5.32	No	Si
SLU 61	10	-1571.54	-13834	-0.0000664	0.0004492	0.0035	1.55	7924.27	10382.88	10382.88	6.61	No	Si
SLU 73	7.9	2093.5	-16972	-0.0000851	0.0004492	0.0035	1.55	8943.59	11008.46	11008.46	5.26	No	Si
SLU 73	10	-1701.23	-15267	-0.0000733	0.0004492	0.0035	1.55	8425.61	11149.97	11149.97	6.55	No	Si
SLU 60	7.9	1921.12	-15720	-0.000078	0.0004492	0.0035	1.55	8571.56	10296.14	10296.14	5.36	No	Si
SLU 60	10	-1564.47	-13838	-0.0000663	0.0004492	0.0035	1.55	7925.82	10385.26	10385.26	6.64	No	Si
SLU 81	7.9	2105.79	-17263	-0.0000863	0.0004492	0.0035	1.55	9023.44	11173.9	11173.9	5.31	No	Si
SLU 81	10	-1713.49	-15780	-0.0000754	0.0004492	0.0035	1.55	8590.26	11423.68	11423.68	6.67	No	Si
SLU 64	7.9	1989.03	-16366	-0.0000813	0.0004492	0.0035	1.55	8769.11	10663.44	10663.44	5.36	No	Si
SLU 64	10	-1633.32	-14095	-0.0000681	0.0004492	0.0035	1.55	8020	10523.71	10523.71	6.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	7.9	5458.36	-10602	-0.0001432	0.0006738	0.0035	1.55		7729.05	7729.05	1.42		Si
SLV 2	10	-4807.26	-9030	-0.000129	0.0006738	0.0035	1.24		7710.37	7710.37	1.6		Si
SLV 1	7.9	5532.87	-10638	-0.000147	0.0006738	0.0035	1.55		7749.66	7749.66	1.4		Si
SLV 1	10	-4917.07	-9078	-0.0001352	0.0006738	0.0035	1.24		7741.77	7741.77	1.57		Si
SLD 4	7.9	3636.57	-11415	-0.0000848	0.0006738	0.0035	1.55		8196.79	8196.79	2.25		Si
SLD 4	10	-3261.85	-9738	-0.0000746	0.0006738	0.0035	1.55		8175.97	8175.97	2.51		Si
SLD 2	7.9	4026.01	-11256	-0.0000919	0.0006738	0.0035	1.55		8105.13	8105.13	2.01		Si
SLD 2	10	-3511.15	-9646	-0.0000793	0.0006738	0.0035	1.55		8115.16	8115.16	2.31		Si
SLV 6	7.9	3632.3	-11485	-0.0000849	0.0006738	0.0035	1.55		8237.06	8237.06	2.27		Si
SLV 6	10	-2898.21	-10002	-0.0000693	0.0006738	0.0035	1.55		8349.1	8349.1	2.88		Si
SLD 1	7.9	4073.62	-11279	-0.0000929	0.0006738	0.0035	1.55		8118.29	8118.29	1.99		Si
SLD 1	10	-3581.31	-9676	-0.0000809	0.0006738	0.0035	1.55		8135.22	8135.22	2.27		Si
SLD 3	7.9	3684.18	-11438	-0.0000857	0.0006738	0.0035	1.55		8209.95	8209.95	2.23		Si
SLD 3	10	-3332.01	-9769	-0.000076	0.0006738	0.0035	1.55		8196.03	8196.03	2.46		Si
SLV 3	7.9	4906.67	-10894	-0.000116	0.0006738	0.0035	1.55		7897.31	7897.31	1.61		Si
SLV 3	10	-4515.69	-9226	-0.0001111	0.0006738	0.0035	1.24		7839.21	7839.21	1.74		Si
SLV 5	7.9	3682.47	-11509	-0.0000858	0.0006738	0.0035	1.55		8250.93	8250.93	2.24		Si
SLV 5	10	-2972.15	-10034	-0.0000705	0.0006738	0.0035	1.55		8370.24	8370.24	2.82		Si
SLV 4	7.9	4832.15	-10859	-0.0001135	0.0006738	0.0035	1.55		7876.71	7876.71	1.63		Si
SLV 4	10	-4405.88	-9178	-0.0001068	0.0006738	0.0035	1.24		7807.81	7807.81	1.77		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	7.9	2066.88	-18488	-13189	2148	1.55	1.55	-30390	10833	5188	115546	15597	7905	23502	No	10.94	Si
SLU 78	10	-1638.48	-16678	-11898	2148	1.55	1.55	-27415	10833	4844	115546	15597	7905	23502	No	10.94	Si
SLU 75	7.9	2085.29	-17871	-12749	2139	1.55	1.55	-29375	10833	5071	115546	15597	7905	23502	No	10.99	Si
SLU 75	10	-1678.04	-16120	-11500	2140	1.55	1.55	-26497	10833	4738	115546	15597	7905	23502	No	10.98	Si
SLU 83	7.9	2087.38	-17880	-12755	2117	1.55	1.55	-29390	10833	5073	115546	15597	7905	23502	No	11.1	Si
SLU 83	10	-1673.93	-16338	-11655	2117	1.55	1.55	-26854	10833	4779	115546	15597	7905	23502	No	11.1	Si
SLU 76	7.9	2075.09	-17589	-12548	2155	1.55	1.55	-28912	10833	5017	115546	15597	7905	23502	No	10.91	Si
SLU 76	10	-1661.67	-15825	-11289	2156	1.55	1.55	-26012	10833	4702	115546	15597	7905	23502	No	10.9	Si
SLU 84	7.9	2101.03	-17867	-12746	2156	1.55	1.55	-29369	10833	5070	115546	15597	7905	23502	No	10.9	Si
SLU 84	10	-1681	-16333	-11652	2157	1.55	1.55	-26848	10833	4778	115546	15597	7905	23502	No	10.9	Si
SLU 77	7.9	2053.24	-18501	-13198	2108	1.55	1.55	-30411	10833	5191	115546	15597	7905	23502	No	11.15	Si
SLU 77	10	-1631.4	-16682	-11901	2109	1.55	1.55	-27421	10833	4845	115546	15597	7905	23502	No	11.15	Si
SLU 80	7.9	2047.59	-18215	-12994	2137	1.55	1.55	-29941	10833	5136	115546	15597	7905	23502	No	11	Si
SLU 80	10	-1617.39	-16386	-11689	2138	1.55	1.55	-26934	10833	4788	115546	15597	7905	23502	No	10.99	Si
SLU 82	7.9	2119.44	-17250	-12306	2148	1.55	1.55	-28354	10833	4953	115546	15597	7905	23502	No	10.94	Si
SLU 82	10	-1720.56	-15776	-11254	2148	1.55	1.55	-25931	10833	4702	115546	15597	7905	23502	No	10.94	Si
SLU 73	7.9	2093.5	-16972	-12107	2146	1.55	1.55	-27897	10833	4900	115546	15597	7905	23502	No	10.95	Si
SLU 73	10	-1701.23	-15267	-10891	2147	1.55	1.55	-25095	10833	4702	115546	15597	7905	23502	No	10.95	Si
SLU 81	7.9	2105.79	-17263	-12315	2108	1.55	1.55	-28375	10833	4955	115546	15597	7905	23502	No	11.15	Si
SLU 81	10	-1713.49	-15780	-11257	2109	1.55	1.55	-25937	10833	4702	115546	15597	7905	23502	No	11.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	7.9	4026.01	-11256	-8030	4799	1.55	1.2519	-18501	16200	5679	115546	23395	7905	31300		6.52	Si
SLD 2	10	-3511.15	-9646	-6881	4525	1.55	1.233	-20109	16250	5610	115546	23395	7905	31300		6.92	Si
SLV 2	7.9	5458.36	-10602	-7563	6674	1.55	0.7805	-17426	15985	4524	115546	23395	7905	31300		4.69	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	10	-4807.26	-9030	-6442	6249	1.24	0.7279	0	0	0	115546	18716	6324	25040		4.01	Si
SLV 1	7.9	5532.87	-10638	-7589	6741	1.55	0.7646	-17485	15997	4531	115546	23395	7905	31300		4.64	Si
SLV 1	10	-4917.07	-9078	-6476	6316	1.24	0.7	0	0	0	115546	18716	6324	25040		3.96	Si
SLD 6	7.9	2848.78	-11831	-8440	4280	1.55	1.55	-19448	16250	7053	115546	23395	7905	31300		7.31	Si
SLD 6	10	-2286.5	-10274	-7330	4189	1.55	1.55	-16888	15878	6891	115546	23395	7905	31300		7.47	Si
SLV 6	7.9	3632.3	-11485	-8193	5918	1.55	1.3762	-18878	16250	6262	115546	23395	7905	31300		5.29	Si
SLV 6	10	-2898.21	-10002	-7135	5778	1.55	1.4557	-17639	16028	6533	115546	23395	7905	31300		5.42	Si
SLV 3	7.9	4906.67	-10894	-7772	4857	1.55	0.9738	-17907	16081	4580	115546	23395	7905	31300		6.44	Si
SLV 3	10	-4515.69	-9226	-6582	4441	1.24	0.8566	0	0	0	115546	18716	6324	25040		5.64	Si
SLD 1	7.9	4073.62	-11279	-8046	4842	1.55	1.2415	-18539	16208	5634	115546	23395	7905	31300		6.46	Si
SLD 1	10	-3581.31	-9676	-6903	4568	1.55	1.2147	-20477	16250	5527	115546	23395	7905	31300		6.85	Si
SLV 4	7.9	4832.15	-10859	-7746	4790	1.55	0.99	-17848	16070	4573	115546	23395	7905	31300		6.53	Si
SLV 4	10	-4405.88	-9178	-6548	4374	1.24	0.8849	0	0	0	115546	18716	6324	25040		5.72	Si
SLD 5	7.9	2880.34	-11847	-8451	4308	1.55	1.55	-19473	16250	7053	115546	23395	7905	31300		7.27	Si
SLD 5	10	-2333.01	-10295	-7344	4218	1.55	1.55	-16922	15884	6894	115546	23395	7905	31300		7.42	Si
SLV 5	7.9	3682.47	-11509	-8210	5963	1.55	1.3651	-18918	16250	6211	115546	23395	7905	31300		5.25	Si
SLV 5	10	-2972.15	-10034	-7158	5823	1.55	1.4364	-17932	16086	6470	115546	23395	7905	31300		5.38	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-9319	0.45	197.47	1151.79	1616.64	1384.22	7.01	Si
SLV 1	-9367	0.45	197.47	1156.9	1623.83	1390.37	7.04	Si
SLV 4	-9478	0.45	197.47	1168.82	1640.6	1404.71	7.11	Si
SLV 3	-9526	0.45	197.47	1173.91	1647.78	1410.85	7.14	Si
SLV 6	-10264	0.45	197.47	1251.53	1757.69	1504.61	7.62	Si
SLV 5	-10296	0.45	197.47	1254.87	1762.47	1508.67	7.64	Si
SLV 8	-10795	0.45	197.47	1306.19	1836.62	1571.4	7.96	Si
SLV 7	-10827	0.45	197.47	1309.47	1841.4	1575.43	7.98	Si
SLV 10	-11227	0.45	197.47	1349.9	1900.79	1625.35	8.23	Si
SLV 9	-11259	0.45	197.47	1353.13	1905.57	1629.35	8.25	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-9290	-14257	17	0.858	1163.9	0.947	13.18019	8.02002	Si
SLV 16	-9270	-14221	18	0.86	1161.9	0.946	13.20438	8.02002	Si
SLV 13	-8981	-14000	21	0.882	1132.6	0.945	13.56762	8.02002	Si
SLV 14	-8961	-13964	22	0.884	1130.6	0.945	13.59334	8.02002	Si
SLV 3	-6906	-10894	-24	1.093	922.4	0.935	16.99236	8.02002	Si
SLV 4	-6886	-10859	-23	1.096	920.4	0.935	17.03524	8.02002	Si
SLV 1	-6597	-10638	-20	1.134	891.2	0.933	17.66906	8.02002	Si
SLV 2	-6577	-10602	-19	1.137	889.2	0.933	17.71545	8.02002	Si
SLV 11	-8813	-13374	-2	0.898	1115.5	0.945	13.82132	5.35431	Si
SLV 12	-8799	-13350	-1	0.899	1114.2	0.944	13.84024	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.258	SLU 73	Si
V_SLU	10.896	SLU 84	Si
PF_SLV	1.401	SLV 1	Si
V_SLV	3.965	SLV 1	Si
PFFP_SLV	7.01	SLV 2	Si
R_SLV	1.643	SLV 15	Si

Maschio 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L6	L7	3.97	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	7.9	5781.41	-27006	-0.0000456	0.0004492	0.0035	3.97	42948.26	48256.26	48256.26	8.35	No	Si
SLU 52	10	1703.98	-22089	-0.0000311	0.0004492	0.0035	3.97	36716.52	41151.4	41151.4	24.15	No	Si
SLU 44	7.9	5694.66	-25965	-0.000044	0.0004492	0.0035	3.97	41687.93	46752.14	46752.14	8.21	No	Si
SLU 44	10	1444.08	-20227	-0.0000281	0.0004492	0.0035	3.97	34171.64	38141.8	38141.8	26.41	No	Si
SLU 64	7.9	6077.16	-28610	-0.0000484	0.0004492	0.0035	3.97	44828.64	50574.39	50574.39	8.32	No	Si
SLU 64	10	2009.85	-23629	-0.0000337	0.0004492	0.0035	3.97	38743.93	43376.24	43376.24	21.58	No	Si
SLU 65	7.9	6082.49	-28574	-0.0000483	0.0004492	0.0035	3.97	44786.48	50521.38	50521.38	8.31	No	Si
SLU 65	10	1993.55	-23594	-0.0000336	0.0004492	0.0035	3.97	38698.8	43325.87	43325.87	21.73	No	Si
SLU 45	7.9	5869.65	-27381	-0.0000463	0.0004492	0.0035	3.97	43394.18	48797.69	48797.69	8.31	No	Si
SLU 45	10	1874.81	-21742	-0.0000309	0.0004492	0.0035	3.97	36249.93	40641.2	40641.2	21.68	No	Si
SLU 46	7.9	5872.85	-27359	-0.0000463	0.0004492	0.0035	3.97	43368.1	48765.88	48765.88	8.3	No	Si
SLU 46	10	1865.03	-21722	-0.0000309	0.0004492	0.0035	3.97	36221.7	40606.71	40606.71	21.77	No	Si
SLU 68	7.9	6153.48	-29335	-0.0000495	0.0004492	0.0035	3.97	45653.51	51621.69	51621.69	8.39	No	Si
SLU 68	10	2281.76	-24390	-0.0000352	0.0004492	0.0035	3.97	39720.73	44476.25	44476.25	19.49	No	Si
SLU 47	7.9	5765.66	-26727	-0.0000452	0.0004492	0.0035	3.97	42613.01	47852.45	47852.45	8.3	No	Si
SLU 47	10	1732.3	-21023	-0.0000297	0.0004492	0.0035	3.97	35271.92	39454.96	39454.96	22.78	No	Si
SLU 43	7.9	5689.33	-26002	-0.0000441	0.0004492	0.0035	3.97	41732.89	46805.14	46805.14	8.23	No	Si
SLU 43	10	1460.39	-20262	-0.0000282	0.0004492	0.0035	3.97	34220.2	38199.29	38199.29	26.16	No	Si
SLU 49	7.9	5943.85	-28120	-0.0000474	0.0004492	0.0035	3.97	44262.16	49866.2	49866.2	8.39	No	Si
SLU 49	10	2153.24	-22518	-0.0000325	0.0004492	0.0035	3.97	37287.21	41770.04	41770.04	19.4	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	7.9	1468.87	-25752	-0.000035	0.0006738	0.0035	3.97		48364.89	48364.89	32.93		Si
SLV 14	10	7980.35	-23548	-0.0000447	0.0006738	0.0035	3.97		44654.84	44654.84	5.6		Si
SLV 15	7.9	1518.6	-26106	-0.0000355	0.0006738	0.0035	3.97		48950.64	48950.64	32.23		Si
SLV 15	10	8393.08	-24020	-0.0000461	0.0006738	0.0035	3.97		45450.18	45450.18	5.42		Si
SLV 2	7.9	7709.97	-17358	-0.0000362	0.0006738	0.0035	3.97		33952.57	33952.57	4.4		Si
SLV 2	10	-5394.01	-11917	-0.0000249	0.0006738	0.0035	3.97		31604.51	31604.51	5.86		Si
SLD 3	7.9	6609.59	-19168	-0.0000364	0.0006738	0.0035	3.97		37125.58	37125.58	5.62		Si
SLD 3	10	-2652.16	-14392	-0.0000228	0.0006738	0.0035	3.97		36015.03	36015.03	13.58		Si
SLV 16	7.9	1210.33	-26003	-0.0000348	0.0006738	0.0035	3.97		48780.57	48780.57	40.3		Si
SLV 16	10	8503.07	-24039	-0.0000464	0.0006738	0.0035	3.97		45482.02	45482.02	5.35		Si
SLD 2	7.9	6573.52	-18947	-0.0000361	0.0006738	0.0035	3.97		36740.27	36740.27	5.59		Si
SLD 2	10	-2906.51	-14099	-0.0000229	0.0006738	0.0035	3.97		35499.03	35499.03	12.21		Si
SLV 3	7.9	7759.7	-17712	-0.0000367	0.0006738	0.0035	3.97		34577.28	34577.28	4.46		Si
SLV 3	10	-4981.28	-12389	-0.0000247	0.0006738	0.0035	3.97		32460.52	32460.52	6.52		Si
SLD 1	7.9	6770.47	-19013	-0.0000365	0.0006738	0.0035	3.97		36854.35	36854.35	5.44		Si
SLD 1	10	-2976.78	-14087	-0.000023	0.0006738	0.0035	3.97		35477.8	35477.8	11.92		Si
SLV 1	7.9	8018.24	-17461	-0.0000369	0.0006738	0.0035	3.97		34133.96	34133.96	4.26		Si
SLV 1	10	-5504	-11898	-0.000025	0.0006738	0.0035	3.97		31570.24	31570.24	5.74		Si
SLV 4	7.9	7451.43	-17609	-0.000036	0.0006738	0.0035	3.97		34395.9	34395.9	4.62		Si
SLV 4	10	-4871.29	-12408	-0.0000245	0.0006738	0.0035	3.97		32494.79	32494.79	6.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 2	7.9	4484.02	-20653	-14733	1349	3.97	3.97	-13254	10101	12314	115546	39948	20247	60195	No	44.63	Si
SLU 2	10	1251.98	-16439	-11727	1343	3.97	3.97	-10550	9740	11112	115546	39948	20247	60195	No	44.83	Si
SLU 51	7.9	5834.52	-27503	-19620	1799	3.97	3.97	-17650	10687	14269	115546	39948	20247	60195	No	33.46	Si
SLU 51	10	2027.04	-21833	-15575	1791	3.97	3.97	-14012	10202	12651	115546	39948	20247	60195	No	33.6	Si
SLU 45	7.9	5869.65	-27381	-19533	1859	3.97	3.97	-17572	10676	14234	115546	39948	20247	60195	No	32.38	Si
SLU 45	10	1874.81	-21742	-15511	1851	3.97	3.97	-13953	10194	12625	115546	39948	20247	60195	No	32.52	Si
SLU 49	7.9	5943.85	-28120	-20060	1728	3.97	3.97	-18046	10740	14445	115546	39948	20247	60195	No	34.83	Si
SLU 49	10	2153.24	-22518	-16063	1720	3.97	3.97	-14451	10260	12847	115546	39948	20247	60195	No	34.99	Si
SLU 43	7.9	5689.33	-26002	-18549	2066	3.97	3.97	-16687	10558	13841	115546	39948	20247	60195	No	29.13	Si
SLU 43	10	1460.39	-20262	-14454	2058	3.97	3.97	-13003	10067	12203	115546	39948	20247	60195	No	29.24	Si
SLU 48	7.9	5940.65	-28142	-20076	1723	3.97	3.97	-18060	10741	14452	115546	39948	20247	60195	No	34.94	Si
SLU 48	10	2163.03	-22538	-16078	1715	3.97	3.97	-14464	10262	12853	115546	39948	20247	60195	No	35.1	Si
SLU 50	7.9	5831.32	-27525	-19635	1794	3.97	3.97	-17664	10689	14275	115546	39948	20247	60195	No	33.55	Si
SLU 50	10	2036.82	-21854	-15590	1786	3.97	3.97	-14025	10203	12657	115546	39948	20247	60195	No	33.7	Si
SLU 44	7.9	5694.66	-25965	-18523	2075	3.97	3.97	-16663	10555	13830	115546	39948	20247	60195	No	29.01	Si
SLU 44	10	1444.08	-20227	-14430	2067	3.97	3.97	-12981	10064	12193	115546	39948	20247	60195	No	29.12	Si
SLU 47	7.9	5765.66	-26727	-19066	1939	3.97	3.97	-17152	10620	14048	115546	39948	20247	60195	No	31.05	Si
SLU 47	10	1732.3	-21023	-14998	1931	3.97	3.97	-13492	10132	12420	115546	39948	20247	60195	No	31.17	Si
SLU 46	7.9	5872.85	-27359	-19517	1864	3.97	3.97	-17558	10674	14228	115546	39948	20247	60195	No	32.29	Si
SLU 46	10	1865.03	-21722	-15496	1856	3.97	3.97	-13940	10192	12619	115546	39948	20247	60195	No	32.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	7.9	7759.7	-17712	-12635	7754	3.97	3.97	-11367	14773	16422	115546	59922	20247	80169		10.34	Si
SLV 3	10	-4981.28	-12389	-8838	6929	3.97	3.97	-7951	14090	15663	115546	59922	20247	80169		11.57	Si
SLD 1	7.9	6770.47	-19013	-13563	5620	3.97	3.97	-12201	14940	16608	115546	59922	20247	80169		14.27	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	10	-2976.78	-14087	-10049	5061	3.97	3.97	-9040	14308	15905	115546	59922	20247	80169		15.84	Si
SLV 13	7.9	1777.14	-25855	-18444	-5789	3.97	3.97	-16593	15819	17584	115546	59922	20247	80169		13.85	Si
SLV 13	10	7870.36	-23529	-16785	-4978	3.97	3.97	-15100	15520	17252	115546	59922	20247	80169		16.11	Si
SLV 2	7.9	7709.97	-17358	-12383	8057	3.97	3.97	-11140	14728	16372	115546	59922	20247	80169		9.95	Si
SLV 2	10	-5394.01	-11917	-8501	7210	3.97	3.97	-7648	14030	15595	115546	59922	20247	80169		11.12	Si
SLV 4	7.9	7451.43	-17609	-12562	7440	3.97	3.97	-11301	14760	16407	115546	59922	20247	80169		10.77	Si
SLV 4	10	-4871.29	-12408	-8851	6615	3.97	3.97	-7963	14093	15665	115546	59922	20247	80169		12.12	Si
SLV 16	7.9	1210.33	-26003	-18550	-6720	3.97	3.97	-16688	15838	17605	115546	59922	20247	80169		11.93	Si
SLV 16	10	8503.07	-24039	-17149	-5886	3.97	3.97	-15427	15585	17325	115546	59922	20247	80169		13.62	Si
SLV 14	7.9	1468.87	-25752	-18371	-6103	3.97	3.97	-16527	15805	17569	115546	59922	20247	80169		13.14	Si
SLV 14	10	7980.35	-23548	-16798	-5292	3.97	3.97	-15112	15522	17255	115546	59922	20247	80169		15.15	Si
SLD 2	7.9	6573.52	-18947	-13516	5419	3.97	3.97	-12159	14932	16598	115546	59922	20247	80169		14.79	Si
SLD 2	10	-2906.51	-14099	-10058	4860	3.97	3.97	-9048	14310	15907	115546	59922	20247	80169		16.49	Si
SLV 15	7.9	1518.6	-26106	-18623	-6406	3.97	3.97	-16753	15851	17620	115546	59922	20247	80169		12.51	Si
SLV 15	10	8393.08	-24020	-17135	-5572	3.97	3.97	-15415	15583	17322	115546	59922	20247	80169		14.39	Si
SLV 1	7.9	8018.24	-17461	-12456	8371	3.97	3.97	-11206	14741	16386	115546	59922	20247	80169		9.58	Si
SLV 1	10	-5504	-11898	-8488	7524	3.97	3.97	-7636	14027	15593	115546	59922	20247	80169		10.66	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-12637	0.45	505.77	1659.43	2455.05	2057.24	4.07	Si
SLV 2	-12656	0.45	505.77	1661.75	2457.94	2059.84	4.07	Si
SLV 3	-13126	0.45	505.77	1719.26	2529.84	2124.55	4.2	Si
SLV 4	-13145	0.45	505.77	1721.56	2532.73	2127.15	4.21	Si
SLV 5	-16120	0.45	505.77	2078.28	2985.21	2531.74	5.01	Si
SLV 6	-16133	0.45	505.77	2079.78	2987.13	2533.46	5.01	Si
SLV 7	-17751	0.45	505.77	2268.6	3232.31	2750.46	5.44	Si
SLV 8	-17764	0.45	505.77	2270.07	3234.24	2752.16	5.44	Si
SLV 9	-19593	0.45	505.77	2479.19	3510.55	2994.87	5.92	Si
SLV 10	-19605	0.45	505.77	2480.63	3512.46	2996.54	5.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-18343	-26106	452	1.044	2428.8	0.936	16.19913	8.02002	Si
SLV 16	-18309	-26003	453	1.045	2425.4	0.936	16.22392	8.02002	Si
SLV 13	-18125	-25855	-384	1.057	2406.8	0.936	16.41274	8.02002	Si
SLV 14	-18091	-25752	-384	1.059	2403.4	0.936	16.43918	8.02002	Si
SLV 3	-12833	-17712	383	1.386	1873.3	0.922	21.84604	8.02002	Si
SLV 4	-12800	-17609	384	1.388	1869.9	0.922	21.89162	8.02002	Si
SLV 1	-12615	-17461	-453	1.399	1851.4	0.921	22.08103	8.02002	Si
SLV 2	-12582	-17358	-452	1.402	1848	0.921	22.12916	8.02002	Si
SLV 11	-16663	-23444	1404	1.08	2259.1	0.932	16.83321	5.35431	Si
SLV 12	-16640	-23375	1405	1.081	2256.8	0.932	16.85206	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.21	SLU 44	Si
V_SLU	29.015	SLU 44	Si
PF_SLV	4.257	SLV 1	Si
V_SLV	9.577	SLV 1	Si
PFFP_SLV	4.068	SLV 1	Si
R_SLV	2.02	SLV 15	Si

Maschio 190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	L6	Z medio 959 cm	1.281	0.28	1.69	1.69	1.69			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	7.9	-365.38	-11412	-0.0000584	0.0003743	0.0035	1.2809	5024.48	5995.76	5995.76	16.41	No	Si
SLU 82	9.59	362.26	-8802	-0.0000458	0.0003743	0.0035	1.2809	4278.51	4700.85	4700.85	12.98	No	Si
SLU 81	7.9	-362.11	-11381	-0.0000582	0.0003743	0.0035	1.2809	5017.22	5986.8	5986.8	16.53	No	Si
SLU 81	9.59	358.04	-8784	-0.0000456	0.0003743	0.0035	1.2809	4272.44	4694.23	4694.23	13.11	No	Si
SLU 31	7.9	-305.92	-9292	-0.0000469	0.0003743	0.0035	1.2809	4436.66	5244.98	5244.98	17.15	No	Si
SLU 31	9.59	295.45	-7169	-0.0000368	0.0003743	0.0035	1.2809	3690	3949.78	3949.78	13.37	No	Si
SLU 41	7.9	-315.08	-9860	-0.0000498	0.0003743	0.0035	1.2809	4609.75	5474.1	5474.1	17.37	No	Si
SLU 41	9.59	332.24	-7695	-0.00004	0.0003743	0.0035	1.2809	3889.67	4213.87	4213.87	12.68	No	Si
SLU 19	7.9	-268.87	-8502	-0.0000424	0.0003743	0.0035	1.2809	4177.33	4910.19	4910.19	18.26	No	Si
SLU 19	9.59	298.34	-6566	-0.0000341	0.0003743	0.0035	1.2809	3448.96	3653.07	3653.07	12.24	No	Si
SLU 39	7.9	-318.21	-9644	-0.0000489	0.0003743	0.0035	1.2809	4545.17	5388.73	5388.73	16.93	No	Si
SLU 39	9.59	348.4	-7477	-0.0000393	0.0003743	0.0035	1.2809	3808.22	4104.2	4104.2	11.78	No	Si
SLU 42	7.9	-318.35	-9891	-0.00005	0.0003743	0.0035	1.2809	4618.63	5486.07	5486.07	17.23	No	Si
SLU 42	9.59	336.47	-7713	-0.0000402	0.0003743	0.0035	1.2809	3896.44	4223.1	4223.1	12.55	No	Si
SLU 21	7.9	-265.73	-8719	-0.0000434	0.0003743	0.0035	1.2809	4250.58	5002.21	5002.21	18.82	No	Si
SLU 21	9.59	282.19	-6783	-0.0000348	0.0003743	0.0035	1.2809	3537.37	3759.36	3759.36	13.32	No	Si
SLU 40	7.9	-321.48	-9674	-0.0000491	0.0003743	0.0035	1.2809	4554.28	5400.59	5400.59	16.8	No	Si
SLU 40	9.59	352.62	-7496	-0.0000395	0.0003743	0.0035	1.2809	3815.13	4113.39	4113.39	11.67	No	Si
SLU 18	7.9	-265.6	-8472	-0.0000422	0.0003743	0.0035	1.2809	4166.98	4897.1	4897.1	18.44	No	Si
SLU 18	9.59	294.12	-6548	-0.000034	0.0003743	0.0035	1.2809	3441.46	3644.18	3644.18	12.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	7.9	628.04	-4081	-0.0000293	0.0005615	0.0035	1.2809		2557.77	2557.77	4.07		Si
SLV 11	9.59	-596.17	-3571	-0.0000265	0.0005615	0.0035	1.2809		2534.14	2534.14	4.25		Si
SLV 6	7.9	-1094.66	-11388	-0.0000717	0.0005615	0.0035	1.2809		6537.3	6537.3	5.97		Si
SLV 6	9.59	895.48	-8249	-0.0000531	0.0005615	0.0035	1.2809		4673.05	4673.05	5.22		Si
SLV 7	7.9	369.3	-3772	-0.0000229	0.0005615	0.0035	1.2809		2380.85	2380.85	6.45		Si
SLV 7	9.59	-426.54	-3241	-0.0000217	0.0005615	0.0035	1.2809		2343.13	2343.13	5.49		Si
SLV 12	7.9	565.55	-4124	-0.0000283	0.0005615	0.0035	1.2809		2582.2	2582.2	4.57		Si
SLV 12	9.59	-551.75	-3596	-0.0000257	0.0005615	0.0035	1.2809		2548.65	2548.65	4.62		Si
SLV 2	7.9	-921.16	-8388	-0.0000543	0.0005615	0.0035	1.2809		5119.94	5119.94	5.56		Si
SLV 2	9.59	657	-6126	-0.0000388	0.0005615	0.0035	1.2809		3679.08	3679.08	5.6		Si
SLD 6	7.9	-770.41	-10001	-0.0000585	0.0005615	0.0035	1.2809		5901.46	5901.46	7.66		Si
SLD 6	9.59	613.93	-7355	-0.0000434	0.0005615	0.0035	1.2809		4251.66	4251.66	6.93		Si
SLV 1	7.9	-828.35	-8323	-0.0000521	0.0005615	0.0035	1.2809		5087.6	5087.6	6.14		Si
SLV 1	9.59	591.03	-6088	-0.0000373	0.0005615	0.0035	1.2809		3659.87	3659.87	6.19		Si
SLV 5	7.9	-1032.18	-11344	-0.0000702	0.0005615	0.0035	1.2809		6517.84	6517.84	6.31		Si
SLV 5	9.59	851.07	-8224	-0.0000521	0.0005615	0.0035	1.2809		4661	4661	5.48		Si
SLV 8	7.9	306.82	-3815	-0.0000219	0.0005615	0.0035	1.2809		2405.72	2405.72	7.84		Si
SLV 8	9.59	-382.12	-3266	-0.000021	0.0005615	0.0035	1.2809		2358.16	2358.16	6.17		Si
SLV 10	7.9	-835.93	-11696	-0.0000678	0.0005615	0.0035	1.2809		6673.93	6673.93	7.98		Si
SLV 10	9.59	725.85	-8580	-0.0000512	0.0005615	0.0035	1.2809		4830.14	4830.14	6.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	7.9	-345.72	-11518	-9591	-1925	1.2809	1.2809	-26743	10510	4216	16652	10740	3266	14006	No	7.28	Si
SLU 77	9.59	276.16	-8969	-7469	-143	1.2809	1.2809	-20824	9721	3573	16652	10740	3266	14006	No	97.79	Si
SLU 76	7.9	-346.68	-11246	-9365	-1951	1.2809	1.2809	-26111	10426	4148	16652	10740	3266	14006	No	7.18	Si
SLU 76	9.59	288.93	-8694	-7239	-215	1.2809	1.2809	-20185	9636	3503	16652	10740	3266	14006	No	65.14	Si
SLU 83	7.9	-358.98	-11598	-9658	-2016	1.2809	1.2809	-26928	10535	4236	16652	10740	3266	14006	No	6.95	Si
SLU 83	9.59	341.88	-9002	-7496	-277	1.2809	1.2809	-20900	9731	3581	16652	10740	3266	14006	No	50.65	Si
SLU 78	7.9	-348.99	-11548	-9617	-1954	1.2809	1.2809	-26813	10520	4224	16652	10740	3266	14006	No	7.17	Si
SLU 78	9.59	280.39	-8987	-7484	-160	1.2809	1.2809	-20866	9727	3577	16652	10740	3266	14006	No	87.66	Si
SLU 73	7.9	-349.81	-11030	-9184	-1985	1.2809	1.2809	-25608	10359	4093	16652	10740	3266	14006	No	7.06	Si
SLU 73	9.59	305.09	-8476	-7058	-299	1.2809	1.2809	-19679	9568	3448	16652	10740	3266	14006	No	46.9	Si
SLU 75	7.9	-352.12	-11332	-9436	-1987	1.2809	1.2809	-26311	10453	4169	16652	10740	3266	14006	No	7.05	Si
SLU 75	9.59	296.55	-8770	-7303	-243	1.2809	1.2809	-20361	9659	3522	16652	10740	3266	14006	No	57.55	Si
SLU 74	7.9	-348.85	-11302	-9411	-1959	1.2809	1.2809	-26241	10443	4162	16652	10740	3266	14006	No	7.15	Si
SLU 74	9.59	292.32	-8751	-7287	-227	1.2809	1.2809	-20319	9654	3518	16652	10740	3266	14006	No	61.74	Si
SLU 84	7.9	-362.25	-11628	-9683	-2044	1.2809	1.2809	-26998	10544	4244	16652	10740	3266	14006	No	6.85	Si
SLU 84	9.59	346.1	-9020	-7511	-293	1.2809	1.2809	-20943	9737	3586	16652	10740	3266	14006	No	47.79	Si
SLU 81	7.9	-362.11	-11381	-9478	-2049	1.2809	1.2809	-26425	10468	4182	16652	10740	3266	14006	No	6.83	Si
SLU 81	9.59	358.04	-8784	-7315	-360	1.2809	1.2809	-20395	9664	3526	16652	10740	3266	14006	No	38.89	Si
SLU 82	7.9	-365.38	-11412	-9503	-2078	1.2809	1.2809	-26496	10477	4189	16652	10740	3266	14006	No	6.74	Si
SLU 82	9.59	362.26	-8802	-7330	-377	1.2809	1.2809	-20438	9669	3531	16652	10740	3266	14006	No	37.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	7.9	-1094.66	-11388	-9483	-6476	1.2809	1.2809	-26440	15705	5632	16652	16109	3266	19376		2.99	Si
SLV 6	9.59	895.48	-8249	-6869	-4559	1.2809	1.2809	-19153	14247	5110	16652	16109	3266	19376		4.25	Si
SLV 1	7.9	-828.35	-8323	-6931	-4961	1.2809	1.2809	-19325	14282	5122	16652	16109	3266	19376		3.91	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	9.59	591.03	-6088	-5070	-3529	1.2809	1.2809	-14136	13244	4750	16652	16109	3266	19376		5.49	Si
SLV 5	7.9	-1032.18	-11344	-9447	-6077	1.2809	1.2809	-26339	15685	5625	16652	16109	3266	19376		3.19	Si
SLV 5	9.59	851.07	-8224	-6848	-4185	1.2809	1.2809	-19094	14235	5106	16652	16109	3266	19376		4.63	Si
SLV 11	7.9	628.04	-4081	-3398	3893	1.2809	1.2809	-9475	12312	4416	16652	16109	3266	19376		4.98	Si
SLV 11	9.59	-596.17	-3571	-2974	4404	1.2809	1.2809	-8291	12075	4331	16652	16109	3266	19376		4.4	Si
SLD 5	7.9	-731.11	-9974	-8305	-4277	1.2809	1.2809	-23157	15048	5397	16652	16109	3266	19376		4.53	Si
SLD 5	9.59	585.99	-7339	-6111	-2639	1.2809	1.2809	-17039	13824	4958	16652	16109	3266	19376		7.34	Si
SLV 10	7.9	-835.93	-11696	-9740	-4847	1.2809	1.2809	-27157	15848	5684	16652	16109	3266	19376		4	Si
SLV 10	9.59	725.85	-8580	-7144	-2949	1.2809	1.2809	-19920	14401	5165	16652	16109	3266	19376		6.57	Si
SLD 6	7.9	-770.41	-10001	-8328	-4528	1.2809	1.2809	-23220	15061	5402	16652	16109	3266	19376		4.28	Si
SLD 6	9.59	613.93	-7355	-6124	-2875	1.2809	1.2809	-17076	13832	4961	16652	16109	3266	19376		6.74	Si
SLV 12	7.9	565.55	-4124	-3434	3494	1.2809	1.2809	-9575	12332	4423	16652	16109	3266	19376		5.55	Si
SLV 12	9.59	-551.75	-3596	-2995	4030	1.2809	1.2809	-8350	12087	4335	16652	16109	3266	19376		4.81	Si
SLV 2	7.9	-921.16	-8388	-6985	-5554	1.2809	1.2809	-19475	14312	5133	16652	16109	3266	19376		3.49	Si
SLV 2	9.59	657	-6126	-5101	-4085	1.2809	1.2809	-14223	13261	4756	16652	16109	3266	19376		4.74	Si
SLV 9	7.9	-773.44	-11653	-9704	-4448	1.2809	1.2809	-27056	15828	5677	16652	16109	3266	19376		4.36	Si
SLV 9	9.59	681.44	-8554	-7123	-2576	1.2809	1.2809	-19861	14389	5161	16652	16109	3266	19376		7.52	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.745 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.43	10273	-3684	35.35	481.12	13.61	Si
SLV 8	179667	0.43	10420	-3737	35.35	487.49	13.79	Si
SLV 11	179667	0.43	10954	-3929	35.35	510.58	14.44	Si
SLV 12	179667	0.43	11101	-3981	35.35	516.89	14.62	Si
SLV 3	179667	0.43	15739	-5645	35.35	708.84	20.05	Si
SLV 4	179667	0.43	15957	-5723	35.35	717.52	20.3	Si
SLV 15	179667	0.43	18011	-6460	35.35	797.7	22.57	Si
SLV 16	179667	0.43	18229	-6538	35.35	806.05	22.8	Si
SLV 1	179667	0.43	21137	-7581	35.35	914.42	25.87	Si
SLV 2	179667	0.43	21355	-7659	35.35	922.32	26.09	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.745 Wa = 0.05 Ta = 0.017

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-8580	-11696	-36	0.872	958.8	0.973	13.03372	3.91342	Si
SLV 9	-8554	-11653	-37	0.874	956.2	0.973	13.06688	3.91342	Si
SLV 6	-8249	-11388	-74	0.898	925.2	0.972	13.42454	3.91342	Si
SLV 5	-8224	-11344	-75	0.9	922.6	0.972	13.46014	3.91342	Si
SLV 14	-7227	-9417	44	1.009	821.1	0.968	15.13833	4.24123	Si
SLV 13	-7189	-9352	43	1.013	817.3	0.968	15.20957	4.24123	Si
SLV 2	-6126	-8388	-84	1.155	709.1	0.964	17.42354	4.24123	Si
SLV 1	-6088	-8323	-84	1.161	705.2	0.964	17.51738	4.24123	Si
SLV 16	-5732	-7145	74	1.224	669	0.962	18.50069	4.24123	Si
SLV 15	-5694	-7081	73	1.231	665.1	0.962	18.6105	4.24123	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.665	SLU 40	Si
V_SLU	6.74	SLU 82	Si
PF_SLV	4.073	SLV 11	Si
V_SLV	2.992	SLV 6	Si
PFFP_SLV	13.611	SLV 7	Si
R_SLV	3.331	SLV 10	Si

Maschio 191

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.404	Z medio 959 cm	L7	1.281	0.28	1.86	1.86	1.86			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	9.59	-35.28	-7614	-0.0000335	0.0003743	0.0035	1.2809	3859.71	4516.1	4516.1	128.02	No	Si
SLU 71	11.45	-310.17	-5584	-0.00003	0.0003743	0.0035	1.2809	3029.54	3548.05	3548.05	11.44	No	Si
SLU 59	9.59	-139.98	-7196	-0.0000337	0.0003743	0.0035	1.2809	3700.57	4325.7	4325.7	30.9	No	Si
SLU 59	11.45	-300.45	-5238	-0.0000282	0.0003743	0.0035	1.2809	2873.39	3372.83	3372.83	11.23	No	Si
SLU 50	9.59	9.7	-6816	-0.0000294	0.0003743	0.0035	1.2809	3550.39	3775.24	3775.24	389.06	No	Si
SLU 50	11.45	-305.42	-4959	-0.0000271	0.0003743	0.0035	1.2809	2744.88	3228.06	3228.06	10.57	No	Si
SLU 16	9.59	-139.24	-5920	-0.000028	0.0003743	0.0035	1.2809	3176.67	3713.14	3713.14	26.67	No	Si
SLU 16	11.45	-259.87	-4356	-0.0000235	0.0003743	0.0035	1.2809	2456.96	2913.52	2913.52	11.21	No	Si
SLU 9	9.59	-6.87	-5570	-0.0000238	0.0003743	0.0035	1.2809	3023.08	3540.95	3540.95	515.14	No	Si
SLU 9	11.45	-243.4	-4084	-0.000022	0.0003743	0.0035	1.2809	2323.2	2766.85	2766.85	11.37	No	Si
SLU 51	9.59	1.05	-6831	-0.0000293	0.0003743	0.0035	1.2809	3556.52	3782.75	3782.75	3609.02	No	Si
SLU 51	11.45	-294.7	-4963	-0.0000269	0.0003743	0.0035	1.2809	2746.45	3229.81	3229.81	10.96	No	Si
SLU 58	9.59	-131.32	-7181	-0.0000335	0.0003743	0.0035	1.2809	3694.63	4318.63	4318.63	32.89	No	Si
SLU 58	11.45	-311.17	-5235	-0.0000284	0.0003743	0.0035	1.2809	2871.85	3371.07	3371.07	10.83	No	Si
SLU 8	9.59	1.78	-5555	-0.0000236	0.0003743	0.0035	1.2809	3016.27	3169.21	3169.21	1778.94	No	Si
SLU 8	11.45	-254.12	-4081	-0.0000222	0.0003743	0.0035	1.2809	2321.52	2765.03	2765.03	10.88	No	Si
SLU 48	9.59	5.32	-6901	-0.0000297	0.0003743	0.0035	1.2809	3584.39	3817.04	3817.04	717.18	No	Si
SLU 48	11.45	-295.34	-5037	-0.0000272	0.0003743	0.0035	1.2809	2781.07	3268.36	3268.36	11.07	No	Si
SLU 56	9.59	-135.7	-7266	-0.000034	0.0003743	0.0035	1.2809	3727.55	4357.83	4357.83	32.11	No	Si
SLU 56	11.45	-301.09	-5312	-0.0000286	0.0003743	0.0035	1.2809	2907.29	3411.84	3411.84	11.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	9.59	673.26	-5524	-0.0000365	0.0005615	0.0035	1.2809		3362.31	3362.31	4.99		Si
SLV 16	11.45	-802.32	-4026	-0.0000325	0.0005615	0.0035	1.2809		2792.58	2792.58	3.48		Si
SLV 12	9.59	650.63	-3493	-0.0000272	0.0005615	0.0035	1.2809		2220.47	2220.47	3.41		Si
SLV 12	11.45	-885.31	-3011	-0.0000309	0.0005615	0.0035	1.2809		2207.53	2207.53	2.49		Si
SLV 11	9.59	735.21	-3495	-0.0000289	0.0005615	0.0035	1.2809		2221.69	2221.69	3.02		Si
SLV 11	11.45	-957.31	-2998	-0.0000333	0.0005615	0.0035	1.2809		2199.8	2199.8	2.3		Si
SLD 11	9.59	428.72	-4247	-0.0000261	0.0005615	0.0035	1.2809		2651.75	2651.75	6.19		Si
SLD 11	11.45	-664.93	-3347	-0.0000269	0.0005615	0.0035	1.2809		2405.68	2405.68	3.62		Si
SLV 2	9.59	-955.17	-5372	-0.0000414	0.0005615	0.0035	1.2809		3544.08	3544.08	3.71		Si
SLV 2	11.45	550.4	-3794	-0.0000265	0.0005615	0.0035	1.2809		2393.23	2393.23	4.35		Si
SLV 7	9.59	350.88	-3058	-0.0000195	0.0005615	0.0035	1.2809		1966.82	1966.82	5.61		Si
SLV 7	11.45	-658.11	-2744	-0.0000243	0.0005615	0.0035	1.2809		2050.9	2050.9	3.12		Si
SLD 12	9.59	375.52	-4246	-0.0000251	0.0005615	0.0035	1.2809		2650.99	2650.99	7.06		Si
SLD 12	11.45	-619.64	-3355	-0.000026	0.0005615	0.0035	1.2809		2410.43	2410.43	3.89		Si
SLV 8	9.59	266.3	-3056	-0.0000178	0.0005615	0.0035	1.2809		1965.57	1965.57	7.38		Si
SLV 8	11.45	-586.1	-2757	-0.0000228	0.0005615	0.0035	1.2809		2058.59	2058.59	3.51		Si
SLV 15	9.59	798.88	-5527	-0.000039	0.0005615	0.0035	1.2809		3364.02	3364.02	4.21		Si
SLV 15	11.45	-909.27	-4006	-0.0000346	0.0005615	0.0035	1.2809		2781.51	2781.51	3.06		Si
SLV 1	9.59	-829.55	-5375	-0.0000389	0.0005615	0.0035	1.2809		3545.81	3545.81	4.27		Si
SLV 1	11.45	443.45	-3774	-0.0000244	0.0005615	0.0035	1.2809		2382.02	2382.02	5.37		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 58	9.59	-131.32	-7181	-5980	-42	1.2809	1.2809	-16673	9168	3288	19031	10740	3266	14006	No	335	Si
SLU 58	11.45	-311.17	-5235	-4359	1371	1.2809	1.2809	-12153	8565	3072	19031	10740	3266	14006	No	10.22	Si
SLU 79	9.59	-176.3	-7980	-6645	-199	1.2809	1.2809	-18527	9415	3377	19031	10740	3266	14006	No	70.41	Si
SLU 79	11.45	-315.92	-5859	-4879	1389	1.2809	1.2809	-13604	8758	3141	19031	10740	3266	14006	No	10.08	Si
SLU 56	9.59	-135.7	-7266	-6051	-84	1.2809	1.2809	-16870	9194	3297	19031	10740	3266	14006	No	165.94	Si
SLU 56	11.45	-301.09	-5312	-4424	1341	1.2809	1.2809	-12334	8589	3080	19031	10740	3266	14006	No	10.44	Si
SLU 80	9.59	-184.96	-7995	-6658	-253	1.2809	1.2809	-18563	9419	3378	19031	10740	3266	14006	No	55.37	Si
SLU 80	11.45	-305.2	-5863	-4882	1343	1.2809	1.2809	-13612	8759	3142	19031	10740	3266	14006	No	10.43	Si
SLU 77	9.59	-180.68	-8065	-6716	-242	1.2809	1.2809	-18725	9441	3386	19031	10740	3266	14006	No	57.99	Si
SLU 77	11.45	-305.84	-5937	-4944	1360	1.2809	1.2809	-13785	8782	3150	19031	10740	3266	14006	No	10.3	Si
SLU 71	9.59	-35.28	-7614	-6341	10	1.2809	1.2809	-17679	9302	3336	19031	10740	3266	14006	No	1401.89	Si
SLU 71	11.45	-310.17	-5584	-4650	1401	1.2809	1.2809	-12966	8673	3111	19031	10740	3266	14006	No	10	Si
SLU 48	9.59	5.32	-6901	-5746	125	1.2809	1.2809	-16022	9081	3257	19031	10740	3266	14006	No	112.49	Si
SLU 48	11.45	-295.34	-5037	-4195	1353	1.2809	1.2809	-11696	8504	3050	19031	10740	3266	14006	No	10.35	Si
SLU 50	9.59	9.7	-6816	-5676	167	1.2809	1.2809	-15825	9054	3247	19031	10740	3266	14006	No	83.82	Si
SLU 50	11.45	-305.42	-4959	-4130	1382	1.2809	1.2809	-11515	8480	3041	19031	10740	3266	14006	No	10.13	Si
SLU 72	9.59	-43.93	-7630	-6353	-44	1.2809	1.2809	-17715	9306	3338	19031	10740	3266	14006	No	318.14	Si
SLU 72	11.45	-299.45	-5588	-4653	1355	1.2809	1.2809	-12974	8674	3111	19031	10740	3266	14006	No	10.34	Si
SLU 69	9.59	-39.66	-7699	-6411	-33	1.2809	1.2809	-17877	9328	3345	19031	10740	3266	14006	No	429.57	Si
SLU 69	11.45	-300.09	-5662	-4715	1371	1.2809	1.2809	-13147	8697	3119	19031	10740	3266	14006	No	10.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	9.59	-806.92	-7406	-6167	-4093	1.2809	1.2809	-17194	13856	4969	19031	16109	3266	19376		4.73	Si
SLV 5	11.45	526.45	-4789	-3988	-2405	1.2809	1.2809	-11118	12640	4533	19031	16109	3266	19376		8.06	Si
SLV 16	9.59	673.26	-5524	-4600	3336	1.2809	1.2809	-12825	12982	4656	19031	16109	3266	19376		5.81	Si
SLV 16	11.45	-802.32	-4026	-3352	4078	1.2809	1.2809	-9347	12286	4406	19031	16109	3266	19376		4.75	Si
SLV 12	9.59	650.63	-3493	-2909	3786	1.2809	1.2809	-8110	12039	4318	19031	16109	3266	19376		5.12	Si
SLV 12	11.45	-885.31	-3011	-2507	4111	1.2809	1.0392	-8649	12146	3534	19031	16109	3266	19376		4.71	Si
SLV 11	9.59	735.21	-3495	-2911	4175	1.2809	1.2809	-8115	12040	4318	19031	16109	3266	19376		4.64	Si
SLV 11	11.45	-957.31	-2998	-2496	4475	1.2809	0.9633	-9294	12275	3311	19031	16109	3266	19376		4.33	Si
SLD 15	9.59	479.18	-5514	-4592	2428	1.2809	1.2809	-12803	12977	4654	19031	16109	3266	19376		7.98	Si
SLD 15	11.45	-642.7	-3975	-3310	3246	1.2809	1.2809	-9230	12263	4398	19031	16109	3266	19376		5.97	Si
SLV 6	9.59	-891.5	-7404	-6165	-4482	1.2809	1.2809	-17189	13855	4969	19031	16109	3266	19376		4.32	Si
SLV 6	11.45	598.45	-4802	-3999	-2769	1.2809	1.2809	-11149	12646	4536	19031	16109	3266	19376		7	Si
SLV 15	9.59	798.88	-5527	-4602	3913	1.2809	1.2809	-12832	12983	4656	19031	16109	3266	19376		4.95	Si
SLV 15	11.45	-909.27	-4006	-3336	4620	1.2809	1.2404	-9301	12277	4264	19031	16109	3266	19376		4.19	Si
SLD 11	9.59	428.72	-4247	-3537	2546	1.2809	1.2809	-9861	12389	4443	19031	16109	3266	19376		7.61	Si
SLD 11	11.45	-664.93	-3347	-2787	3112	1.2809	1.2809	-7770	11971	4293	19031	16109	3266	19376		6.23	Si
SLV 2	9.59	-955.17	-5372	-4473	-4220	1.2809	1.2809	-12472	12911	4631	19031	16109	3266	19376		4.59	Si
SLV 2	11.45	550.4	-3794	-3159	-2914	1.2809	1.2809	-8808	12178	4368	19031	16109	3266	19376		6.65	Si
SLV 1	9.59	-829.55	-5375	-4476	-3642	1.2809	1.2809	-12480	12913	4631	19031	16109	3266	19376		5.32	Si
SLV 1	11.45	443.45	-3774	-3143	-2372	1.2809	1.2809	-8763	12169	4364	19031	16109	3266	19376		8.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.52 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.47	8096	-2904	46.59	384.95	8.26	Si
SLV 7	179667	0.47	8154	-2924	46.59	387.54	8.32	Si
SLV 12	179667	0.47	9460	-3393	46.59	445.58	9.56	Si
SLV 11	179667	0.47	9518	-3414	46.59	448.12	9.62	Si
SLV 4	179667	0.47	9678	-3471	46.59	455.13	9.77	Si
SLV 3	179667	0.47	9764	-3502	46.59	458.9	9.85	Si
SLV 2	179667	0.47	12410	-4451	46.59	572.49	12.29	Si
SLV 1	179667	0.47	12496	-4482	46.59	576.1	12.36	Si
SLV 16	179667	0.47	14226	-5102	46.59	647.75	13.9	Si
SLV 15	179667	0.47	14312	-5133	46.59	651.26	13.98	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.52 Wa = 0.05 Ta = 0.0206

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-4639	-6828	77	1.443	566.5	0.952	22.02794	4.69124	Si
SLV 13	-4619	-6831	76	1.448	564.6	0.952	22.11092	4.69124	Si
SLV 10	-5055	-7840	-31	1.35	608.9	0.955	20.54932	4.25198	Si
SLV 9	-5042	-7843	-31	1.353	607.5	0.955	20.59548	4.25198	Si
SLV 6	-4802	-7404	-88	1.399	583.1	0.953	21.33832	4.25198	Si
SLV 5	-4789	-7406	-88	1.402	581.8	0.953	21.38871	4.25198	Si
SLV 16	-4026	-5524	111	1.616	504.3	0.947	24.81657	4.69124	Si
SLV 15	-4006	-5527	111	1.623	502.3	0.946	24.92326	4.69124	Si
SLV 2	-3794	-5372	-114	1.697	480.8	0.944	26.11662	4.69124	Si
SLV 1	-3774	-5375	-115	1.704	478.8	0.944	26.23162	4.69124	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.569	SLU 50	Si
V_SLU	9.998	SLU 71	Si
PF_SLV	2.298	SLV 11	Si
V_SLV	4.194	SLV 15	Si
PFFP_SLV	8.262	SLV 8	Si
R_SLV	4.696	SLV 14	Si

Maschio 192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.404	-11.003	-0.749	L6	L7	2.656	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	7.9	1123.27	-26127	-0.000062	0.0003743	0.0035	2.6557	22719.66	26440.74	26440.74	23.54	No	Si
SLU 79	11.45	12.41	-13160	-0.0000271	0.0003743	0.0035	2.6557	14436.94	15216.46	15216.46	1226.55	No	Si
SLU 83	7.9	1108.98	-26531	-0.0000629	0.0003743	0.0035	2.6557	22882.97	26767.29	26767.29	24.14	No	Si
SLU 83	11.45	4.05	-13047	-0.0000268	0.0003743	0.0035	2.6557	14338.38	15103.02	15103.02	3725.63	No	Si
SLU 58	7.9	1004.06	-23327	-0.0000548	0.0003743	0.0035	2.6557	21430.13	24147.26	24147.26	24.05	No	Si
SLU 58	11.45	-22.75	-11705	-0.0000241	0.0003743	0.0035	2.6557	13139.5	15666.8	15666.8	688.59	No	Si
SLU 80	7.9	1103.53	-26200	-0.0000621	0.0003743	0.0035	2.6557	22749.56	26500.72	26500.72	24.01	No	Si
SLU 80	11.45	35.12	-13197	-0.0000273	0.0003743	0.0035	2.6557	14468.78	15253.25	15253.25	434.32	No	Si
SLU 71	7.9	1055.41	-23977	-0.0000565	0.0003743	0.0035	2.6557	21754.07	24671.65	24671.65	23.38	No	Si
SLU 71	11.45	-28.47	-12494	-0.0000258	0.0003743	0.0035	2.6557	13851.98	16469.68	16469.68	578.57	No	Si
SLU 72	7.9	1035.67	-24050	-0.0000566	0.0003743	0.0035	2.6557	21789.47	24730.77	24730.77	23.88	No	Si
SLU 72	11.45	-5.75	-12531	-0.0000258	0.0003743	0.0035	2.6557	13884.68	16506.16	16506.16	2869.52	No	Si
SLU 77	7.9	1124.22	-26390	-0.0000626	0.0003743	0.0035	2.6557	22826.31	26654.28	26654.28	23.71	No	Si
SLU 77	11.45	16.12	-13376	-0.0000276	0.0003743	0.0035	2.6557	14623.35	15433.02	15433.02	957.48	No	Si
SLU 50	7.9	936.2	-21176	-0.0000494	0.0003743	0.0035	2.6557	20253.27	22445.92	22445.92	23.98	No	Si
SLU 50	11.45	-63.62	-11039	-0.0000229	0.0003743	0.0035	2.6557	12520.53	14958.55	14958.55	235.11	No	Si
SLU 70	7.9	1036.62	-24312	-0.0000572	0.0003743	0.0035	2.6557	21915.23	24943.86	24943.86	24.06	No	Si
SLU 70	11.45	-2.04	-12747	-0.0000262	0.0003743	0.0035	2.6557	14075.85	16721.13	16721.13	8197.94	No	Si
SLU 69	7.9	1056.36	-24239	-0.0000572	0.0003743	0.0035	2.6557	21880.5	24884.52	24884.52	23.56	No	Si
SLU 69	11.45	-24.75	-12710	-0.0000262	0.0003743	0.0035	2.6557	14043.44	16684.48	16684.48	674.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	7.9	3389.44	-12142	-0.0000403	0.0005615	0.0035	2.6557		15174.25	15174.25	4.48		Si
SLV 12	11.45	-1552.28	-6165	-0.0000193	0.0005615	0.0035	2.6557		9680.24	9680.24	6.24		Si
SLV 7	7.9	3160.79	-10860	-0.0000365	0.0005615	0.0035	2.6557		13725.01	13725.01	4.34		Si
SLV 7	11.45	-1681.49	-5284	-0.0000181	0.0005615	0.0035	2.6557		8621.62	8621.62	5.13		Si
SLD 12	7.9	2379.4	-14228	-0.00004	0.0005615	0.0035	2.6557		17267.53	17267.53	7.26		Si
SLD 12	11.45	-983.73	-7188	-0.0000189	0.0005615	0.0035	2.6557		10921.32	10921.32	11.1		Si
SLV 9	7.9	-1632.93	-24373	-0.0000585	0.0005615	0.0035	2.6557		29065.53	29065.53	17.8		Si
SLV 9	11.45	1557.3	-12436	-0.0000324	0.0005615	0.0035	2.6557		15503.87	15503.87	9.96		Si
SLD 11	7.9	2411.64	-14190	-0.0000401	0.0005615	0.0035	2.6557		17231.46	17231.46	7.15		Si
SLD 11	11.45	-989.2	-7179	-0.0000189	0.0005615	0.0035	2.6557		10910.49	10910.49	11.03		Si
SLV 11	7.9	3440.69	-12083	-0.0000404	0.0005615	0.0035	2.6557		15107.46	15107.46	4.39		Si
SLV 11	11.45	-1560.98	-6151	-0.0000193	0.0005615	0.0035	2.6557		9663.23	9663.23	6.19		Si
SLD 8	7.9	2201.57	-13444	-0.0000375	0.0005615	0.0035	2.6557		16516.9	16516.9	7.5		Si
SLD 8	11.45	-1061.33	-6633	-0.0000181	0.0005615	0.0035	2.6557		10246.53	10246.53	9.65		Si
SLV 8	7.9	3109.54	-10920	-0.0000364	0.0005615	0.0035	2.6557		13792.9	13792.9	4.44		Si
SLV 8	11.45	-1672.79	-5298	-0.0000181	0.0005615	0.0035	2.6557		8638.81	8638.81	5.16		Si
SLV 10	7.9	-1684.18	-24433	-0.0000589	0.0005615	0.0035	2.6557		29121.45	29121.45	17.29		Si
SLV 10	11.45	1566	-12451	-0.0000324	0.0005615	0.0035	2.6557		15519.72	15519.72	9.91		Si
SLD 7	7.9	2233.81	-13407	-0.0000376	0.0005615	0.0035	2.6557		16481.05	16481.05	7.38		Si
SLD 7	11.45	-1066.8	-6625	-0.0000181	0.0005615	0.0035	2.6557		10235.75	10235.75	9.59		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	7.9	1080.84	-25872	-21544	1427	2.6557	2.6557	-28973	10808	9124	40441	22266	6772	29038	No	20.34	Si
SLU 74	11.45	-9.75	-12977	-10806	2500	2.6557	2.6557	-14533	8882	6605	40441	22266	6772	29038	No	11.62	Si
SLU 69	7.9	1056.36	-24239	-20184	1439	2.6557	2.6557	-27145	10564	8717	40441	22266	6772	29038	No	20.18	Si
SLU 69	11.45	-24.75	-12710	-10584	2476	2.6557	2.6557	-14234	8842	6575	40441	22266	6772	29038	No	11.73	Si
SLU 84	7.9	1089.23	-26604	-22154	1369	2.6557	2.6557	-29793	10833	9307	40441	22266	6772	29038	No	21.21	Si
SLU 84	11.45	26.77	-13084	-10895	2439	2.6557	2.6557	-14652	8898	6616	40441	22266	6772	29038	No	11.91	Si
SLU 80	7.9	1103.53	-26200	-21817	1381	2.6557	2.6557	-29341	10833	9206	40441	22266	6772	29038	No	21.02	Si
SLU 80	11.45	35.12	-13197	-10989	2452	2.6557	2.6557	-14779	8915	6629	40441	22266	6772	29038	No	11.84	Si
SLU 81	7.9	1065.6	-26014	-21662	1453	2.6557	2.6557	-29132	10829	9159	40441	22266	6772	29038	No	19.98	Si
SLU 81	11.45	-21.81	-12648	-10532	2498	2.6557	2.6557	-14164	8833	6568	40441	22266	6772	29038	No	11.63	Si
SLU 79	7.9	1123.27	-26127	-21757	1478	2.6557	2.6557	-29259	10833	9188	40441	22266	6772	29038	No	19.64	Si
SLU 79	11.45	12.41	-13160	-10959	2551	2.6557	2.6557	-14738	8909	6625	40441	22266	6772	29038	No	11.38	Si
SLU 77	7.9	1124.22	-26390	-21975	1440	2.6557	2.6557	-29553	10833	9253	40441	22266	6772	29038	No	20.16	Si
SLU 77	11.45	16.12	-13376	-11139	2540	2.6557	2.6557	-14980	8942	6649	40441	22266	6772	29038	No	11.43	Si
SLU 78	7.9	1104.48	-26463	-22036	1343	2.6557	2.6557	-29634	10833	9271	40441	22266	6772	29038	No	21.62	Si
SLU 78	11.45	38.83	-13413	-11169	2441	2.6557	2.6557	-15021	8947	6653	40441	22266	6772	29038	No	11.89	Si
SLU 71	7.9	1055.41	-23977	-19966	1477	2.6557	2.6557	-26851	10525	8652	40441	22266	6772	29038	No	19.66	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 71	11.45	-28.47	-12494	-10404	2487	2.6557	2.6557	-13991	8810	6551	40441	22266	6772	29038	No	11.68	Si
SLU 83	7.9	1108.98	-26531	-22093	1466	2.6557	2.6557	-29711	10833	9288	40441	22266	6772	29038	No	19.81	Si
SLU 83	11.45	4.05	-13047	-10864	2538	2.6557	2.6557	-14611	8893	6612	40441	22266	6772	29038	No	11.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	7.9	3389.44	-12142	-10111	10741	2.6557	2.6557	-13598	13136	9768	40441	33399	6772	40171		3.74	Si
SLV 12	11.45	-1552.28	-6165	-5133	9804	2.6557	2.6557	-6904	11797	8772	40441	33399	6772	40171		4.1	Si
SLV 8	7.9	3109.54	-10920	-9093	11301	2.6557	2.6557	-12229	12862	9564	40441	33399	6772	40171		3.55	Si
SLV 8	11.45	-1672.79	-5298	-4412	9746	2.6557	2.6557	-5933	11603	8628	40441	33399	6772	40171		4.12	Si
SLV 5	7.9	-1912.83	-23150	-19278	-8507	2.6557	2.6557	-25925	15602	11601	40441	33399	6772	40171		4.72	Si
SLV 5	11.45	1436.79	-11570	-9634	-6116	2.6557	2.6557	-12957	13008	9673	40441	33399	6772	40171		6.57	Si
SLD 8	7.9	2201.57	-13444	-11195	7444	2.6557	2.6557	-15056	13428	9985	40441	33399	6772	40171		5.4	Si
SLD 8	11.45	-1061.33	-6633	-5524	6728	2.6557	2.6557	-7429	11902	8850	40441	33399	6772	40171		5.97	Si
SLD 7	7.9	2233.81	-13407	-11164	7487	2.6557	2.6557	-15014	13419	9978	40441	33399	6772	40171		5.37	Si
SLD 7	11.45	-1066.8	-6625	-5516	6809	2.6557	2.6557	-7419	11900	8849	40441	33399	6772	40171		5.9	Si
SLV 9	7.9	-1632.93	-24373	-20296	-9067	2.6557	2.6557	-27295	15876	11805	40441	33399	6772	40171		4.43	Si
SLV 9	11.45	1557.3	-12436	-10356	-6058	2.6557	2.6557	-13927	13202	9817	40441	33399	6772	40171		6.63	Si
SLV 11	7.9	3440.69	-12083	-10061	10810	2.6557	2.6557	-13531	13123	9758	40441	33399	6772	40171		3.72	Si
SLV 11	11.45	-1560.98	-6151	-5122	9932	2.6557	2.6557	-6888	11794	8770	40441	33399	6772	40171		4.04	Si
SLV 7	7.9	3160.79	-10860	-9043	11370	2.6557	2.6557	-12162	12849	9554	40441	33399	6772	40171		3.53	Si
SLV 7	11.45	-1681.49	-5284	-4400	9874	2.6557	2.6557	-5917	11600	8626	40441	33399	6772	40171		4.07	Si
SLV 6	7.9	-1964.08	-23210	-19327	-8576	2.6557	2.6557	-25992	15615	11611	40441	33399	6772	40171		4.68	Si
SLV 6	11.45	1445.49	-11584	-9646	-6245	2.6557	2.6557	-12973	13011	9675	40441	33399	6772	40171		6.43	Si
SLV 10	7.9	-1684.18	-24433	-20346	-9136	2.6557	2.6557	-27361	15889	11815	40441	33399	6772	40171		4.4	Si
SLV 10	11.45	1566	-12451	-10368	-6187	2.6557	2.6557	-13943	13205	9819	40441	33399	6772	40171		6.49	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.45	10873	-8085	338.33	1051.3	3.11	Si
SLV 7	179667	0.45	10933	-8130	338.33	1056.67	3.12	Si
SLV 12	179667	0.45	12699	-9443	338.33	1212.05	3.58	Si
SLV 11	179667	0.45	12759	-9487	338.33	1217.27	3.6	Si
SLV 4	179667	0.45	12798	-9516	338.33	1220.65	3.61	Si
SLV 3	179667	0.45	12887	-9583	338.33	1228.39	3.63	Si
SLV 2	179667	0.45	16287	-12111	338.33	1514.66	4.48	Si
SLV 1	179667	0.45	16376	-12177	338.33	1521.98	4.5	Si
SLV 16	179667	0.45	18885	-14043	338.33	1722.84	5.09	Si
SLV 15	179667	0.45	18974	-14109	338.33	1729.84	5.11	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-11265	-21572	982	1.068	1523.1	0.933	16.63608	8.02002	Si
SLV 13	-11244	-21483	982	1.069	1521	0.933	16.66184	8.02002	Si
SLV 16	-9379	-17885	1011	1.23	1332.9	0.925	19.32337	8.02002	Si
SLV 15	-9358	-17796	1011	1.232	1330.8	0.925	19.35841	8.02002	Si
SLV 2	-8377	-17496	-1027	1.34	1232.2	0.921	21.15039	8.02002	Si
SLV 1	-8356	-17408	-1026	1.343	1230.1	0.921	21.19323	8.02002	Si
SLV 10	-12451	-24433	245	1.035	1643	0.937	16.05952	5.35431	Si
SLV 9	-12436	-24373	245	1.036	1641.6	0.937	16.07486	5.35431	Si
SLV 6	-11584	-23210	-358	1.089	1555.4	0.934	16.94542	5.35431	Si
SLV 5	-11570	-23150	-358	1.09	1553.9	0.934	16.96305	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	23.376	SLU 71	Si
V_SLU	11.384	SLU 79	Si
PF_SLV	4.342	SLV 7	Si
V_SLV	3.533	SLV 7	Si
PFFP_SLV	3.107	SLV 8	Si
R_SLV	2.074	SLV 14	Si

Maschio 193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-0.354	-11.003	0.907	L6	L7	1.261	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	7.9	301.64	-11345	-0.0000578	0.0003743	0.0035	1.2609	4894.93	5551.3	5551.3	18.4	No	Si
SLU 60	11.45	-56.29	-6900	-0.0000312	0.0003743	0.0035	1.2609	3515.07	4112.57	4112.57	73.06	No	Si
SLU 61	7.9	293.01	-11375	-0.0000577	0.0003743	0.0035	1.2609	4901.94	5563.03	5563.03	18.99	No	Si
SLU 61	11.45	-44.84	-6932	-0.0000311	0.0003743	0.0035	1.2609	3527.32	4127.31	4127.31	92.04	No	Si
SLU 62	7.9	304.54	-11667	-0.0000595	0.0003743	0.0035	1.2609	4967.9	5676.09	5676.09	18.64	No	Si
SLU 62	11.45	-39.94	-7229	-0.0000324	0.0003743	0.0035	1.2609	3640.8	4263.65	4263.65	106.74	No	Si
SLU 30	7.9	56.16	-10324	-0.0000473	0.0003743	0.0035	1.2609	4639.23	5161.64	5161.64	91.9	No	Si
SLU 30	11.45	182.1	-6473	-0.0000319	0.0003743	0.0035	1.2609	3346.09	3544.23	3544.23	19.46	No	Si
SLU 28	7.9	53.19	-10462	-0.0000479	0.0003743	0.0035	1.2609	4676.06	5213.78	5213.78	98.01	No	Si
SLU 28	11.45	189.38	-6607	-0.0000327	0.0003743	0.0035	1.2609	3399.88	3608.82	3608.82	19.06	No	Si
SLU 18	7.9	274.98	-9352	-0.0000474	0.0003743	0.0035	1.2609	4361.94	4801.56	4801.56	17.46	No	Si
SLU 18	11.45	-72.02	-5748	-0.0000263	0.0003743	0.0035	1.2609	3044.37	3566.35	3566.35	49.52	No	Si
SLU 21	7.9	269.24	-9704	-0.000049	0.0003743	0.0035	1.2609	4466.19	4931.01	4931.01	18.31	No	Si
SLU 21	11.45	-44.23	-6108	-0.0000274	0.0003743	0.0035	1.2609	3196.53	3742.23	3742.23	84.6	No	Si
SLU 20	7.9	277.87	-9674	-0.000049	0.0003743	0.0035	1.2609	4457.4	4919.83	4919.83	17.71	No	Si
SLU 20	11.45	-55.68	-6077	-0.0000275	0.0003743	0.0035	1.2609	3183.37	3726.7	3726.7	66.93	No	Si
SLU 63	7.9	295.91	-11697	-0.0000594	0.0003743	0.0035	1.2609	4974.57	5687.88	5687.88	19.22	No	Si
SLU 63	11.45	-28.5	-7260	-0.0000323	0.0003743	0.0035	1.2609	3652.68	4277.89	4277.89	150.1	No	Si
SLU 19	7.9	266.35	-9382	-0.0000474	0.0003743	0.0035	1.2609	4371.07	4812.62	4812.62	18.07	No	Si
SLU 19	11.45	-60.57	-5780	-0.0000262	0.0003743	0.0035	1.2609	3057.89	3581.66	3581.66	59.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	7.9	1125.01	-7084	-0.0000538	0.0005615	0.0035	1.2609		4045.31	4045.31	3.6		Si
SLV 8	11.45	-787.32	-3054	-0.0000291	0.0005615	0.0035	1.2609		2198.54	2198.54	2.79		Si
SLV 12	7.9	919.03	-7578	-0.0000517	0.0005615	0.0035	1.2609		4273.81	4273.81	4.65		Si
SLV 12	11.45	-769.41	-3399	-0.0000299	0.0005615	0.0035	1.2609		2397.09	2397.09	3.12		Si
SLV 11	7.9	923.84	-7575	-0.0000518	0.0005615	0.0035	1.2609		4272.39	4272.39	4.62		Si
SLV 11	11.45	-776.71	-3393	-0.0000301	0.0005615	0.0035	1.2609		2393.95	2393.95	3.08		Si
SLD 7	7.9	743.47	-7737	-0.0000488	0.0005615	0.0035	1.2609		4347.56	4347.56	5.85		Si
SLD 7	11.45	-464.41	-3892	-0.0000258	0.0005615	0.0035	1.2609		2673.62	2673.62	5.76		Si
SLV 5	7.9	-700.29	-10159	-0.000059	0.0005615	0.0035	1.2609		5868.42	5868.42	8.38		Si
SLV 5	11.45	920.3	-7222	-0.0000501	0.0005615	0.0035	1.2609		4109.13	4109.13	4.46		Si
SLV 7	7.9	1129.82	-7081	-0.0000538	0.0005615	0.0035	1.2609		4043.91	4043.91	3.58		Si
SLV 7	11.45	-794.62	-3049	-0.0000293	0.0005615	0.0035	1.2609		2195.31	2195.31	2.76		Si
SLV 6	7.9	-705.1	-10162	-0.0000591	0.0005615	0.0035	1.2609		5869.8	5869.8	8.32		Si
SLV 6	11.45	927.61	-7228	-0.0000503	0.0005615	0.0035	1.2609		4111.7	4111.7	4.43		Si
SLV 10	7.9	-911.07	-10657	-0.0000659	0.0005615	0.0035	1.2609		6093.3	6093.3	6.69		Si
SLV 10	11.45	945.52	-7572	-0.0000522	0.0005615	0.0035	1.2609		4271.07	4271.07	4.52		Si
SLD 8	7.9	740.45	-7739	-0.0000487	0.0005615	0.0035	1.2609		4348.45	4348.45	5.87		Si
SLD 8	11.45	-459.82	-3896	-0.0000258	0.0005615	0.0035	1.2609		2675.57	2675.57	5.82		Si
SLV 9	7.9	-906.27	-10654	-0.0000658	0.0005615	0.0035	1.2609		6091.91	6091.91	6.72		Si
SLV 9	11.45	938.21	-7567	-0.0000521	0.0005615	0.0035	1.2609		4268.49	4268.49	4.55		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	7.9	215.6	-12789	-10649	851	1.2609	1.2609	-30163	10833	3973	40441	10572	3215	13787	No	16.2	Si
SLU 76	11.45	70.07	-7927	-6601	-1954	1.2609	1.2609	-18698	9437	3332	40441	10572	3215	13787	No	7.06	Si
SLU 77	7.9	229.91	-13198	-10991	942	1.2609	1.2609	-31130	10833	4064	40441	10572	3215	13787	No	14.64	Si
SLU 77	11.45	74.61	-8337	-6943	-1969	1.2609	1.2609	-19665	9566	3377	40441	10572	3215	13787	No	7	Si
SLU 80	7.9	224.25	-13090	-10900	901	1.2609	1.2609	-30875	10833	4040	40441	10572	3215	13787	No	15.3	Si
SLU 80	11.45	78.78	-8235	-6857	-1985	1.2609	1.2609	-19423	9534	3366	40441	10572	3215	13787	No	6.94	Si
SLU 72	7.9	82.83	-12317	-10256	762	1.2609	1.2609	-29050	10818	3868	40441	10572	3215	13787	No	18.1	Si
SLU 72	11.45	197.84	-7625	-6350	-1902	1.2609	1.2609	-17985	9342	3298	40441	10572	3215	13787	No	7.25	Si
SLU 75	7.9	218.38	-12907	-10748	876	1.2609	1.2609	-30443	10833	3999	40441	10572	3215	13787	No	15.73	Si
SLU 75	11.45	69.71	-8040	-6695	-1957	1.2609	1.2609	-18964	9473	3344	40441	10572	3215	13787	No	7.04	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	7.9	221.28	-13229	-11016	894	1.2609	1.2609	-31201	10833	4070	40441	10572	3215	13787	No	15.42	Si
SLU 78	11.45	86.06	-8369	-6969	-2027	1.2609	1.2609	-19739	9576	3381	40441	10572	3215	13787	No	6.8	Si
SLU 70	7.9	79.86	-12455	-10372	755	1.2609	1.2609	-29377	10833	3899	40441	10572	3215	13787	No	18.25	Si
SLU 70	11.45	205.11	-7759	-6461	-1944	1.2609	1.2609	-18301	9385	3313	40441	10572	3215	13787	No	7.09	Si
SLU 74	7.9	227.01	-12877	-10723	924	1.2609	1.2609	-30371	10833	3992	40441	10572	3215	13787	No	14.93	Si
SLU 74	11.45	58.27	-8009	-6669	-1899	1.2609	1.2609	-18890	9463	3341	40441	10572	3215	13787	No	7.26	Si
SLU 79	7.9	232.88	-13060	-10875	948	1.2609	1.2609	-30803	10833	4033	40441	10572	3215	13787	No	14.54	Si
SLU 79	11.45	67.34	-8203	-6831	-1927	1.2609	1.2609	-19349	9524	3363	40441	10572	3215	13787	No	7.15	Si
SLU 84	7.9	281.96	-13100	-10909	942	1.2609	1.2609	-30898	10833	4042	40441	10572	3215	13787	No	14.63	Si
SLU 84	11.45	11.42	-8168	-6801	-1951	1.2609	1.2609	-19264	9513	3359	40441	10572	3215	13787	No	7.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	7.9	-521.7	-9999	-8326	-2287	1.2609	1.2609	-23583	15133	5343	40441	15858	3215	19073		8.34	Si
SLD 9	11.45	610.72	-6725	-5600	-4215	1.2609	1.2609	-15863	13589	4798	40441	15858	3215	19073		4.53	Si
SLV 5	7.9	-700.29	-10159	-8460	-3742	1.2609	1.2609	-23962	15209	5370	40441	15858	3215	19073		5.1	Si
SLV 5	11.45	920.3	-7222	-6014	-5494	1.2609	1.2609	-17034	13824	4880	40441	15858	3215	19073		3.47	Si
SLV 6	7.9	-705.1	-10162	-8462	-3770	1.2609	1.2609	-23969	15211	5370	40441	15858	3215	19073		5.06	Si
SLV 6	11.45	927.61	-7228	-6019	-5529	1.2609	1.2609	-17047	13826	4881	40441	15858	3215	19073		3.45	Si
SLV 11	7.9	923.84	-7575	-6308	5082	1.2609	1.2609	-17867	13990	4939	40441	15858	3215	19073		3.75	Si
SLV 11	11.45	-776.71	-3393	-2826	3044	1.2609	1.2047	-8003	12017	4053	40441	15858	3215	19073		6.27	Si
SLD 10	7.9	-524.73	-10001	-8328	-2305	1.2609	1.2609	-23587	15134	5343	40441	15858	3215	19073		8.28	Si
SLD 10	11.45	615.31	-6729	-5603	-4237	1.2609	1.2609	-15871	13591	4798	40441	15858	3215	19073		4.5	Si
SLV 9	7.9	-906.27	-10654	-8871	-4077	1.2609	1.2609	-25128	15442	5452	40441	15858	3215	19073		4.68	Si
SLV 9	11.45	938.21	-7567	-6301	-6024	1.2609	1.2609	-17847	13986	4938	40441	15858	3215	19073		3.17	Si
SLV 10	7.9	-911.07	-10657	-8874	-4105	1.2609	1.2609	-25135	15444	5452	40441	15858	3215	19073		4.65	Si
SLV 10	11.45	945.52	-7572	-6305	-6059	1.2609	1.2609	-17860	13989	4939	40441	15858	3215	19073		3.15	Si
SLV 12	7.9	919.03	-7578	-6310	5054	1.2609	1.2609	-17874	13991	4940	40441	15858	3215	19073		3.77	Si
SLV 12	11.45	-769.41	-3399	-2830	3009	1.2609	1.2122	-8016	12020	4080	40441	15858	3215	19073		6.34	Si
SLV 7	7.9	1129.82	-7081	-5896	5416	1.2609	1.2609	-16701	13757	4857	40441	15858	3215	19073		3.52	Si
SLV 7	11.45	-794.62	-3049	-2539	3574	1.2609	1.1094	-8203	12057	3746	40441	15858	3215	19073		5.34	Si
SLV 8	7.9	1125.01	-7084	-5899	5389	1.2609	1.2609	-16708	13758	4857	40441	15858	3215	19073		3.54	Si
SLV 8	11.45	-787.32	-3054	-2543	3539	1.2609	1.118	-8154	12048	3772	40441	15858	3215	19073		5.39	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.45	13486	-4761	160.64	607.73	3.78	Si
SLV 8	179667	0.45	13498	-4765	160.64	608.2	3.79	Si
SLV 3	179667	0.45	15047	-5312	160.64	670.46	4.17	Si
SLV 4	179667	0.45	15064	-5318	160.64	671.14	4.18	Si
SLV 11	179667	0.45	15758	-5564	160.64	698.53	4.35	Si
SLV 12	179667	0.45	15770	-5568	160.64	698.98	4.35	Si
SLV 1	179667	0.45	18659	-6588	160.64	809.6	5.04	Si
SLV 2	179667	0.45	18676	-6594	160.64	810.23	5.04	Si
SLV 15	179667	0.45	22621	-7986	160.64	952.46	5.93	Si
SLV 16	179667	0.45	22638	-7992	160.64	953.06	5.93	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-6515	-10157	363	0.924	841.2	0.941	14.2806	8.02002	Si
SLV 13	-6506	-10152	363	0.925	840.3	0.941	14.29637	8.02002	Si
SLV 2	-5367	-8509	-373	1.079	725	0.933	16.81281	8.02002	Si
SLV 1	-5358	-8504	-373	1.081	724.2	0.933	16.8343	8.02002	Si
SLV 16	-5263	-9233	343	1.101	714.5	0.932	17.16372	8.02002	Si
SLV 15	-5254	-9229	343	1.102	713.7	0.932	17.18659	8.02002	Si
SLV 10	-7572	-10657	129	0.844	948.3	0.947	12.95533	5.35431	Si
SLV 9	-7567	-10654	129	0.844	947.8	0.947	12.96374	5.35431	Si
SLV 6	-7228	-10162	-92	0.881	913.4	0.945	13.55698	5.35431	Si
SLV 5	-7222	-10159	-92	0.882	912.8	0.945	13.56589	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	17.462	SLU 18	Si
V_SLU	6.801	SLU 78	Si
PF_SLV	2.763	SLV 7	Si
V_SLV	3.148	SLV 10	Si
PFFP_SLV	3.783	SLV 7	Si
R_SLV	1.781	SLV 14	Si

Maschio 195

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.521	L6	L7	5.38	0.2	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	7.9	-13013.24	-24358	-0.0000486	0.0004492	0.0035	5.38	53382.81	75503.1	75503.1	5.8	No	Si
SLU 31	11.45	-2082.82	-12628	-0.0000182	0.0004492	0.0035	5.38	30707.4	48851.77	48851.77	23.45	No	Si
SLU 81	7.9	-15334.84	-30335	-0.00006	0.0004492	0.0035	5.38	62773.74	88169.79	88169.79	5.75	No	Si
SLU 81	11.45	-2622.78	-15621	-0.0000227	0.0004492	0.0035	5.38	37027.43	55806.19	55806.19	21.28	No	Si
SLU 75	7.9	-15254.38	-30678	-0.0000603	0.0004492	0.0035	5.38	63267.12	88879.41	88879.41	5.83	No	Si
SLU 75	11.45	-2654.23	-16065	-0.0000233	0.0004492	0.0035	5.38	37934.01	56838.12	56838.12	21.41	No	Si
SLU 82	7.9	-15661.74	-30156	-0.0000602	0.0004492	0.0035	5.38	62512.66	87797.04	87797.04	5.61	No	Si
SLU 82	11.45	-2585.26	-15542	-0.0000225	0.0004492	0.0035	5.38	36865.36	55622.67	55622.67	21.52	No	Si
SLU 73	7.9	-15276.95	-29370	-0.0000586	0.0004492	0.0035	5.38	61355.76	86167.48	86167.48	5.64	No	Si
SLU 73	11.45	-2467	-15163	-0.0000219	0.0004492	0.0035	5.38	36083.61	54741.49	54741.49	22.19	No	Si
SLU 40	7.9	-13398.03	-25143	-0.0000502	0.0004492	0.0035	5.38	54700.9	77231.09	77231.09	5.76	No	Si
SLU 40	11.45	-2201.08	-13008	-0.0000189	0.0004492	0.0035	5.38	31528.47	49732.95	49732.95	22.59	No	Si
SLU 52	7.9	-13635.99	-26385	-0.0000522	0.0004492	0.0035	5.38	56731.7	79960.95	79960.95	5.86	No	Si
SLU 52	11.45	-2164.99	-13506	-0.0000194	0.0004492	0.0035	5.38	32598.47	50890.89	50890.89	23.51	No	Si
SLU 76	7.9	-15207.35	-30291	-0.0000597	0.0004492	0.0035	5.38	62709.03	88077.22	88077.22	5.79	No	Si
SLU 76	11.45	-2525.36	-15816	-0.0000228	0.0004492	0.0035	5.38	37426.24	56259.02	56259.02	22.28	No	Si
SLU 84	7.9	-15592.14	-31077	-0.0000613	0.0004492	0.0035	5.38	63836.31	89706.79	89706.79	5.75	No	Si
SLU 84	11.45	-2643.62	-16195	-0.0000234	0.0004492	0.0035	5.38	38197.86	57140.2	57140.2	21.61	No	Si
SLU 61	7.9	-14020.78	-27171	-0.0000538	0.0004492	0.0035	5.38	57984.59	81608.12	81608.12	5.82	No	Si
SLU 61	11.45	-2283.25	-13885	-0.0000201	0.0004492	0.0035	5.38	33405.93	51772.07	51772.07	22.67	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	7.9	-30739.65	-11715	-0.0002257	0.0006738	0.0035	4.304		46946.86	46946.86	1.53		Si
SLD 9	11.45	-2676.28	-6611	-0.0000116	0.0006738	0.0035	5.38		34236.52	34236.52	12.79		Si
SLV 10	7.9	-43925.62	-5460	-0.0009087	0.0006738	0.0035	4.304		31336.38	31336.38	0.71		No
SLV 10	11.45	-3208.17	-3748	-0.0000088	0.0006738	0.0035	5.38		26983.54	26983.54	8.41		Si
SLV 5	7.9	-38712.25	-6345	-0.0007157	0.0006738	0.0035	4.304		33569.42	33569.42	0.87		No
SLV 5	11.45	-1843.03	-3815	-0.0000071	0.0006738	0.0035	5.38		27154.33	27154.33	14.73		Si
SLD 6	7.9	-28341.83	-11834	-0.0001499	0.0006738	0.0035	4.304		47237.53	47237.53	1.67		Si
SLD 6	11.45	-1772.03	-6445	-0.0000102	0.0006738	0.0035	5.38		33821.03	33821.03	19.09		Si
SLV 14	7.9	-27603.49	-15611	-0.0000755	0.0006738	0.0035	4.304		56344.1	56344.1	2.04		Si
SLV 14	11.45	-4296.69	-8896	-0.0000166	0.0006738	0.0035	5.38		39966.29	39966.29	9.3		Si
SLV 6	7.9	-39453.96	-5993	-0.0007499	0.0006738	0.0035	4.304		32683.44	32683.44	0.83		No
SLV 6	11.45	-1819.41	-3652	-0.0000068	0.0006738	0.0035	5.38		26738.64	26738.64	14.7		Si
SLD 5	7.9	-27875.24	-12055	-0.0001302	0.0006738	0.0035	4.304		47781.25	47781.25	1.71		Si
SLD 5	11.45	-1786.89	-6548	-0.0000103	0.0006738	0.0035	5.38		34079.88	34079.88	19.07		Si
SLD 10	7.9	-31206.24	-11494	-0.0002544	0.0006738	0.0035	4.304		46403.13	46403.13	1.49		Si
SLD 10	11.45	-2661.43	-6508	-0.0000114	0.0006738	0.0035	5.38		33977.68	33977.68	12.77		Si
SLV 9	7.9	-43183.91	-5812	-0.0008738	0.0006738	0.0035	4.304		32228.11	32228.11	0.75		No
SLV 9	11.45	-3231.79	-3911	-0.000009	0.0006738	0.0035	5.38		27399.23	27399.23	8.48		Si
SLV 13	7.9	-26501.83	-16134	-0.0000686	0.0006738	0.0035	4.304		57588.63	57588.63	2.17		Si
SLV 13	11.45	-4331.77	-9139	-0.0000169	0.0006738	0.0035	5.38		40570.44	40570.44	9.37		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	7.9	-12594.16	-26766	-17130	746	5.38	5.38	-15920	10456	13068	115546	38669	27438	66107	No	88.66	Si
SLU 35	11.45	-2365.92	-14262	-9128	779	5.38	5.38	-8483	9464	10184	115546	38669	27438	66107	No	84.81	Si
SLU 37	7.9	-12329.2	-26499	-16959	738	5.38	5.38	-15762	10435	12999	115546	38669	27438	66107	No	89.61	Si
SLU 37	11.45	-2262.07	-14066	-9002	771	5.38	5.38	-8366	9449	10167	115546	38669	27438	66107	No	85.73	Si
SLU 47	7.9	-12160.02	-25752	-16481	-613	5.38	5.38	-15317	10376	12808	115546	38669	27438	66107	No	107.83	Si
SLU 47	11.45	-2005.77	-13397	-8574	-586	5.38	5.38	-7968	9396	10110	115546	38669	27438	66107	No	112.86	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 38	7.9	-12656.1	-26319	-16844	559	5.38	5.38	-15655	10421	12953	115546	38669	27438	66107	No	118.34	Si
SLU 38	11.45	-2224.55	-13987	-8952	593	5.38	5.38	-8319	9443	10160	115546	38669	27438	66107	No	111.56	Si
SLU 44	7.9	-12229.63	-24831	-15892	-852	5.38	5.38	-14769	10303	12572	115546	38669	27438	66107	No	77.59	Si
SLU 44	11.45	-1947.41	-12744	-8156	-826	5.38	5.38	-7580	9344	10054	115546	38669	27438	66107	No	80.06	Si
SLU 2	7.9	-9965.92	-19819	-12684	-636	5.38	5.38	-11788	9905	11289	115546	38669	27438	66107	No	103.88	Si
SLU 2	11.45	-1563.23	-10210	-6534	-614	5.38	5.38	-6073	9143	9838	115546	38669	27438	66107	No	107.6	Si
SLU 36	7.9	-12921.07	-26586	-17015	567	5.38	5.38	-15813	10442	13022	115546	38669	27438	66107	No	116.68	Si
SLU 36	11.45	-2328.4	-14184	-9077	601	5.38	5.38	-8436	9458	10177	115546	38669	27438	66107	No	110.01	Si
SLU 52	7.9	-13635.99	-26385	-16886	-587	5.38	5.38	-15694	10426	12970	115546	38669	27438	66107	No	112.57	Si
SLU 52	11.45	-2164.99	-13506	-8644	-557	5.38	5.38	-8033	9404	10119	115546	38669	27438	66107	No	118.64	Si
SLU 41	7.9	-13001.52	-26244	-16796	612	5.38	5.38	-15610	10415	12934	115546	38669	27438	66107	No	107.98	Si
SLU 41	11.45	-2296.96	-13739	-8793	646	5.38	5.38	-8172	9423	10139	115546	38669	27438	66107	No	102.3	Si
SLU 77	7.9	-14857.87	-31778	-20338	530	5.38	5.38	-18902	10833	14351	115546	38669	27438	66107	No	124.71	Si
SLU 77	11.45	-2750.11	-16797	-10750	568	5.38	5.38	-9991	9665	10516	115546	38669	27438	66107	No	116.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	7.9	-38712.25	-6345	-4061	-14897	4.304	0	0	0	0	115546	46403	21950	68353		4.59	Si
SLV 5	11.45	-1843.03	-3815	-2442	-12950	5.38	5.38	-2269	12954	13938	115546	58003	27438	85441		6.6	Si
SLV 8	7.9	22600.42	-37018	-23691	15911	5.38	5.38	-22018	16250	18800	115546	58003	27438	85441		5.37	Si
SLV 8	11.45	-316.65	-18153	-11618	14010	5.38	5.38	-10797	14659	15774	115546	58003	27438	85441		6.1	Si
SLD 9	7.9	-30739.65	-11715	-7498	-10171	4.304	0.1984	0	0	0	115546	46403	21950	68353		6.72	Si
SLD 9	11.45	-2676.28	-6611	-4231	-8943	5.38	5.38	-3932	13286	14296	115546	58003	27438	85441		9.55	Si
SLV 11	7.9	18870.47	-36837	-23576	14921	5.38	5.38	-21910	16250	18754	115546	58003	27438	85441		5.73	Si
SLV 11	11.45	-1729.03	-18413	-11784	13022	5.38	5.38	-10952	14690	15807	115546	58003	27438	85441		6.56	Si
SLV 7	7.9	23342.13	-37370	-23917	16270	5.38	5.38	-22227	16250	18890	115546	58003	27438	85441		5.25	Si
SLV 7	11.45	-340.27	-18317	-11723	14368	5.38	5.38	-10895	14679	15795	115546	58003	27438	85441		5.95	Si
SLV 9	7.9	-43183.91	-5812	-3720	-16246	4.304	0	0	0	0	115546	46403	21950	68353		4.21	Si
SLV 9	11.45	-3231.79	-3911	-2503	-14296	5.38	5.38	-2326	12965	13951	115546	58003	27438	85441		5.98	Si
SLV 12	7.9	18128.77	-36485	-23350	14563	5.38	5.38	-21701	16250	18663	115546	58003	27438	85441		5.87	Si
SLV 12	11.45	-1705.41	-18250	-11680	12664	5.38	5.38	-10855	14671	15786	115546	58003	27438	85441		6.75	Si
SLD 10	7.9	-31206.24	-11494	-7356	-10397	4.304	0	0	0	0	115546	46403	21950	68353		6.57	Si
SLD 10	11.45	-2661.43	-6508	-4165	-9168	5.38	5.38	-3871	13274	14283	115546	58003	27438	85441		9.32	Si
SLV 6	7.9	-39453.96	-5993	-3836	-15256	4.304	0	0	0	0	115546	46403	21950	68353		4.48	Si
SLV 6	11.45	-1819.41	-3652	-2337	-13308	5.38	5.38	-2172	12934	13917	115546	58003	27438	85441		6.42	Si
SLV 10	7.9	-43925.62	-5460	-3495	-16604	4.304	0	0	0	0	115546	46403	21950	68353		4.12	Si
SLV 10	11.45	-3208.17	-3748	-2399	-14654	5.38	5.38	-2229	12946	13930	115546	58003	27438	85441		5.83	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.11 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-2040	0.45	501.51	0	707.68	353.84	0.71	No
SLV 9	-2392	0.45	501.51	0	750.82	375.41	0.75	No
SLV 6	-2601	0.45	501.51	0	776.32	388.16	0.77	No
SLV 5	-2953	0.45	501.51	0	819.11	409.55	0.82	No
SLV 14	-12149	0.45	501.51	1140.04	1894.21	1517.12	3.03	Si
SLV 13	-12672	0.45	501.51	1185.76	1954.18	1569.97	3.13	Si
SLV 2	-14019	0.45	501.51	1302.27	2108.12	1705.2	3.4	Si
SLV 1	-14542	0.45	501.51	1346.99	2167.67	1757.33	3.5	Si
SLV 16	-21448	0.45	501.51	1911.55	2946.55	2429.05	4.84	Si
SLV 15	-21971	0.45	501.51	1952.33	3004.54	2478.44	4.94	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.04 Ta = 0.1052

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-13490	-25442	1080	1.755	1920.5	0.925	27.57563	11.21243	Si
SLV 16	-13247	-24919	1080	1.781	1896.1	0.924	27.99323	11.21243	Si
SLV 3	-13168	-27219	-1074	1.789	1888.2	0.924	28.1357	11.21243	Si
SLV 4	-12926	-26696	-1074	1.815	1863.8	0.923	28.57038	11.21243	Si
SLV 13	-9139	-16134	1078	2.353	1485	0.91	37.5915	11.21243	Si
SLV 14	-8896	-15611	1078	2.399	1460.9	0.909	38.36494	11.21243	Si
SLV 1	-8818	-17911	-1075	2.414	1453.1	0.908	38.62523	11.21243	Si
SLV 11	-18413	-36837	327	1.401	2417.6	0.938	21.70504	6.24473	Si
SLV 7	-18317	-37370	-319	1.407	2407.8	0.938	21.80982	6.24473	Si
SLV 12	-18250	-36485	327	1.411	2401	0.937	21.87373	6.24473	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.606	SLU 82	Si
V_SLU	77.594	SLU 44	Si
PF_SLV	0.713	SLV 10	No
V_SLV	4.117	SLV 10	Si
PFFP_SLV	0.706	SLV 10	No
R_SLV	2.459	SLV 15	Si

Maschio 199

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L6	L7	1.56	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	7.9	1341.35	-8571	-0.0000489	0.0003743	0.0035	1.5599	5396.33	5775.88	5775.88	4.31	No	Si
SLU 31	10	-1901.84	-10365	-0.000064	0.0003743	0.0035	1.5599	6199.95	7378.7	7378.7	3.88	No	Si
SLU 39	7.9	1385.19	-8764	-0.0000503	0.0003743	0.0035	1.5599	5488.29	5896.88	5896.88	4.26	No	Si
SLU 39	10	-2011.63	-10685	-0.0000669	0.0003743	0.0035	1.5599	6331.13	7549.87	7549.87	3.75	No	Si
SLU 42	7.9	1369.67	-9056	-0.0000512	0.0003743	0.0035	1.5599	5624.6	6080.01	6080.01	4.44	No	Si
SLU 42	10	-2010.61	-10904	-0.0000678	0.0003743	0.0035	1.5599	6419.32	7663.68	7663.68	3.81	No	Si
SLU 41	7.9	1360.33	-9010	-0.0000509	0.0003743	0.0035	1.5599	5603.65	6051.56	6051.56	4.45	No	Si
SLU 41	10	-1996.38	-10855	-0.0000674	0.0003743	0.0035	1.5599	6399.57	7638.71	7638.71	3.83	No	Si
SLU 81	7.9	1543.85	-10578	-0.0000597	0.0003743	0.0035	1.5599	6287.94	6866.36	6866.36	4.45	No	Si
SLU 81	10	-2263.16	-12498	-0.0000782	0.0003743	0.0035	1.5599	7008.27	8446.6	8446.6	3.73	No	Si
SLU 73	7.9	1500.01	-10385	-0.0000583	0.0003743	0.0035	1.5599	6208.29	6778.27	6778.27	4.52	No	Si
SLU 73	10	-2153.37	-12179	-0.0000752	0.0003743	0.0035	1.5599	6897.42	8295.77	8295.77	3.85	No	Si
SLU 82	7.9	1553.19	-10624	-0.00006	0.0003743	0.0035	1.5599	6306.41	6887.06	6887.06	4.43	No	Si
SLU 82	10	-2277.38	-12548	-0.0000786	0.0003743	0.0035	1.5599	7025.16	8469.72	8469.72	3.72	No	Si
SLU 83	7.9	1518.99	-10825	-0.0000603	0.0003743	0.0035	1.5599	6387.62	6979.33	6979.33	4.59	No	Si
SLU 83	10	-2247.91	-12669	-0.0000787	0.0003743	0.0035	1.5599	7065.89	8525.65	8525.65	3.79	No	Si
SLU 84	7.9	1528.33	-10870	-0.0000606	0.0003743	0.0035	1.5599	6405.69	7000.16	7000.16	4.58	No	Si
SLU 84	10	-2262.13	-12718	-0.0000791	0.0003743	0.0035	1.5599	7082.48	8548.49	8548.49	3.78	No	Si
SLU 40	7.9	1394.54	-8809	-0.0000506	0.0003743	0.0035	1.5599	5509.63	5925.26	5925.26	4.25	No	Si
SLU 40	10	-2025.86	-10734	-0.0000673	0.0003743	0.0035	1.5599	6351.17	7576.62	7576.62	3.74	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	7.9	-2374.26	-9529	-0.0000656	0.0005615	0.0035	1.5599		7270.41	7270.41	3.06		Si
SLV 15	10	1450.54	-4131	-0.0000344	0.0005615	0.0035	1.5599		3202.62	3202.62	2.21		Si
SLD 3	7.9	2532.09	-4812	-0.0000695	0.0005615	0.0035	1.5599		3679.98	3679.98	1.45		Si
SLD 3	10	-2501.47	-9117	-0.0000659	0.0005615	0.0035	1.5599		7012.9	7012.9	2.8		Si
SLV 2	7.9	4388.9	-5353	-0.0067035	0.0005615	0.0035	1.5599		4054.18	4054.18	0.92		No
SLV 2	10	-4276.33	-12895	-0.0001084	0.0005615	0.0035	1.5599		9251.15	9251.15	2.16		Si
SLD 2	7.9	3165.89	-6081	-0.0000872	0.0005615	0.0035	1.5599		4550.34	4550.34	1.44		Si
SLD 2	10	-3237.91	-11287	-0.0000849	0.0005615	0.0035	1.5599		8329.44	8329.44	2.57		Si
SLD 1	7.9	2836.93	-6318	-0.00007	0.0005615	0.0035	1.5599		4708.37	4708.37	1.66		Si
SLD 1	10	-2955.5	-10873	-0.000079	0.0005615	0.0035	1.5599		8082.97	8082.97	2.73		Si
SLV 1	7.9	3874.02	-5724	-0.0002319	0.0005615	0.0035	1.5599		4307.53	4307.53	1.11		Si
SLV 1	10	-3834.3	-12247	-0.0000982	0.0005615	0.0035	1.5599		8879.52	8879.52	2.32		Si
SLV 8	7.9	1232.23	-2341	-0.0000329	0.0005615	0.0035	1.5599		1911.4	1911.4	1.55		Si
SLV 8	10	-1029.88	-4818	-0.0000301	0.0005615	0.0035	1.5599		4185.36	4185.36	4.06		Si
SLD 4	7.9	2861.05	-4575	-0.0001122	0.0005615	0.0035	1.5599		3515.08	3515.08	1.23		Si
SLD 4	10	-2783.88	-9531	-0.0000717	0.0005615	0.0035	1.5599		7271.72	7271.72	2.61		Si
SLV 4	7.9	3901.38	-2929	-0.0197445	0.0005615	0.0035	1.2479		2341.57	2341.57	0.6		No
SLV 4	10	-3547.23	-10071	-0.0000875	0.0005615	0.0035	1.5599		7597.58	7597.58	2.14		Si
SLV 3	7.9	3386.5	-3299	-0.0111959	0.0005615	0.0035	1.2479		2609.08	2609.08	0.77		No
SLV 3	10	-3105.2	-9424	-0.0000772	0.0005615	0.0035	1.5599		7204.95	7204.95	2.32		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	7.9	1454.34	-10937	-9108	2388	1.5599	1.5599	-20852	9725	4247	40441	13079	3978	17057	No	7.14	Si
SLU 77	10	-2138.6	-12645	-10530	4677	1.5599	1.5599	-24108	10159	4437	40441	13079	3978	17057	No	3.65	Si
SLU 83	7.9	1518.99	-10825	-9014	2435	1.5599	1.5599	-20638	9696	4235	40441	13079	3978	17057	No	7	Si
SLU 83	10	-2247.91	-12669	-10549	4729	1.5599	1.5599	-24153	10165	4440	40441	13079	3978	17057	No	3.61	Si
SLU 75	7.9	1488.54	-10736	-8940	2445	1.5599	1.5599	-20469	9674	4225	40441	13079	3978	17057	No	6.98	Si
SLU 75	10	-2168.08	-12525	-10429	4755	1.5599	1.5599	-23878	10128	4424	40441	13079	3978	17057	No	3.59	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	7.9	1463.68	-10982	-9145	2399	1.5599	1.5599	-20938	9736	4253	40441	13079	3978	17057	No	7.11	Si
SLU 78	10	-2152.83	-12695	-10571	4701	1.5599	1.5599	-24203	10172	4443	40441	13079	3978	17057	No	3.63	Si
SLU 76	7.9	1475.15	-10632	-8853	2406	1.5599	1.5599	-20269	9647	4214	40441	13079	3978	17057	No	7.09	Si
SLU 76	10	-2138.12	-12349	-10283	4673	1.5599	1.5599	-23544	10084	4404	40441	13079	3978	17057	No	3.65	Si
SLU 74	7.9	1479.2	-10691	-8902	2434	1.5599	1.5599	-20382	9662	4220	40441	13079	3978	17057	No	7.01	Si
SLU 74	10	-2153.86	-12475	-10388	4731	1.5599	1.5599	-23784	10116	4418	40441	13079	3978	17057	No	3.61	Si
SLU 73	7.9	1500.01	-10385	-8648	2452	1.5599	1.5599	-19800	9584	4186	40441	13079	3978	17057	No	6.96	Si
SLU 73	10	-2153.37	-12179	-10142	4727	1.5599	1.5599	-23219	10040	4385	40441	13079	3978	17057	No	3.61	Si
SLU 84	7.9	1528.33	-10870	-9052	2446	1.5599	1.5599	-20724	9708	4240	40441	13079	3978	17057	No	6.97	Si
SLU 84	10	-2262.13	-12718	-10591	4753	1.5599	1.5599	-24247	10177	4445	40441	13079	3978	17057	No	3.59	Si
SLU 82	7.9	1553.19	-10624	-8847	2491	1.5599	1.5599	-20254	9645	4213	40441	13079	3978	17057	No	6.85	Si
SLU 82	10	-2277.38	-12548	-10449	4807	1.5599	1.5599	-23923	10134	4426	40441	13079	3978	17057	No	3.55	Si
SLU 81	7.9	1543.85	-10578	-8809	2481	1.5599	1.5599	-20168	9634	4208	40441	13079	3978	17057	No	6.87	Si
SLU 81	10	-2263.16	-12498	-10408	4783	1.5599	1.5599	-23828	10122	4421	40441	13079	3978	17057	No	3.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	7.9	2176.93	-9274	-7723	3432	1.5599	1.5599	-17681	13953	6094	40441	19618	3978	23596		6.87	Si
SLD 6	10	-2700.27	-12084	-10063	5725	1.5599	1.5599	-23039	15024	6562	40441	19618	3978	23596		4.12	Si
SLV 1	7.9	3874.02	-5724	-4766	6364	1.5599	0.3094	-56862	16250	3374	40441	19618	3978	23596		3.71	Si
SLV 1	10	-3834.3	-12247	-10199	8023	1.5599	1.4006	-26306	15678	6149	40441	19618	3978	23596		2.94	Si
SLD 4	7.9	2861.05	-4575	-3810	4836	1.5599	0.4639	-29797	16250	3119	40441	19618	3978	23596		4.88	Si
SLD 4	10	-2783.88	-9531	-7936	6053	1.5599	1.4636	-19545	14326	5871	40441	19618	3978	23596		3.9	Si
SLD 1	7.9	2836.93	-6318	-5261	4685	1.5599	0.9929	-12046	12826	3566	40441	19618	3978	23596		5.04	Si
SLD 1	10	-2955.5	-10873	-9054	6312	1.5599	1.5244	-20730	14563	6216	40441	19618	3978	23596		3.74	Si
SLD 2	7.9	3165.89	-6081	-5064	5212	1.5599	0.7781	-11594	12736	3453	40441	19618	3978	23596		4.53	Si
SLD 2	10	-3237.91	-11287	-9399	6871	1.5599	1.4792	-22946	15006	6215	40441	19618	3978	23596		3.43	Si
SLV 3	7.9	3386.5	-3299	-2748	5758	1.2479	0	0	0	0	40441	15695	3182	18877		3.28	Si
SLV 3	10	-3105.2	-9424	-7847	6711	1.5599	1.3513	-20959	14609	5527	40441	19618	3978	23596		3.52	Si
SLV 6	7.9	2857.29	-10423	-8679	4432	1.5599	1.5174	-19871	14391	6114	40441	19618	3978	23596		5.32	Si
SLV 6	10	-3460.23	-14231	-11851	7146	1.5599	1.5599	-27133	15843	6920	40441	19618	3978	23596		3.3	Si
SLV 4	7.9	3901.38	-2929	-2439	6583	1.2479	0	0	0	0	40441	15695	3182	18877		2.87	Si
SLV 4	10	-3547.23	-10071	-8386	7585	1.5599	1.2832	-23622	15141	5440	40441	19618	3978	23596		3.11	Si
SLV 5	7.9	2510.64	-10672	-8887	3876	1.5599	1.5599	-20347	14486	6327	40441	19618	3978	23596		6.09	Si
SLV 5	10	-3162.63	-13795	-11488	6557	1.5599	1.5599	-26301	15677	6847	40441	19618	3978	23596		3.6	Si
SLV 2	7.9	4388.9	-5353	-4458	7189	1.5599	0	-182670	16250	3291	40441	19618	3978	23596		3.28	Si
SLV 2	10	-4276.33	-12895	-10738	8898	1.5599	1.345	-28815	16180	6093	40441	19618	3978	23596		2.65	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.45	7077	-3091	193.73	412.68	2.13	Si
SLV 12	179667	0.45	7844	-3426	193.73	455.02	2.35	Si
SLV 7	179667	0.45	9485	-4143	193.73	543.98	2.81	Si
SLV 8	179667	0.45	10253	-4478	193.73	584.85	3.02	Si
SLV 15	179667	0.45	11470	-5010	193.73	648.67	3.35	Si
SLV 16	179667	0.45	12610	-5507	193.73	707.38	3.65	Si
SLV 13	179667	0.45	17803	-7776	193.73	961.72	4.96	Si
SLV 14	179667	0.45	18943	-8274	193.73	1014.65	5.24	Si
SLV 3	179667	0.45	19498	-8516	193.73	1040.04	5.37	Si
SLV 4	179667	0.45	20638	-9014	193.73	1091.43	5.63	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-6014	-11953	-52	1.222	833.8	0.929	19.12177	8.02002	Si
SLV 14	-5856	-11582	-52	1.248	817.9	0.928	19.55017	8.02002	Si
SLV 15	-4994	-9529	94	1.405	731.2	0.921	22.155	8.02002	Si
SLV 16	-4836	-9158	95	1.439	715.3	0.92	22.73281	8.02002	Si
SLV 9	-6324	-12541	-238	1.151	865.1	0.931	17.96461	5.35431	Si
SLV 10	-6217	-12291	-237	1.166	854.3	0.93	18.222	5.35431	Si
SLV 1	-3573	-5724	-94	1.795	589.2	0.908	28.72329	8.02002	Si
SLV 2	-3415	-5353	-93	1.853	573.5	0.907	29.70325	8.02002	Si
SLV 5	-5591	-10672	-250	1.266	791.2	0.926	19.86316	5.35431	Si
SLV 6	-5485	-10423	-250	1.285	780.5	0.925	20.17947	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.719	SLU 82	Si
V_SLU	3.548	SLU 82	Si
PF_SLV	0.6	SLV 4	No
V_SLV	2.652	SLV 2	Si
PFFP_SLV	2.13	SLV 11	Si
R_SLV	2.384	SLV 13	Si

Maschio 201

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L6	L7	4.31	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	7.9	4356.71	-19816	-0.000054	0.0004492	0.0035	4.31	31225.9	38992.03	38992.03	8.95	No	Si
SLU 72	11.45	2499.47	-10994	-0.0000295	0.0004492	0.0035	4.31	20159.16	23710.36	23710.36	9.49	No	Si
SLU 71	7.9	4394.11	-19798	-0.000054	0.0004492	0.0035	4.31	31207.78	38963.91	38963.91	8.87	No	Si
SLU 71	11.45	2469.18	-11002	-0.0000294	0.0004492	0.0035	4.31	20170.9	23724.9	23724.9	9.61	No	Si
SLU 58	7.9	4154.78	-19008	-0.0000516	0.0004492	0.0035	4.31	30402.14	37742.54	37742.54	9.08	No	Si
SLU 58	11.45	2226.79	-10336	-0.0000273	0.0004492	0.0035	4.31	19150.76	22476.21	22476.21	10.09	No	Si
SLU 51	7.9	3943.85	-17441	-0.0000475	0.0004492	0.0035	4.31	28694.29	35317.06	35317.06	8.95	No	Si
SLU 51	11.45	2267.65	-9700	-0.0000261	0.0004492	0.0035	4.31	18153.41	21263.31	21263.31	9.38	No	Si
SLU 49	7.9	3982.25	-17746	-0.0000483	0.0004492	0.0035	4.31	29038.31	35789.64	35789.64	8.99	No	Si
SLU 49	11.45	2289.46	-9989	-0.0000268	0.0004492	0.0035	4.31	18609.44	21814.34	21814.34	9.53	No	Si
SLU 50	7.9	3981.24	-17423	-0.0000476	0.0004492	0.0035	4.31	28673.65	35288.94	35288.94	8.86	No	Si
SLU 50	11.45	2237.37	-9708	-0.0000261	0.0004492	0.0035	4.31	18165.73	21278.12	21278.12	9.51	No	Si
SLU 48	7.9	4019.64	-17728	-0.0000484	0.0004492	0.0035	4.31	29017.99	35761.51	35761.51	8.9	No	Si
SLU 48	11.45	2259.17	-9997	-0.0000267	0.0004492	0.0035	4.31	18621.63	21829.15	21829.15	9.66	No	Si
SLU 69	7.9	4432.5	-20103	-0.0000548	0.0004492	0.0035	4.31	31509.72	39436.48	39436.48	8.9	No	Si
SLU 69	11.45	2490.98	-11290	-0.0000301	0.0004492	0.0035	4.31	20604.96	24266.08	24266.08	9.74	No	Si
SLU 70	7.9	4395.11	-20121	-0.0000548	0.0004492	0.0035	4.31	31527.52	39464.6	39464.6	8.98	No	Si
SLU 70	11.45	2521.27	-11283	-0.0000302	0.0004492	0.0035	4.31	20593.36	24251.54	24251.54	9.62	No	Si
SLU 79	7.9	4567.65	-21383	-0.0000581	0.0004492	0.0035	4.31	32716.15	41417.51	41417.51	9.07	No	Si
SLU 79	11.45	2458.6	-11629	-0.0000307	0.0004492	0.0035	4.31	21108.45	24901.57	24901.57	10.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	7.9	6346.54	-10964	-0.0000402	0.0006738	0.0035	4.31		23962.11	23962.11	3.78		Si
SLV 7	11.45	-203.8	-6275	-0.0000131	0.0006738	0.0035	4.31		23924.47	23924.47	117.39		Si
SLV 4	7.9	4694.51	-12259	-0.0000382	0.0006738	0.0035	4.31		26439.26	26439.26	5.63		Si
SLV 4	11.45	1417	-5907	-0.0000158	0.0006738	0.0035	4.31		14006.8	14006.8	9.88		Si
SLV 6	7.9	239.59	-17215	-0.0000357	0.0006738	0.0035	4.31		35669.03	35669.03	148.88		Si
SLV 6	11.45	3289.68	-8257	-0.0000259	0.0006738	0.0035	4.31		18683.52	18683.52	5.68		Si
SLD 8	7.9	5071.77	-12295	-0.0000393	0.0006738	0.0035	4.31		26506.42	26506.42	5.23		Si
SLD 8	11.45	448.43	-6797	-0.0000149	0.0006738	0.0035	4.31		15787.04	15787.04	35.21		Si
SLV 11	7.9	5894.25	-11742	-0.0000405	0.0006738	0.0035	4.31		25453.39	25453.39	4.32		Si
SLV 11	11.45	-492.36	-7167	-0.0000158	0.0006738	0.0035	4.31		25682.32	25682.32	52.16		Si
SLV 12	7.9	5846.9	-11759	-0.0000404	0.0006738	0.0035	4.31		25485.54	25485.54	4.36		Si
SLV 12	11.45	-423.55	-7144	-0.0000155	0.0006738	0.0035	4.31		25637.12	25637.12	60.53		Si
SLD 11	7.9	4815.06	-12783	-0.0000396	0.0006738	0.0035	4.31		27437.81	27437.81	5.7		Si
SLD 11	11.45	219.26	-7383	-0.0000154	0.0006738	0.0035	4.31		16956.89	16956.89	77.34		Si
SLD 7	7.9	5101.56	-12284	-0.0000394	0.0006738	0.0035	4.31		26486.2	26486.2	5.19		Si
SLD 7	11.45	405.14	-6812	-0.0000148	0.0006738	0.0035	4.31		15815.98	15815.98	39.04		Si
SLV 3	7.9	4764.84	-12234	-0.0000383	0.0006738	0.0035	4.31		26391.51	26391.51	5.54		Si
SLV 3	11.45	1314.8	-5941	-0.0000156	0.0006738	0.0035	4.31		14075.13	14075.13	10.71		Si
SLV 8	7.9	6299.19	-10981	-0.0000401	0.0006738	0.0035	4.31		23994.79	23994.79	3.81		Si
SLV 8	11.45	-134.99	-6252	-0.0000129	0.0006738	0.0035	4.31		23878.67	23878.67	176.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	7.9	3838.15	-18820	-10435	942	4.31	4.31	-17293	10639	7659	115546	21685	21981	43666	No	46.38	Si
SLU 61	11.45	1671.78	-9758	-5410	1044	4.31	4.31	-8966	9529	5750	115546	21685	21981	43666	No	41.81	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	7.9	3805.44	-17303	-9594	900	4.31	4.31	-15900	10453	7323	115546	21685	21981	43666	No	48.51	Si
SLU 46	11.45	1999.08	-9569	-5306	1003	4.31	4.31	-8793	9506	5736	115546	21685	21981	43666	No	43.52	Si
SLU 44	7.9	3565.31	-16567	-9186	911	4.31	4.31	-15223	10363	7160	115546	21685	21981	43666	No	47.95	Si
SLU 44	11.45	1707.08	-8856	-4910	1085	4.31	4.31	-8137	9418	5683	115546	21685	21981	43666	No	40.26	Si
SLU 81	7.9	4288.41	-21177	-11742	984	4.31	4.31	-19459	10833	8182	115546	21685	21981	43666	No	44.37	Si
SLU 81	11.45	1873.31	-11059	-6132	981	4.31	4.31	-10162	9688	5938	115546	21685	21981	43666	No	44.53	Si
SLU 45	7.9	3842.84	-17285	-9584	1083	4.31	4.31	-15883	10451	7319	115546	21685	21981	43666	No	40.31	Si
SLU 45	11.45	1968.79	-9577	-5310	1081	4.31	4.31	-8800	9507	5736	115546	21685	21981	43666	No	40.41	Si
SLU 60	7.9	3875.55	-18802	-10425	1125	4.31	4.31	-17277	10637	7655	115546	21685	21981	43666	No	38.82	Si
SLU 60	11.45	1641.49	-9765	-5414	1122	4.31	4.31	-8973	9530	5750	115546	21685	21981	43666	No	38.93	Si
SLU 53	7.9	4016.38	-18871	-10463	1019	4.31	4.31	-17340	10645	7671	115546	21685	21981	43666	No	42.83	Si
SLU 53	11.45	1958.21	-10205	-5658	1016	4.31	4.31	-9377	9584	5783	115546	21685	21981	43666	No	42.96	Si
SLU 52	7.9	3738.85	-18153	-10065	847	4.31	4.31	-16680	10557	7511	115546	21685	21981	43666	No	51.57	Si
SLU 52	11.45	1696.51	-9483	-5258	1020	4.31	4.31	-8714	9495	5729	115546	21685	21981	43666	No	42.79	Si
SLU 64	7.9	4040.5	-18912	-10486	1075	4.31	4.31	-17378	10650	7680	115546	21685	21981	43666	No	40.61	Si
SLU 64	11.45	1888.42	-10163	-5635	1072	4.31	4.31	-9338	9578	5780	115546	21685	21981	43666	No	40.73	Si
SLU 43	7.9	3627.64	-16537	-9169	1216	4.31	4.31	-15195	10359	7153	115546	21685	21981	43666	No	35.91	Si
SLU 43	11.45	1656.6	-8869	-4917	1213	4.31	4.31	-8149	9420	5684	115546	21685	21981	43666	No	35.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	7.9	-212.7	-17993	-9976	-9501	4.31	4.31	-16533	15807	9538	115546	32527	21981	54508		5.74	Si
SLV 10	11.45	3001.12	-9150	-5073	-7630	4.31	4.31	-8408	14182	8557	115546	32527	21981	54508		7.14	Si
SLD 11	7.9	4815.06	-12783	-7088	7588	4.31	4.31	-11746	14849	8960	115546	32527	21981	54508		7.18	Si
SLD 11	11.45	219.26	-7383	-4093	6394	4.31	4.31	-6784	13857	8361	115546	32527	21981	54508		8.52	Si
SLV 7	7.9	6346.54	-10964	-6079	11181	4.31	4.31	-10075	14515	8758	115546	32527	21981	54508		4.87	Si
SLV 7	11.45	-203.8	-6275	-3479	9305	4.31	4.31	-5766	13653	8238	115546	32527	21981	54508		5.86	Si
SLV 12	7.9	5846.9	-11759	-6520	11607	4.31	4.31	-10805	14661	8846	115546	32527	21981	54508		4.7	Si
SLV 12	11.45	-423.55	-7144	-3961	9703	4.31	4.31	-6565	13813	8335	115546	32527	21981	54508		5.62	Si
SLD 12	7.9	4785.28	-12794	-7094	7534	4.31	4.31	-11756	14851	8961	115546	32527	21981	54508		7.24	Si
SLD 12	11.45	262.55	-7368	-4085	6340	4.31	4.31	-6771	13854	8360	115546	32527	21981	54508		8.6	Si
SLV 11	7.9	5894.25	-11742	-6510	11694	4.31	4.31	-10790	14658	8845	115546	32527	21981	54508		4.66	Si
SLV 11	11.45	-492.36	-7167	-3974	9789	4.31	4.31	-6586	13817	8337	115546	32527	21981	54508		5.57	Si
SLV 8	7.9	6299.19	-10981	-6089	11094	4.31	4.31	-10090	14518	8760	115546	32527	21981	54508		4.91	Si
SLV 8	11.45	-134.99	-6252	-3466	9218	4.31	4.31	-5745	13649	8236	115546	32527	21981	54508		5.91	Si
SLV 6	7.9	239.59	-17215	-9545	-10015	4.31	4.31	-15818	15664	9451	115546	32527	21981	54508		5.44	Si
SLV 6	11.45	3289.68	-8257	-4578	-8114	4.31	4.31	-7587	14017	8458	115546	32527	21981	54508		6.72	Si
SLV 5	7.9	286.94	-17198	-9535	-9928	4.31	4.31	-15803	15661	9450	115546	32527	21981	54508		5.49	Si
SLV 5	11.45	3220.87	-8280	-4591	-8028	4.31	4.31	-7609	14022	8461	115546	32527	21981	54508		6.79	Si
SLV 9	7.9	-165.35	-17976	-9967	-9415	4.31	4.31	-16518	15804	9536	115546	32527	21981	54508		5.79	Si
SLV 9	11.45	2932.3	-9173	-5086	-7544	4.31	4.31	-8429	14186	8560	115546	32527	21981	54508		7.23	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-8465	0.45	291.27	547.17	1014.46	780.81	2.68	Si
SLV 3	-8475	0.45	291.27	547.79	1015.35	781.57	2.68	Si
SLV 8	-8920	0.45	291.27	574.05	1053.46	813.76	2.79	Si
SLV 7	-8927	0.45	291.27	574.46	1054.06	814.26	2.8	Si
SLV 2	-9572	0.45	291.27	612.05	1109.19	860.62	2.95	Si
SLV 1	-9582	0.45	291.27	612.65	1110.08	861.36	2.96	Si
SLV 12	-10417	0.45	291.27	660.48	1181	920.74	3.16	Si
SLV 11	-10424	0.45	291.27	660.88	1181.59	921.24	3.16	Si
SLV 6	-12612	0.45	291.27	782.14	1366.51	1074.32	3.69	Si
SLV 5	-12619	0.45	291.27	782.51	1367.1	1074.81	3.69	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-9518	-16697	308	2.111	1274	0.935	32.8337	17.06971	Si
SLV 14	-9483	-16723	308	2.118	1270.6	0.934	32.93633	17.06971	Si
SLV 15	-8916	-14827	272	2.231	1213.2	0.932	34.78788	17.06971	Si
SLV 16	-8882	-14852	272	2.238	1209.8	0.932	34.90286	17.06971	Si
SLV 1	-6543	-14104	-273	2.85	974.3	0.919	45.0613	17.06971	Si
SLV 2	-6509	-14130	-273	2.861	970.9	0.919	45.25295	17.06971	Si
SLV 3	-5941	-12234	-308	3.062	914.1	0.915	48.61594	17.06971	Si
SLV 4	-5907	-12259	-308	3.075	910.7	0.915	48.83874	17.06971	Si
SLV 9	-9173	-17976	146	2.191	1239.2	0.933	34.12621	7.95304	Si
SLV 10	-9150	-17993	146	2.195	1236.8	0.933	34.20026	7.95304	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.864	SLU 50	Si
V_SLU	35.907	SLU 43	Si
PF_SLV	3.776	SLV 7	Si
V_SLV	4.661	SLV 11	Si
PFFP_SLV	2.681	SLV 4	Si
R_SLV	1.924	SLV 13	Si

Maschio 202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L6	L7	1.14	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	8.8	722.5	-6499	-0.0000503	0.0003743	0.0035	1.1401	2963.87	3185.59	3185.59	4.41	No	Si
SLU 64	10.6	-967.01	-5963	-0.0000539	0.0003743	0.0035	1.1401	2775.44	3285.37	3285.37	3.4	No	Si
SLU 72	8.8	704.18	-6787	-0.0000513	0.0003743	0.0035	1.1401	3060.97	3316.51	3316.51	4.71	No	Si
SLU 72	10.6	-979.97	-6163	-0.0000553	0.0003743	0.0035	1.1401	2846.95	3369.25	3369.25	3.44	No	Si
SLU 69	8.8	701.71	-6921	-0.000052	0.0003743	0.0035	1.1401	3105.22	3377.85	3377.85	4.81	No	Si
SLU 69	10.6	-991.02	-6297	-0.0000564	0.0003743	0.0035	1.1401	2894.31	3424.91	3424.91	3.46	No	Si
SLU 66	8.8	717.79	-6790	-0.0000517	0.0003743	0.0035	1.1401	3061.92	3317.82	3317.82	4.62	No	Si
SLU 66	10.6	-990.31	-6218	-0.0000559	0.0003743	0.0035	1.1401	2866.46	3392.23	3392.23	3.43	No	Si
SLU 67	8.8	731.62	-6815	-0.0000522	0.0003743	0.0035	1.1401	3070.32	3329.38	3329.38	4.55	No	Si
SLU 67	10.6	-1001.86	-6259	-0.0000564	0.0003743	0.0035	1.1401	2880.94	3409.3	3409.3	3.4	No	Si
SLU 73	8.8	748.9	-7007	-0.0000537	0.0003743	0.0035	1.1401	3133.33	3416.52	3416.52	4.56	No	Si
SLU 73	10.6	-1016.12	-6494	-0.0000581	0.0003743	0.0035	1.1401	2962.27	3505.41	3505.41	3.45	No	Si
SLU 68	8.8	729.48	-6672	-0.0000514	0.0003743	0.0035	1.1401	3022.73	3264.36	3264.36	4.47	No	Si
SLU 68	10.6	-986.96	-6111	-0.0000552	0.0003743	0.0035	1.1401	2828.52	3347.58	3347.58	3.39	No	Si
SLU 65	8.8	745.56	-6541	-0.0000511	0.0003743	0.0035	1.1401	2978.29	3204.72	3204.72	4.3	No	Si
SLU 65	10.6	-986.25	-6031	-0.0000548	0.0003743	0.0035	1.1401	2800.15	3314.29	3314.29	3.36	No	Si
SLU 44	8.8	625.08	-5896	-0.0000445	0.0003743	0.0035	1.1401	2751.41	2915.15	2915.15	4.66	No	Si
SLU 44	10.6	-857.69	-5214	-0.0000471	0.0003743	0.0035	1.1401	2495.64	2962.97	2962.97	3.45	No	Si
SLU 70	8.8	715.54	-6946	-0.0000525	0.0003743	0.0035	1.1401	3113.5	3389.45	3389.45	4.74	No	Si
SLU 70	10.6	-1002.56	-6339	-0.0000569	0.0003743	0.0035	1.1401	2908.67	3441.72	3441.72	3.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	8.8	-1523.85	-4051	-0.0000769	0.0005615	0.0035	0.9121		2492.8	2492.8	1.64		Si
SLV 12	10.6	828.42	-1118	-0.0038723	0.0005615	0.0035	0.9121		696.41	696.41	0.84		No
SLV 6	8.8	2913.64	-5647	-0.0006658	0.0005615	0.0035	1.1401		2974.06	2974.06	1.02		Si
SLV 6	10.6	-2485.85	-8178	-0.0001169	0.0005615	0.0035	1.1401		4412.11	4412.11	1.77		Si
SLD 1	8.8	2147.29	-3610	-0.0056597	0.0005615	0.0035	0.9121		2010.24	2010.24	0.94		No
SLD 1	10.6	-1734.8	-5625	-0.0000794	0.0005615	0.0035	0.9121		3258.92	3258.92	1.88		Si
SLD 2	8.8	2459.78	-3341	-0.0145842	0.0005615	0.0035	0.9121		1873.64	1873.64	0.76		No
SLD 2	10.6	-1933.28	-5831	-0.0000911	0.0005615	0.0035	0.9121		3355.07	3355.07	1.74		Si
SLV 11	8.8	-1853.15	-4335	-0.0001145	0.0005615	0.0035	0.9121		2634.5	2634.5	1.42		Si
SLV 11	10.6	1037.58	-900	-0.0111892	0.0005615	0.0035	0.9121		576.23	576.23	0.56		No
SLV 3	8.8	2159.82	-1857	-0.0240499	0.0005615	0.0035	0.9121		1096.22	1096.22	0.51		No
SLV 3	10.6	-1569.05	-4315	-0.000077	0.0005615	0.0035	0.9121		2624.69	2624.69	1.67		Si
SLD 4	8.8	1892.16	-2726	-0.0094901	0.0005615	0.0035	0.9121		1555.66	1555.66	0.82		No
SLD 4	10.6	-1468.42	-4616	-0.000067	0.0005615	0.0035	0.9121		2773.99	2773.99	1.89		Si
SLV 4	8.8	2648.93	-1436	-0.0390561	0.0005615	0.0035	0.9121		869.18	869.18	0.33		No
SLV 4	10.6	-1879.7	-4639	-0.0001057	0.0005615	0.0035	0.9121		2785.17	2785.17	1.48		Si
SLV 1	8.8	3071.66	-2848	-0.032047	0.0005615	0.0035	0.9121		1619.33	1619.33	0.53		No
SLV 1	10.6	-2316.06	-6268	-0.0001189	0.0005615	0.0035	0.9121		3557.15	3557.15	1.54		Si
SLV 2	8.8	3560.76	-2427	-0.0467722	0.0005615	0.0035	0.9121		1398.72	1398.72	0.39		No
SLV 2	10.6	-2626.71	-6592	-0.0001495	0.0005615	0.0035	0.9121		3706.41	3706.41	1.41		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	8.8	748.9	-7007	-5835	1488	1.1401	1.1401	-18279	9382	2995	40441	9559	2907	12467	No	8.38	Si
SLU 73	10.6	-1016.12	-6494	-5408	1233	1.1401	1.1401	-16940	9203	2938	40441	9559	2907	12467	No	10.11	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	8.8	718.89	-7413	-6173	1433	1.1401	1.1401	-19336	9523	3040	40441	9559	2907	12467	No	8.7	Si
SLU 78	10.6	-1032.43	-6801	-5664	1245	1.1401	1.1401	-17741	9310	2972	40441	9559	2907	12467	No	10.01	Si
SLU 75	8.8	734.97	-7281	-6063	1467	1.1401	1.1401	-18993	9477	3025	40441	9559	2907	12467	No	8.5	Si
SLU 75	10.6	-1031.72	-6722	-5597	1246	1.1401	1.1401	-17534	9282	2963	40441	9559	2907	12467	No	10	Si
SLU 81	8.8	727.28	-7165	-5966	1469	1.1401	1.1401	-18690	9436	3012	40441	9559	2907	12467	No	8.48	Si
SLU 81	10.6	-1009.68	-6624	-5516	1190	1.1401	1.1401	-17278	9248	2952	40441	9559	2907	12467	No	10.48	Si
SLU 84	8.8	725.03	-7322	-6097	1457	1.1401	1.1401	-19099	9491	3030	40441	9559	2907	12467	No	8.56	Si
SLU 84	10.6	-1021.93	-6744	-5616	1206	1.1401	1.1401	-17592	9290	2966	40441	9559	2907	12467	No	10.33	Si
SLU 83	8.8	711.2	-7296	-6076	1435	1.1401	1.1401	-19032	9482	3027	40441	9559	2907	12467	No	8.69	Si
SLU 83	10.6	-1010.39	-6703	-5582	1189	1.1401	1.1401	-17485	9276	2961	40441	9559	2907	12467	No	10.49	Si
SLU 74	8.8	721.13	-7256	-6042	1446	1.1401	1.1401	-18927	9468	3023	40441	9559	2907	12467	No	8.62	Si
SLU 74	10.6	-1020.18	-6681	-5563	1229	1.1401	1.1401	-17427	9268	2959	40441	9559	2907	12467	No	10.15	Si
SLU 76	8.8	732.83	-7139	-5944	1454	1.1401	1.1401	-18621	9427	3009	40441	9559	2907	12467	No	8.58	Si
SLU 76	10.6	-1016.83	-6573	-5474	1231	1.1401	1.1401	-17147	9231	2947	40441	9559	2907	12467	No	10.12	Si
SLU 65	8.8	745.56	-6541	-5447	1446	1.1401	1.1401	-17062	9219	2943	40441	9559	2907	12467	No	8.62	Si
SLU 65	10.6	-986.25	-6031	-5022	1264	1.1401	1.1401	-15733	9042	2887	40441	9559	2907	12467	No	9.86	Si
SLU 82	8.8	741.11	-7190	-5987	1491	1.1401	1.1401	-18756	9445	3015	40441	9559	2907	12467	No	8.36	Si
SLU 82	10.6	-1021.22	-6665	-5550	1207	1.1401	1.1401	-17385	9262	2957	40441	9559	2907	12467	No	10.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	8.8	2147.29	-3610	-3006	3776	0.9121	0	0	0	0	40441	11471	2326	13797		3.65	Si
SLD 1	10.6	-1734.8	-5625	-4684	2390	0.9121	0.7849	0	0	0	40441	11471	2326	13797		5.77	Si
SLD 4	8.8	1892.16	-2726	-2270	3437	0.9121	0	0	0	0	40441	11471	2326	13797		4.01	Si
SLD 4	10.6	-1468.42	-4616	-3844	1956	0.9121	0.7558	0	0	0	40441	11471	2326	13797		7.05	Si
SLV 4	8.8	2648.93	-1436	-1195	4772	0.9121	0	0	0	0	40441	11471	2326	13797		2.89	Si
SLV 4	10.6	-1879.7	-4639	-3863	2535	0.9121	0.4945	0	0	0	40441	11471	2326	13797		5.44	Si
SLV 2	8.8	3560.76	-2427	-2021	6143	0.9121	0	0	0	0	40441	11471	2326	13797		2.25	Si
SLV 2	10.6	-2626.71	-6592	-5489	3734	0.9121	0.5148	0	0	0	40441	11471	2326	13797		3.7	Si
SLV 1	8.8	3071.66	-2848	-2372	5337	0.9121	0	0	0	0	40441	11471	2326	13797		2.58	Si
SLV 1	10.6	-2316.06	-6268	-5220	3246	0.9121	0.6017	0	0	0	40441	11471	2326	13797		4.25	Si
SLD 2	8.8	2459.78	-3341	-2782	4291	0.9121	0	0	0	0	40441	11471	2326	13797		3.22	Si
SLD 2	10.6	-1933.28	-5831	-4856	2702	0.9121	0.7156	0	0	0	40441	11471	2326	13797		5.11	Si
SLV 15	8.8	-2500.28	-7554	-6290	-4061	0.9121	0.7172	0	0	0	40441	11471	2326	13797		3.4	Si
SLV 15	10.6	1178.44	-2487	-2071	-1917	1.1401	0.2884	-25982	15614	2089	40441	14339	2907	17246		8.99	Si
SLV 5	8.8	2584.34	-5930	-4938	4259	1.1401	0.4028	-15469	13510	2854	40441	14339	2907	17246		4.05	Si
SLV 5	10.6	-2276.69	-7960	-6629	3337	1.1401	0.8522	-28192	16055	3831	40441	14339	2907	17246		5.17	Si
SLV 3	8.8	2159.82	-1857	-1546	3966	0.9121	0	0	0	0	40441	11471	2326	13797		3.48	Si
SLV 3	10.6	-1569.05	-4315	-3593	2047	0.9121	0.6193	0	0	0	40441	11471	2326	13797		6.74	Si
SLV 6	8.8	2913.64	-5647	-4702	4801	1.1401	0.1621	-115442	16250	2791	40441	14339	2907	17246		3.59	Si
SLV 6	10.6	-2485.85	-8178	-6810	3665	1.1401	0.7983	-30966	16250	3632	40441	14339	2907	17246		4.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.45	3177	-1014	141.6	139.04	0.98	No, M>Mu
SLV 3	179667	0.45	4497	-1436	141.6	195.08	1.38	Si
SLV 8	179667	0.45	6050	-1931	141.6	259.68	1.83	Si
SLV 2	179667	0.45	6222	-1986	141.6	266.77	1.88	Si
SLV 7	179667	0.45	6939	-2215	141.6	296.02	2.09	Si
SLV 1	179667	0.45	7543	-2408	141.6	320.45	2.26	Si
SLV 12	179667	0.45	11373	-3631	141.6	470.43	3.32	Si
SLV 11	179667	0.45	12262	-3914	141.6	504	3.56	Si
SLV 6	179667	0.45	16201	-5172	141.6	647.24	4.57	Si
SLV 5	179667	0.45	17090	-5456	141.6	678.3	4.79	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-4761	-8788	-40	1.147	646.3	0.932	17.88532	8.02002	Si
SLV 1	-4573	-8339	-39	1.185	627.4	0.931	18.49849	8.02002	Si
SLV 4	-3730	-6333	68	1.382	542.4	0.922	21.77514	8.02002	Si
SLV 3	-3543	-5885	69	1.437	523.6	0.92	22.69371	8.02002	Si
SLV 14	-3448	-5836	-69	1.466	514.1	0.919	23.1853	8.02002	Si
SLV 6	-5473	-10545	-176	1.005	718.3	0.938	15.56866	5.35431	Si
SLV 5	-5347	-10243	-176	1.024	705.6	0.937	15.88198	5.35431	Si
SLV 13	-3261	-5388	-69	1.529	495.4	0.917	24.23483	8.02002	Si
SLV 10	-5080	-9660	-185	1.066	678.5	0.935	16.56498	5.35431	Si
SLV 9	-4953	-9358	-185	1.087	665.7	0.934	16.92159	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.361	SLU 65	Si
V_SLU	8.361	SLU 82	Si
PF_SLV	0.328	SLV 4	No
V_SLV	2.246	SLV 2	Si

Stato limite	Coeff.s.	Comb.	Verifica
PFFP_SLV	0.982	SLV 4	No
R_SLV	2.23	SLV 2	Si

Maschio 203

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L6	L7	4.67	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 52	7.9	-4207.77	-19441	-0.0000475	0.0004492	0.0035	4.67	34347.56	52431.45	52431.45	12.46	No	Si
SLU 52	11.45	164.9	-11657	-0.0000222	0.0004492	0.0035	4.67	23247.8	27446.12	27446.12	166.44	No	Si
SLU 31	7.9	-3925.69	-18553	-0.0000451	0.0004492	0.0035	4.67	33260.54	50806.94	50806.94	12.94	No	Si
SLU 31	11.45	55.94	-11168	-0.000021	0.0004492	0.0035	4.67	22432.27	26449.13	26449.13	472.84	No	Si
SLU 39	7.9	-4032.93	-19301	-0.0000468	0.0004492	0.0035	4.67	34178.7	52178.01	52178.01	12.94	No	Si
SLU 39	11.45	-15.92	-11491	-0.0000215	0.0004492	0.0035	4.67	22972.27	37068.03	37068.03	2328.93	No	Si
SLU 60	7.9	-4315.01	-20188	-0.0000493	0.0004492	0.0035	4.67	35226.94	53780.35	53780.35	12.46	No	Si
SLU 60	11.45	93.05	-11980	-0.0000227	0.0004492	0.0035	4.67	23778.56	28104.36	28104.36	302.05	No	Si
SLU 73	7.9	-4646.19	-22058	-0.000054	0.0004492	0.0035	4.67	37283.83	57154.84	57154.84	12.3	No	Si
SLU 73	11.45	109.47	-13285	-0.0000252	0.0004492	0.0035	4.67	25862.49	30737.25	30737.25	280.78	No	Si
SLU 19	7.9	-3654.7	-16597	-0.0000405	0.0004492	0.0035	4.67	30702.77	47066.24	47066.24	12.88	No	Si
SLU 19	11.45	69.02	-9839	-0.0000185	0.0004492	0.0035	4.67	20145.39	23708.02	23708.02	343.51	No	Si
SLU 81	7.9	-4753.43	-22805	-0.0000557	0.0004492	0.0035	4.67	38048.87	58503.75	58503.75	12.31	No	Si
SLU 81	11.45	37.62	-13608	-0.0000256	0.0004492	0.0035	4.67	26362.53	31383.91	31383.91	834.29	No	Si
SLU 61	7.9	-4375.19	-20102	-0.0000493	0.0004492	0.0035	4.67	35126.82	53624.22	53624.22	12.26	No	Si
SLU 61	11.45	122.55	-11957	-0.0000227	0.0004492	0.0035	4.67	23740.06	28056.36	28056.36	228.94	No	Si
SLU 40	7.9	-4093.11	-19214	-0.0000468	0.0004492	0.0035	4.67	34074.09	52021.88	52021.88	12.71	No	Si
SLU 40	11.45	13.59	-11468	-0.0000215	0.0004492	0.0035	4.67	22933.09	27059.36	27059.36	1991.2	No	Si
SLU 82	7.9	-4813.61	-22719	-0.0000557	0.0004492	0.0035	4.67	37961.99	58347.61	58347.61	12.12	No	Si
SLU 82	11.45	67.12	-13585	-0.0000257	0.0004492	0.0035	4.67	26326.27	31336.75	31336.75	466.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	7.9	-9734.61	-7701	-0.0000419	0.0006738	0.0035	4.67		29476.77	29476.77	3.03		Si
SLV 5	11.45	1274.66	-6273	-0.0000146	0.0006738	0.0035	4.67		16309.59	16309.59	12.8		Si
SLV 2	7.9	-4829.16	-11193	-0.0000325	0.0006738	0.0035	4.67		36765.93	36765.93	7.61		Si
SLV 2	11.45	391.09	-6901	-0.0000137	0.0006738	0.0035	4.67		17672.14	17672.14	45.19		Si
SLD 10	7.9	-7249.21	-11633	-0.0000392	0.0006738	0.0035	4.67		37675.92	37675.92	5.2		Si
SLD 10	11.45	1083.12	-8380	-0.0000181	0.0006738	0.0035	4.67		20864.3	20864.3	19.26		Si
SLD 5	7.9	-7237.29	-10763	-0.0000375	0.0006738	0.0035	4.67		35876.71	35876.71	4.96		Si
SLD 5	11.45	826.87	-7513	-0.0000159	0.0006738	0.0035	4.67		19000.38	19000.38	22.98		Si
SLV 1	7.9	-5005.85	-11273	-0.0000331	0.0006738	0.0035	4.67		36930.44	36930.44	7.38		Si
SLV 1	11.45	44.65	-6667	-0.0000124	0.0006738	0.0035	4.67		17165.5	17165.5	384.44		Si
SLD 6	7.9	-7162.46	-10729	-0.0000373	0.0006738	0.0035	4.67		35807.04	35807.04	5		Si
SLD 6	11.45	973.6	-7611	-0.0000164	0.0006738	0.0035	4.67		19214.95	19214.95	19.74		Si
SLV 9	7.9	-9867.44	-9116	-0.0000425	0.0006738	0.0035	4.67		32471.49	32471.49	3.29		Si
SLV 9	11.45	1445.05	-7474	-0.0000173	0.0006738	0.0035	4.67		18916.93	18916.93	13.09		Si
SLD 9	7.9	-7324.04	-11667	-0.0000395	0.0006738	0.0035	4.67		37745.6	37745.6	5.15		Si
SLD 9	11.45	936.39	-8281	-0.0000176	0.0006738	0.0035	4.67		20652.97	20652.97	22.06		Si
SLV 10	7.9	-9748.48	-9062	-0.000042	0.0006738	0.0035	4.67		32360.73	32360.73	3.32		Si
SLV 10	11.45	1678.29	-7631	-0.0000181	0.0006738	0.0035	4.67		19258.03	19258.03	11.47		Si
SLV 6	7.9	-9615.65	-7648	-0.0000414	0.0006738	0.0035	4.67		29362.56	29362.56	3.05		Si
SLV 6	11.45	1507.91	-6430	-0.0000155	0.0006738	0.0035	4.67		16650.69	16650.69	11.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	7.9	-3415.74	-20521	-11378	-2974	4.67	4.67	-17403	10654	8328	115546	23496	23817	47313	No	15.91	Si
SLU 48	11.45	684.41	-13527	-7500	-1197	4.67	4.67	-11472	9863	6777	115546	23496	23817	47313	No	39.53	Si
SLU 50	7.9	-3308.22	-20307	-11259	-3039	4.67	4.67	-17221	10629	8280	115546	23496	23817	47313	No	15.57	Si
SLU 50	11.45	850.38	-13373	-7415	-1270	4.67	4.67	-11341	9845	6743	115546	23496	23817	47313	No	37.25	Si
SLU 71	7.9	-3746.63	-22924	-12710	-2879	4.67	4.67	-19440	10833	8861	115546	23496	23817	47313	No	16.43	Si
SLU 71	11.45	794.95	-15001	-8317	-889	4.67	4.67	-12721	10030	7104	115546	23496	23817	47313	No	53.21	Si
SLU 72	7.9	-3806.82	-22837	-12662	-2989	4.67	4.67	-19367	10833	8842	115546	23496	23817	47313	No	15.83	Si
SLU 72	11.45	824.46	-14977	-8304	-994	4.67	4.67	-12701	10027	7098	115546	23496	23817	47313	No	47.59	Si
SLU 70	7.9	-3914.34	-23052	-12781	-2925	4.67	4.67	-19549	10833	8889	115546	23496	23817	47313	No	16.18	Si
SLU 70	11.45	658.49	-15132	-8390	-921	4.67	4.67	-12832	10044	7133	115546	23496	23817	47313	No	51.39	Si
SLU 47	7.9	-3566.01	-19098	-10589	-3004	4.67	4.67	-16196	10493	8012	115546	23496	23817	47313	No	15.75	Si
SLU 47	11.45	558.68	-12165	-6745	-1376	4.67	4.67	-10316	9709	6475	115546	23496	23817	47313	No	34.38	Si
SLU 51	7.9	-3368.4	-20220	-11211	-3148	4.67	4.67	-17148	10620	8261	115546	23496	23817	47313	No	15.03	Si
SLU 51	11.45	879.88	-13349	-7401	-1375	4.67	4.67	-11321	9843	6737	115546	23496	23817	47313	No	34.4	Si
SLU 49	7.9	-3475.92	-20435	-11330	-3084	4.67	4.67	-17330	10644	8309	115546	23496	23817	47313	No	15.34	Si
SLU 49	11.45	713.92	-13504	-7487	-1302	4.67	4.67	-11452	9860	6772	115546	23496	23817	47313	No	36.34	Si
SLU 59	7.9	-3852.67	-21628	-11992	-2957	4.67	4.67	-18341	10779	8573	115546	23496	23817	47313	No	16	Si
SLU 59	11.45	826.97	-14011	-7768	-1077	4.67	4.67	-11882	9918	6884	115546	23496	23817	47313	No	43.94	Si
SLU 57	7.9	-3960.19	-21842	-12110	-2892	4.67	4.67	-18523	10803	8621	115546	23496	23817	47313	No	16.36	Si
SLU 57	11.45	661.01	-14165	-7854	-1003	4.67	4.67	-12013	9935	6918	115546	23496	23817	47313	No	47.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	7.9	-7324.04	-11667	-6469	-7768	4.67	4.67	-9894	14479	9466	115546	35244	23817	59061		7.6	Si
SLD 9	11.45	936.39	-8281	-4592	-5560	4.67	4.67	-7023	13905	9091	115546	35244	23817	59061		10.62	Si
SLV 12	7.9	3401.96	-23945	-13276	8398	4.67	4.67	-20306	16250	10976	115546	35244	23817	59061		7.03	Si
SLV 12	11.45	-1106.37	-12871	-7136	8310	4.67	4.67	-10915	14683	9600	115546	35244	23817	59061		7.11	Si
SLV 9	7.9	-9867.44	-9116	-5054	-11374	4.67	3.7576	-9647	14430	7687	115546	35244	23817	59061		5.19	Si
SLV 9	11.45	1445.05	-7474	-4144	-8632	4.67	4.67	-6338	13768	9001	115546	35244	23817	59061		6.84	Si
SLV 11	7.9	3283	-23998	-13306	8377	4.67	4.67	-20352	16250	10987	115546	35244	23817	59061		7.05	Si
SLV 11	11.45	-1339.61	-12714	-7049	8247	4.67	4.67	-10782	14656	9582	115546	35244	23817	59061		7.16	Si
SLV 10	7.9	-9748.48	-9062	-5025	-11352	4.67	3.7778	-9539	14408	7675	115546	35244	23817	59061		5.2	Si
SLV 10	11.45	1678.29	-7631	-4231	-8569	4.67	4.67	-6472	13794	9019	115546	35244	23817	59061		6.89	Si
SLV 5	7.9	-9734.61	-7701	-4270	-12119	4.67	3.2128	-9523	14405	7373	115546	35244	23817	59061		4.87	Si
SLV 5	11.45	1274.66	-6273	-3478	-9462	4.67	4.67	-5320	13564	8868	115546	35244	23817	59061		6.24	Si
SLD 6	7.9	-7162.46	-10729	-5949	-8230	4.67	4.67	-9099	14320	9362	115546	35244	23817	59061		7.18	Si
SLD 6	11.45	973.6	-7611	-4220	-6050	4.67	4.67	-6455	13791	9017	115546	35244	23817	59061		9.76	Si
SLV 6	7.9	-9615.65	-7648	-4240	-12098	4.67	3.2329	-9398	14380	7361	115546	35244	23817	59061		4.88	Si
SLV 6	11.45	1507.91	-6430	-3565	-9399	4.67	4.67	-5453	13591	8886	115546	35244	23817	59061		6.28	Si
SLD 10	7.9	-7249.21	-11633	-6450	-7754	4.67	4.67	-9865	14473	9463	115546	35244	23817	59061		7.62	Si
SLD 10	11.45	1083.12	-8380	-4646	-5521	4.67	4.67	-7107	13921	9102	115546	35244	23817	59061		10.7	Si
SLD 5	7.9	-7237.29	-10763	-5968	-8244	4.67	4.67	-9127	14325	9366	115546	35244	23817	59061		7.16	Si
SLD 5	11.45	826.87	-7513	-4165	-6090	4.67	4.67	-6371	13774	9006	115546	35244	23817	59061		9.7	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 9.675 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-8558	0.45	315.6	556.29	1038.08	797.18	2.53	Si
SLV 6	-8649	0.45	315.6	561.76	1045.89	803.82	2.55	Si
SLV 9	-9571	0.45	315.6	616.49	1124.78	870.63	2.76	Si
SLV 10	-9663	0.45	315.6	621.85	1132.56	877.21	2.78	Si
SLV 1	-10611	0.45	315.6	676.98	1213.43	945.21	2.99	Si
SLV 2	-10746	0.45	315.6	684.78	1225	954.89	3.03	Si
SLV 3	-13402	0.45	315.6	833.24	1449.31	1141.27	3.62	Si
SLV 4	-13538	0.45	315.6	840.59	1460.52	1150.56	3.65	Si
SLV 13	-13988	0.45	315.6	864.88	1497.81	1181.34	3.74	Si
SLV 14	-14124	0.45	315.6	872.14	1509.05	1190.59	3.77	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-12477	-20373	383	1.797	1599.5	0.942	27.72321	17.06971	Si
SLV 15	-12243	-20453	383	1.826	1575.8	0.941	28.19179	17.06971	Si
SLV 14	-10905	-15909	390	2.012	1440.3	0.937	31.20869	17.06971	Si
SLV 13	-10671	-15988	390	2.048	1416.7	0.936	31.80353	17.06971	Si
SLV 4	-8473	-15658	-389	2.47	1194.8	0.926	38.75199	17.06971	Si
SLV 3	-8239	-15737	-389	2.526	1171.3	0.925	39.67001	17.06971	Si
SLV 2	-6901	-11193	-383	2.9	1036.8	0.918	45.90129	17.06971	Si
SLV 1	-6667	-11273	-383	2.977	1013.5	0.917	47.18745	17.06971	Si
SLV 12	-12871	-23945	105	1.769	1639.4	0.943	27.25251	7.95304	Si
SLV 11	-12714	-23998	105	1.787	1623.5	0.943	27.55245	7.95304	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.121	SLU 82	Si
V_SLU	15.028	SLU 51	Si
PF_SLV	3.028	SLV 5	Si
V_SLV	4.873	SLV 5	Si
PFFP_SLV	2.526	SLV 5	Si
R_SLV	1.624	SLV 16	Si

Maschio 205

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L6	L7	0.565	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	9.9	62.23	-2747	-0.0000331	0.0003743	0.0035	0.565	643.72	678.91	678.91	10.91	No	Si
SLU 44	10.7	-261.45	-2806	-0.0000549	0.0003743	0.0035	0.565	654.53	761.71	761.71	2.91	No	Si
SLU 68	9.9	58.34	-3235	-0.0000377	0.0003743	0.0035	0.565	730.29	786.38	786.38	13.48	No	Si
SLU 68	10.7	-295.06	-3289	-0.0000638	0.0003743	0.0035	0.565	739.35	861.52	861.52	2.92	No	Si
SLU 73	9.9	59	-3511	-0.0000406	0.0003743	0.0035	0.565	775.64	846.37	846.37	14.35	No	Si
SLU 73	10.7	-313.44	-3616	-0.0000696	0.0003743	0.0035	0.565	792.25	926.91	926.91	2.96	No	Si
SLU 72	9.9	51.31	-3290	-0.0000375	0.0003743	0.0035	0.565	739.61	798.84	798.84	15.57	No	Si
SLU 72	10.7	-290.67	-3318	-0.0000637	0.0003743	0.0035	0.565	744.2	867.48	867.48	2.98	No	Si
SLU 43	9.9	62.21	-2745	-0.000033	0.0003743	0.0035	0.565	643.23	678.35	678.35	10.9	No	Si
SLU 43	10.7	-259.19	-2811	-0.0000547	0.0003743	0.0035	0.565	655.46	762.77	762.77	2.94	No	Si
SLU 66	9.9	56.91	-3333	-0.0000385	0.0003743	0.0035	0.565	746.68	808.31	808.31	14.2	No	Si
SLU 66	10.7	-299.51	-3393	-0.0000655	0.0003743	0.0035	0.565	756.56	882.75	882.75	2.95	No	Si
SLU 47	9.9	55.21	-2804	-0.0000329	0.0003743	0.0035	0.565	654.19	691.19	691.19	12.52	No	Si
SLU 47	10.7	-257.96	-2833	-0.0000548	0.0003743	0.0035	0.565	659.5	767.4	767.4	2.97	No	Si
SLU 64	9.9	65.35	-3176	-0.0000378	0.0003743	0.0035	0.565	720.23	773.14	773.14	11.83	No	Si
SLU 64	10.7	-296.3	-3267	-0.0000637	0.0003743	0.0035	0.565	735.66	857	857	2.89	No	Si
SLU 65	9.9	65.37	-3178	-0.0000378	0.0003743	0.0035	0.565	720.68	773.73	773.73	11.84	No	Si
SLU 65	10.7	-298.55	-3262	-0.0000639	0.0003743	0.0035	0.565	734.82	855.97	855.97	2.87	No	Si
SLU 67	9.9	56.92	-3334	-0.0000386	0.0003743	0.0035	0.565	746.94	808.66	808.66	14.21	No	Si
SLU 67	10.7	-300.87	-3390	-0.0000656	0.0003743	0.0035	0.565	756.06	882.14	882.14	2.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	9.9	335.55	-1549	-0.0000874	0.0005615	0.0035	0.565		433.87	433.87	1.29		Si
SLV 6	10.7	-553.66	-1697	-0.0012983	0.0005615	0.0035	0.452		520.63	520.63	0.94		No
SLV 3	9.9	368.19	-580	-0.0165074	0.0005615	0.0035	0.452		179.29	179.29	0.49		No
SLV 3	10.7	-482.32	-1713	-0.0005054	0.0005615	0.0035	0.452		524.83	524.83	1.09		Si
SLD 1	9.9	301.58	-1205	-0.0001451	0.0005615	0.0035	0.565		345.04	345.04	1.14		Si
SLD 1	10.7	-459.63	-1818	-0.0002277	0.0005615	0.0035	0.452		550.91	550.91	1.2		Si
SLD 4	9.9	320.86	-996	-0.0042283	0.0005615	0.0035	0.452		290.4	290.4	0.91		No
SLD 4	10.7	-449.82	-1921	-0.0001516	0.0005615	0.0035	0.452		576.25	576.25	1.28		Si
SLD 6	9.9	227.9	-1879	-0.0000418	0.0005615	0.0035	0.565		517.38	517.38	2.27		Si
SLD 6	10.7	-431.04	-1999	-0.0001125	0.0005615	0.0035	0.452		595.53	595.53	1.38		Si
SLV 4	9.9	472.56	-182	-0.0339064	0.0005615	0.0035	0.452		69.85	69.85	0.15		No
SLV 4	10.7	-577.46	-1596	-0.0018782	0.0005615	0.0035	0.452		494.66	494.66	0.86		No
SLV 2	9.9	550.1	-104	-0.0421953	0.0005615	0.0035	0.452		48.24	48.24	0.09		No
SLV 2	10.7	-690.77	-1309	-0.0048974	0.0005615	0.0035	0.452		420.97	420.97	0.61		No
SLV 5	9.9	265.28	-1817	-0.000048	0.0005615	0.0035	0.565		501.73	501.73	1.89		Si
SLV 5	10.7	-489.61	-1776	-0.0004491	0.0005615	0.0035	0.452		540.41	540.41	1.1		Si
SLD 2	9.9	368.27	-950	-0.0091624	0.0005615	0.0035	0.452		278.23	278.23	0.76		No
SLD 2	10.7	-520.41	-1743	-0.0008026	0.0005615	0.0035	0.452		532.41	532.41	1.02		Si
SLV 1	9.9	445.74	-502	-0.024264	0.0005615	0.0035	0.452		157.97	157.97	0.35		No
SLV 1	10.7	-595.64	-1427	-0.002699	0.0005615	0.0035	0.452		451.22	451.22	0.76		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	9.9	51.97	-3568	-2971	394	0.565	0.565	-18778	9448	1495	40441	4737	1441	6178	No	15.7	Si
SLU 76	10.7	-309.95	-3643	-3034	207	0.565	0.565	-19178	9502	1503	40441	4737	1441	6178	No	29.87	Si
SLU 75	9.9	50.55	-3667	-3054	393	0.565	0.565	-19302	9518	1506	40441	4737	1441	6178	No	15.72	Si
SLU 75	10.7	-315.76	-3745	-3118	213	0.565	0.565	-19710	9572	1514	40441	4737	1441	6178	No	29.04	Si
SLU 68	9.9	58.34	-3235	-2694	412	0.565	0.565	-17027	9215	1458	40441	4737	1441	6178	No	15	Si
SLU 68	10.7	-295.06	-3289	-2739	190	0.565	0.565	-17311	9253	1464	40441	4737	1441	6178	No	32.48	Si
SLU 82	9.9	56.26	-3653	-3042	403	0.565	0.565	-19226	9508	1504	40441	4737	1441	6178	No	15.32	Si
SLU 82	10.7	-318.92	-3770	-3140	223	0.565	0.565	-19847	9591	1517	40441	4737	1441	6178	No	27.73	Si
SLU 73	9.9	59	-3511	-2924	414	0.565	0.565	-18481	9409	1488	40441	4737	1441	6178	No	14.91	Si
SLU 73	10.7	-313.44	-3616	-3011	213	0.565	0.565	-19036	9483	1500	40441	4737	1441	6178	No	28.94	Si
SLU 81	9.9	56.25	-3651	-3040	398	0.565	0.565	-19217	9507	1504	40441	4737	1441	6178	No	15.51	Si
SLU 81	10.7	-317.57	-3774	-3142	226	0.565	0.565	-19863	9593	1518	40441	4737	1441	6178	No	27.33	Si
SLU 67	9.9	56.92	-3334	-2777	411	0.565	0.565	-17551	9285	1469	40441	4737	1441	6178	No	15.02	Si
SLU 67	10.7	-300.87	-3390	-2823	196	0.565	0.565	-17842	9323	1475	40441	4737	1441	6178	No	31.5	Si
SLU 66	9.9	56.91	-3333	-2775	406	0.565	0.565	-17542	9283	1469	40441	4737	1441	6178	No	15.2	Si
SLU 66	10.7	-299.51	-3393	-2825	199	0.565	0.565	-17858	9326	1475	40441	4737	1441	6178	No	30.98	Si
SLU 64	9.9	65.35	-3176	-2644	425	0.565	0.565	-16715	9173	1451	40441	4737	1441	6178	No	14.55	Si
SLU 64	10.7	-296.3	-3267	-2720	202	0.565	0.565	-17195	9237	1461	40441	4737	1441	6178	No	30.54	Si
SLU 65	9.9	65.37	-3178	-2647	433	0.565	0.565	-16729	9175	1451	40441	4737	1441	6178	No	14.28	Si
SLU 65	10.7	-298.55	-3262	-2716	197	0.565	0.565	-17168	9234	1461	40441	4737	1441	6178	No	31.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	9.9	320.86	-996	-830	1370	0.452	0	0	0	0	40441	5685	1153	6837		4.99	Si
SLD 4	10.7	-449.82	-1921	-1600	210	0.452	0.1451	0	0	0	40441	5685	1153	6837		32.48	Si
SLV 3	9.9	368.19	-580	-483	1560	0.452	0	0	0	0	40441	5685	1153	6837		4.38	Si
SLV 3	10.7	-482.32	-1713	-1427	192	0.452	0.0029	0	0	0	40441	5685	1153	6837		35.58	Si
SLV 1	9.9	445.74	-502	-418	2046	0.452	0	0	0	0	40441	5685	1153	6837		3.34	Si
SLV 1	10.7	-595.64	-1427	-1188	8	0.452	0	0	0	0	40441	5685	1153	6837		902.17	Si
SLV 16	9.9	-350.22	-4384	-3651	-1423	0.565	0.565	-23075	15032	2378	40441	7106	1441	8547		6.01	Si
SLV 16	10.7	147.6	-3601	-2999	310	0.565	0.565	-18954	14208	2248	40441	7106	1441	8547		27.57	Si
SLV 15	9.9	-454.59	-4782	-3982	-1827	0.565	0.5623	-25172	15451	2433	40441	7106	1441	8547		4.68	Si
SLV 15	10.7	242.73	-3718	-3096	260	0.565	0.565	-19573	14331	2267	40441	7106	1441	8547		32.91	Si
SLV 5	9.9	265.28	-1817	-1513	1494	0.565	0.4095	-9565	12330	1414	40441	7106	1441	8547		5.72	Si
SLV 5	10.7	-489.61	-1776	-1479	-176	0.452	0.0203	0	0	0	40441	5685	1153	6837		38.87	Si
SLD 2	9.9	368.27	-950	-791	1673	0.452	0	0	0	0	40441	5685	1153	6837		4.09	Si
SLD 2	10.7	-520.41	-1743	-1452	96	0.452	0	0	0	0	40441	5685	1153	6837		71.03	Si
SLV 6	9.9	335.55	-1549	-1290	1766	0.565	0.1976	-8153	12047	1106	40441	7106	1441	8547		4.84	Si
SLV 6	10.7	-553.66	-1697	-1413	-142	0.452	0	0	0	0	40441	5685	1153	6837		48.12	Si
SLV 4	9.9	472.56	-182	-151	1965	0.452	0	0	0	0	40441	5685	1153	6837		3.48	Si
SLV 4	10.7	-577.46	-1596	-1329	242	0.452	0	0	0	0	40441	5685	1153	6837		28.21	Si
SLV 2	9.9	550.1	-104	-87	2451	0.452	0	0	0	0	40441	5685	1153	6837		2.79	Si
SLV 2	10.7	-690.77	-1309	-1090	58	0.452	0	0	0	0	40441	5685	1153	6837		118.27	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.45	5341	-845	70.17	114.15	1.63	Si
SLV 3	179667	0.45	6300	-997	70.17	133.77	1.91	Si
SLV 8	179667	0.45	7259	-1148	70.17	153.12	2.18	Si
SLV 2	179667	0.45	7442	-1177	70.17	156.8	2.23	Si
SLV 7	179667	0.45	7904	-1250	70.17	166	2.37	Si
SLV 1	179667	0.45	8401	-1329	70.17	175.83	2.51	Si
SLV 12	179667	0.45	10870	-1720	70.17	223.61	3.19	Si
SLV 11	179667	0.45	11515	-1822	70.17	235.81	3.36	Si
SLV 6	179667	0.45	14263	-2256	70.17	286.4	4.08	Si
SLV 5	179667	0.45	14909	-2359	70.17	297.96	4.25	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2143	-2080	-9	1.242	298.4	0.928	19.44321	8.02002	Si
SLV 13	-2075	-2787	2	1.276	291.6	0.927	20.01154	8.02002	Si
SLV 16	-2037	-2116	-9	1.292	287.8	0.926	20.27266	8.02002	Si
SLV 14	-1969	-2823	2	1.329	280.9	0.925	20.88551	8.02002	Si
SLV 11	-1749	-1101	-22	1.446	258.9	0.92	22.84	5.35431	Si
SLV 12	-1678	-1126	-22	1.492	251.7	0.918	23.60811	5.35431	Si
SLV 9	-1522	-3458	15	1.607	236.1	0.914	25.53961	5.35431	Si
SLV 3	-841	-1624	-10	2.404	169	0.895	39.0392	8.02002	Si
SLV 10	-1451	-3482	15	1.664	229	0.913	26.49703	5.35431	Si
SLV 1	-773	-2331	2	2.537	162.4	0.893	41.27209	8.02002	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.867	SLU 65	Si
V_SLU	14.283	SLU 65	Si
PF_SLV	0.088	SLV 2	No
V_SLV	2.79	SLV 2	Si
PFFP_SLV	1.627	SLV 4	Si
R_SLV	2.424	SLV 15	Si

Maschio 206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L6	L7	2.325	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	9.9	1586.14	-14164	-0.0000436	0.0003743	0.0035	2.325	12947.02	14076.23	14076.23	8.87	No	Si
SLU 83	10.7	344.91	-12025	-0.0000304	0.0003743	0.0035	2.325	11442.82	12108.6	12108.6	35.11	No	Si
SLU 60	9.9	1399.46	-12363	-0.0000379	0.0003743	0.0035	2.325	11691.24	12415.35	12415.35	8.87	No	Si
SLU 60	10.7	199.65	-10325	-0.0000254	0.0003743	0.0035	2.325	10132.99	10599.85	10599.85	53.09	No	Si
SLU 82	9.9	1587.78	-14134	-0.0000436	0.0003743	0.0035	2.325	12926.65	14047.75	14047.75	8.85	No	Si
SLU 82	10.7	294.11	-11984	-0.00003	0.0003743	0.0035	2.325	11412.36	12071.55	12071.55	41.04	No	Si
SLU 43	9.9	1260.19	-10884	-0.0000333	0.0003743	0.0035	2.325	10575.26	11091.22	11091.22	8.8	No	Si
SLU 43	10.7	48.1	-8893	-0.000021	0.0003743	0.0035	2.325	8950.84	9364.95	9364.95	194.69	No	Si
SLU 81	9.9	1591.5	-14046	-0.0000434	0.0003743	0.0035	2.325	12868.3	13966.43	13966.43	8.78	No	Si
SLU 81	10.7	313.94	-11911	-0.00003	0.0003743	0.0035	2.325	11358.06	12005.82	12005.82	38.24	No	Si
SLU 73	9.9	1543.52	-13748	-0.0000423	0.0003743	0.0035	2.325	12667.12	13689.18	13689.18	8.87	No	Si
SLU 73	10.7	235.43	-11603	-0.0000287	0.0003743	0.0035	2.325	11127.09	11729.63	11729.63	49.82	No	Si
SLU 64	9.9	1452.22	-12568	-0.0000387	0.0003743	0.0035	2.325	11839.62	12601.8	12601.8	8.68	No	Si
SLU 64	10.7	162.4	-10479	-0.0000255	0.0003743	0.0035	2.325	10255.58	10734.35	10734.35	66.1	No	Si
SLU 66	9.9	1480.16	-13082	-0.0000402	0.0003743	0.0035	2.325	12205.79	13072.67	13072.67	8.83	No	Si
SLU 66	10.7	220.69	-10971	-0.0000271	0.0003743	0.0035	2.325	10642.47	11167.43	11167.43	50.6	No	Si
SLU 22	9.9	1212.06	-10500	-0.000032	0.0003743	0.0035	2.325	10272.37	10752.87	10752.87	8.87	No	Si
SLU 22	10.7	181.44	-8845	-0.0000217	0.0003743	0.0035	2.325	8909.91	9324.07	9324.07	51.39	No	Si
SLU 65	9.9	1446.03	-12713	-0.000039	0.0003743	0.0035	2.325	11944.28	12734.79	12734.79	8.81	No	Si
SLU 65	10.7	129.35	-10600	-0.0000256	0.0003743	0.0035	2.325	10352.08	10841.13	10841.13	83.81	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	9.9	7.16	-7194	-0.0000165	0.0005615	0.0035	2.325		8161.57	8161.57	1140.61		Si
SLV 15	10.7	3341.76	-6739	-0.0000361	0.0005615	0.0035	2.325		7690.06	7690.06	2.3		Si
SLV 11	9.9	324.67	-4130	-0.0000113	0.0005615	0.0035	2.325		4909.82	4909.82	15.12		Si
SLV 11	10.7	2282.36	-3787	-0.000024	0.0005615	0.0035	2.325		4535.45	4535.45	1.99		Si
SLD 11	9.9	616.32	-6203	-0.0000178	0.0005615	0.0035	2.325		7126.92	7126.92	11.56		Si
SLD 11	10.7	1493.11	-5400	-0.0000211	0.0005615	0.0035	2.325		6276.05	6276.05	4.2		Si
SLV 2	9.9	2198.33	-11993	-0.0000411	0.0005615	0.0035	2.325		12765.1	12765.1	5.81		Si
SLV 2	10.7	-3081.54	-9258	-0.0000398	0.0005615	0.0035	2.325		11501.52	11501.52	3.73		Si
SLD 15	9.9	413.73	-8093	-0.0000211	0.0005615	0.0035	2.325		9086.98	9086.98	21.96		Si
SLD 15	10.7	2177.82	-7222	-0.0000295	0.0005615	0.0035	2.325		8191.45	8191.45	3.76		Si
SLV 1	9.9	1967.61	-11508	-0.0000386	0.0005615	0.0035	2.325		12351.87	12351.87	6.28		Si
SLV 1	10.7	-2367.42	-9043	-0.000035	0.0005615	0.0035	2.325		11284.75	11284.75	4.77		Si
SLV 4	9.9	1930.42	-8925	-0.0000321	0.0005615	0.0035	2.325		9931.93	9931.93	5.14		Si
SLV 4	10.7	-2385.62	-6757	-0.0000296	0.0005615	0.0035	2.325		8949.41	8949.41	3.75		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	9.9	275.07	-10261	-0.0000253	0.0005615	0.0035	2.325		11264.96	11264.96	40.95		Si
SLV 13	10.7	2645.84	-9240	-0.0000372	0.0005615	0.0035	2.325		10248.56	10248.56	3.87		Si
SLV 16	9.9	237.88	-7679	-0.000019	0.0005615	0.0035	2.325		8662.57	8662.57	36.42		Si
SLV 16	10.7	2627.64	-6954	-0.0000316	0.0005615	0.0035	2.325		7912.96	7912.96	3.01		Si
SLV 12	9.9	480.01	-4457	-0.000013	0.0005615	0.0035	2.325		5263.24	5263.24	10.96		Si
SLV 12	10.7	1801.57	-3932	-0.0000197	0.0005615	0.0035	2.325		4693.9	4693.9	2.61		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	9.9	1568.58	-14322	-11926	2977	2.325	2.325	-18319	9387	6111	40441	19494	5929	25423	No	8.54	Si
SLU 78	10.7	337.92	-12160	-10126	2452	2.325	2.325	-15555	9018	5871	40441	19494	5929	25423	No	10.37	Si
SLU 76	9.9	1538.17	-13866	-11547	3011	2.325	2.325	-17737	9309	6060	40441	19494	5929	25423	No	8.44	Si
SLU 76	10.7	266.4	-11717	-9757	2486	2.325	2.325	-14988	8943	5822	40441	19494	5929	25423	No	10.23	Si
SLU 68	9.9	1440.68	-12831	-10685	2978	2.325	2.325	-16413	9133	5945	40441	19494	5929	25423	No	8.54	Si
SLU 68	10.7	160.32	-10715	-8922	2442	2.325	2.325	-13705	8772	5710	40441	19494	5929	25423	No	10.41	Si
SLU 65	9.9	1446.03	-12713	-10586	3018	2.325	2.325	-16262	9113	5932	40441	19494	5929	25423	No	8.42	Si
SLU 65	10.7	129.35	-10600	-8827	2484	2.325	2.325	-13559	8752	5698	40441	19494	5929	25423	No	10.24	Si
SLU 73	9.9	1543.52	-13748	-11448	3051	2.325	2.325	-17586	9289	6047	40441	19494	5929	25423	No	8.33	Si
SLU 73	10.7	235.43	-11603	-9662	2527	2.325	2.325	-14842	8923	5809	40441	19494	5929	25423	No	10.06	Si
SLU 67	9.9	1476.44	-13169	-10966	2983	2.325	2.325	-16845	9190	5983	40441	19494	5929	25423	No	8.52	Si
SLU 67	10.7	200.86	-11044	-9196	2450	2.325	2.325	-14126	8828	5747	40441	19494	5929	25423	No	10.38	Si
SLU 81	9.9	1591.5	-14046	-11697	2995	2.325	2.325	-17967	9340	6080	40441	19494	5929	25423	No	8.49	Si
SLU 81	10.7	313.94	-11911	-9918	2495	2.325	2.325	-15236	8976	5843	40441	19494	5929	25423	No	10.19	Si
SLU 82	9.9	1587.78	-14134	-11769	3037	2.325	2.325	-18079	9355	6090	40441	19494	5929	25423	No	8.37	Si
SLU 82	10.7	294.11	-11984	-9979	2525	2.325	2.325	-15329	8988	5851	40441	19494	5929	25423	No	10.07	Si
SLU 84	9.9	1582.42	-14252	-11867	2998	2.325	2.325	-18230	9375	6103	40441	19494	5929	25423	No	8.48	Si
SLU 84	10.7	325.08	-12098	-10074	2484	2.325	2.325	-15475	9008	5864	40441	19494	5929	25423	No	10.23	Si
SLU 75	9.9	1573.93	-14204	-11828	3017	2.325	2.325	-18169	9367	6098	40441	19494	5929	25423	No	8.43	Si
SLU 75	10.7	306.95	-12046	-10031	2493	2.325	2.325	-15409	8999	5858	40441	19494	5929	25423	No	10.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	9.9	1644.35	-10784	-8980	5842	2.325	2.325	-13794	13175	8577	40441	29241	5929	35169		6.02	Si
SLD 1	10.7	-1461.35	-8637	-7192	4747	2.325	2.325	-11048	12626	8220	40441	29241	5929	35169		7.41	Si
SLV 4	9.9	1930.42	-8925	-7432	7391	2.325	2.325	-11417	12700	8268	40441	29241	5929	35169		4.76	Si
SLV 4	10.7	-2385.62	-6757	-5627	6157	2.325	2.325	-8643	12145	7907	40441	29241	5929	35169		5.71	Si
SLV 6	9.9	1880.82	-15056	-12537	7982	2.325	2.325	-19259	14268	9289	40441	29241	5929	35169		4.41	Si
SLV 6	10.7	-2022.14	-12210	-10167	6250	2.325	2.325	-15618	13540	8815	40441	29241	5929	35169		5.63	Si
SLD 4	9.9	1624.97	-9192	-7655	5531	2.325	2.325	-11758	12768	8312	40441	29241	5929	35169		6.36	Si
SLD 4	10.7	-1478.55	-7231	-6021	4599	2.325	2.325	-9249	12267	7986	40441	29241	5929	35169		7.65	Si
SLD 6	9.9	1589.17	-12983	-10811	5839	2.325	2.325	-16607	13738	8943	40441	29241	5929	35169		6.02	Si
SLD 6	10.7	-1232.89	-10597	-8824	4609	2.325	2.325	-13555	13128	8546	40441	29241	5929	35169		7.63	Si
SLV 1	9.9	1967.61	-11508	-9582	7932	2.325	2.325	-14720	13361	8698	40441	29241	5929	35169		4.43	Si
SLV 1	10.7	-2367.42	-9043	-7530	6428	2.325	2.325	-11567	12730	8287	40441	29241	5929	35169		5.47	Si
SLV 2	9.9	2198.33	-11993	-9987	9539	2.325	2.325	-15340	13485	8779	40441	29241	5929	35169		3.69	Si
SLV 2	10.7	-3081.54	-9258	-7709	7736	2.325	2.325	-11842	12785	8323	40441	29241	5929	35169		4.55	Si
SLV 3	9.9	1699.69	-8440	-7028	5783	2.325	2.325	-10796	12576	8187	40441	29241	5929	35169		6.08	Si
SLV 3	10.7	-1671.5	-6542	-5448	4849	2.325	2.325	-8368	12090	7871	40441	29241	5929	35169		7.25	Si
SLD 2	9.9	1791.76	-11094	-9238	6869	2.325	2.325	-14190	13255	8629	40441	29241	5929	35169		5.12	Si
SLD 2	10.7	-1917.6	-8774	-7307	5583	2.325	2.325	-11224	12661	8243	40441	29241	5929	35169		6.3	Si
SLV 5	9.9	1725.48	-14729	-12265	6900	2.325	2.325	-18841	14185	9234	40441	29241	5929	35169		5.1	Si
SLV 5	10.7	-1541.35	-12065	-10047	5369	2.325	2.325	-15433	13503	8791	40441	29241	5929	35169		6.55	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.45	6784	-4417	288.75	590.85	2.05	Si
SLV 11	179667	0.45	6972	-4539	288.75	606.42	2.1	Si
SLV 8	179667	0.45	7038	-4582	288.75	611.88	2.12	Si
SLV 12	179667	0.45	7226	-4704	288.75	627.39	2.17	Si
SLV 3	179667	0.45	11195	-7288	288.75	945.5	3.27	Si
SLV 4	179667	0.45	11572	-7533	288.75	974.72	3.38	Si
SLV 15	179667	0.45	11820	-7695	288.75	993.92	3.44	Si
SLV 16	179667	0.45	12197	-7940	288.75	1022.86	3.54	Si
SLV 1	179667	0.45	15216	-9905	288.75	1248.58	4.32	Si
SLV 2	179667	0.45	15592	-10151	288.75	1275.99	4.42	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-7215	-11372	-383	1.412	1066.9	0.92	22.3044	8.02002	Si
SLV 13	-7164	-11351	-383	1.42	1061.8	0.92	22.43036	8.02002	Si
SLV 2	-6773	-8152	-103	1.512	1022.5	0.918	23.95322	8.02002	Si
SLV 1	-6722	-8131	-104	1.521	1017.4	0.917	24.09561	8.02002	Si
SLV 16	-5727	-8635	107	1.709	918.1	0.911	27.26473	8.02002	Si
SLV 10	-8788	-13435	-856	1.17	1225	0.928	18.3179	5.35431	Si
SLV 15	-5676	-8614	107	1.72	913.1	0.911	27.44988	8.02002	Si
SLV 9	-8753	-13421	-857	1.173	1221.6	0.928	18.37684	5.35431	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-8655	-12469	-773	1.192	1211.7	0.928	18.67166	5.35431	Si
SLV 5	-8621	-12455	-773	1.195	1208.2	0.927	18.73254	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.678	SLU 64	Si
V_SLU	8.332	SLU 73	Si
PF_SLV	1.987	SLV 11	Si
V_SLV	3.687	SLV 2	Si
PFFP_SLV	2.046	SLV 7	Si
R_SLV	2.781	SLV 14	Si

Maschio 207

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L6	L7	2.09	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 42	8.8	305.54	-9336	-0.0000266	0.0003743	0.0035	2.09	8227.58	8644.16	8644.16	28.29	No	Si
SLU 42	10.6	806.45	-8662	-0.0000286	0.0003743	0.0035	2.09	7736.14	8132.47	8132.47	10.08	No	Si
SLU 33	8.8	370.68	-9300	-0.000027	0.0003743	0.0035	2.09	8201.52	8616.42	8616.42	23.24	No	Si
SLU 33	10.6	755.72	-8514	-0.0000278	0.0003743	0.0035	2.09	7625.58	8020.56	8020.56	10.61	No	Si
SLU 40	8.8	303.56	-9219	-0.0000263	0.0003743	0.0035	2.09	8143.14	8554.53	8554.53	28.18	No	Si
SLU 40	10.6	796.54	-8534	-0.0000282	0.0003743	0.0035	2.09	7640.73	8035.83	8035.83	10.09	No	Si
SLU 41	8.8	266.5	-9288	-0.0000262	0.0003743	0.0035	2.09	8192.96	8607.32	8607.32	32.3	No	Si
SLU 41	10.6	818.69	-8673	-0.0000287	0.0003743	0.0035	2.09	7743.88	8140.35	8140.35	9.94	No	Si
SLU 32	8.8	331.64	-9252	-0.0000266	0.0003743	0.0035	2.09	8166.84	8579.61	8579.61	25.87	No	Si
SLU 32	10.6	767.96	-8524	-0.0000279	0.0003743	0.0035	2.09	7633.37	8028.41	8028.41	10.45	No	Si
SLU 35	8.8	333.61	-9369	-0.0000269	0.0003743	0.0035	2.09	8251.14	8669.31	8669.31	25.99	No	Si
SLU 35	10.6	777.87	-8653	-0.0000283	0.0003743	0.0035	2.09	7728.83	8125.03	8125.03	10.45	No	Si
SLU 38	8.8	359.5	-9175	-0.0000266	0.0003743	0.0035	2.09	8111.26	8520.88	8520.88	23.7	No	Si
SLU 38	10.6	730.63	-8375	-0.0000272	0.0003743	0.0035	2.09	7521.72	7916.47	7916.47	10.84	No	Si
SLU 36	8.8	372.66	-9417	-0.0000274	0.0003743	0.0035	2.09	8285.62	8706.2	8706.2	23.36	No	Si
SLU 36	10.6	765.63	-8642	-0.0000282	0.0003743	0.0035	2.09	7721.08	8117.16	8117.16	10.6	No	Si
SLU 37	8.8	320.45	-9127	-0.0000262	0.0003743	0.0035	2.09	8076.37	8484.17	8484.17	26.48	No	Si
SLU 37	10.6	742.87	-8386	-0.0000274	0.0003743	0.0035	2.09	7529.57	7924.3	7924.3	10.67	No	Si
SLU 39	8.8	264.52	-9171	-0.0000259	0.0003743	0.0035	2.09	8108.33	8517.79	8517.79	32.2	No	Si
SLU 39	10.6	808.78	-8545	-0.0000283	0.0003743	0.0035	2.09	7648.52	8043.69	8043.69	9.95	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	8.8	-1506.33	-3066	-0.0000195	0.0005615	0.0035	2.09		4208.14	4208.14	2.79		Si
SLV 7	10.6	1437.43	-6075	-0.000026	0.0005615	0.0035	2.09		6240.99	6240.99	4.34		Si
SLV 12	8.8	-2084.2	-3552	-0.0000275	0.0005615	0.0035	2.09		4684.68	4684.68	2.25		Si
SLV 12	10.6	2278.53	-6986	-0.0000347	0.0005615	0.0035	2.09		7089.39	7089.39	3.11		Si
SLD 15	8.8	-1229.83	-7009	-0.000027	0.0005615	0.0035	2.09		7951.42	7951.42	6.47		Si
SLD 15	10.6	2221.6	-8170	-0.0000374	0.0005615	0.0035	2.09		8172.22	8172.22	3.68		Si
SLV 1	8.8	2483.63	-8389	-0.00004	0.0005615	0.0035	2.09		8370.84	8370.84	3.37		Si
SLV 1	10.6	-1793.16	-4491	-0.0000246	0.0005615	0.0035	2.09		5585.45	5585.45	3.11		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	8.8	1767.68	-6121	-0.0000286	0.0005615	0.0035	2.09		6284.54	6284.54	3.56		Si
SLV 4	10.6	-1549.34	-3821	-0.0000211	0.0005615	0.0035	2.09		4945.44	4945.44	3.19		Si
SLV 15	8.8	-2211.27	-6605	-0.0000332	0.0005615	0.0035	2.09		7581.31	7581.31	3.43		Si
SLV 15	10.6	3256.43	-9153	-0.0000479	0.0005615	0.0035	2.09		9051.63	9051.63	2.78		Si
SLV 2	8.8	3116.36	-8739	-0.0000457	0.0005615	0.0035	2.09		8682.87	8682.87	2.79		Si
SLV 2	10.6	-2410.29	-3784	-0.000033	0.0005615	0.0035	1.672		4909.48	4909.48	2.04		Si
SLV 16	8.8	-1578.54	-6955	-0.0000294	0.0005615	0.0035	2.09		7902.09	7902.09	5.01		Si
SLV 16	10.6	2639.3	-8446	-0.0000413	0.0005615	0.0035	2.09		8421.08	8421.08	3.19		Si
SLV 11	8.8	-2510.2	-3316	-0.0000411	0.0005615	0.0035	1.672		4454.37	4454.37	1.77		Si
SLV 11	10.6	2694.02	-7462	-0.0000391	0.0005615	0.0035	2.09		7527.06	7527.06	2.79		Si
SLV 6	8.8	3415.29	-12029	-0.000057	0.0005615	0.0035	2.09		11351.4	11351.4	3.32		Si
SLV 6	10.6	-1847.88	-5475	-0.0000275	0.0005615	0.0035	2.09		6523.4	6523.4	3.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	8.8	440.33	-10964	-9130	-961	2.09	2.09	-15601	9025	5281	40441	17523	5329	22853	No	23.79	Si
SLU 81	10.6	824.31	-9821	-8178	-960	2.09	2.09	-13975	8808	5154	40441	17523	5329	22853	No	23.8	Si
SLU 42	8.8	305.54	-9336	-7774	-992	2.09	2.09	-13285	8716	5100	40441	17523	5329	22853	No	23.04	Si
SLU 42	10.6	806.45	-8662	-7213	-980	2.09	2.09	-12326	8588	5026	40441	17523	5329	22853	No	23.31	Si
SLU 37	8.8	320.45	-9127	-7600	-904	2.09	2.09	-12987	8676	5077	40441	17523	5329	22853	No	25.29	Si
SLU 37	10.6	742.87	-8386	-6983	-903	2.09	2.09	-11932	8535	4995	40441	17523	5329	22853	No	25.31	Si
SLU 41	8.8	266.5	-9288	-7734	-1049	2.09	2.09	-13217	8707	5095	40441	17523	5329	22853	No	21.79	Si
SLU 41	10.6	818.69	-8673	-7222	-1048	2.09	2.09	-12341	8590	5027	40441	17523	5329	22853	No	21.8	Si
SLU 40	8.8	303.56	-9219	-7677	-981	2.09	2.09	-13118	8694	5087	40441	17523	5329	22853	No	23.3	Si
SLU 40	10.6	796.54	-8534	-7106	-970	2.09	2.09	-12144	8564	5011	40441	17523	5329	22853	No	23.57	Si
SLU 83	8.8	442.3	-11081	-9227	-971	2.09	2.09	-15768	9047	5294	40441	17523	5329	22853	No	23.53	Si
SLU 83	10.6	834.22	-9950	-8285	-971	2.09	2.09	-14158	8832	5169	40441	17523	5329	22853	No	23.54	Si
SLU 35	8.8	333.61	-9369	-7802	-930	2.09	2.09	-13332	8722	5104	40441	17523	5329	22853	No	24.57	Si
SLU 35	10.6	777.87	-8653	-7205	-929	2.09	2.09	-12312	8586	5025	40441	17523	5329	22853	No	24.6	Si
SLU 32	8.8	331.64	-9252	-7704	-919	2.09	2.09	-13165	8700	5091	40441	17523	5329	22853	No	24.86	Si
SLU 32	10.6	767.96	-8524	-7098	-919	2.09	2.09	-12130	8562	5010	40441	17523	5329	22853	No	24.88	Si
SLU 84	8.8	481.35	-11129	-9267	-914	2.09	2.09	-15836	9056	5300	40441	17523	5329	22853	No	24.99	Si
SLU 84	10.6	821.97	-9939	-8277	-903	2.09	2.09	-14143	8830	5167	40441	17523	5329	22853	No	25.31	Si
SLU 39	8.8	264.52	-9171	-7637	-1038	2.09	2.09	-13050	8684	5082	40441	17523	5329	22853	No	22.02	Si
SLU 39	10.6	808.78	-8545	-7115	-1037	2.09	2.09	-12159	8566	5013	40441	17523	5329	22853	No	22.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	8.8	-1229.83	-7009	-5836	-3840	2.09	2.09	-9973	12411	7263	40441	26285	5329	31615		8.23	Si
SLD 15	10.6	2221.6	-8170	-6804	-3467	2.09	2.09	-11626	12742	7457	40441	26285	5329	31615		9.12	Si
SLV 6	8.8	3415.29	-12029	-10016	5655	2.09	2.09	-17116	13840	8099	40441	26285	5329	31615		5.59	Si
SLV 6	10.6	-1847.88	-5475	-4559	5536	2.09	2.09	-7790	11975	7008	40441	26285	5329	31615		5.71	Si
SLV 11	8.8	-2510.2	-3316	-2761	-6382	1.672	0.8639	0	0	0	40441	21028	4264	25292		3.96	Si
SLV 11	10.6	2694.02	-7462	-6214	-6262	2.09	2.0519	-10618	12540	7205	40441	26285	5329	31615		5.05	Si
SLV 16	8.8	-1578.54	-6955	-5792	-4543	2.09	2.09	-9897	12396	7254	40441	26285	5329	31615		6.96	Si
SLV 16	10.6	2639.3	-8446	-7033	-3969	2.09	2.09	-12018	12820	7502	40441	26285	5329	31615		7.97	Si
SLV 5	8.8	2989.29	-11793	-9820	4774	2.09	2.09	-16781	13773	8060	40441	26285	5329	31615		6.62	Si
SLV 5	10.6	-1432.39	-5951	-4955	4656	2.09	2.09	-8468	12110	7087	40441	26285	5329	31615		6.79	Si
SLV 7	8.8	-1506.33	-3066	-2553	-4298	2.09	1.6609	-5501	11517	5356	40441	26285	5329	31615		7.35	Si
SLV 7	10.6	1437.43	-6075	-5059	-4534	2.09	2.09	-8644	12145	7108	40441	26285	5329	31615		6.97	Si
SLD 11	8.8	-1400.65	-4975	-4143	-4126	2.09	2.09	-7080	11833	6924	40441	26285	5329	31615		7.66	Si
SLD 11	10.6	1842.64	-7101	-5913	-4046	2.09	2.09	-10105	12438	7279	40441	26285	5329	31615		7.81	Si
SLV 12	8.8	-2084.2	-3552	-2957	-5501	2.09	1.3744	-7708	11958	4602	40441	26285	5329	31615		5.75	Si
SLV 12	10.6	2278.53	-6986	-5817	-5382	2.09	2.09	-9941	12405	7259	40441	26285	5329	31615		5.87	Si
SLV 2	8.8	3116.36	-8739	-7277	5124	2.09	2.0652	-12436	12904	7462	40441	26285	5329	31615		6.17	Si
SLV 2	10.6	-2410.29	-3784	-3151	4550	1.672	1.2239	0	0	0	40441	21028	4264	25292		5.56	Si
SLV 15	8.8	-2211.27	-6605	-5500	-5851	2.09	2.09	-9399	12296	7196	40441	26285	5329	31615		5.4	Si
SLV 15	10.6	3256.43	-9153	-7622	-5276	2.09	2.0677	-13024	13022	7539	40441	26285	5329	31615		5.99	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.45	8592	-5028	259.57	664.33	2.56	Si
SLV 4	179667	0.45	8641	-5057	259.57	667.87	2.57	Si
SLV 7	179667	0.45	8919	-5219	259.57	688.01	2.65	Si
SLV 3	179667	0.45	9126	-5340	259.57	702.97	2.71	Si
SLV 12	179667	0.45	10176	-5955	259.57	778.17	3	Si
SLV 2	179667	0.45	10334	-6048	259.57	789.39	3.04	Si
SLV 11	179667	0.45	10503	-6146	259.57	801.29	3.09	Si
SLV 1	179667	0.45	10819	-6332	259.57	823.61	3.17	Si
SLV 16	179667	0.45	13921	-8147	259.57	1036.56	3.99	Si
SLV 6	179667	0.45	14238	-8332	259.57	1057.72	4.07	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-6686	-10895	137	1.404	979.1	0.921	22.15144	8.02002	Si
SLV 15	-6405	-8550	396	1.419	950.9	0.92	22.42989	8.02002	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-6352	-10816	137	1.46	945.6	0.919	23.07568	8.02002	Si
SLV 16	-6072	-8471	396	1.477	917.5	0.917	23.39934	8.02002	Si
SLV 1	-4808	-6778	-399	1.749	791.5	0.908	27.97871	8.02002	Si
SLV 2	-4474	-6699	-398	1.839	758.4	0.906	29.50163	8.02002	Si
SLV 3	-4527	-4433	-140	1.864	763.7	0.906	29.89645	8.02002	Si
SLV 4	-4194	-4354	-139	1.965	730.8	0.904	31.59936	8.02002	Si
SLV 9	-6301	-12177	-353	1.442	940.5	0.919	22.8072	5.35431	Si
SLV 10	-6077	-12124	-352	1.482	918	0.917	23.47219	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.943	SLU 41	Si
V_SLU	21.792	SLU 41	Si
PF_SLV	1.775	SLV 11	Si
V_SLV	3.963	SLV 11	Si
PFFP_SLV	2.559	SLV 8	Si
R_SLV	2.762	SLV 13	Si

Maschio 208

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.158	5.951	L6	L7	2.305	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	8.8	699.2	-14563	-0.0000394	0.0003743	0.0035	2.305	13063.76	14284.92	14284.92	20.43	No	Si
SLU 47	10.6	-1349.64	-11891	-0.0000368	0.0003743	0.0035	2.305	11224.51	13415.42	13415.42	9.94	No	Si
SLU 43	8.8	801.39	-13842	-0.0000382	0.0003743	0.0035	2.305	12592.13	13652.33	13652.33	17.04	No	Si
SLU 43	10.6	-1349.08	-11170	-0.0000349	0.0003743	0.0035	2.305	10685.33	12795.87	12795.87	9.48	No	Si
SLU 65	8.8	823.86	-15827	-0.0000435	0.0003743	0.0035	2.305	13847.15	15156.89	15156.89	18.4	No	Si
SLU 65	10.6	-1431.61	-13101	-0.0000404	0.0003743	0.0035	2.305	12088.3	14437.62	14437.62	10.08	No	Si
SLU 46	8.8	698.04	-14873	-0.0000402	0.0003743	0.0035	2.305	13261.12	14525.01	14525.01	20.81	No	Si
SLU 46	10.6	-1373.03	-12201	-0.0000377	0.0003743	0.0035	2.305	11450.94	13685.42	13685.42	9.97	No	Si
SLU 60	8.8	930.96	-15341	-0.0000429	0.0003743	0.0035	2.305	13552.73	14834.19	14834.19	15.93	No	Si
SLU 60	10.6	-1397.44	-12670	-0.0000391	0.0003743	0.0035	2.305	11786.43	14084.27	14084.27	10.08	No	Si
SLU 50	8.8	627.48	-15428	-0.0000412	0.0003743	0.0035	2.305	13605.98	14891.7	14891.7	23.73	No	Si
SLU 50	10.6	-1417.01	-12757	-0.0000394	0.0003743	0.0035	2.305	11847.83	14157.03	14157.03	9.99	No	Si
SLU 48	8.8	620.22	-15709	-0.0000419	0.0003743	0.0035	2.305	13776.53	15078.45	15078.45	24.31	No	Si
SLU 48	10.6	-1427.03	-13038	-0.0000402	0.0003743	0.0035	2.305	12044.74	14387.01	14387.01	10.08	No	Si
SLU 44	8.8	786.15	-13769	-0.000038	0.0003743	0.0035	2.305	12543.79	13585.56	13585.56	17.28	No	Si
SLU 44	10.6	-1315.68	-11098	-0.0000346	0.0003743	0.0035	2.305	10630.21	12734.3	12734.3	9.68	No	Si
SLU 64	8.8	839.09	-15899	-0.0000438	0.0003743	0.0035	2.305	13890.26	15204.98	15204.98	18.12	No	Si
SLU 64	10.6	-1465	-13173	-0.0000408	0.0003743	0.0035	2.305	12138.33	14496.04	14496.04	9.89	No	Si
SLU 45	8.8	707.18	-14916	-0.0000404	0.0003743	0.0035	2.305	13288.47	14554.19	14554.19	20.58	No	Si
SLU 45	10.6	-1393.07	-12245	-0.0000379	0.0003743	0.0035	2.305	11482.35	13722.86	13722.86	9.85	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	8.8	1353.26	-15019	-0.0000438	0.0005615	0.0035	2.305		15226.59	15226.59	11.25		Si
SLD 7	10.6	-2668.61	-12944	-0.0000469	0.0005615	0.0035	2.305		14920.5	14920.5	5.59		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	8.8	1163.77	-16195	-0.0000456	0.0005615	0.0035	2.305		16255.07	16255.07	13.97		Si
SLV 8	10.6	-3168.65	-14128	-0.000053	0.0005615	0.0035	2.305		16022.9	16022.9	5.06		Si
SLV 2	8.8	2020.46	-10928	-0.0000379	0.0005615	0.0035	2.305		11728.75	11728.75	5.8		Si
SLV 2	10.6	-2023.12	-8604	-0.0000323	0.0005615	0.0035	2.305		10740.22	10740.22	5.31		Si
SLV 10	8.8	-444.62	-7346	-0.0000197	0.0005615	0.0035	2.305		9476.3	9476.3	21.31		Si
SLV 10	10.6	1381.89	-5243	-0.0000204	0.0005615	0.0035	2.305		6049.91	6049.91	4.38		Si
SLV 4	8.8	2164.54	-13478	-0.0000451	0.0005615	0.0035	2.305		13894.71	13894.71	6.42		Si
SLV 4	10.6	-3071.55	-11204	-0.0000451	0.0005615	0.0035	2.305		13285.66	13285.66	4.33		Si
SLD 4	8.8	1593.55	-12920	-0.0000402	0.0005615	0.0035	2.305		13416.75	13416.75	8.42		Si
SLD 4	10.6	-2345.45	-10730	-0.0000394	0.0005615	0.0035	2.305		12825.62	12825.62	5.47		Si
SLV 3	8.8	3066.15	-14391	-0.000053	0.0005615	0.0035	2.305		14681.79	14681.79	4.79		Si
SLV 3	10.6	-3718.37	-12117	-0.0000514	0.0005615	0.0035	2.305		14158.13	14158.13	3.81		Si
SLD 3	8.8	2169.59	-13504	-0.0000452	0.0005615	0.0035	2.305		13916.45	13916.45	6.41		Si
SLD 3	10.6	-2758.71	-11314	-0.0000434	0.0005615	0.0035	2.305		13392.8	13392.8	4.85		Si
SLV 1	8.8	2922.07	-11841	-0.0000458	0.0005615	0.0035	2.305		12498.69	12498.69	4.28		Si
SLV 1	10.6	-2669.94	-9517	-0.0000385	0.0005615	0.0035	2.305		11654.67	11654.67	4.37		Si
SLV 7	8.8	1770.79	-16810	-0.0000509	0.0005615	0.0035	2.305		16796.66	16796.66	9.49		Si
SLV 7	10.6	-3604.13	-14743	-0.0000573	0.0005615	0.0035	2.305		16574.28	16574.28	4.6		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	8.8	827.61	-17670	-14714	1262	2.305	2.305	-22798	9984	6444	40441	19326	5878	25204	No	19.97	Si
SLU 76	10.6	-1499.43	-14943	-12444	1262	2.305	2.305	-19281	9515	6141	40441	19326	5878	25204	No	19.97	Si
SLU 73	8.8	914.56	-16877	-14053	1292	2.305	2.305	-21775	9848	6356	40441	19326	5878	25204	No	19.51	Si
SLU 73	10.6	-1465.46	-14150	-11783	1292	2.305	2.305	-18257	9379	6053	40441	19326	5878	25204	No	19.51	Si
SLU 60	8.8	930.96	-15341	-12775	1263	2.305	2.305	-19794	9584	6185	40441	19326	5878	25204	No	19.95	Si
SLU 60	10.6	-1397.44	-12670	-10550	1263	2.305	2.305	-16347	9124	5889	40441	19326	5878	25204	No	19.95	Si
SLU 84	8.8	872.57	-18149	-15113	1303	2.305	2.305	-23416	10067	6497	40441	19326	5878	25204	No	19.35	Si
SLU 84	10.6	-1527.3	-15422	-12842	1303	2.305	2.305	-19898	9598	6194	40441	19326	5878	25204	No	19.35	Si
SLU 83	8.8	881.71	-18192	-15149	1319	2.305	2.305	-23472	10074	6502	40441	19326	5878	25204	No	19.11	Si
SLU 83	10.6	-1547.33	-15466	-12878	1319	2.305	2.305	-19954	9605	6199	40441	19326	5878	25204	No	19.11	Si
SLU 81	8.8	968.67	-17399	-14488	1348	2.305	2.305	-22449	9938	6414	40441	19326	5878	25204	No	18.69	Si
SLU 81	10.6	-1513.37	-14672	-12218	1348	2.305	2.305	-18931	9469	6111	40441	19326	5878	25204	No	18.69	Si
SLU 75	8.8	826.44	-17980	-14972	1274	2.305	2.305	-23198	10038	6478	40441	19326	5878	25204	No	19.78	Si
SLU 75	10.6	-1522.81	-15254	-12702	1274	2.305	2.305	-19681	9569	6176	40441	19326	5878	25204	No	19.78	Si
SLU 74	8.8	835.59	-18023	-15008	1291	2.305	2.305	-23254	10045	6483	40441	19326	5878	25204	No	19.53	Si
SLU 74	10.6	-1542.85	-15297	-12738	1291	2.305	2.305	-19737	9576	6180	40441	19326	5878	25204	No	19.53	Si
SLU 77	8.8	748.63	-18817	-15669	1261	2.305	2.305	-24278	10181	6571	40441	19326	5878	25204	No	19.98	Si
SLU 77	10.6	-1576.81	-16090	-13399	1261	2.305	2.305	-20760	9712	6268	40441	19326	5878	25204	No	19.98	Si
SLU 82	8.8	959.53	-17355	-14452	1332	2.305	2.305	-22393	9930	6409	40441	19326	5878	25204	No	18.92	Si
SLU 82	10.6	-1493.33	-14629	-12182	1332	2.305	2.305	-18875	9461	6106	40441	19326	5878	25204	No	18.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	8.8	2164.54	-13478	-11223	2993	2.305	2.305	-17390	13895	8968	40441	28989	5878	34867		11.65	Si
SLV 4	10.6	-3071.55	-11204	-9329	2565	2.305	2.305	-14455	13308	8589	40441	28989	5878	34867		13.59	Si
SLD 7	8.8	1353.26	-15019	-12506	2210	2.305	2.305	-19378	14292	9224	40441	28989	5878	34867		15.78	Si
SLD 7	10.6	-2668.61	-12944	-10778	2125	2.305	2.305	-16700	13757	8879	40441	28989	5878	34867		16.41	Si
SLV 1	8.8	2922.07	-11841	-9860	3221	2.305	2.305	-15278	13472	8695	40441	28989	5878	34867		10.82	Si
SLV 1	10.6	-2669.94	-9517	-7925	2794	2.305	2.305	-12280	12873	8308	40441	28989	5878	34867		12.48	Si
SLV 7	8.8	1770.79	-16810	-13998	2949	2.305	2.305	-21689	14754	9522	40441	28989	5878	34867		11.82	Si
SLV 7	10.6	-3604.13	-14743	-12276	2819	2.305	2.305	-19021	14221	9178	40441	28989	5878	34867		12.37	Si
SLD 4	8.8	1593.55	-12920	-10759	2246	2.305	2.305	-16670	13751	8875	40441	28989	5878	34867		15.52	Si
SLD 4	10.6	-2345.45	-10730	-8935	1966	2.305	2.305	-13845	13186	8510	40441	28989	5878	34867		17.73	Si
SLV 3	8.8	3066.15	-14391	-11984	3853	2.305	2.305	-18568	14130	9120	40441	28989	5878	34867		9.05	Si
SLV 3	10.6	-3718.37	-12117	-10090	3425	2.305	2.305	-15633	13543	8741	40441	28989	5878	34867		10.18	Si
SLD 1	8.8	2081.43	-11916	-9923	2401	2.305	2.305	-15375	13492	8707	40441	28989	5878	34867		14.52	Si
SLD 1	10.6	-2107.12	-9699	-8077	2122	2.305	2.305	-12514	12919	8338	40441	28989	5878	34867		16.43	Si
SLV 2	8.8	2020.46	-10928	-9100	2361	2.305	2.305	-14100	13237	8543	40441	28989	5878	34867		14.77	Si
SLV 2	10.6	-2023.12	-8604	-7165	1934	2.305	2.305	-11102	12637	8156	40441	28989	5878	34867		18.03	Si
SLV 8	8.8	1163.77	-16195	-13486	2370	2.305	2.305	-20896	14596	9420	40441	28989	5878	34867		14.71	Si
SLV 8	10.6	-3168.65	-14128	-11765	2239	2.305	2.305	-18228	14062	9076	40441	28989	5878	34867		15.57	Si
SLD 3	8.8	2169.59	-13504	-11245	2796	2.305	2.305	-17423	13901	8972	40441	28989	5878	34867		12.47	Si
SLD 3	10.6	-2758.71	-11314	-9421	2516	2.305	2.305	-14597	13336	8607	40441	28989	5878	34867		13.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.45	9873	-6372	286.27	834.44	2.91	Si
SLV 6	179667	0.45	10348	-6678	286.27	871.63	3.04	Si
SLV 9	179667	0.45	10826	-6987	286.27	908.83	3.17	Si
SLV 5	179667	0.45	11300	-7293	286.27	945.49	3.3	Si
SLV 14	179667	0.45	13791	-8901	286.27	1133.57	3.96	Si
SLV 13	179667	0.45	15206	-9814	286.27	1237.11	4.32	Si
SLV 2	179667	0.45	15372	-9921	286.27	1249.18	4.36	Si
SLV 1	179667	0.45	16787	-10834	286.27	1350.08	4.72	Si
SLV 16	179667	0.45	17821	-11502	286.27	1422.36	4.97	Si
SLV 15	179667	0.45	19236	-12415	286.27	1519.16	5.31	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-9494	-12917	304	1.141	1293.4	0.932	17.79099	8.02002	Si
SLV 16	-9245	-11372	304	1.165	1268.3	0.931	18.19064	8.02002	Si
SLV 3	-7929	-17232	345	1.309	1135.6	0.924	20.58178	8.02002	Si
SLV 13	-7818	-9794	-344	1.323	1124.5	0.924	20.81882	8.02002	Si
SLV 4	-7680	-15686	345	1.341	1110.6	0.923	21.12211	8.02002	Si
SLV 14	-7569	-8248	-344	1.356	1099.5	0.922	21.37155	8.02002	Si
SLV 11	-10861	-17819	1074	0.965	1431.5	0.937	14.95745	5.35431	Si
SLV 12	-10693	-16778	1074	0.977	1414.6	0.937	15.15619	5.35431	Si
SLV 7	-10391	-19113	1086	0.998	1384	0.935	15.51258	5.35431	Si
SLV 8	-10223	-18072	1086	1.011	1367.1	0.935	15.72706	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.485	SLU 43	Si
V_SLU	18.695	SLU 81	Si
PF_SLV	3.808	SLV 3	Si
V_SLV	9.048	SLV 3	Si
PFFP_SLV	2.915	SLV 10	Si
R_SLV	2.218	SLV 15	Si

Maschio 209

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L6	L7	1.83	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	8.8	503.22	-9351	-0.000033	0.0003743	0.0035	1.83	7022.25	7426.52	7426.52	14.76	No	Si
SLU 35	10.6	966.68	-9172	-0.0000371	0.0003743	0.0035	1.83	6916.63	7301.27	7301.27	7.55	No	Si
SLU 34	8.8	436.92	-8638	-0.0000301	0.0003743	0.0035	1.83	6594.83	6930.64	6930.64	15.86	No	Si
SLU 34	10.6	898.51	-8480	-0.0000342	0.0003743	0.0035	1.83	6498.22	6822.47	6822.47	7.59	No	Si
SLU 41	8.8	433.06	-8854	-0.0000307	0.0003743	0.0035	1.83	6726.69	7080.55	7080.55	16.35	No	Si
SLU 41	10.6	957.43	-8791	-0.0000358	0.0003743	0.0035	1.83	6688.41	7036.76	7036.76	7.35	No	Si
SLU 40	8.8	388.51	-8330	-0.0000286	0.0003743	0.0035	1.83	6405.06	6719.43	6719.43	17.3	No	Si
SLU 40	10.6	902.89	-8278	-0.0000336	0.0003743	0.0035	1.83	6372.66	6683.9	6683.9	7.4	No	Si
SLU 37	8.8	495.27	-9182	-0.0000324	0.0003743	0.0035	1.83	6922.5	7308.18	7308.18	14.76	No	Si
SLU 37	10.6	946.07	-8983	-0.0000363	0.0003743	0.0035	1.83	6804.13	7169.84	7169.84	7.58	No	Si
SLU 42	8.8	412.35	-8825	-0.0000304	0.0003743	0.0035	1.83	6708.8	7060.06	7060.06	17.12	No	Si
SLU 42	10.6	967.88	-8807	-0.0000359	0.0003743	0.0035	1.83	6697.82	7047.5	7047.5	7.28	No	Si
SLU 36	8.8	482.51	-9321	-0.0000327	0.0003743	0.0035	1.83	7004.88	7405.79	7405.79	15.35	No	Si
SLU 36	10.6	977.14	-9187	-0.0000372	0.0003743	0.0035	1.83	6925.83	7312.1	7312.1	7.48	No	Si
SLU 38	8.8	474.56	-9152	-0.0000321	0.0003743	0.0035	1.83	6904.96	7287.53	7287.53	15.36	No	Si
SLU 38	10.6	956.53	-8999	-0.0000364	0.0003743	0.0035	1.83	6813.43	7180.63	7180.63	7.51	No	Si
SLU 33	8.8	458.67	-8826	-0.0000309	0.0003743	0.0035	1.83	6709.74	7061.13	7061.13	15.39	No	Si
SLU 33	10.6	912.15	-8659	-0.0000349	0.0003743	0.0035	1.83	6607.73	6945.2	6945.2	7.61	No	Si
SLU 39	8.8	409.23	-8360	-0.0000289	0.0003743	0.0035	1.83	6423.45	6739.68	6739.68	16.47	No	Si
SLU 39	10.6	892.44	-8263	-0.0000334	0.0003743	0.0035	1.83	6362.97	6673.29	6673.29	7.48	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	8.8	2289.78	-9305	-0.0000499	0.0005615	0.0035	1.83		7846.9	7846.9	3.43		Si
SLV 3	10.6	-1221.59	-5046	-0.0000264	0.0005615	0.0035	1.83		5233.74	5233.74	4.28		Si
SLV 16	8.8	-304.46	-7846	-0.000026	0.0005615	0.0035	1.83		7470.68	7470.68	24.54		Si
SLV 16	10.6	1808.3	-8048	-0.0000412	0.0005615	0.0035	1.83		6968.27	6968.27	3.85		Si
SLV 6	8.8	-895.97	-2334	-0.0000155	0.0005615	0.0035	1.83		2944.64	2944.64	3.29		Si
SLV 6	10.6	1113.1	-5558	-0.0000269	0.0005615	0.0035	1.83		4982.86	4982.86	4.48		Si
SLV 9	8.8	-1100.76	-2329	-0.0000186	0.0005615	0.0035	1.83		2940.2	2940.2	2.67		Si
SLV 9	10.6	1531.7	-5847	-0.0000318	0.0005615	0.0035	1.83		5218.99	5218.99	3.41		Si
SLD 14	8.8	-575.62	-5780	-0.0000224	0.0005615	0.0035	1.83		5830.97	5830.97	10.13		Si
SLD 14	10.6	1642.05	-7179	-0.0000369	0.0005615	0.0035	1.83		6287.23	6287.23	3.83		Si
SLV 14	8.8	-1223.39	-4964	-0.0000261	0.0005615	0.0035	1.83		5165.12	5165.12	4.22		Si
SLV 14	10.6	2283.24	-7658	-0.0000447	0.0005615	0.0035	1.83		6664.75	6664.75	2.92		Si
SLD 10	8.8	-735.02	-3985	-0.0000185	0.0005615	0.0035	1.83		4347.13	4347.13	5.91		Si
SLD 10	10.6	1367.67	-6312	-0.0000316	0.0005615	0.0035	1.83		5595.34	5595.34	4.09		Si
SLV 10	8.8	-1497.47	-2030	-0.0000402	0.0005615	0.0035	1.464		2680.16	2680.16	1.79		Si
SLV 10	10.6	1870.92	-6270	-0.0000363	0.0005615	0.0035	1.83		5562.03	5562.03	2.97		Si
SLV 13	8.8	-634.15	-5409	-0.0000218	0.0005615	0.0035	1.83		5534.44	5534.44	8.73		Si
SLV 13	10.6	1779.4	-7030	-0.0000378	0.0005615	0.0035	1.83		6169.12	6169.12	3.47		Si
SLV 7	8.8	2563.86	-12239	-0.000062	0.0005615	0.0035	1.83		9830.27	9830.27	3.83		Si
SLV 7	10.6	-809.26	-6435	-0.0000266	0.0005615	0.0035	1.83		6356.54	6356.54	7.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	8.8	613.67	-10494	-8739	-1053	1.83	1.83	-17054	9218	4723	40441	15344	4666	20010	No	19.01	Si
SLU 83	10.6	1006.6	-10022	-8345	-1052	1.83	1.83	-16287	9116	4671	40441	15344	4666	20010	No	19.02	Si
SLU 36	8.8	482.51	-9321	-7762	-1044	1.83	1.83	-15148	8964	4593	40441	15344	4666	20010	No	19.17	Si
SLU 36	10.6	977.14	-9187	-7650	-1043	1.83	1.83	-14930	8935	4578	40441	15344	4666	20010	No	19.18	Si
SLU 38	8.8	474.56	-9152	-7621	-1027	1.83	1.83	-14873	8928	4574	40441	15344	4666	20010	No	19.48	Si
SLU 38	10.6	956.53	-8999	-7493	-1026	1.83	1.83	-14624	8894	4557	40441	15344	4666	20010	No	19.5	Si
SLU 42	8.8	412.35	-8825	-7349	-1137	1.83	1.83	-14341	8857	4538	40441	15344	4666	20010	No	17.6	Si
SLU 42	10.6	967.88	-8807	-7333	-1136	1.83	1.83	-14312	8853	4536	40441	15344	4666	20010	No	17.61	Si
SLU 34	8.8	436.92	-8638	-7193	-1014	1.83	1.83	-14037	8816	4517	40441	15344	4666	20010	No	19.74	Si
SLU 34	10.6	898.51	-8480	-7062	-1013	1.83	1.83	-13782	8782	4500	40441	15344	4666	20010	No	19.75	Si
SLU 39	8.8	409.23	-8360	-6961	-1056	1.83	1.83	-13586	8756	4487	40441	15344	4666	20010	No	18.94	Si
SLU 39	10.6	892.44	-8263	-6881	-1056	1.83	1.83	-13428	8735	4476	40441	15344	4666	20010	No	18.95	Si
SLU 82	8.8	569.13	-9970	-8302	-1053	1.83	1.83	-16202	9105	4665	40441	15344	4666	20010	No	19.01	Si
SLU 82	10.6	952.06	-9509	-7918	-1052	1.83	1.83	-15453	9005	4614	40441	15344	4666	20010	No	19.01	Si
SLU 40	8.8	388.51	-8330	-6937	-1096	1.83	1.83	-13538	8749	4483	40441	15344	4666	20010	No	18.25	Si
SLU 40	10.6	902.89	-8278	-6893	-1096	1.83	1.83	-13453	8738	4477	40441	15344	4666	20010	No	18.25	Si
SLU 84	8.8	592.96	-10465	-8714	-1093	1.83	1.83	-17006	9212	4720	40441	15344	4666	20010	No	18.31	Si
SLU 84	10.6	1017.05	-10037	-8358	-1092	1.83	1.83	-16312	9119	4673	40441	15344	4666	20010	No	18.32	Si
SLU 41	8.8	433.06	-8854	-7373	-1096	1.83	1.83	-14390	8863	4541	40441	15344	4666	20010	No	18.25	Si
SLU 41	10.6	957.43	-8791	-7321	-1096	1.83	1.83	-14287	8849	4534	40441	15344	4666	20010	No	18.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	8.8	-1497.47	-2030	-1690	-4736	1.464	0.5317	0	0	0	40441	18412	3733	22145		4.68	Si
SLV 10	10.6	1870.92	-6270	-5221	-4655	1.83	1.83	-10189	12455	6382	40441	23015	4666	27682		5.95	Si
SLD 14	8.8	-575.62	-5780	-4813	-2887	1.83	1.83	-9394	12295	6300	40441	23015	4666	27682		9.59	Si
SLD 14	10.6	1642.05	-7179	-5978	-2578	1.83	1.83	-11667	12750	6533	40441	23015	4666	27682		10.74	Si
SLV 3	8.8	2289.78	-9305	-7748	3472	1.83	1.83	-15121	13441	6887	40441	23015	4666	27682		7.97	Si
SLV 3	10.6	-1221.59	-5046	-4202	2999	1.83	1.83	-8200	12057	6178	40441	23015	4666	27682		9.23	Si
SLV 7	8.8	2563.86	-12239	-10192	3890	1.83	1.83	-19890	14395	7376	40441	23015	4666	27682		7.12	Si
SLV 7	10.6	-809.26	-6435	-5358	3810	1.83	1.83	-10457	12508	6409	40441	23015	4666	27682		7.27	Si
SLV 6	8.8	-895.97	-2334	-1943	-3324	1.83	1.5933	-4364	11289	5037	40441	23015	4666	27682		8.33	Si
SLV 6	10.6	1113.1	-5558	-4628	-3540	1.83	1.83	-9032	12223	6263	40441	23015	4666	27682		7.82	Si
SLV 8	8.8	2167.15	-11940	-9943	3114	1.83	1.83	-19404	14298	7326	40441	23015	4666	27682		8.89	Si
SLV 8	10.6	-470.04	-6858	-5710	3035	1.83	1.83	-11144	12646	6480	40441	23015	4666	27682		9.12	Si
SLV 13	8.8	-634.15	-5409	-4504	-3166	1.83	1.83	-8790	12175	6238	40441	23015	4666	27682		8.74	Si
SLV 13	10.6	1779.4	-7030	-5854	-2692	1.83	1.83	-11425	12702	6508	40441	23015	4666	27682		10.28	Si
SLV 9	8.8	-1100.76	-2329	-1939	-3960	1.83	1.327	-5230	11463	4259	40441	23015	4666	27682		6.99	Si
SLV 9	10.6	1531.7	-5847	-4869	-3880	1.83	1.83	-9502	12317	6311	40441	23015	4666	27682		7.13	Si
SLV 14	8.8	-1223.39	-4964	-4134	-4318	1.83	1.83	-8068	12030	6164	40441	23015	4666	27682		6.41	Si
SLV 14	10.6	2283.24	-7658	-6377	-3844	1.83	1.83	-12446	12906	6613	40441	23015	4666	27682		7.2	Si
SLD 10	8.8	-735.02	-3985	-3319	-3117	1.83	1.83	-6476	11712	6001	40441	23015	4666	27682		8.88	Si
SLD 10	10.6	1367.67	-6312	-5256	-3062	1.83	1.83	-10257	12468	6389	40441	23015	4666	27682		9.04	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.45	8721	-4469	227.28	589.89	2.6	Si
SLV 6	179667	0.45	8979	-4601	227.28	606.23	2.67	Si
SLV 9	179667	0.45	9348	-4790	227.28	629.54	2.77	Si
SLV 10	179667	0.45	9606	-4922	227.28	645.73	2.84	Si
SLV 1	179667	0.45	10983	-5628	227.28	731.23	3.22	Si
SLV 2	179667	0.45	11366	-5824	227.28	754.66	3.32	Si
SLV 13	179667	0.45	13073	-6698	227.28	857.51	3.77	Si
SLV 14	179667	0.45	13455	-6895	227.28	880.19	3.87	Si
SLV 3	179667	0.45	13603	-6970	227.28	888.88	3.91	Si
SLV 4	179667	0.45	13985	-7166	227.28	911.37	4.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.

- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-5808	-8653	-163	1.407	852.6	0.921	22.20081	8.02002	Si
SLV 14	-5492	-6206	-370	1.438	821	0.919	22.75503	8.02002	Si
SLV 15	-5498	-8653	-164	1.466	821.6	0.919	23.19074	8.02002	Si
SLV 4	-5197	-7252	377	1.498	791.4	0.917	23.75173	8.02002	Si
SLV 13	-5182	-6206	-371	1.502	790	0.916	23.81762	8.02002	Si
SLV 3	-4888	-7253	376	1.567	760.5	0.914	24.9155	8.02002	Si
SLV 2	-4881	-4805	170	1.6	759.9	0.914	25.44348	8.02002	Si
SLV 1	-4572	-4805	169	1.678	729	0.912	26.7554	8.02002	Si
SLV 12	-5912	-11018	267	1.374	863.1	0.922	21.6702	5.35431	Si
SLV 8	-5728	-10598	429	1.386	844.7	0.92	21.87723	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.281	SLU 42	Si
V_SLU	17.605	SLU 42	Si
PF_SLV	1.79	SLV 10	Si
V_SLV	4.676	SLV 10	Si
PFFP_SLV	2.595	SLV 5	Si
R_SLV	2.768	SLV 16	Si

Maschio 210

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L6	L7	9.12	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 30	7.9	1366.54	-50915	-0.0000312	0.0003743	0.0035	9.12	186703.57	199468.81	199468.81	145.97	No	Si
SLU 30	11.45	3451.55	-28562	-0.0000182	0.0003743	0.0035	9.12	115935.81	123335.16	123335.16	35.73	No	Si
SLU 51	7.9	521.46	-52957	-0.0000322	0.0003743	0.0035	9.12	192295.01	206810.34	206810.34	396.6	No	Si
SLU 51	11.45	3214.65	-29305	-0.0000186	0.0003743	0.0035	9.12	118566.7	125827.12	125827.12	39.14	No	Si
SLU 9	7.9	1046.05	-43372	-0.0000264	0.0003743	0.0035	9.12	164782.6	172870.31	172870.31	165.26	No	Si
SLU 9	11.45	3090.44	-24280	-0.0000155	0.0003743	0.0035	9.12	100378.76	106892.08	106892.08	34.59	No	Si
SLU 7	7.9	874.76	-44309	-0.0000269	0.0003743	0.0035	9.12	167613.22	176121.91	176121.91	201.34	No	Si
SLU 7	11.45	2940.07	-25025	-0.0000159	0.0003743	0.0035	9.12	103131.59	109843.26	109843.26	37.36	No	Si
SLU 72	7.9	841.95	-60500	-0.0000371	0.0003743	0.0035	9.12	211679.96	231971.83	231971.83	275.52	No	Si
SLU 72	11.45	3575.75	-33587	-0.0000213	0.0003743	0.0035	9.12	133369.1	139812.52	139812.52	39.1	No	Si
SLU 27	7.9	1333.44	-51908	-0.0000318	0.0003743	0.0035	9.12	189440.7	203031.6	203031.6	152.26	No	Si
SLU 27	11.45	3091.97	-29342	-0.0000185	0.0003743	0.0035	9.12	118699.85	125949	125949	40.73	No	Si
SLU 28	7.9	1195.25	-51851	-0.0000317	0.0003743	0.0035	9.12	189286.37	202829.14	202829.14	169.7	No	Si
SLU 28	11.45	3301.17	-29307	-0.0000186	0.0003743	0.0035	9.12	118576.74	125836.31	125836.31	38.12	No	Si
SLU 6	7.9	1012.95	-44365	-0.000027	0.0003743	0.0035	9.12	167782.46	176318.25	176318.25	174.06	No	Si
SLU 6	11.45	2730.86	-25060	-0.0000158	0.0003743	0.0035	9.12	103259.94	109980.2	109980.2	40.27	No	Si
SLU 8	7.9	1184.24	-43428	-0.0000264	0.0003743	0.0035	9.12	164953.69	173065.03	173065.03	146.14	No	Si
SLU 8	11.45	2881.24	-24315	-0.0000154	0.0003743	0.0035	9.12	100508.02	107030.33	107030.33	37.15	No	Si
SLU 29	7.9	1504.73	-50971	-0.0000313	0.0003743	0.0035	9.12	186859.75	199670.54	199670.54	132.7	No	Si
SLU 29	11.45	3242.35	-28597	-0.0000181	0.0003743	0.0035	9.12	116059.83	123457.85	123457.85	38.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	7.9	-22743.31	-44132	-0.000035	0.0005615	0.0035	9.12		208098.76	208098.76	9.15		Si
SLD 10	11.45	1532.58	-22976	-0.000014	0.0005615	0.0035	9.12		103756.63	103756.63	67.7		Si
SLD 9	7.9	-22635.91	-44058	-0.0000349	0.0005615	0.0035	9.12		207813.93	207813.93	9.18		Si
SLD 9	11.45	510.42	-22981	-0.0000136	0.0005615	0.0035	9.12		103778.11	103778.11	203.32		Si
SLV 12	7.9	29836.96	-49569	-0.0000411	0.0005615	0.0035	9.12		205000.33	205000.33	6.87		Si
SLV 12	11.45	526.39	-24837	-0.0000147	0.0005615	0.0035	9.12		111434.33	111434.33	211.7		Si
SLV 7	7.9	32877.58	-44234	-0.000039	0.0005615	0.0035	9.12		187231.31	187231.31	5.69		Si
SLV 7	11.45	-106.4	-24393	-0.0000143	0.0005615	0.0035	9.12		130107.75	130107.75	1222.77		Si
SLV 5	7.9	-32954.2	-38758	-0.0000357	0.0005615	0.0035	9.12		187689.3	187689.3	5.7		Si
SLV 5	11.45	1135.58	-22223	-0.0000134	0.0005615	0.0035	9.12		100607.03	100607.03	88.6		Si
SLV 9	7.9	-35824.1	-43974	-0.00004	0.0005615	0.0035	9.12		207492.76	207492.76	5.79		Si
SLV 9	11.45	143.52	-22675	-0.0000133	0.0005615	0.0035	9.12		102498.57	102498.57	714.16		Si
SLV 8	7.9	32706.85	-44353	-0.000039	0.0005615	0.0035	9.12		187622.74	187622.74	5.74		Si
SLV 8	11.45	1518.45	-24385	-0.0000148	0.0005615	0.0035	9.12		109576.38	109576.38	72.16		Si
SLV 11	7.9	30007.69	-49451	-0.0000411	0.0005615	0.0035	9.12		204604.31	204604.31	6.82		Si
SLV 11	11.45	-1098.46	-24845	-0.0000149	0.0005615	0.0035	9.12		131982.97	131982.97	120.15		Si
SLV 6	7.9	-33124.93	-38876	-0.0000358	0.0005615	0.0035	9.12		188134.49	188134.49	5.68		Si
SLV 6	11.45	2760.44	-22215	-0.000014	0.0005615	0.0035	9.12		100572.77	100572.77	36.43		Si
SLV 10	7.9	-35994.83	-44092	-0.0000402	0.0005615	0.0035	9.12		207945.45	207945.45	5.78		Si
SLV 10	11.45	1768.38	-22667	-0.0000139	0.0005615	0.0035	9.12		102464.25	102464.25	57.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7.9	-2754.18	-62640	-52161	-2083	9.12	9.12	-20426	9668	33156	40441	76466	23256	73597	No	35.34	Si
SLU 73	11.45	1314.57	-33219	-27662	-1975	9.12	9.12	-10833	8389	23357	40441	76466	23256	63798	No	32.3	Si
SLU 63	7.9	-2101	-58723	-48899	-1967	9.12	9.12	-19149	9498	31852	40441	76466	23256	72293	No	36.75	Si
SLU 63	11.45	1692.95	-31297	-26062	-1903	9.12	9.12	-10206	8305	22717	40441	76466	23256	63158	No	33.2	Si
SLU 84	7.9	-1780.5	-66265	-55180	-1917	9.12	9.12	-21609	9826	34364	40441	76466	23256	74805	No	39.03	Si
SLU 84	11.45	2054.05	-35579	-29627	-1852	9.12	9.12	-11602	8491	24143	40441	76466	23256	64584	No	34.86	Si
SLU 55	7.9	-1791.38	-56526	-47070	-2104	9.12	9.12	-18433	9402	31120	40441	76466	23256	71561	No	34.01	Si
SLU 55	11.45	1980.74	-30275	-25210	-1996	9.12	9.12	-9872	8261	22377	40441	76466	23256	62818	No	31.47	Si
SLU 47	7.9	-853.97	-51490	-42876	-1869	9.12	9.12	-16790	9183	29443	40441	76466	23256	69884	No	37.39	Si
SLU 47	11.45	2326.84	-27944	-23269	-1760	9.12	9.12	-9112	8159	21600	40441	76466	23256	62041	No	35.25	Si
SLU 82	7.9	-3063.8	-64836	-53990	-1945	9.12	9.12	-21143	9763	33888	40441	76466	23256	74329	No	38.21	Si
SLU 82	11.45	1026.78	-34242	-28514	-1882	9.12	9.12	-11166	8433	23698	40441	76466	23256	64139	No	34.09	Si
SLU 44	7.9	-2137.27	-50060	-41686	-1898	9.12	9.12	-16324	9121	28967	40441	76466	23256	69408	No	36.57	Si
SLU 44	11.45	1299.57	-26607	-22156	-1789	9.12	9.12	-8676	8101	21155	40441	76466	23256	61596	No	34.42	Si
SLU 76	7.9	-1470.88	-64069	-53351	-2054	9.12	9.12	-20893	9730	33633	40441	76466	23256	74074	No	36.06	Si
SLU 76	11.45	2341.85	-34557	-28776	-1946	9.12	9.12	-11269	8447	23803	40441	76466	23256	64244	No	33.02	Si
SLU 52	7.9	-3074.67	-55097	-45880	-2133	9.12	9.12	-17967	9340	30644	40441	76466	23256	71085	No	33.32	Si
SLU 52	11.45	953.47	-28938	-24097	-2025	9.12	9.12	-9436	8203	21931	40441	76466	23256	62372	No	30.8	Si
SLU 61	7.9	-3384.3	-57293	-47709	-1996	9.12	9.12	-18683	9435	31376	40441	76466	23256	71817	No	35.98	Si
SLU 61	11.45	665.67	-29960	-24948	-1932	9.12	9.12	-9770	8247	22272	40441	76466	23256	62713	No	32.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	7.9	-20984.25	-40870	-34033	-20654	9.12	9.12	-13328	13082	33407	40441	114699	23256	73848		3.58	Si
SLD 6	11.45	2159.29	-22723	-18922	-18143	9.12	9.12	-7410	11899	30384	40441	114699	23256	70825		3.9	Si
SLD 10	7.9	-22743.31	-44132	-36750	-20542	9.12	9.12	-14391	13295	33950	40441	114699	23256	74391		3.62	Si
SLD 10	11.45	1532.58	-22976	-19132	-18054	9.12	9.12	-7492	11915	30426	40441	114699	23256	70867		3.93	Si
SLV 8	7.9	32706.85	-44353	-36933	26831	9.12	9.12	-14463	13309	33987	40441	114699	23256	74428		2.77	Si
SLV 8	11.45	1518.45	-24385	-20306	22886	9.12	9.12	-7952	12007	30661	40441	114699	23256	71102		3.11	Si
SLV 12	7.9	29836.96	-49569	-41277	27006	9.12	9.12	-16164	13650	34950	40441	114699	23256	75391		2.79	Si
SLV 12	11.45	526.39	-24837	-20682	23022	9.12	9.12	-8099	12036	30736	40441	114699	23256	71177		3.09	Si
SLV 7	7.9	32877.58	-44234	-36835	30376	9.12	9.12	-14425	13302	33967	40441	114699	23256	74408		2.45	Si
SLV 7	11.45	-106.4	-24393	-20313	26431	9.12	9.12	-7954	12008	30663	40441	114699	23256	71103		2.69	Si
SLV 10	7.9	-35994.83	-44092	-36716	-32459	9.12	9.12	-14378	13292	33943	40441	114699	23256	74384		2.29	Si
SLV 10	11.45	1768.38	-22667	-18875	-28515	9.12	9.12	-7392	11895	30375	40441	114699	23256	70816		2.48	Si
SLV 6	7.9	-33124.93	-38876	-32372	-32634	9.12	9.12	-12677	12952	33074	40441	114699	23256	73515		2.25	Si
SLV 6	11.45	2760.44	-22215	-18499	-28651	9.12	9.12	-7244	11866	30300	40441	114699	23256	70741		2.47	Si
SLV 11	7.9	30007.69	-49451	-41179	30551	9.12	9.12	-16126	13642	34910	40441	114699	23256	75351		2.47	Si
SLV 11	11.45	-1098.46	-24845	-20689	26567	9.12	9.12	-8102	12037	30738	40441	114699	23256	71179		2.68	Si
SLV 5	7.9	-32954.2	-38758	-32274	-29089	9.12	9.12	-12639	12944	33055	40441	114699	23256	73496		2.53	Si
SLV 5	11.45	1135.58	-22223	-18506	-25107	9.12	9.12	-7247	11866	30301	40441	114699	23256	70742		2.82	Si
SLV 9	7.9	-35824.1	-43974	-36618	-28914	9.12	9.12	-14340	13285	33924	40441	114699	23256	74365		2.57	Si
SLV 9	11.45	143.52	-22675	-18882	-24971	9.12	9.12	-7394	11896	30376	40441	114699	23256	70817		2.84	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.675 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.45	11477	-29309	1132.65	3794.87	3.35	Si
SLV 2	179667	0.45	11507	-29384	1132.65	3803.76	3.36	Si
SLV 3	179667	0.45	11866	-30302	1132.65	3912.6	3.45	Si
SLV 4	179667	0.45	11895	-30376	1132.65	3921.43	3.46	Si
SLV 5	179667	0.45	11999	-30641	1132.65	3952.64	3.49	Si
SLV 6	179667	0.45	12019	-30691	1132.65	3958.58	3.49	Si
SLV 9	179667	0.45	12831	-32764	1132.65	4201.61	3.71	Si
SLV 10	179667	0.45	12850	-32814	1132.65	4207.47	3.71	Si
SLV 7	179667	0.45	13295	-33949	1132.65	4339.15	3.83	Si
SLV 8	179667	0.45	13314	-34000	1132.65	4344.97	3.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 9.675 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-24615	-53592	2457	1.537	3815.8	0.915	24.43144	8.02002	Si
SLV 16	-24603	-53767	2457	1.538	3814.6	0.914	24.44086	8.02002	Si
SLV 13	-23964	-51949	2439	1.568	3750.8	0.913	24.95154	8.02002	Si
SLV 14	-23951	-52124	2439	1.569	3749.6	0.913	24.96135	8.02002	Si
SLV 3	-23109	-36203	-2440	1.61	3665.5	0.912	25.65539	8.02002	Si
SLV 4	-23096	-36378	-2441	1.611	3664.3	0.912	25.66564	8.02002	Si
SLV 1	-22458	-34560	-2459	1.643	3600.7	0.911	26.20931	8.02002	Si
SLV 2	-22445	-34735	-2459	1.643	3599.5	0.911	26.22001	8.02002	Si
SLV 11	-24845	-49451	764	1.578	3838.8	0.915	25.07036	5.35431	Si
SLV 12	-24837	-49569	764	1.579	3838	0.915	25.07682	5.35431	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	34.588	SLU 9	Si
V_SLU	30.799	SLU 52	Si
PF_SLV	5.68	SLV 6	Si
V_SLV	2.253	SLV 6	Si
PFFP_SLV	3.35	SLV 1	Si
R_SLV	3.046	SLV 15	Si

Maschio 211

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.614	-3.169	-24.614	5.951	L7	L8	9.121	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	11.45	172.14	-29927	-0.0000177	0.0003743	0.0035	9.1207	120769.35	127855.59	127855.59	742.75	No	Si
SLU 49	14.6	2173.4	-5543	-0.000004	0.0003743	0.0035	9.1207	24738.6	28758.9	28758.9	13.23	No	Si
SLU 80	11.45	109.56	-35008	-0.0000208	0.0003743	0.0035	9.1207	138152.85	144533.4	144533.4	1319.24	No	Si
SLU 80	14.6	2457.48	-6320	-0.0000046	0.0003743	0.0035	9.1207	28119.43	32140.09	32140.09	13.08	No	Si
SLU 59	11.45	-142.51	-31197	-0.0000185	0.0003743	0.0035	9.1207	125199.94	154250.74	154250.74	1082.37	No	Si
SLU 59	14.6	2279.09	-5689	-0.0000041	0.0003743	0.0035	9.1207	25378.19	29398.68	29398.68	12.9	No	Si
SLU 30	11.45	503.23	-28019	-0.0000167	0.0003743	0.0035	9.1207	114006.22	121397.58	121397.58	241.24	No	Si
SLU 30	14.6	2188.05	-5534	-0.000004	0.0003743	0.0035	9.1207	24699.89	28720.13	28720.13	13.13	No	Si
SLU 50	11.45	-47.95	-29292	-0.0000173	0.0003743	0.0035	9.1207	118533.69	147227.86	147227.86	3070.54	No	Si
SLU 50	14.6	2183.75	-5571	-0.000004	0.0003743	0.0035	9.1207	24863.37	28883.9	28883.9	13.23	No	Si
SLU 17	11.45	-12.5	-26134	-0.0000154	0.0003743	0.0035	9.1207	107201.55	134888.41	134888.41	10788.54	No	Si
SLU 17	14.6	2046.87	-5029	-0.0000037	0.0003743	0.0035	9.1207	22489.79	26497.87	26497.87	12.95	No	Si
SLU 38	11.45	239.57	-29945	-0.0000178	0.0003743	0.0035	9.1207	120831.28	127912.79	127912.79	533.93	No	Si
SLU 38	14.6	2225.25	-5659	-0.0000041	0.0003743	0.0035	9.1207	25245.63	29266.72	29266.72	13.15	No	Si
SLU 9	11.45	251.16	-24208	-0.0000143	0.0003743	0.0035	9.1207	100119.05	106614.71	106614.71	424.49	No	Si
SLU 9	14.6	2009.66	-4904	-0.0000036	0.0003743	0.0035	9.1207	21941.29	25946.91	25946.91	12.91	No	Si
SLU 51	11.45	121.15	-29271	-0.0000173	0.0003743	0.0035	9.1207	118459.5	125732.57	125732.57	1037.8	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	14.6	2241.89	-5564	-0.0000041	0.0003743	0.0035	9.1207	24832.59	28853.05	28853.05	12.87	No	Si
SLU 72	11.45	373.22	-33082	-0.0000197	0.0003743	0.0035	9.1207	131669.87	138162.96	138162.96	370.19	No	Si
SLU 72	14.6	2420.27	-6195	-0.0000045	0.0003743	0.0035	9.1207	27576.59	31595.29	31595.29	13.05	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	11.45	5416.17	-22655	-0.0000153	0.0005615	0.0035	9.1207		102423.26	102423.26	18.91		Si
SLV 11	14.6	6874.82	-3575	-0.0000047	0.0005615	0.0035	9.1207		20116.63	20116.63	2.93		Si
SLV 7	11.45	3968.83	-23237	-0.0000151	0.0005615	0.0035	9.1207		104854.25	104854.25	26.42		Si
SLV 7	14.6	6753.26	-3747	-0.0000047	0.0005615	0.0035	9.1207		20883.44	20883.44	3.09		Si
SLV 12	11.45	4315.51	-22660	-0.0000149	0.0005615	0.0035	9.1207		102444.32	102444.32	23.74		Si
SLV 12	14.6	6612.46	-3565	-0.0000046	0.0005615	0.0035	9.1207		20071.34	20071.34	3.04		Si
SLD 12	11.45	2417.18	-22752	-0.0000142	0.0005615	0.0035	9.1207		102831.16	102831.16	42.54		Si
SLD 12	14.6	4504	-3399	-0.0000037	0.0005615	0.0035	9.1207		19328.48	19328.48	4.29		Si
SLD 7	11.45	2200.4	-23085	-0.0000143	0.0005615	0.0035	9.1207		104219.1	104219.1	47.36		Si
SLD 7	14.6	4591.18	-3516	-0.0000038	0.0005615	0.0035	9.1207		19849.56	19849.56	4.32		Si
SLV 8	11.45	2868.17	-23242	-0.0000146	0.0005615	0.0035	9.1207		104875.14	104875.14	36.57		Si
SLV 8	14.6	6490.9	-3737	-0.0000046	0.0005615	0.0035	9.1207		20838.22	20838.22	3.21		Si
SLV 15	11.45	4368.27	-21920	-0.0000144	0.0005615	0.0035	9.1207		99347.94	99347.94	22.74		Si
SLV 15	14.6	3129.99	-3016	-0.0000029	0.0005615	0.0035	9.1207		17613.9	17613.9	5.63		Si
SLD 8	11.45	1508.01	-23088	-0.000014	0.0005615	0.0035	9.1207		104232.27	104232.27	69.12		Si
SLD 8	14.6	4426.14	-3509	-0.0000037	0.0005615	0.0035	9.1207		19821.09	19821.09	4.48		Si
SLV 16	11.45	2733.47	-21927	-0.0000138	0.0005615	0.0035	9.1207		99379.13	99379.13	36.36		Si
SLV 16	14.6	2740.31	-3000	-0.0000028	0.0005615	0.0035	9.1207		17546.65	17546.65	6.4		Si
SLD 11	11.45	3109.57	-22749	-0.0000144	0.0005615	0.0035	9.1207		102817.91	102817.91	33.06		Si
SLD 11	14.6	4669.04	-3406	-0.0000037	0.0005615	0.0035	9.1207		19356.92	19356.92	4.15		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	11.45	121.15	-29271	-24375	-248	9.1207	9.1207	-9544	8217	22043	35683	76472	23258	57727	No	232.44	Si
SLU 51	14.6	2241.89	-5564	-4634	-351	9.1207	9.1207	-1814	7186	18352	35683	76472	23258	54036	No	153.91	Si
SLU 24	11.45	271.44	-27197	-22647	379	9.1207	9.1207	-8868	8127	21353	35683	76472	23258	57036	No	150.32	Si
SLU 24	14.6	1574.64	-4525	-3768	257	9.1207	9.1207	-1476	7141	18237	35683	76472	23258	53920	No	209.8	Si
SLU 39	11.45	-269.88	-27794	-23145	311	9.1207	9.1207	-9063	8153	21551	35683	76472	23258	57235	No	184.31	Si
SLU 39	14.6	1209.49	-3731	-3107	223	9.1207	9.1207	-1217	7107	18149	35683	76472	23258	53832	No	240.87	Si
SLU 59	11.45	-142.51	-31197	-25978	-288	9.1207	9.1207	-10172	8301	22685	35683	76472	23258	58368	No	202.67	Si
SLU 59	14.6	2279.09	-5689	-4738	-391	9.1207	9.1207	-1855	7192	18366	35683	76472	23258	54050	No	138.37	Si
SLU 63	11.45	-369.18	-30524	-25418	-233	9.1207	9.1207	-9953	8272	22461	35683	76472	23258	58144	No	249.16	Si
SLU 63	14.6	1808.25	-4749	-3954	-294	9.1207	9.1207	-1548	7151	18262	35683	76472	23258	53945	No	183.77	Si
SLU 50	11.45	-47.95	-29292	-24392	-162	9.1207	9.1207	-9551	8218	22050	35683	76472	23258	57734	No	356.58	Si
SLU 50	14.6	2183.75	-5571	-4639	-339	9.1207	9.1207	-1817	7187	18353	35683	76472	23258	54036	No	159.48	Si
SLU 58	11.45	-311.61	-31218	-25996	-202	9.1207	9.1207	-10179	8302	22692	35683	76472	23258	58375	No	289.62	Si
SLU 58	14.6	2220.95	-5697	-4744	-378	9.1207	9.1207	-1857	7192	18367	35683	76472	23258	54050	No	142.85	Si
SLU 57	11.45	-91.53	-31853	-26525	-204	9.1207	9.1207	-10386	8329	22903	35683	76472	23258	58586	No	287.04	Si
SLU 57	14.6	2210.61	-5668	-4720	-300	9.1207	9.1207	-1848	7191	18364	35683	76472	23258	54047	No	180.42	Si
SLU 22	11.45	106.79	-25043	-20854	367	9.1207	9.1207	-8166	8033	20635	35683	76472	23258	56318	No	153.39	Si
SLU 22	14.6	1156.34	-3552	-2958	280	9.1207	9.1207	-1158	7099	18129	35683	76472	23258	53812	No	192.21	Si
SLU 32	11.45	7.78	-29123	-24251	340	9.1207	9.1207	-9496	8211	21994	35683	76472	23258	57677	No	169.75	Si
SLU 32	14.6	1611.84	-4650	-3872	217	9.1207	9.1207	-1516	7147	18251	35683	76472	23258	53934	No	248	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	11.45	-2714.37	-22990	-19144	-8154	9.1207	9.1207	-7496	11916	30431	35683	114708	23258	66114		8.11	Si
SLD 5	14.6	-2424.9	-2877	-2396	-4922	9.1207	9.1207	-938	10604	27081	35683	114708	23258	62764		12.75	Si
SLV 5	11.45	-4612.7	-23082	-19221	-13364	9.1207	9.1207	-7526	11922	30446	35683	114708	23258	66129		4.95	Si
SLV 5	14.6	-4533.36	-2711	-2257	-8110	9.1207	8.664	-931	10603	25721	35683	114708	23258	61405		7.57	Si
SLV 11	11.45	5416.17	-22655	-18865	12604	9.1207	9.1207	-7387	11894	30375	35683	114708	23258	66058		5.24	Si
SLV 11	14.6	6874.82	-3575	-2977	7194	9.1207	7.9127	-1166	10650	23595	35683	114708	23258	59278		8.24	Si
SLV 7	11.45	3968.83	-23237	-19350	12060	9.1207	9.1207	-7577	11932	30472	35683	114708	23258	66155		5.49	Si
SLV 7	14.6	6753.26	-3747	-3120	6849	9.1207	8.2737	-1222	10661	24698	35683	114708	23258	60381		8.82	Si
SLV 8	11.45	2868.17	-23242	-19354	13101	9.1207	9.1207	-7579	11932	30473	35683	114708	23258	66156		5.05	Si
SLV 8	14.6	6490.9	-3737	-3112	7889	9.1207	8.4697	-1218	10660	25281	35683	114708	23258	60964		7.73	Si
SLV 10	11.45	-4266.02	-22505	-18740	-11780	9.1207	9.1207	-7338	11884	30350	35683	114708	23258	66033		5.61	Si
SLV 10	14.6	-4674.15	-2529	-2106	-6725	9.1207	8.1372	-924	10601	24154	35683	114708	23258	59838		8.9	Si
SLD 12	11.45	2417.18	-22752	-18946	8434	9.1207	9.1207	-7419	11900	30391	35683	114708	23258	66074		7.83	Si
SLD 12	14.6	4504	-3399	-2831	5047	9.1207	9.1207	-1108	10638	27168	35683	114708	23258	62851		12.45	Si
SLV 6	11.45	-5713.36	-23087	-19225	-12324	9.1207	9.1207	-7528	11922	30447	35683	114708	23258	66130		5.37	Si
SLV 6	14.6	-4795.72	-2701	-2249	-7070	9.1207	8.3538	-961	10609	24815	35683	114708	23258	60498		8.56	Si
SLV 12	11.45	4315.51	-22660	-18869	13645	9.1207	9.1207	-7389	11894	30376	35683	114708	23258	66059		4.84	Si
SLV 12	14.6	6612.46	-3565	-2969	8234	9.1207	8.1171	-1163	10649	24203	35683	114708	23258	59886		7.27	Si
SLV 9	11.45	-3165.36	-22500	-18736	-12820	9.1207	9.1207	-7337	11884	30349	35683	114708	23258	66032		5.15	Si
SLV 9	14.6	-4411.79	-2540	-2115	-7765	9.1207	8.4692	-892	10595	25125	35683	114708	23258	60808		7.83	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.52	4889	-12487	1033.76	1692.14	1.64	Si
SLV 3	179667	0.52	4891	-12490	1033.76	1692.64	1.64	Si
SLV 8	179667	0.52	4908	-12535	1033.76	1698.52	1.64	Si
SLV 7	179667	0.52	4909	-12538	1033.76	1698.86	1.64	Si
SLV 2	179667	0.52	4918	-12558	1033.76	1701.57	1.65	Si
SLV 1	179667	0.52	4919	-12562	1033.76	1702.06	1.65	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.52	4953	-12648	1033.76	1713.34	1.66	Si
SLV 11	179667	0.52	4954	-12651	1033.76	1713.68	1.66	Si
SLV 6	179667	0.52	5002	-12775	1033.76	1729.92	1.67	Si
SLV 5	179667	0.52	5003	-12778	1033.76	1730.25	1.67	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-3586	-23862	-1503	4.667	1658	0.9	75.34521	7.57858	Si
SLV 4	-3571	-23869	-1503	4.674	1656.8	0.9	75.43851	7.57858	Si
SLV 1	-3276	-23815	-1519	4.802	1634.7	0.903	77.2803	7.57858	Si
SLV 2	-3261	-23822	-1519	4.809	1633.6	0.903	77.37712	7.57858	Si
SLV 15	-3016	-21920	1288	4.946	1615.7	0.906	79.33655	7.57858	Si
SLV 16	-3000	-21927	1289	4.953	1614.7	0.906	79.43628	7.57858	Si
SLV 13	-2705	-21873	1273	5.1	1594	0.91	81.46405	7.57858	Si
SLV 14	-2690	-21881	1273	5.108	1592.9	0.91	81.56731	7.57858	Si
SLV 7	-3747	-23237	-508	4.69	1670.3	0.899	75.82802	5.5671	Si
SLV 8	-3737	-23242	-508	4.695	1669.5	0.899	75.89082	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.87	SLU 51	Si
V_SLU	138.373	SLU 59	Si
PF_SLV	2.926	SLV 11	Si
V_SLV	4.841	SLV 12	Si
PFFP_SLV	1.637	SLV 4	Si
R_SLV	9.942	SLV 3	Si

Maschio 212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.778	5.951	-24.614	5.951	L7	L8	1.837	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	12.35	360.76	-4333	-0.0000161	0.0003743	0.0035	1.8365	3649.41	3912.86	3912.86	10.85	No	Si
SLU 82	14.15	-560.95	-3669	-0.000016	0.0003743	0.0035	1.8365	3132.65	4050.14	4050.14	7.22	No	Si
SLU 81	12.35	341.11	-4336	-0.0000159	0.0003743	0.0035	1.8365	3652.17	3915.77	3915.77	11.48	No	Si
SLU 81	14.15	-550.26	-3660	-0.0000158	0.0003743	0.0035	1.8365	3125.7	4042.85	4042.85	7.35	No	Si
SLU 32	12.35	295.39	-4322	-0.0000154	0.0003743	0.0035	1.8365	3641.22	3904.21	3904.21	13.22	No	Si
SLU 32	14.15	-576.04	-4118	-0.0000175	0.0003743	0.0035	1.8365	3484.26	4422.16	4422.16	7.68	No	Si
SLU 31	12.35	346.27	-3552	-0.0000136	0.0003743	0.0035	1.8365	3040.34	3275.09	3275.09	9.46	No	Si
SLU 31	14.15	-514.88	-3185	-0.0000141	0.0003743	0.0035	1.8365	2746.84	3652.08	3652.08	7.09	No	Si
SLU 40	12.35	411.25	-3450	-0.0000139	0.0003743	0.0035	1.8365	2959.03	3190.17	3190.17	7.76	No	Si
SLU 40	14.15	-534.45	-3181	-0.0000143	0.0003743	0.0035	1.8365	2743.8	3649	3649	6.83	No	Si
SLU 33	12.35	315.03	-4318	-0.0000156	0.0003743	0.0035	1.8365	3638.45	3901.29	3901.29	12.38	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 33	14.15	-586.72	-4127	-0.0000176	0.0003743	0.0035	1.8365	3491.06	4429.33	4429.33	7.55	No	Si
SLU 75	12.35	264.54	-5202	-0.0000177	0.0003743	0.0035	1.8365	4301.92	4606.22	4606.22	17.41	No	Si
SLU 75	14.15	-613.23	-4614	-0.0000193	0.0003743	0.0035	1.8365	3863.75	4816.14	4816.14	7.85	No	Si
SLU 74	12.35	244.89	-5205	-0.0000176	0.0003743	0.0035	1.8365	4304.57	4609.05	4609.05	18.82	No	Si
SLU 74	14.15	-602.54	-4606	-0.0000192	0.0003743	0.0035	1.8365	3857.09	4809.19	4809.19	7.98	No	Si
SLU 39	12.35	391.61	-3453	-0.0000137	0.0003743	0.0035	1.8365	2961.9	3193.17	3193.17	8.15	No	Si
SLU 39	14.15	-523.76	-3173	-0.0000141	0.0003743	0.0035	1.8365	2736.71	3641.82	3641.82	6.95	No	Si
SLU 73	12.35	295.78	-4435	-0.0000157	0.0003743	0.0035	1.8365	3727.56	3995.42	3995.42	13.51	No	Si
SLU 73	14.15	-541.38	-3672	-0.0000158	0.0003743	0.0035	1.8365	3135.62	4053.27	4053.27	7.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	12.35	993.62	-2653	-0.0000172	0.0005615	0.0035	1.8365		2549.37	2549.37	2.57		Si
SLD 10	14.15	-975.47	-2849	-0.0000174	0.0005615	0.0035	1.8365		3400.77	3400.77	3.49		Si
SLV 5	12.35	1833.07	-1755	-0.0013767	0.0005615	0.0035	1.4692		1763.29	1763.29	0.96		No
SLV 5	14.15	-1709.44	-3028	-0.0000304	0.0005615	0.0035	1.4692		3555.1	3555.1	2.08		Si
SLV 8	12.35	-1679.54	-4900	-0.0000303	0.0005615	0.0035	1.8365		5128.68	5128.68	3.05		Si
SLV 8	14.15	877.07	-2240	-0.000015	0.0005615	0.0035	1.8365		2189.91	2189.91	2.5		Si
SLD 6	12.35	980.57	-2507	-0.0000167	0.0005615	0.0035	1.8365		2422.23	2422.23	2.47		Si
SLD 6	14.15	-1073.58	-2824	-0.0000185	0.0005615	0.0035	1.8365		3378.47	3378.47	3.15		Si
SLV 10	12.35	1543.08	-2153	-0.0000382	0.0005615	0.0035	1.8365		2114.27	2114.27	1.37		Si
SLV 10	14.15	-1370.76	-2960	-0.000023	0.0005615	0.0035	1.8365		3496.44	3496.44	2.55		Si
SLV 12	12.35	-1666.05	-5137	-0.0000308	0.0005615	0.0035	1.8365		5328.85	5328.85	3.2		Si
SLV 12	14.15	1035.23	-2278	-0.0000173	0.0005615	0.0035	1.8365		2223.34	2223.34	2.15		Si
SLD 5	12.35	1171.49	-2406	-0.0000197	0.0005615	0.0035	1.8365		2334.48	2334.48	1.99		Si
SLD 5	14.15	-1187.14	-2890	-0.0000201	0.0005615	0.0035	1.8365		3436.3	3436.3	2.89		Si
SLV 6	12.35	1529.59	-1915	-0.0000581	0.0005615	0.0035	1.8365		1905.32	1905.32	1.25		Si
SLV 6	14.15	-1528.92	-2922	-0.0000262	0.0005615	0.0035	1.4692		3463.25	3463.25	2.27		Si
SLD 9	12.35	1184.53	-2552	-0.0000198	0.0005615	0.0035	1.8365		2461.66	2461.66	2.08		Si
SLD 9	14.15	-1089.02	-2916	-0.0000189	0.0005615	0.0035	1.8365		3458.6	3458.6	3.18		Si
SLV 9	12.35	1846.57	-1993	-0.0004472	0.0005615	0.0035	1.4692		1974.15	1974.15	1.07		Si
SLV 9	14.15	-1551.27	-3066	-0.0000264	0.0005615	0.0035	1.8365		3587.89	3587.89	2.31		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	12.35	264.54	-5202	-4331	1372	1.8365	1.8365	-8423	8068	4149	35683	15398	4683	20082	No	14.63	Si
SLU 75	14.15	-613.23	-4614	-3842	1398	1.8365	1.8365	-7472	7941	4083	35683	15398	4683	20082	No	14.36	Si
SLU 78	12.35	263.55	-5753	-4790	1409	1.8365	1.8365	-9315	8187	4210	35683	15398	4683	20082	No	14.26	Si
SLU 78	14.15	-589.92	-5267	-4386	1442	1.8365	1.8365	-8530	8082	4156	35683	15398	4683	20082	No	13.93	Si
SLU 82	12.35	360.76	-4333	-3608	1359	1.8365	1.8365	-7016	7880	4052	35683	15398	4683	20082	No	14.78	Si
SLU 82	14.15	-560.95	-3669	-3055	1380	1.8365	1.8365	-5941	7737	3978	35683	15398	4683	20082	No	14.55	Si
SLU 84	12.35	359.77	-4884	-4067	1396	1.8365	1.8365	-7909	7999	4113	35683	15398	4683	20082	No	14.39	Si
SLU 84	14.15	-537.64	-4322	-3599	1423	1.8365	1.8365	-6998	7878	4051	35683	15398	4683	20082	No	14.11	Si
SLU 36	12.35	314.04	-4870	-4055	1361	1.8365	1.8365	-7885	7996	4112	35683	15398	4683	20082	No	14.76	Si
SLU 36	14.15	-563.42	-4780	-3981	1390	1.8365	1.8365	-7741	7977	4102	35683	15398	4683	20082	No	14.45	Si
SLU 35	12.35	294.4	-4873	-4058	1337	1.8365	1.8365	-7891	7997	4112	35683	15398	4683	20082	No	15.01	Si
SLU 35	14.15	-552.73	-4771	-3973	1367	1.8365	1.8365	-7727	7975	4101	35683	15398	4683	20082	No	14.69	Si
SLU 77	12.35	243.9	-5756	-4793	1386	1.8365	1.8365	-9321	8187	4210	35683	15398	4683	20082	No	14.49	Si
SLU 77	14.15	-579.23	-5259	-4379	1418	1.8365	1.8365	-8516	8080	4155	35683	15398	4683	20082	No	14.16	Si
SLU 42	12.35	410.26	-4001	-3331	1348	1.8365	1.8365	-6479	7808	4015	35683	15398	4683	20082	No	14.9	Si
SLU 42	14.15	-511.14	-3834	-3193	1371	1.8365	1.8365	-6209	7772	3997	35683	15398	4683	20082	No	14.65	Si
SLU 74	12.35	244.89	-5205	-4334	1349	1.8365	1.8365	-8429	8068	4149	35683	15398	4683	20082	No	14.89	Si
SLU 74	14.15	-602.54	-4606	-3835	1375	1.8365	1.8365	-7458	7939	4082	35683	15398	4683	20082	No	14.6	Si
SLU 83	12.35	340.12	-4887	-4070	1372	1.8365	1.8365	-7914	8000	4114	35683	15398	4683	20082	No	14.63	Si
SLU 83	14.15	-526.95	-4313	-3591	1400	1.8365	1.8365	-6984	7876	4050	35683	15398	4683	20082	No	14.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	12.35	980.57	-2507	-2087	2231	1.8365	1.5812	-4059	11228	4971	35683	23098	4683	27781		12.45	Si
SLD 6	14.15	-1073.58	-2824	-2351	2136	1.8365	1.6142	-5214	11459	5179	35683	23098	4683	27781		13	Si
SLV 1	12.35	767.78	-2483	-2068	2241	1.8365	1.8272	-4021	11221	5741	35683	23098	4683	27781		12.4	Si
SLV 1	14.15	-1095.67	-2770	-2307	1421	1.8365	1.5683	-5265	11470	5037	35683	23098	4683	27781		19.55	Si
SLD 10	12.35	993.62	-2653	-2209	2065	1.8365	1.6311	-4296	11276	5150	35683	23098	4683	27781		13.46	Si
SLD 10	14.15	-975.47	-2849	-2373	2286	1.8365	1.7278	-4914	11399	5515	35683	23098	4683	27781		12.15	Si
SLV 13	12.35	812.76	-3276	-2728	1325	1.8365	1.8365	-5305	11478	5902	35683	23098	4683	27781		20.97	Si
SLV 13	14.15	-568.45	-2898	-2413	2222	1.8365	1.8365	-4693	11355	5839	35683	23098	4683	27781		12.51	Si
SLV 9	12.35	1846.57	-1993	-1659	3287	1.4692	0	0	0	0	35683	18478	3747	22225		6.76	Si
SLV 9	14.15	-1551.27	-3066	-2553	3636	1.8365	1.2371	-7393	11895	4120	35683	23098	4683	27781		7.64	Si
SLV 5	12.35	1833.07	-1755	-1461	3562	1.4692	0	0	0	0	35683	18478	3747	22225		6.24	Si
SLV 5	14.15	-1709.44	-3028	-2521	3396	1.4692	1.0612	0	0	0	35683	18478	3747	22225		6.54	Si
SLV 6	12.35	1529.59	-1915	-1595	3157	1.8365	0.3588	-15966	13612	2901	35683	23098	4683	27781		8.8	Si
SLV 6	14.15	-1528.92	-2922	-2433	2991	1.4692	1.1849	0	0	0	35683	18478	3747	22225		7.43	Si
SLV 10	12.35	1543.08	-2153	-1793	2882	1.8365	0.6047	-10641	12545	2954	35683	23098	4683	27781		9.64	Si
SLV 10	14.15	-1370.76	-2960	-2465	3231	1.8365	1.3656	-6464	11709	4477	35683	23098	4683	27781		8.6	Si
SLD 5	12.35	1171.49	-2406	-2003	2486	1.8365	1.294	-3896	11196	4057	35683	23098	4683	27781		11.18	Si
SLD 5	14.15	-1187.14	-2890	-2407	2391	1.8365	1.5227	-5659	11548	4924	35683	23098	4683	27781		11.62	Si
SLD 9	12.35	1184.53	-2552	-2125	2319	1.8365	1.3623	-4132	11243	4289	35683	23098	4683	27781		11.98	Si
SLD 9	14.15	-1089.02	-2916	-2428	2541	1.8365	1.6345	-5312	11479	5254	35683	23098	4683	27781		10.93	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.52	5034	-2589	208.16	350.49	1.68	Si
SLV 6	179667	0.52	5100	-2623	208.16	354.9	1.7	Si
SLV 1	179667	0.52	5371	-2762	208.16	373.09	1.79	Si
SLV 9	179667	0.52	5397	-2776	208.16	374.84	1.8	Si
SLV 10	179667	0.52	5463	-2809	208.16	379.23	1.82	Si
SLV 2	179667	0.52	5469	-2812	208.16	379.61	1.82	Si
SLV 3	179667	0.52	6037	-3104	208.16	417.41	2.01	Si
SLV 4	179667	0.52	6134	-3154	208.16	423.87	2.04	Si
SLV 13	179667	0.52	6581	-3384	208.16	453.39	2.18	Si
SLV 14	179667	0.52	6679	-3434	208.16	459.8	2.21	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2389	-3948	142	2.706	483.8	0.895	43.95787	7.57858	Si
SLV 16	-2380	-3880	142	2.712	483	0.895	44.0584	7.57858	Si
SLV 13	-2361	-3447	18	2.758	481.1	0.894	44.81797	7.57858	Si
SLV 14	-2352	-3379	17	2.764	480.3	0.894	44.92117	7.57858	Si
SLV 1	-2068	-3140	-149	2.946	453.1	0.892	48.01187	7.57858	Si
SLV 2	-2060	-3072	-149	2.953	452.3	0.892	48.1287	7.57858	Si
SLV 3	-2096	-3641	-25	2.958	455.7	0.892	48.19764	7.57858	Si
SLV 4	-2088	-3573	-25	2.965	454.9	0.892	48.31412	7.57858	Si
SLV 11	-2318	-4414	229	2.733	476.9	0.894	44.43236	5.5671	Si
SLV 12	-2312	-4368	229	2.737	476.4	0.894	44.50191	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.828	SLU 40	Si
V_SLU	13.93	SLU 78	Si
PF_SLV	0.962	SLV 5	No
V_SLV	6.24	SLV 5	Si
PFFP_SLV	1.684	SLV 5	Si
R_SLV	5.8	SLV 15	Si

Maschio 213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	5.951	-21.878	5.951	L7	L8	2.12	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	12.35	105.13	-4209	-0.0000113	0.0003743	0.0035	2.12	4150.91	4463.84	4463.84	42.46	No	Si
SLU 61	14.15	1152.81	-1521	-0.0000179	0.0003743	0.0035	2.12	1571.57	1819.66	1819.66	1.58	No	Si
SLU 52	12.35	101.07	-4266	-0.0000114	0.0003743	0.0035	2.12	4202.38	4517.32	4517.32	44.69	No	Si
SLU 52	14.15	1155.75	-1577	-0.0000171	0.0003743	0.0035	2.12	1628.36	1876.96	1876.96	1.62	No	Si
SLU 19	12.35	124.92	-3351	-0.0000093	0.0003743	0.0035	2.12	3354.79	3637.42	3637.42	29.12	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 19	14.15	899.91	-1270	-0.0000127	0.0003743	0.0035	2.12	1318.17	1564.72	1564.72	1.74	No	Si
SLU 60	12.35	86.09	-4213	-0.0000112	0.0003743	0.0035	2.12	4154.87	4467.95	4467.95	51.9	No	Si
SLU 60	14.15	1171.73	-1525	-0.0000186	0.0003743	0.0035	2.12	1575.94	1824.06	1824.06	1.56	No	Si
SLU 18	12.35	105.89	-3355	-0.0000092	0.0003743	0.0035	2.12	3358.87	3641.63	3641.63	34.39	No	Si
SLU 18	14.15	918.83	-1275	-0.0000133	0.0003743	0.0035	2.12	1322.57	1569.14	1569.14	1.71	No	Si
SLU 43	12.35	30.29	-4411	-0.0000113	0.0003743	0.0035	2.12	4334.67	4655.13	4655.13	153.7	No	Si
SLU 43	14.15	1223.57	-1723	-0.0000175	0.0003743	0.0035	2.12	1774.4	2024.75	2024.75	1.65	No	Si
SLU 10	12.35	120.87	-3407	-0.0000094	0.0003743	0.0035	2.12	3407.95	3692.23	3692.23	30.55	No	Si
SLU 10	14.15	902.85	-1327	-0.0000123	0.0003743	0.0035	2.12	1375.45	1622.26	1622.26	1.8	No	Si
SLU 44	12.35	62.01	-4404	-0.0000115	0.0003743	0.0035	2.12	4328.13	4648.3	4648.3	74.96	No	Si
SLU 44	14.15	1192.04	-1716	-0.0000166	0.0003743	0.0035	2.12	1767.18	2017.42	2017.42	1.69	No	Si
SLU 63	12.35	148.52	-4538	-0.0000125	0.0003743	0.0035	2.12	4448.96	4774.59	4774.59	32.15	No	Si
SLU 63	14.15	1216.45	-1850	-0.0000163	0.0003743	0.0035	2.12	1900.63	2152.91	2152.91	1.77	No	Si
SLU 62	12.35	129.49	-4542	-0.0000124	0.0003743	0.0035	2.12	4452.87	4778.68	4778.68	36.9	No	Si
SLU 62	14.15	1235.37	-1854	-0.0000167	0.0003743	0.0035	2.12	1904.94	2157.26	2157.26	1.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	12.35	835.96	-1689	-0.0000105	0.0005615	0.0035	2.12		2000.96	2000.96	2.39		Si
SLV 14	14.15	2690.77	213	-0.019201	0.0005615	0.0035	2.12		0	0	0		No
SLV 13	12.35	1169.64	-2145	-0.0000147	0.0005615	0.0035	2.12		2468.58	2468.58	2.11		Si
SLV 13	14.15	1707.71	-243	-0.0090961	0.0005615	0.0035	2.12		505.04	505.04	0.3		No
SLV 15	12.35	196.95	-2869	-0.0000085	0.0005615	0.0035	2.12		3199.48	3199.48	16.25		Si
SLV 15	14.15	2151.07	-1084	-0.0060582	0.0005615	0.0035	2.12		1379.09	1379.09	0.64		No
SLV 9	12.35	1951.61	-2212	-0.0000448	0.0005615	0.0035	2.12		2536.11	2536.11	1.3		Si
SLV 9	14.15	350.95	2	-0.0012404	0.0005615	0.0035	1.696		245.72	245.72	0.7		No
SLV 16	12.35	-136.73	-2412	-0.000007	0.0005615	0.0035	2.12		3775.08	3775.08	27.61		Si
SLV 16	14.15	3134.14	-627	-0.0159908	0.0005615	0.0035	2.12		905.95	905.95	0.29		No
SLV 10	12.35	1726.96	-1904	-0.0000447	0.0005615	0.0035	2.12		2222.12	2222.12	1.29		Si
SLV 10	14.15	1012.82	310	-0.0004617	0.0005615	0.0035	1.696		0	0	0		No
SLD 10	12.35	1112.29	-2575	-0.0000144	0.0005615	0.0035	2.12		2903.3	2903.3	2.61		Si
SLD 10	14.15	1009.08	-404	-0.0023589	0.0005615	0.0035	2.12		673.52	673.52	0.67		No
SLD 16	12.35	-35.04	-2876	-0.0000074	0.0005615	0.0035	2.12		4241.24	4241.24	121.04		Si
SLD 16	14.15	2340.19	-971	-0.0081917	0.0005615	0.0035	2.12		1262.19	1262.19	0.54		No
SLD 13	12.35	782.72	-2719	-0.0000123	0.0005615	0.0035	2.12		3048.96	3048.96	3.9		Si
SLD 13	14.15	1436.05	-741	-0.0030057	0.0005615	0.0035	2.12		1023.6	1023.6	0.71		No
SLD 14	12.35	569.53	-2428	-0.00001	0.0005615	0.0035	2.12		2754.4	2754.4	4.84		Si
SLD 14	14.15	2064.14	-449	-0.0100159	0.0005615	0.0035	2.12		720.29	720.29	0.35		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	12.35	223.22	-5732	-4773	-694	2.12	2.12	-8041	8017	4759	35683	17775	5406	23181	No	33.4	Si
SLU 66	14.15	1496.8	-2996	-2495	-694	2.12	1.6814	-4203	7505	3533	35683	17775	5406	23181	No	33.4	Si
SLU 46	12.35	140.69	-5123	-4266	-667	2.12	2.12	-7186	7903	4691	35683	17775	5406	23181	No	34.77	Si
SLU 46	14.15	1366.18	-2435	-2027	-667	2.12	1.4966	-3415	7400	3101	35683	17775	5406	23181	No	34.77	Si
SLU 70	12.35	285.64	-6057	-5043	-684	2.12	2.12	-8496	8077	4795	35683	17775	5406	23181	No	33.88	Si
SLU 70	14.15	1541.52	-3321	-2765	-684	2.12	1.7874	-4658	7566	3786	35683	17775	5406	23181	No	33.88	Si
SLU 71	12.35	218.63	-5674	-4725	-678	2.12	2.12	-7959	8006	4752	35683	17775	5406	23181	No	34.21	Si
SLU 71	14.15	1462.54	-2938	-2446	-678	2.12	1.6866	-4121	7494	3539	35683	17775	5406	23181	No	34.21	Si
SLU 49	12.35	184.08	-5452	-4540	-678	2.12	2.12	-7648	7964	4728	35683	17775	5406	23181	No	34.19	Si
SLU 49	14.15	1429.82	-2763	-2301	-678	2.12	1.6278	-3877	7461	3401	35683	17775	5406	23181	No	34.19	Si
SLU 45	12.35	121.66	-5127	-4269	-688	2.12	2.12	-7192	7903	4691	35683	17775	5406	23181	No	33.7	Si
SLU 45	14.15	1385.1	-2439	-2031	-688	2.12	1.4763	-3421	7401	3059	35683	17775	5406	23181	No	33.7	Si
SLU 48	12.35	165.05	-5456	-4543	-699	2.12	2.12	-7654	7965	4728	35683	17775	5406	23181	No	33.16	Si
SLU 48	14.15	1448.74	-2768	-2305	-699	2.12	1.6097	-3883	7462	3363	35683	17775	5406	23181	No	33.16	Si
SLU 67	12.35	242.25	-5728	-4770	-673	2.12	2.12	-8035	8016	4758	35683	17775	5406	23181	No	34.44	Si
SLU 67	14.15	1477.88	-2992	-2491	-673	2.12	1.6982	-4197	7504	3568	35683	17775	5406	23181	No	34.44	Si
SLU 69	12.35	266.61	-6061	-5047	-705	2.12	2.12	-8502	8078	4795	35683	17775	5406	23181	No	32.86	Si
SLU 69	14.15	1560.44	-3325	-2769	-705	2.12	1.7721	-4664	7566	3754	35683	17775	5406	23181	No	32.86	Si
SLU 50	12.35	117.07	-5069	-4221	-671	2.12	2.12	-7111	7893	4685	35683	17775	5406	23181	No	34.53	Si
SLU 50	14.15	1350.85	-2381	-1982	-671	2.12	1.4777	-3340	7390	3058	35683	17775	5406	23181	No	34.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	12.35	-35.04	-2876	-2395	-1480	2.12	2.12	-4035	11224	6662	35683	26663	5406	32069		21.67	Si
SLD 16	14.15	2340.19	-971	-809	-1051	2.12	0	0	16250	3103	35683	26663	5406	32069		30.5	Si
SLV 7	12.35	-1546.43	-5468	-4553	-1432	2.12	2.12	-7670	11951	7094	35683	26663	5406	32069		22.39	Si
SLV 7	14.15	971.61	-3494	-2910	-1663	2.12	2.12	-4902	11397	6765	35683	26663	5406	32069		19.29	Si
SLV 8	12.35	-1771.09	-5160	-4297	-1925	2.12	2.12	-7239	11864	7043	35683	26663	5406	32069		16.66	Si
SLV 8	14.15	1633.48	-3187	-2654	-2155	2.12	1.6422	-4470	11311	5201	35683	26663	5406	32069		14.88	Si
SLV 12	12.35	-1515.37	-4316	-3594	-2400	2.12	2.12	-6054	11628	6902	35683	26663	5406	32069		13.36	Si
SLV 12	14.15	2490.71	-2493	-2076	-2214	2.12	0.1824	-39392	16250	3444	35683	26663	5406	32069		14.48	Si
SLV 11	12.35	-1290.72	-4623	-3850	-1908	2.12	2.12	-6486	11714	6953	35683	26663	5406	32069		16.81	Si
SLV 11	14.15	1828.84	-2800	-2332	-1722	2.12	1.2206	-3928	11202	3829	35683	26663	5406	32069		18.63	Si
SLV 9	12.35	1951.61	-2212	-1842	944	2.12	0.5331	-12409	12899	3381	35683	26663	5406	32069		33.98	Si
SLV 9	14.15	350.95	2	2	1174	1.696	0	0	0	0	35683	21330	4325	25655		21.86	Si
SLD 12	12.35	-902.94	-4071	-3390	-1679	2.12	2.12	-5711	11559	6861	35683	26663	5406	32069		19.1	Si
SLD 12	14.15	1929.26	-2145	-1786	-1562	2.12	0.4814	-13326	13082	3366	35683	26663	5406	32069		20.54	Si
SLV 5	12.35	1695.9	-3056	-2545	1419	2.12	1.5154	-4288	11274	4784	35683	26663	5406	32069		22.6	Si
SLV 5	14.15	-506.27	-692	-576	1233	1.696	0.9838	0	0	0	35683	21330	4325	25655		20.81	Si
SLD 8	12.35	-1073.09	-4604	-3834	-1386	2.12	2.12	-6458	11708	6950	35683	26663	5406	32069		23.14	Si
SLD 8	14.15	1391.71	-2586	-2154	-1527	2.12	1.5657	-3628	11142	4885	35683	26663	5406	32069		21	Si
SLV 16	12.35	-136.73	-2412	-2008	-2076	2.12	2.12	-3384	11093	6585	35683	26663	5406	32069		15.45	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	14.15	3134.14	-627	-522	-1389	2.12	0	0	16250	3025	35683	26663	5406	32069		23.08	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.52	0	-930	240.29	0	0	No, e>t/2
SLV 9	179667	0.52	0	-1436	240.29	0	0	No, e>t/2
SLV 13	179667	0.52	0	-1386	240.29	0	0	No, e>t/2
SLV 10	179667	0.52	0	-1129	240.29	0	0	No, e>t/2
SLV 16	179667	0.52	0	-1647	240.29	0	0	No, e>t/2
SLV 6	179667	0.52	3290	-1953	240.29	267.49	1.11	Si
SLV 15	179667	0.52	3545	-2104	240.29	287.73	1.2	Si
SLV 5	179667	0.52	3808	-2260	240.29	308.54	1.28	Si
SLV 12	179667	0.52	5931	-3521	240.29	473.76	1.97	Si
SLV 2	179667	0.52	6194	-3677	240.29	493.89	2.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-2598	-6366	277	2.779	543.2	0.893	45.20094	7.57858	Si
SLV 1	-2250	-5137	-241	3.03	510	0.891	49.42734	7.57858	Si
SLV 4	-1906	-6245	277	3.306	477.9	0.889	54.0324	7.57858	Si
SLV 2	-1558	-5016	-241	3.668	446.2	0.889	59.95984	7.57858	Si
SLV 7	-2001	-7028	869	3.061	486.7	0.89	50.00577	5.5671	Si
SLV 8	-1535	-6946	869	3.498	444.2	0.889	57.17757	5.5671	Si
SLV 11	-1238	-6383	859	3.853	418.2	0.891	62.83022	5.5671	Si
SLV 5	-840	-2931	-859	4.454	385.9	0.9	71.91512	5.5671	Si
SLV 12	-772	-6301	859	4.576	380.8	0.903	73.67018	5.5671	Si
SLV 15	-55	-4216	241	6.802	343.4	0.985	100.36646	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.557	SLU 60	Si
V_SLU	32.863	SLU 69	Si
PF_SLV	0	SLV 10	No
V_SLV	13.362	SLV 12	Si
PFFP_SLV	0	SLV 9	No
R_SLV	5.964	SLV 3	Si

Maschio 214

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.478	-3.169	-24.614	-3.169	L7	L8	2.137	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 17	12.35	-79.27	-4682	-0.0000123	0.0003743	0.0035	2.1365	4616.94	5988.5	5988.5	75.55	No	Si
SLU 17	14.15	611.09	-4153	-0.0000146	0.0003743	0.0035	2.1365	4134.11	4449.45	4449.45	7.28	No	Si
SLU 8	12.35	-240.16	-4890	-0.0000139	0.0003743	0.0035	2.1365	4804.3	6187.03	6187.03	25.76	No	Si
SLU 8	14.15	671.02	-4119	-0.000015	0.0003743	0.0035	2.1365	4102.66	4416.61	4416.61	6.58	No	Si
SLU 59	12.35	-169.94	-5658	-0.0000154	0.0003743	0.0035	2.1365	5482.61	6893.29	6893.29	40.56	No	Si
SLU 59	14.15	680.48	-4681	-0.0000165	0.0003743	0.0035	2.1365	4616.6	4953.43	4953.43	7.28	No	Si
SLU 51	12.35	-374.44	-5891	-0.0000174	0.0003743	0.0035	2.1365	5684.82	7108.39	7108.39	18.98	No	Si
SLU 51	14.15	736.83	-4635	-0.0000168	0.0003743	0.0035	2.1365	4574.42	4909.23	4909.23	6.66	No	Si
SLU 58	12.35	-126.34	-5632	-0.000015	0.0003743	0.0035	2.1365	5460.42	6869.9	6869.9	54.38	No	Si
SLU 58	14.15	684.05	-4694	-0.0000165	0.0003743	0.0035	2.1365	4627.93	4965.31	4965.31	7.26	No	Si
SLU 72	12.35	-239.47	-6241	-0.0000174	0.0003743	0.0035	2.1365	5984.16	7433.09	7433.09	31.04	No	Si
SLU 72	14.15	664.22	-5420	-0.0000183	0.0003743	0.0035	2.1365	5275	5648.64	5648.64	8.5	No	Si
SLU 9	12.35	-283.77	-4915	-0.0000143	0.0003743	0.0035	2.1365	4827.15	6210.96	6210.96	21.89	No	Si
SLU 9	14.15	667.44	-4106	-0.0000149	0.0003743	0.0035	2.1365	4091.07	4404.53	4404.53	6.6	No	Si
SLU 71	12.35	-195.86	-6216	-0.000017	0.0003743	0.0035	2.1365	5962.5	7409.34	7409.34	37.83	No	Si
SLU 71	14.15	667.8	-5433	-0.0000183	0.0003743	0.0035	2.1365	5286.01	5660.41	5660.41	8.48	No	Si
SLU 16	12.35	-35.66	-4656	-0.0000119	0.0003743	0.0035	2.1365	4593.88	5963.75	5963.75	167.22	No	Si
SLU 16	14.15	614.66	-4166	-0.0000147	0.0003743	0.0035	2.1365	4145.68	4461.54	4461.54	7.26	No	Si
SLU 50	12.35	-330.83	-5866	-0.0000171	0.0003743	0.0035	2.1365	5662.85	7084.85	7084.85	21.42	No	Si
SLU 50	14.15	740.41	-4647	-0.0000168	0.0003743	0.0035	2.1365	4585.78	4921.13	4921.13	6.65	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	12.35	1778.05	-1441	-0.0009706	0.0005615	0.0035	1.7092		1764.07	1764.07	0.99		No
SLV 11	14.15	-973.69	-3085	-0.0000144	0.0005615	0.0035	2.1365		4482.3	4482.3	4.6		Si
SLV 12	12.35	2139.55	-1290	-0.0042018	0.0005615	0.0035	2.1365		1607.85	1607.85	0.75		No
SLV 12	14.15	-1249.74	-3292	-0.0000168	0.0005615	0.0035	2.1365		4689.66	4689.66	3.75		Si
SLV 7	12.35	1779.77	-1476	-0.00084	0.0005615	0.0035	1.7092		1801.02	1801.02	1.01		Si
SLV 7	14.15	-1793.61	-3131	-0.0000223	0.0005615	0.0035	2.1365		4528.41	4528.41	2.52		Si
SLV 8	12.35	2141.27	-1326	-0.0039358	0.0005615	0.0035	2.1365		1644.85	1644.85	0.77		No
SLV 8	14.15	-2069.66	-3338	-0.0000264	0.0005615	0.0035	1.7092		4735.79	4735.79	2.29		Si
SLD 12	12.35	1318.1	-2209	-0.0000165	0.0005615	0.0035	2.1365		2556.94	2556.94	1.94		Si
SLD 12	14.15	-726.74	-3146	-0.0000128	0.0005615	0.0035	2.1365		4542.71	4542.71	6.25		Si
SLV 14	12.35	-388.6	-4207	-0.0000131	0.0005615	0.0035	2.1365		5597.99	5597.99	14.41		Si
SLV 14	14.15	1762.95	-2879	-0.0000223	0.0005615	0.0035	2.1365		3238.27	3238.27	1.84		Si
SLV 5	12.35	-2241.54	-6083	-0.0000309	0.0005615	0.0035	2.1365		7418.84	7418.84	3.31		Si
SLV 5	14.15	1472.69	-2500	-0.0000184	0.0005615	0.0035	2.1365		2853.79	2853.79	1.94		Si
SLV 10	12.35	-1881.76	-5897	-0.0000279	0.0005615	0.0035	2.1365		7237.99	7237.99	3.85		Si
SLV 10	14.15	2016.56	-2661	-0.0000305	0.0005615	0.0035	2.1365		3017.31	3017.31	1.5		Si
SLV 13	12.35	-925.53	-4430	-0.0000174	0.0005615	0.0035	2.1365		5816.8	5816.8	6.28		Si
SLV 13	14.15	2172.96	-2572	-0.0000413	0.0005615	0.0035	2.1365		2926.07	2926.07	1.35		Si
SLV 9	12.35	-2243.26	-6047	-0.0000309	0.0005615	0.0035	2.1365		7384.31	7384.31	3.29		Si
SLV 9	14.15	2292.61	-2454	-0.0000668	0.0005615	0.0035	2.1365		2806.97	2806.97	1.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	12.35	-13.33	-5584	-4649	1228	2.1365	2.1365	-7772	7981	4774	35683	17914	5448	23362	No	19.03	Si
SLU 75	14.15	211.22	-5035	-4193	1256	2.1365	2.1365	-7008	7879	4713	35683	17914	5448	23362	No	18.61	Si
SLU 40	12.35	235.52	-3695	-3077	1326	2.1365	2.1365	-5143	7630	4565	35683	17914	5448	23362	No	17.62	Si
SLU 40	14.15	-8.37	-3498	-2913	1338	2.1365	2.1365	-4869	7594	4543	35683	17914	5448	23362	No	17.45	Si
SLU 82	12.35	144.85	-4671	-3890	1344	2.1365	2.1365	-6502	7811	4673	35683	17914	5448	23362	No	17.38	Si
SLU 82	14.15	61.02	-4026	-3353	1363	2.1365	2.1365	-5605	7692	4601	35683	17914	5448	23362	No	17.15	Si
SLU 83	12.35	142.37	-5264	-4383	1276	2.1365	2.1365	-7327	7921	4739	35683	17914	5448	23362	No	18.31	Si
SLU 83	14.15	325.95	-4769	-3971	1318	2.1365	2.1365	-6638	7830	4684	35683	17914	5448	23362	No	17.72	Si
SLU 84	12.35	98.76	-5289	-4405	1238	2.1365	2.1365	-7363	7926	4742	35683	17914	5448	23362	No	18.88	Si
SLU 84	14.15	322.37	-4757	-3961	1267	2.1365	2.1365	-6621	7827	4683	35683	17914	5448	23362	No	18.44	Si
SLU 32	12.35	120.95	-4582	-3815	1248	2.1365	2.1365	-6378	7795	4663	35683	17914	5448	23362	No	18.73	Si
SLU 32	14.15	145.4	-4519	-3763	1283	2.1365	2.1365	-6290	7783	4656	35683	17914	5448	23362	No	18.21	Si
SLU 39	12.35	279.13	-3670	-3056	1364	2.1365	2.1365	-5108	7625	4562	35683	17914	5448	23362	No	17.13	Si
SLU 39	14.15	-4.79	-3511	-2923	1390	2.1365	2.1365	-4887	7596	4544	35683	17914	5448	23362	No	16.81	Si
SLU 81	12.35	188.46	-4646	-3868	1382	2.1365	2.1365	-6466	7807	4670	35683	17914	5448	23362	No	16.9	Si
SLU 81	14.15	64.6	-4039	-3363	1414	2.1365	2.1365	-5622	7694	4603	35683	17914	5448	23362	No	16.53	Si
SLU 74	12.35	30.27	-5558	-4628	1266	2.1365	2.1365	-7737	7976	4771	35683	17914	5448	23362	No	18.45	Si
SLU 74	14.15	214.79	-5047	-4203	1307	2.1365	2.1365	-7026	7881	4715	35683	17914	5448	23362	No	17.88	Si
SLU 41	12.35	233.04	-4288	-3571	1257	2.1365	2.1365	-5968	7740	4630	35683	17914	5448	23362	No	18.58	Si
SLU 41	14.15	256.56	-4241	-3531	1294	2.1365	2.1365	-5903	7732	4625	35683	17914	5448	23362	No	18.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	12.35	1778.05	-1441	-1200	3766	1.7092	0	0	0	0	35683	21497	4359	25855		6.87	Si
SLV 11	14.15	-973.69	-3085	-2569	4222	2.1365	2.1365	-4295	11276	6745	35683	26871	5448	32319		7.65	Si
SLV 12	12.35	2139.55	-1290	-1074	4332	2.1365	0	-91520	16250	3221	35683	26871	5448	32319		7.46	Si
SLV 12	14.15	-1249.74	-3292	-2741	4788	2.1365	2.066	-4748	11366	6575	35683	26871	5448	32319		6.75	Si
SLD 8	12.35	1316.14	-2234	-1860	3303	2.1365	1.4375	-3110	11039	4443	35683	26871	5448	32319		9.78	Si
SLD 8	14.15	-1247.39	-3170	-2640	3225	2.1365	2.0245	-4666	11350	6434	35683	26871	5448	32319		10.02	Si
SLV 8	12.35	2141.27	-1326	-1104	4878	2.1365	0	-93342	16250	3229	35683	26871	5448	32319		6.63	Si
SLV 8	14.15	-2069.66	-3338	-2780	4743	1.7092	1.3449	0	0	0	35683	21497	4359	25855		5.45	Si
SLV 4	12.35	823.54	-2943	-2451	3134	2.1365	2.1365	-4097	11236	6722	35683	26871	5448	32319		10.31	Si
SLV 4	14.15	-1950.01	-3221	-2682	2211	1.7092	1.3887	0	0	0	35683	21497	4359	25855		11.69	Si
SLV 9	12.35	-2243.26	-6047	-5036	-3433	2.1365	2.092	-8418	12100	7088	35683	26871	5448	32319		9.41	Si
SLV 9	14.15	2292.61	-2454	-2044	-3251	2.1365	0.4027	-18256	14070	3484	35683	26871	5448	32319		9.94	Si
SLD 7	12.35	1088.73	-2329	-1939	2947	2.1365	1.8023	-3242	11065	5584	35683	26871	5448	32319		10.97	Si
SLD 7	14.15	-1073.74	-3040	-2532	2869	2.1365	2.1365	-4232	11263	6738	35683	26871	5448	32319		11.26	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	12.35	1779.77	-1476	-1229	4312	1.7092	0	0	0	0	35683	21497	4359	25855		6	Si
SLV 7	14.15	-1793.61	-3131	-2608	4177	2.1365	1.4865	-6280	11673	4858	35683	26871	5448	32319		7.74	Si
SLV 5	12.35	-2241.54	-6083	-5065	-2887	2.1365	2.0994	-8467	12110	7119	35683	26871	5448	32319		11.2	Si
SLV 5	14.15	1472.69	-2500	-2082	-3297	2.1365	1.4379	-3481	11113	4474	35683	26871	5448	32319		9.8	Si
SLD 12	12.35	1318.1	-2209	-1840	2963	2.1365	1.4149	-3075	11032	4370	35683	26871	5448	32319		10.91	Si
SLD 12	14.15	-726.74	-3146	-2619	3259	2.1365	2.1365	-4379	11292	6755	35683	26871	5448	32319		9.92	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	4137	-2475	242.16	337.13	1.39	Si
SLV 12	179667	0.52	4173	-2496	242.16	339.94	1.4	Si
SLV 7	179667	0.52	4347	-2600	242.16	353.69	1.46	Si
SLV 8	179667	0.52	4382	-2622	242.16	356.5	1.47	Si
SLV 15	179667	0.52	5022	-3004	242.16	406.75	1.68	Si
SLV 16	179667	0.52	5075	-3036	242.16	410.89	1.7	Si
SLV 3	179667	0.52	5720	-3422	242.16	461.09	1.9	Si
SLV 4	179667	0.52	5772	-3453	242.16	465.18	1.92	Si
SLV 13	179667	0.52	5996	-3587	242.16	482.5	1.99	Si
SLV 14	179667	0.52	6049	-3619	242.16	486.58	2.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-3215	-3472	-349	2.432	605.1	0.898	39.34579	7.57858	Si
SLV 13	-3154	-3198	-348	2.463	599.1	0.898	39.86019	7.57858	Si
SLV 16	-2988	-3066	-228	2.574	583	0.896	41.73135	7.57858	Si
SLV 15	-2926	-2793	-228	2.608	577	0.896	42.30236	7.57858	Si
SLV 2	-2351	-5180	66	3.012	521.9	0.891	49.10905	7.57858	Si
SLV 1	-2290	-4907	67	3.058	516.1	0.891	49.87219	7.57858	Si
SLV 4	-2123	-4774	186	3.158	500.4	0.89	51.5558	7.57858	Si
SLV 3	-2062	-4501	187	3.208	494.7	0.89	52.39912	7.57858	Si
SLV 10	-3168	-4498	-345	2.456	600.5	0.898	39.75262	5.5671	Si
SLV 9	-3127	-4314	-344	2.477	596.5	0.898	40.10434	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.582	SLU 8	Si
V_SLU	16.525	SLU 81	Si
PF_SLV	0.751	SLV 12	No
V_SLV	5.451	SLV 8	Si
PFFP_SLV	1.392	SLV 11	Si
R_SLV	5.192	SLV 14	Si

Maschio 215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.293	-3.169	-21.578	-3.169	L7	L8	2.285	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	13.45	-896.82	-4051	-0.0000149	0.0003743	0.0035	2.285	4339.95	5747.01	5747.01	6.41	No	Si
SLU 73	14.25	39.21	-2414	-0.0000058	0.0003743	0.0035	2.285	2656.19	2971.06	2971.06	75.78	No	Si
SLU 61	13.45	-819.22	-3420	-0.0000129	0.0003743	0.0035	2.285	3701.83	5095.84	5095.84	6.22	No	Si
SLU 61	14.25	76.08	-1858	-0.0000048	0.0003743	0.0035	2.285	2062.12	2367.82	2367.82	31.12	No	Si
SLU 82	13.45	-908.44	-3980	-0.0000148	0.0003743	0.0035	2.285	4269.33	5675.4	5675.4	6.25	No	Si
SLU 82	14.25	31.52	-2381	-0.0000057	0.0003743	0.0035	2.285	2621.09	2935.55	2935.55	93.13	No	Si
SLU 84	13.45	-891.16	-4037	-0.0000149	0.0003743	0.0035	2.285	4326.74	5733.59	5733.59	6.43	No	Si
SLU 84	14.25	54.35	-2396	-0.0000059	0.0003743	0.0035	2.285	2636.72	2951.36	2951.36	54.3	No	Si
SLU 81	13.45	-906.81	-3948	-0.0000147	0.0003743	0.0035	2.285	4236.93	5642.64	5642.64	6.22	No	Si
SLU 81	14.25	26.98	-2362	-0.0000056	0.0003743	0.0035	2.285	2600.48	2914.65	2914.65	108.03	No	Si
SLU 83	13.45	-889.52	-4005	-0.0000148	0.0003743	0.0035	2.285	4294.4	5700.78	5700.78	6.41	No	Si
SLU 83	14.25	49.81	-2377	-0.0000058	0.0003743	0.0035	2.285	2616.11	2930.51	2930.51	58.84	No	Si
SLU 52	13.45	-807.59	-3490	-0.000013	0.0003743	0.0035	2.285	3773.83	5170.47	5170.47	6.4	No	Si
SLU 52	14.25	83.76	-1891	-0.0000049	0.0003743	0.0035	2.285	2097.83	2403.97	2403.97	28.7	No	Si
SLU 62	13.45	-800.29	-3445	-0.0000129	0.0003743	0.0035	2.285	3727.38	5122.35	5122.35	6.4	No	Si
SLU 62	14.25	94.36	-1853	-0.0000049	0.0003743	0.0035	2.285	2057.06	2362.69	2362.69	25.04	No	Si
SLU 60	13.45	-817.58	-3387	-0.0000129	0.0003743	0.0035	2.285	3668.78	5061.54	5061.54	6.19	No	Si
SLU 60	14.25	71.54	-1838	-0.0000047	0.0003743	0.0035	2.285	2041.15	2346.59	2346.59	32.8	No	Si
SLU 63	13.45	-801.93	-3477	-0.000013	0.0003743	0.0035	2.285	3760.36	5156.52	5156.52	6.43	No	Si
SLU 63	14.25	98.91	-1873	-0.0000049	0.0003743	0.0035	2.285	2078.02	2383.91	2383.91	24.1	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	13.45	-1214.78	-3518	-0.0000155	0.0005615	0.0035	2.285		5239.62	5239.62	4.31		Si
SLD 13	14.25	650.51	-1796	-0.0000081	0.0005615	0.0035	2.285		2314.11	2314.11	3.56		Si
SLV 7	13.45	-63.88	-1780	-0.0000045	0.0005615	0.0035	2.285		3354.37	3354.37	52.51		Si
SLV 7	14.25	-935.67	-1514	-0.0000101	0.0005615	0.0035	2.285		3062.87	3062.87	3.27		Si
SLV 10	13.45	-1243.73	-4233	-0.0000174	0.0005615	0.0035	2.285		6001.67	6001.67	4.83		Si
SLV 10	14.25	1014.43	-1966	-0.000011	0.0005615	0.0035	2.285		2500.4	2500.4	2.46		Si
SLV 5	13.45	-1184.79	-4217	-0.000017	0.0005615	0.0035	2.285		5984.06	5984.06	5.05		Si
SLV 5	14.25	755.57	-1910	-0.000009	0.0005615	0.0035	2.285		2439.05	2439.05	3.23		Si
SLV 4	13.45	239.19	-2190	-0.0000065	0.0005615	0.0035	2.285		2747.37	2747.37	11.49		Si
SLV 4	14.25	-926.66	-1653	-0.0000099	0.0005615	0.0035	2.285		3215.44	3215.44	3.47		Si
SLV 13	13.45	-1546.81	-3823	-0.0000183	0.0005615	0.0035	2.285		5567.71	5567.71	3.6		Si
SLV 13	14.25	1005.43	-1827	-0.0000108	0.0005615	0.0035	2.285		2347.95	2347.95	2.34		Si
SLV 8	13.45	196.2	-1604	-0.0000049	0.0005615	0.0035	2.285		2101.17	2101.17	10.71		Si
SLV 8	14.25	-1052.26	-1541	-0.0000117	0.0005615	0.0035	1.828		3092.61	3092.61	2.94		Si
SLV 14	13.45	-1160.5	-3562	-0.0000153	0.0005615	0.0035	2.285		5287.49	5287.49	4.56		Si
SLV 14	14.25	832.25	-1867	-0.0000094	0.0005615	0.0035	2.285		2392.08	2392.08	2.87		Si
SLV 9	13.45	-1503.82	-4409	-0.0000194	0.0005615	0.0035	2.285		6186.76	6186.76	4.11		Si
SLV 9	14.25	1131.03	-1939	-0.0000122	0.0005615	0.0035	2.285		2470.67	2470.67	2.18		Si
SLD 9	13.45	-1185.41	-3878	-0.0000162	0.0005615	0.0035	2.285		5625.5	5625.5	4.75		Si
SLD 9	14.25	724.55	-1862	-0.0000087	0.0005615	0.0035	2.285		2386.39	2386.39	3.29		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	13.45	-849.87	-4222	-3516	-1827	2.285	2.285	-5495	7677	4912	35683	19158	5827	24985	No	13.68	Si
SLU 68	14.25	72.9	-2476	-2062	-1411	2.285	2.285	-3223	7374	4718	35683	19158	5827	24985	No	17.71	Si
SLU 72	13.45	-831.49	-4258	-3546	-1883	2.285	2.285	-5542	7683	4916	35683	19158	5827	24985	No	13.27	Si
SLU 72	14.25	92.7	-2478	-2063	-1425	2.285	2.285	-3225	7374	4718	35683	19158	5827	24985	No	17.53	Si
SLU 49	13.45	-751.56	-4181	-3482	-1836	2.285	2.285	-5442	7670	4907	35683	19158	5827	24985	No	13.61	Si
SLU 49	14.25	106.67	-2400	-1998	-1346	2.285	2.285	-3124	7361	4710	35683	19158	5827	24985	No	18.56	Si
SLU 67	13.45	-858.07	-4684	-3901	-1834	2.285	2.285	-6097	7757	4963	35683	19158	5827	24985	No	13.62	Si
SLU 67	14.25	39.28	-2908	-2422	-1447	2.285	2.285	-3785	7449	4766	35683	19158	5827	24985	No	17.26	Si
SLU 51	13.45	-742.27	-3697	-3079	-1808	2.285	2.285	-4812	7586	4854	35683	19158	5827	24985	No	13.82	Si
SLU 51	14.25	137.26	-1955	-1628	-1314	2.285	2.285	-2544	7284	4660	35683	19158	5827	24985	No	19.02	Si
SLU 48	13.45	-749.92	-4149	-3455	-1805	2.285	2.285	-5400	7664	4904	35683	19158	5827	24985	No	13.85	Si
SLU 48	14.25	102.12	-2380	-1982	-1352	2.285	2.285	-3098	7358	4707	35683	19158	5827	24985	No	18.48	Si
SLU 69	13.45	-839.15	-4709	-3922	-1880	2.285	2.285	-6129	7762	4966	35683	19158	5827	24985	No	13.29	Si
SLU 69	14.25	57.57	-2904	-2418	-1464	2.285	2.285	-3779	7448	4765	35683	19158	5827	24985	No	17.07	Si
SLU 78	13.45	-870.45	-4627	-3853	-1827	2.285	2.285	-6023	7747	4957	35683	19158	5827	24985	No	13.68	Si
SLU 78	14.25	51.24	-2876	-2395	-1457	2.285	2.285	-3743	7444	4762	35683	19158	5827	24985	No	17.15	Si
SLU 70	13.45	-840.78	-4742	-3948	-1911	2.285	2.285	-6171	7767	4970	35683	19158	5827	24985	No	13.07	Si
SLU 70	14.25	62.11	-2923	-2434	-1458	2.285	2.285	-3805	7452	4768	35683	19158	5827	24985	No	17.14	Si
SLU 71	13.45	-829.85	-4226	-3519	-1852	2.285	2.285	-5500	7678	4912	35683	19158	5827	24985	No	13.49	Si
SLU 71	14.25	88.16	-2459	-2047	-1431	2.285	2.285	-3200	7371	4716	35683	19158	5827	24985	No	17.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	13.45	-924.7	-4041	-3365	-3363	2.285	2.285	-5259	11469	7338	35683	28738	5827	34564		10.28	Si
SLV 6	14.25	638.97	-1937	-1613	-1948	2.285	2.285	-2521	10921	6987	35683	28738	5827	34564		17.74	Si
SLV 5	13.45	-1184.79	-4217	-3511	-4162	2.285	2.285	-5488	11514	7367	35683	28738	5827	34564		8.3	Si
SLV 5	14.25	755.57	-1910	-1590	-2472	2.285	2.2407	-2486	10914	6847	35683	28738	5827	34564		13.98	Si
SLD 13	13.45	-1214.78	-3518	-2929	-3105	2.285	2.285	-4578	11332	7250	35683	28738	5827	34564		11.13	Si
SLD 13	14.25	650.51	-1796	-1496	-2113	2.285	2.285	-2338	10884	6964	35683	28738	5827	34564		16.36	Si
SLV 13	13.45	-1546.81	-3823	-3184	-4209	2.285	2.2138	-4976	11412	7074	35683	28738	5827	34564		8.21	Si
SLV 13	14.25	1005.43	-1827	-1522	-2741	2.285	1.7767	-2378	10892	5419	35683	28738	5827	34564		12.61	Si
SLD 5	13.45	-985.87	-3757	-3129	-3070	2.285	2.285	-4890	11395	7290	35683	28738	5827	34564		11.26	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	14.25	486.36	-1842	-1534	-1941	2.285	2.285	-2398	10896	6971	35683	28738	5827	34564		17.81	Si
SLD 10	13.45	-1021.8	-3767	-3137	-3115	2.285	2.285	-4903	11397	7292	35683	28738	5827	34564		11.1	Si
SLD 10	14.25	651.2	-1879	-1565	-1936	2.285	2.285	-2446	10906	6978	35683	28738	5827	34564		17.86	Si
SLV 9	13.45	-1503.82	-4409	-3671	-5043	2.285	2.285	-5738	11564	7399	35683	28738	5827	34564		6.85	Si
SLV 9	14.25	1131.03	-1939	-1614	-2993	2.285	1.6773	-2523	10921	5129	35683	28738	5827	34564		11.55	Si
SLD 9	13.45	-1185.41	-3878	-3229	-3618	2.285	2.285	-5047	11426	7310	35683	28738	5827	34564		9.55	Si
SLD 9	14.25	724.55	-1862	-1551	-2265	2.285	2.2602	-2424	10901	6899	35683	28738	5827	34564		15.26	Si
SLV 10	13.45	-1243.73	-4233	-3525	-4244	2.285	2.285	-5510	11519	7370	35683	28738	5827	34564		8.15	Si
SLV 10	14.25	1014.43	-1966	-1637	-2469	2.285	1.8792	-2558	10928	5750	35683	28738	5827	34564		14	Si
SLV 14	13.45	-1160.5	-3562	-2966	-3021	2.285	2.285	-4636	11344	7258	35683	28738	5827	34564		11.44	Si
SLV 14	14.25	832.25	-1867	-1555	-1963	2.285	2.0904	-2430	10903	6381	35683	28738	5827	34564		17.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.52	3125	-2000	258.99	274.22	1.06	Si
SLV 11	179667	0.52	3327	-2129	258.99	291.54	1.13	Si
SLV 13	179667	0.52	3407	-2180	258.99	298.36	1.15	Si
SLV 16	179667	0.52	3473	-2222	258.99	304.02	1.17	Si
SLV 12	179667	0.52	3562	-2279	258.99	311.57	1.2	Si
SLV 7	179667	0.52	3733	-2389	258.99	326.23	1.26	Si
SLV 14	179667	0.52	3755	-2402	258.99	328.05	1.27	Si
SLV 8	179667	0.52	3968	-2538	258.99	346.14	1.34	Si
SLV 9	179667	0.52	4266	-2729	258.99	371.43	1.43	Si
SLV 3	179667	0.52	4479	-2865	258.99	389.4	1.5	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-2389	-4440	-88	3.097	546.3	0.891	50.52273	7.57858	Si
SLV 2	-2319	-4566	-87	3.148	539.8	0.89	51.38786	7.57858	Si
SLV 3	-2023	-3618	227	3.351	512.2	0.889	54.77315	7.57858	Si
SLV 4	-1954	-3744	227	3.412	505.8	0.889	55.78276	7.57858	Si
SLV 5	-2221	-4988	-506	3.12	530.5	0.89	50.95707	5.5671	Si
SLV 6	-2174	-5073	-505	3.157	526.2	0.89	51.56243	5.5671	Si
SLV 9	-1721	-4618	-550	3.543	484.7	0.889	57.92123	5.5671	Si
SLV 10	-1674	-4703	-549	3.59	480.5	0.889	58.68799	5.5671	Si
SLV 13	-722	-3207	-235	5.045	402.4	0.908	80.78389	7.57858	Si
SLV 14	-652	-3333	-234	5.187	397.6	0.911	82.7108	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.191	SLU 60	Si
V_SLU	13.073	SLU 70	Si
PF_SLV	2.184	SLV 9	Si
V_SLV	6.853	SLV 9	Si
PFFP_SLV	1.059	SLV 15	Si
R_SLV	6.667	SLV 1	Si

Maschio 216

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.213	-3.169	-18.793	-3.169	L7	L8	0.58	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	13.45	-95.45	-675	-0.0000161	0.0003743	0.0035	0.58	187.89	259.08	259.08	2.71	No	Si
SLU 51	14.25	191.46	-792	-0.0000612	0.0003743	0.0035	0.58	218.67	240.58	240.58	1.26	No	Si
SLU 52	13.45	-102.37	-631	-0.0000175	0.0003743	0.0035	0.464	176.07	247.15	247.15	2.41	No	Si
SLU 52	14.25	197.25	-798	-0.0000702	0.0003743	0.0035	0.58	220.22	242.17	242.17	1.23	No	Si
SLU 63	13.45	-103.21	-636	-0.0000177	0.0003743	0.0035	0.464	177.3	248.39	248.39	2.41	No	Si
SLU 63	14.25	195.07	-803	-0.0000637	0.0003743	0.0035	0.58	221.58	243.56	243.56	1.25	No	Si
SLU 55	13.45	-101.99	-629	-0.0000174	0.0003743	0.0035	0.464	175.57	246.64	246.64	2.42	No	Si
SLU 55	14.25	197.04	-797	-0.00007	0.0003743	0.0035	0.58	220.05	242	242	1.23	No	Si
SLU 10	13.45	-82.57	-502	-0.0000141	0.0003743	0.0035	0.464	141.1	212.26	212.26	2.57	No	Si
SLU 10	14.25	160.39	-662	-0.0000512	0.0003743	0.0035	0.58	184.21	205.38	205.38	1.28	No	Si
SLU 59	13.45	-100.62	-646	-0.0000171	0.0003743	0.0035	0.58	180.14	251.24	251.24	2.5	No	Si
SLU 59	14.25	193.84	-799	-0.0000629	0.0003743	0.0035	0.58	220.59	242.55	242.55	1.25	No	Si
SLU 44	13.45	-97.21	-660	-0.0000164	0.0003743	0.0035	0.58	183.84	254.98	254.98	2.62	No	Si
SLU 44	14.25	194.87	-791	-0.0000683	0.0003743	0.0035	0.58	218.3	240.21	240.21	1.23	No	Si
SLU 13	13.45	-82.19	-500	-0.0000141	0.0003743	0.0035	0.464	140.59	211.76	211.76	2.58	No	Si
SLU 13	14.25	160.18	-661	-0.0000511	0.0003743	0.0035	0.58	184.04	205.2	205.2	1.28	No	Si
SLU 61	13.45	-103.59	-638	-0.0000177	0.0003743	0.0035	0.464	177.8	248.89	248.89	2.4	No	Si
SLU 61	14.25	195.28	-804	-0.0000639	0.0003743	0.0035	0.58	221.75	243.74	243.74	1.25	No	Si
SLU 47	13.45	-96.83	-658	-0.0000163	0.0003743	0.0035	0.58	183.34	254.48	254.48	2.63	No	Si
SLU 47	14.25	194.66	-790	-0.0000681	0.0003743	0.0035	0.58	218.13	240.03	240.03	1.23	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	13.45	-288.61	323	0.1244361	0.0005615	0.0035	0.464		0	0	0		No
SLV 13	14.25	467.47	-569	-0.0225778	0.0005615	0.0035	0.464		181.69	181.69	0.39		No
SLD 13	13.45	-211.8	-19	-0.0017381	0.0005615	0.0035	0.464		76.73	76.73	0.36		No
SLD 13	14.25	353.41	-619	-0.0132559	0.0005615	0.0035	0.464		195.62	195.62	0.55		No
SLV 15	13.45	-198.56	-19	-0.0015768	0.0005615	0.0035	0.464		76.89	76.89	0.39		No
SLV 15	14.25	325.08	-551	-0.0124853	0.0005615	0.0035	0.464		176.63	176.63	0.54		No
SLV 9	13.45	-293.78	236	0.0908096	0.0005615	0.0035	0.464		0	0	0		No
SLV 9	14.25	487.91	-702	-0.0214301	0.0005615	0.0035	0.464		218.49	218.49	0.45		No
SLV 14	13.45	-205.04	90	0.0284277	0.0005615	0.0035	0.464		0	0	0		No
SLV 14	14.25	354.81	-551	-0.0146688	0.0005615	0.0035	0.464		176.55	176.55	0.5		No
SLD 9	13.45	-213.34	-81	-0.0014585	0.0005615	0.0035	0.464		94.59	94.59	0.44		No
SLD 9	14.25	364.46	-706	-0.0123972	0.0005615	0.0035	0.464		219.52	219.52	0.6		No
SLV 10	13.45	-237.51	78	0.0121013	0.0005615	0.0035	0.464		0	0	0		No
SLV 10	14.25	412.06	-690	-0.0161626	0.0005615	0.0035	0.464		215.1	215.1	0.52		No
SLD 14	13.45	-158.41	-168	-0.0007013	0.0005615	0.0035	0.464		119.11	119.11	0.75		No
SLD 14	14.25	281.43	-607	-0.0081601	0.0005615	0.0035	0.464		192.33	192.33	0.68		No
SLD 10	13.45	-177.95	-180	-0.0008309	0.0005615	0.0035	0.464		122.62	122.62	0.69		No
SLD 10	14.25	316.74	-698	-0.0090456	0.0005615	0.0035	0.464		217.39	217.39	0.69		No
SLV 5	13.45	-219.86	-149	-0.0012958	0.0005615	0.0035	0.464		113.88	113.88	0.52		No
SLV 5	14.25	378.82	-800	-0.0116451	0.0005615	0.0035	0.464		245.49	245.49	0.65		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	13.45	-101.99	-629	-524	-422	0.464	0.3838	0	0	0	35683	3890	1183	5074	No	12.03	Si
SLU 55	14.25	197.04	-797	-664	-194	0.58	0.1286	-18687	9437	698	35683	4863	1479	6342	No	32.72	Si
SLU 76	13.45	-109.76	-758	-631	-460	0.58	0.4354	-5193	7637	931	35683	4863	1479	6342	No	13.78	Si
SLU 76	14.25	221.24	-978	-815	-208	0.58	0.1917	-15361	8993	738	35683	4863	1479	6342	No	30.5	Si
SLU 80	13.45	-108.39	-775	-645	-454	0.58	0.4503	-5132	7629	962	35683	4863	1479	6342	No	13.96	Si
SLU 80	14.25	218.04	-981	-816	-203	0.58	0.2029	-5028	7615	739	35683	4863	1479	6342	No	31.17	Si
SLU 63	13.45	-103.21	-636	-529	-421	0.464	0.383	0	0	0	35683	3890	1183	5074	No	12.04	Si
SLU 63	14.25	195.07	-803	-669	-191	0.58	0.1413	-17111	9227	700	35683	4863	1479	6342	No	33.15	Si
SLU 61	13.45	-103.59	-638	-531	-423	0.464	0.3827	0	0	0	35683	3890	1183	5074	No	11.99	Si
SLU 61	14.25	195.28	-804	-669	-189	0.58	0.1411	-17149	9232	700	35683	4863	1479	6342	No	33.6	Si
SLU 82	13.45	-111.36	-766	-638	-461	0.58	0.4339	-5269	7647	929	35683	4863	1479	6342	No	13.74	Si
SLU 82	14.25	219.48	-985	-820	-203	0.58	0.2015	-5050	7618	740	35683	4863	1479	6342	No	31.26	Si
SLU 73	13.45	-110.14	-760	-632	-462	0.58	0.435	-5211	7639	930	35683	4863	1479	6342	No	13.73	Si
SLU 73	14.25	221.46	-979	-815	-205	0.58	0.1915	-15387	8996	739	35683	4863	1479	6342	No	30.88	Si
SLU 52	13.45	-102.37	-631	-526	-424	0.464	0.3835	0	0	0	35683	3890	1183	5074	No	11.97	Si
SLU 52	14.25	197.25	-798	-664	-191	0.58	0.1284	-18730	9443	698	35683	4863	1479	6342	No	33.16	Si
SLU 81	13.45	-109.86	-794	-662	-455	0.58	0.4551	-5207	7639	973	35683	4863	1479	6342	No	13.93	Si
SLU 81	14.25	215	-989	-824	-192	0.58	0.2178	-5071	7621	741	35683	4863	1479	6342	No	32.97	Si
SLU 84	13.45	-110.98	-764	-636	-460	0.58	0.4343	-5251	7645	930	35683	4863	1479	6342	No	13.8	Si
SLU 84	14.25	219.27	-984	-820	-205	0.58	0.2017	-5047	7617	740	35683	4863	1479	6342	No	30.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	13.45	-177.95	-180	-150	-767	0.464	0	0	0	0	35683	5836	1183	7019		9.15	Si
SLD 10	14.25	316.74	-698	-581	-276	0.464	0	0	0	0	35683	5836	1183	7019		25.42	Si
SLV 9	13.45	-293.78	236	196	-1265	0.464	0	0	0	0	35683	5836	1183	7019		5.55	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	14.25	487.91	-702	-585	-425	0.464	0	0	0	0	35683	5836	1183	7019		16.52	Si
SLD 9	13.45	-213.34	-81	-68	-917	0.464	0	0	0	0	35683	5836	1183	7019		7.66	Si
SLD 9	14.25	364.46	-706	-588	-316	0.464	0	0	0	0	35683	5836	1183	7019		22.23	Si
SLV 10	13.45	-237.51	78	65	-1027	0.464	0	0	0	0	35683	5836	1183	7019		6.83	Si
SLV 10	14.25	412.06	-690	-574	-362	0.464	0	0	0	0	35683	5836	1183	7019		19.39	Si
SLV 15	13.45	-198.56	-19	-16	-995	0.464	0	0	0	0	35683	5836	1183	7019		7.06	Si
SLV 15	14.25	325.08	-551	-459	-86	0.464	0	0	0	0	35683	5836	1183	7019		81.68	Si
SLV 13	13.45	-288.61	323	269	-1362	0.464	0	0	0	0	35683	5836	1183	7019		5.16	Si
SLV 13	14.25	467.47	-569	-474	-243	0.464	0	0	0	0	35683	5836	1183	7019		28.83	Si
SLV 14	13.45	-205.04	90	75	-1008	0.464	0	0	0	0	35683	5836	1183	7019		6.96	Si
SLV 14	14.25	354.81	-551	-459	-150	0.464	0	0	0	0	35683	5836	1183	7019		46.83	Si
SLD 13	13.45	-211.8	-19	-15	-984	0.464	0	0	0	0	35683	5836	1183	7019		7.13	Si
SLD 13	14.25	353.41	-619	-515	-203	0.464	0	0	0	0	35683	5836	1183	7019		34.57	Si
SLD 14	13.45	-158.41	-168	-140	-758	0.464	0	0	0	0	35683	5836	1183	7019		9.25	Si
SLD 14	14.25	281.43	-607	-506	-143	0.464	0	0	0	0	35683	5836	1183	7019		49.01	Si
SLV 5	13.45	-219.86	-149	-124	-866	0.464	0	0	0	0	35683	5836	1183	7019		8.11	Si
SLV 5	14.25	378.82	-800	-666	-436	0.464	0	0	0	0	35683	5836	1183	7019		16.1	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.52	3185	-517	65.74	70.91	1.08	Si
SLV 8	179667	0.52	3249	-528	65.74	72.31	1.1	Si
SLV 7	179667	0.52	3817	-620	65.74	84.61	1.29	Si
SLV 2	179667	0.52	3846	-625	65.74	85.24	1.3	Si
SLV 12	179667	0.52	3847	-625	65.74	85.26	1.3	Si
SLV 3	179667	0.52	4028	-654	65.74	89.17	1.36	Si
SLV 11	179667	0.52	4414	-717	65.74	97.46	1.48	Si
SLV 1	179667	0.52	4689	-761	65.74	103.33	1.57	Si
SLV 16	179667	0.52	5177	-841	65.74	113.71	1.73	Si
SLV 6	179667	0.52	5451	-885	65.74	119.51	1.82	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-771	-992	-7	2.702	154.4	0.895	43.86343	7.57858	Si
SLV 8	-1174	-586	-38	2.027	193.9	0.908	32.44242	5.5671	Si
SLV 7	-1156	-589	-37	2.049	192.1	0.908	32.81965	5.5671	Si
SLV 3	-744	-997	-6	2.761	151.8	0.894	44.8685	7.57858	Si
SLV 12	-1081	-447	-44	2.143	184.7	0.905	34.4052	5.5671	Si
SLV 11	-1063	-451	-43	2.168	182.9	0.905	34.82926	5.5671	Si
SLV 16	-461	-530	-26	3.574	125.2	0.889	58.4303	7.57858	Si
SLV 15	-434	-536	-25	3.68	122.8	0.889	60.15718	7.57858	Si
SLV 2	-328	-1203	14	4.182	113.6	0.892	68.16276	7.57858	Si
SLV 1	-302	-1208	15	4.326	111.3	0.893	70.38866	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.228	SLU 52	Si
V_SLU	11.975	SLU 52	Si
PF_SLV	0	SLV 9	No
V_SLV	5.155	SLV 13	Si
PFFP_SLV	1.079	SLV 4	Si
R_SLV	5.788	SLV 4	Si

Maschio 217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.141	-19.618	5.811	L7	L8	4.67	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 59	11.45	-176.91	-12089	-0.0000231	0.0004492	0.0035	4.6702	23957.47	38277.15	38277.15	216.37	No	Si
SLU 59	14.6	4469.73	-3307	-0.0000195	0.0004492	0.0035	4.6702	7401.39	9721.65	9721.65	2.17	No	Si
SLU 51	11.45	-428.38	-11449	-0.0000225	0.0004492	0.0035	4.6702	22903.74	36984.97	36984.97	86.34	No	Si
SLU 51	14.6	4542	-3287	-0.00002	0.0004492	0.0035	4.6702	7360.34	9679.13	9679.13	2.13	No	Si
SLU 58	11.45	-181.96	-12112	-0.0000231	0.0004492	0.0035	4.6702	23994.85	38323.54	38323.54	210.61	No	Si
SLU 58	14.6	4462.14	-3319	-0.0000194	0.0004492	0.0035	4.6702	7427.37	9748.57	9748.57	2.18	No	Si
SLU 72	11.45	-271.18	-12878	-0.0000248	0.0004492	0.0035	4.6702	25224.18	39870.94	39870.94	147.03	No	Si
SLU 72	14.6	4613.43	-3562	-0.0000199	0.0004492	0.0035	4.6702	7945.78	10287.58	10287.58	2.23	No	Si
SLU 47	11.45	-471.16	-10692	-0.0000211	0.0004492	0.0035	4.6702	21625.04	35454.85	35454.85	75.25	No	Si
SLU 47	14.6	3813.18	-2717	-0.0000169	0.0004492	0.0035	4.6702	6127.81	8412.81	8412.81	2.21	No	Si
SLU 55	11.45	-219.69	-11332	-0.0000217	0.0004492	0.0035	4.6702	22707.1	36747.03	36747.03	167.27	No	Si
SLU 55	14.6	3740.9	-2736	-0.0000163	0.0004492	0.0035	4.6702	6169.5	8455.33	8455.33	2.26	No	Si
SLU 48	11.45	-518.97	-11698	-0.0000232	0.0004492	0.0035	4.6702	23315.26	37486.13	37486.13	72.23	No	Si
SLU 48	14.6	4333.33	-3269	-0.0000188	0.0004492	0.0035	4.6702	7321.1	9638.52	9638.52	2.22	No	Si
SLU 49	11.45	-513.92	-11675	-0.0000231	0.0004492	0.0035	4.6702	23277.32	37439.74	37439.74	72.85	No	Si
SLU 49	14.6	4340.92	-3257	-0.0000188	0.0004492	0.0035	4.6702	7295.09	9611.6	9611.6	2.21	No	Si
SLU 50	11.45	-433.43	-11472	-0.0000225	0.0004492	0.0035	4.6702	22941.99	37031.36	37031.36	85.44	No	Si
SLU 50	14.6	4534.41	-3299	-0.0000199	0.0004492	0.0035	4.6702	7386.33	9706.05	9706.05	2.14	No	Si
SLU 71	11.45	-276.23	-12901	-0.0000249	0.0004492	0.0035	4.6702	25260.51	39917.33	39917.33	144.51	No	Si
SLU 71	14.6	4605.85	-3574	-0.0000198	0.0004492	0.0035	4.6702	7971.58	10314.5	10314.5	2.24	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.45	-962.73	-6056	-0.0000135	0.0006738	0.0035	4.6702		25945.25	25945.25	26.95		Si
SLV 9	14.6	3150.65	-454	-0.0005611	0.0006738	0.0035	3.7361		3345.6	3345.6	1.06		Si
SLV 14	11.45	-1412.67	-5327	-0.0000132	0.0006738	0.0035	4.6702		24371.85	24371.85	17.25		Si
SLV 14	14.6	4536.5	-1763	-0.0002605	0.0006738	0.0035	4.6702		6312.04	6312.04	1.39		Si
SLD 10	11.45	-865.48	-6919	-0.0000149	0.0006738	0.0035	4.6702		27809.77	27809.77	32.13		Si
SLD 10	14.6	3121.17	-1077	-0.0002464	0.0006738	0.0035	3.7361		4760.53	4760.53	1.53		Si
SLD 13	11.45	-717.65	-6685	-0.0000141	0.0006738	0.0035	4.6702		27303.84	27303.84	38.05		Si
SLD 13	14.6	3364.68	-1636	-0.000034	0.0006738	0.0035	4.6702		6023.74	6023.74	1.79		Si
SLD 9	11.45	-687.66	-7020	-0.0000146	0.0006738	0.0035	4.6702		28025.01	28025.01	40.75		Si
SLD 9	14.6	2866.93	-974	-0.0002329	0.0006738	0.0035	3.7361		4525.85	4525.85	1.58		Si
SLV 6	11.45	-784.41	-7479	-0.0000157	0.0006738	0.0035	4.6702		29004.79	29004.79	36.98		Si
SLV 6	14.6	2522.12	-486	-0.0003755	0.0006738	0.0035	3.7361		3419.74	3419.74	1.36		Si
SLD 14	11.45	-985.89	-6533	-0.0000144	0.0006738	0.0035	4.6702		26975.52	26975.52	27.36		Si
SLD 14	14.6	3748.2	-1792	-0.0000425	0.0006738	0.0035	4.6702		6376.3	6376.3	1.7		Si
SLV 13	11.45	-992.81	-5565	-0.0000126	0.0006738	0.0035	4.6702		24885.74	24885.74	25.07		Si
SLV 13	14.6	3936.21	-1519	-0.0002299	0.0006738	0.0035	4.6702		5760.21	5760.21	1.46		Si
SLV 10	11.45	-1245.41	-5895	-0.0000139	0.0006738	0.0035	4.6702		25599.26	25599.26	20.55		Si
SLV 10	14.6	3554.81	-618	-0.0005931	0.0006738	0.0035	3.7361		3719.95	3719.95	1.05		Si
SLV 5	11.45	-501.74	-7640	-0.0000153	0.0006738	0.0035	4.6702		29346.3	29346.3	58.49		Si
SLV 5	14.6	2117.96	-322	-0.0003485	0.0006738	0.0035	3.7361		3045.39	3045.39	1.44		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	11.45	-518.97	-11698	-6486	-819	4.6702	4.6702	-9920	9656	6371	101952	23497	23818	47314	No	57.77	Si
SLU 48	14.6	4333.33	-3269	-1813	-1908	4.6702	3.0285	-2772	8703	4502	101952	23497	23818	47314	No	24.8	Si
SLU 49	11.45	-513.92	-11675	-6473	-896	4.6702	4.6702	-9900	9653	6366	101952	23497	23818	47314	No	52.83	Si
SLU 49	14.6	4340.92	-3257	-1806	-1951	4.6702	3.0067	-2762	8702	4499	101952	23497	23818	47314	No	24.25	Si
SLU 47	11.45	-471.16	-10692	-5928	-1081	4.6702	4.6702	-9067	9542	6239	101952	23497	23818	47314	No	43.78	Si
SLU 47	14.6	3813.18	-2717	-1506	-1880	4.6702	2.7943	-2304	8641	4379	101952	23497	23818	47314	No	25.17	Si
SLU 59	11.45	-176.91	-12089	-6703	-854	4.6702	4.6702	-10252	9700	6458	101952	23497	23818	47314	No	55.43	Si
SLU 59	14.6	4469.73	-3307	-1833	-1788	4.6702	2.9498	-2804	8707	4510	101952	23497	23818	47314	No	26.46	Si
SLU 9	11.45	-265.59	-9521	-5279	-678	4.6702	4.6702	-8074	9410	6152	101952	23497	23818	47314	No	69.81	Si
SLU 9	14.6	3853.15	-2858	-1585	-1691	4.6702	2.9605	-2424	8656	4411	101952	23497	23818	47314	No	27.98	Si
SLU 72	11.45	-271.18	-12878	-7140	-665	4.6702	4.6702	-10921	9789	6633	101952	23497	23818	47314	No	71.11	Si
SLU 72	14.6	4613.43	-3562	-1975	-1677	4.6702	3.1192	-3020	8736	4567	101952	23497	23818	47314	No	28.22	Si
SLU 58	11.45	-181.96	-12112	-6716	-777	4.6702	4.6702	-10271	9703	6463	101952	23497	23818	47314	No	60.89	Si
SLU 58	14.6	4462.14	-3319	-1840	-1745	4.6702	2.9715	-2814	8709	4513	101952	23497	23818	47314	No	27.12	Si
SLU 51	11.45	-428.38	-11449	-6348	-993	4.6702	4.6702	-9709	9628	6316	101952	23497	23818	47314	No	47.67	Si
SLU 51	14.6	4542	-3287	-1823	-2164	4.6702	2.8602	-2788	8705	4506	101952	23497	23818	47314	No	21.86	Si
SLU 50	11.45	-433.43	-11472	-6361	-916	4.6702	4.6702	-9729	9631	6321	101952	23497	23818	47314	No	51.65	Si
SLU 50	14.6	4534.41	-3299	-1829	-2121	4.6702	2.8824	-2798	8706	4509	101952	23497	23818	47314	No	22.31	Si
SLU 8	11.45	-270.65	-9544	-5292	-601	4.6702	4.6702	-8094	9413	6154	101952	23497	23818	47314	No	78.7	Si
SLU 8	14.6	3845.56	-2870	-1591	-1648	4.6702	2.9856	-2434	8658	4413	101952	23497	23818	47314	No	28.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	11.45	-393.29	-8034	-4454	-6351	4.6702	4.6702	-6813	13863	9064	101952	35245	23818	59063		9.3	Si
SLD 5	14.6	2211.59	-891	-494	-2778	4.6702	0	-19372	16250	5863	101952	35245	23818	59063		21.26	Si
SLV 7	11.45	753.01	-11406	-6324	7888	4.6702	4.6702	-9673	14435	9438	101952	35245	23818	59063		7.49	Si
SLV 7	14.6	1200.32	-3039	-1685	3574	4.6702	4.6702	-2577	13015	8510	101952	35245	23818	59063		16.53	Si
SLV 10	11.45	-1245.41	-5895	-3269	-8972	4.6702	4.6702	-5000	13500	8827	101952	35245	23818	59063		6.58	Si
SLV 10	14.6	3554.81	-618	-343	-5121	3.7361	0	0	0	0	101952	28196	19054	47250		9.23	Si
SLV 12	11.45	9.34	-9662	-5357	8810	4.6702	4.6702	-8194	14139	9244	101952	35245	23818	59063		6.7	Si
SLV 12	14.6	2637.16	-3335	-1849	2461	4.6702	4.6332	-2828	13066	8475	101952	35245	23818	59063		23.99	Si
SLV 6	11.45	-784.41	-7479	-4147	-9757	4.6702	4.6702	-6343	13769	9002	101952	35245	23818	59063		6.05	Si
SLV 6	14.6	2522.12	-486	-270	-4419	3.7361	0	0	0	0	101952	28196	19054	47250		10.69	Si
SLV 11	11.45	292.02	-9822	-5446	8673	4.6702	4.6702	-8330	14166	9262	101952	35245	23818	59063		6.81	Si
SLV 11	14.6	2233.01	-3171	-1758	2871	4.6702	4.6702	-2689	13038	8524	101952	35245	23818	59063		20.57	Si
SLV 9	11.45	-962.73	-6056	-3358	-9109	4.6702	4.6702	-5135	13527	8844	101952	35245	23818	59063		6.48	Si
SLV 9	14.6	3150.65	-454	-252	-4711	3.7361	0	0	0	0	101952	28196	19054	47250		10.03	Si
SLV 5	11.45	-501.74	-7640	-4236	-9894	4.6702	4.6702	-6478	13796	9020	101952	35245	23818	59063		5.97	Si
SLV 5	14.6	2117.96	-322	-178	-4009	3.7361	0	0	0	0	101952	28196	19054	47250		11.79	Si
SLD 6	11.45	-571.11	-7933	-4398	-6265	4.6702	4.6702	-6727	13845	9052	101952	35245	23818	59063		9.43	Si
SLD 6	14.6	2465.83	-994	-551	-3036	4.6702	0	-21485	16250	5886	101952	35245	23818	59063		19.45	Si
SLV 8	11.45	470.34	-11246	-6235	8025	4.6702	4.6702	-9537	14407	9420	101952	35245	23818	59063		7.36	Si
SLV 8	14.6	1604.48	-3203	-1776	3164	4.6702	4.6702	-2717	13043	8528	101952	35245	23818	59063		18.67	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-2964	0.52	288.03	0	550.42	275.21	0.96	No
SLV 9	-2972	0.52	288.03	0	551.09	275.55	0.96	No
SLV 14	-3187	0.52	288.03	0	570.31	285.15	0.99	No
SLV 13	-3198	0.52	288.03	0	571.3	285.65	0.99	No
SLV 6	-3977	0.52	288.03	0	640.25	320.12	1.11	Si
SLV 5	-3984	0.52	288.03	0	640.91	320.46	1.11	Si
SLV 16	-4391	0.52	288.03	296.14	676.87	486.5	1.69	Si
SLV 15	-4403	0.52	288.03	296.86	677.85	487.35	1.69	Si
SLV 2	-6561	0.52	288.03	434.14	866.02	650.08	2.26	Si
SLV 1	-6572	0.52	288.03	434.83	866.98	650.91	2.26	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-2578	-6457	189	5.908	571.2	0.892	96.3076	14.52479	Si
SLV 15	-2334	-6695	189	6.251	548.2	0.89	102.06219	14.52479	Si
SLV 4	-2138	-11737	-183	6.558	530	0.889	107.16072	14.52479	Si
SLV 3	-1894	-11975	-183	6.984	507.5	0.889	114.18793	14.52479	Si
SLV 14	-1763	-5327	183	7.236	495.7	0.889	118.30024	14.52479	Si
SLV 13	-1519	-5565	183	7.759	474	0.89	126.71776	14.52479	Si
SLV 2	-1323	-10607	-189	8.233	457.2	0.892	134.18914	14.52479	Si
SLV 1	-1079	-10845	-189	8.917	437.1	0.896	144.66241	14.52479	Si
SLV 12	-3335	-9662	66	5.073	644	0.897	82.19125	7.53022	Si
SLV 8	-3203	-11246	-46	5.209	631.2	0.896	84.48749	7.53022	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.131	SLU 51	Si
V_SLU	21.862	SLU 51	Si
PF_SLV	1.046	SLV 10	Si
V_SLV	5.97	SLV 5	Si
PFFP_SLV	0.955	SLV 10	No
R_SLV	6.631	SLV 16	Si

Maschio 219

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.193	-3.169	-17.313	-3.169	L7	L8	1.12	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	12.35	-876.06	-1413	-0.0000833	0.0003743	0.0035	1.12	0	5914.13	5914.13	6.75	No	Si
SLU 84	14.15	695.57	-1140	-0.0000642	0.0003743	0.0035	1.12	0	5764.46	5764.46	8.29	No	Si
SLU 83	12.35	-876.93	-1387	-0.0000855	0.0003743	0.0035	1.12	0	5900.43	5900.43	6.73	No	Si
SLU 83	14.15	692.89	-1122	-0.0000649	0.0003743	0.0035	1.12	0	5755.11	5755.11	8.31	No	Si
SLU 79	12.35	-856.08	-1567	-0.000069	0.0003743	0.0035	1.12	834.26	5992.4	5992.4	7	No	Si
SLU 79	14.15	684.36	-1192	-0.0000584	0.0003743	0.0035	1.12	0	5791.79	5791.79	8.46	No	Si
SLU 73	12.35	-872.19	-1491	-0.0000771	0.0003743	0.0035	1.12	0	5954.15	5954.15	6.83	No	Si
SLU 73	14.15	699.92	-1180	-0.0000624	0.0003743	0.0035	1.12	0	5785.72	5785.72	8.27	No	Si
SLU 82	12.35	-884.84	-1353	-0.0000897	0.0003743	0.0035	1.12	0	5883.33	5883.33	6.65	No	Si
SLU 82	14.15	701.12	-1119	-0.0000669	0.0003743	0.0035	1.12	0	5753.62	5753.62	8.21	No	Si
SLU 74	12.35	-866.12	-1753	-0.0000606	0.0003743	0.0035	1.12	927.82	6080.95	6080.95	7.02	No	Si
SLU 74	14.15	715.3	-1397	-0.0000522	0.0003743	0.0035	1.12	747.9	5898	5898	8.25	No	Si
SLU 76	12.35	-863.41	-1551	-0.0000714	0.0003743	0.0035	1.12	826.48	5984.58	5984.58	6.93	No	Si
SLU 76	14.15	694.37	-1201	-0.0000599	0.0003743	0.0035	1.12	0	5796.5	5796.5	8.35	No	Si
SLU 81	12.35	-885.71	-1327	-0.0000919	0.0003743	0.0035	1.12	0	5869.56	5869.56	6.63	No	Si
SLU 81	14.15	698.45	-1102	-0.0000676	0.0003743	0.0035	1.12	0	5744.26	5744.26	8.22	No	Si
SLU 80	12.35	-855.21	-1593	-0.0000672	0.0003743	0.0035	1.12	847.7	6005.89	6005.89	7.02	No	Si
SLU 80	14.15	687.03	-1210	-0.0000578	0.0003743	0.0035	1.12	0	5801.07	5801.07	8.44	No	Si
SLU 75	12.35	-865.25	-1780	-0.0000591	0.0003743	0.0035	1.12	941.09	6092.08	6092.08	7.04	No	Si
SLU 75	14.15	717.98	-1414	-0.0000518	0.0003743	0.0035	1.12	756.97	5907.13	5907.13	8.23	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	12.35	-1633.27	-1185	-0.0002931	0.0005615	0.0035	1.12		6135.66	6135.66	3.76		Si
SLV 9	14.15	1172.09	-1588	-0.0001344	0.0005615	0.0035	1.12		6387.29	6387.29	5.45		Si
SLD 9	12.35	-1260.94	-1200	-0.000191	0.0005615	0.0035	1.12		6146.29	6146.29	4.87		Si
SLD 9	14.15	924.14	-1324	-0.0000991	0.0005615	0.0035	1.12		6225.27	6225.27	6.74		Si
SLD 13	12.35	-1567.34	-324	-0.0004283	0.0005615	0.0035	1.12		5416.87	5416.87	3.46		Si
SLD 13	14.15	1120.46	-1090	-0.0001663	0.0005615	0.0035	1.12		6061.25	6061.25	5.41		Si
SLD 14	12.35	-1302.7	-633	-0.0002711	0.0005615	0.0035	1.12		5712.32	5712.32	4.38		Si
SLD 14	14.15	948.53	-1046	-0.0001282	0.0005615	0.0035	1.12		6029.58	6029.58	6.36		Si
SLV 13	12.35	-2102.59	195	-0.0008134	0.0005615	0.0035	1.12		4626.43	4626.43	2.2		Si
SLV 13	14.15	1471.08	-1208	-0.0002458	0.0005615	0.0035	1.12		6144.39	6144.39	4.18		Si
SLV 16	12.35	-1370.56	14	-0.0004811	0.0005615	0.0035	1.12		4973.04	4973.04	3.63		Si
SLV 16	14.15	988.67	-753	-0.0001671	0.0005615	0.0035	1.12		5817.58	5817.58	5.88		Si
SLV 14	12.35	-1688.38	-288	-0.0004856	0.0005615	0.0035	1.12		5381.04	5381.04	3.19		Si
SLV 14	14.15	1201.98	-1138	-0.0001822	0.0005615	0.0035	1.12		6095.32	6095.32	5.07		Si
SLV 10	12.35	-1354.4	-1509	-0.0001849	0.0005615	0.0035	1.12		6351.08	6351.08	4.69		Si
SLV 10	14.15	990.91	-1541	-0.0000973	0.0005615	0.0035	1.12		6360.87	6360.87	6.42		Si
SLD 15	12.35	-1369.83	-138	-0.0004171	0.0005615	0.0035	1.12		5186.7	5186.7	3.79		Si
SLD 15	14.15	988.73	-852	-0.0001567	0.0005615	0.0035	1.12		5890.86	5890.86	5.96		Si
SLV 15	12.35	-1784.76	496	0.0001945	0.0005615	0.0035	0.896		3216.38	3216.38	1.8		Si
SLV 15	14.15	1257.77	-823	-0.0002316	0.0005615	0.0035	1.12		5869.66	5869.66	4.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	12.35	-872.19	-1491	-1242	-1742	1.12	0	-16001	9420	1338	8881	9391	2856	10219	No	5.87	Si
SLU 73	14.15	699.92	-1180	-983	-712	1.12	0	-12949	8962	1269	8881	9391	2856	10150	No	14.26	Si
SLU 81	12.35	-885.71	-1327	-1105	-1774	1.12	0	-16759	9745	1301	8881	9391	2856	10182	No	5.74	Si
SLU 81	14.15	698.45	-1102	-917	-707	1.12	0	-13165	9075	1251	8881	9391	2856	10132	No	14.32	Si
SLU 77	12.35	-857.34	-1813	-1510	-1711	1.12	0.2612	-13882	8906	1409	8881	9391	2856	10290	No	6.01	Si
SLU 77	14.15	709.75	-1417	-1180	-717	1.12	0.1776	-12005	8673	1321	8881	9391	2856	10202	No	14.23	Si
SLU 83	12.35	-876.93	-1387	-1155	-1753	1.12	0	-16452	9605	1314	8881	9391	2856	10195	No	5.82	Si
SLU 83	14.15	692.89	-1122	-934	-706	1.12	0	-12980	9013	1256	8881	9391	2856	10137	No	14.36	Si
SLU 84	12.35	-876.06	-1413	-1177	-1756	1.12	0	-16361	9559	1320	8881	9391	2856	10201	No	5.81	Si
SLU 84	14.15	695.57	-1140	-949	-710	1.12	0	-12987	9000	1260	8881	9391	2856	10141	No	14.28	Si
SLU 82	12.35	-884.84	-1353	-1127	-1777	1.12	0	-16696	9699	1307	8881	9391	2856	10188	No	5.73	Si
SLU 82	14.15	701.12	-1119	-932	-711	1.12	0	-13179	9062	1255	8881	9391	2856	10136	No	14.25	Si
SLU 75	12.35	-865.25	-1780	-1482	-1735	1.12	0.2215	-14306	8984	1402	8881	9391	2856	10283	No	5.93	Si
SLU 75	14.15	717.98	-1414	-1178	-723	1.12	0.1571	-12258	8719	1321	8881	9391	2856	10202	No	14.12	Si
SLU 74	12.35	-866.12	-1753	-1460	-1731	1.12	0.1978	-14489	9022	1396	8881	9391	2856	10277	No	5.94	Si
SLU 74	14.15	715.3	-1397	-1163	-719	1.12	0.1435	-12285	8729	1317	8881	9391	2856	10198	No	14.19	Si
SLU 78	12.35	-856.47	-1840	-1532	-1714	1.12	0.2832	-13699	8871	1415	8881	9391	2856	10296	No	6.01	Si
SLU 78	14.15	712.43	-1435	-1195	-721	1.12	0.1906	-11976	8664	1325	8881	9391	2856	10206	No	14.15	Si
SLU 76	12.35	-863.41	-1551	-1292	-1722	1.12	0.0102	-15516	9285	1351	8881	9391	2856	10232	No	5.94	Si
SLU 76	14.15	694.37	-1201	-1000	-710	1.12	0	-12726	8900	1273	8881	9391	2856	10154	No	14.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	12.35	-1370.56	14	11	-2607	1.12	0	0	7546	1510	8881	14086	2856	10391		3.99	Si
SLV 16	14.15	988.67	-753	-627	-809	1.12	0	-16412	16250	1677	8881	14086	2856	10558		13.04	Si
SLV 14	12.35	-1688.38	-288	-240	-2987	1.12	0	0	0	1574	8881	14086	2856	10455		3.5	Si
SLV 14	14.15	1201.98	-1138	-948	-1178	1.12	0	-21363	16250	1762	8881	14086	2856	10644		9.04	Si
SLV 10	12.35	-1354.4	-1509	-1257	-2219	1.12	0	-25045	16250	1845	8881	14086	2856	10726		4.83	Si
SLV 10	14.15	990.91	-1541	-1283	-1212	1.12	0	-18745	15004	1852	8881	14086	2856	10733		8.86	Si
SLD 16	12.35	-1105.19	-446	-372	-2114	1.12	0	0	16250	1609	8881	14086	2856	10490		4.96	Si
SLD 16	14.15	816.8	-807	-672	-707	1.12	0	-14826	15405	1689	8881	14086	2856	10570		14.96	Si
SLD 15	12.35	-1369.83	-138	-115	-2530	1.12	0	0	0	1540	8881	14086	2856	10421		4.12	Si
SLD 15	14.15	988.73	-852	-710	-920	1.12	0	-17130	16250	1699	8881	14086	2856	10580		11.49	Si
SLV 9	12.35	-1633.27	-1185	-986	-2657	1.12	0	-26177	16250	1773	8881	14086	2856	10654		4.01	Si
SLV 9	14.15	1172.09	-1588	-1323	-1437	1.12	0	-22342	16250	1862	8881	14086	2856	10743		7.48	Si
SLV 13	12.35	-2102.59	195	162	-3637	1.12	0	0	8988	1510	8881	14086	2856	10391		2.86	Si
SLV 13	14.15	1471.08	-1208	-1006	-1512	1.12	0	-24779	16250	1778	8881	14086	2856	10659		7.05	Si
SLV 15	12.35	-1784.76	496	413	-3257	0.896	0	0	0	0	8881	11269	2285	8881		2.73	Si
SLV 15	14.15	1257.77	-823	-685	-1144	1.12	0	-19683	16250	1692	8881	14086	2856	10574		9.24	Si
SLD 13	12.35	-1567.34	-324	-270	-2765	1.12	0	0	16250	1582	8881	14086	2856	10463		3.78	Si
SLD 13	14.15	1120.46	-1090	-908	-1149	1.12	0	-20114	16250	1752	8881	14086	2856	10633		9.25	Si
SLD 14	12.35	-1302.7	-633	-527	-2350	1.12	0	0	16250	1650	8881	14086	2856	10531		4.48	Si
SLD 14	14.15	948.53	-1046	-871	-935	1.12	0	-17656	15885	1742	8881	14086	2856	10623		11.36	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.52	0	-112	126.94	0	0	No, e>t/2
SLV 15	179667	0.52	0	860	126.94	0	0	No, Trazione
SLV 9	179667	0.52	0	-832	126.94	0	0	No, e>t/2
SLV 11	179667	0.52	0	212	126.94	0	0	No, Trazione
SLV 7	179667	0.52	0	-588	126.94	0	0	No, e>t/2
SLV 13	179667	0.52	0	546	126.94	0	0	No, Trazione
SLV 16	179667	0.52	0	377	126.94	0	0	No, Trazione
SLV 14	179667	0.52	0	64	126.94	0	0	No, Trazione
SLV 8	179667	0.52	2911	-913	126.94	125.38	0.99	No, M>Mu
SLV 10	179667	0.52	3689	-1157	126.94	158.06	1.25	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-773	-2165	-41	3.829	231.3	0.889	62.57475	7.57858	Si
SLV 4	-764	-1387	-35	3.852	230.5	0.889	62.9452	7.57858	Si
SLV 1	-718	-2431	-40	3.958	226.5	0.89	64.62943	7.57858	Si
SLV 3	-710	-1654	-34	3.982	225.7	0.89	65.01985	7.57858	Si
SLV 14	-283	-3767	30	5.42	192.5	0.916	85.99001	7.57858	Si
SLV 16	-274	-2989	36	5.454	191.9	0.917	86.41313	7.57858	Si
SLV 13	-228	-4034	31	5.682	189.2	0.925	89.29372	7.57858	Si
SLV 15	-220	-3256	37	5.72	188.7	0.926	89.73294	7.57858	Si
SLV 6	-602	-3676	-23	4.274	216.6	0.893	69.59356	5.5671	Si
SLV 8	-574	-1084	-3	4.369	214.2	0.893	71.07008	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.627	SLU 81	Si
V_SLU	5.733	SLU 82	Si
PF_SLV	1.802	SLV 15	Si
V_SLV	2.726	SLV 15	Si
PFFP_SLV	0	SLV 16	No
R_SLV	8.257	SLV 2	Si

Maschio 220

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.498	-3.169	-18.498	0.041	L7	L8	3.211	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	11.45	1031.61	-5435	-0.00002	0.0004492	0.0035	3.2107	7861.72	9269.26	9269.26	8.99	No	Si
SLU 35	13.55	703.25	-2432	-0.0000101	0.0004492	0.0035	3.2107	3730.87	4807.73	4807.73	6.84	No	Si
SLU 16	11.45	962.42	-4626	-0.0000174	0.0004492	0.0035	3.2107	6800.58	8083.15	8083.15	8.4	No	Si
SLU 16	13.55	589.66	-1981	-0.0000083	0.0004492	0.0035	3.2107	3064.87	4121.29	4121.29	6.99	No	Si
SLU 17	11.45	950.05	-4628	-0.0000173	0.0004492	0.0035	3.2107	6803.15	8085.99	8085.99	8.51	No	Si
SLU 17	13.55	640.03	-2002	-0.0000086	0.0004492	0.0035	3.2107	3096.78	4153.9	4153.9	6.49	No	Si
SLU 44	11.45	1278.28	-5082	-0.0000203	0.0004492	0.0035	3.2107	7403.17	8753.34	8753.34	6.85	No	Si
SLU 44	13.55	58.95	-1910	-0.0000054	0.0004492	0.0035	3.2107	2959.38	4013.67	4013.67	68.08	No	Si
SLU 38	11.45	1019.24	-5270	-0.0000195	0.0004492	0.0035	3.2107	7647.96	9029.52	9029.52	8.86	No	Si
SLU 38	13.55	777.27	-2334	-0.0000102	0.0004492	0.0035	3.2107	3588.15	4659.59	4659.59	5.99	No	Si
SLU 37	11.45	1031.61	-5268	-0.0000195	0.0004492	0.0035	3.2107	7645.46	9026.69	9026.69	8.75	No	Si
SLU 37	13.55	726.89	-2313	-0.0000099	0.0004492	0.0035	3.2107	3556.66	4626.99	4626.99	6.37	No	Si
SLU 43	11.45	1298.9	-5079	-0.0000204	0.0004492	0.0035	3.2107	7398.96	8748.61	8748.61	6.74	No	Si
SLU 43	13.55	-25.01	-1874	-0.0000051	0.0004492	0.0035	3.2107	2906	8767.87	8767.87	350.62	No	Si
SLU 30	11.45	983.14	-4965	-0.0000184	0.0004492	0.0035	3.2107	7249.74	8581.4	8581.4	8.73	No	Si
SLU 30	13.55	672.33	-2226	-0.0000094	0.0004492	0.0035	3.2107	3429.09	4495.16	4495.16	6.69	No	Si
SLU 60	11.45	1350.48	-5514	-0.0000218	0.0004492	0.0035	3.2107	7963.3	9383.38	9383.38	6.95	No	Si
SLU 60	13.55	124.91	-2029	-0.0000061	0.0004492	0.0035	3.2107	3136.2	4194.23	4194.23	33.58	No	Si
SLU 36	11.45	1019.24	-5437	-0.0000199	0.0004492	0.0035	3.2107	7864.2	9272.05	9272.05	9.1	No	Si
SLU 36	13.55	753.63	-2453	-0.0000104	0.0004492	0.0035	3.2107	3762.21	4840.34	4840.34	6.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	11.45	74.64	-5328	-0.0000147	0.0006738	0.0035	3.2107		9195.21	9195.21	123.19		Si
SLV 10	13.55	2448.85	-3102	-0.000022	0.0006738	0.0035	3.2107		5855.34	5855.34	2.39		Si
SLV 11	11.45	2378.92	-3085	-0.0000213	0.0006738	0.0035	3.2107		5829.56	5829.56	2.45		Si
SLV 11	13.55	-2465.95	85	-0.0001488	0.0006738	0.0035	2.5686		5769.13	5769.13	2.34		Si
SLD 5	11.45	294.98	-5194	-0.0000155	0.0006738	0.0035	3.2107		8995.7	8995.7	30.5		Si
SLD 5	13.55	1650.44	-2732	-0.0000157	0.0006738	0.0035	3.2107		5291.49	5291.49	3.21		Si
SLV 6	11.45	-283.95	-5608	-0.0000165	0.0006738	0.0035	3.2107		14328.65	14328.65	50.46		Si
SLV 6	13.55	2638.25	-3395	-0.0000237	0.0006738	0.0035	3.2107		6298.78	6298.78	2.39		Si
SLV 5	11.45	-167.27	-5705	-0.0000162	0.0006738	0.0035	3.2107		14471.27	14471.27	86.51		Si
SLV 5	13.55	2605.81	-3378	-0.0000234	0.0006738	0.0035	3.2107		6272.53	6272.53	2.41		Si
SLV 8	11.45	1903.66	-3267	-0.0000184	0.0006738	0.0035	3.2107		6105.24	6105.24	3.21		Si
SLV 8	13.55	-2244.11	-226	-0.0001299	0.0006738	0.0035	2.5686		6248.93	6248.93	2.78		Si
SLV 9	11.45	191.32	-5425	-0.0000156	0.0006738	0.0035	3.2107		9339.86	9339.86	48.82		Si
SLV 9	13.55	2416.41	-3085	-0.0000217	0.0006738	0.0035	3.2107		5829.09	5829.09	2.41		Si
SLV 12	11.45	2262.25	-2988	-0.0000203	0.0006738	0.0035	3.2107		5682.6	5682.6	2.51		Si
SLV 12	13.55	-2433.51	68	-0.0001466	0.0006738	0.0035	2.5686		5795.94	5795.94	2.38		Si
SLV 7	11.45	2020.34	-3365	-0.0000193	0.0006738	0.0035	3.2107		6252.19	6252.19	3.09		Si
SLV 7	13.55	-2276.55	-208	-0.0001323	0.0006738	0.0035	2.5686		6222.12	6222.12	2.73		Si
SLD 6	11.45	221.59	-5133	-0.0000149	0.0006738	0.0035	3.2107		8904.7	8904.7	40.19		Si
SLD 6	13.55	1670.85	-2743	-0.0000158	0.0006738	0.0035	3.2107		5308.26	5308.26	3.18		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	11.45	1347.48	-5724	-3174	1259	3.2107	3.2107	-7060	9275	4169	101952	16154	16375	32528	No	25.84	Si
SLU 65	13.55	196.19	-2242	-1243	1375	3.2107	3.2107	-2766	8702	3912	101952	16154	16375	32528	No	23.65	Si
SLU 81	11.45	1419.68	-6156	-3413	1552	3.2107	3.2107	-7593	9346	4201	101952	16154	16375	32528	No	20.96	Si
SLU 81	13.55	262.14	-2361	-1309	1545	3.2107	3.2107	-2912	8722	3920	101952	16154	16375	32528	No	21.06	Si
SLU 52	11.45	1314.39	-5387	-2987	1279	3.2107	3.2107	-6644	9219	4144	101952	16154	16375	32528	No	25.43	Si
SLU 52	13.55	163.89	-2018	-1119	1397	3.2107	3.2107	-2489	8665	3895	101952	16154	16375	32528	No	23.29	Si
SLU 61	11.45	1338.11	-5516	-3058	1379	3.2107	3.2107	-6804	9241	4154	101952	16154	16375	32528	No	23.58	Si
SLU 61	13.55	175.28	-2050	-1137	1447	3.2107	3.2107	-2529	8670	3897	101952	16154	16375	32528	No	22.47	Si
SLU 73	11.45	1383.58	-6029	-3343	1376	3.2107	3.2107	-7436	9325	4191	101952	16154	16375	32528	No	23.64	Si
SLU 73	13.55	301.13	-2350	-1303	1493	3.2107	3.2107	-2899	8720	3920	101952	16154	16375	32528	No	21.79	Si
SLU 82	11.45	1407.3	-6158	-3414	1477	3.2107	3.2107	-7596	9346	4201	101952	16154	16375	32528	No	22.03	Si
SLU 82	13.55	312.52	-2382	-1321	1544	3.2107	3.2107	-2939	8725	3922	101952	16154	16375	32528	No	21.07	Si
SLU 74	11.45	1358.65	-6315	-3501	1380	3.2107	3.2107	-7790	9372	4213	101952	16154	16375	32528	No	23.58	Si
SLU 74	13.55	427.41	-2605	-1444	1372	3.2107	3.2107	-3213	8762	3938	101952	16154	16375	32528	No	23.71	Si
SLU 60	11.45	1350.48	-5514	-3057	1454	3.2107	3.2107	-6802	9240	4153	101952	16154	16375	32528	No	22.36	Si
SLU 60	13.55	124.91	-2029	-1125	1448	3.2107	3.2107	-2502	8667	3896	101952	16154	16375	32528	No	22.46	Si
SLU 64	11.45	1368.09	-5720	-3172	1384	3.2107	3.2107	-7056	9274	4169	101952	16154	16375	32528	No	23.51	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	13.55	112.23	-2206	-1223	1377	3.2107	3.2107	-2722	8696	3909	101952	16154	16375	32528	No	23.63	Si
SLU 83	11.45	1374.13	-6279	-3481	1382	3.2107	3.2107	-7745	9366	4210	101952	16154	16375	32528	No	23.55	Si
SLU 83	13.55	496.02	-2532	-1404	1374	3.2107	3.2107	-3124	8750	3933	101952	16154	16375	32528	No	23.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	11.45	1903.66	-3267	-1812	3341	3.2107	3.0681	-4030	13306	5715	101952	24231	16375	40605		12.15	Si
SLV 8	13.55	-2244.11	-226	-125	2378	2.5686	0	0	0	0	101952	19385	13100	32484		13.66	Si
SLD 11	11.45	1873.39	-3560	-1974	2756	3.2107	3.2107	-4391	13378	6013	101952	24231	16375	40605		14.73	Si
SLD 11	13.55	-1498.55	-567	-315	2198	2.5686	0	0	0	0	101952	19385	13100	32484		14.78	Si
SLD 8	11.45	1571.68	-3678	-2039	2470	3.2107	3.2107	-4536	13407	6027	101952	24231	16375	40605		16.44	Si
SLD 8	13.55	-1356.31	-766	-425	1874	2.5686	0	0	0	0	101952	19385	13100	32484		17.34	Si
SLD 12	11.45	1800	-3499	-1940	2656	3.2107	3.2107	-4316	13363	6007	101952	24231	16375	40605		15.29	Si
SLD 12	13.55	-1478.14	-578	-321	2098	2.5686	0	0	0	0	101952	19385	13100	32484		15.48	Si
SLV 16	11.45	1886.63	-3457	-1917	2196	3.2107	3.1787	-4264	13353	5942	101952	24231	16375	40605		18.49	Si
SLV 16	13.55	-937.78	-703	-390	2013	2.5686	0.8161	0	0	0	101952	19385	13100	32484		16.14	Si
SLV 7	11.45	2020.34	-3365	-1866	3500	3.2107	3.0146	-4150	13330	5626	101952	24231	16375	40605		11.6	Si
SLV 7	13.55	-2276.55	-208	-116	2536	2.5686	0	0	0	0	101952	19385	13100	32484		12.81	Si
SLV 11	11.45	2378.92	-3085	-1710	3794	3.2107	2.5025	-3805	13261	4646	101952	24231	16375	40605		10.7	Si
SLV 11	13.55	-2465.95	85	47	2890	2.5686	0	0	0	0	101952	19385	13100	32484		11.24	Si
SLV 12	11.45	2262.25	-2988	-1656	3635	3.2107	2.5444	-3685	13237	4715	101952	24231	16375	40605		11.17	Si
SLV 12	13.55	-2433.51	68	38	2732	2.5686	0	0	0	0	101952	19385	13100	32484		11.89	Si
SLD 7	11.45	1645.08	-3739	-2073	2570	3.2107	3.2107	-4612	13422	6033	101952	24231	16375	40605		15.8	Si
SLD 7	13.55	-1376.72	-755	-419	1973	2.5686	0	0	0	0	101952	19385	13100	32484		16.46	Si
SLV 15	11.45	2059.93	-3601	-1997	2431	3.2107	3.1	-4442	13388	5811	101952	24231	16375	40605		16.7	Si
SLV 15	13.55	-985.97	-678	-376	2248	2.5686	0.4504	0	0	0	101952	19385	13100	32484		14.45	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-620	0.52	198.02	0	250.81	125.41	0.63	No
SLV 11	-664	0.52	198.02	0	254.98	127.49	0.64	No
SLV 8	-853	0.52	198.02	0	272.56	136.28	0.69	No
SLV 7	-898	0.52	198.02	0	276.64	138.32	0.7	No
SLV 16	-1494	0.52	198.02	0	331.11	165.56	0.84	No
SLV 15	-1560	0.52	198.02	0	337.07	168.54	0.85	No
SLV 4	-2272	0.52	198.02	0	400.69	200.34	1.01	Si
SLV 3	-2338	0.52	198.02	0	406.53	203.26	1.03	Si
SLV 14	-2486	0.52	198.02	0	419.68	209.84	1.06	Si
SLV 13	-2552	0.52	198.02	0	425.51	212.76	1.07	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-281	-5092	-110	11.568	268.6	0.931	180.54957	14.52479	Si
SLV 1	-276	-5236	-110	11.604	268.3	0.932	180.97545	14.52479	Si
SLV 4	-234	-4389	-99	11.928	266.2	0.938	184.73414	14.52479	Si
SLV 3	-230	-4534	-99	11.967	266	0.939	185.1657	14.52479	Si
SLV 14	-95	-4159	99	13.137	261.1	0.969	197.11358	14.52479	Si
SLV 13	-90	-4303	100	13.184	260.9	0.97	197.53706	14.52479	Si
SLV 16	-49	-3457	110	13.587	260.2	0.982	200.99681	14.52479	Si
SLV 15	-44	-3601	110	13.637	260.1	0.984	201.40664	14.52479	Si
SLV 6	-269	-5608	-49	11.695	267.9	0.933	182.19396	7.53022	Si
SLV 5	-266	-5705	-49	11.72	267.8	0.933	182.48267	7.53022	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.995	SLU 38	Si
V_SLU	20.964	SLU 81	Si
PF_SLV	2.34	SLV 11	Si
V_SLV	10.703	SLV 11	Si
PFFP_SLV	0.633	SLV 12	No
R_SLV	12.43	SLV 2	Si

Maschio 222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.169	-15.293	-3.169	L7	L8	1.54	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	11.45	-2013.97	-2857	-0.0000795	0.0003743	0.0035	1.5398	2056.52	11746.14	11746.14	5.83	No	Si
SLU 75	13.55	1962.43	-4802	-0.0000484	0.0003743	0.0035	1.5398	3292.8	12688.82	12688.82	6.47	No	Si
SLU 76	11.45	-1982.54	-2694	-0.0000832	0.0003743	0.0035	1.5398	1946.53	11645.4	11645.4	5.87	No	Si
SLU 76	13.55	1899.32	-4481	-0.0000469	0.0003743	0.0035	1.5398	3098.03	12541.07	12541.07	6.6	No	Si
SLU 83	11.45	-2083.99	-2485	-0.0001044	0.0003743	0.0035	1.5398	0	11515.37	11515.37	5.53	No	Si
SLU 83	13.55	1943.12	-4478	-0.0000482	0.0003743	0.0035	1.5398	3096.17	12539.66	12539.66	6.45	No	Si
SLU 73	11.45	-2010.53	-2528	-0.0000939	0.0003743	0.0035	1.5398	0	11542.22	11542.22	5.74	No	Si
SLU 73	13.55	1930.3	-4437	-0.0000479	0.0003743	0.0035	1.5398	3070.72	12520.39	12520.39	6.49	No	Si
SLU 40	11.45	-1868.12	-1645	-0.0001269	0.0003743	0.0035	1.5398	0	10973.11	10973.11	5.87	No	Si
SLU 40	13.55	1692.93	-3725	-0.0000422	0.0003743	0.0035	1.5398	2624.27	12183.36	12183.36	7.2	No	Si
SLU 39	11.45	-1869.47	-1624	-0.0001284	0.0003743	0.0035	1.5398	0	10955.82	10955.82	5.86	No	Si
SLU 39	13.55	1691.22	-3718	-0.0000421	0.0003743	0.0035	1.5398	2619.86	12180.04	12180.04	7.2	No	Si
SLU 84	11.45	-2082.64	-2505	-0.0001032	0.0003743	0.0035	1.5398	0	11528.12	11528.12	5.54	No	Si
SLU 84	13.55	1944.83	-4485	-0.0000483	0.0003743	0.0035	1.5398	3100.39	12542.86	12542.86	6.45	No	Si
SLU 81	11.45	-2111.98	-2319	-0.0001168	0.0003743	0.0035	1.5398	0	11410.94	11410.94	5.4	No	Si
SLU 81	13.55	1974.11	-4434	-0.0000493	0.0003743	0.0035	1.5398	3068.85	12518.98	12518.98	6.34	No	Si
SLU 82	11.45	-2110.63	-2339	-0.0001155	0.0003743	0.0035	1.5398	0	11423.81	11423.81	5.41	No	Si
SLU 82	13.55	1975.81	-4441	-0.0000493	0.0003743	0.0035	1.5398	3073.08	12522.18	12522.18	6.34	No	Si
SLU 74	11.45	-2015.32	-2837	-0.0000805	0.0003743	0.0035	1.5398	2042.88	11733.65	11733.65	5.82	No	Si
SLU 74	13.55	1960.73	-4795	-0.0000484	0.0003743	0.0035	1.5398	3288.65	12685.67	12685.67	6.47	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	11.45	-2355.81	-1593	-0.0001915	0.0005615	0.0035	1.5398		11541.41	11541.41	4.9		Si
SLD 13	13.55	2422.7	-4432	-0.0000681	0.0005615	0.0035	1.5398		13572.99	13572.99	5.6		Si
SLV 15	11.45	-2927.15	-111	-0.0005102	0.0005615	0.0035	1.5398		9644.49	9644.49	3.29		Si
SLV 15	13.55	2893.88	-4258	-0.0001084	0.0005615	0.0035	1.5398		13479.63	13479.63	4.66		Si
SLD 16	11.45	-2088.85	-1062	-0.0001956	0.0005615	0.0035	1.5398		11029.76	11029.76	5.28		Si
SLD 16	13.55	2062.77	-3627	-0.00006	0.0005615	0.0035	1.5398		13084.83	13084.83	6.34		Si
SLV 14	11.45	-2496.29	-1643	-0.000207	0.0005615	0.0035	1.5398		11587.93	11587.93	4.64		Si
SLV 14	13.55	2584.14	-4678	-0.0000737	0.0005615	0.0035	1.5398		13703.25	13703.25	5.3		Si
SLV 13	11.45	-2920.91	-1309	-0.0002971	0.0005615	0.0035	1.5398		11275.96	11275.96	3.86		Si
SLV 13	13.55	3022.57	-5109	-0.0000939	0.0005615	0.0035	1.5398		13927.88	13927.88	4.61		Si
SLV 12	11.45	-1633.99	132	-0.0002783	0.0005615	0.0035	1.5398		9052.37	9052.37	5.54		Si
SLV 12	13.55	1418.1	-2060	-0.0000525	0.0005615	0.0035	1.5398		11956.67	11956.67	8.43		Si
SLV 16	11.45	-2502.52	-445	-0.0003414	0.0005615	0.0035	1.5398		10196.75	10196.75	4.07		Si
SLV 16	13.55	2455.45	-3827	-0.000084	0.0005615	0.0035	1.5398		13214.86	13214.86	5.38		Si
SLD 14	11.45	-2084.51	-1806	-0.0001412	0.0005615	0.0035	1.5398		11737.71	11737.71	5.63		Si
SLD 14	13.55	2142.58	-4156	-0.0000569	0.0005615	0.0035	1.5398		13424.95	13424.95	6.27		Si
SLV 11	11.45	-1919.88	357	0.0001033	0.0005615	0.0035	1.2318		8492.58	8492.58	4.42		Si
SLV 11	13.55	1713.28	-2350	-0.0000692	0.0005615	0.0035	1.5398		12215.15	12215.15	7.13		Si
SLD 15	11.45	-2360.15	-849	-0.0002573	0.0005615	0.0035	1.5398		10746.04	10746.04	4.55		Si
SLD 15	13.55	2342.89	-3903	-0.0000731	0.0005615	0.0035	1.5398		13264.02	13264.02	5.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	11.45	-2015.32	-2837	-2362	-3410	1.5398	0.1784	-18361	9625	2014	12210	12910	3926	14224	No	4.17	Si
SLU 74	13.55	1960.73	-4795	-3993	-3412	1.5398	1.0831	-13185	8708	2641	12210	12910	3926	14851	No	4.35	Si
SLU 75	11.45	-2013.97	-2857	-2379	-3404	1.5398	0.195	-18259	9602	2018	12210	12910	3926	14228	No	4.18	Si
SLU 75	13.55	1962.43	-4802	-3999	-3410	1.5398	1.0838	-13196	8709	2643	12210	12910	3926	14853	No	4.36	Si
SLU 84	11.45	-2082.64	-2505	-2086	-3442	1.5398	0	-20365	10157	1940	12210	12910	3926	14150	No	4.11	Si
SLU 84	13.55	1944.83	-4485	-3735	-3447	1.5398	1.0089	-13170	8709	2460	12210	12910	3926	14670	No	4.26	Si
SLU 82	11.45	-2110.63	-2339	-1948	-3515	1.5398	0	-20986	10418	1903	12210	12910	3926	14113	No	4.02	Si
SLU 82	13.55	1975.81	-4441	-3698	-3519	1.5398	0.9749	-13455	8748	2388	12210	12910	3926	14598	No	4.15	Si
SLU 73	11.45	-2010.53	-2528	-2105	-3374	1.5398	0	-19386	9930	1945	12210	12910	3926	14155	No	4.2	Si
SLU 73	13.55	1930.3	-4437	-3695	-3382	1.5398	1.0045	-13079	8697	2446	12210	12910	3926	14656	No	4.33	Si
SLU 78	11.45	-1985.97	-3023	-2517	-3332	1.5398	0.3389	-17142	9376	2055	12210	12910	3926	14265	No	4.28	Si
SLU 78	13.55	1931.45	-4847	-4036	-3338	1.5398	1.1142	-12973	8679	2708	12210	12910	3926	14918	No	4.47	Si
SLU 77	11.45	-1987.33	-3003	-2500	-3338	1.5398	0.3242	-17249	9397	2050	12210	12910	3926	14260	No	4.27	Si
SLU 77	13.55	1929.74	-4840	-4030	-3339	1.5398	1.1136	-12961	8677	2705	12210	12910	3926	14915	No	4.47	Si
SLU 76	11.45	-1982.54	-2694	-2243	-3301	1.5398	0.1016	-18444	9679	1982	12210	12910	3926	14192	No	4.3	Si
SLU 76	13.55	1899.32	-4481	-3732	-3309	1.5398	1.0383	-12813	8660	2517	12210	12910	3926	14727	No	4.45	Si
SLU 83	11.45	-2083.99	-2485	-2069	-3448	1.5398	0	-20428	10183	1935	12210	12910	3926	14145	No	4.1	Si
SLU 83	13.55	1943.12	-4478	-3729	-3448	1.5398	1.008	-13160	8707	2458	12210	12910	3926	14668	No	4.25	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	11.45	-2111.98	-2319	-1931	-3521	1.5398	0	-21024	10445	1899	12210	12910	3926	14109	No	4.01	Si
SLU 81	13.55	1974.11	-4434	-3692	-3521	1.5398	0.974	-13445	8747	2386	12210	12910	3926	14596	No	4.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	11.45	-2084.51	-1806	-1504	-3661	1.5398	0	-20767	16250	2477	12210	19366	3926	14687		4.01	Si
SLD 14	13.55	2142.58	-4156	-3461	-3262	1.5398	0.7632	-15452	13551	2998	12210	19366	3926	15208		4.66	Si
SLV 15	11.45	-2927.15	-111	-93	-5198	1.5398	0	0	3628	2100	12210	19366	3926	14310		2.75	Si
SLV 15	13.55	2893.88	-4258	-3545	-4535	1.5398	0.2706	-25624	15931	3021	12210	19366	3926	15231		3.36	Si
SLV 16	11.45	-2502.52	-445	-371	-4507	1.5398	0	0	16250	2174	12210	19366	3926	14384		3.19	Si
SLV 16	13.55	2455.45	-3827	-3186	-3844	1.5398	0.3846	-20833	14814	2925	12210	19366	3926	15135		3.94	Si
SLV 11	11.45	-1919.88	357	297	-3451	1.2318	0	0	0	0	12210	15492	3141	12210		3.54	Si
SLV 11	13.55	1713.28	-2350	-1957	-3201	1.5398	0.1225	-15930	13938	2597	12210	19366	3926	14807		4.63	Si
SLD 13	11.45	-2355.81	-1593	-1326	-4102	1.5398	0	-21991	16250	2429	12210	19366	3926	14639		3.57	Si
SLD 13	13.55	2422.7	-4432	-3690	-3704	1.5398	0.6697	-18150	14123	3060	12210	19366	3926	15270		4.12	Si
SLD 11	11.45	-1716.88	-576	-480	-3039	1.5398	0	0	16250	2203	12210	19366	3926	14413		4.74	Si
SLD 11	13.55	1591.11	-2701	-2249	-2884	1.5398	0.5423	-12595	13019	2675	12210	19366	3926	14885		5.16	Si
SLD 15	11.45	-2360.15	-849	-707	-4157	1.5398	0	0	16250	2264	12210	19366	3926	14474		3.48	Si
SLD 15	13.55	2342.89	-3903	-3250	-3738	1.5398	0.5087	-18844	14327	2942	12210	19366	3926	15152		4.05	Si
SLV 13	11.45	-2920.91	-1309	-1090	-5109	1.5398	0	0	16250	2366	12210	19366	3926	14576		2.85	Si
SLV 13	13.55	3022.57	-5109	-4254	-4482	1.5398	0.5347	-24046	15394	3210	12210	19366	3926	15420		3.44	Si
SLV 14	11.45	-2496.29	-1643	-1368	-4419	1.5398	0	-23063	16250	2440	12210	19366	3926	14650		3.32	Si
SLV 14	13.55	2584.14	-4678	-3895	-3790	1.5398	0.6523	-19509	14406	3114	12210	19366	3926	15324		4.04	Si
SLD 16	11.45	-2088.85	-1062	-884	-3716	1.5398	0	-17742	16250	2311	12210	19366	3926	14521		3.91	Si
SLD 16	13.55	2062.77	-3627	-3020	-3296	1.5398	0.6036	-15894	13680	2881	12210	19366	3926	15091		4.58	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.52	3297	-1422	174.53	194.72	1.12	Si
SLV 7	179667	0.52	3760	-1621	174.53	221.35	1.27	Si
SLV 4	179667	0.52	4345	-1873	174.53	254.78	1.46	Si
SLV 12	179667	0.52	4431	-1910	174.53	259.7	1.49	Si
SLV 11	179667	0.52	4894	-2110	174.53	285.92	1.64	Si
SLV 3	179667	0.52	5032	-2169	174.53	293.7	1.68	Si
SLV 2	179667	0.52	6473	-2791	174.53	374.12	2.14	Si
SLV 1	179667	0.52	7160	-3087	174.53	411.9	2.36	Si
SLV 16	179667	0.52	8124	-3503	174.53	464.31	2.66	Si
SLV 15	179667	0.52	8812	-3799	174.53	501.18	2.87	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-1275	-3808	-72	3.501	337	0.889	57.23389	7.57858	Si
SLV 2	-1265	-4142	-77	3.513	336.1	0.889	57.43437	7.57858	Si
SLV 13	-1182	-1309	9	3.66	328.7	0.889	59.83993	7.57858	Si
SLV 14	-1172	-1643	4	3.677	327.7	0.889	60.12378	7.57858	Si
SLV 3	-1043	-2610	-15	3.879	316.3	0.89	63.3805	7.57858	Si
SLV 4	-1033	-2944	-20	3.894	315.4	0.89	63.62268	7.57858	Si
SLV 15	-951	-111	65	4.019	308.2	0.89	65.60417	7.57858	Si
SLV 16	-941	-445	60	4.04	307.3	0.891	65.9368	7.57858	Si
SLV 5	-1511	-4385	-111	3.188	358.9	0.89	52.0568	5.5671	Si
SLV 6	-1504	-4610	-114	3.195	358.2	0.89	52.16904	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.403	SLU 81	Si
V_SLU	4.007	SLU 81	Si
PF_SLV	3.295	SLV 15	Si
V_SLV	2.753	SLV 15	Si
PFFP_SLV	1.116	SLV 8	Si
R_SLV	7.552	SLV 1	Si

Maschio 224

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.522	L7	L8	4.315	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 36	11.45	1710.87	-6804	-0.0000185	0.0004492	0.0035	4.3155	13327.56	15690.77	15690.77	9.17	No	Si
SLU 36	13.55	-4986.52	-4211	-0.0000251	0.0004492	0.0035	4.3155	8568.58	19772.21	19772.21	3.97	No	Si
SLU 77	11.45	1849.71	-8192	-0.0000218	0.0004492	0.0035	4.3155	15715.25	18398.22	18398.22	9.95	No	Si
SLU 77	13.55	-5654.25	-4948	-0.0000284	0.0004492	0.0035	4.3155	9960.16	21216.96	21216.96	3.75	No	Si
SLU 35	11.45	1741.67	-6851	-0.0000187	0.0004492	0.0035	4.3155	13411.18	15784.87	15784.87	9.06	No	Si
SLU 35	13.55	-5072.91	-4259	-0.0000256	0.0004492	0.0035	4.3155	8659.4	19865.51	19865.51	3.92	No	Si
SLU 78	11.45	1818.9	-8145	-0.0000216	0.0004492	0.0035	4.3155	15635.36	18305.75	18305.75	10.06	No	Si
SLU 78	13.55	-5567.85	-4900	-0.000028	0.0004492	0.0035	4.3155	9871.25	21123.66	21123.66	3.79	No	Si
SLU 83	11.45	1810.75	-8067	-0.0000214	0.0004492	0.0035	4.3155	15505.1	18155.29	18155.29	10.03	No	Si
SLU 83	13.55	-5395.7	-4823	-0.000027	0.0004492	0.0035	4.3155	9726.31	20971.86	20971.86	3.89	No	Si
SLU 74	11.45	1707.86	-7999	-0.000021	0.0004492	0.0035	4.3155	15389.22	18021.79	18021.79	10.55	No	Si
SLU 74	13.55	-5296.8	-4754	-0.0000265	0.0004492	0.0035	4.3155	9597.41	20837.16	20837.16	3.93	No	Si
SLU 80	11.45	1790.26	-8074	-0.0000214	0.0004492	0.0035	4.3155	15515.7	18167.52	18167.52	10.15	No	Si
SLU 80	13.55	-5428.96	-4829	-0.0000272	0.0004492	0.0035	4.3155	9738.1	20984.2	20984.2	3.87	No	Si
SLU 84	11.45	1779.94	-8020	-0.0000212	0.0004492	0.0035	4.3155	15424.86	18062.82	18062.82	10.15	No	Si
SLU 84	13.55	-5309.31	-4775	-0.0000266	0.0004492	0.0035	4.3155	9637.05	20878.55	20878.55	3.93	No	Si
SLU 75	11.45	1677.05	-7951	-0.0000208	0.0004492	0.0035	4.3155	15308.79	17929.31	17929.31	10.69	No	Si
SLU 75	13.55	-5210.4	-4707	-0.0000261	0.0004492	0.0035	4.3155	9507.96	20743.86	20743.86	3.98	No	Si
SLU 79	11.45	1821.07	-8121	-0.0000215	0.0004492	0.0035	4.3155	15595.79	18260	18260	10.03	No	Si
SLU 79	13.55	-5515.36	-4877	-0.0000277	0.0004492	0.0035	4.3155	9827.21	21077.5	21077.5	3.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	11.45	-3110.82	-1853	-0.0000215	0.0006738	0.0035	3.4524		15043.89	15043.89	4.84		Si
SLV 9	13.55	3673.39	604	-0.0018996	0.0006738	0.0035	4.3155		570.6	570.6	0.16		No
SLD 5	11.45	-1832.01	-3188	-0.0000114	0.0006738	0.0035	4.3155		17761.99	17761.99	9.7		Si
SLD 5	13.55	1157.79	-729	-0.0000073	0.0006738	0.0035	4.3155		3378.51	3378.51	2.92		Si
SLV 12	11.45	5439.89	-9550	-0.0000346	0.0006738	0.0035	4.3155		21254.59	21254.59	3.91		Si
SLV 12	13.55	-10324.78	-7103	-0.000059	0.0006738	0.0035	3.4524		25584.57	25584.57	2.48		Si
SLD 12	11.45	3744.02	-8068	-0.0000267	0.0006738	0.0035	4.3155		18340.26	18340.26	4.9		Si
SLD 12	13.55	-7652.39	-5620	-0.000041	0.0006738	0.0035	3.4524		22646.9	22646.9	2.96		Si
SLV 7	11.45	5091.77	-9389	-0.0000333	0.0006738	0.0035	4.3155		20941.5	20941.5	4.11		Si
SLV 7	13.55	-10115.28	-6939	-0.0000579	0.0006738	0.0035	3.4524		25262.05	25262.05	2.5		Si
SLV 11	11.45	5508.83	-9535	-0.0000348	0.0006738	0.0035	4.3155		21225.98	21225.98	3.85		Si
SLV 11	13.55	-10272.06	-7088	-0.0000585	0.0006738	0.0035	3.4524		25555.56	25555.56	2.49		Si
SLV 10	11.45	-3179.76	-1867	-0.0000227	0.0006738	0.0035	3.4524		15073.93	15073.93	4.74		Si
SLV 10	13.55	3620.67	589	-0.0018495	0.0006738	0.0035	4.3155		601.77	601.77	0.17		No
SLV 6	11.45	-3596.82	-1721	-0.000046	0.0006738	0.0035	3.4524		14776.12	14776.12	4.11		Si
SLV 6	13.55	3777.46	738	-0.0021172	0.0006738	0.0035	4.3155		286.5	286.5	0.08		No
SLV 8	11.45	5022.83	-9403	-0.0000331	0.0006738	0.0035	4.3155		20970.57	20970.57	4.18		Si
SLV 8	13.55	-10167.99	-6953	-0.0000584	0.0006738	0.0035	3.4524		25291.07	25291.07	2.49		Si
SLV 5	11.45	-3527.88	-1706	-0.0000438	0.0006738	0.0035	3.4524		14746.07	14746.07	4.18		Si
SLV 5	13.55	3830.17	753	-0.0021723	0.0006738	0.0035	4.3155		255.27	255.27	0.07		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	11.45	1790.26	-8074	-4477	3459	4.3155	4.3155	-7409	9321	5632	101952	21712	22009	43721	No	12.64	Si
SLU 80	13.55	-5428.96	-4829	-2677	3459	4.3155	3.1005	-6188	9159	4561	101952	21712	22009	43721	No	12.64	Si
SLU 77	11.45	1849.71	-8192	-4542	3595	4.3155	4.3155	-7518	9336	5640	101952	21712	22009	43721	No	12.16	Si
SLU 77	13.55	-5654.25	-4948	-2743	3595	4.3155	3.0447	-6456	9195	4587	101952	21712	22009	43721	No	12.16	Si
SLU 74	11.45	1707.86	-7999	-4435	3357	4.3155	4.3155	-7341	9312	5626	101952	21712	22009	43721	No	13.02	Si
SLU 74	13.55	-5296.8	-4754	-2636	3357	4.3155	3.1307	-6033	9138	4544	101952	21712	22009	43721	No	13.02	Si
SLU 79	11.45	1821.07	-8121	-4503	3515	4.3155	4.3155	-7453	9327	5635	101952	21712	22009	43721	No	12.44	Si
SLU 79	13.55	-5515.36	-4877	-2704	3515	4.3155	3.0802	-6290	9172	4572	101952	21712	22009	43721	No	12.44	Si
SLU 75	11.45	1677.05	-7951	-4409	3301	4.3155	4.3155	-7297	9306	5623	101952	21712	22009	43721	No	13.24	Si
SLU 75	13.55	-5210.4	-4707	-2610	3301	4.3155	3.152	-5932	9125	4534	101952	21712	22009	43721	No	13.24	Si
SLU 84	11.45	1779.94	-8020	-4447	3397	4.3155	4.3155	-7360	9315	5628	101952	21712	22009	43721	No	12.87	Si
SLU 84	13.55	-5309.31	-4775	-2648	3397	4.3155	3.1376	-6046	9140	4549	101952	21712	22009	43721	No	12.87	Si
SLU 78	11.45	1818.9	-8145	-4516	3539	4.3155	4.3155	-7475	9330	5637	101952	21712	22009	43721	No	12.35	Si
SLU 78	13.55	-5567.85	-4900	-2717	3539	4.3155	3.0644	-6353	9181	4577	101952	21712	22009	43721	No	12.35	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	11.45	1810.75	-8067	-4473	3453	4.3155	4.3155	-7404	9320	5631	101952	21712	22009	43721	No	12.66	Si
SLU 83	13.55	-5395.7	-4823	-2674	3453	4.3155	3.1168	-6148	9153	4560	101952	21712	22009	43721	No	12.66	Si
SLU 81	11.45	1668.9	-7874	-4366	3215	4.3155	4.3155	-7226	9297	5617	101952	21712	22009	43721	No	13.6	Si
SLU 81	13.55	-5038.26	-4629	-2567	3215	4.3155	3.2081	-5733	9098	4517	101952	21712	22009	43721	No	13.6	Si
SLU 35	11.45	1741.67	-6851	-3799	3261	4.3155	4.3155	-6288	9172	5541	101952	21712	22009	43721	No	13.41	Si
SLU 35	13.55	-5072.91	-4259	-2361	3261	4.3155	2.8998	-5829	9111	4435	101952	21712	22009	43721	No	13.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	11.45	3744.02	-8068	-4474	5602	4.3155	4.3155	-7405	13981	8447	101952	32568	22009	54577		9.74	Si
SLD 12	13.55	-7652.39	-5620	-3116	5204	3.4524	2.3885	0	0	0	101952	26055	17607	43662		8.39	Si
SLD 11	11.45	3787.39	-8059	-4468	5607	4.3155	4.3155	-7396	13979	8446	101952	32568	22009	54577		9.73	Si
SLD 11	13.55	-7619.23	-5611	-3111	5208	3.4524	2.3995	0	0	0	101952	26055	17607	43662		8.38	Si
SLV 11	11.45	5508.83	-9535	-5287	7785	4.3155	4.3155	-8750	14250	8609	101952	32568	22009	54577		7.01	Si
SLV 11	13.55	-10272.06	-7088	-3930	7144	3.4524	2.1255	0	0	0	101952	26055	17607	43662		6.11	Si
SLD 7	11.45	3520.63	-7966	-4417	5434	4.3155	4.3155	-7311	13962	8435	101952	32568	22009	54577		10.04	Si
SLD 7	13.55	-7520.04	-5516	-3058	5031	3.4524	2.3833	0	0	0	101952	26055	17607	43662		8.68	Si
SLD 8	11.45	3477.26	-7975	-4422	5429	4.3155	4.3155	-7319	13964	8436	101952	32568	22009	54577		10.05	Si
SLD 8	13.55	-7553.2	-5525	-3064	5027	3.4524	2.3722	0	0	0	101952	26055	17607	43662		8.69	Si
SLV 15	11.45	2995.26	-7013	-3888	4163	4.3155	4.3155	-6436	13787	8330	101952	32568	22009	54577		13.11	Si
SLV 15	13.55	-5561.28	-4566	-2532	3982	3.4524	2.8196	0	0	0	101952	26055	17607	43662		10.97	Si
SLV 7	11.45	5091.77	-9389	-5206	7515	4.3155	4.3155	-8616	14223	8593	101952	32568	22009	54577		7.26	Si
SLV 7	13.55	-10115.28	-6939	-3847	6867	3.4524	2.0998	0	0	0	101952	26055	17607	43662		6.36	Si
SLV 16	11.45	2892.86	-7035	-3901	4152	4.3155	4.3155	-6456	13791	8332	101952	32568	22009	54577		13.15	Si
SLV 16	13.55	-5639.57	-4588	-2544	3970	3.4524	2.7858	0	0	0	101952	26055	17607	43662		11	Si
SLV 12	11.45	5439.89	-9550	-5295	7778	4.3155	4.3155	-8764	14253	8611	101952	32568	22009	54577		7.02	Si
SLV 12	13.55	-10324.78	-7103	-3938	7136	3.4524	2.1123	0	0	0	101952	26055	17607	43662		6.12	Si
SLV 8	11.45	5022.83	-9403	-5214	7507	4.3155	4.3155	-8630	14226	8595	101952	32568	22009	54577		7.27	Si
SLV 8	13.55	-10167.99	-6953	-3855	6859	3.4524	2.0863	0	0	0	101952	26055	17607	43662		6.37	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	217	0.52	266.16	0	232.89	116.45	0.44	No
SLV 6	203	0.52	266.16	0	234.48	117.24	0.44	No
SLV 9	64	0.52	266.16	0	249.2	124.6	0.47	No
SLV 10	49	0.52	266.16	0	250.75	125.38	0.47	No
SLV 1	-2284	0.52	266.16	0	473.87	236.94	0.89	No
SLV 2	-2306	0.52	266.16	0	475.85	237.93	0.89	No
SLV 13	-2794	0.52	266.16	0	519.86	259.93	0.98	No
SLV 14	-2816	0.52	266.16	0	521.83	260.92	0.98	No
SLD 5	-1261	0.22	110.13	0	379.5	189.75	1.72	Si
SLD 6	-1270	0.22	110.13	0	380.37	190.18	1.73	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-406	-7035	328	11.327	362.5	0.928	177.36033	14.52479	Si
SLV 15	-403	-7013	328	11.34	362.4	0.928	177.51842	14.52479	Si
SLV 4	-334	-6548	-327	11.726	358.7	0.936	182.04319	14.52479	Si
SLV 3	-331	-6526	-327	11.74	358.6	0.936	182.20402	14.52479	Si
SLV 14	-126	-4730	327	13.048	350.8	0.969	195.68003	14.52479	Si
SLV 13	-123	-4708	327	13.066	350.8	0.97	195.8395	14.52479	Si
SLV 2	-54	-4243	-328	13.58	349.5	0.985	200.2746	14.52479	Si
SLV 1	-51	-4221	-328	13.599	349.5	0.986	200.4279	14.52479	Si
SLV 12	-707	-9550	99	10.015	381.8	0.906	160.60203	7.53022	Si
SLV 11	-705	-9535	99	10.022	381.7	0.906	160.69719	7.53022	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.752	SLU 77	Si
V_SLU	12.162	SLU 77	Si
PF_SLV	0.067	SLV 5	No
V_SLV	6.111	SLV 11	Si
PFFP_SLV	0.438	SLV 5	No
R_SLV	12.211	SLV 16	Si

Maschio 225

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.404	-13.753	1.141	L7	L8	4.546	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 16	11.45	2895.65	-16714	-0.0000245	0.0003743	0.0035	4.5457	33088.5	34635.02	34635.02	11.96	No	Si
SLU 16	14.6	1790.96	-1671	-0.0000049	0.0003743	0.0035	4.5457	3748.89	4799.9	4799.9	2.68	No	Si
SLU 84	11.45	3319.43	-21953	-0.0000317	0.0003743	0.0035	4.5457	41442.58	43548.72	43548.72	13.12	No	Si
SLU 84	14.6	2099.82	-2117	-0.0000058	0.0003743	0.0035	4.5457	4733.92	5788.96	5788.96	2.76	No	Si
SLU 58	11.45	3548.39	-20262	-0.0000299	0.0003743	0.0035	4.5457	38851.16	40622.97	40622.97	11.45	No	Si
SLU 58	14.6	2019.83	-1937	-0.0000055	0.0003743	0.0035	4.5457	4337.03	5390.45	5390.45	2.67	No	Si
SLU 17	11.45	2921.16	-16781	-0.0000246	0.0003743	0.0035	4.5457	33200.82	34745.64	34745.64	11.89	No	Si
SLU 17	14.6	1807.59	-1680	-0.0000049	0.0003743	0.0035	4.5457	3768.34	4819.33	4819.33	2.67	No	Si
SLU 79	11.45	3756.65	-22575	-0.0000332	0.0003743	0.0035	4.5457	42370.28	44636.29	44636.29	11.88	No	Si
SLU 79	14.6	2330.58	-2301	-0.0000064	0.0003743	0.0035	4.5457	5136.51	6190.63	6190.63	2.66	No	Si
SLU 80	11.45	3782.16	-22641	-0.0000333	0.0003743	0.0035	4.5457	42468.9	44753.22	44753.22	11.83	No	Si
SLU 80	14.6	2347.2	-2310	-0.0000064	0.0003743	0.0035	4.5457	5155.77	6209.92	6209.92	2.65	No	Si
SLU 38	11.45	3129.42	-19094	-0.0000278	0.0003743	0.0035	4.5457	37002.39	38628.83	38628.83	12.34	No	Si
SLU 38	14.6	2118.34	-2043	-0.0000058	0.0003743	0.0035	4.5457	4571.1	5626.2	5626.2	2.66	No	Si
SLU 37	11.45	3103.91	-19027	-0.0000277	0.0003743	0.0035	4.5457	36895.47	38515.74	38515.74	12.41	No	Si
SLU 37	14.6	2101.71	-2035	-0.0000057	0.0003743	0.0035	4.5457	4551.76	5606.73	5606.73	2.67	No	Si
SLU 59	11.45	3573.89	-20328	-0.0000301	0.0003743	0.0035	4.5457	38955.18	40737.39	40737.39	11.4	No	Si
SLU 59	14.6	2036.45	-1946	-0.0000056	0.0003743	0.0035	4.5457	4356.4	5410	5410	2.66	No	Si
SLU 72	11.45	4021.02	-22174	-0.0000331	0.0003743	0.0035	4.5457	41774.12	43934.86	43934.86	10.93	No	Si
SLU 72	14.6	2251.25	-2318	-0.0000062	0.0003743	0.0035	4.5457	5174.92	6229.1	6229.1	2.77	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	11.45	2518.96	-20907	-0.0000287	0.0005615	0.0035	4.5457		44502.1	44502.1	17.67		Si
SLV 5	14.6	3715.15	-2306	-0.0000122	0.0005615	0.0035	4.5457		6221.2	6221.2	1.67		Si
SLV 14	11.45	275.13	-14505	-0.0000174	0.0005615	0.0035	4.5457		32078.45	32078.45	116.59		Si
SLV 14	14.6	2479.03	-1003	-0.0001714	0.0005615	0.0035	4.5457		3321.41	3321.41	1.34		Si
SLD 13	11.45	1071.64	-14787	-0.000019	0.0005615	0.0035	4.5457		32648.07	32648.07	30.47		Si
SLD 13	14.6	2053.59	-1111	-0.0000092	0.0005615	0.0035	4.5457		3563.85	3563.85	1.74		Si
SLV 10	11.45	1319.99	-19541	-0.0000251	0.0005615	0.0035	4.5457		42038.26	42038.26	31.85		Si
SLV 10	14.6	3970.39	-1954	-0.0000287	0.0005615	0.0035	4.5457		5439.66	5439.66	1.37		Si
SLV 6	11.45	2503.77	-20876	-0.0000286	0.0005615	0.0035	4.5457		44451.2	44451.2	17.75		Si
SLV 6	14.6	3675.28	-2341	-0.0000117	0.0005615	0.0035	4.5457		6297.05	6297.05	1.71		Si
SLD 10	11.45	1748.15	-17933	-0.0000239	0.0005615	0.0035	4.5457		38902.39	38902.39	22.25		Si
SLD 10	14.6	2936.24	-1744	-0.0000104	0.0005615	0.0035	4.5457		4973.46	4973.46	1.69		Si
SLD 14	11.45	1057.23	-14758	-0.000019	0.0005615	0.0035	4.5457		32589.45	32589.45	30.83		Si
SLD 14	14.6	2015.76	-1144	-0.0000078	0.0005615	0.0035	4.5457		3636.56	3636.56	1.8		Si
SLV 13	11.45	297.69	-14550	-0.0000175	0.0005615	0.0035	4.5457		32171.16	32171.16	108.07		Si
SLV 13	14.6	2538.24	-952	-0.0002595	0.0005615	0.0035	4.5457		3207.76	3207.76	1.26		Si
SLD 9	11.45	1757.7	-17952	-0.0000239	0.0005615	0.0035	4.5457		38940.53	38940.53	22.15		Si
SLD 9	14.6	2961.32	-1722	-0.0000109	0.0005615	0.0035	4.5457		4925.57	4925.57	1.66		Si
SLV 9	11.45	1335.17	-19572	-0.0000252	0.0005615	0.0035	4.5457		42098	42098	31.53		Si
SLV 9	14.6	4010.26	-1919	-0.0000369	0.0005615	0.0035	4.5457		5363.43	5363.43	1.34		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	11.45	3851.42	-23112	-19245	-2793	4.5457	4.5457	-15121	8961	13825	35683	38113	11592	49508	No	17.72	Si
SLU 78	14.6	2295.09	-2477	-2063	-3594	4.5457	4.0389	-1621	7161	8098	35683	38113	11592	43781	No	12.18	Si
SLU 79	11.45	3756.65	-22575	-18798	-2545	4.5457	4.5457	-14769	8914	13646	35683	38113	11592	49329	No	19.39	Si
SLU 79	14.6	2330.58	-2301	-1916	-3423	4.5457	3.7797	-1505	7145	7562	35683	38113	11592	43245	No	12.64	Si
SLU 37	11.45	3103.91	-19027	-15844	-2653	4.5457	4.5457	-12448	8604	12465	35683	38113	11592	48148	No	18.15	Si
SLU 37	14.6	2101.71	-2035	-1694	-3398	4.5457	3.7196	-1331	7122	7417	35683	38113	11592	43101	No	12.68	Si
SLU 84	11.45	3319.43	-21953	-18280	-2448	4.5457	4.5457	-14362	8859	13439	35683	38113	11592	49122	No	20.07	Si
SLU 84	14.6	2099.82	-2117	-1763	-3281	4.5457	3.8435	-1385	7129	7672	35683	38113	11592	43355	No	13.21	Si
SLU 42	11.45	2666.69	-18405	-15326	-2557	4.5457	4.5457	-12041	8550	12257	35683	38113	11592	47941	No	18.75	Si
SLU 42	14.6	1870.96	-1851	-1542	-3257	4.5457	3.7866	-1211	7106	7534	35683	38113	11592	43217	No	13.27	Si
SLU 36	11.45	3198.68	-19564	-16291	-2902	4.5457	4.5457	-12800	8651	12643	35683	38113	11592	48327	No	16.65	Si
SLU 36	14.6	2066.23	-2211	-1841	-3569	4.5457	4.0148	-1446	7137	8023	35683	38113	11592	43707	No	12.25	Si
SLU 35	11.45	3173.17	-19497	-16236	-2850	4.5457	4.5457	-12756	8645	12621	35683	38113	11592	48304	No	16.95	Si
SLU 35	14.6	2049.6	-2202	-1834	-3512	4.5457	4.0263	-1441	7137	8045	35683	38113	11592	43729	No	12.45	Si
SLU 38	11.45	3129.42	-19094	-15899	-2705	4.5457	4.5457	-12492	8610	12487	35683	38113	11592	48170	No	17.81	Si
SLU 38	14.6	2118.34	-2043	-1702	-3456	4.5457	3.7085	-1337	7123	7396	35683	38113	11592	43079	No	12.47	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	11.45	3782.16	-22641	-18854	-2597	4.5457	4.5457	-14813	8919	13668	35683	38113	11592	49352	No	19.01	Si
SLU 80	14.6	2347.2	-2310	-1923	-3480	4.5457	3.7697	-1511	7146	7543	35683	38113	11592	43226	No	12.42	Si
SLU 77	11.45	3825.91	-23045	-19190	-2741	4.5457	4.5457	-15077	8955	13803	35683	38113	11592	49486	No	18.05	Si
SLU 77	14.6	2278.46	-2468	-2055	-3536	4.5457	4.0492	-1615	7160	8118	35683	38113	11592	43801	No	12.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	11.45	2503.77	-20876	-17384	-10852	4.5457	4.5457	-13658	13148	16735	35683	57170	11592	52418		4.83	Si
SLV 6	14.6	3675.28	-2341	-1949	-8784	4.5457	2.1078	-1531	10723	9970	35683	57170	11592	45654		5.2	Si
SLV 8	11.45	3474.96	-10955	-9122	9666	4.5457	4.5457	-7167	11850	15083	35683	57170	11592	50766		5.25	Si
SLV 8	14.6	-1541.83	-889	-740	6768	3.6366	1.6164	0	0	0	35683	45736	9273	35683		5.27	Si
SLV 12	11.45	2291.18	-9620	-8011	8484	4.5457	4.5457	-6294	11675	14860	35683	57170	11592	50544		5.96	Si
SLV 12	14.6	-1246.72	-502	-418	5431	3.6366	0	0	0	0	35683	45736	9273	35683		6.57	Si
SLD 10	11.45	1748.15	-17933	-14933	-7878	4.5457	4.5457	-11732	12763	16245	35683	57170	11592	51928		6.59	Si
SLD 10	14.6	2936.24	-1744	-1452	-6899	4.5457	1.7673	-1141	10645	9772	35683	57170	11592	45455		6.59	Si
SLV 11	11.45	2306.36	-9651	-8036	8617	4.5457	4.5457	-6314	11679	14866	35683	57170	11592	50549		5.87	Si
SLV 11	14.6	-1206.85	-468	-390	5519	3.6366	0	0	0	0	35683	45736	9273	35683		6.47	Si
SLV 7	11.45	3490.15	-10986	-9148	9799	4.5457	4.5457	-7187	11854	15088	35683	57170	11592	50771		5.18	Si
SLV 7	14.6	-1501.97	-855	-712	6856	3.6366	1.5477	0	0	0	35683	45736	9273	35683		5.2	Si
SLV 5	11.45	2518.96	-20907	-17409	-10719	4.5457	4.5457	-13678	13152	16740	35683	57170	11592	52423		4.89	Si
SLV 5	14.6	3715.15	-2306	-1921	-8696	4.5457	1.986	-1509	10718	9959	35683	57170	11592	45642		5.25	Si
SLV 9	11.45	1335.17	-19572	-16298	-11901	4.5457	4.5457	-12805	12978	16518	35683	57170	11592	52201		4.39	Si
SLV 9	14.6	4010.26	-1919	-1598	-10033	4.5457	0.5505	-10276	12477	9830	35683	57170	11592	45513		4.54	Si
SLV 10	11.45	1319.99	-19541	-16272	-12034	4.5457	4.5457	-12785	12974	16513	35683	57170	11592	52196		4.34	Si
SLV 10	14.6	3970.39	-1954	-1627	-10121	4.5457	0.7217	-8045	12027	9842	35683	57170	11592	45525		4.5	Si
SLD 9	11.45	1757.7	-17952	-14949	-7795	4.5457	4.5457	-11745	12766	16248	35683	57170	11592	51931		6.66	Si
SLD 9	14.6	2961.32	-1722	-1434	-6844	4.5457	1.6604	-1127	10642	9764	35683	57170	11592	45448		6.64	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	4288	-5457	528.52	742.57	1.41	Si
SLV 12	179667	0.52	4321	-5500	528.52	748.19	1.42	Si
SLV 15	179667	0.52	4974	-6331	528.52	857.52	1.62	Si
SLV 16	179667	0.52	5024	-6395	528.52	865.78	1.64	Si
SLV 7	179667	0.52	5175	-6587	528.52	890.94	1.69	Si
SLV 8	179667	0.52	5209	-6630	528.52	896.49	1.7	Si
SLV 13	179667	0.52	6458	-8219	528.52	1102.03	2.09	Si
SLV 14	179667	0.52	6507	-8282	528.52	1110.12	2.1	Si
SLV 3	179667	0.52	7933	-10097	528.52	1340.18	2.54	Si
SLV 4	179667	0.52	7983	-10160	528.52	1348.11	2.55	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-2292	-18953	-547	4.306	866.4	0.894	70.01523	7.57858	Si
SLV 1	-2241	-18999	-547	4.343	862.2	0.894	70.57927	7.57858	Si
SLV 4	-1857	-15977	-462	4.661	831.7	0.899	75.33922	7.57858	Si
SLV 3	-1806	-16022	-463	4.704	827.7	0.9	75.97084	7.57858	Si
SLV 14	-1003	-14505	463	5.516	772.2	0.922	86.9922	7.57858	Si
SLV 13	-952	-14550	463	5.578	769.1	0.924	87.75336	7.57858	Si
SLV 16	-567	-11528	547	6.067	749.5	0.945	93.34464	7.57858	Si
SLV 15	-516	-11574	547	6.141	747.4	0.948	94.13764	7.57858	Si
SLV 6	-2341	-20876	-292	4.314	870.4	0.893	70.18303	5.5671	Si
SLV 5	-2306	-20907	-292	4.339	867.6	0.894	70.56112	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.646	SLU 80	Si
V_SLU	12.183	SLU 78	Si
PF_SLV	1.264	SLV 13	Si
V_SLV	4.337	SLV 10	Si
PFFP_SLV	1.405	SLV 11	Si
R_SLV	9.239	SLV 2	Si

Maschio 226

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.743	6.661	L7	L8	2.015	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	12.35	58.78	-5356	-0.0000147	0.0003743	0.0035	2.015	4892.68	21174.78	21174.78	360.23	No	Si
SLU 79	14.15	3466.85	-2736	-0.0001192	0.0003743	0.0035	2.015	0	19268.89	19268.89	5.56	No	Si
SLU 80	12.35	54.13	-5306	-0.0000145	0.0003743	0.0035	2.015	4851.6	21144.71	21144.71	390.65	No	Si
SLU 80	14.15	3512.1	-2686	-0.0001248	0.0003743	0.0035	2.015	0	19226.83	19226.83	5.47	No	Si
SLU 84	12.35	10.14	-4634	-0.0000124	0.0003743	0.0035	2.015	4292.1	20735.71	20735.71	2044.61	No	Si
SLU 84	14.15	3372.62	-2015	-0.0001474	0.0003743	0.0035	2.015	0	18652.74	18652.74	5.53	No	Si
SLU 77	12.35	98.11	-5675	-0.0000159	0.0003743	0.0035	2.015	5152.87	21365.36	21365.36	217.76	No	Si
SLU 77	14.15	3604.87	-3056	-0.000115	0.0003743	0.0035	2.015	0	19535.16	19535.16	5.42	No	Si
SLU 83	12.35	14.8	-4684	-0.0000125	0.0003743	0.0035	2.015	4334.36	20766.59	20766.59	1403.5	No	Si
SLU 83	14.15	3327.36	-2065	-0.0001412	0.0003743	0.0035	2.015	0	18696.19	18696.19	5.62	No	Si
SLU 36	12.35	40.33	-4743	-0.0000129	0.0003743	0.0035	2.015	4384.19	20803	20803	515.77	No	Si
SLU 36	14.15	3330.55	-2707	-0.0001107	0.0003743	0.0035	2.015	0	19244.35	19244.35	5.78	No	Si
SLU 78	12.35	93.46	-5625	-0.0000157	0.0003743	0.0035	2.015	5112.35	21335.66	21335.66	228.29	No	Si
SLU 78	14.15	3650.13	-3006	-0.0001204	0.0003743	0.0035	2.015	0	19493.71	19493.71	5.34	No	Si
SLU 74	12.35	94.31	-5167	-0.0000145	0.0003743	0.0035	2.015	4737.66	21061.36	21061.36	223.33	No	Si
SLU 74	14.15	3328.52	-2548	-0.0001177	0.0003743	0.0035	2.015	0	19110.1	19110.1	5.74	No	Si
SLU 75	12.35	89.65	-5117	-0.0000143	0.0003743	0.0035	2.015	4696.25	21031.08	21031.08	234.58	No	Si
SLU 75	14.15	3373.78	-2498	-0.0001234	0.0003743	0.0035	2.015	0	19067.66	19067.66	5.65	No	Si
SLU 76	12.35	47.22	-4764	-0.000013	0.0003743	0.0035	2.015	4401.77	20815.84	20815.84	440.84	No	Si
SLU 76	14.15	3265.92	-2145	-0.0001324	0.0003743	0.0035	2.015	0	18765.47	18765.47	5.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	12.35	-371.73	2191	0.0032882	0.0005615	0.0035	1.612		0	0	0		No
SLV 6	14.15	7052.38	4221	0.004563	0.0005615	0.0035	1.612		0	0	0		No
SLV 1	12.35	-763.09	1760	0.0025286	0.0005615	0.0035	1.612		0	0	0		No
SLV 1	14.15	7858.09	3805	0.00375	0.0005615	0.0035	1.612		0	0	0		No
SLD 1	12.35	-448.63	-141	-0.0000255	0.0005615	0.0035	2.015		16358.3	16358.3	36.46		Si
SLD 1	14.15	5702.06	1890	0.0014533	0.0005615	0.0035	1.612		0	0	0		No
SLD 2	12.35	-261.28	-728	-0.0000039	0.0005615	0.0035	2.015		17737.47	17737.47	67.89		Si
SLD 2	14.15	4931.29	1303	0.0007959	0.0005615	0.0035	1.612		2573.21	2573.21	0.52		No
SLV 5	12.35	-569.16	2810	0.004148	0.0005615	0.0035	1.612		0	0	0		No
SLV 5	14.15	7864.61	4840	0.0052626	0.0005615	0.0035	1.612		0	0	0		No
SLV 10	12.35	-15.2	245	0.0003358	0.0005615	0.0035	1.612		15421.95	15421.95	1014.88		Si
SLV 10	14.15	4650.32	2254	0.0022787	0.0005615	0.0035	1.612		0	0	0		No
SLV 2	12.35	-469.85	841	0.0010956	0.0005615	0.0035	1.612		8646.42	8646.42	18.4		Si
SLV 2	14.15	6651.69	2886	0.0027061	0.0005615	0.0035	1.612		0	0	0		No
SLV 9	12.35	-212.62	864	0.0011766	0.0005615	0.0035	1.612		8344.03	8344.03	39.24		Si
SLV 9	14.15	5462.55	2873	0.0029876	0.0005615	0.0035	1.612		0	0	0		No
SLD 6	12.35	-197.73	75	0.0000729	0.0005615	0.0035	1.612		15837.74	15837.74	80.1		Si
SLD 6	14.15	5142.18	2096	0.0019161	0.0005615	0.0035	1.612		0	0	0		No
SLD 5	12.35	-321.92	464	0.0005903	0.0005615	0.0035	1.612		13488.14	13488.14	41.9		Si
SLD 5	14.15	5653.13	2486	0.0023689	0.0005615	0.0035	1.612		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	12.35	94.31	-5167	-4303	-1752	2.015	2.015	-7626	7961	4492	15978	16895	5138	20470	No	11.68	Si
SLU 74	14.15	3328.52	-2548	-2122	-1752	2.015	0	-19477	10383	2376	15978	16895	5138	18355	No	10.48	Si
SLU 77	12.35	98.11	-5675	-4726	-1903	2.015	2.015	-8376	8061	4548	15978	16895	5138	20526	No	10.78	Si
SLU 77	14.15	3604.87	-3056	-2545	-1903	2.015	0	-20930	10407	2489	15978	16895	5138	18467	No	9.7	Si
SLU 78	12.35	93.46	-5625	-4684	-1931	2.015	2.015	-8302	8051	4543	15978	16895	5138	20521	No	10.63	Si
SLU 78	14.15	3650.13	-3006	-2503	-1931	2.015	0	-21254	10525	2478	15978	16895	5138	18456	No	9.56	Si
SLU 36	12.35	40.33	-4743	-3950	-1793	2.015	2.015	-7001	7878	4445	15978	16895	5138	20423	No	11.39	Si
SLU 36	14.15	3330.55	-2707	-2254	-1793	2.015	0	-19457	10248	2412	15978	16895	5138	18390	No	10.25	Si
SLU 80	12.35	54.13	-5306	-4418	-1876	2.015	2.015	-7831	7989	4507	15978	16895	5138	20485	No	10.92	Si
SLU 80	14.15	3512.1	-2686	-2237	-1876	2.015	0	-20521	10570	2407	15978	16895	5138	18385	No	9.8	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	12.35	58.78	-5356	-4460	-1849	2.015	2.015	-7904	7998	4513	15978	16895	5138	20491	No	11.08	Si
SLU 79	14.15	3466.85	-2736	-2279	-1849	2.015	0	-20262	10451	2418	15978	16895	5138	18396	No	9.95	Si
SLU 75	12.35	89.65	-5117	-4261	-1780	2.015	2.015	-7552	7951	4486	15978	16895	5138	20464	No	11.5	Si
SLU 75	14.15	3373.78	-2498	-2080	-1780	2.015	0	-19711	10503	2365	15978	16895	5138	18344	No	10.31	Si
SLU 84	12.35	10.14	-4634	-3859	-1823	2.015	2.015	-6839	7856	4433	15978	16895	5138	20411	No	11.19	Si
SLU 84	14.15	3372.62	-2015	-1678	-1823	2.015	0	-19027	10833	2258	15978	16895	5138	18236	No	10	Si
SLU 83	12.35	14.8	-4684	-3900	-1796	2.015	2.015	-6913	7866	4438	15978	16895	5138	20416	No	11.37	Si
SLU 83	14.15	3327.36	-2065	-1719	-1796	2.015	0	-18950	10826	2269	15978	16895	5138	18247	No	10.16	Si
SLU 35	12.35	44.99	-4793	-3991	-1766	2.015	2.015	-7075	7888	4450	15978	16895	5138	20428	No	11.57	Si
SLU 35	14.15	3285.3	-2757	-2296	-1766	2.015	0	-19140	10129	2423	15978	16895	5138	18401	No	10.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	12.35	-531.72	-1215	-1012	-3437	2.015	1.7094	-2112	10839	5188	15978	25342	5138	21166		6.16	Si
SLV 3	14.15	5281.5	821	684	-3016	1.612	0	0	0	0	15978	20274	4111	15978		5.3	Si
SLV 1	12.35	-763.09	1760	1466	-4993	1.612	1.7218	0	0	0	15978	20274	4111	15978		3.2	Si
SLV 1	14.15	7858.09	3805	3168	-4640	1.612	0	0	0	0	15978	20274	4111	15978		3.44	Si
SLD 1	12.35	-448.63	-141	-117	-3534	2.015	0	0	11563	2747	15978	25342	5138	18725		5.3	Si
SLD 1	14.15	5702.06	1890	1574	-3310	1.612	0	0	0	0	15978	20274	4111	15978		4.83	Si
SLV 5	12.35	-569.16	2810	2340	-4717	1.612	2.015	0	0	0	15978	20274	4111	15978		3.39	Si
SLV 5	14.15	7864.61	4840	4030	-4715	1.612	0	0	0	0	15978	20274	4111	15978		3.39	Si
SLV 9	12.35	-212.62	864	720	-3040	1.612	2.015	0	0	0	15978	20274	4111	15978		5.26	Si
SLV 9	14.15	5462.55	2873	2392	-3270	1.612	0	0	0	0	15978	20274	4111	15978		4.89	Si
SLD 2	12.35	-261.28	-728	-606	-3002	2.015	1.9459	-1113	10639	5797	15978	25342	5138	21775		7.25	Si
SLD 2	14.15	4931.29	1303	1085	-2778	1.612	0	0	0	0	15978	20274	4111	15978		5.75	Si
SLV 2	12.35	-469.85	841	700	-4160	1.612	1.3461	0	0	0	15978	20274	4111	15978		3.84	Si
SLV 2	14.15	6651.69	2886	2403	-3807	1.612	0	0	0	0	15978	20274	4111	15978		4.2	Si
SLD 5	12.35	-321.92	464	387	-3327	1.612	0.943	0	0	0	15978	20274	4111	15978		4.8	Si
SLD 5	14.15	5653.13	2486	2070	-3326	1.612	0	0	0	0	15978	20274	4111	15978		4.8	Si
SLV 6	12.35	-371.73	2191	1825	-4156	1.612	2.015	0	0	0	15978	20274	4111	15978		3.84	Si
SLV 6	14.15	7052.38	4221	3515	-4154	1.612	0	0	0	0	15978	20274	4111	15978		3.85	Si
SLD 6	12.35	-197.73	75	63	-2974	1.612	0	0	0	0	15978	20274	4111	15978		5.37	Si
SLD 6	14.15	5142.18	2096	1746	-2974	1.612	0	0	0	0	15978	20274	4111	15978		5.37	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.52	0	-516	228.39	0	0	No, e>t/2
SLV 5	179667	0.52	0	3518	228.39	0	0	No, Trazione
SLV 10	179667	0.52	0	961	228.39	0	0	No, Trazione
SLV 1	179667	0.52	0	2460	228.39	0	0	No, Trazione
SLV 6	179667	0.52	0	2900	228.39	0	0	No, Trazione
SLV 4	179667	0.52	0	-1435	228.39	0	0	No, e>t/2
SLV 9	179667	0.52	0	1579	228.39	0	0	No, Trazione
SLV 2	179667	0.52	0	1540	228.39	0	0	No, Trazione
SLV 13	179667	0.52	7097	-4004	228.39	534.52	2.34	Si
SLV 14	179667	0.52	8726	-4923	228.39	649.88	2.85	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-4467	-6579	94	1.906	712.3	0.912	30.3938	7.57858	Si
SLV 15	-4042	-6287	81	2.049	670	0.908	32.80432	7.57858	Si
SLV 14	-3341	-4609	51	2.339	600.9	0.901	37.71803	7.57858	Si
SLV 12	-4705	-7972	111	1.833	736.1	0.914	29.16621	5.5671	Si
SLV 13	-2916	-4317	38	2.558	559.3	0.897	41.43486	7.57858	Si
SLV 11	-4419	-7775	102	1.92	707.5	0.911	30.62538	5.5671	Si
SLV 8	-3843	-7237	84	2.122	650.4	0.906	34.03308	5.5671	Si
SLV 7	-3556	-7041	76	2.239	622.1	0.903	36.01732	5.5671	Si
SLV 4	-1593	-4129	5	3.61	434.2	0.889	59.02635	7.57858	Si
SLV 3	-1167	-3837	-8	4.158	396.7	0.891	67.7959	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.341	SLU 78	Si
V_SLU	9.557	SLU 78	Si
PF_SLV	0	SLD 1	No
V_SLV	3.2	SLV 1	Si
PFFP_SLV	0	SLV 10	No
R_SLV	4.01	SLV 16	Si

Maschio 227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.843	6.661	-12.818	6.661	L7	L8	4.025	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	12.35	-1944.29	-17727	-0.0000279	0.0003743	0.0035	4.025	30163.97	36189.76	36189.76	18.61	No	Si
SLU 79	14.15	-336.63	-12756	-0.0000177	0.0003743	0.0035	4.025	22817.09	28118.48	28118.48	83.53	No	Si
SLU 17	12.35	-1519.92	-13392	-0.000021	0.0003743	0.0035	4.025	23805.88	29160.22	29160.22	19.19	No	Si
SLU 17	14.15	-367.32	-9611	-0.0000135	0.0003743	0.0035	4.025	17722.72	22707.31	22707.31	61.82	No	Si
SLU 78	12.35	-1945.79	-18518	-0.0000291	0.0003743	0.0035	4.025	31252.3	37443.31	37443.31	19.24	No	Si
SLU 78	14.15	-291.29	-13546	-0.0000187	0.0003743	0.0035	4.025	24043.28	29414.01	29414.01	100.98	No	Si
SLU 37	12.35	-1802.32	-15365	-0.0000243	0.0003743	0.0035	4.025	26781.75	32459.97	32459.97	18.01	No	Si
SLU 37	14.15	-317.1	-11499	-0.000016	0.0003743	0.0035	4.025	20822.03	25957.95	25957.95	81.86	No	Si
SLU 38	12.35	-1811.65	-15355	-0.0000243	0.0003743	0.0035	4.025	26766.35	32442.68	32442.68	17.91	No	Si
SLU 38	14.15	-313.87	-11488	-0.0000159	0.0003743	0.0035	4.025	20805.21	25939.67	25939.67	82.64	No	Si
SLU 36	12.35	-1803.82	-16156	-0.0000254	0.0003743	0.0035	4.025	27935.58	33700.13	33700.13	18.68	No	Si
SLU 36	14.15	-271.75	-12289	-0.000017	0.0003743	0.0035	4.025	22083.07	27344.28	27344.28	100.62	No	Si
SLU 80	12.35	-1953.62	-17717	-0.0000279	0.0003743	0.0035	4.025	30149.43	36172.97	36172.97	18.52	No	Si
SLU 80	14.15	-333.4	-12745	-0.0000177	0.0003743	0.0035	4.025	22800.73	28101.44	28101.44	84.29	No	Si
SLU 42	12.35	-1580.84	-13698	-0.0000215	0.0003743	0.0035	4.025	24276.67	29665.06	29665.06	18.77	No	Si
SLU 42	14.15	-31.83	-9832	-0.0000131	0.0003743	0.0035	4.025	18090.84	23081.75	23081.75	725.21	No	Si
SLU 35	12.35	-1794.49	-16166	-0.0000254	0.0003743	0.0035	4.025	27950.69	33716.5	33716.5	18.79	No	Si
SLU 35	14.15	-274.98	-12300	-0.000017	0.0003743	0.0035	4.025	22099.61	27362.29	27362.29	99.51	No	Si
SLU 41	12.35	-1571.51	-13709	-0.0000215	0.0003743	0.0035	4.025	24292.69	29682.39	29682.39	18.89	No	Si
SLU 41	14.15	-35.05	-9842	-0.0000132	0.0003743	0.0035	4.025	18108.27	23099.55	23099.55	658.99	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	12.35	5994.92	-10344	-0.0000255	0.0005615	0.0035	4.025		20650.63	20650.63	3.44		Si
SLV 16	14.15	-4510.28	-6553	-0.0000174	0.0005615	0.0035	4.025		17342.95	17342.95	3.85		Si
SLV 3	12.35	-7174.53	-11491	-0.0000294	0.0005615	0.0035	4.025		26425.13	26425.13	3.68		Si
SLV 3	14.15	4269.91	-7698	-0.0000185	0.0005615	0.0035	4.025		15751.03	15751.03	3.69		Si
SLD 3	12.35	-4900.09	-11191	-0.0000245	0.0005615	0.0035	4.025		25872.14	25872.14	5.28		Si
SLD 3	14.15	2738.03	-7393	-0.0000151	0.0005615	0.0035	4.025		15182.81	15182.81	5.55		Si
SLV 1	12.35	-7849.47	-11001	-0.0000301	0.0005615	0.0035	4.025		25520.64	25520.64	3.25		Si
SLV 1	14.15	4593.58	-7181	-0.0000184	0.0005615	0.0035	4.025		14784.54	14784.54	3.22		Si
SLV 5	12.35	-4386.4	-10047	-0.0000219	0.0005615	0.0035	4.025		23770.35	23770.35	5.42		Si
SLV 5	14.15	2118.36	-6198	-0.0000123	0.0005615	0.0035	4.025		12923.99	12923.99	6.1		Si
SLV 4	12.35	-5252	-11388	-0.0000255	0.0005615	0.0035	4.025		26235.61	26235.61	5		Si
SLV 4	14.15	3089.82	-7595	-0.000016	0.0005615	0.0035	4.025		15559.55	15559.55	5.04		Si
SLV 14	12.35	5319.98	-9854	-0.0000235	0.0005615	0.0035	4.025		19754.3	19754.3	3.71		Si
SLV 14	14.15	-4186.62	-6037	-0.0000161	0.0005615	0.0035	4.025		16368.36	16368.36	3.91		Si
SLD 1	12.35	-5321.21	-10886	-0.0000249	0.0005615	0.0035	4.025		25309.56	25309.56	4.76		Si
SLD 1	14.15	2939.67	-7073	-0.0000151	0.0005615	0.0035	4.025		14579.21	14579.21	4.96		Si
SLV 15	12.35	4072.39	-10447	-0.0000218	0.0005615	0.0035	4.025		20837.34	20837.34	5.12		Si
SLV 15	14.15	-3330.19	-6656	-0.0000153	0.0005615	0.0035	4.025		17536.49	17536.49	5.27		Si
SLV 2	12.35	-5926.94	-10898	-0.0000261	0.0005615	0.0035	4.025		25331.99	25331.99	4.27		Si
SLV 2	14.15	3413.49	-7079	-0.000016	0.0005615	0.0035	4.025		14591.23	14591.23	4.27		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	12.35	-1944.29	-17727	-14762	-913	4.025	4.025	-13098	8691	11330	35683	33747	10264	44011	No	48.23	Si
SLU 79	14.15	-336.63	-12756	-10622	-913	4.025	4.025	-9425	8201	9674	35683	33747	10264	44011	No	48.23	Si
SLU 84	12.35	-1722.81	-16060	-13373	-948	4.025	4.025	-11866	8527	10775	35683	33747	10264	44011	No	46.42	Si
SLU 84	14.15	-51.36	-11089	-9234	-948	4.025	4.025	-8193	8037	9119	35683	33747	10264	44011	No	46.42	Si
SLU 83	12.35	-1713.48	-16071	-13382	-941	4.025	4.025	-11874	8528	10778	35683	33747	10264	44011	No	46.77	Si
SLU 83	14.15	-54.59	-11099	-9242	-941	4.025	4.025	-8201	8038	9122	35683	33747	10264	44011	No	46.77	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.35	-1945.79	-18518	-15420	-939	4.025	4.025	-13682	8769	11593	35683	33747	10264	44011	No	46.89	Si
SLU 78	14.15	-291.29	-13546	-11280	-939	4.025	4.025	-10009	8279	9937	35683	33747	10264	44011	No	46.89	Si
SLU 81	12.35	-1426.75	-14420	-12008	-913	4.025	4.025	-10655	8365	10228	35683	33747	10264	44011	No	48.2	Si
SLU 81	14.15	181.87	-9449	-7868	-913	4.025	4.025	-6981	7875	8875	35683	33747	10264	44011	No	48.2	Si
SLU 75	12.35	-1659.06	-16867	-14045	-911	4.025	4.025	-12463	8606	11043	35683	33747	10264	44011	No	48.33	Si
SLU 75	14.15	-54.83	-11896	-9906	-911	4.025	4.025	-8789	8116	9387	35683	33747	10264	44011	No	48.33	Si
SLU 82	12.35	-1436.08	-14410	-11999	-920	4.025	4.025	-10647	8364	10225	35683	33747	10264	44011	No	47.83	Si
SLU 82	14.15	185.09	-9438	-7859	-920	4.025	4.025	-6974	7874	8874	35683	33747	10264	44011	No	47.83	Si
SLU 80	12.35	-1953.62	-17717	-14753	-920	4.025	4.025	-13090	8690	11326	35683	33747	10264	44011	No	47.86	Si
SLU 80	14.15	-333.4	-12745	-10613	-920	4.025	4.025	-9417	8200	9670	35683	33747	10264	44011	No	47.86	Si
SLU 77	12.35	-1936.46	-18528	-15429	-932	4.025	4.025	-13690	8770	11597	35683	33747	10264	44011	No	47.24	Si
SLU 77	14.15	-294.51	-13557	-11289	-932	4.025	4.025	-10017	8280	9941	35683	33747	10264	44011	No	47.24	Si
SLU 74	12.35	-1649.73	-16878	-14054	-904	4.025	4.025	-12470	8607	11047	35683	33747	10264	44011	No	48.7	Si
SLU 74	14.15	-58.06	-11906	-9914	-904	4.025	4.025	-8797	8117	9391	35683	33747	10264	44011	No	48.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	12.35	4072.39	-10447	-8699	4623	4.025	4.025	-7719	11960	13479	35683	50621	10264	49163		10.63	Si
SLV 15	14.15	-3330.19	-6656	-5542	3689	4.025	4.025	-4918	11400	12848	35683	50621	10264	48531		13.16	Si
SLV 4	12.35	-5252	-11388	-9483	-5159	4.025	4.025	-8415	12100	13636	35683	50621	10264	49319		9.56	Si
SLV 4	14.15	3089.82	-7595	-6325	-4210	4.025	4.025	-5612	11539	13005	35683	50621	10264	48688		11.57	Si
SLD 1	12.35	-5321.21	-10886	-9065	-4939	4.025	4.025	-8043	12025	13553	35683	50621	10264	49236		9.97	Si
SLD 1	14.15	2939.67	-7073	-5889	-4343	4.025	4.025	-5226	11462	12917	35683	50621	10264	48601		11.19	Si
SLV 1	12.35	-7849.47	-11001	-9160	-7453	4.025	3.8969	-8427	12102	13205	35683	50621	10264	48888		6.56	Si
SLV 1	14.15	4593.58	-7181	-5980	-6519	4.025	4.025	-5306	11478	12936	35683	50621	10264	48619		7.46	Si
SLV 2	12.35	-5926.94	-10898	-9075	-5729	4.025	4.025	-8052	12027	13555	35683	50621	10264	49238		8.59	Si
SLV 2	14.15	3413.49	-7079	-5895	-4795	4.025	4.025	-5230	11463	12919	35683	50621	10264	48602		10.14	Si
SLV 3	12.35	-7174.53	-11491	-9569	-6883	4.025	4.025	-8490	12115	13653	35683	50621	10264	49336		7.17	Si
SLV 3	14.15	4269.91	-7698	-6410	-5933	4.025	4.025	-5688	11554	13022	35683	50621	10264	48705		8.21	Si
SLV 16	12.35	5994.92	-10344	-8614	6346	4.025	4.025	-7643	11945	13462	35683	50621	10264	49146		7.74	Si
SLV 16	14.15	-4510.28	-6553	-5457	5412	4.025	3.9727	-4842	11385	12664	35683	50621	10264	48347		8.93	Si
SLV 14	12.35	5319.98	-9854	-8206	5776	4.025	4.025	-7281	11873	13381	35683	50621	10264	49064		8.49	Si
SLV 14	14.15	-4186.62	-6037	-5027	4827	4.025	3.9569	-4460	11309	12529	35683	50621	10264	48213		9.99	Si
SLV 13	12.35	3397.45	-9957	-8291	4053	4.025	4.025	-7357	11888	13398	35683	50621	10264	49081		12.11	Si
SLV 13	14.15	-3006.53	-6139	-5112	3103	4.025	4.025	-4536	11324	12762	35683	50621	10264	48445		15.61	Si
SLD 3	12.35	-4900.09	-11191	-9319	-4584	4.025	4.025	-8269	12070	13603	35683	50621	10264	49287		10.75	Si
SLD 3	14.15	2738.03	-7393	-6156	-3979	4.025	4.025	-5463	11509	12971	35683	50621	10264	48654		12.23	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	7489	-8440	456.2	1123.63	2.46	Si
SLV 9	179667	0.52	7550	-8509	456.2	1132.34	2.48	Si
SLV 14	179667	0.52	7684	-8660	456.2	1151.41	2.52	Si
SLV 6	179667	0.52	7772	-8759	456.2	1163.85	2.55	Si
SLV 13	179667	0.52	7775	-8763	456.2	1164.31	2.55	Si
SLV 5	179667	0.52	7833	-8828	456.2	1172.53	2.57	Si
SLV 16	179667	0.52	8148	-9182	456.2	1216.96	2.67	Si
SLV 15	179667	0.52	8239	-9285	456.2	1229.78	2.7	Si
SLV 2	179667	0.52	8628	-9724	456.2	1284.45	2.82	Si
SLV 1	179667	0.52	8719	-9827	456.2	1297.18	2.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-5284	-13396	-401	2.68	1065	0.895	43.52581	7.57858	Si
SLV 4	-5248	-13245	-401	2.692	1061.5	0.895	43.71833	7.57858	Si
SLV 1	-5155	-12090	423	2.718	1052.6	0.894	44.17121	7.57858	Si
SLV 2	-5119	-11938	423	2.73	1049.1	0.894	44.36983	7.57858	Si
SLV 15	-4928	-11373	-421	2.793	1030.7	0.893	45.44129	7.57858	Si
SLV 16	-4891	-11221	-422	2.806	1027.2	0.893	45.65045	7.57858	Si
SLV 13	-4799	-10066	403	2.84	1018.4	0.893	46.22629	7.57858	Si
SLV 14	-4762	-9914	403	2.853	1014.9	0.893	46.44267	7.57858	Si
SLV 7	-5304	-14188	-1370	2.56	1066.9	0.895	41.57154	5.5671	Si
SLV 8	-5279	-14085	-1370	2.567	1064.5	0.895	41.6948	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	17.908	SLU 38	Si
V_SLU	46.425	SLU 84	Si
PF_SLV	3.219	SLV 1	Si
V_SLV	6.56	SLV 1	Si
PFFP_SLV	2.463	SLV 10	Si
R_SLV	5.743	SLV 3	Si

Maschio 228

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.918	6.661	-7.913	6.661	L7	L8	4.005	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	12.35	-2034.94	-11532	-0.0000196	0.0003743	0.0035	4.005	20761.02	25886.56	25886.56	12.72	No	Si
SLU 61	14.15	701.57	-6670	-0.0000102	0.0003743	0.0035	4.005	12577.22	13566.54	13566.54	19.34	No	Si
SLU 73	12.35	-2217.72	-13332	-0.0000225	0.0003743	0.0035	4.005	23579.68	28911	28911	13.04	No	Si
SLU 73	14.15	717.66	-8384	-0.0000126	0.0003743	0.0035	4.005	15556.68	16666.57	16666.57	23.22	No	Si
SLU 82	12.35	-2293.81	-13327	-0.0000226	0.0003743	0.0035	4.005	23572.46	28903.31	28903.31	12.6	No	Si
SLU 82	14.15	746.33	-8380	-0.0000127	0.0003743	0.0035	4.005	15548.64	16658.14	16658.14	22.32	No	Si
SLU 84	12.35	-2340.25	-14502	-0.0000243	0.0003743	0.0035	4.005	25350.86	30844.08	30844.08	13.18	No	Si
SLU 84	14.15	469.89	-9554	-0.0000137	0.0003743	0.0035	4.005	17530.85	18741.78	18741.78	39.89	No	Si
SLU 83	12.35	-2368.78	-14502	-0.0000244	0.0003743	0.0035	4.005	25351.71	30845.02	30845.02	13.02	No	Si
SLU 83	14.15	481.83	-9555	-0.0000137	0.0003743	0.0035	4.005	17531.8	18742.78	18742.78	38.9	No	Si
SLU 40	12.35	-1929.8	-11135	-0.0000188	0.0003743	0.0035	4.005	20123.42	25196.7	25196.7	13.06	No	Si
SLU 40	14.15	609.41	-7287	-0.0000109	0.0003743	0.0035	4.005	13660.92	14690.64	14690.64	24.11	No	Si
SLU 60	12.35	-2063.47	-11533	-0.0000196	0.0003743	0.0035	4.005	20761.93	25887.55	25887.55	12.55	No	Si
SLU 60	14.15	713.51	-6671	-0.0000103	0.0003743	0.0035	4.005	12578.22	13567.57	13567.57	19.02	No	Si
SLU 81	12.35	-2322.34	-13328	-0.0000227	0.0003743	0.0035	4.005	23573.33	28904.24	28904.24	12.45	No	Si
SLU 81	14.15	758.27	-8380	-0.0000127	0.0003743	0.0035	4.005	15549.61	16659.16	16659.16	21.97	No	Si
SLU 39	12.35	-1958.33	-11136	-0.0000189	0.0003743	0.0035	4.005	20124.34	25197.69	25197.69	12.87	No	Si
SLU 39	14.15	621.34	-7288	-0.0000109	0.0003743	0.0035	4.005	13661.91	14691.67	14691.67	23.64	No	Si
SLU 18	12.35	-1699.46	-9341	-0.0000159	0.0003743	0.0035	4.005	17174.93	22126.62	22126.62	13.02	No	Si
SLU 18	14.15	576.59	-5578	-0.0000085	0.0003743	0.0035	4.005	10625.01	11556.3	11556.3	20.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	12.35	-5506.29	-9338	-0.0000233	0.0005615	0.0035	4.005		22368.16	22368.16	4.06		Si
SLD 3	14.15	3169.53	-5511	-0.0000135	0.0005615	0.0035	4.005		11553.25	11553.25	3.65		Si
SLD 1	12.35	-4766.09	-9295	-0.0000218	0.0005615	0.0035	4.005		22288.82	22288.82	4.68		Si
SLD 1	14.15	2876.04	-5471	-0.0000129	0.0005615	0.0035	4.005		11476.86	11476.86	3.99		Si
SLV 8	12.35	-4446.58	-9816	-0.0000219	0.0005615	0.0035	4.005		23234.12	23234.12	5.23		Si
SLV 8	14.15	1975.9	-5999	-0.0000118	0.0005615	0.0035	4.005		12476.65	12476.65	6.31		Si
SLV 4	12.35	-6077.78	-9227	-0.0000243	0.0005615	0.0035	4.005		22166.35	22166.35	3.65		Si
SLV 4	14.15	3618.25	-5373	-0.0000142	0.0005615	0.0035	4.005		11290.77	11290.77	3.12		Si
SLD 4	12.35	-4433.34	-9455	-0.0000214	0.0005615	0.0035	4.005		22580.05	22580.05	5.09		Si
SLD 4	14.15	2491.88	-5628	-0.0000123	0.0005615	0.0035	4.005		11774.84	11774.84	4.73		Si
SLV 2	12.35	-4889.78	-9157	-0.0000219	0.0005615	0.0035	4.005		22039.5	22039.5	4.51		Si
SLV 2	14.15	3147.17	-5309	-0.0000132	0.0005615	0.0035	4.005		11168.38	11168.38	3.55		Si
SLV 3	12.35	-7757.15	-9044	-0.0000281	0.0005615	0.0035	4.005		21835.38	21835.38	2.81		Si
SLV 3	14.15	4678.9	-5190	-0.0000166	0.0005615	0.0035	4.005		10940.95	10940.95	2.34		Si
SLV 1	12.35	-6569.14	-8974	-0.000025	0.0005615	0.0035	4.005		21708.94	21708.94	3.3		Si
SLV 1	14.15	4207.82	-5126	-0.0000153	0.0005615	0.0035	4.005		10818.7	10818.7	2.57		Si
SLV 14	12.35	4514.66	-10691	-0.0000232	0.0005615	0.0035	4.005		21163.23	21163.23	4.69		Si
SLV 14	14.15	-3610.6	-6971	-0.0000163	0.0005615	0.0035	4.005		18044.16	18044.16	5		Si
SLV 7	12.35	-5577.25	-9692	-0.000024	0.0005615	0.0035	4.005		23010.31	23010.31	4.13		Si
SLV 7	14.15	2690	-5876	-0.0000131	0.0005615	0.0035	4.005		12243.97	12243.97	4.55		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	12.35	-2278.22	-15383	-12809	-1563	4.005	4.005	-11423	8467	10522	35683	33580	10213	43792	No	28.03	Si
SLU 75	14.15	518.4	-10435	-8689	-1563	4.005	4.005	-7749	7978	8946	35683	33580	10213	43792	No	28.03	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	12.35	-2368.78	-14502	-12076	-1593	4.005	4.005	-10769	8380	10229	35683	33580	10213	43792	No	27.5	Si
SLU 83	14.15	481.83	-9555	-7956	-1593	4.005	4.005	-7095	7890	8848	35683	33580	10213	43792	No	27.5	Si
SLU 65	12.35	-2084.56	-13344	-11112	-1539	4.005	4.005	-9909	8266	9843	35683	33580	10213	43792	No	28.46	Si
SLU 65	14.15	669.33	-8396	-6992	-1539	4.005	4.005	-6235	7776	8720	35683	33580	10213	43792	No	28.46	Si
SLU 81	12.35	-2322.34	-13328	-11098	-1720	4.005	4.005	-9897	8264	9837	35683	33580	10213	43792	No	25.46	Si
SLU 81	14.15	758.27	-8380	-6978	-1720	4.005	4.005	-6223	7774	8718	35683	33580	10213	43792	No	25.46	Si
SLU 73	12.35	-2217.72	-13332	-11102	-1640	4.005	4.005	-9900	8264	9839	35683	33580	10213	43792	No	26.71	Si
SLU 73	14.15	717.66	-8384	-6982	-1640	4.005	4.005	-6226	7775	8718	35683	33580	10213	43792	No	26.71	Si
SLU 74	12.35	-2306.75	-15383	-12810	-1585	4.005	4.005	-11423	8468	10522	35683	33580	10213	43792	No	27.63	Si
SLU 74	14.15	530.34	-10436	-8690	-1585	4.005	4.005	-7749	7978	8946	35683	33580	10213	43792	No	27.63	Si
SLU 82	12.35	-2293.81	-13327	-11098	-1698	4.005	4.005	-9896	8264	9837	35683	33580	10213	43792	No	25.79	Si
SLU 82	14.15	746.33	-8380	-6978	-1698	4.005	4.005	-6222	7774	8718	35683	33580	10213	43792	No	25.79	Si
SLU 60	12.35	-2063.47	-11533	-9604	-1552	4.005	4.005	-8564	8086	9240	35683	33580	10213	43792	No	28.22	Si
SLU 60	14.15	713.51	-6671	-5555	-1552	4.005	4.005	-4954	7605	8528	35683	33580	10213	43792	No	28.22	Si
SLU 84	12.35	-2340.25	-14502	-12076	-1570	4.005	4.005	-10768	8380	10228	35683	33580	10213	43792	No	27.89	Si
SLU 84	14.15	469.89	-9554	-7956	-1570	4.005	4.005	-7094	7890	8848	35683	33580	10213	43792	No	27.89	Si
SLU 64	12.35	-2132.12	-13345	-11112	-1576	4.005	4.005	-9909	8266	9843	35683	33580	10213	43792	No	27.78	Si
SLU 64	14.15	689.23	-8397	-6992	-1576	4.005	4.005	-6235	7776	8720	35683	33580	10213	43792	No	27.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	12.35	3326.66	-10761	-8961	4078	4.005	4.005	-7991	12015	13473	35683	50370	10213	49157		12.05	Si
SLV 16	14.15	-3139.52	-7035	-5858	3142	4.005	4.005	-5224	11461	12853	35683	50370	10213	48536		15.45	Si
SLD 1	12.35	-4766.09	-9295	-7740	-4568	4.005	4.005	-6902	11797	13229	35683	50370	10213	48912		10.71	Si
SLD 1	14.15	2876.04	-5471	-4556	-3971	4.005	4.005	-4063	11229	12592	35683	50370	10213	48276		12.16	Si
SLD 3	12.35	-5506.29	-9338	-7776	-5139	4.005	4.005	-6934	11804	13236	35683	50370	10213	48920		9.52	Si
SLD 3	14.15	3169.53	-5511	-4589	-4544	4.005	4.005	-4092	11235	12599	35683	50370	10213	48282		10.63	Si
SLV 4	12.35	-6077.78	-9227	-7683	-5881	4.005	4.005	-6852	11787	13218	35683	50370	10213	48901		8.32	Si
SLV 4	14.15	3618.25	-5373	-4474	-4949	4.005	3.9872	-3990	11215	12520	35683	50370	10213	48203		9.74	Si
SLV 2	12.35	-4889.78	-9157	-7625	-4965	4.005	4.005	-6800	11777	13206	35683	50370	10213	48889		9.85	Si
SLV 2	14.15	3147.17	-5309	-4421	-4029	4.005	4.005	-3942	11205	12565	35683	50370	10213	48249		11.98	Si
SLD 4	12.35	-4433.34	-9455	-7874	-4166	4.005	4.005	-7021	11821	13256	35683	50370	10213	48939		11.75	Si
SLD 4	14.15	2491.88	-5628	-4687	-3571	4.005	4.005	-4179	11253	12619	35683	50370	10213	48302		13.52	Si
SLV 14	12.35	4514.66	-10691	-8902	4994	4.005	4.005	-7939	12004	13462	35683	50370	10213	49145		9.84	Si
SLV 14	14.15	-3610.6	-6971	-5805	4062	4.005	4.005	-5176	11452	12842	35683	50370	10213	48525		11.95	Si
SLV 7	12.35	-5577.25	-9692	-8071	-4738	4.005	4.005	-7197	11856	13295	35683	50370	10213	48979		10.34	Si
SLV 7	14.15	2690	-5876	-4893	-4463	4.005	4.005	-4363	11289	12660	35683	50370	10213	48343		10.83	Si
SLV 1	12.35	-6569.14	-8974	-7473	-6487	4.005	3.8114	-7023	11821	12615	35683	50370	10213	48299		7.45	Si
SLV 1	14.15	4207.82	-5126	-4268	-5551	4.005	3.5448	-3806	11178	11095	35683	50370	10213	46778		8.43	Si
SLV 3	12.35	-7757.15	-9044	-7531	-7403	4.005	3.4343	-7859	11988	11528	35683	50370	10213	47211		6.38	Si
SLV 3	14.15	4678.9	-5190	-4322	-6471	4.005	3.3028	-3854	11187	10346	35683	50370	10213	46029		7.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.52	6913	-7753	453.94	1036.24	2.28	Si
SLV 3	179667	0.52	6971	-7817	453.94	1044.42	2.3	Si
SLV 2	179667	0.52	7077	-7936	453.94	1059.52	2.33	Si
SLV 4	179667	0.52	7134	-8000	453.94	1067.68	2.35	Si
SLV 5	179667	0.52	7390	-8287	453.94	1104.1	2.43	Si
SLV 6	179667	0.52	7500	-8411	453.94	1119.67	2.47	Si
SLV 7	179667	0.52	7581	-8502	453.94	1131.15	2.49	Si
SLV 8	179667	0.52	7691	-8625	453.94	1146.68	2.53	Si
SLV 9	179667	0.52	7833	-8784	453.94	1166.74	2.57	Si
SLV 10	179667	0.52	7943	-8908	453.94	1182.21	2.6	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-4683	-12803	-358	2.878	1004.5	0.893	46.86869	7.57858	Si
SLV 14	-4669	-12622	363	2.883	1003.2	0.892	46.94141	7.57858	Si
SLV 15	-4634	-12451	-359	2.896	999.8	0.892	47.1677	7.57858	Si
SLV 13	-4620	-12270	363	2.9	998.5	0.892	47.24202	7.57858	Si
SLV 4	-4215	-9234	-362	3.057	960.1	0.891	49.87446	7.57858	Si
SLV 2	-4201	-9054	359	3.063	958.8	0.891	49.97351	7.57858	Si
SLV 3	-4166	-8883	-362	3.077	955.5	0.891	50.21064	7.57858	Si
SLV 1	-4152	-8702	359	3.083	954.2	0.891	50.31161	7.57858	Si
SLV 12	-4527	-11707	-1202	2.826	989.7	0.892	46.05162	5.5671	Si
SLV 11	-4494	-11470	-1202	2.838	986.5	0.892	46.25252	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.446	SLU 81	Si
V_SLU	25.456	SLU 81	Si
PF_SLV	2.338	SLV 3	Si
V_SLV	6.377	SLV 3	Si

Stato limite	Coeff.s.	Comb.	Verifica
PFFP_SLV	2.283	SLV 1	Si
R_SLV	6.184	SLV 16	Si

Maschio 229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.013	6.661	-5.018	6.661	L7	L8	1.995	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	12.35	-742.69	-4194	-0.0000172	0.0003743	0.0035	1.995	3875.01	20097.86	20097.86	27.06	No	Si
SLU 77	14.15	-3741.26	-1652	-0.0002039	0.0003743	0.0035	1.995	0	17906.33	17906.33	4.79	No	Si
SLU 72	12.35	-742.99	-3963	-0.0000166	0.0003743	0.0035	1.995	3677.59	19928.65	19928.65	26.82	No	Si
SLU 72	14.15	-3598.63	-1421	-0.0002063	0.0003743	0.0035	1.995	0	17619.96	17619.96	4.9	No	Si
SLU 78	12.35	-738.3	-4169	-0.0000171	0.0003743	0.0035	1.995	3853.93	20082.36	20082.36	27.2	No	Si
SLU 78	14.15	-3765.85	-1628	-0.0002076	0.0003743	0.0035	1.995	0	17875.79	17875.79	4.75	No	Si
SLU 69	12.35	-786.42	-4447	-0.0000183	0.0003743	0.0035	1.995	4089.13	20255.17	20255.17	25.76	No	Si
SLU 69	14.15	-3601.42	-1906	-0.0001765	0.0003743	0.0035	1.995	0	18216.07	18216.07	5.06	No	Si
SLU 38	12.35	-569.45	-2947	-0.0000124	0.0003743	0.0035	1.995	2787.14	19105.26	19105.26	33.55	No	Si
SLU 38	14.15	-3434.74	-971	-0.0002256	0.0003743	0.0035	1.995	0	17051.18	17051.18	4.96	No	Si
SLU 71	12.35	-747.38	-3988	-0.0000167	0.0003743	0.0035	1.995	3698.85	19948.28	19948.28	26.69	No	Si
SLU 71	14.15	-3574.04	-1446	-0.0002024	0.0003743	0.0035	1.995	0	17650.85	17650.85	4.94	No	Si
SLU 70	12.35	-782.03	-4422	-0.0000182	0.0003743	0.0035	1.995	4068.27	20239.84	20239.84	25.88	No	Si
SLU 70	14.15	-3626.01	-1881	-0.00018	0.0003743	0.0035	1.995	0	18185.92	18185.92	5.02	No	Si
SLU 79	12.35	-703.66	-3735	-0.0000156	0.0003743	0.0035	1.995	3480.66	19746.79	19746.79	28.06	No	Si
SLU 79	14.15	-3713.88	-1193	-0.0002338	0.0003743	0.0035	1.995	0	17333.48	17333.48	4.67	No	Si
SLU 80	12.35	-699.26	-3710	-0.0000155	0.0003743	0.0035	1.995	3459.17	19726.95	19726.95	28.21	No	Si
SLU 80	14.15	-3738.46	-1168	-0.0002382	0.0003743	0.0035	1.995	0	17302.17	17302.17	4.63	No	Si
SLU 37	12.35	-573.84	-2972	-0.0000125	0.0003743	0.0035	1.995	2809.29	19125.79	19125.79	33.33	No	Si
SLU 37	14.15	-3410.15	-996	-0.000221	0.0003743	0.0035	1.995	0	17082.84	17082.84	5.01	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	12.35	-391.95	-1242	-0.0000064	0.0005615	0.0035	1.995		18265.51	18265.51	46.6		Si
SLV 5	14.15	-3010.29	700	0.0004589	0.0005615	0.0035	1.596		10235.88	10235.88	3.4		Si
SLV 10	12.35	-23.94	432	0.0005999	0.0005615	0.0035	1.596		13659.1	13659.1	570.61		Si
SLV 10	14.15	-5159.34	2363	0.0023242	0.0005615	0.0035	1.596		0	0	0		No
SLV 16	12.35	-110.29	-1409	-0.0000046	0.0005615	0.0035	1.995		18492.53	18492.53	167.67		Si
SLV 16	14.15	-4007.79	522	0.000039	0.0005615	0.0035	1.596		12512.2	12512.2	3.12		Si
SLV 14	12.35	59.52	170	0.0002268	0.0005615	0.0035	1.596		15279.7	15279.7	256.73		Si
SLV 14	14.15	-5454.51	2096	0.001843	0.0005615	0.0035	1.596		0	0	0		No
SLV 9	12.35	-183.88	30	0.0000133	0.0005615	0.0035	1.596		15633.44	15633.44	85.02		Si
SLV 9	14.15	-4592.02	1962	0.0018596	0.0005615	0.0035	1.596		0	0	0		No
SLD 14	12.35	-142.95	-1000	-0.0000038	0.0005615	0.0035	1.995		17934.26	17934.26	125.45		Si
SLD 14	14.15	-4074.4	935	0.0005622	0.0005615	0.0035	1.596		7193.56	7193.56	1.77		Si
SLV 13	12.35	-178.04	-426	-0.0000026	0.0005615	0.0035	1.995		16721.13	16721.13	93.92		Si
SLV 13	14.15	-4611.88	1500	0.0011064	0.0005615	0.0035	1.596		0	0	0		No
SLD 10	12.35	-197.64	-868	-0.0000038	0.0005615	0.0035	1.995		17745.55	17745.55	89.79		Si
SLD 10	14.15	-3857.33	1070	0.0007639	0.0005615	0.0035	1.596		5443.22	5443.22	1.41		Si
SLD 9	12.35	-298.26	-1121	-0.0000053	0.0005615	0.0035	1.995		18100.23	18100.23	60.69		Si
SLD 9	14.15	-3500.45	817	0.000523	0.0005615	0.0035	1.596		8722.01	8722.01	2.49		Si
SLV 6	12.35	-232.01	-841	-0.000004	0.0005615	0.0035	1.995		17681.94	17681.94	76.21		Si
SLV 6	14.15	-3577.61	1101	0.0008575	0.0005615	0.0035	1.596		5034	5034	1.41		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	12.35	-699.26	-3710	-3089	1644	1.995	1.995	-5530	7682	4291	15820	16727	5087	20111	No	12.23	Si
SLU 80	14.15	-3738.46	-1168	-973	1644	1.995	0	0	10833	2052	15820	16727	5087	17872	No	10.87	Si
SLU 78	12.35	-738.3	-4169	-3472	1637	1.995	1.995	-6215	7773	4342	15820	16727	5087	20162	No	12.31	Si
SLU 78	14.15	-3765.85	-1628	-1355	1637	1.995	0	-19343	10833	2154	15820	16727	5087	17974	No	10.98	Si
SLU 72	12.35	-742.99	-3963	-3300	1542	1.995	1.995	-5908	7732	4319	15820	16727	5087	20139	No	13.06	Si
SLU 72	14.15	-3598.63	-1421	-1184	1542	1.995	0	-17932	10833	2108	15820	16727	5087	17928	No	11.63	Si
SLU 77	12.35	-742.69	-4194	-3492	1621	1.995	1.995	-6252	7778	4345	15820	16727	5087	20164	No	12.44	Si
SLU 77	14.15	-3741.26	-1652	-1376	1621	1.995	0	-19375	10833	2160	15820	16727	5087	17979	No	11.09	Si
SLU 37	12.35	-573.84	-2972	-2474	1541	1.995	1.995	-4430	7535	4209	15820	16727	5087	20029	No	12.99	Si
SLU 37	14.15	-3410.15	-996	-829	1541	1.995	0	0	10833	2014	15820	16727	5087	17833	No	11.57	Si
SLU 36	12.35	-608.49	-3406	-2836	1551	1.995	1.995	-5078	7621	4257	15820	16727	5087	20077	No	12.94	Si
SLU 36	14.15	-3462.12	-1430	-1191	1551	1.995	0	-17564	10833	2110	15820	16727	5087	17930	No	11.56	Si
SLU 35	12.35	-612.88	-3431	-2857	1535	1.995	1.995	-5115	7626	4260	15820	16727	5087	20080	No	13.08	Si
SLU 35	14.15	-3437.54	-1455	-1212	1535	1.995	0	-17599	10833	2116	15820	16727	5087	17935	No	11.69	Si
SLU 79	12.35	-703.66	-3735	-3110	1628	1.995	1.995	-5567	7687	4294	15820	16727	5087	20113	No	12.36	Si
SLU 79	14.15	-3713.88	-1193	-993	1628	1.995	0	0	10833	2058	15820	16727	5087	17877	No	10.98	Si
SLU 70	12.35	-782.03	-4422	-3683	1535	1.995	1.995	-6592	7823	4370	15820	16727	5087	20190	No	13.15	Si
SLU 70	14.15	-3626.01	-1881	-1566	1535	1.995	0	-19886	10833	2210	15820	16727	5087	18030	No	11.74	Si
SLU 38	12.35	-569.45	-2947	-2454	1557	1.995	1.995	-4393	7530	4206	15820	16727	5087	20026	No	12.86	Si
SLU 38	14.15	-3434.74	-971	-808	1557	1.995	0	0	10833	2008	15820	16727	5087	17828	No	11.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	12.35	59.52	170	142	3278	1.596	1.9436	0	0	0	15820	20072	4070	15820		4.83	Si
SLV 14	14.15	-5454.51	2096	1745	2844	1.596	0	0	0	0	15820	20072	4070	15820		5.56	Si
SLV 16	12.35	-110.29	-1409	-1174	2382	1.995	1.995	-2101	10837	6053	15820	25090	5087	21873		9.18	Si
SLV 16	14.15	-4007.79	522	435	1940	1.596	0	0	0	0	15820	20072	4070	15820		8.16	Si
SLV 13	12.35	-178.04	-426	-355	2678	1.995	1.7383	-728	10562	5141	15820	25090	5087	20961		7.83	Si
SLV 13	14.15	-4611.88	1500	1249	2244	1.596	0	0	0	0	15820	20072	4070	15820		7.05	Si
SLV 9	12.35	-183.88	30	25	2487	1.596	0	0	0	0	15820	20072	4070	15820		6.36	Si
SLV 9	14.15	-4592.02	1962	1634	2368	1.596	0	0	0	0	15820	20072	4070	15820		6.68	Si
SLD 9	12.35	-298.26	-1121	-933	1791	1.995	1.995	-1671	10751	6005	15820	25090	5087	21825		12.19	Si
SLD 9	14.15	-3500.45	817	681	1714	1.596	0	0	0	0	15820	20072	4070	15820		9.23	Si
SLD 10	12.35	-197.64	-868	-723	2045	1.995	1.995	-1295	10676	5963	15820	25090	5087	21783		10.65	Si
SLD 10	14.15	-3857.33	1070	891	1968	1.596	0	0	0	0	15820	20072	4070	15820		8.04	Si
SLD 13	12.35	-294.73	-1381	-1150	1925	1.995	1.995	-2059	10828	6049	15820	25090	5087	21868		11.36	Si
SLD 13	14.15	-3536.04	555	462	1646	1.596	0	0	0	0	15820	20072	4070	15820		9.61	Si
SLD 14	12.35	-142.95	-1000	-833	2308	1.995	1.995	-1491	10715	5985	15820	25090	5087	21805		9.45	Si
SLD 14	14.15	-4074.4	935	779	2029	1.596	0	0	0	0	15820	20072	4070	15820		7.8	Si
SLV 6	12.35	-232.01	-841	-700	1747	1.995	1.995	-1253	10667	5959	15820	25090	5087	21778		12.47	Si
SLV 6	14.15	-3577.61	1101	917	1891	1.596	0	0	0	0	15820	20072	4070	15820		8.37	Si
SLV 10	12.35	-23.94	432	359	2891	1.596	1.995	0	0	0	15820	20072	4070	15820		5.47	Si
SLV 10	14.15	-5159.34	2363	1968	2772	1.596	0	0	0	0	15820	20072	4070	15820		5.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.52	0	-763	226.12	0	0	No, e>t/2
SLV 13	179667	0.52	0	217	226.12	0	0	No, Trazione
SLV 6	179667	0.52	0	-179	226.12	0	0	No, e>t/2
SLV 5	179667	0.52	0	-580	226.12	0	0	No, e>t/2
SLV 15	179667	0.52	0	-1359	226.12	0	0	No, e>t/2
SLV 10	179667	0.52	0	1083	226.12	0	0	No, Trazione
SLV 9	179667	0.52	0	681	226.12	0	0	No, Trazione
SLV 14	179667	0.52	0	813	226.12	0	0	No, Trazione
SLV 2	179667	0.52	6071	-3391	226.12	455.89	2.02	Si
SLV 1	179667	0.52	7138	-3987	226.12	532.12	2.35	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-4387	-4748	-161	1.906	701.7	0.911	30.40187	7.57858	Si
SLV 4	-3609	-4632	-161	2.185	624.6	0.904	35.1186	7.57858	Si
SLV 7	-4484	-5455	-597	1.805	711.3	0.912	28.75704	5.5671	Si
SLV 1	-2672	-3719	202	2.647	532.9	0.895	42.96422	7.57858	Si
SLV 8	-3960	-5377	-597	1.971	659.3	0.907	31.5655	5.5671	Si
SLV 11	-2960	-5048	-607	2.393	560.9	0.898	38.72062	5.5671	Si
SLV 2	-1894	-3603	201	3.229	459	0.89	52.75273	7.57858	Si
SLV 12	-2436	-4970	-608	2.698	510.3	0.893	43.89865	5.5671	Si
SLV 15	692	-3392	-196	8.985	322.9	1	130.58491	7.57858	Si, Trazione
SLV 16	1470	-3276	-197	13.061	322.9	1	189.82384	7.57858	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.628	SLU 80	Si
V_SLU	10.871	SLU 80	Si
PF_SLV	0	SLV 9	No
V_SLV	4.825	SLV 14	Si
PFFP_SLV	0	SLV 14	No
R_SLV	4.012	SLV 3	Si

Maschio 230

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.423	1.141	-24.614	1.141	L7	L8	5.192	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	11.45	-7256.63	-19334	-0.0000265	0.0004492	0.0035	5.1915	44723.75	62128.19	62128.19	8.56	No	Si
SLU 51	13.55	-9034.38	-12314	-0.0000216	0.0004492	0.0035	5.1915	29748.01	46009.22	46009.22	5.09	No	Si
SLU 59	11.45	-6892.73	-17968	-0.0000248	0.0004492	0.0035	5.1915	41921.93	59060.61	59060.61	8.57	No	Si
SLU 59	13.55	-8919.79	-11895	-0.0000211	0.0004492	0.0035	5.1915	28809.78	45019.19	45019.19	5.05	No	Si
SLU 50	11.45	-7258.83	-19369	-0.0000266	0.0004492	0.0035	5.1915	44795.53	62207.56	62207.56	8.57	No	Si
SLU 50	13.55	-9143.67	-12367	-0.0000218	0.0004492	0.0035	5.1915	29867.02	46135.19	46135.19	5.05	No	Si
SLU 72	11.45	-7521.86	-20057	-0.0000275	0.0004492	0.0035	5.1915	46183.81	63750.89	63750.89	8.48	No	Si
SLU 72	13.55	-9911.91	-14179	-0.0000244	0.0004492	0.0035	5.1915	33866.6	50420.83	50420.83	5.09	No	Si
SLU 16	11.45	-5510.73	-14220	-0.0000196	0.0004492	0.0035	5.1915	33956.86	50518.74	50518.74	9.17	No	Si
SLU 16	13.55	-8075.03	-10121	-0.0000184	0.0004492	0.0035	5.1915	24775.32	40822.01	40822.01	5.06	No	Si
SLU 79	11.45	-7160.15	-18726	-0.0000258	0.0004492	0.0035	5.1915	43483.3	60762.7	60762.7	8.49	No	Si
SLU 79	13.55	-9906.61	-13813	-0.0000241	0.0004492	0.0035	5.1915	33067.93	49556.76	49556.76	5	No	Si
SLU 37	11.45	-5775.96	-14943	-0.0000206	0.0004492	0.0035	5.1915	35524.96	52228.62	52228.62	9.04	No	Si
SLU 37	13.55	-8952.55	-11986	-0.0000212	0.0004492	0.0035	5.1915	29013.42	45233.62	45233.62	5.05	No	Si
SLU 71	11.45	-7524.05	-20092	-0.0000276	0.0004492	0.0035	5.1915	46254.84	63830.27	63830.27	8.48	No	Si
SLU 71	13.55	-10021.2	-14232	-0.0000246	0.0004492	0.0035	5.1915	33982.71	50546.79	50546.79	5.04	No	Si
SLU 58	11.45	-6894.93	-18003	-0.0000248	0.0004492	0.0035	5.1915	41995.12	59139.99	59139.99	8.58	No	Si
SLU 58	13.55	-9029.08	-11949	-0.0000213	0.0004492	0.0035	5.1915	28929.44	45145.16	45145.16	5	No	Si
SLU 80	11.45	-7157.95	-18690	-0.0000258	0.0004492	0.0035	5.1915	43410.86	60683.32	60683.32	8.48	No	Si
SLU 80	13.55	-9797.32	-13760	-0.0000239	0.0004492	0.0035	5.1915	32951.17	49430.8	49430.8	5.05	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	11.45	-5548.47	-9746	-0.0000152	0.0006738	0.0035	5.1915		40164.85	40164.85	7.24		Si
SLV 14	13.55	4888.71	-4421	-0.0000096	0.0006738	0.0035	5.1915		14008.49	14008.49	2.87		Si
SLV 3	11.45	-4229.33	-16759	-0.0000205	0.0006738	0.0035	5.1915		56946.06	56946.06	13.46		Si
SLV 3	13.55	-13690.81	-12850	-0.0000275	0.0006738	0.0035	5.1915		47650.22	47650.22	3.48		Si
SLV 9	11.45	-5787.93	-10712	-0.0000164	0.0006738	0.0035	5.1915		42512.82	42512.82	7.35		Si
SLV 9	13.55	6609.68	-3525	-0.0000159	0.0006738	0.0035	5.1915		11754.55	11754.55	1.78		Si
SLV 7	11.45	-3831.74	-15697	-0.000019	0.0006738	0.0035	5.1915		54429.01	54429.01	14.2		Si
SLV 7	13.55	-15367.25	-13709	-0.0000305	0.0006738	0.0035	5.1915		49712.24	49712.24	3.23		Si
SLV 4	11.45	-4464.19	-16900	-0.0000209	0.0006738	0.0035	5.1915		57282	57282	12.83		Si
SLV 4	13.55	-13756.95	-12907	-0.0000277	0.0006738	0.0035	5.1915		47785.58	47785.58	3.47		Si
SLV 10	11.45	-5946.06	-10807	-0.0000167	0.0006738	0.0035	5.1915		42742.01	42742.01	7.19		Si
SLV 10	13.55	6565.15	-3563	-0.0000154	0.0006738	0.0035	5.1915		11849.95	11849.95	1.8		Si
SLV 12	11.45	-4153.85	-13927	-0.0000177	0.0006738	0.0035	5.1915		50232.03	50232.03	12.09		Si
SLV 12	13.55	-11438.4	-11956	-0.0000239	0.0006738	0.0035	5.1915		45502.51	45502.51	3.98		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	11.45	-3989.87	-15792	-0.0000193	0.0006738	0.0035	5.1915		54655.19	54655.19	13.7		Si
SLV 8	13.55	-15411.78	-13747	-0.0000306	0.0006738	0.0035	5.1915		49803.37	49803.37	3.23		Si
SLV 11	11.45	-3995.72	-13831	-0.0000174	0.0006738	0.0035	5.1915		50005.85	50005.85	12.51		Si
SLV 11	13.55	-11393.88	-11918	-0.0000238	0.0006738	0.0035	5.1915		45411.37	45411.37	3.99		Si
SLV 13	11.45	-5313.6	-9604	-0.0000148	0.0006738	0.0035	5.1915		39820.5	39820.5	7.49		Si
SLV 13	13.55	4954.84	-4365	-0.0000097	0.0006738	0.0035	5.1915		13866.79	13866.79	2.8		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	11.45	-7338.09	-19735	-14078	1994	5.1915	5.1915	-9685	9625	14028	101952	52240	26477	78717	No	39.47	Si
SLU 77	13.55	-9983.33	-15154	-10810	2010	5.1915	5.1915	-7437	9325	13555	101952	52240	26477	78717	No	39.16	Si
SLU 28	11.45	-6315.61	-17283	-12329	1958	5.1915	5.1915	-8482	9464	13757	101952	52240	26477	78717	No	40.21	Si
SLU 28	13.55	-9034.58	-13691	-9767	1971	5.1915	5.1915	-6719	9229	13416	101952	52240	26477	78717	No	39.93	Si
SLU 78	11.45	-7335.9	-19699	-14053	1982	5.1915	5.1915	-9668	9622	14018	101952	52240	26477	78717	No	39.71	Si
SLU 78	13.55	-9874.04	-15100	-10772	1999	5.1915	5.1915	-7411	9321	13550	101952	52240	26477	78717	No	39.39	Si
SLU 42	11.45	-5139.03	-13247	-9450	1960	5.1915	5.1915	-6501	9200	13374	101952	52240	26477	78717	No	40.16	Si
SLU 42	13.55	-6790.88	-10595	-7558	1973	5.1915	5.1915	-5199	9027	13121	101952	52240	26477	78717	No	39.9	Si
SLU 37	11.45	-5775.96	-14943	-10660	2498	5.1915	5.1915	-7333	9311	13535	101952	52240	26477	78717	No	31.52	Si
SLU 37	13.55	-8952.55	-11986	-8551	2511	5.1915	5.1915	-5882	9118	13254	101952	52240	26477	78717	No	31.35	Si
SLU 38	11.45	-5773.76	-14907	-10635	2485	5.1915	5.1915	-7316	9309	13532	101952	52240	26477	78717	No	31.67	Si
SLU 38	13.55	-8843.26	-11933	-8513	2499	5.1915	5.1915	-5856	9114	13249	101952	52240	26477	78717	No	31.5	Si
SLU 27	11.45	-6317.8	-17318	-12354	1970	5.1915	5.1915	-8499	9467	13761	101952	52240	26477	78717	No	39.96	Si
SLU 27	13.55	-9143.87	-13745	-9805	1983	5.1915	5.1915	-6745	9233	13421	101952	52240	26477	78717	No	39.69	Si
SLU 35	11.45	-5953.9	-15952	-11380	2622	5.1915	5.1915	-7828	9377	13631	101952	52240	26477	78717	No	30.02	Si
SLU 35	13.55	-9029.28	-13326	-9507	2636	5.1915	5.1915	-6540	9205	13381	101952	52240	26477	78717	No	29.86	Si
SLU 41	11.45	-5141.23	-13282	-9475	1972	5.1915	5.1915	-6518	9202	13377	101952	52240	26477	78717	No	39.91	Si
SLU 41	13.55	-6900.17	-10648	-7596	1985	5.1915	5.1915	-5226	9030	13126	101952	52240	26477	78717	No	39.66	Si
SLU 36	11.45	-5951.71	-15916	-11354	2610	5.1915	5.1915	-7811	9375	13628	101952	52240	26477	78717	No	30.16	Si
SLU 36	13.55	-8919.99	-13273	-9469	2624	5.1915	5.1915	-6514	9202	13376	101952	52240	26477	78717	No	30	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	11.45	-5548.47	-9746	-6952	-5750	5.1915	5.1915	-4783	13457	19561	101952	78360	26477	104837		18.23	Si
SLV 14	13.55	4888.71	-4421	-3154	-3924	5.1915	4.4701	-2170	12934	16188	101952	78360	26477	104837		26.72	Si
SLV 2	11.45	-5001.86	-15964	-11389	4088	5.1915	5.1915	-7835	14067	20448	101952	78360	26477	104837		25.65	Si
SLV 2	13.55	-8355.88	-10389	-7411	2341	5.1915	5.1915	-5098	13520	19653	101952	78360	26477	104837		44.79	Si
SLD 13	11.45	-5122.98	-10957	-7816	-3611	5.1915	5.1915	-5377	13575	19734	101952	78360	26477	104837		29.03	Si
SLD 13	13.55	1512.66	-5953	-4247	-2470	5.1915	5.1915	-2922	13084	19020	101952	78360	26477	104837		42.45	Si
SLV 1	11.45	-4766.99	-15823	-11288	4232	5.1915	5.1915	-7765	14053	20428	101952	78360	26477	104837		24.77	Si
SLV 1	13.55	-8289.74	-10332	-7371	2485	5.1915	5.1915	-5071	13514	19645	101952	78360	26477	104837		42.19	Si
SLV 4	11.45	-4464.19	-16900	-12056	4898	5.1915	5.1915	-8294	14159	20582	101952	78360	26477	104837		21.4	Si
SLV 4	13.55	-13756.95	-12907	-9207	3091	5.1915	4.5897	-7187	13937	17911	101952	78360	26477	104837		33.92	Si
SLD 14	11.45	-5273.04	-11047	-7881	-3703	5.1915	5.1915	-5422	13584	19747	101952	78360	26477	104837		28.31	Si
SLD 14	13.55	1470.41	-5989	-4273	-2562	5.1915	5.1915	-2939	13088	19025	101952	78360	26477	104837		40.93	Si
SLV 3	11.45	-4229.33	-16759	-11955	5042	5.1915	5.1915	-8224	14145	20561	101952	78360	26477	104837		20.79	Si
SLV 3	13.55	-13690.81	-12850	-9167	3235	5.1915	4.5911	-7153	13931	17908	101952	78360	26477	104837		32.41	Si
SLV 13	11.45	-5313.6	-9604	-6851	-5606	5.1915	5.1915	-4713	13443	19541	101952	78360	26477	104837		18.7	Si
SLV 13	13.55	4954.84	-4365	-3114	-3780	5.1915	4.3818	-2142	12928	15862	101952	78360	26477	104837		27.74	Si
SLV 15	11.45	-4775.94	-10540	-7519	-4796	5.1915	5.1915	-5172	13534	19674	101952	78360	26477	104837		21.86	Si
SLV 15	13.55	-446.22	-6883	-4910	-3030	5.1915	5.1915	-3378	13176	19152	101952	78360	26477	104837		34.6	Si
SLV 16	11.45	-5010.81	-10681	-7620	-4940	5.1915	5.1915	-5242	13548	19694	101952	78360	26477	104837		21.22	Si
SLV 16	13.55	-512.36	-6939	-4950	-3174	5.1915	5.1915	-3405	13181	19160	101952	78360	26477	104837		33.03	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-5495	0.52	603.61	753.47	1502.31	1127.89	1.87	Si
SLV 10	-5546	0.52	603.61	760.23	1510.25	1135.24	1.88	Si
SLV 13	-6055	0.52	603.61	828.37	1590.16	1209.27	2	Si
SLV 14	-6129	0.52	603.61	838.37	1601.9	1220.13	2.02	Si
SLV 5	-7215	0.52	603.61	982.75	1772.12	1377.44	2.28	Si
SLV 6	-7265	0.52	603.61	989.42	1780.02	1384.72	2.29	Si
SLV 15	-8264	0.52	603.61	1121.09	1935.59	1528.34	2.53	Si
SLV 16	-8339	0.52	603.61	1130.91	1947.18	1539.05	2.55	Si
SLV 1	-11787	0.52	603.61	1577.18	2480.91	2029.04	3.36	Si
SLV 2	-11862	0.52	603.61	1586.72	2492.46	2039.59	3.38	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-8242	-16900	304	2.393	1512.3	0.9	38.64971	7.57858	Si
SLV 3	-8239	-16759	304	2.394	1512	0.9	38.65729	7.57858	Si
SLV 2	-6615	-15964	-400	2.74	1354.4	0.894	44.53569	7.57858	Si
SLV 1	-6613	-15823	-400	2.741	1354.1	0.894	44.54549	7.57858	Si
SLV 8	-9352	-15792	1157	2.137	1621.4	0.904	34.34715	5.5671	Si
SLV 7	-9350	-15697	1157	2.137	1621.2	0.904	34.35132	5.5671	Si
SLV 16	-5994	-10681	395	2.906	1294.9	0.892	47.33711	7.57858	Si
SLV 15	-5992	-10540	395	2.907	1294.7	0.892	47.3483	7.57858	Si
SLV 12	-8678	-13927	1185	2.245	1555	0.902	36.18227	5.5671	Si
SLV 11	-8676	-13831	1185	2.245	1554.9	0.902	36.18689	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5	SLU 58	Si
V_SLU	29.863	SLU 35	Si
PF_SLV	1.778	SLV 9	Si
V_SLV	18.231	SLV 14	Si
PFFP_SLV	1.869	SLV 9	Si
R_SLV	5.1	SLV 4	Si

Maschio 231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.263	1.141	-18.623	1.141	L7	L8	6.36	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	11.45	-4583.43	-27687	-0.000025	0.0004492	0.0035	6.36	76841.29	104590.58	104590.58	22.82	No	Si
SLU 40	13.95	-2322.38	-24275	-0.0000206	0.0004492	0.0035	6.36	68582.65	95215.79	95215.79	41	No	Si
SLU 39	11.45	-4393.58	-27619	-0.0000248	0.0004492	0.0035	6.36	76679.4	104403.01	104403.01	23.76	No	Si
SLU 39	13.95	-2251.81	-24200	-0.0000205	0.0004492	0.0035	6.36	68397.12	95009.53	95009.53	42.19	No	Si
SLU 31	11.45	-4496.79	-28372	-0.0000255	0.0004492	0.0035	6.36	78459.35	106473.9	106473.9	23.68	No	Si
SLU 31	13.95	-2530.99	-24628	-0.000021	0.0004492	0.0035	6.36	69452.5	96185.29	96185.29	38	No	Si
SLU 23	11.45	-3999.29	-29865	-0.0000263	0.0004492	0.0035	6.36	81936.6	110425.13	110425.13	27.61	No	Si
SLU 23	13.95	-2907.97	-25334	-0.0000219	0.0004492	0.0035	6.36	71183.33	98126.61	98126.61	33.74	No	Si
SLU 81	11.45	-4703.41	-34941	-0.0000309	0.0004492	0.0035	6.36	93268.94	123616.09	123616.09	26.28	No	Si
SLU 81	13.95	-2639.29	-29398	-0.0000249	0.0004492	0.0035	6.36	80855.5	109210.78	109210.78	41.38	No	Si
SLU 82	11.45	-4893.27	-35009	-0.0000311	0.0004492	0.0035	6.36	93416.23	123793.5	123793.5	25.3	No	Si
SLU 82	13.95	-2709.86	-29473	-0.000025	0.0004492	0.0035	6.36	81029.63	109405.88	109405.88	40.37	No	Si
SLU 34	11.45	-3919.36	-31432	-0.0000275	0.0004492	0.0035	6.36	85514.43	114496.26	114496.26	29.21	No	Si
SLU 34	13.95	-2793.22	-28354	-0.0000242	0.0004492	0.0035	6.36	78416.95	106424.35	106424.35	38.1	No	Si
SLU 42	11.45	-4006	-30746	-0.000027	0.0004492	0.0035	6.36	83957.67	112714.82	112714.82	28.14	No	Si
SLU 42	13.95	-2584.61	-28001	-0.0000238	0.0004492	0.0035	6.36	77585.53	105454.84	105454.84	40.8	No	Si
SLU 73	11.45	-4806.62	-35694	-0.0000316	0.0004492	0.0035	6.36	94887.59	125574.95	125574.95	26.13	No	Si
SLU 73	13.95	-2918.47	-29826	-0.0000255	0.0004492	0.0035	6.36	81845.87	110322.94	110322.94	37.8	No	Si
SLU 19	11.45	-3346.73	-25192	-0.0000221	0.0004492	0.0035	6.36	70836.84	97736.66	97736.66	29.2	No	Si
SLU 19	13.95	-1622.97	-20597	-0.0000171	0.0004492	0.0035	6.36	59297.81	85108.76	85108.76	52.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	11.45	-1020.14	-22122	-0.0000178	0.0006738	0.0035	6.36		90334.34	90334.34	88.55		Si
SLV 16	13.95	22785.3	-14434	-0.0000296	0.0006738	0.0035	6.36		48220.66	48220.66	2.12		Si
SLV 1	11.45	-4863.14	-32965	-0.0000292	0.0006738	0.0035	6.36		120819.67	120819.67	24.84		Si
SLV 1	13.95	-27151.43	-30326	-0.0000437	0.0006738	0.0035	6.36		113418.19	113418.19	4.18		Si
SLD 16	11.45	-1776.84	-24088	-0.0000199	0.0006738	0.0035	6.36		95866.12	95866.12	53.95		Si
SLD 16	13.95	13748.36	-17316	-0.0000234	0.0006738	0.0035	6.36		56758.31	56758.31	4.13		Si
SLV 13	11.45	-9615.93	-24879	-0.0000263	0.0006738	0.0035	6.36		98091.43	98091.43	10.2		Si
SLV 13	13.95	18995.02	-18440	-0.0000281	0.0006738	0.0035	6.36		60047.81	60047.81	3.16		Si
SLV 14	11.45	-9586.89	-24780	-0.0000262	0.0006738	0.0035	6.36		97813.77	97813.77	10.2		Si
SLV 14	13.95	18856.8	-18520	-0.0000281	0.0006738	0.0035	6.36		60282.59	60282.59	3.2		Si
SLV 15	11.45	-1049.19	-22220	-0.0000179	0.0006738	0.0035	6.36		90612	90612	86.36		Si
SLV 15	13.95	22923.52	-14354	-0.0000298	0.0006738	0.0035	6.36		47982.3	47982.3	2.09		Si
SLV 11	11.45	10613.58	-21933	-0.0000247	0.0006738	0.0035	6.36		70225.34	70225.34	6.62		Si
SLV 11	13.95	11332.94	-13760	-0.0000188	0.0006738	0.0035	6.36		46224.62	46224.62	4.08		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	11.45	-1795.4	-24151	-0.00002	0.0006738	0.0035	6.36		96043.52	96043.52	53.49		Si
SLD 15	13.95	13836.66	-17265	-0.0000234	0.0006738	0.0035	6.36		56606.02	56606.02	4.09		Si
SLV 12	11.45	10633.13	-21867	-0.0000247	0.0006738	0.0035	6.36		70034.47	70034.47	6.59		Si
SLV 12	13.95	11239.88	-13814	-0.0000188	0.0006738	0.0035	6.36		46385.1	46385.1	4.13		Si
SLV 2	11.45	-4834.1	-32866	-0.0000291	0.0006738	0.0035	6.36		120555.38	120555.38	24.94		Si
SLV 2	13.95	-27289.65	-30406	-0.0000439	0.0006738	0.0035	6.36		113644.6	113644.6	4.16		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	11.45	-4806.62	-35694	-25463	-7392	6.36	6.36	-14299	10240	20472	101952	63998	32436	96434	No	13.05	Si
SLU 73	13.95	-2918.47	-29826	-21277	-6393	6.36	6.36	-11948	9926	18798	101952	63998	32436	96434	No	15.09	Si
SLU 84	11.45	-4315.84	-38068	-27157	-7543	6.36	6.36	-15250	10367	21150	101952	63998	32436	96434	No	12.79	Si
SLU 84	13.95	-2972.09	-33200	-23684	-6577	6.36	6.36	-13300	10107	19760	101952	63998	32436	96434	No	14.66	Si
SLU 74	11.45	-3944.9	-39887	-28455	-7344	6.36	6.36	-15979	10464	21669	101952	63998	32436	96434	No	13.13	Si
SLU 74	13.95	-3281.81	-34927	-24916	-6336	6.36	6.36	-13991	10199	20253	101952	63998	32436	96434	No	15.22	Si
SLU 77	11.45	-3367.47	-42947	-30637	-7325	6.36	6.36	-17204	10627	22542	101952	63998	32436	96434	No	13.17	Si
SLU 77	13.95	-3544.03	-38653	-27574	-6334	6.36	6.36	-15484	10398	21317	101952	63998	32436	96434	No	15.22	Si
SLU 81	11.45	-4703.41	-34941	-24926	-7465	6.36	6.36	-13997	10200	20257	101952	63998	32436	96434	No	12.92	Si
SLU 81	13.95	-2639.29	-29398	-20972	-6500	6.36	6.36	-11777	9904	18676	101952	63998	32436	96434	No	14.84	Si
SLU 78	11.45	-3557.33	-43015	-30686	-7421	6.36	6.36	-17231	10631	22561	101952	63998	32436	96434	No	12.99	Si
SLU 78	13.95	-3614.6	-38728	-27628	-6414	6.36	6.36	-15514	10402	21338	101952	63998	32436	96434	No	15.04	Si
SLU 82	11.45	-4893.27	-35009	-24974	-7562	6.36	6.36	-14024	10203	20277	101952	63998	32436	96434	No	12.75	Si
SLU 82	13.95	-2709.86	-29473	-21025	-6580	6.36	6.36	-11807	9908	18697	101952	63998	32436	96434	No	14.66	Si
SLU 75	11.45	-4134.76	-39955	-28503	-7441	6.36	6.36	-16006	10467	21688	101952	63998	32436	96434	No	12.96	Si
SLU 75	13.95	-3352.38	-35002	-24969	-6416	6.36	6.36	-14021	10203	20275	101952	63998	32436	96434	No	15.03	Si
SLU 83	11.45	-4125.98	-38000	-27108	-7446	6.36	6.36	-15223	10363	21130	101952	63998	32436	96434	No	12.95	Si
SLU 83	13.95	-2901.52	-33125	-23630	-6498	6.36	6.36	-13269	10103	19739	101952	63998	32436	96434	No	14.84	Si
SLU 76	11.45	-4229.19	-38754	-27646	-7373	6.36	6.36	-15524	10403	21345	101952	63998	32436	96434	No	13.08	Si
SLU 76	13.95	-3180.7	-33552	-23935	-6390	6.36	6.36	-13441	10125	19861	101952	63998	32436	96434	No	15.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	11.45	-1776.84	-24088	-17184	-12800	6.36	6.36	-9649	14430	25697	101952	95996	32436	127649		9.97	Si
SLD 16	13.95	13748.36	-17316	-12353	-10045	6.36	6.36	-6937	13887	24731	101952	95996	32436	126683		12.61	Si
SLV 14	11.45	-9586.89	-24780	-17677	-22006	6.36	6.36	-9927	14485	25795	101952	95996	32436	127747		5.81	Si
SLV 14	13.95	18856.8	-18520	-13212	-17279	6.36	6.36	-7419	13984	24902	101952	95996	32436	126854		7.34	Si
SLD 14	11.45	-7106.41	-25750	-18370	-15812	6.36	6.36	-10315	14563	25934	101952	95996	32436	127886		8.09	Si
SLD 14	13.95	11304.21	-19860	-14168	-12540	6.36	6.36	-7956	14091	25094	101952	95996	32436	127046		10.13	Si
SLV 9	11.45	-17942.25	-30794	-21968	-17498	6.36	6.36	-12336	14967	26654	101952	95996	32436	128432		7.34	Si
SLV 9	13.95	-1762.07	-27380	-19532	-14304	6.36	6.36	-10968	14694	26166	101952	95996	32436	128118		8.96	Si
SLD 13	11.45	-7124.96	-25813	-18415	-15852	6.36	6.36	-10341	14568	25943	101952	95996	32436	127895		8.07	Si
SLD 13	13.95	11392.52	-19809	-14131	-12585	6.36	6.36	-7935	14087	25086	101952	95996	32436	127038		10.09	Si
SLV 10	11.45	-17922.7	-30728	-21920	-17456	6.36	6.36	-12309	14962	26644	101952	95996	32436	128432		7.36	Si
SLV 10	13.95	-1855.13	-27434	-19571	-14257	6.36	6.36	-10990	14698	26174	101952	95996	32436	128126		8.99	Si
SLV 15	11.45	-1049.19	-22220	-15852	-17222	6.36	6.36	-8901	14280	25430	101952	95996	32436	127382		7.4	Si
SLV 15	13.95	22923.52	-14354	-10240	-13338	6.36	4.7489	-5750	13650	19527	101952	95996	32436	121479		9.11	Si
SLV 16	11.45	-1020.14	-22122	-15781	-17161	6.36	6.36	-8862	14272	25416	101952	95996	32436	127368		7.42	Si
SLV 16	13.95	22785.3	-14434	-10297	-13268	6.36	4.8043	-5782	13656	19550	101952	95996	32436	121502		9.16	Si
SLV 13	11.45	-9615.93	-24879	-17748	-22067	6.36	6.36	-9966	14493	25810	101952	95996	32436	127762		5.79	Si
SLV 13	13.95	18995.02	-18440	-13154	-17349	6.36	6.36	-7387	13977	24891	101952	95996	32436	126843		7.31	Si
SLD 15	11.45	-1795.4	-24151	-17229	-12839	6.36	6.36	-9675	14435	25706	101952	95996	32436	127658		9.94	Si
SLD 15	13.95	13836.66	-17265	-12316	-10090	6.36	6.36	-6916	13883	24723	101952	95996	32436	126675		12.55	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-17411	0.52	739.46	2307.48	3497.05	2902.27	3.92	Si
SLV 12	-17424	0.52	739.46	2309.09	3499.02	2904.05	3.93	Si
SLV 15	-18640	0.52	739.46	2460.55	3685.22	3072.88	4.16	Si
SLV 16	-18659	0.52	739.46	2462.91	3688.14	3075.53	4.16	Si
SLV 7	-20038	0.52	739.46	2633.14	3898.81	3265.97	4.42	Si
SLV 8	-20051	0.52	739.46	2634.71	3900.77	3267.74	4.42	Si
SLV 13	-22324	0.52	739.46	2911.54	4248.01	3579.78	4.84	Si
SLV 14	-22343	0.52	739.46	2913.85	4250.93	3582.39	4.84	Si
SLV 3	-27398	0.52	739.46	3513.79	5016.19	4264.99	5.77	Si
SLV 4	-27418	0.52	739.46	3516.01	5019.08	4267.54	5.77	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-26146	-32866	-942	1.167	3459.8	0.936	18.10526	7.57858	Si
SLV 1	-26051	-32965	-942	1.17	3450.3	0.936	18.16078	7.57858	Si
SLV 4	-22817	-30208	586	1.313	3123.4	0.931	20.50539	7.57858	Si
SLV 3	-22722	-30307	586	1.318	3113.9	0.931	20.57663	7.57858	Si
SLV 6	-27079	-33153	-2632	1.081	3554.2	0.938	16.75788	5.5671	Si
SLV 5	-27015	-33220	-2632	1.083	3547.8	0.938	16.79131	5.5671	Si
SLV 10	-24563	-30728	-2552	1.172	3299.8	0.934	18.24166	5.5671	Si
SLV 9	-24499	-30794	-2552	1.175	3293.4	0.934	18.28135	5.5671	Si
SLV 14	-17759	-24780	-675	1.591	2614.2	0.921	25.11551	7.57858	Si
SLV 13	-17664	-24879	-676	1.597	2604.8	0.92	25.22267	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	22.819	SLU 40	Si
V_SLU	12.753	SLU 82	Si
PF_SLV	2.093	SLV 15	Si
V_SLV	5.79	SLV 13	Si
PFFP_SLV	3.925	SLV 11	Si
R_SLV	2.389	SLV 2	Si

Maschio 232

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.141	-11.143	1.141	L7	L8	0.676	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	11.45	116.03	-4424	-0.0000407	0.0004492	0.0035	0.6764	1210.06	1375.34	1375.34	11.85	No	Si
SLU 72	13.95	-57.44	-7184	-0.0000585	0.0004492	0.0035	0.6764	1675.3	2168.15	2168.15	37.75	No	Si
SLU 23	11.45	97.11	-3029	-0.0000287	0.0004492	0.0035	0.6764	890.2	998.2	998.2	10.28	No	Si
SLU 23	13.95	-53.93	-5175	-0.0000423	0.0004492	0.0035	0.6764	1358.74	1684.13	1684.13	31.23	No	Si
SLU 26	11.45	102.33	-3337	-0.0000314	0.0004492	0.0035	0.6764	965.9	1086.76	1086.76	10.62	No	Si
SLU 26	13.95	-54.67	-5741	-0.0000468	0.0004492	0.0035	0.6764	1459.88	1826.1	1826.1	33.4	No	Si
SLU 25	11.45	95.51	-3449	-0.0000318	0.0004492	0.0035	0.6764	992.5	1118.15	1118.15	11.71	No	Si
SLU 25	13.95	-46.29	-5932	-0.0000477	0.0004492	0.0035	0.6764	1491.81	1873.87	1873.87	40.48	No	Si
SLU 5	11.45	88.04	-3123	-0.0000288	0.0004492	0.0035	0.6764	913.63	1025.35	1025.35	11.65	No	Si
SLU 5	13.95	-45.84	-4771	-0.0000386	0.0004492	0.0035	0.6764	1280.8	1578.36	1578.36	34.43	No	Si
SLU 68	11.45	117.37	-4111	-0.0000383	0.0004492	0.0035	0.6764	1143.32	1300.27	1300.27	11.08	No	Si
SLU 68	13.95	-61.54	-6648	-0.0000545	0.0004492	0.0035	0.6764	1602.32	2044.88	2044.88	33.23	No	Si
SLU 2	11.45	82.83	-2814	-0.0000261	0.0004492	0.0035	0.6764	835.99	936.01	936.01	11.3	No	Si
SLU 2	13.95	-45.1	-4205	-0.0000341	0.0004492	0.0035	0.6764	1163.6	1428.49	1428.49	31.67	No	Si
SLU 44	11.45	97.87	-3588	-0.000033	0.0004492	0.0035	0.6764	1025.25	1157.41	1157.41	11.83	No	Si
SLU 44	13.95	-51.98	-5111	-0.0000416	0.0004492	0.0035	0.6764	1346.75	1668.04	1668.04	32.09	No	Si
SLU 30	11.45	100.99	-3650	-0.0000337	0.0004492	0.0035	0.6764	1039.71	1174.97	1174.97	11.63	No	Si
SLU 30	13.95	-50.57	-6278	-0.0000507	0.0004492	0.0035	0.6764	1547.08	1956.81	1956.81	38.7	No	Si
SLU 65	11.45	112.15	-3802	-0.0000356	0.0004492	0.0035	0.6764	1074.61	1217.15	1217.15	10.85	No	Si
SLU 65	13.95	-60.8	-6082	-0.0000499	0.0004492	0.0035	0.6764	1516.18	1910.12	1910.12	31.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	11.45	1212.12	-1711	-0.0142019	0.0006738	0.0035	0.5411		611.46	611.46	0.5		No
SLV 6	13.95	-907.94	-8516	-0.000128	0.0006738	0.0035	0.6764		2588.51	2588.51	2.85		Si
SLD 2	11.45	887.94	-2484	-0.0030976	0.0006738	0.0035	0.5411		851.9	851.9	0.96		No
SLD 2	13.95	-642.66	-5134	-0.0000816	0.0006738	0.0035	0.6764		1722.04	1722.04	2.68		Si
SLV 11	11.45	-1087.85	-3991	-0.0002201	0.0006738	0.0035	0.5411		1400.09	1400.09	1.29		Si
SLV 11	13.95	848.86	-376	-0.013253	0.0006738	0.0035	0.5411		181.13	181.13	0.21		No
SLV 12	11.45	-1080.18	-3970	-0.000217	0.0006738	0.0035	0.5411		1394.14	1394.14	1.29		Si
SLV 12	13.95	843.55	-373	-0.0131703	0.0006738	0.0035	0.5411		179.98	179.98	0.21		No
SLV 5	11.45	1204.46	-1732	-0.0139669	0.0006738	0.0035	0.5411		618.04	618.04	0.51		No
SLV 5	13.95	-902.62	-8519	-0.0001276	0.0006738	0.0035	0.6764		2589.33	2589.33	2.87		Si
SLV 8	11.45	-454.38	-3818	-0.0000582	0.0006738	0.0035	0.6764		1350.16	1350.16	2.97		Si
SLV 8	13.95	383.59	-303	-0.0046259	0.0006738	0.0035	0.5411		156.92	156.92	0.41		No
SLV 1	11.45	1349.43	-2297	-0.0141162	0.0006738	0.0035	0.5411		794.31	794.31	0.59		No
SLV 1	13.95	-985.92	-5564	-0.0001197	0.0006738	0.0035	0.6764		1839.2	1839.2	1.87		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	11.45	1360.81	-2266	-0.0144714	0.0006738	0.0035	0.5411		784.69	784.69	0.58		No
SLV 2	13.95	-993.81	-5559	-0.0001208	0.0006738	0.0035	0.6764		1837.79	1837.79	1.85		Si
SLV 7	11.45	-462.05	-3839	-0.0000589	0.0006738	0.0035	0.6764		1356.36	1356.36	2.94		Si
SLV 7	13.95	388.91	-306	-0.0047256	0.0006738	0.0035	0.5411		158.07	158.07	0.41		No
SLD 6	11.45	782.76	-2145	-0.0026887	0.0006738	0.0035	0.5411		747.27	747.27	0.95		No
SLD 6	13.95	-579.87	-6975	-0.0000918	0.0006738	0.0035	0.6764		2211.15	2211.15	3.81		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	11.45	105.94	-4537	-3237	382	0.6764	0.6764	-17090	10612	2010	101952	6806	3449	10255	No	26.87	Si
SLU 69	13.95	-46.64	-7360	-5250	384	0.6764	0.6764	-27724	10833	2129	101952	6806	3449	10255	No	26.7	Si
SLU 72	11.45	116.03	-4424	-3156	385	0.6764	0.6764	-16664	10555	1999	101952	6806	3449	10255	No	26.63	Si
SLU 72	13.95	-57.44	-7184	-5125	387	0.6764	0.6764	-27062	10833	2096	101952	6806	3449	10255	No	26.49	Si
SLU 80	11.45	86.61	-4304	-3070	392	0.6764	0.6764	-16211	10495	1988	101952	6806	3449	10255	No	26.19	Si
SLU 80	13.95	-36.51	-7317	-5220	384	0.6764	0.6764	-27561	10833	2121	101952	6806	3449	10255	No	26.74	Si
SLU 76	11.45	87.95	-3991	-2847	376	0.6764	0.6764	-15033	10338	1958	101952	6806	3449	10255	No	27.27	Si
SLU 76	13.95	-40.61	-6780	-4837	368	0.6764	0.6764	-25540	10833	2052	101952	6806	3449	10255	No	27.89	Si
SLU 70	11.45	115.76	-4531	-3232	393	0.6764	0.6764	-17068	10609	2009	101952	6806	3449	10255	No	26.13	Si
SLU 70	13.95	-53.91	-7404	-5282	395	0.6764	0.6764	-27891	10833	2138	101952	6806	3449	10255	No	25.97	Si
SLU 71	11.45	106.21	-4430	-3160	374	0.6764	0.6764	-16686	10558	2000	101952	6806	3449	10255	No	27.4	Si
SLU 71	13.95	-50.17	-7140	-5093	376	0.6764	0.6764	-26895	10833	2088	101952	6806	3449	10255	No	27.25	Si
SLU 79	11.45	76.79	-4309	-3074	381	0.6764	0.6764	-16233	10498	1988	101952	6806	3449	10255	No	26.94	Si
SLU 79	13.95	-29.25	-7272	-5188	373	0.6764	0.6764	-27393	10833	2113	101952	6806	3449	10255	No	27.52	Si
SLU 78	11.45	86.34	-4411	-3147	399	0.6764	0.6764	-16615	10549	1998	101952	6806	3449	10255	No	25.71	Si
SLU 78	13.95	-32.98	-7537	-5377	391	0.6764	0.6764	-28390	10833	2163	101952	6806	3449	10255	No	26.21	Si
SLU 77	11.45	76.52	-4417	-3151	388	0.6764	0.6764	-16637	10552	1998	101952	6806	3449	10255	No	26.42	Si
SLU 77	13.95	-25.72	-7492	-5345	380	0.6764	0.6764	-28223	10833	2155	101952	6806	3449	10255	No	26.96	Si
SLU 75	11.45	81.13	-4102	-2926	376	0.6764	0.6764	-15452	10394	1968	101952	6806	3449	10255	No	27.26	Si
SLU 75	13.95	-32.24	-6971	-4973	368	0.6764	0.6764	-26257	10833	2055	101952	6806	3449	10255	No	27.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	11.45	777.94	-2158	-1540	1036	0.5411	0	0	0	0	101952	8167	2760	10927		10.55	Si
SLD 5	13.95	-576.52	-6977	-4978	958	0.6764	0.6764	-26283	16250	3077	101952	10209	3449	13658		14.26	Si
SLV 1	11.45	1349.43	-2297	-1639	1450	0.5411	0	0	0	0	101952	8167	2760	10927		7.54	Si
SLV 1	13.95	-985.92	-5564	-3969	1047	0.6764	0.483	-29767	16250	2197	101952	10209	3449	13658		13.05	Si
SLV 12	11.45	-1080.18	-3970	-2832	-1037	0.5411	0.1983	0	0	0	101952	8167	2760	10927		10.54	Si
SLV 12	13.95	843.55	-373	-266	-918	0.5411	0	0	0	0	101952	8167	2760	10927		11.91	Si
SLV 6	11.45	1212.12	-1711	-1220	1521	0.5411	0	0	0	0	101952	8167	2760	10927		7.19	Si
SLV 6	13.95	-907.94	-8516	-6075	1398	0.6764	0.6764	-32077	16250	3077	101952	10209	3449	13658		9.77	Si
SLV 11	11.45	-1087.85	-3991	-2847	-1043	0.5411	0.1968	0	0	0	101952	8167	2760	10927		10.47	Si
SLV 11	13.95	848.86	-376	-268	-924	0.5411	0	0	0	0	101952	8167	2760	10927		11.82	Si
SLD 1	11.45	880.67	-2504	-1786	1007	0.5411	0	0	0	0	101952	8167	2760	10927		10.85	Si
SLD 1	13.95	-637.62	-5137	-3665	750	0.6764	0.6422	-19351	16250	2922	101952	10209	3449	13658		18.22	Si
SLV 5	11.45	1204.46	-1732	-1235	1514	0.5411	0	0	0	0	101952	8167	2760	10927		7.22	Si
SLV 5	13.95	-902.62	-8519	-6077	1392	0.6764	0.6764	-32090	16250	3077	101952	10209	3449	13658		9.81	Si
SLD 6	11.45	782.76	-2145	-1530	1040	0.5411	0	0	0	0	101952	8167	2760	10927		10.5	Si
SLD 6	13.95	-579.87	-6975	-4976	962	0.6764	0.6764	-26275	16250	3077	101952	10209	3449	13658		14.2	Si
SLD 2	11.45	887.94	-2484	-1772	1013	0.5411	0	0	0	0	101952	8167	2760	10927		10.78	Si
SLD 2	13.95	-642.66	-5134	-3662	756	0.6764	0.639	-19338	16250	2907	101952	10209	3449	13658		18.07	Si
SLV 2	11.45	1360.81	-2266	-1617	1459	0.5411	0	0	0	0	101952	8167	2760	10927		7.49	Si
SLV 2	13.95	-993.81	-5559	-3965	1056	0.6764	0.4782	-30038	16250	2176	101952	10209	3449	13658		12.93	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-1470	0.52	78.64	197.13	283.66	240.4	3.06	Si
SLV 7	-1479	0.52	78.64	198.28	285.05	241.67	3.07	Si
SLV 12	-1528	0.52	78.64	204.52	292.6	248.56	3.16	Si
SLV 11	-1537	0.52	78.64	205.67	293.99	249.83	3.18	Si
SLV 4	-2761	0.52	78.64	355.82	481.84	418.83	5.33	Si
SLV 3	-2775	0.52	78.64	357.39	483.87	420.63	5.35	Si
SLV 16	-2954	0.52	78.64	378.34	511.15	444.74	5.66	Si
SLV 15	-2967	0.52	78.64	379.88	513.18	446.53	5.68	Si
SLV 2	-3927	0.52	78.64	487.61	658.39	573	7.29	Si
SLV 1	-3941	0.52	78.64	489.05	660.4	574.72	7.31	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-6153	-1883	-217	0.584	710.4	0.964	8.79332	5.5671	Si
SLV 10	-6149	-1862	-217	0.584	710.1	0.964	8.79843	5.5671	Si
SLV 13	-4510	-2803	-69	0.788	543.3	0.955	12.00023	7.57858	Si
SLV 14	-4504	-2772	-69	0.789	542.8	0.955	12.01398	7.57858	Si
SLV 5	-5861	-1732	-220	0.608	680.8	0.963	9.16967	5.5671	Si
SLV 6	-5858	-1711	-220	0.608	680.4	0.963	9.17524	5.5671	Si
SLV 1	-3538	-2297	-80	0.963	444.7	0.946	14.79697	7.57858	Si
SLV 2	-3533	-2266	-79	0.964	444.1	0.946	14.81803	7.57858	Si
SLV 15	-2809	-3435	54	1.171	370.8	0.937	18.16336	7.57858	Si
SLV 16	-2804	-3404	54	1.173	370.3	0.937	18.19205	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.279	SLU 23	Si
V_SLU	25.707	SLU 78	Si
PF_SLV	0.213	SLV 12	No
V_SLV	7.186	SLV 6	Si
PFFP_SLV	3.057	SLV 8	Si
R_SLV	1.58	SLV 9	Si

Maschio 233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.443	1.141	-9.386	1.141	L7	L8	1.944	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	11.45	4364.74	-13594	-0.0000718	0.0004492	0.0035	1.9436	10510.47	11881.54	11881.54	2.72	No	Si
SLU 83	13.95	-1867.52	-7373	-0.0000337	0.0004492	0.0035	1.9436	6370.75	8718.83	8718.83	4.67	No	Si
SLU 40	11.45	3744.92	-9878	-0.0000565	0.0004492	0.0035	1.9436	8173.47	9123.95	9123.95	2.44	No	Si
SLU 40	13.95	-1668.37	-5046	-0.000026	0.0004492	0.0035	1.9436	4531.96	6731.02	6731.02	4.03	No	Si
SLU 84	11.45	4372.76	-13561	-0.0000717	0.0004492	0.0035	1.9436	10490.97	11857.9	11857.9	2.71	No	Si
SLU 84	13.95	-1886.18	-7336	-0.0000338	0.0004492	0.0035	1.9436	6342.65	8687.53	8687.53	4.61	No	Si
SLU 82	11.45	4248.6	-12445	-0.0000676	0.0004492	0.0035	1.9436	9830.86	11080.42	11080.42	2.61	No	Si
SLU 82	13.95	-1863.46	-6413	-0.0000311	0.0004492	0.0035	1.9436	5631.58	7909.79	7909.79	4.24	No	Si
SLU 81	11.45	4240.58	-12479	-0.0000676	0.0004492	0.0035	1.9436	9851.47	11104.07	11104.07	2.62	No	Si
SLU 81	13.95	-1844.81	-6451	-0.0000311	0.0004492	0.0035	1.9436	5660.68	7941.09	7941.09	4.3	No	Si
SLU 31	11.45	3586.33	-10024	-0.0000553	0.0004492	0.0035	1.9436	8273.3	9243.03	9243.03	2.58	No	Si
SLU 31	13.95	-1609.06	-5192	-0.0000259	0.0004492	0.0035	1.9436	4651.6	6860.16	6860.16	4.26	No	Si
SLU 42	11.45	3869.07	-10993	-0.0000603	0.0004492	0.0035	1.9436	8917.28	10020.49	10020.49	2.59	No	Si
SLU 42	13.95	-1691.09	-5969	-0.0000286	0.0004492	0.0035	1.9436	5279.89	7534.85	7534.85	4.46	No	Si
SLU 39	11.45	3736.9	-9912	-0.0000565	0.0004492	0.0035	1.9436	8196.63	9151.51	9151.51	2.45	No	Si
SLU 39	13.95	-1649.72	-5083	-0.0000259	0.0004492	0.0035	1.9436	4562.54	6763.97	6763.97	4.1	No	Si
SLU 34	11.45	3710.48	-11140	-0.0000592	0.0004492	0.0035	1.9436	9012.33	10137.27	10137.27	2.73	No	Si
SLU 34	13.95	-1631.77	-6114	-0.0000285	0.0004492	0.0035	1.9436	5395.6	7657.54	7657.54	4.69	No	Si
SLU 41	11.45	3861.05	-11027	-0.0000603	0.0004492	0.0035	1.9436	8939.33	10047.52	10047.52	2.6	No	Si
SLU 41	13.95	-1672.43	-6006	-0.0000285	0.0004492	0.0035	1.9436	5309.47	7566.15	7566.15	4.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	11.45	5265.02	-7823	-0.000089	0.0006738	0.0035	1.9436		7553.84	7553.84	1.43		Si
SLD 2	13.95	-3656.38	-2343	-0.0003671	0.0006738	0.0035	1.5549		4328.06	4328.06	1.18		Si
SLV 3	11.45	6446.59	-8325	-0.0001486	0.0006738	0.0035	1.9436		7991.77	7991.77	1.24		Si
SLV 3	13.95	-4218.65	-2378	-0.0004619	0.0006738	0.0035	1.5549		4360.52	4360.52	1.03		Si
SLV 5	11.45	4529.97	-6642	-0.0000774	0.0006738	0.0035	1.9436		6517.61	6517.61	1.44		Si
SLV 5	13.95	-3718.1	-1441	-0.0004472	0.0006738	0.0035	1.5549		3494.47	3494.47	0.94		No
SLD 3	11.45	5124.24	-8807	-0.0000762	0.0006738	0.0035	1.9436		8405.94	8405.94	1.64		Si
SLD 3	13.95	-3136.09	-3368	-0.0001321	0.0006738	0.0035	1.5549		5267.65	5267.65	1.68		Si
SLV 2	11.45	6673.64	-6743	-0.0021116	0.0006738	0.0035	1.9436		6607.38	6607.38	0.99		No
SLV 2	13.95	-5055.67	-730	-0.0007225	0.0006738	0.0035	1.5549		2832.65	2832.65	0.56		No
SLV 1	11.45	6786.64	-6849	-0.002235	0.0006738	0.0035	1.9436		6701.05	6701.05	0.99		No
SLV 1	13.95	-5099.82	-780	-0.000729	0.0006738	0.0035	1.5549		2879.52	2879.52	0.56		No
SLD 1	11.45	5337.22	-7890	-0.0000909	0.0006738	0.0035	1.9436		7612.71	7612.71	1.43		Si
SLD 1	13.95	-3684.59	-2374	-0.0003689	0.0006738	0.0035	1.5549		4357.49	4357.49	1.18		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	11.45	6333.58	-8219	-0.0001435	0.0006738	0.0035	1.9436		7899.82	7899.82	1.25		Si
SLV 4	13.95	-4174.5	-2328	-0.0004585	0.0006738	0.0035	1.5549		4314.46	4314.46	1.03		Si
SLV 6	11.45	4453.89	-6571	-0.0000754	0.0006738	0.0035	1.9436		6454.54	6454.54	1.45		Si
SLV 6	13.95	-3688.38	-1407	-0.0004444	0.0006738	0.0035	1.5549		3463.17	3463.17	0.94		No
SLD 4	11.45	5052.04	-8740	-0.0000748	0.0006738	0.0035	1.9436		8348.04	8348.04	1.65		Si
SLD 4	13.95	-3107.88	-3336	-0.0001311	0.0006738	0.0035	1.5549		5238.51	5238.51	1.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	11.45	4332.98	-14845	-10590	3743	1.9436	1.9436	-19460	10833	5896	101952	19558	9913	29470	No	7.87	Si
SLU 80	13.95	-1837.14	-8429	-6013	2410	1.9436	1.9436	-11048	9806	5337	101952	19558	9913	29470	No	12.23	Si
SLU 79	11.45	4324.96	-14879	-10614	3731	1.9436	1.9436	-19504	10833	5896	101952	19558	9913	29470	No	7.9	Si
SLU 79	13.95	-1818.48	-8466	-6039	2397	1.9436	1.9436	-11097	9813	5340	101952	19558	9913	29470	No	12.29	Si
SLU 84	11.45	4372.76	-13561	-9674	3703	1.9436	1.9436	-17776	10703	5825	101952	19558	9913	29470	No	7.96	Si
SLU 84	13.95	-1886.18	-7336	-5233	2396	1.9436	1.9436	-9616	9615	5233	101952	19558	9913	29470	No	12.3	Si
SLU 70	11.45	3997.22	-15700	-11200	3575	1.9436	1.9436	-20580	10833	5896	101952	19558	9913	29470	No	8.24	Si
SLU 70	13.95	-1693.17	-9217	-6575	2242	1.9436	1.9436	-12082	9944	5412	101952	19558	9913	29470	No	13.14	Si
SLU 83	11.45	4364.74	-13594	-9698	3691	1.9436	1.9436	-17820	10709	5828	101952	19558	9913	29470	No	7.98	Si
SLU 83	13.95	-1867.52	-7373	-5260	2384	1.9436	1.9436	-9665	9622	5236	101952	19558	9913	29470	No	12.36	Si
SLU 75	11.45	4255.58	-14190	-10123	3663	1.9436	1.9436	-18601	10813	5885	101952	19558	9913	29470	No	8.05	Si
SLU 75	13.95	-1837.87	-7898	-5634	2343	1.9436	1.9436	-10352	9714	5286	101952	19558	9913	29470	No	12.58	Si
SLU 76	11.45	4214.17	-13707	-9778	3615	1.9436	1.9436	-17968	10729	5839	101952	19558	9913	29470	No	8.15	Si
SLU 76	13.95	-1826.86	-7481	-5337	2318	1.9436	1.9436	-9807	9641	5247	101952	19558	9913	29470	No	12.71	Si
SLU 74	11.45	4247.56	-14224	-10147	3651	1.9436	1.9436	-18645	10819	5888	101952	19558	9913	29470	No	8.07	Si
SLU 74	13.95	-1819.22	-7935	-5660	2331	1.9436	1.9436	-10401	9720	5290	101952	19558	9913	29470	No	12.64	Si
SLU 78	11.45	4379.73	-15305	-10919	3800	1.9436	1.9436	-20063	10833	5896	101952	19558	9913	29470	No	7.76	Si
SLU 78	13.95	-1860.58	-8820	-6292	2443	1.9436	1.9436	-11562	9875	5374	101952	19558	9913	29470	No	12.06	Si
SLU 77	11.45	4371.71	-15339	-10943	3787	1.9436	1.9436	-20107	10833	5896	101952	19558	9913	29470	No	7.78	Si
SLU 77	13.95	-1841.93	-8857	-6319	2431	1.9436	1.9436	-11610	9881	5378	101952	19558	9913	29470	No	12.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	11.45	6333.58	-8219	-5863	5943	1.9436	0.6037	-35283	16250	4707	101952	29337	9913	39249		6.6	Si
SLV 4	13.95	-4174.5	-2328	-1661	3491	1.5549	0	0	0	0	101952	23469	7930	31400		8.99	Si
SLV 6	11.45	4453.89	-6571	-4687	4508	1.9436	0.8819	-8613	14223	4394	101952	29337	9913	39249		8.71	Si
SLV 6	13.95	-3688.38	-1407	-1004	3193	1.5549	0	0	0	0	101952	23469	7930	31400		9.84	Si
SLV 1	11.45	6786.64	-6849	-4886	6606	1.9436	0	-162921	16250	4447	101952	29337	9913	39249		5.94	Si
SLV 1	13.95	-5099.82	-780	-556	4141	1.5549	0	0	0	0	101952	23469	7930	31400		7.58	Si
SLV 5	11.45	4529.97	-6642	-4738	4568	1.9436	0.8693	-8706	14241	4407	101952	29337	9913	39249		8.59	Si
SLV 5	13.95	-3718.1	-1441	-1028	3221	1.5549	0	0	0	0	101952	23469	7930	31400		9.75	Si
SLV 2	11.45	6673.64	-6743	-4810	6516	1.9436	0	-161704	16250	4427	101952	29337	9913	39249		6.02	Si
SLV 2	13.95	-5055.67	-730	-521	4099	1.5549	0	0	0	0	101952	23469	7930	31400		7.66	Si
SLV 3	11.45	6446.59	-8325	-5939	6033	1.9436	0.5923	-36447	16250	4727	101952	29337	9913	39249		6.51	Si
SLV 3	13.95	-4218.65	-2378	-1696	3534	1.5549	0	0	0	0	101952	23469	7930	31400		8.89	Si
SLD 2	11.45	5265.02	-7823	-5581	5032	1.9436	0.8963	-10254	14551	4632	101952	29337	9913	39249		7.8	Si
SLD 2	13.95	-3656.38	-2343	-1671	3155	1.5549	0	0	0	0	101952	23469	7930	31400		9.95	Si
SLD 4	11.45	5052.04	-8740	-6235	4676	1.9436	1.1813	-11456	14791	4893	101952	29337	9913	39249		8.39	Si
SLD 4	13.95	-3107.88	-3336	-2380	2777	1.5549	0.121	0	0	0	101952	23469	7930	31400		11.31	Si
SLD 3	11.45	5124.24	-8807	-6283	4734	1.9436	1.17	-11545	14809	4852	101952	29337	9913	39249		8.29	Si
SLD 3	13.95	-3136.09	-3368	-2403	2804	1.5549	0.1224	0	0	0	101952	23469	7930	31400		11.2	Si
SLD 1	11.45	5337.22	-7890	-5629	5090	1.9436	0.8862	-10343	14569	4645	101952	29337	9913	39249		7.71	Si
SLD 1	13.95	-3684.59	-2374	-1694	3182	1.5549	0	0	0	0	101952	23469	7930	31400		9.87	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-5040	0.52	225.98	670	1022.77	846.38	3.75	Si
SLV 5	-5111	0.52	225.98	678.94	1033.67	856.31	3.79	Si
SLV 2	-5162	0.52	225.98	685.27	1041.41	863.34	3.82	Si
SLV 1	-5268	0.52	225.98	698.51	1057.61	878.06	3.89	Si
SLV 10	-6368	0.52	225.98	834.55	1226.38	1030.46	4.56	Si
SLV 9	-6439	0.52	225.98	843.23	1237.28	1040.25	4.6	Si
SLV 4	-6608	0.52	225.98	863.84	1263.27	1063.56	4.71	Si
SLV 3	-6714	0.52	225.98	876.65	1279.45	1078.05	4.77	Si
SLV 14	-9586	0.52	225.98	1213.04	1715.67	1464.35	6.48	Si
SLV 13	-9691	0.52	225.98	1224.97	1731.55	1478.26	6.54	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-8411	-12704	130	1.135	1099.9	0.939	17.57746	7.57858	Si
SLV 16	-8331	-12599	130	1.144	1091.8	0.938	17.72133	7.57858	Si
SLV 13	-6964	-11228	-277	1.303	953.6	0.931	20.34852	7.57858	Si
SLV 14	-6884	-11122	-277	1.315	945.5	0.93	20.5449	7.57858	Si
SLV 11	-8505	-12876	647	1.073	1109.4	0.939	16.61458	5.5671	Si
SLV 12	-8451	-12805	647	1.079	1103.9	0.939	16.70481	5.5671	Si
SLV 7	-7149	-11563	683	1.23	972.4	0.932	19.17622	5.5671	Si
SLV 8	-7096	-11492	683	1.237	966.9	0.932	19.29771	5.5671	Si
SLV 3	-3893	-8325	251	2.019	645.8	0.908	32.32811	7.57858	Si
SLV 4	-3814	-8219	251	2.049	637.9	0.907	32.82647	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.436	SLU 40	Si
V_SLU	7.756	SLU 78	Si
PF_SLV	0.56	SLV 2	No
V_SLV	5.942	SLV 1	Si
PFFP_SLV	3.745	SLV 6	Si
R_SLV	2.319	SLV 15	Si

Maschio 234

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.893	1.141	-6.443	1.141	L7	L8	1.55	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	11.45	1386.48	-6790	-0.0000393	0.0004492	0.0035	1.55	4588.4	5116.93	5116.93	3.69	No	Si
SLU 82	13.55	-1091.29	-6825	-0.0000357	0.0004492	0.0035	1.55	4608.56	6149.75	6149.75	5.64	No	Si
SLU 31	11.45	1131.87	-5398	-0.0000314	0.0004492	0.0035	1.55	3757.88	4181.91	4181.91	3.69	No	Si
SLU 31	13.55	-901.88	-5662	-0.0000294	0.0004492	0.0035	1.55	3919.33	5366.81	5366.81	5.95	No	Si
SLU 19	11.45	1023.45	-4882	-0.0000283	0.0004492	0.0035	1.55	3435.29	3828.36	3828.36	3.74	No	Si
SLU 19	13.55	-798.51	-4769	-0.0000251	0.0004492	0.0035	1.55	3363.81	4765.66	4765.66	5.97	No	Si
SLU 40	11.45	1142.24	-5126	-0.0000306	0.0004492	0.0035	1.55	3588.75	3995.49	3995.49	3.5	No	Si
SLU 40	13.55	-921.62	-5564	-0.0000293	0.0004492	0.0035	1.55	3859.57	5300.92	5300.92	5.75	No	Si
SLU 61	11.45	1267.69	-6546	-0.000037	0.0004492	0.0035	1.55	4446.8	4955.27	4955.27	3.91	No	Si
SLU 61	13.55	-968.18	-6030	-0.0000315	0.0004492	0.0035	1.55	4142.09	5615.23	5615.23	5.8	No	Si
SLU 60	11.45	1255.6	-6557	-0.0000369	0.0004492	0.0035	1.55	4453.15	4962.47	4962.47	3.95	No	Si
SLU 60	13.55	-959.97	-6035	-0.0000314	0.0004492	0.0035	1.55	4145.08	5618.6	5618.6	5.85	No	Si
SLU 39	11.45	1130.14	-5137	-0.0000305	0.0004492	0.0035	1.55	3595.55	4002.94	4002.94	3.54	No	Si
SLU 39	13.55	-913.41	-5569	-0.0000292	0.0004492	0.0035	1.55	3862.63	5304.29	5304.29	5.81	No	Si
SLU 18	11.45	1011.36	-4893	-0.0000282	0.0004492	0.0035	1.55	3442.17	3835.81	3835.81	3.79	No	Si
SLU 18	13.55	-790.3	-4774	-0.000025	0.0004492	0.0035	1.55	3366.99	4769.03	4769.03	6.03	No	Si
SLU 81	11.45	1374.38	-6801	-0.0000392	0.0004492	0.0035	1.55	4594.67	5124.13	5124.13	3.73	No	Si
SLU 81	13.55	-1083.08	-6830	-0.0000356	0.0004492	0.0035	1.55	4611.44	6152.94	6152.94	5.68	No	Si
SLU 73	11.45	1376.11	-7062	-0.0000401	0.0004492	0.0035	1.55	4744.28	5297.25	5297.25	3.85	No	Si
SLU 73	13.55	-1071.55	-6923	-0.0000358	0.0004492	0.0035	1.55	4664.71	6212.23	6212.23	5.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	11.45	2910.2	-4674	-0.0001054	0.0006738	0.0035	1.55		3734.41	3734.41	1.28		Si
SLV 3	13.55	-2745.02	-3855	-0.0001576	0.0006738	0.0035	1.24		4161.33	4161.33	1.52		Si
SLV 5	11.45	2584.03	-4659	-0.0000712	0.0006738	0.0035	1.55		3723.6	3723.6	1.44		Si
SLV 5	13.55	-2027.66	-4056	-0.0000489	0.0006738	0.0035	1.24		4305.49	4305.49	2.12		Si
SLV 2	11.45	3408.55	-4245	-0.0015704	0.0006738	0.0035	1.24		3428.14	3428.14	1.01		Si
SLV 2	13.55	-3036.07	-3415	-0.000353	0.0006738	0.0035	1.24		3844.6	3844.6	1.27		Si
SLV 6	11.45	2547.61	-4646	-0.0000689	0.0006738	0.0035	1.55		3714.32	3714.32	1.46		Si
SLV 6	13.55	-1979.05	-4053	-0.0000468	0.0006738	0.0035	1.24		4303.16	4303.16	2.17		Si
SLV 4	11.45	2856.12	-4654	-0.0000987	0.0006738	0.0035	1.55		3720.62	3720.62	1.3		Si
SLV 4	13.55	-2672.82	-3850	-0.0001373	0.0006738	0.0035	1.24		4157.82	4157.82	1.56		Si
SLD 4	11.45	2181.54	-5028	-0.000049	0.0006738	0.0035	1.55		3985.74	3985.74	1.83		Si
SLD 4	13.55	-1977.77	-4354	-0.0000449	0.0006738	0.0035	1.24		4516.82	4516.82	2.28		Si
SLD 1	11.45	2559.73	-4786	-0.0000669	0.0006738	0.0035	1.55		3814.85	3814.85	1.49		Si
SLD 1	13.55	-2250.09	-4086	-0.0000605	0.0006738	0.0035	1.24		4326.69	4326.69	1.92		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 2	11.45	2525.18	-4774	-0.0000651	0.0006738	0.0035	1.55		3806.04	3806.04	1.51		Si
SLD 2	13.55	-2203.96	-4083	-0.0000576	0.0006738	0.0035	1.24		4324.47	4324.47	1.96		Si
SLD 3	11.45	2216.1	-5041	-0.00005	0.0006738	0.0035	1.55		3994.43	3994.43	1.8		Si
SLD 3	13.55	-2023.9	-4357	-0.0000465	0.0006738	0.0035	1.24		4519.04	4519.04	2.23		Si
SLV 1	11.45	3462.63	-4265	-0.0018135	0.0006738	0.0035	1.24		3441.93	3441.93	0.99		No
SLV 1	13.55	-3108.27	-3420	-0.0003773	0.0006738	0.0035	1.24		3848.12	3848.12	1.24		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	11.45	1318.04	-8148	-5813	1400	1.55	1.55	-13394	10119	4392	101952	15597	7905	23502	No	16.79	Si
SLU 74	13.55	-980.17	-8331	-5943	1400	1.55	1.55	-13695	10159	4409	101952	15597	7905	23502	No	16.79	Si
SLU 76	11.45	1316.52	-7841	-5594	1426	1.55	1.55	-12889	10052	4362	101952	15597	7905	23502	No	16.48	Si
SLU 76	13.55	-968.09	-7893	-5631	1426	1.55	1.55	-12974	10063	4367	101952	15597	7905	23502	No	16.48	Si
SLU 84	11.45	1326.9	-7569	-5400	1432	1.55	1.55	-12442	9992	4337	101952	15597	7905	23502	No	16.42	Si
SLU 84	13.55	-987.83	-7795	-5561	1432	1.55	1.55	-12813	10042	4358	101952	15597	7905	23502	No	16.41	Si
SLU 83	11.45	1314.8	-7580	-5407	1409	1.55	1.55	-12460	9995	4338	101952	15597	7905	23502	No	16.68	Si
SLU 83	13.55	-979.62	-7800	-5564	1409	1.55	1.55	-12821	10043	4359	101952	15597	7905	23502	No	16.68	Si
SLU 78	11.45	1270.55	-8917	-6361	1387	1.55	1.55	-14656	10288	4465	101952	15597	7905	23502	No	16.95	Si
SLU 78	13.55	-884.93	-9297	-6632	1387	1.55	1.55	-15281	10371	4501	101952	15597	7905	23502	No	16.95	Si
SLU 73	11.45	1376.11	-7062	-5038	1462	1.55	1.55	-11608	9881	4288	101952	15597	7905	23502	No	16.08	Si
SLU 73	13.55	-1071.55	-6923	-4939	1462	1.55	1.55	-11379	9851	4275	101952	15597	7905	23502	No	16.08	Si
SLU 75	11.45	1330.14	-8137	-5805	1422	1.55	1.55	-13376	10117	4391	101952	15597	7905	23502	No	16.53	Si
SLU 75	13.55	-988.38	-8326	-5940	1422	1.55	1.55	-13686	10158	4409	101952	15597	7905	23502	No	16.52	Si
SLU 81	11.45	1374.38	-6801	-4852	1444	1.55	1.55	-11179	9824	4264	101952	15597	7905	23502	No	16.27	Si
SLU 81	13.55	-1083.08	-6830	-4872	1445	1.55	1.55	-11227	9830	4266	101952	15597	7905	23502	No	16.27	Si
SLU 82	11.45	1386.48	-6790	-4844	1467	1.55	1.55	-11161	9821	4262	101952	15597	7905	23502	No	16.02	Si
SLU 82	13.55	-1091.29	-6825	-4869	1467	1.55	1.55	-11218	9829	4266	101952	15597	7905	23502	No	16.02	Si
SLU 65	11.45	1333.09	-7714	-5503	1414	1.55	1.55	-12680	10024	4350	101952	15597	7905	23502	No	16.62	Si
SLU 65	13.55	-1012.72	-7159	-5107	1414	1.55	1.55	-11767	9902	4298	101952	15597	7905	23502	No	16.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	11.45	1992.66	-5048	-3601	2860	1.55	1.1407	-8297	14159	4522	101952	23395	7905	31300		10.95	Si
SLD 5	13.55	-1557.22	-4505	-3214	2741	1.55	1.288	-8946	14289	5153	101952	23395	7905	31300		11.42	Si
SLV 1	11.45	3462.63	-4265	-3042	4404	1.24	0	0	0	0	101952	18716	6324	25040		5.69	Si
SLV 1	13.55	-3108.27	-3420	-2439	3844	1.24	0	0	0	0	101952	18716	6324	25040		6.51	Si
SLV 5	11.45	2584.03	-4659	-3323	3947	1.55	0.6609	-7657	14031	3393	101952	23395	7905	31300		7.93	Si
SLV 5	13.55	-2027.66	-4056	-2893	3763	1.24	0.8252	0	0	0	101952	18716	6324	25040		6.65	Si
SLV 6	11.45	2547.61	-4646	-3314	3857	1.55	0.6798	-7636	14027	3391	101952	23395	7905	31300		8.12	Si
SLV 6	13.55	-1979.05	-4053	-2891	3673	1.24	0.86	0	0	0	101952	18716	6324	25040		6.82	Si
SLV 4	11.45	2856.12	-4654	-3320	3037	1.55	0.4841	-7651	14030	3392	101952	23395	7905	31300		10.31	Si
SLV 4	13.55	-2672.82	-3850	-2747	2487	1.24	0.2424	0	0	0	101952	18716	6324	25040		10.07	Si
SLD 2	11.45	2525.18	-4774	-3405	3087	1.55	0.7381	-7847	14069	3415	101952	23395	7905	31300		10.14	Si
SLD 2	13.55	-2203.96	-4083	-2913	2726	1.24	0.7055	0	0	0	101952	18716	6324	25040		9.18	Si
SLD 6	11.45	1969.75	-5039	-3595	2803	1.55	1.1524	-8283	14157	4568	101952	23395	7905	31300		11.17	Si
SLD 6	13.55	-1526.64	-4503	-3212	2684	1.55	1.3079	-8805	14261	5223	101952	23395	7905	31300		11.66	Si
SLV 2	11.45	3408.55	-4245	-3029	4270	1.24	0	0	0	0	101952	18716	6324	25040		5.86	Si
SLV 2	13.55	-3036.07	-3415	-2436	3710	1.24	0	0	0	0	101952	18716	6324	25040		6.75	Si
SLV 3	11.45	2910.2	-4674	-3334	3171	1.55	0.4569	-26382	16250	3396	101952	23395	7905	31300		9.87	Si
SLV 3	13.55	-2745.02	-3855	-2750	2622	1.24	0.1889	0	0	0	101952	18716	6324	25040		9.55	Si
SLD 1	11.45	2559.73	-4786	-3414	3172	1.55	0.7205	-7867	14073	3418	101952	23395	7905	31300		9.87	Si
SLD 1	13.55	-2250.09	-4086	-2915	2812	1.24	0.6729	0	0	0	101952	18716	6324	25040		8.9	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-3683	0.52	180.21	491.7	760.22	625.96	3.47	Si
SLV 1	-3695	0.52	180.21	493.24	762.1	627.67	3.48	Si
SLV 4	-4096	0.52	180.21	543.95	823.87	683.91	3.79	Si
SLV 3	-4108	0.52	180.21	545.47	825.73	685.6	3.8	Si
SLV 6	-4226	0.52	180.21	560.22	843.8	702.01	3.9	Si
SLV 5	-4234	0.52	180.21	561.24	845.05	703.15	3.9	Si
SLV 10	-5104	0.52	180.21	668.7	978.44	823.57	4.57	Si
SLV 9	-5112	0.52	180.21	669.69	979.69	824.69	4.58	Si
SLV 8	-5605	0.52	180.21	729.4	1055.19	892.3	4.95	Si
SLV 7	-5613	0.52	180.21	730.38	1056.43	893.41	4.96	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-5932	-7151	203	1.239	798.7	0.934	19.29262	7.57858	Si
SLV 15	-5894	-7171	204	1.246	794.8	0.933	19.39698	7.57858	Si
SLV 14	-5519	-6743	-169	1.317	757	0.931	20.574	7.57858	Si
SLV 13	-5480	-6762	-168	1.325	753.1	0.93	20.69649	7.57858	Si
SLV 12	-5415	-6758	624	1.269	746.5	0.93	19.83315	5.5671	Si
SLV 11	-5389	-6771	624	1.274	743.9	0.93	19.9111	5.5671	Si
SLV 8	-4564	-6009	612	1.451	660.8	0.923	22.84747	5.5671	Si
SLV 7	-4538	-6022	613	1.457	658.2	0.923	22.9514	5.5671	Si
SLV 4	-3095	-4654	165	2.032	514.1	0.908	32.53167	7.57858	Si
SLV 3	-3057	-4674	165	2.049	510.2	0.907	32.831	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.498	SLU 40	Si
V_SLU	16.017	SLU 82	Si
PF_SLV	0.994	SLV 1	No
V_SLV	5.686	SLV 1	Si
PFFP_SLV	3.473	SLV 2	Si
R_SLV	2.546	SLV 16	Si

Maschio 235

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.141	-4.093	1.141	L7	L8	3.97	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 27	11.45	2085.21	-11486	-0.0000182	0.0004492	0.0035	3.97	20870.92	23108.74	23108.74	11.08	No	Si
SLU 27	13.55	2155.61	-8646	-0.0000147	0.0004492	0.0035	3.97	16068.98	17981.53	17981.53	8.34	No	Si
SLU 30	11.45	1888.61	-10646	-0.0000167	0.0004492	0.0035	3.97	19475.21	21600.76	21600.76	11.44	No	Si
SLU 30	13.55	1853.17	-7566	-0.0000128	0.0004492	0.0035	3.97	14181.98	16005.49	16005.49	8.64	No	Si
SLU 43	11.45	2639.49	-11743	-0.0000196	0.0004492	0.0035	3.97	21294.52	23564.44	23564.44	8.93	No	Si
SLU 43	13.55	724.88	-6461	-0.0000093	0.0004492	0.0035	3.97	12215.18	13961.63	13961.63	19.26	No	Si
SLU 9	11.45	1970.46	-10296	-0.0000165	0.0004492	0.0035	3.97	18888.12	20971.2	20971.2	10.64	No	Si
SLU 9	13.55	1563.59	-6412	-0.0000108	0.0004492	0.0035	3.97	12126.07	13869.35	13869.35	8.87	No	Si
SLU 6	11.45	2167.06	-11136	-0.0000179	0.0004492	0.0035	3.97	20292.41	22483.54	22483.54	10.38	No	Si
SLU 6	13.55	1866.02	-7491	-0.0000127	0.0004492	0.0035	3.97	14049.5	15868.08	15868.08	8.5	No	Si
SLU 8	11.45	1965.78	-10305	-0.0000165	0.0004492	0.0035	3.97	18903.36	20987.49	20987.49	10.68	No	Si
SLU 8	13.55	1579.47	-6421	-0.0000109	0.0004492	0.0035	3.97	12142.31	13886.17	13886.17	8.79	No	Si
SLU 44	11.45	2647.31	-11728	-0.0000196	0.0004492	0.0035	3.97	21269.76	23537.75	23537.75	8.89	No	Si
SLU 44	13.55	698.41	-6446	-0.0000092	0.0004492	0.0035	3.97	12188.12	13933.6	13933.6	19.95	No	Si
SLU 29	11.45	1883.93	-10655	-0.0000167	0.0004492	0.0035	3.97	19490.35	21617.05	21617.05	11.47	No	Si
SLU 29	13.55	1869.05	-7575	-0.0000128	0.0004492	0.0035	3.97	14197.92	16022.04	16022.04	8.57	No	Si
SLU 7	11.45	2171.75	-11127	-0.0000179	0.0004492	0.0035	3.97	20277.4	22467.25	22467.25	10.35	No	Si
SLU 7	13.55	1850.14	-7482	-0.0000127	0.0004492	0.0035	3.97	14033.53	15851.54	15851.54	8.57	No	Si
SLU 28	11.45	2089.9	-11477	-0.0000182	0.0004492	0.0035	3.97	20856	23092.72	23092.72	11.05	No	Si
SLU 28	13.55	2139.73	-8636	-0.0000147	0.0004492	0.0035	3.97	16053.32	17964.98	17964.98	8.4	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	11.45	1829.43	-10315	-0.0000161	0.0006738	0.0035	3.97		21257.59	21257.59	11.62		Si
SLD 16	13.55	3145.35	-6908	-0.0000144	0.0006738	0.0035	3.97		14913.59	14913.59	4.74		Si
SLV 2	11.45	1870.7	-6563	-0.0000115	0.0006738	0.0035	3.97		14266.95	14266.95	7.63		Si
SLV 2	13.55	-3217.88	-3162	-0.0000106	0.0006738	0.0035	3.97		15380.38	15380.38	4.78		Si
SLV 13	11.45	2158.88	-11007	-0.0000176	0.0006738	0.0035	3.97		22532.93	22532.93	10.44		Si
SLV 13	13.55	3672.49	-7311	-0.0000158	0.0006738	0.0035	3.97		15670.94	15670.94	4.27		Si
SLV 15	11.45	1876.85	-11203	-0.0000173	0.0006738	0.0035	3.97		22889.96	22889.96	12.2		Si
SLV 15	13.55	4486.48	-7743	-0.0000179	0.0006738	0.0035	3.97		16482.24	16482.24	3.67		Si
SLD 15	11.45	1908.01	-10346	-0.0000163	0.0006738	0.0035	3.97		21316.34	21316.34	11.17		Si
SLD 15	13.55	3062.62	-6884	-0.0000142	0.0006738	0.0035	3.97		14868.69	14868.69	4.85		Si
SLV 1	11.45	1993.69	-6613	-0.0000118	0.0006738	0.0035	3.97		14360.28	14360.28	7.2		Si
SLV 1	13.55	-3347.38	-3125	-0.0000111	0.0006738	0.0035	3.97		15309.46	15309.46	4.57		Si
SLV 16	11.45	1753.86	-11153	-0.000017	0.0006738	0.0035	3.97		22799.37	22799.37	13		Si
SLV 16	13.55	4615.98	-7780	-0.0000182	0.0006738	0.0035	3.97		16552.51	16552.51	3.59		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	11.45	1387.1	-9852	-0.0000147	0.0006738	0.0035	3.97		20401.15	20401.15	14.71		Si
SLV 12	13.55	3087.53	-6813	-0.0000141	0.0006738	0.0035	3.97		14736.03	14736.03	4.77		Si
SLV 14	11.45	2035.89	-10957	-0.0000173	0.0006738	0.0035	3.97		22442.35	22442.35	11.02		Si
SLV 14	13.55	3801.99	-7348	-0.0000161	0.0006738	0.0035	3.97		15741.22	15741.22	4.14		Si
SLV 11	11.45	1469.9	-9885	-0.0000149	0.0006738	0.0035	3.97		20463.06	20463.06	13.92		Si
SLV 11	13.55	3000.34	-6788	-0.0000139	0.0006738	0.0035	3.97		14688.71	14688.71	4.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	11.45	1347.27	-8354	-5960	-2117	3.97	3.97	-5361	9048	10058	101952	39948	20247	60195	No	28.43	Si
SLU 41	13.55	984.26	-6243	-4454	-2134	3.97	3.97	-4006	8868	9857	101952	39948	20247	60195	No	28.21	Si
SLU 36	11.45	1699.18	-10279	-7333	-2302	3.97	3.97	-6597	9213	10241	101952	39948	20247	60195	No	26.15	Si
SLU 36	13.55	1851.3	-8105	-5782	-2322	3.97	3.97	-5201	9027	10034	101952	39948	20247	60195	No	25.92	Si
SLU 32	11.45	1716	-9698	-6919	-2093	3.97	3.97	-6224	9163	10186	101952	39948	20247	60195	No	28.76	Si
SLU 32	13.55	1394.43	-7541	-5380	-2110	3.97	3.97	-4840	8979	9981	101952	39948	20247	60195	No	28.53	Si
SLU 77	11.45	2325.2	-12906	-9207	-1892	3.97	3.97	-8282	9438	10491	101952	39948	20247	60195	No	31.81	Si
SLU 77	13.55	1958.08	-9301	-6635	-1915	3.97	3.97	-5969	9129	10148	101952	39948	20247	60195	No	31.43	Si
SLU 38	11.45	1497.9	-9448	-6740	-2035	3.97	3.97	-6063	9142	10162	101952	39948	20247	60195	No	29.58	Si
SLU 38	13.55	1564.75	-7035	-5018	-2056	3.97	3.97	-4514	8935	9932	101952	39948	20247	60195	No	29.28	Si
SLU 37	11.45	1493.21	-9457	-6747	-2045	3.97	3.97	-6069	9143	10163	101952	39948	20247	60195	No	29.44	Si
SLU 37	13.55	1580.62	-7044	-5025	-2065	3.97	3.97	-4520	8936	9933	101952	39948	20247	60195	No	29.14	Si
SLU 39	11.45	1368.78	-7764	-5539	-1899	3.97	3.97	-4983	8998	10002	101952	39948	20247	60195	No	31.71	Si
SLU 39	13.55	511.52	-5670	-4045	-1911	3.97	3.97	-3639	8818	9803	101952	39948	20247	60195	No	31.49	Si
SLU 35	11.45	1694.5	-10288	-7339	-2312	3.97	3.97	-6603	9214	10242	101952	39948	20247	60195	No	26.04	Si
SLU 35	13.55	1867.18	-8114	-5788	-2332	3.97	3.97	-5207	9028	10035	101952	39948	20247	60195	No	25.81	Si
SLU 33	11.45	1720.69	-9689	-6912	-2084	3.97	3.97	-6218	9162	10185	101952	39948	20247	60195	No	28.89	Si
SLU 33	13.55	1378.55	-7532	-5373	-2100	3.97	3.97	-4834	8978	9980	101952	39948	20247	60195	No	28.66	Si
SLU 42	11.45	1351.96	-8345	-5953	-2107	3.97	3.97	-5356	9047	10057	101952	39948	20247	60195	No	28.57	Si
SLU 42	13.55	968.39	-6234	-4447	-2124	3.97	3.97	-4001	8867	9856	101952	39948	20247	60195	No	28.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	11.45	1870.7	-6563	-4682	2299	3.97	3.97	-4212	13342	14831	101952	59922	20247	80169		34.88	Si
SLV 2	13.55	-3217.88	-3162	-2256	558	3.97	2.9022	-2778	13056	10609	101952	59922	20247	80169		143.6	Si
SLD 15	11.45	1908.01	-10346	-7381	-1965	3.97	3.97	-6640	13828	15371	101952	59922	20247	80169		40.8	Si
SLD 15	13.55	3062.62	-6884	-4911	-920	3.97	3.97	-4418	13384	14877	101952	59922	20247	80169		87.1	Si
SLV 16	11.45	1753.86	-11153	-7956	-3198	3.97	3.97	-7158	13932	15486	101952	59922	20247	80169		25.07	Si
SLV 16	13.55	4615.98	-7780	-5550	-1480	3.97	3.97	-4993	13499	15005	101952	59922	20247	80169		54.18	Si
SLV 13	11.45	2158.88	-11007	-7852	-2263	3.97	3.97	-7064	13913	15465	101952	59922	20247	80169		35.43	Si
SLV 13	13.55	3672.49	-7311	-5215	-537	3.97	3.97	-4692	13438	14938	101952	59922	20247	80169		149.35	Si
SLV 1	11.45	1993.69	-6613	-4718	2501	3.97	3.97	-4244	13349	14839	101952	59922	20247	80169		32.05	Si
SLV 1	13.55	-3347.38	-3125	-2229	761	3.97	2.7413	-2906	13081	10524	101952	59922	20247	80169		105.38	Si
SLV 15	11.45	1876.85	-11203	-7992	-2995	3.97	3.97	-7190	13938	15493	101952	59922	20247	80169		26.77	Si
SLV 15	13.55	4486.48	-7743	-5524	-1277	3.97	3.97	-4969	13494	15000	101952	59922	20247	80169		62.77	Si
SLV 12	11.45	1387.1	-9852	-7028	-2351	3.97	3.97	-6323	13765	15301	101952	59922	20247	80169		34.09	Si
SLV 12	13.55	3087.53	-6813	-4860	-1856	3.97	3.97	-4372	13374	14867	101952	59922	20247	80169		43.19	Si
SLV 14	11.45	2035.89	-10957	-7817	-2465	3.97	3.97	-7032	13906	15458	101952	59922	20247	80169		32.52	Si
SLV 14	13.55	3801.99	-7348	-5242	-739	3.97	3.97	-4716	13443	14943	101952	59922	20247	80169		108.44	Si
SLV 11	11.45	1469.9	-9885	-7052	-2215	3.97	3.97	-6344	13769	15305	101952	59922	20247	80169		36.19	Si
SLV 11	13.55	3000.34	-6788	-4842	-1720	3.97	3.97	-4356	13371	14863	101952	59922	20247	80169		46.62	Si
SLD 16	11.45	1829.43	-10315	-7358	-2094	3.97	3.97	-6620	13824	15367	101952	59922	20247	80169		38.28	Si
SLD 16	13.55	3145.35	-6908	-4928	-1050	3.97	3.97	-4433	13387	14881	101952	59922	20247	80169		76.37	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-4436	0.52	461.58	607.47	1187.38	897.43	1.94	Si
SLV 2	-4457	0.52	461.58	610.27	1190.67	900.47	1.95	Si
SLV 3	-4831	0.52	461.58	660.34	1249.54	954.94	2.07	Si
SLV 4	-4852	0.52	461.58	663.13	1252.82	957.97	2.08	Si
SLV 5	-5455	0.52	461.58	743.3	1347.34	1045.32	2.26	Si
SLV 6	-5469	0.52	461.58	745.16	1349.53	1047.35	2.27	Si
SLV 9	-6722	0.52	461.58	910.05	1544.28	1227.17	2.66	Si
SLV 10	-6736	0.52	461.58	911.89	1546.47	1229.18	2.66	Si
SLV 7	-6774	0.52	461.58	916.87	1552.37	1234.62	2.67	Si
SLV 8	-6788	0.52	461.58	918.71	1554.55	1236.63	2.68	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-3634	-6759	213	3.32	900.9	0.889	54.25458	7.57858	Si
SLV 3	-3630	-6809	213	3.322	900.5	0.889	54.28318	7.57858	Si
SLV 2	-3592	-6563	-198	3.343	897	0.889	54.62597	7.57858	Si
SLV 1	-3589	-6613	-198	3.344	896.7	0.889	54.65429	7.57858	Si
SLV 16	-3335	-11153	198	3.473	873.4	0.889	56.78396	7.57858	Si
SLV 15	-3331	-11203	198	3.475	873	0.889	56.81501	7.57858	Si
SLV 14	-3293	-10957	-213	3.493	869.6	0.889	57.1125	7.57858	Si
SLV 13	-3290	-11007	-213	3.495	869.2	0.889	57.14323	7.57858	Si
SLV 8	-3577	-8534	687	3.277	895.6	0.889	53.55807	5.5671	Si
SLV 7	-3575	-8567	687	3.278	895.4	0.889	53.57721	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.342	SLU 27	Si
V_SLU	25.814	SLU 35	Si
PF_SLV	3.586	SLV 16	Si
V_SLV	25.072	SLV 16	Si
PFFP_SLV	1.944	SLV 1	Si
R_SLV	7.159	SLV 4	Si

Maschio 236

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-3.414	-11.003	-0.749	L7	L8	2.666	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	11.45	882.59	-12629	-0.00003	0.0003743	0.0035	2.6656	14034.54	14751.65	14751.65	16.71	No	Si
SLU 74	14.6	-1373.21	-732	-0.0001147	0.0003743	0.0035	2.1325	0	2897.56	2897.56	2.11	No	Si
SLU 69	11.45	811.38	-12392	-0.0000291	0.0003743	0.0035	2.6656	13823.19	14517.1	14517.1	17.89	No	Si
SLU 69	14.6	-1429.1	-781	-0.0001154	0.0003743	0.0035	2.1325	0	2961.13	2961.13	2.07	No	Si
SLU 77	11.45	918.45	-13003	-0.0000309	0.0003743	0.0035	2.6656	14365.28	15124.99	15124.99	16.47	No	Si
SLU 77	14.6	-1441.89	-767	-0.000121	0.0003743	0.0035	2.1325	0	2943.12	2943.12	2.04	No	Si
SLU 70	11.45	815.32	-12427	-0.0000292	0.0003743	0.0035	2.6656	13854.37	14551.51	14551.51	17.85	No	Si
SLU 70	14.6	-1430.93	-783	-0.0001153	0.0003743	0.0035	2.1325	0	2963.63	2963.63	2.07	No	Si
SLU 71	11.45	828.03	-12182	-0.0000288	0.0003743	0.0035	2.6656	13633.27	14308.93	14308.93	17.28	No	Si
SLU 71	14.6	-1336.88	-683	-0.0001177	0.0003743	0.0035	2.1325	0	2834.85	2834.85	2.12	No	Si
SLU 80	11.45	939.05	-12827	-0.0000307	0.0003743	0.0035	2.6656	14210.57	14949.39	14949.39	15.92	No	Si
SLU 80	14.6	-1351.49	-671	-0.0001233	0.0003743	0.0035	2.1325	0	2819.34	2819.34	2.09	No	Si
SLU 75	11.45	886.53	-12663	-0.0000301	0.0003743	0.0035	2.6656	14065.43	14786.19	14786.19	16.68	No	Si
SLU 75	14.6	-1375.03	-734	-0.0001146	0.0003743	0.0035	2.1325	0	2900.05	2900.05	2.11	No	Si
SLU 79	11.45	935.1	-12793	-0.0000306	0.0003743	0.0035	2.6656	14179.88	14914.75	14914.75	15.95	No	Si
SLU 79	14.6	-1349.66	-670	-0.0001233	0.0003743	0.0035	2.1325	0	2816.84	2816.84	2.09	No	Si
SLU 72	11.45	831.98	-12216	-0.0000288	0.0003743	0.0035	2.6656	13664.71	14343.22	14343.22	17.24	No	Si
SLU 72	14.6	-1338.71	-685	-0.0001177	0.0003743	0.0035	2.1325	0	2837.34	2837.34	2.12	No	Si
SLU 78	11.45	922.39	-13038	-0.000031	0.0003743	0.0035	2.6656	14395.72	15159.75	15159.75	16.44	No	Si
SLU 78	14.6	-1443.71	-769	-0.000121	0.0003743	0.0035	2.1325	0	2945.62	2945.62	2.04	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	11.45	612.44	-7318	-0.0000174	0.0005615	0.0035	2.6656		9623.41	9623.41	15.71		Si
SLD 3	14.6	-1149.58	50	-0.000216	0.0005615	0.0035	2.1325		1868.02	1868.02	1.62		Si
SLV 2	11.45	193.71	-8263	-0.0000174	0.0005615	0.0035	2.6656		10753.08	10753.08	55.51		Si
SLV 2	14.6	-820.59	467	0.0291832	0.0005615	0.0035	2.1325		0	0	0		No
SLD 2	11.45	343.75	-8402	-0.0000184	0.0005615	0.0035	2.6656		10917.72	10917.72	31.76		Si
SLD 2	14.6	-851.8	142	0.0090999	0.0005615	0.0035	2.1325		0	0	0		No
SLV 3	11.45	635.12	-6535	-0.0000159	0.0005615	0.0035	2.6656		8674.21	8674.21	13.66		Si
SLV 3	14.6	-1301.68	323	0.0205521	0.0005615	0.0035	2.1325		0	0	0		No
SLD 4	11.45	585.3	-7342	-0.0000173	0.0005615	0.0035	2.6656		9651.99	9651.99	16.49		Si
SLD 4	14.6	-1100.98	82	0.003511	0.0005615	0.0035	2.1325		1820.9	1820.9	1.65		Si
SLV 1	11.45	236.19	-8226	-0.0000175	0.0005615	0.0035	2.6656		10708.68	10708.68	45.34		Si
SLV 1	14.6	-896.66	418	0.0262241	0.0005615	0.0035	2.1325		0	0	0		No
SLV 7	11.45	1219.68	-5462	-0.0000163	0.0005615	0.0035	2.6656		7360	7360	6.03		Si
SLV 7	14.6	-1642.14	-362	-0.0002518	0.0005615	0.0035	2.1325		2413.89	2413.89	1.47		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	11.45	592.64	-6572	-0.0000158	0.0005615	0.0035	2.6656		8719.68	8719.68	14.71		Si
SLV 4	14.6	-1225.61	373	0.0236047	0.0005615	0.0035	2.1325		0	0	0		No
SLV 8	11.45	1191.09	-5488	-0.0000162	0.0005615	0.0035	2.6656		7391.06	7391.06	6.21		Si
SLV 8	14.6	-1590.93	-328	-0.0002496	0.0005615	0.0035	2.1325		2370.43	2370.43	1.49		Si
SLD 1	11.45	370.89	-8378	-0.0000184	0.0005615	0.0035	2.6656		10889.39	10889.39	29.36		Si
SLD 1	14.6	-900.41	110	0.0066797	0.0005615	0.0035	2.1325		1508.18	1508.18	1.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 71	11.45	828.03	-12182	-10144	35	2.6656	2.6656	-13591	8757	6536	35683	22350	6797	29147	No	825.08	Si
SLU 71	14.6	-1336.88	-683	-569	1157	2.1325	0	0	0	0	35683	17880	5438	23318	No	20.15	Si
SLU 72	11.45	831.98	-12216	-10173	21	2.6656	2.6656	-13630	8762	6540	35683	22350	6797	29147	No	1384.62	Si
SLU 72	14.6	-1338.71	-685	-571	1153	2.1325	0	0	0	0	35683	17880	5438	23318	No	20.22	Si
SLU 70	11.45	815.32	-12427	-10348	-69	2.6656	2.6656	-13865	8793	6563	35683	22350	6797	29147	No	420.4	Si
SLU 70	14.6	-1430.93	-783	-652	1181	2.1325	0	0	0	0	35683	17880	5438	23318	No	19.75	Si
SLU 69	11.45	811.38	-12392	-10319	-55	2.6656	2.6656	-13826	8788	6559	35683	22350	6797	29147	No	529.41	Si
SLU 69	14.6	-1429.1	-781	-650	1185	2.1325	0	0	0	0	35683	17880	5438	23318	No	19.68	Si
SLU 77	11.45	918.45	-13003	-10828	-164	2.6656	2.6656	-14507	8879	6706	35683	22350	6797	29147	No	177.19	Si
SLU 77	14.6	-1441.89	-767	-639	1140	2.1325	0	0	0	0	35683	17880	5438	23318	No	20.45	Si
SLU 66	11.45	775.52	-12018	-10007	-21	2.6656	2.6656	-13408	8732	6518	35683	22350	6797	29147	No	1409.74	Si
SLU 66	14.6	-1360.42	-746	-621	1119	2.1325	0	0	0	0	35683	17880	5438	23318	No	20.83	Si
SLU 49	11.45	734.19	-11095	-9239	142	2.6656	2.6656	-12379	8595	6415	35683	22350	6797	29147	No	205.26	Si
SLU 49	14.6	-1266.52	-644	-537	1136	2.1325	0	0	0	0	35683	17880	5438	23318	No	20.52	Si
SLU 67	11.45	779.47	-12053	-10036	-35	2.6656	2.6656	-13447	8737	6521	35683	22350	6797	29147	No	833.94	Si
SLU 67	14.6	-1362.25	-748	-623	1115	2.1325	0	0	0	0	35683	17880	5438	23318	No	20.91	Si
SLU 78	11.45	922.39	-13038	-10857	-179	2.6656	2.6656	-14546	8884	6715	35683	22350	6797	29147	No	163.04	Si
SLU 78	14.6	-1443.71	-769	-640	1136	2.1325	0	0	0	0	35683	17880	5438	23318	No	20.52	Si
SLU 48	11.45	730.24	-11060	-9210	156	2.6656	2.6656	-12340	8590	6411	35683	22350	6797	29147	No	186.51	Si
SLU 48	14.6	-1264.7	-642	-535	1140	2.1325	0	0	0	0	35683	17880	5438	23318	No	20.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	11.45	971.18	-6656	-5543	3199	2.6656	2.6656	-7426	11902	8883	35683	33525	6797	40322		12.6	Si
SLD 7	14.6	-1354.77	-388	-323	1611	2.1325	0	0	0	0	35683	26820	5438	32258		20.03	Si
SLV 12	11.45	1299.16	-6254	-5208	4702	2.6656	2.6656	-6977	11812	8816	35683	33525	6797	40322		8.58	Si
SLV 12	14.6	-1488.38	-828	-689	2090	2.1325	0	0	0	0	35683	26820	5438	32258		15.44	Si
SLV 7	11.45	1219.68	-5462	-4549	5120	2.6656	2.6656	-6094	11635	8684	35683	33525	6797	40322		7.87	Si
SLV 7	14.6	-1642.14	-362	-301	2141	2.1325	0	0	0	0	35683	26820	5438	32258		15.07	Si
SLD 8	11.45	953.19	-6672	-5556	3184	2.6656	2.6656	-7444	11905	8886	35683	33525	6797	40322		12.66	Si
SLD 8	14.6	-1322.55	-367	-306	1576	2.1325	0	0	0	0	35683	26820	5438	32258		20.46	Si
SLV 5	11.45	-110.08	-11099	-9242	-4512	2.6656	2.6656	-12383	12893	9623	35683	33525	6797	40322		8.94	Si
SLV 5	14.6	-292.08	-46	-39	-556	2.1325	0	0	0	0	35683	26820	5438	32258		58.01	Si
SLV 10	11.45	-30.6	-11890	-9901	-4930	2.6656	2.6656	-13266	13070	9755	35683	33525	6797	40322		8.18	Si
SLV 10	14.6	-138.31	-513	-427	-608	2.6656	2.6656	-572	10531	7860	35683	33525	6797	40322		66.37	Si
SLV 11	11.45	1327.76	-6229	-5187	4726	2.6656	2.6656	-6949	11806	8812	35683	33525	6797	40322		8.53	Si
SLV 11	14.6	-1539.6	-861	-717	2144	2.1325	0	0	0	0	35683	26820	5438	32258		15.04	Si
SLV 8	11.45	1191.09	-5488	-4570	5097	2.6656	2.6656	-6122	11641	8689	35683	33525	6797	40322		7.91	Si
SLV 8	14.6	-1590.93	-328	-273	2086	2.1325	0	0	0	0	35683	26820	5438	32258		15.46	Si
SLV 6	11.45	-138.67	-11124	-9263	-4535	2.6656	2.6656	-12411	12899	9627	35683	33525	6797	40322		8.89	Si
SLV 6	14.6	-240.86	-13	-11	-611	2.1325	0	0	0	0	35683	26820	5438	32258		52.81	Si
SLV 9	11.45	-2	-11865	-9880	-4906	2.6656	2.6656	-13237	13064	9751	35683	33525	6797	40322		8.22	Si
SLV 9	14.6	-189.53	-546	-455	-553	2.6656	2.6656	-609	10538	7866	35683	33525	6797	40322		72.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.52	3933	-2936	309.93	400.43	1.29	Si
SLV 7	179667	0.52	3974	-2966	309.93	404.49	1.31	Si
SLV 4	179667	0.52	4169	-3111	309.93	423.69	1.37	Si
SLV 3	179667	0.52	4229	-3157	309.93	429.7	1.39	Si
SLV 12	179667	0.52	4754	-3548	309.93	481.27	1.55	Si
SLV 11	179667	0.52	4795	-3579	309.93	485.28	1.57	Si
SLV 2	179667	0.52	5199	-3880	309.93	524.75	1.69	Si
SLV 1	179667	0.52	5260	-3926	309.93	530.67	1.71	Si
SLV 16	179667	0.52	6903	-5152	309.93	688.7	2.22	Si
SLV 15	179667	0.52	6964	-5198	309.93	694.48	2.24	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-1342	-9089	304	4.314	507.9	0.894	70.13731	7.57858	Si
SLV 16	-1292	-9127	305	4.376	503.8	0.895	71.07816	7.57858	Si
SLV 13	-1247	-10780	305	4.434	500.2	0.896	71.95276	7.57858	Si
SLV 14	-1198	-10818	305	4.499	496.2	0.897	72.93301	7.57858	Si
SLV 3	323	-6535	-301	7.596	431.4	1	110.40072	7.57858	Si, Trazione
SLV 11	-861	-6229	92	5.074	470.8	0.907	81.3266	5.5671	Si
SLV 12	-828	-6254	92	5.131	468.4	0.908	82.10919	5.5671	Si
SLV 4	373	-6572	-301	7.693	431.4	1	111.80201	7.57858	Si, Trazione

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	418	-8226	-300	7.783	431.4	1	113.11195	7.57858	Si, Trazione
SLV 2	467	-8263	-300	7.884	431.4	1	114.58409	7.57858	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.04	SLU 78	Si
V_SLU	19.678	SLU 69	Si
PF_SLV	0	SLD 2	No
V_SLV	7.875	SLV 7	Si
PFFP_SLV	1.292	SLV 8	Si
R_SLV	9.255	SLV 15	Si

Maschio 239

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.723	1.141	-9.723	6.521	L7	L8	5.38	0.2	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	11.45	-614.89	-15338	-0.0000196	0.0004492	0.0035	5.38	36445.55	55148.65	55148.65	89.69	No	Si
SLU 84	14.6	-4202.05	-1613	-0.0000281	0.0004492	0.0035	4.304	4285.36	21525.98	21525.98	5.12	No	Si
SLU 80	11.45	-755.02	-15729	-0.0000202	0.0004492	0.0035	5.38	37249.84	56058.51	56058.51	74.25	No	Si
SLU 80	14.6	-4462.3	-1709	-0.00003	0.0004492	0.0035	4.304	4537.64	21772.83	21772.83	4.88	No	Si
SLU 74	11.45	-893.11	-15372	-0.00002	0.0004492	0.0035	5.38	36516.68	55228.83	55228.83	61.84	No	Si
SLU 74	14.6	-4232.81	-1624	-0.0000283	0.0004492	0.0035	4.304	4315.48	21555.43	21555.43	5.09	No	Si
SLU 70	11.45	-1356.47	-15430	-0.0000207	0.0004492	0.0035	5.38	36635.13	55362.47	55362.47	40.81	No	Si
SLU 70	14.6	-4285.12	-1643	-0.0000287	0.0004492	0.0035	4.304	4364.66	21603.53	21603.53	5.04	No	Si
SLU 78	11.45	-842.88	-15920	-0.0000206	0.0004492	0.0035	5.38	37639.14	56501.47	56501.47	67.03	No	Si
SLU 78	14.6	-4588.03	-1756	-0.000031	0.0004492	0.0035	4.304	4660.46	21893.15	21893.15	4.77	No	Si
SLU 69	11.45	-1326.72	-15484	-0.0000207	0.0004492	0.0035	5.38	36746.11	55487.83	55487.83	41.82	No	Si
SLU 69	14.6	-4319.97	-1656	-0.000029	0.0004492	0.0035	4.304	4398.65	21636.79	21636.79	5.01	No	Si
SLU 83	11.45	-585.14	-15392	-0.0000196	0.0004492	0.0035	5.38	36556.74	55274.01	55274.01	94.46	No	Si
SLU 83	14.6	-4236.91	-1626	-0.0000283	0.0004492	0.0035	4.304	4319.37	21559.23	21559.23	5.09	No	Si
SLU 75	11.45	-922.86	-15318	-0.00002	0.0004492	0.0035	5.38	36405.45	55103.47	55103.47	59.71	No	Si
SLU 75	14.6	-4197.95	-1611	-0.000028	0.0004492	0.0035	4.304	4281.47	21522.17	21522.17	5.13	No	Si
SLU 79	11.45	-725.27	-15783	-0.0000203	0.0004492	0.0035	5.38	37360.16	56183.87	56183.87	77.47	No	Si
SLU 79	14.6	-4497.16	-1722	-0.0000303	0.0004492	0.0035	4.304	4571.6	21806.09	21806.09	4.85	No	Si
SLU 77	11.45	-813.13	-15974	-0.0000206	0.0004492	0.0035	5.38	37749.04	56626.83	56626.83	69.64	No	Si
SLU 77	14.6	-4622.89	-1769	-0.0000312	0.0004492	0.0035	4.304	4694.39	21926.4	21926.4	4.74	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	11.45	-6915.9	-5638	-0.0000167	0.0006738	0.0035	5.38		31788.39	31788.39	4.6		Si
SLV 5	14.6	957.87	341	-0.0002389	0.0006738	0.0035	4.304		2040.84	2040.84	2.13		Si
SLV 12	11.45	4888.02	-15724	-0.0000258	0.0006738	0.0035	5.38		42786.16	42786.16	8.75		Si
SLV 12	14.6	-6110.52	-2324	-0.000042	0.0006738	0.0035	4.304		23339.58	23339.58	3.82		Si
SLV 9	11.45	-8927.5	-5971	-0.0000217	0.0006738	0.0035	4.304		32626.45	32626.45	3.65		Si
SLV 9	14.6	589.59	202	-0.0001413	0.0006738	0.0035	4.304		2406.79	2406.79	4.08		Si
SLD 12	11.45	2615.97	-13818	-0.0000203	0.0006738	0.0035	5.38		38136.68	38136.68	14.58		Si
SLD 12	14.6	-4776.67	-1821	-0.0000325	0.0006738	0.0035	4.304		22049.66	22049.66	4.62		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	11.45	-9027.01	-5853	-0.0000221	0.0006738	0.0035	4.304		32330.22	32330.22	3.58		Si
SLV 10	14.6	661.46	229	-0.0001599	0.0006738	0.0035	4.304		2336.31	2336.31	3.53		Si
SLD 11	11.45	2678.57	-13892	-0.0000205	0.0006738	0.0035	5.38		38319.03	38319.03	14.31		Si
SLD 11	14.6	-4821.88	-1838	-0.0000328	0.0006738	0.0035	4.304		22092.78	22092.78	4.58		Si
SLV 8	11.45	6899.62	-15392	-0.0000281	0.0006738	0.0035	5.38		41979.99	41979.99	6.08		Si
SLV 8	14.6	-5742.24	-2185	-0.0000394	0.0006738	0.0035	4.304		22983.61	22983.61	4		Si
SLV 6	11.45	-7015.41	-5520	-0.0000169	0.0006738	0.0035	5.38		31489.12	31489.12	4.49		Si
SLV 6	14.6	1029.73	368	-0.0002584	0.0006738	0.0035	4.304		1970.36	1970.36	1.91		Si
SLV 7	11.45	6999.13	-15509	-0.0000284	0.0006738	0.0035	5.38		42265.34	42265.34	6.04		Si
SLV 7	14.6	-5814.11	-2212	-0.0000399	0.0006738	0.0035	4.304		23052.17	23052.17	3.96		Si
SLV 11	11.45	4987.53	-15842	-0.0000261	0.0006738	0.0035	5.38		43071.51	43071.51	8.64		Si
SLV 11	14.6	-6182.38	-2351	-0.0000425	0.0006738	0.0035	4.304		23408.13	23408.13	3.79		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	11.45	-893.11	-15372	-9838	5408	5.38	5.38	-9143	9552	10278	101952	38669	27438	66107	No	12.22	Si
SLU 74	14.6	-4232.81	-1624	-1040	5405	4.304	0.2524	0	0	0	101952	30935	21950	52885	No	9.79	Si
SLU 80	11.45	-755.02	-15729	-10067	5759	5.38	5.38	-9356	9581	10309	101952	38669	27438	66107	No	11.48	Si
SLU 80	14.6	-4462.3	-1709	-1094	5745	4.304	0.2371	0	0	0	101952	30935	21950	52885	No	9.21	Si
SLU 69	11.45	-1326.72	-15484	-9910	5368	5.38	5.38	-9210	9561	10288	101952	38669	27438	66107	No	12.31	Si
SLU 69	14.6	-4319.97	-1656	-1060	5350	4.304	0.2442	0	0	0	101952	30935	21950	52885	No	9.89	Si
SLU 79	11.45	-725.27	-15783	-10101	5814	5.38	5.38	-9388	9585	10314	101952	38669	27438	66107	No	11.37	Si
SLU 79	14.6	-4497.16	-1722	-1102	5800	4.304	0.2354	0	0	0	101952	30935	21950	52885	No	9.12	Si
SLU 78	11.45	-842.88	-15920	-10189	5893	5.38	5.38	-9469	9596	10325	101952	38669	27438	66107	No	11.22	Si
SLU 78	14.6	-4588.03	-1756	-1124	5881	4.304	0.2315	0	0	0	101952	30935	21950	52885	No	8.99	Si
SLU 36	11.45	-329.57	-13338	-8536	5413	5.38	5.38	-7933	9391	10105	101952	38669	27438	66107	No	12.21	Si
SLU 36	14.6	-4107.18	-1577	-1009	5404	4.304	0.2576	0	0	0	101952	30935	21950	52885	No	9.79	Si
SLU 77	11.45	-813.13	-15974	-10223	5949	5.38	5.38	-9501	9600	10330	101952	38669	27438	66107	No	11.11	Si
SLU 77	14.6	-4622.89	-1769	-1132	5937	4.304	0.2299	0	0	0	101952	30935	21950	52885	No	8.91	Si
SLU 84	11.45	-614.89	-15338	-9816	5467	5.38	5.38	-9123	9550	10275	101952	38669	27438	66107	No	12.09	Si
SLU 84	14.6	-4202.05	-1613	-1032	5465	4.304	0.254	0	0	0	101952	30935	21950	52885	No	9.68	Si
SLU 35	11.45	-299.82	-13392	-8571	5469	5.38	5.38	-7965	9395	10109	101952	38669	27438	66107	No	12.09	Si
SLU 35	14.6	-4142.04	-1590	-1018	5459	4.304	0.2555	0	0	0	101952	30935	21950	52885	No	9.69	Si
SLU 83	11.45	-585.14	-15392	-9851	5523	5.38	5.38	-9155	9554	10280	101952	38669	27438	66107	No	11.97	Si
SLU 83	14.6	-4236.91	-1626	-1041	5520	4.304	0.252	0	0	0	101952	30935	21950	52885	No	9.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	11.45	6899.62	-15392	-9851	10479	5.38	5.38	-9155	14331	15420	101952	58003	27438	85441		8.15	Si
SLV 8	14.6	-5742.24	-2185	-1399	8735	4.304	0.1876	0	0	0	101952	46403	21950	68353		7.82	Si
SLD 7	11.45	3965.36	-13679	-8754	7783	5.38	5.38	-8136	14127	15201	101952	58003	27438	85441		10.98	Si
SLD 7	14.6	-4586.09	-1749	-1120	6703	4.304	0.2054	0	0	0	101952	46403	21950	68353		10.2	Si
SLV 12	11.45	4888.02	-15724	-10064	10124	5.38	5.38	-9353	14371	15463	101952	58003	27438	85441		8.44	Si
SLV 12	14.6	-6110.52	-2324	-1488	8317	4.304	0.1828	0	0	0	101952	46403	21950	68353		8.22	Si
SLV 11	11.45	4987.53	-15842	-10139	10256	5.38	5.38	-9423	14385	15478	101952	58003	27438	85441		8.33	Si
SLV 11	14.6	-6182.38	-2351	-1505	8449	4.304	0.1808	0	0	0	101952	46403	21950	68353		8.09	Si
SLV 7	11.45	6999.13	-15509	-9926	10611	5.38	5.38	-9225	14345	15435	101952	58003	27438	85441		8.05	Si
SLV 7	14.6	-5814.11	-2212	-1416	8867	4.304	0.1854	0	0	0	101952	46403	21950	68353		7.71	Si
SLD 8	11.45	3902.76	-13605	-8707	7700	5.38	5.38	-8092	14118	15191	101952	58003	27438	85441		11.1	Si
SLD 8	14.6	-4540.88	-1733	-1109	6620	4.304	0.2074	0	0	0	101952	46403	21950	68353		10.33	Si
SLV 4	11.45	4352.08	-11520	-7373	5807	5.38	5.38	-6852	13870	14925	101952	58003	27438	85441		14.71	Si
SLV 4	14.6	-2924.97	-1124	-719	5379	4.304	0.26	0	0	0	101952	46403	21950	68353		12.71	Si
SLD 12	11.45	2615.97	-13818	-8843	7473	5.38	5.38	-8219	14144	15219	101952	58003	27438	85441		11.43	Si
SLD 12	14.6	-4776.67	-1821	-1166	6353	4.304	0.2025	0	0	0	101952	46403	21950	68353		10.76	Si
SLV 3	11.45	4499.88	-11695	-7485	6004	5.38	5.38	-6956	13891	14947	101952	58003	27438	85441		14.23	Si
SLV 3	14.6	-3031.7	-1163	-744	5574	4.304	0.2512	0	0	0	101952	46403	21950	68353		12.26	Si
SLD 11	11.45	2678.57	-13892	-8891	7556	5.38	5.38	-8263	14153	15228	101952	58003	27438	85441		11.31	Si
SLD 11	14.6	-4821.88	-1838	-1176	6435	4.304	0.2006	0	0	0	101952	46403	21950	68353		10.62	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.08 Wa 0.04 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-2152	0.52	457.69	0	721.51	360.76	0.79	No
SLV 5	-2270	0.52	457.69	0	735.94	367.97	0.8	No
SLV 10	-2491	0.52	457.69	0	762.89	381.44	0.83	No
SLV 9	-2608	0.52	457.69	0	777.24	388.62	0.85	No
SLV 2	-5194	0.52	457.69	505.71	1087.01	796.36	1.74	Si
SLV 1	-5369	0.52	457.69	522.26	1107.65	814.95	1.78	Si
SLV 14	-6321	0.52	457.69	611.86	1219.35	915.61	2	Si
SLV 13	-6496	0.52	457.69	628.21	1239.82	934.02	2.04	Si
SLV 4	-8164	0.52	457.69	782.56	1434.46	1108.51	2.42	Si
SLV 3	-8338	0.52	457.69	798.58	1454.8	1126.69	2.46	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.04 Ta = 0.0828

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-1626	-12804	784	6.347	707.4	0.898	102.70476	9.83103	Si
SLV 16	-1586	-12629	784	6.401	704.3	0.899	103.49894	9.83103	Si
SLV 3	-1163	-11695	-824	7.031	673.2	0.909	112.39279	9.83103	Si
SLV 4	-1124	-11520	-824	7.097	670.5	0.91	113.29534	9.83103	Si
SLV 13	-860	-9842	827	7.573	653.5	0.921	119.50513	9.83103	Si
SLV 14	-820	-9667	827	7.651	651.1	0.923	120.4727	9.83103	Si
SLV 1	-397	-8734	-782	8.598	630.3	0.951	131.32736	9.83103	Si
SLV 2	-358	-8559	-782	8.698	628.8	0.955	132.34341	9.83103	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-2351	-15842	172	5.613	767.3	0.891	91.59421	6.26282	Si
SLV 12	-2324	-15724	172	5.64	765	0.891	92.03178	6.26282	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.743	SLU 77	Si
V_SLU	8.908	SLU 77	Si
PF_SLV	1.913	SLV 6	Si
V_SLV	7.709	SLV 7	Si
PFFP_SLV	0.788	SLV 6	No
R_SLV	10.447	SLV 15	Si

Maschio 241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.443	-3.169	-11.003	-3.169	L7	L8	1.56	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	11.45	1865.7	-3624	-0.0000504	0.0003743	0.0035	1.5599	2596.32	2791.21	2791.21	1.5	No	Si
SLU 82	13.55	-1815.23	-4631	-0.0000436	0.0003743	0.0035	1.5599	3236.04	3982.99	3982.99	2.19	No	Si
SLU 42	11.45	1636.31	-2957	-0.000048	0.0003743	0.0035	1.5599	2152.73	2327.12	2327.12	1.42	No	Si
SLU 42	13.55	-1535.31	-3957	-0.0000366	0.0003743	0.0035	1.5599	2811.49	3525.26	3525.26	2.3	No	Si
SLU 31	11.45	1594.09	-2870	-0.0000469	0.0003743	0.0035	1.5599	2094.1	2265.95	2265.95	1.42	No	Si
SLU 31	13.55	-1543.15	-3888	-0.0000368	0.0003743	0.0035	1.5599	2767.22	3479.13	3479.13	2.25	No	Si
SLU 40	11.45	1671.2	-2785	-0.0000575	0.0003743	0.0035	1.5599	2036.18	2205.76	2205.76	1.32	No	Si
SLU 40	13.55	-1574.94	-3912	-0.0000376	0.0003743	0.0035	1.5599	2782.86	3495.39	3495.39	2.22	No	Si
SLU 33	11.45	1584.56	-3184	-0.0000411	0.0003743	0.0035	1.5599	2305.48	2486.92	2486.92	1.57	No	Si
SLU 33	13.55	-1557.98	-4197	-0.0000372	0.0003743	0.0035	1.5599	2964.69	3687.19	3687.19	2.37	No	Si
SLU 41	11.45	1623.63	-2945	-0.0000473	0.0003743	0.0035	1.5599	2144.84	2318.88	2318.88	1.43	No	Si
SLU 41	13.55	-1519.41	-3936	-0.0000362	0.0003743	0.0035	1.5599	2797.88	3511.05	3511.05	2.31	No	Si
SLU 39	11.45	1658.51	-2773	-0.0000566	0.0003743	0.0035	1.5599	2028.23	2197.51	2197.51	1.32	No	Si
SLU 39	13.55	-1559.04	-3891	-0.0000372	0.0003743	0.0035	1.5599	2769.22	3481.2	3481.2	2.23	No	Si
SLU 81	11.45	1853.02	-3613	-0.0000498	0.0003743	0.0035	1.5599	2588.71	2783.17	2783.17	1.5	No	Si
SLU 81	13.55	-1799.33	-4610	-0.0000432	0.0003743	0.0035	1.5599	3222.93	3968.43	3968.43	2.21	No	Si
SLU 32	11.45	1571.87	-3172	-0.0000406	0.0003743	0.0035	1.5599	2297.69	2478.86	2478.86	1.58	No	Si
SLU 32	13.55	-1542.08	-4176	-0.0000369	0.0003743	0.0035	1.5599	2951.25	3672.85	3672.85	2.38	No	Si
SLU 34	11.45	1559.2	-3042	-0.0000415	0.0003743	0.0035	1.5599	2210.14	2387.26	2387.26	1.53	No	Si
SLU 34	13.55	-1503.52	-3933	-0.0000358	0.0003743	0.0035	1.5599	2795.88	3508.97	3508.97	2.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	11.45	-1219.6	-4467	-0.0000314	0.0005615	0.0035	1.5599		3943.77	3943.77	3.23		Si
SLV 15	13.55	1270.59	-819	-0.0068928	0.0005615	0.0035	1.2479		772.82	772.82	0.61		No
SLV 3	11.45	2573.89	-842	-0.022079	0.0005615	0.0035	1.2479		790.39	790.39	0.31		No
SLV 3	13.55	-2568.29	-4044	-0.0001023	0.0005615	0.0035	1.2479		3640.96	3640.96	1.42		Si
SLV 2	11.45	3596.97	-1336	-0.0295268	0.0005615	0.0035	1.2479		1163.24	1163.24	0.32		No
SLV 2	13.55	-3751.38	-5848	-0.0001615	0.0005615	0.0035	1.2479		4890.17	4890.17	1.3		Si
SLD 2	11.45	2721.05	-1893	-0.0148476	0.0005615	0.0035	1.2479		1579.85	1579.85	0.58		No
SLD 2	13.55	-2837.25	-4927	-0.0000892	0.0005615	0.0035	1.2479		4258.77	4258.77	1.5		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	11.45	3176.1	-1629	-0.0221353	0.0005615	0.0035	1.2479		1383.71	1383.71	0.44		No
SLV 1	13.55	-3317.16	-5429	-0.0001208	0.0005615	0.0035	1.2479		4602.33	4602.33	1.39		Si
SLV 4	11.45	2994.76	-549	-0.0298079	0.0005615	0.0035	1.2479		566.35	566.35	0.19		No
SLV 4	13.55	-3002.52	-4463	-0.0001522	0.0005615	0.0035	1.2479		3940.22	3940.22	1.31		Si
SLD 4	11.45	2345.88	-1405	-0.0145646	0.0005615	0.0035	1.2479		1215.25	1215.25	0.52		No
SLD 4	13.55	-2371.08	-4064	-0.0000756	0.0005615	0.0035	1.2479		3654.78	3654.78	1.54		Si
SLD 3	11.45	2076.99	-1592	-0.0099785	0.0005615	0.0035	1.2479		1356.08	1356.08	0.65		No
SLD 3	13.55	-2093.65	-3797	-0.0000602	0.0005615	0.0035	1.2479		3464.58	3464.58	1.65		Si
SLD 1	11.45	2452.15	-2080	-0.0103246	0.0005615	0.0035	1.2479		1719.17	1719.17	0.7		No
SLD 1	13.55	-2559.82	-4659	-0.000074	0.0005615	0.0035	1.2479		4077.52	4077.52	1.59		Si
SLV 11	11.45	-525.7	-2233	-0.0000144	0.0005615	0.0035	1.5599		2341	2341	4.45		Si
SLV 11	13.55	729.72	-400	-0.0036719	0.0005615	0.0035	1.2479		452.94	452.94	0.62		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	11.45	1865.7	-3624	-3018	2956	1.5599	0.7955	-6910	7866	2206	35683	13079	3978	17056	No	5.77	Si
SLU 82	13.55	-1815.23	-4631	-3857	2961	1.5599	1.164	-11935	8536	2782	35683	13079	3978	17056	No	5.76	Si
SLU 73	11.45	1788.59	-3709	-3089	2862	1.5599	0.8933	-7072	7887	2225	35683	13079	3978	17056	No	5.96	Si
SLU 73	13.55	-1783.44	-4607	-3836	2870	1.5599	1.1785	-11725	8508	2807	35683	13079	3978	17056	No	5.94	Si
SLU 83	11.45	1818.14	-3784	-3151	2857	1.5599	0.8985	-7215	7906	2242	35683	13079	3978	17056	No	5.97	Si
SLU 83	13.55	-1759.7	-4655	-3876	2858	1.5599	1.2057	-11573	8488	2865	35683	13079	3978	17056	No	5.97	Si
SLU 75	11.45	1779.06	-4023	-3350	2864	1.5599	1.0132	-7670	7967	2295	35683	13079	3978	17056	No	5.96	Si
SLU 75	13.55	-1798.27	-4917	-4094	2869	1.5599	1.2426	-11867	8527	2967	35683	13079	3978	17056	No	5.94	Si
SLU 81	11.45	1853.02	-3613	-3008	2940	1.5599	0.801	-6888	7863	2204	35683	13079	3978	17056	No	5.8	Si
SLU 81	13.55	-1799.33	-4610	-3839	2941	1.5599	1.169	-11830	8522	2789	35683	13079	3978	17056	No	5.8	Si
SLU 76	11.45	1753.71	-3881	-3232	2780	1.5599	0.9842	-7399	7931	2263	35683	13079	3978	17056	No	6.14	Si
SLU 76	13.55	-1743.81	-4652	-3874	2788	1.5599	1.2152	-11475	8474	2883	35683	13079	3978	17056	No	6.12	Si
SLU 74	11.45	1766.38	-4011	-3340	2848	1.5599	1.0188	-7648	7964	2292	35683	13079	3978	17056	No	5.99	Si
SLU 74	13.55	-1782.37	-4895	-4076	2849	1.5599	1.2475	-11768	8514	2974	35683	13079	3978	17056	No	5.99	Si
SLU 78	11.45	1744.18	-4195	-3493	2781	1.5599	1.0924	-7997	8011	2450	35683	13079	3978	17056	No	6.13	Si
SLU 78	13.55	-1758.64	-4961	-4131	2787	1.5599	1.2764	-11657	8499	3037	35683	13079	3978	17056	No	6.12	Si
SLU 84	11.45	1830.82	-3796	-3161	2873	1.5599	0.8929	-7237	7909	2245	35683	13079	3978	17056	No	5.94	Si
SLU 84	13.55	-1775.6	-4676	-3894	2878	1.5599	1.2007	-11675	8501	2858	35683	13079	3978	17056	No	5.93	Si
SLU 77	11.45	1731.5	-4183	-3483	2765	1.5599	1.098	-7975	8008	2462	35683	13079	3978	17056	No	6.17	Si
SLU 77	13.55	-1742.74	-4940	-4114	2767	1.5599	1.2815	-11560	8486	3045	35683	13079	3978	17056	No	6.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	11.45	2345.88	-1405	-1170	4046	1.2479	0	0	0	0	35683	15694	3182	18877		4.67	Si
SLD 4	13.55	-2371.08	-4064	-3384	3666	1.2479	0.5894	0	0	0	35683	15694	3182	18877		5.15	Si
SLV 4	11.45	2994.76	-549	-457	5224	1.2479	0	0	0	0	35683	15694	3182	18877		3.61	Si
SLV 4	13.55	-3002.52	-4463	-3716	4623	1.2479	0.3214	0	0	0	35683	15694	3182	18877		4.08	Si
SLV 2	11.45	3596.97	-1336	-1112	6070	1.2479	0	0	0	0	35683	15694	3182	18877		3.11	Si
SLV 2	13.55	-3751.38	-5848	-4869	5508	1.2479	0.4152	0	0	0	35683	15694	3182	18877		3.43	Si
SLV 3	11.45	2573.89	-842	-701	4553	1.2479	0	0	0	0	35683	15694	3182	18877		4.15	Si
SLV 3	13.55	-2568.29	-4044	-3368	3952	1.2479	0.4348	0	0	0	35683	15694	3182	18877		4.78	Si
SLD 1	11.45	2452.15	-2080	-1732	4145	1.2479	0	0	0	0	35683	15694	3182	18877		4.55	Si
SLD 1	13.55	-2559.82	-4659	-3880	3788	1.2479	0.6917	0	0	0	35683	15694	3182	18877		4.98	Si
SLD 3	11.45	2076.99	-1592	-1326	3618	1.2479	0	0	0	0	35683	15694	3182	18877		5.22	Si
SLD 3	13.55	-2093.65	-3797	-3162	3237	1.2479	0.6855	0	0	0	35683	15694	3182	18877		5.83	Si
SLV 6	11.45	2903.08	-3571	-2973	4596	1.2479	0	0	0	0	35683	15694	3182	18877		4.11	Si
SLV 6	13.55	-3210.52	-6266	-5218	4486	1.2479	0.8028	0	0	0	35683	15694	3182	18877		4.21	Si
SLD 2	11.45	2721.05	-1893	-1576	4573	1.2479	0	0	0	0	35683	15694	3182	18877		4.13	Si
SLD 2	13.55	-2837.25	-4927	-4102	4217	1.2479	0.6121	0	0	0	35683	15694	3182	18877		4.48	Si
SLV 5	11.45	2619.72	-3768	-3138	4144	1.5599	0.2542	-45014	16250	2939	35683	19618	3978	23596		5.69	Si
SLV 5	13.55	-2918.17	-5985	-4984	4034	1.2479	0.877	0	0	0	35683	15694	3182	18877		4.68	Si
SLV 1	11.45	3176.1	-1629	-1357	5400	1.2479	0	0	0	0	35683	15694	3182	18877		3.5	Si
SLV 1	13.55	-3317.16	-5429	-4521	4836	1.2479	0.507	0	0	0	35683	15694	3182	18877		3.9	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.52	0	-1164	176.8	0	0	No, e>t/2
SLV 11	179667	0.52	0	-967	176.8	0	0	No, e>t/2
SLV 7	179667	0.52	3629	-1585	176.8	216.66	1.23	Si
SLV 15	179667	0.52	3899	-1703	176.8	232.34	1.31	Si
SLV 8	179667	0.52	4081	-1783	176.8	242.88	1.37	Si
SLV 16	179667	0.52	4570	-1996	176.8	271.09	1.53	Si
SLV 13	179667	0.52	6854	-2994	176.8	400.31	2.26	Si
SLV 14	179667	0.52	7525	-3287	176.8	437.47	2.47	Si
SLV 3	179667	0.52	8619	-3765	176.8	497.31	2.81	Si
SLV 4	179667	0.52	9290	-4058	176.8	533.52	3.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-1335	-1336	-63	3.447	345.4	0.889	56.34394	7.57858	Si
SLV 1	-1307	-1629	-68	3.481	342.9	0.889	56.91262	7.57858	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-1202	-4961	-33	3.644	333.3	0.889	59.57955	7.57858	Si
SLV 13	-1174	-5255	-39	3.683	330.8	0.889	60.20869	7.57858	Si
SLV 4	-1027	-549	-11	3.932	317.8	0.89	64.21898	7.57858	Si
SLV 3	-1000	-842	-17	3.977	315.4	0.89	64.93824	7.57858	Si
SLV 16	-894	-4174	18	4.171	306.3	0.891	67.99466	7.57858	Si
SLV 6	-1643	-3571	-114	3.065	374.1	0.891	50.00841	5.5671	Si
SLV 5	-1624	-3768	-117	3.084	372.3	0.891	50.3141	5.5671	Si
SLV 15	-867	-4467	13	4.227	304	0.892	68.87363	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.32	SLU 40	Si
V_SLU	5.761	SLU 82	Si
PF_SLV	0.189	SLV 4	No
V_SLV	3.11	SLV 2	Si
PFFP_SLV	0	SLV 11	No
R_SLV	7.435	SLV 2	Si

Maschio 242

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.238	-3.169	-6.238	1.141	L7	L8	4.31	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 30	11.45	2190.69	-8677	-0.0000238	0.0004492	0.0035	4.31	16498.2	19310.72	19310.72	8.81	No	Si
SLU 30	14.6	895.02	-757	-0.0000045	0.0004492	0.0035	4.31	1614.44	3419.52	3419.52	3.82	No	Si
SLU 70	11.45	2666.15	-10623	-0.0000292	0.0004492	0.0035	4.31	19593.76	23014.57	23014.57	8.63	No	Si
SLU 70	14.6	973.71	-912	-0.0000048	0.0004492	0.0035	4.31	1940.61	3741.45	3741.45	3.84	No	Si
SLU 38	11.45	2098.88	-9095	-0.0000244	0.0004492	0.0035	4.31	17181.17	20107.67	20107.67	9.58	No	Si
SLU 38	14.6	879.49	-763	-0.0000044	0.0004492	0.0035	4.31	1627.57	3432.46	3432.46	3.9	No	Si
SLU 78	11.45	2574.33	-11040	-0.0000298	0.0004492	0.0035	4.31	20229.22	23797.27	23797.27	9.24	No	Si
SLU 78	14.6	958.18	-918	-0.0000047	0.0004492	0.0035	4.31	1953.69	3754.39	3754.39	3.92	No	Si
SLU 51	11.45	2511.34	-9264	-0.0000259	0.0004492	0.0035	4.31	17455.8	20431.54	20431.54	8.14	No	Si
SLU 51	14.6	881.77	-730	-0.0000044	0.0004492	0.0035	4.31	1556.97	3362.95	3362.95	3.81	No	Si
SLU 80	11.45	2537.75	-10759	-0.0000291	0.0004492	0.0035	4.31	19802.5	23270.29	23270.29	9.17	No	Si
SLU 80	14.6	955.54	-858	-0.0000047	0.0004492	0.0035	4.31	1827.55	3629.71	3629.71	3.8	No	Si
SLU 72	11.45	2629.56	-10342	-0.0000285	0.0004492	0.0035	4.31	19160.17	22487.59	22487.59	8.55	No	Si
SLU 72	14.6	971.07	-852	-0.0000048	0.0004492	0.0035	4.31	1814.45	3616.76	3616.76	3.72	No	Si
SLU 79	11.45	2537	-10768	-0.0000291	0.0004492	0.0035	4.31	19816	23286.88	23286.88	9.18	No	Si
SLU 79	14.6	932.28	-865	-0.0000046	0.0004492	0.0035	4.31	1841.75	3643.73	3643.73	3.91	No	Si
SLU 59	11.45	2419.53	-9682	-0.0000265	0.0004492	0.0035	4.31	18124.43	21228.5	21228.5	8.77	No	Si
SLU 59	14.6	866.24	-736	-0.0000043	0.0004492	0.0035	4.31	1570.12	3375.89	3375.89	3.9	No	Si
SLU 71	11.45	2628.81	-10350	-0.0000285	0.0004492	0.0035	4.31	19173.89	22504.18	22504.18	8.56	No	Si
SLU 71	14.6	947.81	-859	-0.0000047	0.0004492	0.0035	4.31	1828.65	3630.79	3630.79	3.83	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	11.45	1080.96	-7608	-0.0000183	0.0006738	0.0035	4.31		17406.34	17406.34	16.1		Si
SLD 6	14.6	1160.14	-555	-0.0000324	0.0006738	0.0035	4.31		3004.79	3004.79	2.59		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	11.45	716.68	-7870	-0.0000178	0.0006738	0.0035	4.31		17921.34	17921.34	25.01		Si
SLV 5	14.6	1657.9	-600	-0.000164	0.0006738	0.0035	4.31		3097.23	3097.23	1.87		Si
SLV 14	11.45	1133.22	-8639	-0.0000206	0.0006738	0.0035	4.31		19435.13	19435.13	17.15		Si
SLV 14	14.6	1074.83	-870	-0.0000054	0.0006738	0.0035	4.31		3663.5	3663.5	3.41		Si
SLD 10	11.45	999.51	-8046	-0.000019	0.0006738	0.0035	4.31		18267.38	18267.38	18.28		Si
SLD 10	14.6	1276.1	-678	-0.0000142	0.0006738	0.0035	4.31		3262.48	3262.48	2.56		Si
SLV 13	11.45	1078.68	-8646	-0.0000204	0.0006738	0.0035	4.31		19448.15	19448.15	18.03		Si
SLV 13	14.6	1102.25	-877	-0.0000056	0.0006738	0.0035	4.31		3678.12	3678.12	3.34		Si
SLD 5	11.45	1057.86	-7611	-0.0000182	0.0006738	0.0035	4.31		17411.85	17411.85	16.46		Si
SLD 5	14.6	1171.76	-558	-0.0000344	0.0006738	0.0035	4.31		3011	3011	2.57		Si
SLV 9	11.45	585.42	-8551	-0.0000188	0.0006738	0.0035	4.31		19261.4	19261.4	32.9		Si
SLV 9	14.6	1839.71	-792	-0.0001111	0.0006738	0.0035	4.31		3500.48	3500.48	1.9		Si
SLV 6	11.45	753.4	-7865	-0.0000179	0.0006738	0.0035	4.31		17912.57	17912.57	23.78		Si
SLV 6	14.6	1639.44	-595	-0.0001611	0.0006738	0.0035	4.31		3087.35	3087.35	1.88		Si
SLV 10	11.45	622.14	-8546	-0.0000189	0.0006738	0.0035	4.31		19252.63	19252.63	30.95		Si
SLV 10	14.6	1821.25	-787	-0.000108	0.0006738	0.0035	4.31		3490.61	3490.61	1.92		Si
SLD 9	11.45	976.41	-8049	-0.0000189	0.0006738	0.0035	4.31		18272.89	18272.89	18.71		Si
SLD 9	14.6	1287.71	-681	-0.0000147	0.0006738	0.0035	4.31		3268.7	3268.7	2.54		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 38	11.45	2098.88	-9095	-5043	-1278	4.31	4.31	-8357	9448	5701	101952	21685	21981	43666	No	34.18	Si
SLU 38	14.6	879.49	-763	-423	-1176	4.31	3.0077	-701	8427	3655	101952	21685	21981	43666	No	37.13	Si
SLU 80	11.45	2537.75	-10759	-5965	-1239	4.31	4.31	-9886	9652	5872	101952	21685	21981	43666	No	35.24	Si
SLU 80	14.6	955.54	-858	-476	-1141	4.31	3.1241	-788	8438	3691	101952	21685	21981	43666	No	38.26	Si
SLU 36	11.45	2135.46	-9376	-5198	-1278	4.31	4.31	-8615	9482	5721	101952	21685	21981	43666	No	34.16	Si
SLU 36	14.6	882.13	-823	-456	-1176	4.31	3.25	-756	8434	3838	101952	21685	21981	43666	No	37.13	Si
SLU 35	11.45	2134.71	-9385	-5203	-1170	4.31	4.31	-8623	9483	5722	101952	21685	21981	43666	No	37.34	Si
SLU 35	14.6	858.87	-830	-460	-1181	4.31	3.3602	-763	8435	3968	101952	21685	21981	43666	No	36.99	Si
SLU 78	11.45	2574.33	-11040	-6121	-1240	4.31	4.31	-10145	9686	5934	101952	21685	21981	43666	No	35.22	Si
SLU 78	14.6	958.18	-918	-509	-1141	4.31	3.3337	-844	8446	3942	101952	21685	21981	43666	No	38.27	Si
SLU 37	11.45	2098.13	-9103	-5047	-1169	4.31	4.31	-8365	9449	5701	101952	21685	21981	43666	No	37.36	Si
SLU 37	14.6	856.23	-770	-427	-1181	4.31	3.1286	-707	8428	3691	101952	21685	21981	43666	No	36.98	Si
SLU 28	11.45	2227.28	-8958	-4967	-1226	4.31	4.31	-8231	9431	5691	101952	21685	21981	43666	No	35.61	Si
SLU 28	14.6	897.66	-817	-453	-1124	4.31	3.1684	-751	8433	3741	101952	21685	21981	43666	No	38.84	Si
SLU 30	11.45	2190.69	-8677	-4811	-1225	4.31	4.31	-7973	9396	5670	101952	21685	21981	43666	No	35.63	Si
SLU 30	14.6	895.02	-757	-420	-1124	4.31	2.9177	-696	8426	3654	101952	21685	21981	43666	No	38.84	Si
SLU 70	11.45	2666.15	-10623	-5890	-1188	4.31	4.31	-9761	9635	5842	101952	21685	21981	43666	No	36.77	Si
SLU 70	14.6	973.71	-912	-506	-1089	4.31	3.2613	-838	8445	3856	101952	21685	21981	43666	No	40.08	Si
SLU 72	11.45	2629.56	-10342	-5734	-1187	4.31	4.31	-9503	9600	5793	101952	21685	21981	43666	No	36.79	Si
SLU 72	14.6	971.07	-852	-472	-1089	4.31	3.045	-783	8438	3675	101952	21685	21981	43666	No	40.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	11.45	585.42	-8551	-4741	-6053	4.31	4.31	-7857	14071	8491	101952	32527	21981	54508		9.01	Si
SLV 9	14.6	1839.71	-792	-439	-4985	4.31	0	-19961	16250	5404	101952	32527	21981	54508		10.93	Si
SLV 7	11.45	2588.97	-5868	-3254	5352	4.31	4.31	-5392	13578	8193	101952	32527	21981	54508		10.18	Si
SLV 7	14.6	-1067.96	-198	-110	4262	3.448	0	0	0	0	101952	26022	17585	43606		10.23	Si
SLV 11	11.45	2457.71	-6549	-3631	5619	4.31	4.31	-6018	13704	8269	101952	32527	21981	54508		9.7	Si
SLV 11	14.6	-886.15	-390	-216	4526	3.448	0	0	0	0	101952	26022	17585	43606		9.64	Si
SLD 6	11.45	1080.96	-7608	-4218	-3883	4.31	4.31	-6991	13898	8386	101952	32527	21981	54508		14.04	Si
SLD 6	14.6	1160.14	-555	-308	-3234	4.31	0.1994	-7133	13980	5352	101952	32527	21981	54508		16.86	Si
SLV 12	11.45	2494.43	-6545	-3629	5819	4.31	4.31	-6014	13703	8268	101952	32527	21981	54508		9.37	Si
SLV 12	14.6	-904.61	-385	-214	4727	3.448	0	0	0	0	101952	26022	17585	43606		9.23	Si
SLV 10	11.45	622.14	-8546	-4739	-5853	4.31	4.31	-7853	14071	8490	101952	32527	21981	54508		9.31	Si
SLV 10	14.6	1821.25	-787	-436	-4784	4.31	0	-19563	16250	5403	101952	32527	21981	54508		11.39	Si
SLD 5	11.45	1057.86	-7611	-4220	-4009	4.31	4.31	-6994	13899	8386	101952	32527	21981	54508		13.6	Si
SLD 5	14.6	1171.76	-558	-310	-3360	4.31	0.1702	-7522	14069	5352	101952	32527	21981	54508		16.22	Si
SLV 8	11.45	2625.69	-5864	-3251	5552	4.31	4.31	-5388	13578	8193	101952	32527	21981	54508		9.82	Si
SLV 8	14.6	-1086.42	-193	-107	4463	3.448	0	0	0	0	101952	26022	17585	43606		9.77	Si
SLV 5	11.45	716.68	-7870	-4364	-6320	4.31	4.31	-7232	13946	8415	101952	32527	21981	54508		8.62	Si
SLV 5	14.6	1657.9	-600	-332	-5249	4.31	0	-21196	16250	5362	101952	32527	21981	54508		10.38	Si
SLV 6	11.45	753.4	-7865	-4361	-6120	4.31	4.31	-7227	13945	8415	101952	32527	21981	54508		8.91	Si
SLV 6	14.6	1639.44	-595	-330	-5048	4.31	0	-20960	16250	5360	101952	32527	21981	54508		10.8	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-2872	0.52	265.82	0	526.8	263.4	0.99	No
SLV 4	-2929	0.52	265.82	0	531.9	265.95	1	Si
SLV 1	-3124	0.52	265.82	0	549.39	274.7	1.03	Si
SLV 2	-3181	0.52	265.82	0	554.48	277.24	1.04	Si
SLV 7	-3422	0.52	265.82	0	575.93	287.96	1.08	Si
SLV 8	-3461	0.52	265.82	0	579.32	289.66	1.09	Si
SLV 11	-4138	0.52	265.82	278.83	639.34	459.09	1.73	Si
SLV 12	-4176	0.52	265.82	281.3	642.72	462.01	1.74	Si
SLV 5	-4262	0.52	265.82	286.87	650.34	468.61	1.76	Si
SLV 6	-4301	0.52	265.82	289.34	653.72	471.53	1.77	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-877	-8646	100	9.355	394	0.899	151.19534	14.52479	Si
SLV 14	-870	-8639	100	9.381	393.4	0.9	151.56536	14.52479	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-756	-8045	90	9.816	384.9	0.904	157.81502	14.52479	Si
SLV 16	-749	-8039	90	9.844	384.4	0.904	158.20868	14.52479	Si
SLV 1	-236	-6376	-90	12.433	354	0.949	190.30945	14.52479	Si
SLV 2	-229	-6369	-90	12.477	353.7	0.951	190.77466	14.52479	Si
SLV 3	-115	-5775	-101	13.246	350.2	0.971	198.20262	14.52479	Si
SLV 4	-108	-5769	-101	13.296	350	0.973	198.65685	14.52479	Si
SLV 9	-792	-8551	46	9.694	387.6	0.902	156.11454	7.53022	Si
SLV 10	-787	-8546	46	9.712	387.2	0.903	156.37521	7.53022	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.725	SLU 72	Si
V_SLU	34.157	SLU 36	Si
PF_SLV	1.868	SLV 5	Si
V_SLV	8.625	SLV 5	Si
PFFP_SLV	0.991	SLV 3	No
R_SLV	10.409	SLV 13	Si

Maschio 243

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.403	-3.169	-8.543	-3.169	L7	L8	1.14	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	12.35	852.65	-1774	-0.0000539	0.0003743	0.0035	1.14	956.23	6285.49	6285.49	7.37	No	Si
SLU 84	14.15	-846.03	-1181	-0.0000893	0.0003743	0.0035	1.14	0	5988.88	5988.88	7.08	No	Si
SLU 74	12.35	834.79	-2097	-0.000042	0.0003743	0.0035	1.14	1117.99	6420.31	6420.31	7.69	No	Si
SLU 74	14.15	-858.15	-1427	-0.000074	0.0003743	0.0035	1.14	0	6116.75	6116.75	7.13	No	Si
SLU 73	12.35	860	-1815	-0.0000533	0.0003743	0.0035	1.14	976.65	6303.59	6303.59	7.33	No	Si
SLU 73	14.15	-854.75	-1215	-0.0000886	0.0003743	0.0035	1.14	0	6006.42	6006.42	7.03	No	Si
SLU 81	12.35	857.56	-1685	-0.0000588	0.0003743	0.0035	1.14	910.82	6240.69	6240.69	7.28	No	Si
SLU 81	14.15	-844.38	-1138	-0.0000923	0.0003743	0.0035	1.14	0	5966.03	5966.03	7.07	No	Si
SLU 75	12.35	845.53	-2112	-0.0000428	0.0003743	0.0035	1.14	1125.52	6426.52	6426.52	7.6	No	Si
SLU 75	14.15	-870.47	-1447	-0.0000752	0.0003743	0.0035	1.14	0	6127.02	6127.02	7.04	No	Si
SLU 77	12.35	819.16	-2171	-0.0000394	0.0003743	0.0035	1.14	1154.61	6450.51	6450.51	7.87	No	Si
SLU 77	14.15	-847.49	-1450	-0.0000704	0.0003743	0.0035	1.14	0	6128.8	6128.8	7.23	No	Si
SLU 83	12.35	841.92	-1759	-0.0000529	0.0003743	0.0035	1.14	948.51	6277.88	6277.88	7.46	No	Si
SLU 83	14.15	-833.72	-1161	-0.0000881	0.0003743	0.0035	1.14	0	5978.38	5978.38	7.17	No	Si
SLU 82	12.35	868.29	-1701	-0.0000599	0.0003743	0.0035	1.14	918.58	6248.34	6248.34	7.2	No	Si
SLU 82	14.15	-856.7	-1158	-0.0000935	0.0003743	0.0035	1.14	0	5976.55	5976.55	6.98	No	Si
SLU 78	12.35	829.89	-2186	-0.0000401	0.0003743	0.0035	1.14	1162.1	6456.69	6456.69	7.78	No	Si
SLU 78	14.15	-859.8	-1470	-0.0000715	0.0003743	0.0035	1.14	0	6139.05	6139.05	7.14	No	Si
SLU 76	12.35	844.36	-1889	-0.0000484	0.0003743	0.0035	1.14	1014	6334.46	6334.46	7.5	No	Si
SLU 76	14.15	-844.09	-1238	-0.0000845	0.0003743	0.0035	1.14	0	6018.69	6018.69	7.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	12.35	1468.23	58	-0.0005164	0.0005615	0.0035	1.14		5079.23	5079.23	3.46		Si
SLV 3	14.15	-1262.33	-713	-0.0002362	0.0005615	0.0035	1.14		5977.2	5977.2	4.74		Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	12.35	2317.62	-603	-0.0006127	0.0005615	0.0035	1.14		5865.31	5865.31	2.53		Si
SLV 5	14.15	-1905.26	-1505	-0.0003175	0.0005615	0.0035	1.14		6559.45	6559.45	3.44		Si
SLV 4	12.35	1863.82	536	0.0002457	0.0005615	0.0035	0.912		2993.87	2993.87	1.61		Si
SLV 4	14.15	-1547.76	-738	-0.0003152	0.0005615	0.0035	1.14		6000.42	6000.42	3.88		Si
SLV 6	12.35	2583.96	-281	-0.0008417	0.0005615	0.0035	1.14		5554.22	5554.22	2.15		Si
SLV 6	14.15	-2097.43	-1522	-0.0003697	0.0005615	0.0035	1.14		6570.66	6570.66	3.13		Si
SLD 5	12.35	1674.85	-929	-0.0003246	0.0005615	0.0035	1.14		6146.15	6146.15	3.67		Si
SLD 5	14.15	-1416.01	-1278	-0.0002129	0.0005615	0.0035	1.14		6402.26	6402.26	4.52		Si
SLD 6	12.35	1842.39	-726	-0.0004107	0.0005615	0.0035	1.14		5981.54	5981.54	3.25		Si
SLD 6	14.15	-1536.9	-1288	-0.0002427	0.0005615	0.0035	1.14		6409.59	6409.59	4.17		Si
SLV 2	12.35	2706.93	820	0.0001506	0.0005615	0.0035	0.912		250.2	250.2	0.09		No
SLV 2	14.15	-2186.57	-1099	-0.0004567	0.0005615	0.0035	1.14		6276.29	6276.29	2.87		Si
SLV 1	12.35	2311.34	342	-0.0005847	0.0005615	0.0035	1.14		4402.14	4402.14	1.9		Si
SLV 1	14.15	-1901.14	-1074	-0.0003706	0.0005615	0.0035	1.14		6258.68	6258.68	3.29		Si
SLD 1	12.35	1684.82	-322	-0.0004539	0.0005615	0.0035	1.14		5594.55	5594.55	3.32		Si
SLD 1	14.15	-1424.57	-1011	-0.0002435	0.0005615	0.0035	1.14		6213.46	6213.46	4.36		Si
SLD 2	12.35	1937.56	-16	-0.0006744	0.0005615	0.0035	1.14		5185.15	5185.15	2.68		Si
SLD 2	14.15	-1606.93	-1027	-0.0002914	0.0005615	0.0035	1.14		6224.78	6224.78	3.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.35	829.89	-2186	-1820	1699	1.14	0.571	-10890	8417	1510	9040	9558	2907	10550	No	6.21	Si
SLU 78	14.15	-859.8	-1470	-1224	743	1.14	0	-15136	9264	1351	9040	9558	2907	10391	No	13.98	Si
SLU 82	12.35	868.29	-1701	-1416	1771	1.14	0.1782	-14185	8990	1402	9040	9558	2907	10442	No	5.9	Si
SLU 82	14.15	-856.7	-1158	-964	742	1.14	0	-15741	9723	1281	9040	9558	2907	10321	No	13.92	Si
SLU 74	12.35	834.79	-2097	-1746	1706	1.14	0.5155	-11280	8477	1490	9040	9558	2907	10530	No	6.17	Si
SLU 74	14.15	-858.15	-1427	-1188	734	1.14	0	-15268	9320	1341	9040	9558	2907	10381	No	14.14	Si
SLU 81	12.35	857.56	-1685	-1403	1747	1.14	0.1835	-13977	8957	1399	9040	9558	2907	10438	No	5.97	Si
SLU 81	14.15	-844.38	-1138	-947	728	1.14	0	-15519	9689	1277	9040	9558	2907	10317	No	14.18	Si
SLU 84	12.35	852.65	-1774	-1478	1740	1.14	0.2685	-13318	8825	1418	9040	9558	2907	10458	No	6.01	Si
SLU 84	14.15	-846.03	-1181	-984	737	1.14	0	-15542	9630	1287	9040	9558	2907	10326	No	14.02	Si
SLU 73	12.35	860	-1815	-1511	1745	1.14	0.2883	-13287	8813	1427	9040	9558	2907	10467	No	6	Si
SLU 73	14.15	-854.75	-1215	-1011	744	1.14	0	-15686	9624	1294	9040	9558	2907	10334	No	13.88	Si
SLU 76	12.35	844.36	-1889	-1573	1715	1.14	0.3688	-12447	8668	1444	9040	9558	2907	10484	No	6.11	Si
SLU 76	14.15	-844.09	-1238	-1031	739	1.14	0	-15452	9531	1299	9040	9558	2907	10339	No	13.99	Si
SLU 83	12.35	841.92	-1759	-1465	1717	1.14	0.2743	-13108	8793	1415	9040	9558	2907	10455	No	6.09	Si
SLU 83	14.15	-833.72	-1161	-967	723	1.14	0	-15322	9596	1282	9040	9558	2907	10322	No	14.28	Si
SLU 75	12.35	845.53	-2112	-1759	1729	1.14	0.5089	-11468	8503	1493	9040	9558	2907	10533	No	6.09	Si
SLU 75	14.15	-870.47	-1447	-1205	748	1.14	0	-15486	9354	1346	9040	9558	2907	10385	No	13.88	Si
SLU 80	12.35	821.57	-1953	-1626	1668	1.14	0.4477	-11547	8525	1458	9040	9558	2907	10498	No	6.29	Si
SLU 80	14.15	-825.21	-1248	-1039	725	1.14	0	-15048	9416	1302	9040	9558	2907	10341	No	14.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	12.35	2583.96	-281	-234	4258	1.14	0	0	0	1599	9040	14337	2907	10639		2.5	Si
SLV 6	14.15	-2097.43	-1522	-1267	2189	1.14	0	-32308	16250	1875	9040	14337	2907	10914		4.99	Si
SLD 5	12.35	1674.85	-929	-773	2850	1.14	0	0	16250	1743	9040	14337	2907	10783		3.78	Si
SLD 5	14.15	-1416.01	-1278	-1064	1434	1.14	0	-23960	16250	1820	9040	14337	2907	10860		7.57	Si
SLV 1	12.35	2311.34	342	285	4104	1.14	0	0	9813	1537	9040	14337	2907	10576		2.58	Si
SLV 1	14.15	-1901.14	-1074	-895	1695	1.14	0	0	16250	1775	9040	14337	2907	10815		6.38	Si
SLV 2	12.35	2706.93	820	683	4738	0.912	0	0	0	0	9040	11470	2326	9040		1.91	Si
SLV 2	14.15	-2186.57	-1099	-915	2002	1.14	0	0	16250	1781	9040	14337	2907	10820		5.4	Si
SLV 4	12.35	1863.82	536	447	3501	0.912	0	0	0	0	9040	11470	2326	9040		2.58	Si
SLV 4	14.15	-1547.76	-738	-614	1233	1.14	0	0	16250	1700	9040	14337	2907	10740		8.71	Si
SLV 5	12.35	2317.62	-603	-502	3831	1.14	0	0	16250	1670	9040	14337	2907	10710		2.8	Si
SLV 5	14.15	-1905.26	-1505	-1253	1983	1.14	0	-30431	16250	1871	9040	14337	2907	10911		5.5	Si
SLD 2	12.35	1937.56	-16	-13	3449	1.14	0	0	5467	1540	9040	14337	2907	10580		3.07	Si
SLD 2	14.15	-1606.93	-1027	-855	1460	1.14	0	0	16250	1765	9040	14337	2907	10804		7.4	Si
SLV 3	12.35	1468.23	58	49	2867	1.14	0	0	8375	1537	9040	14337	2907	10576		3.69	Si
SLV 3	14.15	-1262.33	-713	-594	926	1.14	0	0	16250	1695	9040	14337	2907	10735		11.6	Si
SLD 1	12.35	1684.82	-322	-268	3044	1.14	0	0	0	1608	9040	14337	2907	10648		3.5	Si
SLD 1	14.15	-1424.57	-1011	-842	1264	1.14	0	-22172	16250	1761	9040	14337	2907	10801		8.54	Si
SLD 6	12.35	1842.39	-726	-605	3119	1.14	0	0	16250	1698	9040	14337	2907	10738		3.44	Si
SLD 6	14.15	-1536.9	-1288	-1073	1564	1.14	0	-25301	16250	1823	9040	14337	2907	10862		6.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.52	0	-749	129.21	0	0	No, e>t/2
SLV 2	179667	0.52	0	1297	129.21	0	0	No, Trazione
SLV 3	179667	0.52	0	548	129.21	0	0	No, Trazione
SLV 1	179667	0.52	0	819	129.21	0	0	No, Trazione
SLV 4	179667	0.52	0	1027	129.21	0	0	No, Trazione
SLV 6	179667	0.52	0	154	129.21	0	0	No, Trazione
SLV 5	179667	0.52	0	-168	129.21	0	0	No, e>t/2
SLV 10	179667	0.52	3228	-1031	129.21	141.22	1.09	Si
SLV 7	179667	0.52	3354	-1071	129.21	146.6	1.13	Si
SLV 9	179667	0.52	4237	-1352	129.21	184.09	1.42	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-984	-2384	-73	3.417	253.2	0.889	55.85619	7.57858	Si
SLV 15	-946	-1203	-63	3.492	249.7	0.889	57.09628	7.57858	Si
SLV 14	-938	-2631	-73	3.502	249	0.889	57.25281	7.57858	Si
SLV 16	-900	-1450	-62	3.581	245.5	0.889	58.54812	7.57858	Si
SLV 9	-724	-4489	-39	3.975	229.9	0.89	64.90493	5.5671	Si
SLV 10	-693	-4656	-39	4.052	227.2	0.891	66.11968	5.5671	Si
SLV 1	-136	-4347	57	6.179	187.7	0.946	94.90796	7.57858	Si
SLV 11	-597	-552	-5	4.332	219.1	0.893	70.50031	5.5671	Si
SLV 3	-98	-3166	68	6.403	186.3	0.958	97.15586	7.57858	Si
SLV 2	-90	-4594	58	6.465	186	0.961	97.80675	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.976	SLU 82	Si
V_SLU	5.897	SLU 82	Si
PF_SLV	0.092	SLV 2	No
V_SLV	1.908	SLV 2	Si
PFFP_SLV	0	SLV 6	No
R_SLV	7.37	SLV 13	Si

Maschio 244

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.141	-5.158	5.811	L7	L8	4.67	0.14	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	11.45	507.41	-12881	-0.0000254	0.0004492	0.0035	4.67	25227.97	29927.78	29927.78	58.98	No	Si
SLU 50	14.6	7022.28	-4317	-0.0000358	0.0004492	0.0035	4.67	9536.51	11940.74	11940.74	1.7	No	Si
SLU 72	11.45	736.63	-14300	-0.0000287	0.0004492	0.0035	4.67	27413.13	32767.4	32767.4	44.48	No	Si
SLU 72	14.6	7257.04	-4636	-0.0000353	0.0004492	0.0035	4.67	10196.83	12635.92	12635.92	1.74	No	Si
SLU 51	11.45	516.83	-12863	-0.0000254	0.0004492	0.0035	4.67	25198.35	29890.28	29890.28	57.83	No	Si
SLU 51	14.6	7005.29	-4306	-0.0000357	0.0004492	0.0035	4.67	9513.54	11916.68	11916.68	1.7	No	Si
SLU 58	11.45	744.43	-13398	-0.000027	0.0004492	0.0035	4.67	26036.85	30961.85	30961.85	41.59	No	Si
SLU 58	14.6	6914.19	-4301	-0.0000347	0.0004492	0.0035	4.67	9502.78	11905.41	11905.41	1.72	No	Si
SLU 9	11.45	570.17	-10801	-0.0000216	0.0004492	0.0035	4.67	21809.67	25699.25	25699.25	45.07	No	Si
SLU 9	14.6	6094.52	-3750	-0.0000309	0.0004492	0.0035	4.67	8345.47	10702.31	10702.31	1.76	No	Si
SLU 8	11.45	560.74	-10819	-0.0000216	0.0004492	0.0035	4.67	21841.55	25737.41	25737.41	45.9	No	Si
SLU 8	14.6	6111.5	-3761	-0.000031	0.0004492	0.0035	4.67	8368.79	10726.37	10726.37	1.76	No	Si
SLU 48	11.45	375.13	-13028	-0.0000254	0.0004492	0.0035	4.67	25459.04	30221.15	30221.15	80.56	No	Si
SLU 48	14.6	6696.93	-4251	-0.0000328	0.0004492	0.0035	4.67	9397.16	11794.83	11794.83	1.76	No	Si
SLU 79	11.45	964.24	-14835	-0.0000303	0.0004492	0.0035	4.67	28206.69	33819.7	33819.7	35.07	No	Si
SLU 79	14.6	7165.94	-4631	-0.0000345	0.0004492	0.0035	4.67	10186.17	12624.65	12624.65	1.76	No	Si
SLU 71	11.45	727.21	-14319	-0.0000287	0.0004492	0.0035	4.67	27441.18	32804.22	32804.22	45.11	No	Si
SLU 71	14.6	7274.03	-4647	-0.0000354	0.0004492	0.0035	4.67	10219.58	12659.98	12659.98	1.74	No	Si
SLU 59	11.45	753.86	-13379	-0.000027	0.0004492	0.0035	4.67	26007.79	30924.35	30924.35	41.02	No	Si
SLU 59	14.6	6897.2	-4290	-0.0000346	0.0004492	0.0035	4.67	9479.81	11881.34	11881.34	1.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	11.45	461.72	-10564	-0.0000207	0.0006738	0.0035	4.67		25506.27	25506.27	55.24		Si
SLV 7	14.6	5774.32	-3991	-0.000026	0.0006738	0.0035	4.67		11294.69	11294.69	1.96		Si
SLV 2	11.45	4.73	-6520	-0.0000121	0.0006738	0.0035	4.67		16845.23	16845.23	3558.75		Si
SLV 2	14.6	4969.61	-2732	-0.0000307	0.0006738	0.0035	4.67		8482.5	8482.5	1.71		Si
SLD 4	11.45	242.8	-8262	-0.0000159	0.0006738	0.0035	4.67		20611.71	20611.71	84.89		Si
SLD 4	14.6	4881.53	-3052	-0.000024	0.0006738	0.0035	4.67		9198.96	9198.96	1.88		Si
SLV 1	11.45	-362.31	-6287	-0.0000125	0.0006738	0.0035	4.67		26444.83	26444.83	72.99		Si
SLV 1	14.6	5993.06	-3125	-0.0000437	0.0006738	0.0035	4.67		9361.97	9361.97	1.56		Si
SLV 3	11.45	-89.2	-7592	-0.0000143	0.0006738	0.0035	4.67		29243.65	29243.65	327.86		Si
SLV 3	14.6	6780.28	-3871	-0.0000386	0.0006738	0.0035	4.67		11030.25	11030.25	1.63		Si
SLV 5	11.45	-448.66	-6216	-0.0000126	0.0006738	0.0035	4.67		26291.49	26291.49	58.6		Si
SLV 5	14.6	3150.26	-1504	-0.0000359	0.0006738	0.0035	4.67		5726.36	5726.36	1.82		Si
SLV 4	11.45	277.85	-7824	-0.0000151	0.0006738	0.0035	4.67		19675.5	19675.5	70.81		Si
SLV 4	14.6	5756.83	-3478	-0.0000297	0.0006738	0.0035	4.67		10150.78	10150.78	1.76		Si
SLD 2	11.45	80.04	-7452	-0.000014	0.0006738	0.0035	4.67		18868.65	18868.65	235.74		Si
SLD 2	14.6	4394.14	-2588	-0.0000235	0.0006738	0.0035	4.67		8160.48	8160.48	1.86		Si
SLD 3	11.45	8.29	-8114	-0.000015	0.0006738	0.0035	4.67		20294.4	20294.4	2446.76		Si
SLD 3	14.6	5535.42	-3304	-0.000029	0.0006738	0.0035	4.67		9760.86	9760.86	1.76		Si
SLD 1	11.45	-154.46	-7303	-0.0000139	0.0006738	0.0035	4.67		28629.04	28629.04	185.35		Si
SLD 1	14.6	5048.02	-2839	-0.0000295	0.0006738	0.0035	4.67		8722.38	8722.38	1.73		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	11.45	375.13	-13028	-7223	-2107	4.67	4.67	-11048	9806	6666	101952	23496	23817	47313	No	22.46	Si
SLU 48	14.6	6696.93	-4251	-2357	-4236	4.67	2.2785	-3605	8814	4720	101952	23496	23817	47313	No	11.17	Si
SLU 49	11.45	384.55	-13009	-7213	-2146	4.67	4.67	-11032	9804	6662	101952	23496	23817	47313	No	22.05	Si
SLU 49	14.6	6679.94	-4240	-2351	-4232	4.67	2.2782	-3595	8813	4717	101952	23496	23817	47313	No	11.18	Si
SLU 51	11.45	516.83	-12863	-7132	-2324	4.67	4.67	-10908	9788	6629	101952	23496	23817	47313	No	20.36	Si
SLU 51	14.6	7005.29	-4306	-2388	-4591	4.67	2.1249	-3652	8820	4732	101952	23496	23817	47313	No	10.3	Si
SLU 72	11.45	736.63	-14300	-7929	-2100	4.67	4.67	-12127	9950	6948	101952	23496	23817	47313	No	22.53	Si
SLU 72	14.6	7257.04	-4636	-2570	-4235	4.67	2.3089	-3932	8858	4805	101952	23496	23817	47313	No	11.17	Si
SLU 58	11.45	744.43	-13398	-7428	-2152	4.67	4.67	-11362	9848	6748	101952	23496	23817	47313	No	21.98	Si
SLU 58	14.6	6914.19	-4301	-2385	-4118	4.67	2.1826	-3648	8820	4731	101952	23496	23817	47313	No	11.49	Si
SLU 59	11.45	753.86	-13379	-7418	-2192	4.67	4.67	-11346	9846	6744	101952	23496	23817	47313	No	21.59	Si
SLU 59	14.6	6897.2	-4290	-2379	-4114	4.67	2.1821	-3638	8818	4728	101952	23496	23817	47313	No	11.5	Si
SLU 8	11.45	560.74	-10819	-5999	-1852	4.67	4.67	-9175	9557	6248	101952	23496	23817	47313	No	25.55	Si
SLU 8	14.6	6111.5	-3761	-2085	-3880	4.67	2.1303	-3190	8759	4611	101952	23496	23817	47313	No	12.19	Si
SLU 50	11.45	507.41	-12881	-7142	-2284	4.67	4.67	-10924	9790	6634	101952	23496	23817	47313	No	20.71	Si
SLU 50	14.6	7022.28	-4317	-2394	-4596	4.67	2.1256	-3661	8822	4734	101952	23496	23817	47313	No	10.3	Si
SLU 69	11.45	594.93	-14465	-8020	-1883	4.67	4.67	-12267	9969	6985	101952	23496	23817	47313	No	25.13	Si
SLU 69	14.6	6948.67	-4580	-2539	-3880	4.67	2.4536	-3884	8851	4793	101952	23496	23817	47313	No	12.19	Si
SLU 71	11.45	727.21	-14319	-7939	-2061	4.67	4.67	-12143	9952	6952	101952	23496	23817	47313	No	22.96	Si
SLU 71	14.6	7274.03	-4647	-2577	-4240	4.67	2.3091	-3941	8859	4807	101952	23496	23817	47313	No	11.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	11.45	-97.12	-8062	-4470	-4623	4.67	4.67	-6837	13867	9067	101952	35244	23817	59061		12.77	Si
SLD 9	14.6	2289.06	-1442	-800	-1608	4.67	2.2441	-1223	12745	5985	101952	35244	23817	59061		36.73	Si
SLD 5	11.45	-192.98	-7287	-4040	-4584	4.67	4.67	-6180	13736	8981	101952	35244	23817	59061		12.88	Si
SLD 5	14.6	3249.12	-1817	-1008	-2923	4.67	1.6419	-1541	12808	6068	101952	35244	23817	59061		20.2	Si
SLV 9	11.45	-300.96	-7427	-4118	-6799	4.67	4.67	-6299	13760	8996	101952	35244	23817	59061		8.69	Si
SLV 9	14.6	1644.1	-915	-508	-1551	4.67	1.6168	-776	12655	5868	101952	35244	23817	59061		38.09	Si
SLV 8	11.45	708.84	-10721	-5944	4628	4.67	4.67	-9092	14318	9361	101952	35244	23817	59061		12.76	Si
SLV 8	14.6	5085.26	-3726	-2066	-1927	4.67	2.9104	-3160	13132	6492	101952	35244	23817	59061		30.65	Si
SLV 1	11.45	-362.31	-6287	-3486	-2764	4.67	4.67	-5332	13566	8870	101952	35244	23817	59061		21.37	Si
SLV 1	14.6	5993.06	-3125	-1733	-5941	4.67	1.252	-9926	14486	6358	101952	35244	23817	59061		9.94	Si
SLV 5	11.45	-448.66	-6216	-3447	-6738	4.67	4.67	-5272	13554	8862	101952	35244	23817	59061		8.76	Si
SLV 5	14.6	3150.26	-1504	-834	-3610	4.67	0.7211	-8157	14137	5999	101952	35244	23817	59061		16.36	Si
SLV 10	11.45	-53.84	-7584	-4205	-6673	4.67	4.67	-6431	13786	9013	101952	35244	23817	59061		8.85	Si
SLV 10	14.6	955.04	-651	-361	-678	4.67	2.6013	-552	12610	5810	101952	35244	23817	59061		87.08	Si
SLV 6	11.45	-201.54	-6373	-3533	-6612	4.67	4.67	-5404	13581	8879	101952	35244	23817	59061		8.93	Si
SLV 6	14.6	2461.2	-1239	-687	-2738	4.67	1.0466	-4689	13438	5940	101952	35244	23817	59061		21.57	Si
SLV 2	11.45	4.73	-6520	-3615	-2577	4.67	4.67	-5529	13606	8895	101952	35244	23817	59061		22.92	Si
SLV 2	14.6	4969.61	-2732	-1515	-4645	4.67	1.5478	-2317	12963	6271	101952	35244	23817	59061		12.71	Si
SLV 3	11.45	-89.2	-7592	-4209	608	4.67	4.67	-6438	13788	9014	101952	35244	23817	59061		97.15	Si
SLV 3	14.6	6780.28	-3871	-2146	-5698	4.67	1.7506	-3283	13157	6524	101952	35244	23817	59061		10.37	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 13.025 Ta 0.12 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-5291	0.52	288.03	354.05	755.73	554.89	1.93	Si
SLV 2	-5417	0.52	288.03	362.05	766.66	564.35	1.96	Si
SLV 3	-5572	0.52	288.03	371.93	780.19	576.06	2	Si
SLV 4	-5698	0.52	288.03	379.9	791.11	585.5	2.03	Si
SLV 5	-5728	0.52	288.03	381.8	793.73	587.76	2.04	Si
SLV 6	-5813	0.52	288.03	387.14	801.08	594.11	2.06	Si
SLV 9	-6366	0.52	288.03	421.93	849.1	635.51	2.21	Si
SLV 10	-6450	0.52	288.03	427.21	856.41	641.81	2.23	Si
SLV 7	-6665	0.52	288.03	440.58	874.98	657.78	2.28	Si
SLV 8	-6749	0.52	288.03	445.84	882.29	664.06	2.31	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.03 Ta = 0.1184

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-3871	-7592	-195	4.577	696.3	0.901	73.80834	14.52479	Si
SLV 4	-3478	-7824	-195	4.913	657.8	0.898	79.50696	14.52479	Si
SLV 1	-3125	-6287	-189	5.261	623.6	0.895	85.39717	14.52479	Si
SLV 2	-2732	-6520	-189	5.711	585.8	0.893	92.98696	14.52479	Si
SLV 15	-1909	-11629	190	6.954	508.9	0.889	113.692	14.52479	Si
SLV 16	-1516	-11861	190	7.763	473.8	0.89	126.77987	14.52479	Si
SLV 7	-3991	-10564	-67	4.506	708	0.902	72.58236	7.53022	Si
SLV 13	-1163	-10324	196	8.666	443.9	0.894	140.8627	14.52479	Si
SLV 8	-3726	-10721	-67	4.719	682	0.9	76.19113	7.53022	Si
SLV 11	-3402	-11775	48	5.012	650.4	0.898	81.15582	7.53022	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.7	SLU 50	Si
V_SLU	10.295	SLU 50	Si
PF_SLV	1.562	SLV 1	Si
V_SLV	8.687	SLV 9	Si
PFFP_SLV	1.927	SLV 1	Si
R_SLV	5.082	SLV 3	Si

Maschio 246

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.938	-3.169	-6.503	-3.169	L7	L8	0.565	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	13.45	85.88	-716	-0.0000156	0.0003743	0.0035	0.565	193.33	213.69	213.69	2.49	No	Si
SLU 47	14.25	-189.43	-797	-0.0000645	0.0003743	0.0035	0.452	214.05	284.66	284.66	1.5	No	Si
SLU 44	13.45	91.24	-701	-0.0000163	0.0003743	0.0035	0.565	189.52	209.79	209.79	2.3	No	Si
SLU 44	14.25	-195.35	-804	-0.0000736	0.0003743	0.0035	0.452	215.73	286.39	286.39	1.47	No	Si
SLU 65	13.45	99.08	-837	-0.0000181	0.0003743	0.0035	0.565	224.15	245.27	245.27	2.48	No	Si
SLU 65	14.25	-222.17	-977	-0.0000655	0.0003743	0.0035	0.452	259.21	331.71	331.71	1.49	No	Si
SLU 55	13.45	90.21	-699	-0.0000161	0.0003743	0.0035	0.565	188.96	209.21	209.21	2.32	No	Si
SLU 55	14.25	-192.5	-804	-0.0000677	0.0003743	0.0035	0.452	215.82	286.48	286.48	1.49	No	Si
SLU 52	13.45	95.57	-684	-0.000017	0.0003743	0.0035	0.565	185.15	205.31	205.31	2.15	No	Si
SLU 52	14.25	-198.42	-811	-0.0000774	0.0003743	0.0035	0.452	217.5	288.22	288.22	1.45	No	Si
SLU 61	13.45	96.46	-696	-0.0000171	0.0003743	0.0035	0.565	188.23	208.47	208.47	2.16	No	Si
SLU 61	14.25	-195.69	-815	-0.0000699	0.0003743	0.0035	0.452	218.49	289.24	289.24	1.48	No	Si
SLU 76	13.45	98.04	-835	-0.0000179	0.0003743	0.0035	0.565	223.6	244.71	244.71	2.5	No	Si
SLU 76	14.25	-219.32	-977	-0.0000621	0.0003743	0.0035	0.452	259.29	331.8	331.8	1.51	No	Si
SLU 73	13.45	103.4	-820	-0.0000186	0.0003743	0.0035	0.565	219.85	240.85	240.85	2.33	No	Si
SLU 73	14.25	-225.24	-984	-0.0000679	0.0003743	0.0035	0.452	260.93	333.49	333.49	1.48	No	Si
SLU 82	13.45	104.29	-832	-0.0000188	0.0003743	0.0035	0.565	222.88	243.97	243.97	2.34	No	Si
SLU 82	14.25	-222.51	-988	-0.0000637	0.0003743	0.0035	0.452	261.9	334.49	334.49	1.5	No	Si
SLU 63	13.45	91.1	-711	-0.0000163	0.0003743	0.0035	0.565	192.04	212.37	212.37	2.33	No	Si
SLU 63	14.25	-189.77	-808	-0.0000617	0.0003743	0.0035	0.452	216.81	287.5	287.5	1.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	13.45	203.47	-110	-0.0135748	0.0005615	0.0035	0.452		49.89	49.89	0.25		No
SLV 10	14.25	-441.4	-639	-0.0028337	0.0005615	0.0035	0.452		244.76	244.76	0.55		No
SLV 2	13.45	309.09	319	0.0117252	0.0005615	0.0035	0.452		0	0	0		No
SLV 2	14.25	-550.61	-425	-0.0056055	0.0005615	0.0035	0.452		186.87	186.87	0.34		No
SLV 5	13.45	244.12	138	-0.0207626	0.0005615	0.0035	0.452		0	0	0		No
SLV 5	14.25	-514.6	-473	-0.0047939	0.0005615	0.0035	0.452		200.01	200.01	0.39		No
SLV 6	13.45	294.96	285	0.0018864	0.0005615	0.0035	0.452		0	0	0		No
SLV 6	14.25	-587.04	-487	-0.0059782	0.0005615	0.0035	0.452		203.63	203.63	0.35		No
SLD 5	13.45	180.19	-156	-0.010508	0.0005615	0.0035	0.452		62.78	62.78	0.35		No
SLD 5	14.25	-380.96	-563	-0.0021518	0.0005615	0.0035	0.452		224.34	224.34	0.59		No
SLD 6	13.45	212.17	-64	-0.0154418	0.0005615	0.0035	0.452		37.11	37.11	0.17		No
SLD 6	14.25	-426.53	-572	-0.0028176	0.0005615	0.0035	0.452		226.61	226.61	0.53		No
SLV 1	13.45	233.58	101	-0.0205758	0.0005615	0.0035	0.452		0	0	0		No
SLV 1	14.25	-443.01	-405	-0.0037698	0.0005615	0.0035	0.452		181.48	181.48	0.41		No
SLD 1	13.45	174.17	-172	-0.0096368	0.0005615	0.0035	0.452		67.04	67.04	0.38		No
SLD 1	14.25	-337.56	-516	-0.0017237	0.0005615	0.0035	0.452		211.58	211.58	0.63		No
SLD 2	13.45	222.41	-33	-0.0170877	0.0005615	0.0035	0.452		28.32	28.32	0.13		No
SLD 2	14.25	-406.31	-529	-0.002635	0.0005615	0.0035	0.452		214.99	214.99	0.53		No
SLV 4	13.45	219.14	-77	-0.0157026	0.0005615	0.0035	0.452		40.63	40.63	0.19		No
SLV 4	14.25	-358.68	-522	-0.0019704	0.0005615	0.0035	0.452		213.12	213.12	0.59		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	13.45	103.4	-820	-683	473	0.565	0.4692	-4316	7520	988	35683	4737	1441	6178	No	13.05	Si
SLU 73	14.25	-225.24	-984	-819	197	0.452	0.1606	0	0	0	35683	3790	1153	4942	No	25.03	Si
SLU 68	13.45	93.71	-852	-709	444	0.565	0.5174	-4483	7542	1093	35683	4737	1441	6178	No	13.9	Si
SLU 68	14.25	-216.25	-970	-808	182	0.452	0.1788	0	0	0	35683	3790	1153	4942	No	27.18	Si
SLU 65	13.45	99.08	-837	-697	463	0.565	0.4924	-4405	7532	1038	35683	4737	1441	6178	No	13.36	Si
SLU 65	14.25	-222.17	-977	-813	192	0.452	0.1651	0	0	0	35683	3790	1153	4942	No	25.78	Si
SLU 81	13.45	102.85	-861	-717	459	0.565	0.489	-4531	7549	1034	35683	4737	1441	6178	No	13.45	Si
SLU 81	14.25	-216.45	-989	-824	185	0.452	0.1909	0	0	0	35683	3790	1153	4942	No	26.66	Si
SLU 75	13.45	93.72	-997	-830	438	0.565	0.565	-5246	7644	1209	35683	4737	1441	6178	No	14.1	Si
SLU 75	14.25	-221.72	-1126	-938	188	0.452	0.2569	0	0	0	35683	3790	1153	4942	No	26.25	Si
SLU 83	13.45	97.49	-876	-729	441	0.565	0.5135	-4608	7559	1087	35683	4737	1441	6178	No	14	Si
SLU 83	14.25	-210.53	-982	-818	176	0.452	0.2046	0	0	0	35683	3790	1153	4942	No	28.16	Si
SLU 84	13.45	98.93	-847	-705	452	0.565	0.497	-4457	7539	1049	35683	4737	1441	6178	No	13.65	Si
SLU 84	14.25	-216.59	-981	-817	184	0.452	0.1851	0	0	0	35683	3790	1153	4942	No	26.83	Si
SLU 82	13.45	104.29	-832	-693	471	0.565	0.4714	-4379	7528	994	35683	4737	1441	6178	No	13.13	Si
SLU 82	14.25	-222.51	-988	-822	194	0.452	0.1716	0	0	0	35683	3790	1153	4942	No	25.47	Si
SLU 76	13.45	98.04	-835	-695	455	0.565	0.4952	-4394	7530	1044	35683	4737	1441	6178	No	13.57	Si
SLU 76	14.25	-219.32	-977	-814	188	0.452	0.1741	0	0	0	35683	3790	1153	4942	No	26.35	Si
SLU 64	13.45	96.67	-885	-737	444	0.565	0.5198	-4658	7566	1101	35683	4737	1441	6178	No	13.91	Si
SLU 64	14.25	-212.07	-979	-815	177	0.452	0.1977	0	0	0	35683	3790	1153	4942	No	27.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	13.45	244.12	138	115	1368	0.452	0	0	0	0	35683	5685	1153	6837		5	Si
SLV 5	14.25	-514.6	-473	-394	91	0.452	0	0	0	0	35683	5685	1153	6837		75.34	Si
SLD 5	13.45	180.19	-156	-130	980	0.452	0	0	0	0	35683	5685	1153	6837		6.97	Si
SLD 5	14.25	-380.96	-563	-469	108	0.452	0	0	0	0	35683	5685	1153	6837		63.38	Si
SLV 10	13.45	203.47	-110	-92	1097	0.452	0	0	0	0	35683	5685	1153	6837		6.23	Si
SLV 10	14.25	-441.4	-639	-532	196	0.452	0	0	0	0	35683	5685	1153	6837		34.91	Si
SLV 1	13.45	233.58	101	84	1260	0.452	0	0	0	0	35683	5685	1153	6837		5.43	Si
SLV 1	14.25	-443.01	-405	-337	20	0.452	0	0	0	0	35683	5685	1153	6837		349.8	Si
SLD 6	13.45	212.17	-64	-53	1119	0.452	0	0	0	0	35683	5685	1153	6837		6.11	Si
SLD 6	14.25	-426.53	-572	-476	146	0.452	0	0	0	0	35683	5685	1153	6837		46.81	Si
SLV 2	13.45	309.09	319	266	1587	0.452	0	0	0	0	35683	5685	1153	6837		4.31	Si
SLV 2	14.25	-550.61	-425	-354	110	0.452	0	0	0	0	35683	5685	1153	6837		62.32	Si
SLV 6	13.45	294.96	285	237	1589	0.452	0	0	0	0	35683	5685	1153	6837		4.3	Si
SLV 6	14.25	-587.04	-487	-405	151	0.452	0	0	0	0	35683	5685	1153	6837		45.15	Si
SLD 2	13.45	222.41	-33	-27	1128	0.452	0	0	0	0	35683	5685	1153	6837		6.06	Si
SLD 2	14.25	-406.31	-529	-440	119	0.452	0	0	0	0	35683	5685	1153	6837		57.59	Si
SLV 4	13.45	219.14	-77	-64	1048	0.452	0	0	0	0	35683	5685	1153	6837		6.52	Si
SLV 4	14.25	-358.68	-522	-434	106	0.452	0	0	0	0	35683	5685	1153	6837		64.69	Si
SLD 1	13.45	174.17	-172	-143	918	0.452	0	0	0	0	35683	5685	1153	6837		7.45	Si
SLD 1	14.25	-337.56	-516	-430	61	0.452	0	0	0	0	35683	5685	1153	6837		111.88	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	0	28	64.04	0	0	No, Trazione
SLV 8	179667	0.52	0	-247	64.04	0	0	No, e>t/2
SLV 7	179667	0.52	0	-176	64.04	0	0	No, e>t/2
SLV 15	179667	0.52	0	-245	64.04	0	0	No, e>t/2
SLV 16	179667	0.52	0	-351	64.04	0	0	No, e>t/2
SLV 12	179667	0.52	0	-44	64.04	0	0	No, e>t/2
SLV 13	179667	0.52	4402	-696	64.04	94.68	1.48	Si
SLV 14	179667	0.52	5073	-803	64.04	108.63	1.7	Si
SLV 3	179667	0.52	5832	-923	64.04	124.23	1.94	Si
SLV 4	179667	0.52	6503	-1029	64.04	137.9	2.15	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-1346	-698	-44	1.8	209	0.914	28.60555	5.5671	Si
SLV 12	-1330	-701	-44	1.816	207.4	0.914	28.88157	5.5671	Si
SLV 15	-861	-1066	-11	2.474	161.1	0.899	40.01069	7.57858	Si
SLV 16	-837	-1071	-11	2.521	158.7	0.898	40.79929	7.57858	Si
SLV 7	-1224	-591	-48	1.926	196.9	0.911	30.73181	5.5671	Si
SLV 8	-1207	-594	-48	1.944	195.2	0.91	31.05028	5.5671	Si
SLV 3	-454	-708	-24	3.558	122.4	0.889	58.17186	7.57858	Si
SLV 4	-429	-713	-23	3.656	120.2	0.889	59.77341	7.57858	Si
SLV 13	-320	-1274	13	4.184	110.6	0.892	68.18766	7.57858	Si
SLV 14	-296	-1279	14	4.318	108.6	0.893	70.26888	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.453	SLU 52	Si
V_SLU	13.052	SLU 73	Si
PF_SLV	0	SLV 1	No
V_SLV	4.303	SLV 6	Si
PFFP_SLV	0	SLV 11	No
R_SLV	5.138	SLV 11	Si

Maschio 247

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.113	-3.169	-5.438	-3.169	L7	L8	2.325	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	13.45	891.82	-3460	-0.0000132	0.0003743	0.0035	2.325	3812.6	4130.39	4130.39	4.63	No	Si
SLU 61	14.25	-121.76	-1955	-0.0000052	0.0003743	0.0035	2.325	2206.03	3772.4	3772.4	30.98	No	Si
SLU 18	13.45	723.14	-2765	-0.0000105	0.0003743	0.0035	2.325	3079.86	3379.69	3379.69	4.67	No	Si
SLU 18	14.25	-69.48	-1619	-0.0000041	0.0003743	0.0035	2.325	1836.12	3403.54	3403.54	48.99	No	Si
SLU 62	13.45	862.74	-3444	-0.0000129	0.0003743	0.0035	2.325	3795.5	4112.77	4112.77	4.77	No	Si
SLU 62	14.25	-109.54	-1949	-0.0000051	0.0003743	0.0035	2.325	2198.61	3764.91	3764.91	34.37	No	Si
SLU 63	13.45	866.36	-3478	-0.000013	0.0003743	0.0035	2.325	3831.42	4149.8	4149.8	4.79	No	Si
SLU 63	14.25	-113.09	-1971	-0.0000051	0.0003743	0.0035	2.325	2223	3789.54	3789.54	33.51	No	Si
SLU 39	13.45	831.4	-3366	-0.0000126	0.0003743	0.0035	2.325	3714.44	4029.35	4029.35	4.85	No	Si
SLU 39	14.25	-16.31	-2172	-0.000005	0.0003743	0.0035	2.325	2441.81	4008.33	4008.33	245.73	No	Si
SLU 60	13.45	888.2	-3426	-0.000013	0.0003743	0.0035	2.325	3776.65	4093.37	4093.37	4.61	No	Si
SLU 60	14.25	-118.22	-1933	-0.0000051	0.0003743	0.0035	2.325	2181.63	3747.79	3747.79	31.7	No	Si
SLU 82	13.45	1000.08	-4062	-0.0000152	0.0003743	0.0035	2.325	4432.5	4770.59	4770.59	4.77	No	Si
SLU 82	14.25	-68.6	-2508	-0.0000061	0.0003743	0.0035	2.325	2805.21	4370.73	4370.73	63.72	No	Si
SLU 52	13.45	879.46	-3521	-0.0000132	0.0003743	0.0035	2.325	3876.03	4195.88	4195.88	4.77	No	Si
SLU 52	14.25	-133.79	-1988	-0.0000053	0.0003743	0.0035	2.325	2241.76	3808.52	3808.52	28.47	No	Si
SLU 81	13.45	996.45	-4027	-0.0000151	0.0003743	0.0035	2.325	4397.29	4734.04	4734.04	4.75	No	Si
SLU 81	14.25	-65.05	-2486	-0.000006	0.0003743	0.0035	2.325	2781.24	4346.95	4346.95	66.83	No	Si
SLU 19	13.45	726.77	-2799	-0.0000106	0.0003743	0.0035	2.325	3116.6	3417.21	3417.21	4.7	No	Si
SLU 19	14.25	-73.02	-1641	-0.0000041	0.0003743	0.0035	2.325	1860.76	3427.84	3427.84	46.94	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	13.45	-463.93	-1331	-0.0000057	0.0005615	0.0035	2.325		3083.93	3083.93	6.65		Si
SLV 11	14.25	335.01	-748	-0.0000036	0.0005615	0.0035	2.325		1141.6	1141.6	3.41		Si
SLV 4	13.45	1309.86	-3226	-0.000015	0.0005615	0.0035	2.325		3919.65	3919.65	2.99		Si
SLV 4	14.25	-622.41	-1668	-0.0000074	0.0005615	0.0035	2.325		3460.64	3460.64	5.56		Si
SLV 6	13.45	1893.29	-4745	-0.000022	0.0005615	0.0035	2.325		5574.1	5574.1	2.94		Si
SLV 6	14.25	-495.14	-2901	-0.0000095	0.0005615	0.0035	2.325		4827.25	4827.25	9.75		Si
SLV 15	13.45	-392.25	-1966	-0.0000067	0.0005615	0.0035	2.325		3793.09	3793.09	9.67		Si
SLV 15	14.25	577.7	-1363	-0.0000064	0.0005615	0.0035	2.325		1839.03	1839.03	3.18		Si
SLD 2	13.45	1411.54	-3713	-0.0000167	0.0005615	0.0035	2.325		4455.02	4455.02	3.16		Si
SLD 2	14.25	-493.9	-2117	-0.0000077	0.0005615	0.0035	2.325		3960.52	3960.52	8.02		Si
SLV 5	13.45	1639.42	-4580	-0.0000201	0.0005615	0.0035	2.325		5396.26	5396.26	3.29		Si
SLV 5	14.25	-341.07	-2900	-0.0000086	0.0005615	0.0035	2.325		4826.36	4826.36	14.15		Si
SLD 6	13.45	1452.43	-4102	-0.0000179	0.0005615	0.0035	2.325		4878.83	4878.83	3.36		Si
SLD 6	14.25	-338.01	-2496	-0.0000076	0.0005615	0.0035	2.325		4381.45	4381.45	12.96		Si
SLV 10	13.45	1495.79	-4440	-0.0000189	0.0005615	0.0035	2.325		5245.24	5245.24	3.51		Si
SLV 10	14.25	-203.75	-2810	-0.0000076	0.0005615	0.0035	2.325		4726.99	4726.99	23.2		Si
SLV 1	13.45	1444.53	-3865	-0.0000173	0.0005615	0.0035	2.325		4620.83	4620.83	3.2		Si
SLV 1	14.25	-509	-2285	-0.0000081	0.0005615	0.0035	2.325		4147.21	4147.21	8.15		Si
SLV 2	13.45	1821.61	-4110	-0.0000202	0.0005615	0.0035	2.325		4887.55	4887.55	2.68		Si
SLV 2	14.25	-737.82	-2286	-0.0000095	0.0005615	0.0035	2.325		4148.55	4148.55	5.62		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	13.45	987.72	-4123	-3433	1975	2.325	2.325	-5274	7648	4979	35683	19494	5929	25423	No	12.87	Si
SLU 73	14.25	-80.63	-2541	-2116	1647	2.325	2.325	-3250	7378	4803	35683	19494	5929	25423	No	15.44	Si
SLU 69	13.45	908.81	-4694	-3909	1962	2.325	2.325	-6004	7745	5042	35683	19494	5929	25423	No	12.96	Si
SLU 69	14.25	-58.11	-3035	-2527	1611	2.325	2.325	-3882	7462	4858	35683	19494	5929	25423	No	15.78	Si
SLU 64	13.45	947.21	-4154	-3459	1985	2.325	2.325	-5313	7653	4982	35683	19494	5929	25423	No	12.81	Si
SLU 64	14.25	-97.27	-2545	-2119	1650	2.325	2.325	-3255	7379	4803	35683	19494	5929	25423	No	15.41	Si
SLU 74	13.45	968.74	-4587	-3820	1940	2.325	2.325	-5868	7727	5030	35683	19494	5929	25423	No	13.1	Si
SLU 74	14.25	-44.23	-2978	-2480	1640	2.325	2.325	-3809	7452	4851	35683	19494	5929	25423	No	15.5	Si
SLU 66	13.45	934.27	-4676	-3894	2001	2.325	2.325	-5981	7742	5040	35683	19494	5929	25423	No	12.71	Si
SLU 66	14.25	-66.78	-3020	-2515	1652	2.325	2.325	-3863	7459	4856	35683	19494	5929	25423	No	15.39	Si
SLU 67	13.45	937.89	-4710	-3922	2031	2.325	2.325	-6025	7748	5044	35683	19494	5929	25423	No	12.52	Si
SLU 67	14.25	-70.33	-3042	-2533	1657	2.325	2.325	-3891	7463	4859	35683	19494	5929	25423	No	15.34	Si
SLU 68	13.45	927.79	-4230	-3522	1997	2.325	2.325	-5410	7666	4990	35683	19494	5929	25423	No	12.73	Si
SLU 68	14.25	-94.5	-2598	-2163	1618	2.325	2.325	-3323	7387	4809	35683	19494	5929	25423	No	15.71	Si
SLU 75	13.45	972.36	-4622	-3849	1970	2.325	2.325	-5912	7733	5034	35683	19494	5929	25423	No	12.9	Si
SLU 75	14.25	-47.78	-3000	-2499	1645	2.325	2.325	-3838	7456	4854	35683	19494	5929	25423	No	15.45	Si
SLU 70	13.45	912.43	-4729	-3938	1992	2.325	2.325	-6048	7751	5046	35683	19494	5929	25423	No	12.76	Si
SLU 70	14.25	-61.66	-3058	-2546	1616	2.325	2.325	-3911	7466	4860	35683	19494	5929	25423	No	15.73	Si
SLU 65	13.45	953.25	-4211	-3507	2035	2.325	2.325	-5387	7663	4988	35683	19494	5929	25423	No	12.49	Si
SLU 65	14.25	-103.18	-2582	-2150	1659	2.325	2.325	-3303	7385	4808	35683	19494	5929	25423	No	15.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	13.45	1452.43	-4102	-3415	3886	2.325	2.325	-5247	11466	7464	35683	29241	5929	35169		9.05	Si
SLD 6	14.25	-338.01	-2496	-2079	2876	2.325	2.325	-3193	11055	7197	35683	29241	5929	35169		12.23	Si
SLD 2	13.45	1411.54	-3713	-3092	3503	2.325	2.325	-4750	11367	7400	35683	29241	5929	35169		10.04	Si
SLD 2	14.25	-493.9	-2117	-1763	2612	2.325	2.325	-2708	10958	7134	35683	29241	5929	35169		13.46	Si
SLV 6	13.45	1893.29	-4745	-3951	5332	2.325	2.2905	-6069	11631	7459	35683	29241	5929	35169		6.6	Si
SLV 6	14.25	-495.14	-2901	-2416	3861	2.325	2.325	-3711	11159	7264	35683	29241	5929	35169		9.11	Si
SLD 5	13.45	1292.73	-3998	-3329	3398	2.325	2.325	-5114	11439	7447	35683	29241	5929	35169		10.35	Si
SLD 5	14.25	-241.09	-2496	-2078	2510	2.325	2.325	-3192	11055	7197	35683	29241	5929	35169		14.01	Si
SLV 2	13.45	1821.61	-4110	-3422	4699	2.325	2.1578	-5257	11468	6929	35683	29241	5929	35169		7.48	Si
SLV 2	14.25	-737.82	-2286	-1904	3426	2.325	2.325	-2924	11002	7162	35683	29241	5929	35169		10.27	Si
SLV 1	13.45	1444.53	-3865	-3218	3547	2.325	2.325	-4944	11405	7425	35683	29241	5929	35169		9.92	Si
SLV 1	14.25	-509	-2285	-1903	2562	2.325	2.325	-2923	11001	7162	35683	29241	5929	35169		13.73	Si
SLV 10	13.45	1495.79	-4440	-3698	4278	2.325	2.325	-5680	11553	7521	35683	29241	5929	35169		8.22	Si
SLV 10	14.25	-203.75	-2810	-2340	3165	2.325	2.325	-3594	11136	7249	35683	29241	5929	35169		11.11	Si
SLV 9	13.45	1241.91	-4275	-3560	3502	2.325	2.325	-5469	11510	7493	35683	29241	5929	35169		10.04	Si
SLV 9	14.25	-49.69	-2809	-2339	2584	2.325	2.325	-3593	11135	7249	35683	29241	5929	35169		13.61	Si
SLD 10	13.45	1202.52	-3908	-3254	3226	2.325	2.325	-4999	11416	7432	35683	29241	5929	35169		10.9	Si
SLD 10	14.25	-154.78	-2437	-2029	2440	2.325	2.325	-3117	11040	7187	35683	29241	5929	35169		14.41	Si
SLV 5	13.45	1639.42	-4580	-3814	4557	2.325	2.325	-5859	11588	7544	35683	29241	5929	35169		7.72	Si
SLV 5	14.25	-341.07	-2900	-2415	3279	2.325	2.325	-3710	11159	7264	35683	29241	5929	35169		10.72	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.52	3129	-2037	263.52	279.33	1.06	Si
SLV 8	179667	0.52	3159	-2056	263.52	281.93	1.07	Si
SLV 7	179667	0.52	3352	-2182	263.52	298.82	1.13	Si
SLV 3	179667	0.52	3416	-2224	263.52	304.41	1.16	Si
SLV 2	179667	0.52	3508	-2284	263.52	312.37	1.19	Si
SLV 12	179667	0.52	3523	-2293	263.52	313.68	1.19	Si
SLV 11	179667	0.52	3717	-2419	263.52	330.48	1.25	Si
SLV 1	179667	0.52	3795	-2471	263.52	337.32	1.28	Si
SLV 16	179667	0.52	4343	-2827	263.52	384.59	1.46	Si
SLV 6	179667	0.52	4422	-2879	263.52	391.37	1.49	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-2413	-4820	-142	3.097	554.2	0.891	50.54176	7.57858	Si
SLV 13	-2386	-4910	-141	3.117	551.6	0.891	50.86856	7.57858	Si
SLV 16	-1979	-3868	168	3.436	513.9	0.889	56.17406	7.57858	Si
SLV 15	-1953	-3958	169	3.46	511.4	0.889	56.56723	7.57858	Si
SLV 10	-2339	-5588	-516	3.062	547.2	0.89	49.98435	5.5671	Si
SLV 9	-2320	-5649	-516	3.075	545.5	0.89	50.2048	5.5671	Si
SLV 6	-1846	-5282	-528	3.462	501.7	0.889	56.59936	5.5671	Si
SLV 5	-1828	-5342	-527	3.479	500.1	0.889	56.87621	5.5671	Si
SLV 2	-770	-3798	-179	5.001	411.9	0.906	80.22731	7.57858	Si
SLV 1	-743	-3888	-179	5.053	410	0.907	80.94406	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.609	SLU 60	Si
V_SLU	12.491	SLU 65	Si
PF_SLV	2.683	SLV 2	Si
V_SLV	6.596	SLV 6	Si
PFFP_SLV	1.06	SLV 4	Si
R_SLV	6.669	SLV 14	Si

Maschio 248

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-2.213	-3.169	L7	L8	2.09	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 46	12.35	479.47	-4502	-0.000015	0.0003743	0.0035	2.09	4349.33	4667.41	4667.41	9.73	No	Si
SLU 46	14.15	-1.09	-2641	-0.0000067	0.0003743	0.0035	2.09	2637.63	3761.39	3761.39	3441.46	No	Si
SLU 51	12.35	448.66	-4355	-0.0000144	0.0003743	0.0035	2.09	4218.08	4530.21	4530.21	10.1	No	Si
SLU 51	14.15	-111.58	-2405	-0.0000069	0.0003743	0.0035	2.09	2412.25	3532.01	3532.01	31.66	No	Si
SLU 47	12.35	477.63	-4232	-0.0000143	0.0003743	0.0035	2.09	4108.52	4416.04	4416.04	9.25	No	Si
SLU 47	14.15	-89.62	-2247	-0.0000063	0.0003743	0.0035	2.09	2259.37	3378.33	3378.33	37.7	No	Si
SLU 2	12.35	352.38	-3233	-0.0000108	0.0003743	0.0035	2.09	3195.34	3468.12	3468.12	9.84	No	Si
SLU 2	14.15	-21.14	-1760	-0.0000046	0.0003743	0.0035	2.09	1784.85	2906.25	2906.25	137.46	No	Si
SLU 43	12.35	408.27	-4055	-0.0000133	0.0003743	0.0035	2.09	3948.87	4249.78	4249.78	10.41	No	Si
SLU 43	14.15	-68.33	-2108	-0.0000058	0.0003743	0.0035	2.09	2125.3	3244.83	3244.83	47.49	No	Si
SLU 45	12.35	437.33	-4479	-0.0000146	0.0003743	0.0035	2.09	4328.43	4645.51	4645.51	10.62	No	Si
SLU 45	14.15	-1.38	-2650	-0.0000067	0.0003743	0.0035	2.09	2645.9	3769.88	3769.88	2738.74	No	Si
SLU 4	12.35	353.35	-3641	-0.0000118	0.0003743	0.0035	2.09	3572.72	3859.02	3859.02	10.92	No	Si
SLU 4	14.15	45.62	-2307	-0.0000062	0.0003743	0.0035	2.09	2317.66	2569.9	2569.9	56.33	No	Si
SLU 49	12.35	478.59	-4640	-0.0000154	0.0003743	0.0035	2.09	4471.59	4795.68	4795.68	10.02	No	Si
SLU 49	14.15	-22.86	-2794	-0.0000073	0.0003743	0.0035	2.09	2782.83	3910.99	3910.99	171.09	No	Si
SLU 5	12.35	351.51	-3371	-0.0000111	0.0003743	0.0035	2.09	3323.76	3600.75	3600.75	10.24	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 5	14.15	-42.91	-1913	-0.0000051	0.0003743	0.0035	2.09	1934.78	3055.79	3055.79	71.22	No	Si
SLU 44	12.35	478.5	-4094	-0.0000139	0.0003743	0.0035	2.09	3984.28	4286.95	4286.95	8.96	No	Si
SLU 44	14.15	-67.86	-2094	-0.0000058	0.0003743	0.0035	2.09	2111.23	3230.88	3230.88	47.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	12.35	-2164.06	-944	-0.0004945	0.0005615	0.0035	1.672		2090.56	2090.56	0.97		No
SLV 11	14.15	2118.04	-2255	-0.000078	0.0005615	0.0035	2.09		2538.51	2538.51	1.2		Si
SLD 11	12.35	-1275.07	-1814	-0.0000187	0.0005615	0.0035	1.672		2965.79	2965.79	2.33		Si
SLD 11	14.15	1333.2	-2138	-0.0000179	0.0005615	0.0035	2.09		2420.22	2420.22	1.82		Si
SLV 16	12.35	-517.61	-2460	-0.0000099	0.0005615	0.0035	2.09		3609.9	3609.9	6.97		Si
SLV 16	14.15	1466.1	-1641	-0.0000387	0.0005615	0.0035	2.09		1920.2	1920.2	1.31		Si
SLV 8	12.35	-1589.16	-1244	-0.0001794	0.0005615	0.0035	1.672		2393.97	2393.97	1.51		Si
SLV 8	14.15	1152.97	-2231	-0.0000149	0.0005615	0.0035	2.09		2514.06	2514.06	2.18		Si
SLV 7	12.35	-1949.32	-1087	-0.0003597	0.0005615	0.0035	1.672		2235.89	2235.89	1.15		Si
SLV 7	14.15	1423.61	-2412	-0.0000187	0.0005615	0.0035	2.09		2695.71	2695.71	1.89		Si
SLV 5	12.35	2191.9	-5344	-0.0000299	0.0005615	0.0035	2.09		5551.75	5551.75	2.53		Si
SLV 5	14.15	-1792.91	-1820	-0.000076	0.0005615	0.0035	1.672		2972.53	2972.53	1.66		Si
SLV 12	12.35	-1803.9	-1100	-0.0003009	0.0005615	0.0035	1.672		2248.81	2248.81	1.25		Si
SLV 12	14.15	1847.39	-2074	-0.0000484	0.0005615	0.0035	2.09		2356.56	2356.56	1.28		Si
SLV 15	12.35	-1052.56	-2227	-0.0000137	0.0005615	0.0035	2.09		3378.84	3378.84	3.21		Si
SLV 15	14.15	1868.09	-1910	-0.0001031	0.0005615	0.0035	2.09		2190.75	2190.75	1.17		Si
SLV 2	12.35	1440.56	-4217	-0.0000212	0.0005615	0.0035	2.09		4470.21	4470.21	3.1		Si
SLV 2	14.15	-1813.6	-1985	-0.0000506	0.0005615	0.0035	1.672		3137.57	3137.57	1.73		Si
SLV 6	12.35	2552.06	-5501	-0.0000338	0.0005615	0.0035	2.09		5701.04	5701.04	2.23		Si
SLV 6	14.15	-2063.55	-1640	-0.0002297	0.0005615	0.0035	1.672		2791.67	2791.67	1.35		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 32	12.35	2.68	-3717	-3095	-841	2.09	2.09	-5289	7650	4477	35683	17523	5329	22853	No	27.16	Si
SLU 32	14.15	216.33	-2921	-2432	-863	2.09	2.09	-4157	7499	4388	35683	17523	5329	22853	No	26.47	Si
SLU 35	12.35	1.8	-3855	-3210	-836	2.09	2.09	-5486	7676	4492	35683	17523	5329	22853	No	27.32	Si
SLU 35	14.15	194.57	-3074	-2560	-864	2.09	2.09	-4374	7528	4405	35683	17523	5329	22853	No	26.45	Si
SLU 83	12.35	18.47	-4213	-3508	-795	2.09	2.09	-5995	7744	4532	35683	17523	5329	22853	No	28.75	Si
SLU 83	14.15	103.9	-2878	-2396	-822	2.09	2.09	-4095	7490	4383	35683	17523	5329	22853	No	27.81	Si
SLU 41	12.35	-107.64	-3352	-2791	-859	2.09	2.09	-4770	7580	4436	35683	17523	5329	22853	No	26.61	Si
SLU 41	14.15	150.61	-2544	-2118	-882	2.09	2.09	-3620	7427	4346	35683	17523	5329	22853	No	25.92	Si
SLU 42	12.35	-65.5	-3376	-2811	-823	2.09	2.09	-4803	7585	4439	35683	17523	5329	22853	No	27.77	Si
SLU 42	14.15	150.9	-2535	-2111	-834	2.09	2.09	-3608	7425	4345	35683	17523	5329	22853	No	27.41	Si
SLU 40	12.35	-64.63	-3237	-2696	-828	2.09	2.09	-4607	7559	4423	35683	17523	5329	22853	No	27.61	Si
SLU 40	14.15	172.66	-2382	-1984	-833	2.09	2.09	-3390	7396	4328	35683	17523	5329	22853	No	27.43	Si
SLU 36	12.35	43.94	-3879	-3230	-801	2.09	2.09	-5519	7680	4495	35683	17523	5329	22853	No	28.54	Si
SLU 36	14.15	194.85	-3065	-2553	-816	2.09	2.09	-4362	7526	4404	35683	17523	5329	22853	No	28	Si
SLU 39	12.35	-106.77	-3214	-2676	-864	2.09	2.09	-4573	7554	4421	35683	17523	5329	22853	No	26.46	Si
SLU 39	14.15	172.38	-2391	-1991	-881	2.09	2.09	-3402	7398	4329	35683	17523	5329	22853	No	25.94	Si
SLU 81	12.35	19.35	-4075	-3393	-800	2.09	2.09	-5798	7718	4516	35683	17523	5329	22853	No	28.58	Si
SLU 81	14.15	125.67	-2725	-2269	-821	2.09	2.09	-3878	7461	4366	35683	17523	5329	22853	No	27.83	Si
SLU 33	12.35	44.81	-3741	-3115	-806	2.09	2.09	-5323	7654	4479	35683	17523	5329	22853	No	28.37	Si
SLU 33	14.15	216.62	-2912	-2425	-816	2.09	2.09	-4144	7497	4387	35683	17523	5329	22853	No	28.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	12.35	2552.06	-5501	-4581	3756	2.09	1.7432	-7828	11982	5849	35683	26285	5329	31615		8.42	Si
SLV 6	14.15	-2063.55	-1640	-1365	3589	1.672	0	0	0	0	35683	21028	4264	25292		7.05	Si
SLV 7	12.35	-1949.32	-1087	-906	-3638	1.672	0	0	0	0	35683	21028	4264	25292		6.95	Si
SLV 7	14.15	1423.61	-2412	-2008	-3813	2.09	1.3642	-3432	11103	4241	35683	26285	5329	31615		8.29	Si
SLV 12	12.35	-1803.9	-1100	-916	-3877	1.672	0	0	0	0	35683	21028	4264	25292		6.52	Si
SLV 12	14.15	1847.39	-2074	-1727	-3742	2.09	0.4634	-13385	13095	3278	35683	26285	5329	31615		8.45	Si
SLV 15	12.35	-1052.56	-2227	-1855	-3075	2.09	1.7174	-3863	11189	5381	35683	26285	5329	31615		10.28	Si
SLV 15	14.15	1868.09	-1910	-1590	-2577	2.09	0.2001	-27595	15968	3241	35683	26285	5329	31615		12.27	Si
SLV 11	12.35	-2164.06	-944	-786	-4423	1.672	0	0	0	0	35683	21028	4264	25292		5.72	Si
SLV 11	14.15	2118.04	-2255	-1878	-4288	2.09	0.3176	-21196	14662	3318	35683	26285	5329	31615		7.37	Si
SLV 10	12.35	2337.32	-5357	-4461	2971	2.09	1.8261	-7623	11941	6106	35683	26285	5329	31615		10.64	Si
SLV 10	14.15	-1369.13	-1483	-1235	3113	1.672	0.3654	0	0	0	35683	21028	4264	25292		8.12	Si
SLD 11	12.35	-1275.07	-1814	-1510	-2879	1.672	1.0258	0	0	0	35683	21028	4264	25292		8.78	Si
SLD 11	14.15	1333.2	-2138	-1780	-2801	2.09	1.2641	-3042	11025	3902	35683	26285	5329	31615		11.29	Si
SLV 5	12.35	2191.9	-5344	-4450	3210	2.09	1.9046	-7605	11938	6366	35683	26285	5329	31615		9.85	Si
SLV 5	14.15	-1792.91	-1820	-1516	3043	1.672	0.1802	0	0	0	35683	21028	4264	25292		8.31	Si
SLV 8	12.35	-1589.16	-1244	-1036	-3092	1.672	0	0	0	0	35683	21028	4264	25292		8.18	Si
SLV 8	14.15	1152.97	-2231	-1858	-3266	2.09	1.5846	-3175	11052	4903	35683	26285	5329	31615		9.68	Si
SLV 9	12.35	1977.15	-5200	-4330	2425	2.09	1.9944	-7400	11897	6643	35683	26285	5329	31615		13.04	Si
SLV 9	14.15	-1098.49	-1664	-1385	2567	1.672	1.1543	0	0	0	35683	21028	4264	25292		9.85	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.52	3208	-1877	236.89	257.31	1.09	Si
SLV 7	179667	0.52	3250	-1902	236.89	260.58	1.1	Si
SLV 12	179667	0.52	3259	-1907	236.89	261.3	1.1	Si
SLV 8	179667	0.52	3301	-1932	236.89	264.57	1.12	Si
SLV 15	179667	0.52	4552	-2664	236.89	361.81	1.53	Si
SLV 16	179667	0.52	4628	-2708	236.89	367.63	1.55	Si

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.52	4691	-2745	236.89	372.52	1.57	Si
SLV 4	179667	0.52	4767	-2789	236.89	378.33	1.6	Si
SLV 13	179667	0.52	5756	-3368	236.89	453.81	1.92	Si
SLV 14	179667	0.52	5832	-3413	236.89	459.54	1.94	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-2714	-3467	-308	2.676	550.1	0.895	43.46304	7.57858	Si
SLV 2	-2707	-3260	-307	2.68	549.4	0.895	43.53426	7.57858	Si
SLV 3	-2051	-3020	-180	3.18	487.1	0.89	51.92637	7.57858	Si
SLV 4	-2045	-2813	-179	3.186	486.5	0.89	52.02441	7.57858	Si
SLV 5	-2976	-4274	-313	2.525	575.5	0.897	40.92051	5.5671	Si
SLV 6	-2972	-4134	-312	2.528	575.1	0.897	40.96333	5.5671	Si
SLV 9	-2540	-4547	-188	2.813	533.4	0.893	45.76345	5.5671	Si
SLV 10	-2536	-4408	-188	2.816	533	0.893	45.81575	5.5671	Si
SLV 13	-1260	-4378	106	4.055	415.7	0.891	66.1663	7.57858	Si
SLV 14	-1253	-4171	107	4.064	415.1	0.891	66.30716	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.959	SLU 44	Si
V_SLU	25.919	SLU 41	Si
PF_SLV	0.966	SLV 11	No
V_SLV	5.718	SLV 11	Si
PFFP_SLV	1.086	SLV 11	Si
R_SLV	5.735	SLV 1	Si

Maschio 249

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.853	5.951	-5.018	5.951	L7	L8	2.165	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	12.35	-74.15	-6002	-0.0000154	0.0003743	0.0035	2.165	5865.57	7307.98	7307.98	98.55	No	Si
SLU 73	14.15	-1204.58	-3219	-0.0000161	0.0003743	0.0035	2.165	3302.66	4638.9	4638.9	3.85	No	Si
SLU 43	12.35	74.21	-5367	-0.0000138	0.0003743	0.0035	2.165	5304.71	5683.46	5683.46	76.59	No	Si
SLU 43	14.15	-1192.07	-2630	-0.0000148	0.0003743	0.0035	2.165	2725.41	4043.49	4043.49	3.39	No	Si
SLU 81	12.35	-61.34	-5945	-0.0000151	0.0003743	0.0035	2.165	5815.62	7254.3	7254.3	118.26	No	Si
SLU 81	14.15	-1215.99	-3162	-0.000016	0.0003743	0.0035	2.165	3247.11	4580.67	4580.67	3.77	No	Si
SLU 52	12.35	21.31	-5216	-0.000013	0.0003743	0.0035	2.165	5169.52	5540.64	5540.64	259.98	No	Si
SLU 52	14.15	-1124.85	-2479	-0.0000139	0.0003743	0.0035	2.165	2575.75	3892.57	3892.57	3.46	No	Si
SLU 60	12.35	34.12	-5159	-0.000013	0.0003743	0.0035	2.165	5117.98	5486.12	5486.12	160.79	No	Si
SLU 60	14.15	-1136.26	-2422	-0.0000139	0.0003743	0.0035	2.165	2518.72	3835.43	3835.43	3.38	No	Si
SLU 64	12.35	-21.25	-6153	-0.0000154	0.0003743	0.0035	2.165	5996.61	7449.74	7449.74	350.53	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	14.15	-1271.8	-3370	-0.0000169	0.0003743	0.0035	2.165	3448.41	4790.74	4790.74	3.77	No	Si
SLU 44	12.35	49.38	-5362	-0.0000136	0.0003743	0.0035	2.165	5300.09	5678.58	5678.58	115.01	No	Si
SLU 44	14.15	-1163.92	-2625	-0.0000145	0.0003743	0.0035	2.165	2720.3	4038.32	4038.32	3.47	No	Si
SLU 82	12.35	-76.24	-5942	-0.0000152	0.0003743	0.0035	2.165	5812.91	7251.4	7251.4	95.11	No	Si
SLU 82	14.15	-1199.1	-3159	-0.0000159	0.0003743	0.0035	2.165	3244.1	4577.52	4577.52	3.82	No	Si
SLU 65	12.35	-46.09	-6148	-0.0000156	0.0003743	0.0035	2.165	5992.13	7444.88	7444.88	161.54	No	Si
SLU 65	14.15	-1243.65	-3364	-0.0000167	0.0003743	0.0035	2.165	3443.43	4785.57	4785.57	3.85	No	Si
SLU 61	12.35	19.22	-5156	-0.0000129	0.0003743	0.0035	2.165	5115.19	5483.17	5483.17	285.3	No	Si
SLU 61	14.15	-1119.37	-2419	-0.0000138	0.0003743	0.0035	2.165	2515.63	3832.34	3832.34	3.42	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	12.35	-202.85	-3834	-0.0000107	0.0005615	0.0035	2.165		5297.48	5297.48	26.11		Si
SLD 4	14.15	-1853.44	-1815	-0.0000715	0.0005615	0.0035	1.732		3232.92	3232.92	1.74		Si
SLV 4	12.35	-287.42	-3447	-0.0000104	0.0005615	0.0035	2.165		4906.1	4906.1	17.07		Si
SLV 4	14.15	-2386.09	-1508	-0.000323	0.0005615	0.0035	1.732		2913.34	2913.34	1.22		Si
SLV 1	12.35	-791.13	-2150	-0.0000105	0.0005615	0.0035	2.165		3578.8	3578.8	4.52		Si
SLV 1	14.15	-3165.34	-166	-0.0012849	0.0005615	0.0035	1.732		1503.58	1503.58	0.48		No
SLV 5	12.35	-1366.5	-2508	-0.0000164	0.0005615	0.0035	2.165		3947.37	3947.37	2.89		Si
SLV 5	14.15	-1413.68	-354	-0.0003351	0.0005615	0.0035	1.732		1703.2	1703.2	1.2		Si
SLD 1	12.35	-511.12	-3022	-0.0000108	0.0005615	0.0035	2.165		4473.34	4473.34	8.75		Si
SLD 1	14.15	-2352.67	-976	-0.0004655	0.0005615	0.0035	1.732		2358.54	2358.54	1		Si
SLV 3	12.35	-14.62	-2945	-0.0000073	0.0005615	0.0035	2.165		4395.3	4395.3	300.54		Si
SLV 3	14.15	-3425.55	-1006	-0.0009029	0.0005615	0.0035	1.732		2389.45	2389.45	0.7		No
SLV 2	12.35	-1063.92	-2652	-0.0000137	0.0005615	0.0035	2.165		4094.71	4094.71	3.85		Si
SLV 2	14.15	-2125.88	-668	-0.000482	0.0005615	0.0035	1.732		2034.71	2034.71	0.96		No
SLD 2	12.35	-685.41	-3342	-0.0000128	0.0005615	0.0035	2.165		4799.5	4799.5	7		Si
SLD 2	14.15	-1688.56	-1297	-0.0001609	0.0005615	0.0035	1.732		2693.54	2693.54	1.6		Si
SLD 3	12.35	-28.57	-3513	-0.0000088	0.0005615	0.0035	2.165		4973.31	4973.31	174.09		Si
SLD 3	14.15	-2517.55	-1495	-0.0003701	0.0005615	0.0035	1.732		2899.89	2899.89	1.15		Si
SLV 7	12.35	1221.85	-5159	-0.000021	0.0005615	0.0035	2.165		5588.83	5588.83	4.57		Si
SLV 7	14.15	-2281.06	-3153	-0.0000312	0.0005615	0.0035	1.732		4607.24	4607.24	2.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	12.35	21.31	-5216	-4344	588	2.165	2.165	-7166	7900	4789	35683	18152	5521	23673	No	40.24	Si
SLU 52	14.15	-1124.85	-2479	-2064	588	2.165	1.8863	-3918	7467	3944	35683	18152	5521	23673	No	40.24	Si
SLU 45	12.35	-40.31	-6582	-5481	606	2.165	2.165	-9042	8150	4941	35683	18152	5521	23673	No	39.05	Si
SLU 45	14.15	-1218.59	-3845	-3202	606	2.165	2.165	-5281	7649	4637	35683	18152	5521	23673	No	39.05	Si
SLU 64	12.35	-21.25	-6153	-5124	646	2.165	2.165	-8452	8071	4893	35683	18152	5521	23673	No	36.64	Si
SLU 64	14.15	-1271.8	-3370	-2806	646	2.165	2.1152	-4629	7562	4478	35683	18152	5521	23673	No	36.64	Si
SLU 81	12.35	-61.34	-5945	-4951	593	2.165	2.165	-8167	8033	4870	35683	18152	5521	23673	No	39.93	Si
SLU 81	14.15	-1215.99	-3162	-2633	593	2.165	2.0937	-4504	7545	4423	35683	18152	5521	23673	No	39.93	Si
SLU 43	12.35	74.21	-5367	-4469	655	2.165	2.165	-7373	7927	4806	35683	18152	5521	23673	No	36.14	Si
SLU 43	14.15	-1192.07	-2630	-2190	655	2.165	1.8876	-4154	7498	3963	35683	18152	5521	23673	No	36.14	Si
SLU 46	12.35	-55.21	-6579	-5479	588	2.165	2.165	-9037	8149	4940	35683	18152	5521	23673	No	40.23	Si
SLU 46	14.15	-1201.69	-3842	-3199	588	2.165	2.165	-5277	7648	4636	35683	18152	5521	23673	No	40.23	Si
SLU 66	12.35	-135.77	-7368	-6135	597	2.165	2.165	-10121	8294	5028	35683	18152	5521	23673	No	39.64	Si
SLU 66	14.15	-1298.31	-4585	-3818	597	2.165	2.165	-6298	7784	4719	35683	18152	5521	23673	No	39.64	Si
SLU 44	12.35	49.38	-5362	-4465	626	2.165	2.165	-7366	7927	4805	35683	18152	5521	23673	No	37.84	Si
SLU 44	14.15	-1163.92	-2625	-2186	626	2.165	1.9171	-4082	7489	4020	35683	18152	5521	23673	No	37.84	Si
SLU 65	12.35	-46.09	-6148	-5119	617	2.165	2.165	-8445	8070	4892	35683	18152	5521	23673	No	38.39	Si
SLU 65	14.15	-1243.65	-3364	-2802	617	2.165	2.1386	-4622	7561	4527	35683	18152	5521	23673	No	38.39	Si
SLU 60	12.35	34.12	-5159	-4296	602	2.165	2.165	-7087	7889	4783	35683	18152	5521	23673	No	39.34	Si
SLU 60	14.15	-1136.26	-2422	-2017	602	2.165	1.84	-3924	7468	3847	35683	18152	5521	23673	No	39.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	12.35	-791.13	-2150	-1790	1504	2.165	2.1435	-2953	11007	6606	35683	27228	5521	32749		21.77	Si
SLV 1	14.15	-3165.34	-166	-138	904	1.732	0	0	0	0	35683	21783	4417	26199		28.97	Si
SLD 3	12.35	-28.57	-3513	-2925	1505	2.165	2.165	-4826	11382	6900	35683	27228	5521	32749		21.75	Si
SLD 3	14.15	-2517.55	-1495	-1245	1094	1.732	0	0	0	0	35683	21783	4417	26199		23.96	Si
SLV 3	12.35	-14.62	-2945	-2452	2112	2.165	2.165	-4046	11226	6805	35683	27228	5521	32749		15.51	Si
SLV 3	14.15	-3425.55	-1006	-837	1447	1.732	0	0	0	0	35683	21783	4417	26199		18.11	Si
SLD 7	12.35	752.56	-4905	-4084	1453	2.165	2.165	-6737	11764	7131	35683	27228	5521	32749		22.55	Si
SLD 7	14.15	-1790.58	-2848	-2372	1269	1.732	1.3615	0	0	0	35683	21783	4417	26199		20.65	Si
SLV 4	12.35	-287.42	-3447	-2870	1383	2.165	2.165	-4735	11364	6889	35683	27228	5521	32749		23.68	Si
SLV 4	14.15	-2386.09	-1508	-1255	718	1.732	0	0	0	0	35683	21783	4417	26199		36.49	Si
SLD 11	12.35	964.72	-5559	-4629	1096	2.165	2.165	-7636	11944	7240	35683	27228	5521	32749		29.89	Si
SLD 11	14.15	-1098.52	-3443	-2867	1147	2.165	2.165	-4730	11363	6888	35683	27228	5521	32749		28.54	Si
SLV 7	12.35	1221.85	-5159	-4296	2033	2.165	2.165	-7087	11834	7174	35683	27228	5521	32749		16.11	Si
SLV 7	14.15	-2281.06	-3153	-2626	1735	1.732	1.0773	0	0	0	35683	21783	4417	26199		15.1	Si
SLV 11	12.35	1543.39	-6191	-5156	1460	2.165	2.165	-8505	12118	7346	35683	27228	5521	32749		22.43	Si
SLV 11	14.15	-1185.41	-4084	-3401	1541	2.165	2.165	-5610	11539	6995	35683	27228	5521	32749		21.25	Si
SLD 8	12.35	637.03	-5117	-4261	1144	2.165	2.165	-7029	11823	7167	35683	27228	5521	32749		28.63	Si
SLD 8	14.15	-1350.33	-3061	-2549	960	2.165	1.924	-4735	11364	6122	35683	27228	5521	32749		34.11	Si
SLV 8	12.35	1038.19	-5497	-4578	1542	2.165	2.165	-7551	11927	7230	35683	27228	5521	32749		21.23	Si
SLV 8	14.15	-1581.23	-3491	-2907	1244	2.165	1.8888	-5510	11519	6092	35683	27228	5521	32749		26.32	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.52	0	-1381	245.39	0	0	No, e>t/2
SLV 5	179667	0.52	0	-1738	245.39	0	0	No, e>t/2
SLV 2	179667	0.52	3107	-1883	245.39	258.31	1.05	Si
SLV 6	179667	0.52	3425	-2076	245.39	284.18	1.16	Si
SLV 3	179667	0.52	3610	-2189	245.39	299.15	1.22	Si
SLV 4	179667	0.52	4438	-2691	245.39	365.73	1.49	Si
SLV 9	179667	0.52	4588	-2781	245.39	377.69	1.54	Si
SLV 10	179667	0.52	5146	-3119	245.39	422	1.72	Si
SLV 7	179667	0.52	7306	-4429	245.39	590.4	2.41	Si
SLV 8	179667	0.52	7864	-4767	245.39	633.02	2.58	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-3784	-7117	284	2.217	664.7	0.903	35.67535	7.57858	Si
SLV 14	-3305	-5721	-271	2.426	617.8	0.899	39.23351	7.57858	Si
SLV 15	-3079	-7145	284	2.536	595.7	0.897	41.09541	7.57858	Si
SLV 13	-2600	-5749	-271	2.816	549.5	0.893	45.82103	7.57858	Si
SLV 12	-3078	-7935	926	2.403	595.7	0.897	38.93078	5.5671	Si
SLV 11	-2603	-7954	926	2.662	549.9	0.893	43.31627	5.5671	Si
SLV 8	-2092	-7237	923	3.013	501.6	0.89	49.21699	5.5671	Si
SLV 7	-1617	-7256	922	3.436	458	0.889	56.1753	5.5671	Si
SLV 10	-1481	-3283	-922	3.581	445.9	0.889	58.51339	5.5671	Si
SLV 4	-499	-4790	271	5.441	369	0.92	85.97352	7.57858	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.375	SLU 60	Si
V_SLU	36.139	SLU 43	Si
PF_SLV	0.475	SLV 1	No
V_SLV	15.1	SLV 7	Si
PFFP_SLV	0	SLV 1	No
R_SLV	4.707	SLV 16	Si

Maschio 250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-1.953	5.951	L7	L8	1.83	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	12.35	-77.61	-4131	-0.0000128	0.0003743	0.0035	1.83	3480.38	4416.66	4416.66	56.91	No	Si
SLU 38	14.15	1037.28	-3979	-0.0000216	0.0003743	0.0035	1.83	3362.74	3610.58	3610.58	3.48	No	Si
SLU 36	12.35	-57.73	-4347	-0.0000133	0.0003743	0.0035	1.83	3646.45	4589.62	4589.62	79.5	No	Si
SLU 36	14.15	1110.61	-4298	-0.0000233	0.0003743	0.0035	1.83	3608.81	3869.14	3869.14	3.48	No	Si
SLU 80	12.35	11.43	-4966	-0.0000147	0.0003743	0.0035	1.83	4111.67	4402.93	4402.93	385.37	No	Si

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	14.15	1095.69	-4426	-0.0000235	0.0003743	0.0035	1.83	3706.39	3972.28	3972.28	3.63	No	Si
SLU 78	12.35	31.3	-5183	-0.0000155	0.0003743	0.0035	1.83	4271.39	4573.03	4573.03	146.08	No	Si
SLU 78	14.15	1169.02	-4746	-0.0000252	0.0003743	0.0035	1.83	3947.44	4227.8	4227.8	3.62	No	Si
SLU 34	12.35	-103.38	-3686	-0.0000117	0.0003743	0.0035	1.83	3134.74	4050.8	4050.8	39.18	No	Si
SLU 34	14.15	880.77	-3483	-0.0000186	0.0003743	0.0035	1.83	2974.21	3204.9	3204.9	3.64	No	Si
SLU 35	12.35	-42.92	-4350	-0.0000131	0.0003743	0.0035	1.83	3648.09	4591.31	4591.31	106.98	No	Si
SLU 35	14.15	1102.67	-4289	-0.0000232	0.0003743	0.0035	1.83	3601.99	3861.94	3861.94	3.5	No	Si
SLU 42	12.35	-163.82	-3571	-0.000012	0.0003743	0.0035	1.83	3044.07	3955.78	3955.78	24.15	No	Si
SLU 42	14.15	901.47	-3483	-0.0000188	0.0003743	0.0035	1.83	2973.81	3204.48	3204.48	3.55	No	Si
SLU 37	12.35	-62.8	-4133	-0.0000127	0.0003743	0.0035	1.83	3482.04	4418.41	4418.41	70.36	No	Si
SLU 37	14.15	1029.33	-3970	-0.0000215	0.0003743	0.0035	1.83	3355.82	3603.35	3603.35	3.5	No	Si
SLU 41	12.35	-149.01	-3574	-0.0000118	0.0003743	0.0035	1.83	3045.78	3957.55	3957.55	26.56	No	Si
SLU 41	14.15	893.53	-3474	-0.0000187	0.0003743	0.0035	1.83	2966.74	3197.1	3197.1	3.58	No	Si
SLU 77	12.35	46.12	-5185	-0.0000157	0.0003743	0.0035	1.83	4272.98	4574.71	4574.71	99.2	No	Si
SLU 77	14.15	1161.08	-4737	-0.0000251	0.0003743	0.0035	1.83	3940.76	4220.74	4220.74	3.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 14	12.35	-232.79	-2539	-0.0000095	0.0005615	0.0035	1.83		3121.82	3121.82	13.41		Si
SLD 14	14.15	968.92	-2563	-0.0000168	0.0005615	0.0035	1.83		2461.4	2461.4	2.54		Si
SLV 10	12.35	-1166.77	-1584	-0.000031	0.0005615	0.0035	1.464		2291.44	2291.44	1.96		Si
SLV 10	14.15	1506.73	-2975	-0.0000258	0.0005615	0.0035	1.83		2817.62	2817.62	1.87		Si
SLV 9	12.35	-909.5	-1739	-0.0000156	0.0005615	0.0035	1.464		2426.78	2426.78	2.67		Si
SLV 9	14.15	1339.41	-2856	-0.0000227	0.0005615	0.0035	1.83		2714.73	2714.73	2.03		Si
SLD 10	12.35	-688.03	-2210	-0.0000129	0.0005615	0.0035	1.83		2836.59	2836.59	4.12		Si
SLD 10	14.15	1129.8	-2786	-0.0000193	0.0005615	0.0035	1.83		2654.19	2654.19	2.35		Si
SLD 6	12.35	-689.71	-2409	-0.0000135	0.0005615	0.0035	1.83		3010.16	3010.16	4.36		Si
SLD 6	14.15	992.8	-2817	-0.0000176	0.0005615	0.0035	1.83		2681.13	2681.13	2.7		Si
SLV 6	12.35	-1159.23	-1913	-0.0000218	0.0005615	0.0035	1.464		2578.82	2578.82	2.22		Si
SLV 6	14.15	1285.15	-3017	-0.0000218	0.0005615	0.0035	1.83		2854.13	2854.13	2.22		Si
SLV 13	12.35	-62.97	-2352	-0.0000074	0.0005615	0.0035	1.83		2960.47	2960.47	47.02		Si
SLV 13	14.15	997.3	-2451	-0.000017	0.0005615	0.0035	1.83		2363.83	2363.83	2.37		Si
SLV 14	12.35	-445.08	-2123	-0.0000103	0.0005615	0.0035	1.83		2761.07	2761.07	6.2		Si
SLV 14	14.15	1245.83	-2628	-0.0000211	0.0005615	0.0035	1.83		2517.64	2517.64	2.02		Si
SLV 5	12.35	-901.96	-2068	-0.0000152	0.0005615	0.0035	1.83		2713.06	2713.06	3.01		Si
SLV 5	14.15	1117.83	-2898	-0.0000193	0.0005615	0.0035	1.83		2751.54	2751.54	2.46		Si
SLD 9	12.35	-526.19	-2307	-0.0000116	0.0005615	0.0035	1.83		2921.04	2921.04	5.55		Si
SLD 9	14.15	1024.54	-2711	-0.0000178	0.0005615	0.0035	1.83		2589.09	2589.09	2.53		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.35	31.3	-5183	-4316	-1531	1.83	1.83	-8423	8068	4134	35683	15344	4666	20010	No	13.07	Si
SLU 78	14.15	1169.02	-4746	-3952	-1562	1.83	1.83	-7713	7973	4085	35683	15344	4666	20010	No	12.81	Si
SLU 36	12.35	-57.73	-4347	-3620	-1495	1.83	1.83	-7065	7886	4041	35683	15344	4666	20010	No	13.38	Si
SLU 36	14.15	1110.61	-4298	-3579	-1523	1.83	1.83	-6985	7876	4036	35683	15344	4666	20010	No	13.14	Si
SLU 35	12.35	-42.92	-4350	-3622	-1477	1.83	1.83	-7069	7887	4041	35683	15344	4666	20010	No	13.55	Si
SLU 35	14.15	1102.67	-4289	-3572	-1505	1.83	1.83	-6971	7874	4035	35683	15344	4666	20010	No	13.3	Si
SLU 80	12.35	11.43	-4966	-4136	-1448	1.83	1.83	-8071	8021	4110	35683	15344	4666	20010	No	13.82	Si
SLU 80	14.15	1095.69	-4426	-3686	-1481	1.83	1.83	-7193	7904	4050	35683	15344	4666	20010	No	13.51	Si
SLU 77	12.35	46.12	-5185	-4318	-1512	1.83	1.83	-8427	8068	4134	35683	15344	4666	20010	No	13.23	Si
SLU 77	14.15	1161.08	-4737	-3945	-1544	1.83	1.83	-7698	7971	4084	35683	15344	4666	20010	No	12.96	Si
SLU 79	12.35	26.24	-4969	-4137	-1430	1.83	1.83	-8075	8021	4110	35683	15344	4666	20010	No	13.99	Si
SLU 79	14.15	1087.74	-4417	-3678	-1463	1.83	1.83	-7179	7902	4049	35683	15344	4666	20010	No	13.68	Si
SLU 75	12.35	15.41	-4740	-3947	-1422	1.83	1.83	-7704	7972	4085	35683	15344	4666	20010	No	14.07	Si
SLU 75	14.15	1007.21	-4244	-3534	-1448	1.83	1.83	-6898	7864	4030	35683	15344	4666	20010	No	13.82	Si
SLU 42	12.35	-163.82	-3571	-2974	-1420	1.83	1.83	-5804	7718	3955	35683	15344	4666	20010	No	14.09	Si
SLU 42	14.15	901.47	-3483	-2900	-1443	1.83	1.83	-5660	7699	3945	35683	15344	4666	20010	No	13.87	Si
SLU 84	12.35	-74.78	-4407	-3670	-1455	1.83	1.83	-7162	7899	4048	35683	15344	4666	20010	No	13.75	Si
SLU 84	14.15	959.88	-3930	-3273	-1482	1.83	1.83	-6387	7796	3995	35683	15344	4666	20010	No	13.5	Si
SLU 83	12.35	-59.97	-4409	-3672	-1437	1.83	1.83	-7165	7900	4048	35683	15344	4666	20010	No	13.93	Si
SLU 83	14.15	951.94	-3921	-3265	-1464	1.83	1.83	-6373	7794	3994	35683	15344	4666	20010	No	13.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	12.35	-419.94	-3219	-2681	-1063	1.83	1.83	-5231	11463	5874	35683	23015	4666	27682		26.05	Si
SLV 2	14.15	507.24	-2770	-2306	-2030	1.83	1.83	-4501	11317	5799	35683	23015	4666	27682		13.63	Si
SLD 6	12.35	-689.71	-2409	-2006	-1966	1.83	1.83	-3916	11200	5739	35683	23015	4666	27682		14.08	Si
SLD 6	14.15	992.8	-2817	-2346	-2206	1.83	1.6876	-4578	11332	5355	35683	23015	4666	27682		12.55	Si
SLV 6	12.35	-1159.23	-1913	-1593	-2725	1.464	0.9272	0	0	0	35683	18412	3733	22145		8.13	Si
SLV 6	14.15	1285.15	-3017	-2513	-3104	1.83	1.4673	-4904	11397	4682	35683	23015	4666	27682		8.92	Si
SLD 5	12.35	-527.88	-2507	-2087	-1730	1.83	1.83	-4073	11231	5755	35683	23015	4666	27682		16	Si
SLD 5	14.15	887.54	-2742	-2283	-1970	1.83	1.7738	-4455	11308	5616	35683	23015	4666	27682		14.05	Si
SLD 9	12.35	-526.19	-2307	-1921	-1923	1.83	1.83	-3749	11166	5722	35683	23015	4666	27682		14.4	Si
SLD 9	14.15	1024.54	-2711	-2257	-1823	1.83	1.611	-4405	11298	5096	35683	23015	4666	27682		15.18	Si
SLD 10	12.35	-688.03	-2210	-1840	-2159	1.83	1.8109	-3591	11135	5646	35683	23015	4666	27682		12.82	Si
SLD 10	14.15	1129.8	-2786	-2320	-2059	1.83	1.5283	-4527	11322	4845	35683	23015	4666	27682		13.44	Si
SLV 10	12.35	-1166.77	-1584	-1319	-3043	1.464	0.5355	0	0	0	35683	18412	3733	22145		7.28	Si
SLV 10	14.15	1506.73	-2975	-2477	-2866	1.83	1.2256	-4835	11384	3906	35683	23015	4666	27682		9.66	Si
SLV 14	12.35	-445.08	-2123	-1768	-2122	1.83	1.83	-3450	11107	5691	35683	23015	4666	27682		13.05	Si
SLV 14	14.15	1245.83	-2628	-2188	-1237	1.83	1.3229	-4271	11271	4175	35683	23015	4666	27682		22.38	Si
SLV 9	12.35	-909.5	-1739	-1448	-2667	1.464	1.1757	0	0	0	35683	18412	3733	22145		8.3	Si
SLV 9	14.15	1339.41	-2856	-2378	-2491	1.83	1.3378	-4641	11345	4250	35683	23015	4666	27682		11.11	Si
SLV 5	12.35	-901.96	-2068	-1722	-2350	1.83	1.4363	-4287	11274	4534	35683	23015	4666	27682		11.78	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	14.15	1117.83	-2898	-2413	-2729	1.83	1.5878	-4710	11359	5050	35683	23015	4666	27682		10.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.52	4208	-2156	207.42	293.51	1.42	Si
SLV 9	179667	0.52	4311	-2209	207.42	300.5	1.45	Si
SLV 14	179667	0.52	4458	-2284	207.42	310.45	1.5	Si
SLV 13	179667	0.52	4611	-2363	207.42	320.79	1.55	Si
SLV 6	179667	0.52	4685	-2400	207.42	325.75	1.57	Si
SLV 5	179667	0.52	4788	-2453	207.42	332.69	1.6	Si
SLV 16	179667	0.52	5171	-2650	207.42	358.38	1.73	Si
SLV 15	179667	0.52	5324	-2728	207.42	368.61	1.78	Si
SLV 2	179667	0.52	6048	-3099	207.42	416.68	2.01	Si
SLV 1	179667	0.52	6201	-3178	207.42	426.79	2.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-2300	-3697	152	2.761	474.3	0.894	44.88224	7.57858	Si
SLV 2	-2327	-3293	20	2.776	476.9	0.894	45.11517	7.57858	Si
SLV 3	-2255	-3515	151	2.794	470	0.894	45.44039	7.57858	Si
SLV 1	-2282	-3111	20	2.809	472.6	0.894	45.67252	7.57858	Si
SLV 14	-1852	-3418	-157	3.127	431.7	0.89	51.04656	7.57858	Si
SLV 13	-1807	-3237	-157	3.17	427.5	0.89	51.75665	7.57858	Si
SLV 16	-1824	-3823	-25	3.193	429.2	0.89	52.13519	7.57858	Si
SLV 15	-1779	-3641	-25	3.237	425	0.89	52.86588	7.57858	Si
SLV 6	-2185	-2836	-196	2.834	463.4	0.893	46.1238	5.5671	Si
SLV 5	-2155	-2713	-196	2.857	460.5	0.893	46.51842	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.481	SLU 38	Si
V_SLU	12.807	SLU 78	Si
PF_SLV	1.87	SLV 10	Si
V_SLV	7.279	SLV 10	Si
PFFP_SLV	1.415	SLV 10	Si
R_SLV	5.922	SLV 4	Si

Maschio 251

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.169	-0.123	5.951	L7	L8	9.12	0.28	3.15	3.15	3.15			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 30	11.45	3276.81	-27445	-0.0000175	0.0003743	0.0035	9.12	111937.01	119256.58	119256.58	36.39	No	Si
SLU 30	14.6	-1259.89	-6564	-0.0000043	0.0003743	0.0035	9.12	29177.8	54567.27	54567.27	43.31	No	Si
SLU 71	11.45	3188.76	-32503	-0.0000205	0.0003743	0.0035	9.12	129684.53	136246.39	136246.39	42.73	No	Si
SLU 71	14.6	-1434.12	-7287	-0.0000048	0.0003743	0.0035	9.12	32296.74	57672.05	57672.05	40.21	No	Si
SLU 28	11.45	3136.09	-28141	-0.0000178	0.0003743	0.0035	9.12	114434.56	121831.53	121831.53	38.85	No	Si
SLU 28	14.6	-1288.23	-6498	-0.0000042	0.0003743	0.0035	9.12	28890.57	54277.28	54277.28	42.13	No	Si
SLU 69	11.45	3048.05	-33200	-0.0000209	0.0003743	0.0035	9.12	132058.47	138537.29	138537.29	45.45	No	Si
SLU 69	14.6	-1462.47	-7221	-0.0000047	0.0003743	0.0035	9.12	32011.19	57388.66	57388.66	39.24	No	Si
SLU 27	11.45	2975.84	-28174	-0.0000178	0.0003743	0.0035	9.12	114551.6	121949.97	121949.97	40.98	No	Si
SLU 27	14.6	-1338.22	-6503	-0.0000043	0.0003743	0.0035	9.12	28913.74	54300.64	54300.64	40.58	No	Si
SLU 77	11.45	2683.59	-35108	-0.0000219	0.0003743	0.0035	9.12	138473.61	144851.88	144851.88	53.98	No	Si
SLU 77	14.6	-1449.02	-7340	-0.0000048	0.0003743	0.0035	9.12	32526.52	57900.15	57900.15	39.96	No	Si
SLU 8	11.45	2718.6	-23714	-0.000015	0.0003743	0.0035	9.12	98271.34	104647.63	104647.63	38.49	No	Si
SLU 8	14.6	-1130.72	-5827	-0.0000038	0.0003743	0.0035	9.12	25977.28	51358.34	51358.34	45.42	No	Si
SLU 7	11.45	2738.14	-24378	-0.0000154	0.0003743	0.0035	9.12	100738.71	107277.23	107277.23	39.18	No	Si
SLU 7	14.6	-1109.07	-5756	-0.0000037	0.0003743	0.0035	9.12	25665.03	51045.37	51045.37	46.03	No	Si
SLU 29	11.45	3116.55	-27477	-0.0000174	0.0003743	0.0035	9.12	112054.85	119380.07	119380.07	38.31	No	Si
SLU 29	14.6	-1309.88	-6570	-0.0000043	0.0003743	0.0035	9.12	29200.96	54590.7	54590.7	41.68	No	Si
SLU 9	11.45	2878.85	-23681	-0.000015	0.0003743	0.0035	9.12	98149.18	104518.07	104518.07	36.31	No	Si
SLU 9	14.6	-1080.73	-5822	-0.0000038	0.0003743	0.0035	9.12	25953.98	51334.98	51334.98	47.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	11.45	-3370.43	-21763	-0.000014	0.0005615	0.0035	9.12		119243.42	119243.42	35.38		Si
SLV 6	14.6	-5404.35	-3134	-0.0000039	0.0005615	0.0035	9.12		39514.75	39514.75	7.31		Si
SLV 9	11.45	-4906.04	-21775	-0.0000146	0.0005615	0.0035	9.12		119293.06	119293.06	24.32		Si
SLV 9	14.6	-5775.85	-3348	-0.0000041	0.0005615	0.0035	9.12		40459.87	40459.87	7.01		Si
SLV 7	11.45	5353.68	-23585	-0.0000158	0.0005615	0.0035	9.12		106285.55	106285.55	19.85		Si
SLV 7	14.6	4199.27	-3619	-0.0000037	0.0005615	0.0035	9.12		20311.13	20311.13	4.84		Si
SLV 12	11.45	5743.09	-23574	-0.0000159	0.0005615	0.0035	9.12		106240.37	106240.37	18.5		Si
SLV 12	14.6	4315.96	-3839	-0.0000038	0.0005615	0.0035	9.12		21293.95	21293.95	4.93		Si
SLD 8	11.45	4005.58	-23247	-0.0000151	0.0005615	0.0035	9.12		104884.19	104884.19	26.18		Si
SLD 8	14.6	2523.76	-3565	-0.000003	0.0005615	0.0035	9.12		20068.81	20068.81	7.95		Si
SLV 10	11.45	-3943.53	-21763	-0.0000142	0.0005615	0.0035	9.12		119245.8	119245.8	30.24		Si
SLV 10	14.6	-5531.76	-3351	-0.000004	0.0005615	0.0035	9.12		40474.02	40474.02	7.32		Si
SLV 11	11.45	4780.58	-23585	-0.0000156	0.0005615	0.0035	9.12		106287.95	106287.95	22.23		Si
SLV 11	14.6	4071.86	-3836	-0.0000037	0.0005615	0.0035	9.12		21279.76	21279.76	5.23		Si
SLD 7	11.45	3400.09	-23254	-0.0000149	0.0005615	0.0035	9.12		104914.22	104914.22	30.86		Si
SLD 7	14.6	2370.2	-3563	-0.0000029	0.0005615	0.0035	9.12		20059.8	20059.8	8.46		Si
SLV 5	11.45	-4332.94	-21774	-0.0000143	0.0005615	0.0035	9.12		119290.67	119290.67	27.53		Si
SLV 5	14.6	-5648.45	-3131	-0.000004	0.0005615	0.0035	9.12		39500.59	39500.59	6.99		Si
SLV 8	11.45	6316.19	-23573	-0.0000162	0.0005615	0.0035	9.12		106237.97	106237.97	16.82		Si
SLV 8	14.6	4443.36	-3623	-0.0000038	0.0005615	0.0035	9.12		20325.46	20325.46	4.57		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 29	11.45	3116.55	-27477	-22881	650	9.12	9.12	-8960	8139	21445	35683	76466	23256	57128	No	87.84	Si
SLU 29	14.6	-1309.88	-6570	-5471	594	9.12	9.12	-2142	7230	18463	35683	76466	23256	54146	No	91.18	Si
SLU 28	11.45	3136.09	-28141	-23434	578	9.12	9.12	-9177	8168	21666	35683	76466	23256	57349	No	99.3	Si
SLU 28	14.6	-1288.23	-6498	-5411	596	9.12	9.12	-2119	7227	18455	35683	76466	23256	54138	No	90.84	Si
SLU 69	11.45	3048.05	-33200	-27646	546	9.12	9.12	-10826	8388	23351	35683	76466	23256	59034	No	108.05	Si
SLU 69	14.6	-1462.47	-7221	-6013	482	9.12	9.12	-2355	7258	18535	35683	76466	23256	54218	No	112.44	Si
SLU 60	11.45	247.06	-28805	-23986	-522	9.12	9.12	-9393	8197	21887	35683	76466	23256	57570	No	110.32	Si
SLU 60	14.6	-723.93	-4127	-3437	-565	9.12	9.12	-1346	7124	18192	35683	76466	23256	53875	No	95.32	Si
SLU 61	11.45	407.31	-28772	-23959	-602	9.12	9.12	-9382	8195	21876	35683	76466	23256	57559	No	95.62	Si
SLU 61	14.6	-673.94	-4122	-3432	-572	9.12	9.12	-1344	7124	18191	35683	76466	23256	53874	No	94.18	Si
SLU 52	11.45	670.34	-27933	-23260	-568	9.12	9.12	-9109	8159	21597	35683	76466	23256	57280	No	100.89	Si
SLU 52	14.6	-646.38	-4067	-3386	-489	9.12	9.12	-1326	7121	18185	35683	76466	23256	53868	No	110.17	Si
SLU 27	11.45	2975.84	-28174	-23461	658	9.12	9.12	-9187	8169	21677	35683	76466	23256	57360	No	87.22	Si
SLU 27	14.6	-1338.22	-6503	-5415	603	9.12	9.12	-2121	7227	18455	35683	76466	23256	54139	No	89.81	Si
SLU 30	11.45	3276.81	-27445	-22854	570	9.12	9.12	-8950	8138	21434	35683	76466	23256	57117	No	100.17	Si
SLU 30	14.6	-1259.89	-6564	-5466	587	9.12	9.12	-2141	7230	18462	35683	76466	23256	54145	No	92.24	Si
SLU 70	11.45	3208.3	-33167	-27619	466	9.12	9.12	-10816	8387	23340	35683	76466	23256	59023	No	126.6	Si
SLU 70	14.6	-1412.48	-7215	-6008	475	9.12	9.12	-2353	7258	18534	35683	76466	23256	54218	No	114.05	Si
SLU 71	11.45	3188.76	-32503	-27066	539	9.12	9.12	-10599	8358	23119	35683	76466	23256	58802	No	109.09	Si
SLU 71	14.6	-1434.12	-7287	-6068	473	9.12	9.12	-2376	7261	18542	35683	76466	23256	54226	No	114.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	11.45	5743.09	-23574	-19630	12126	9.12	9.12	-7687	11954	30526	35683	114699	23256	66209		5.46	Si
SLV 12	14.6	4315.96	-3839	-3197	6947	9.12	9.12	-1252	10667	27239	35683	114699	23256	62923		9.06	Si
SLV 9	11.45	-4906.04	-21775	-18132	-12098	9.12	9.12	-7101	11837	30226	35683	114699	23256	65910		5.45	Si
SLV 9	14.6	-5775.85	-3348	-2788	-7101	9.12	8.5039	-1171	10651	25361	35683	114699	23256	61044		8.6	Si
SLV 6	11.45	-3370.43	-21763	-18122	-13399	9.12	9.12	-7097	11836	30224	35683	114699	23256	65908		4.92	Si
SLV 6	14.6	-5404.35	-3134	-2610	-8289	9.12	8.5066	-1096	10636	25333	35683	114699	23256	61016		7.36	Si
SLV 7	11.45	5353.68	-23585	-19639	12916	9.12	9.12	-7691	11955	30528	35683	114699	23256	66211		5.13	Si
SLV 7	14.6	4199.27	-3619	-3014	7849	9.12	9.12	-1180	10653	27203	35683	114699	23256	62886		8.01	Si
SLV 8	11.45	6316.19	-23573	-19630	11870	9.12	9.12	-7687	11954	30526	35683	114699	23256	66209		5.58	Si
SLV 8	14.6	4443.36	-3623	-3017	6804	9.12	9.12	-1181	10653	27203	35683	114699	23256	62887		9.24	Si
SLV 11	11.45	4780.58	-23585	-19640	13172	9.12	9.12	-7691	11955	30528	35683	114699	23256	66211		5.03	Si
SLV 11	14.6	4071.86	-3836	-3194	7992	9.12	9.12	-1251	10667	27239	35683	114699	23256	62922		7.87	Si
SLV 10	11.45	-3943.53	-21763	-18123	-13143	9.12	9.12	-7097	11836	30225	35683	114699	23256	65908		5.01	Si
SLV 10	14.6	-5531.76	-3351	-2790	-8146	9.12	8.7274	-1142	10645	26013	35683	114699	23256	61696		7.57	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	11.45	-1621.07	-22109	-18410	-8273	9.12	9.12	-7210	11859	30282	35683	114699	23256	65965		7.97	Si
SLD 6	14.6	-3620.77	-3268	-2721	-5123	9.12	9.12	-1066	10630	27144	35683	114699	23256	62827		12.26	Si
SLV 5	11.45	-4332.94	-21774	-18132	-12353	9.12	9.12	-7101	11837	30226	35683	114699	23256	65910		5.34	Si
SLV 5	14.6	-5648.45	-3131	-2607	-7245	9.12	8.2675	-1126	10642	24635	35683	114699	23256	60318		8.33	Si
SLD 10	11.45	-1989.95	-22094	-18398	-8113	9.12	9.12	-7205	11858	30280	35683	114699	23256	65963		8.13	Si
SLD 10	14.6	-3702.69	-3407	-2837	-5031	9.12	9.12	-1111	10639	27167	35683	114699	23256	62851		12.49	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.025 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.52	5060	-12920	1033.69	1748.91	1.69	Si
SLV 13	179667	0.52	5063	-12929	1033.69	1750.09	1.69	Si
SLV 16	179667	0.52	5121	-13078	1033.69	1769.47	1.71	Si
SLV 15	179667	0.52	5125	-13087	1033.69	1770.65	1.71	Si
SLV 10	179667	0.52	5205	-13291	1033.69	1797.35	1.74	Si
SLV 9	179667	0.52	5207	-13297	1033.69	1798.15	1.74	Si
SLV 6	179667	0.52	5391	-13765	1033.69	1859.12	1.8	Si
SLV 5	179667	0.52	5393	-13771	1033.69	1859.91	1.8	Si
SLV 12	179667	0.52	5410	-13816	1033.69	1865.68	1.8	Si
SLV 11	179667	0.52	5413	-13822	1033.69	1866.48	1.81	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.025 Wa = 0.05 Ta = 0.0592

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-3922	-22938	1492	4.529	1683.9	0.898	73.32449	7.57858	Si
SLV 15	-3917	-22955	1492	4.531	1683.5	0.898	73.35284	7.57858	Si
SLV 14	-3776	-22395	1529	4.585	1672.4	0.899	74.1488	7.57858	Si
SLV 13	-3771	-22412	1529	4.587	1672.1	0.899	74.17765	7.57858	Si
SLV 4	-3199	-22936	-1274	4.861	1628.9	0.904	78.14866	7.57858	Si
SLV 3	-3195	-22953	-1274	4.863	1628.6	0.904	78.17948	7.57858	Si
SLV 2	-3053	-22393	-1237	4.933	1618.3	0.906	79.1683	7.57858	Si
SLV 1	-3048	-22410	-1237	4.935	1618	0.906	79.19968	7.57858	Si
SLV 12	-3839	-23574	481	4.654	1677.4	0.898	75.2947	5.5671	Si
SLV 11	-3836	-23585	481	4.655	1677.1	0.898	75.31437	5.5671	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	36.305	SLU 9	Si
V_SLU	87.215	SLU 27	Si
PF_SLV	4.574	SLV 8	Si
V_SLV	4.919	SLV 6	Si
PFFP_SLV	1.692	SLV 14	Si
R_SLV	9.675	SLV 16	Si

Maschio 254

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.753	-3.404	L7	F1	1.281	0.28	2.839	2.517	3.161			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	11.45	-406.13	-4072	-0.0000252	0.0003743	0.0035	1.2809	2317.06	2760.2	2760.2	6.8	No	Si
SLU 39	13.97	123.68	-951	-0.0000063	0.0003743	0.0035	1.2809	593.26	692.48	692.48	5.6	No	Si
SLU 81	11.45	-446.87	-4901	-0.0000297	0.0003743	0.0035	1.2809	2717.69	3198.04	3198.04	7.16	No	Si
SLU 81	13.97	141.45	-1126	-0.0000074	0.0003743	0.0035	1.2809	698.72	799.11	799.11	5.65	No	Si
SLU 40	11.45	-400.94	-4071	-0.0000251	0.0003743	0.0035	1.2809	2316.74	2759.86	2759.86	6.88	No	Si
SLU 40	13.97	123.3	-955	-0.0000063	0.0003743	0.0035	1.2809	595.87	695.11	695.11	5.64	No	Si
SLU 73	11.45	-411.82	-4835	-0.0000287	0.0003743	0.0035	1.2809	2686.45	3163.79	3163.79	7.68	No	Si
SLU 73	13.97	141.06	-1125	-0.0000074	0.0003743	0.0035	1.2809	698.44	798.82	798.82	5.66	No	Si
SLU 31	11.45	-371.08	-4005	-0.0000242	0.0003743	0.0035	1.2809	2283.88	2724.45	2724.45	7.34	No	Si
SLU 31	13.97	123.3	-951	-0.0000063	0.0003743	0.0035	1.2809	592.97	692.19	692.19	5.61	No	Si
SLU 65	11.45	-350.2	-4682	-0.0000268	0.0003743	0.0035	1.2809	2614.11	3085.52	3085.52	8.81	No	Si
SLU 65	13.97	141.64	-1107	-0.0000073	0.0003743	0.0035	1.2809	687.7	787.91	787.91	5.56	No	Si
SLU 22	11.45	-318.1	-3854	-0.0000225	0.0003743	0.0035	1.2809	2207.64	2643.33	2643.33	8.31	No	Si
SLU 22	13.97	124.51	-926	-0.0000062	0.0003743	0.0035	1.2809	577.75	676.91	676.91	5.44	No	Si
SLU 64	11.45	-358.84	-4683	-0.0000269	0.0003743	0.0035	1.2809	2614.62	3086.06	3086.06	8.6	No	Si
SLU 64	13.97	142.27	-1100	-0.0000073	0.0003743	0.0035	1.2809	683.37	783.52	783.52	5.51	No	Si
SLU 23	11.45	-309.46	-3853	-0.0000223	0.0003743	0.0035	1.2809	2207.1	2642.76	2642.76	8.54	No	Si
SLU 23	13.97	123.88	-933	-0.0000062	0.0003743	0.0035	1.2809	582.12	681.29	681.29	5.5	No	Si
SLU 82	11.45	-441.69	-4901	-0.0000296	0.0003743	0.0035	1.2809	2717.39	3197.72	3197.72	7.24	No	Si
SLU 82	13.97	141.07	-1130	-0.0000074	0.0003743	0.0035	1.2809	701.31	801.74	801.74	5.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	11.45	-644.46	-3262	-0.0000261	0.0005615	0.0035	1.2809		2355.89	2355.89	3.66		Si
SLV 16	13.97	146.41	-619	-0.0000054	0.0005615	0.0035	1.2809		489.16	489.16	3.34		Si
SLD 13	11.45	-618.49	-3639	-0.0000272	0.0005615	0.0035	1.2809		2572.69	2572.69	4.16		Si
SLD 13	13.97	149.41	-697	-0.0000057	0.0005615	0.0035	1.2809		538.28	538.28	3.6		Si
SLD 16	11.45	-513.36	-3366	-0.000024	0.0005615	0.0035	1.2809		2416.86	2416.86	4.71		Si
SLD 16	13.97	131.39	-691	-0.0000053	0.0005615	0.0035	1.2809		534.51	534.51	4.07		Si
SLV 9	11.45	-600.19	-4235	-0.0000294	0.0005615	0.0035	1.2809		2911.62	2911.62	4.85		Si
SLV 9	13.97	162.24	-813	-0.0000064	0.0005615	0.0035	1.2809		610.77	610.77	3.76		Si
SLD 14	11.45	-572.75	-3626	-0.0000263	0.0005615	0.0035	1.2809		2565.51	2565.51	4.48		Si
SLD 14	13.97	145	-714	-0.0000057	0.0005615	0.0035	1.2809		548.48	548.48	3.78		Si
SLD 15	11.45	-559.09	-3379	-0.0000249	0.0005615	0.0035	1.2809		2424.09	2424.09	4.34		Si
SLD 15	13.97	135.8	-675	-0.0000054	0.0005615	0.0035	1.2809		524.3	524.3	3.86		Si
SLV 15	11.45	-716.04	-3282	-0.0000276	0.0005615	0.0035	1.2809		2367.56	2367.56	3.31		Si
SLV 15	13.97	153.31	-593	-0.0000054	0.0005615	0.0035	1.2809		473.15	473.15	3.09		Si
SLV 13	11.45	-814.88	-3707	-0.0000314	0.0005615	0.0035	1.2809		2611.85	2611.85	3.21		Si
SLV 13	13.97	177.07	-631	-0.0000061	0.0005615	0.0035	1.2809		496.89	496.89	2.81		Si
SLV 14	11.45	-743.3	-3688	-0.0000299	0.0005615	0.0035	1.2809		2600.63	2600.63	3.5		Si
SLV 14	13.97	170.16	-657	-0.000006	0.0005615	0.0035	1.2809		512.88	512.88	3.01		Si
SLV 10	11.45	-552	-4222	-0.0000284	0.0005615	0.0035	1.2809		2904.06	2904.06	5.26		Si
SLV 10	13.97	157.59	-831	-0.0000064	0.0005615	0.0035	1.2809		621.4	621.4	3.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	11.45	-441.69	-4901	-4081	-2144	1.2809	1.2809	-11379	8462	3035	30925	10740	3266	14006	No	6.53	Si
SLU 82	13.97	141.07	-1130	-941	-1356	1.2809	1.2809	-2624	7294	2616	30925	10740	3266	14006	No	10.33	Si
SLU 40	11.45	-400.94	-4071	-3390	-1952	1.2809	1.2809	-9453	8205	2943	30925	10740	3266	14006	No	7.17	Si
SLU 40	13.97	123.3	-955	-796	-1302	1.2809	1.2809	-2218	7240	2597	30925	10740	3266	14006	No	10.75	Si
SLU 81	11.45	-446.87	-4901	-4081	-2161	1.2809	1.2809	-11380	8462	3035	30925	10740	3266	14006	No	6.48	Si
SLU 81	13.97	141.45	-1126	-937	-1358	1.2809	1.2809	-2614	7293	2616	30925	10740	3266	14006	No	10.31	Si
SLU 74	11.45	-428.48	-5138	-4279	-2038	1.2809	1.2809	-11930	8535	3061	30925	10740	3266	14006	No	6.87	Si
SLU 74	13.97	147	-1273	-1060	-1232	1.2809	1.2809	-2955	7338	2632	30925	10740	3266	14006	No	11.37	Si
SLU 83	11.45	-439.19	-5121	-4264	-2032	1.2809	1.2809	-11889	8530	3059	30925	10740	3266	14006	No	6.89	Si
SLU 83	13.97	107.49	-1205	-1003	-1143	1.2809	1.2809	-2797	7317	2624	30925	10740	3266	14006	No	12.26	Si
SLU 77	11.45	-420.8	-5358	-4461	-1909	1.2809	1.2809	-12439	8603	3085	30925	10740	3266	14006	No	7.34	Si
SLU 77	13.97	113.05	-1352	-1126	-1016	1.2809	1.2809	-3138	7363	2641	30925	10740	3266	14006	No	13.79	Si
SLU 73	11.45	-411.82	-4835	-4026	-2013	1.2809	1.2809	-11226	8441	3027	30925	10740	3266	14006	No	6.96	Si
SLU 73	13.97	141.06	-1125	-937	-1257	1.2809	1.2809	-2613	7293	2616	30925	10740	3266	14006	No	11.14	Si
SLU 75	11.45	-423.29	-5138	-4278	-2021	1.2809	1.2809	-11929	8535	3061	30925	10740	3266	14006	No	6.93	Si
SLU 75	13.97	146.62	-1277	-1064	-1229	1.2809	1.2809	-2965	7340	2632	30925	10740	3266	14006	No	11.4	Si
SLU 84	11.45	-434.01	-5120	-4263	-2015	1.2809	1.2809	-11887	8529	3059	30925	10740	3266	14006	No	6.95	Si
SLU 84	13.97	107.12	-1209	-1007	-1140	1.2809	1.2809	-2807	7319	2625	30925	10740	3266	14006	No	12.29	Si
SLU 39	11.45	-406.13	-4072	-3391	-1969	1.2809	1.2809	-9454	8205	2943	30925	10740	3266	14006	No	7.11	Si
SLU 39	13.97	123.68	-951	-792	-1305	1.2809	1.2809	-2208	7239	2596	30925	10740	3266	14006	No	10.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	11.45	-572.75	-3626	-3019	-3001	1.2809	1.2809	-8419	12100	4340	30925	16109	3266	19376		6.46	Si
SLD 14	13.97	145	-714	-594	-2158	1.2809	1.2809	-1657	10748	3855	30925	16109	3266	19376		8.98	Si
SLV 9	11.45	-600.19	-4235	-3526	-3690	1.2809	1.2809	-9832	12383	4441	30925	16109	3266	19376		5.25	Si
SLV 9	13.97	162.24	-813	-677	-2188	1.2809	1.2809	-1888	10794	3871	30925	16109	3266	19376		8.86	Si
SLV 16	11.45	-644.46	-3262	-2717	-3063	1.2809	1.2809	-7574	11932	4279	30925	16109	3266	19376		6.33	Si
SLV 16	13.97	146.41	-619	-515	-2572	1.2809	1.2116	-1437	10704	3631	30925	16109	3266	19376		7.53	Si
SLV 15	11.45	-716.04	-3282	-2733	-3499	1.2809	1.2668	-7620	11941	4235	30925	16109	3266	19376		5.54	Si
SLV 15	13.97	153.31	-593	-494	-2961	1.2809	1.1461	-1378	10692	3431	30925	16109	3266	19376		6.54	Si
SLV 13	11.45	-814.88	-3707	-3087	-4392	1.2809	1.2619	-8608	12138	4289	30925	16109	3266	19376		4.41	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	13.97	177.07	-631	-526	-3336	1.2809	1.0797	-1465	10710	3238	30925	16109	3266	19376		5.81	Si
SLV 14	11.45	-743.3	-3688	-3071	-3955	1.2809	1.2809	-8562	12129	4350	30925	16109	3266	19376		4.9	Si
SLV 14	13.97	170.16	-657	-547	-2948	1.2809	1.144	-1525	10722	3434	30925	16109	3266	19376		6.57	Si
SLV 10	11.45	-552	-4222	-3515	-3396	1.2809	1.2809	-9802	12377	4439	30925	16109	3266	19376		5.71	Si
SLV 10	13.97	157.59	-831	-692	-1926	1.2809	1.2809	-1928	10802	3874	30925	16109	3266	19376		10.06	Si
SLD 15	11.45	-559.09	-3379	-2814	-2732	1.2809	1.2809	-7845	11986	4299	30925	16109	3266	19376		7.09	Si
SLD 15	13.97	135.8	-675	-562	-2184	1.2809	1.2809	-1567	10730	3848	30925	16109	3266	19376		8.87	Si
SLD 13	11.45	-618.49	-3639	-3030	-3280	1.2809	1.2809	-8448	12106	4342	30925	16109	3266	19376		5.91	Si
SLD 13	13.97	149.41	-697	-581	-2406	1.2809	1.2786	-1619	10740	3845	30925	16109	3266	19376		8.05	Si
SLD 9	11.45	-476.39	-3962	-3299	-2802	1.2809	1.2809	-9199	12256	4396	30925	16109	3266	19376		6.91	Si
SLD 9	13.97	138.07	-811	-676	-1650	1.2809	1.2809	-1884	10793	3871	30925	16109	3266	19376		11.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.709 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.52	4440	-1592	116.39	216.45	1.86	Si
SLV 12	179667	0.52	4487	-1609	116.39	218.66	1.88	Si
SLV 7	179667	0.52	4492	-1611	116.39	218.89	1.88	Si
SLV 11	179667	0.52	4539	-1628	116.39	221.11	1.9	Si
SLV 4	179667	0.52	5249	-1882	116.39	254.48	2.19	Si
SLV 3	179667	0.52	5326	-1910	116.39	258.07	2.22	Si
SLV 16	179667	0.52	5405	-1938	116.39	261.78	2.25	Si
SLV 15	179667	0.52	5482	-1966	116.39	265.37	2.28	Si
SLV 2	179667	0.52	6000	-2152	116.39	289.41	2.49	Si
SLV 1	179667	0.52	6076	-2179	116.39	292.96	2.52	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 12.709 Wa = 0.05 Ta = 0.0481

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-1039	-3787	44	3.729	260.3	0.889	60.94442	6.66605	Si
SLV 1	-1013	-3806	45	3.778	258	0.889	61.74536	6.66605	Si
SLV 4	-1001	-3361	0	3.825	256.8	0.889	62.52288	6.66605	Si
SLV 3	-976	-3381	0	3.876	254.5	0.889	63.36283	6.66605	Si
SLV 14	-657	-3688	5	4.649	226.3	0.892	75.77823	6.66605	Si
SLV 13	-631	-3707	5	4.724	224.1	0.892	76.95231	6.66605	Si
SLV 16	-619	-3262	-40	4.739	223.1	0.893	77.16106	6.66605	Si
SLV 15	-593	-3282	-40	4.819	220.9	0.893	78.38725	6.66605	Si
SLV 6	-945	-4251	83	3.894	251.7	0.889	63.66416	5.22003	Si
SLV 5	-928	-4265	83	3.93	250.2	0.889	64.24841	5.22003	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.437	SLU 22	Si
V_SLU	6.482	SLU 81	Si
PF_SLV	2.806	SLV 13	Si
V_SLV	4.412	SLV 13	Si
PFFP_SLV	1.86	SLV 8	Si
R_SLV	9.143	SLV 2	Si

Maschio 255

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-4.685	-11.003	-3.415	L7	F1	1.27	0.28	2.834	2.515	3.153			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	11.45	-166.27	-4129	-0.0000209	0.0003743	0.0035	1.2702	2323.25	2766.62	2766.62	16.64	No	Si
SLU 31	13.96	99.17	-875	-0.0000056	0.0003743	0.0035	1.2702	542.21	639.3	639.3	6.45	No	Si
SLU 23	11.45	-147.53	-3941	-0.0000197	0.0003743	0.0035	1.2702	2230.59	2666.59	2666.59	18.07	No	Si
SLU 23	13.96	103.64	-847	-0.0000055	0.0003743	0.0035	1.2702	525.09	622.14	622.14	6	No	Si
SLU 64	11.45	-175.02	-4793	-0.000024	0.0003743	0.0035	1.2702	2641.33	3114.51	3114.51	17.8	No	Si
SLU 64	13.96	119.81	-1008	-0.0000065	0.0003743	0.0035	1.2702	622.43	719.95	719.95	6.01	No	Si
SLU 22	11.45	-154.09	-3939	-0.0000198	0.0003743	0.0035	1.2702	2229.44	2665.36	2665.36	17.3	No	Si
SLU 22	13.96	103.31	-847	-0.0000055	0.0003743	0.0035	1.2702	525.09	622.13	622.13	6.02	No	Si
SLU 82	11.45	-197.86	-5063	-0.0000256	0.0003743	0.0035	1.2702	2765.93	3252.52	3252.52	16.44	No	Si
SLU 82	13.96	113.62	-1049	-0.0000066	0.0003743	0.0035	1.2702	646.64	744.44	744.44	6.55	No	Si
SLU 73	11.45	-187.2	-4983	-0.0000251	0.0003743	0.0035	1.2702	2729.44	3211.64	3211.64	17.16	No	Si
SLU 73	13.96	115.67	-1036	-0.0000066	0.0003743	0.0035	1.2702	639.39	737.1	737.1	6.37	No	Si
SLU 43	11.45	-135.67	-4285	-0.0000209	0.0003743	0.0035	1.2702	2399.25	2850.24	2850.24	21.01	No	Si
SLU 43	13.96	97.26	-864	-0.0000055	0.0003743	0.0035	1.2702	535.83	632.92	632.92	6.51	No	Si
SLU 65	11.45	-168.46	-4796	-0.0000238	0.0003743	0.0035	1.2702	2642.41	3115.69	3115.69	18.49	No	Si
SLU 65	13.96	120.14	-1008	-0.0000065	0.0003743	0.0035	1.2702	622.43	719.96	719.96	5.99	No	Si
SLU 81	11.45	-201.79	-5061	-0.0000257	0.0003743	0.0035	1.2702	2765.3	3251.8	3251.8	16.11	No	Si
SLU 81	13.96	113.42	-1049	-0.0000066	0.0003743	0.0035	1.2702	646.64	744.44	744.44	6.56	No	Si
SLU 44	11.45	-129.11	-4287	-0.0000208	0.0003743	0.0035	1.2702	2400.37	2851.48	2851.48	22.09	No	Si
SLU 44	13.96	97.59	-864	-0.0000055	0.0003743	0.0035	1.2702	535.84	632.92	632.92	6.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	11.45	-321.57	-3299	-0.0000202	0.0005615	0.0035	1.2702		2357.98	2357.98	7.33		Si
SLD 3	13.96	114.01	-584	-0.0000046	0.0005615	0.0035	1.2702		462.31	462.31	4.05		Si
SLV 6	11.45	-493.77	-4352	-0.0000282	0.0005615	0.0035	1.2702		2952.48	2952.48	5.98		Si
SLV 6	13.96	150.39	-789	-0.0000062	0.0005615	0.0035	1.2702		589.44	589.44	3.92		Si
SLD 2	11.45	-451.09	-3616	-0.0000241	0.0005615	0.0035	1.2702		2538.38	2538.38	5.63		Si
SLD 2	13.96	136.18	-614	-0.0000052	0.0005615	0.0035	1.2702		481.16	481.16	3.53		Si
SLV 5	11.45	-441.29	-4325	-0.000027	0.0005615	0.0035	1.2702		2937.38	2937.38	6.66		Si
SLV 5	13.96	143.26	-801	-0.0000061	0.0005615	0.0035	1.2702		596.62	596.62	4.16		Si
SLD 1	11.45	-401.29	-3591	-0.000023	0.0005615	0.0035	1.2702		2523.91	2523.91	6.29		Si
SLD 1	13.96	129.42	-625	-0.0000051	0.0005615	0.0035	1.2702		488.05	488.05	3.77		Si
SLV 2	11.45	-633.85	-3619	-0.0000278	0.0005615	0.0035	1.2702		2539.77	2539.77	4.01		Si
SLV 2	13.96	165.38	-538	-0.0000057	0.0005615	0.0035	1.2702		433.95	433.95	2.62		Si
SLD 4	11.45	-371.37	-3325	-0.0000213	0.0005615	0.0035	1.2702		2372.84	2372.84	6.39		Si
SLD 4	13.96	120.78	-573	-0.0000047	0.0005615	0.0035	1.2702		455.42	455.42	3.77		Si
SLV 3	11.45	-425.93	-3105	-0.0000214	0.0005615	0.0035	1.2702		2244.35	2244.35	5.27		Si
SLV 3	13.96	129.31	-487	-0.0000046	0.0005615	0.0035	1.2702		401.97	401.97	3.11		Si
SLV 4	11.45	-503.88	-3145	-0.0000231	0.0005615	0.0035	1.2702		2267.77	2267.77	4.5		Si
SLV 4	13.96	139.9	-470	-0.0000049	0.0005615	0.0035	1.2702		391.2	391.2	2.8		Si
SLV 1	11.45	-555.91	-3579	-0.000026	0.0005615	0.0035	1.2702		2517.12	2517.12	4.53		Si
SLV 1	13.96	154.79	-556	-0.0000054	0.0005615	0.0035	1.2702		444.73	444.73	2.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	11.45	-197.86	-5063	-4216	-999	1.2702	1.2702	-11854	8525	3032	30925	10650	3239	13889	No	13.91	Si
SLU 82	13.96	113.62	-1049	-873	-161	1.2702	1.2702	-2455	7272	2586	30925	10650	3239	13889	No	86.4	Si
SLU 74	11.45	-194.17	-5268	-4387	-921	1.2702	1.2702	-12335	8589	3055	30925	10650	3239	13889	No	15.09	Si
SLU 74	13.96	116.5	-1173	-977	-38	1.2702	1.2702	-2746	7311	2600	30925	10650	3239	13889	No	369.62	Si
SLU 75	11.45	-190.23	-5270	-4388	-912	1.2702	1.2702	-12338	8590	3055	30925	10650	3239	13889	No	15.23	Si
SLU 75	13.96	116.7	-1173	-977	-43	1.2702	1.2702	-2746	7311	2600	30925	10650	3239	13889	No	320.15	Si
SLU 31	11.45	-166.27	-4129	-3438	-863	1.2702	1.2702	-9667	8233	2928	30925	10650	3239	13889	No	16.09	Si
SLU 31	13.96	99.17	-875	-729	-208	1.2702	1.2702	-2048	7218	2567	30925	10650	3239	13889	No	66.86	Si
SLU 65	11.45	-168.46	-4796	-3993	-864	1.2702	1.2702	-11228	8442	3002	30925	10650	3239	13889	No	16.08	Si
SLU 65	13.96	120.14	-1008	-839	-69	1.2702	1.2702	-2360	7259	2582	30925	10650	3239	13889	No	200.43	Si
SLU 81	11.45	-201.79	-5061	-4215	-1007	1.2702	1.2702	-11850	8524	3032	30925	10650	3239	13889	No	13.79	Si
SLU 81	13.96	113.42	-1049	-873	-155	1.2702	1.2702	-2455	7272	2586	30925	10650	3239	13889	No	89.64	Si
SLU 64	11.45	-175.02	-4793	-3991	-878	1.2702	1.2702	-11223	8441	3002	30925	10650	3239	13889	No	15.83	Si
SLU 64	13.96	119.81	-1008	-839	-60	1.2702	1.2702	-2360	7259	2582	30925	10650	3239	13889	No	232.97	Si
SLU 39	11.45	-180.86	-4207	-3503	-916	1.2702	1.2702	-9850	8258	2937	30925	10650	3239	13889	No	15.16	Si
SLU 39	13.96	96.93	-887	-739	-227	1.2702	1.2702	-2077	7221	2568	30925	10650	3239	13889	No	61.28	Si
SLU 73	11.45	-187.2	-4983	-4150	-954	1.2702	1.2702	-11667	8500	3023	30925	10650	3239	13889	No	14.56	Si
SLU 73	13.96	115.67	-1036	-863	-136	1.2702	1.2702	-2426	7268	2585	30925	10650	3239	13889	No	102.11	Si
SLU 40	11.45	-176.93	-4208	-3504	-908	1.2702	1.2702	-9853	8258	2937	30925	10650	3239	13889	No	15.3	Si
SLU 40	13.96	97.13	-887	-739	-232	1.2702	1.2702	-2077	7221	2568	30925	10650	3239	13889	No	59.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	11.45	-441.29	-4325	-3601	-3033	1.2702	1.2702	-10126	12442	4425	30925	15975	3239	19214		6.34	Si
SLV 5	13.96	143.26	-801	-667	-1469	1.2702	1.2702	-1874	10792	3838	30925	15975	3239	19214		13.08	Si
SLV 15	11.45	371.18	-3639	-3030	2296	1.2702	1.2702	-8521	12121	4311	30925	15975	3239	19214		8.37	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	13.96	6.47	-965	-804	2390	1.2702	1.2702	-2260	10869	3866	30925	15975	3239	19214		8.04	Si
SLD 2	11.45	-451.09	-3616	-3011	-2524	1.2702	1.2702	-8467	12110	4307	30925	15975	3239	19214		7.61	Si
SLD 2	13.96	136.18	-614	-512	-1565	1.2702	1.2404	-1438	10704	3718	30925	15975	3239	19214		12.28	Si
SLD 5	11.45	-324.2	-4055	-3377	-2137	1.2702	1.2702	-9495	12316	4380	30925	15975	3239	19214		8.99	Si
SLD 5	13.96	121.1	-779	-649	-924	1.2702	1.2702	-1823	10781	3835	30925	15975	3239	19214		20.79	Si
SLV 6	11.45	-493.77	-4352	-3624	-3344	1.2702	1.2702	-10189	12454	4430	30925	15975	3239	19214		5.75	Si
SLV 6	13.96	150.39	-789	-657	-1749	1.2702	1.2702	-1847	10786	3836	30925	15975	3239	19214		10.98	Si
SLV 1	11.45	-555.91	-3579	-2980	-3137	1.2702	1.2702	-8379	12092	4301	30925	15975	3239	19214		6.13	Si
SLV 1	13.96	154.79	-556	-463	-2027	1.2702	1.0698	-1301	10677	3198	30925	15975	3239	19214		9.48	Si
SLD 1	11.45	-401.29	-3591	-2990	-2229	1.2702	1.2702	-8407	12098	4303	30925	15975	3239	19214		8.62	Si
SLD 1	13.96	129.42	-625	-521	-1299	1.2702	1.2702	-1464	10710	3809	30925	15975	3239	19214		14.79	Si
SLD 6	11.45	-357.21	-4072	-3391	-2333	1.2702	1.2702	-9534	12324	4383	30925	15975	3239	19214		8.24	Si
SLD 6	13.96	125.59	-771	-642	-1101	1.2702	1.2702	-1806	10778	3833	30925	15975	3239	19214		17.46	Si
SLV 4	11.45	-503.88	-3145	-2619	-2463	1.2702	1.2702	-7364	11889	4229	30925	15975	3239	19214		7.8	Si
SLV 4	13.96	139.9	-470	-391	-1838	1.2702	1.0118	-1100	10637	3013	30925	15975	3239	19214		10.45	Si
SLV 2	11.45	-633.85	-3619	-3013	-3599	1.2702	1.2702	-8473	12111	4308	30925	15975	3239	19214		5.34	Si
SLV 2	13.96	165.38	-538	-448	-2444	1.2702	0.9839	-1261	10669	2939	30925	15975	3239	19214		7.86	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.707 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.52	4370	-1554	115.02	211.37	1.84	Si
SLV 8	179667	0.52	4449	-1582	115.02	215.08	1.87	Si
SLV 11	179667	0.52	4652	-1654	115.02	224.56	1.95	Si
SLV 12	179667	0.52	4731	-1683	115.02	228.26	1.98	Si
SLV 3	179667	0.52	4860	-1729	115.02	234.3	2.04	Si
SLV 4	179667	0.52	4978	-1770	115.02	239.78	2.08	Si
SLV 1	179667	0.52	5578	-1984	115.02	267.62	2.33	Si
SLV 2	179667	0.52	5696	-2026	115.02	273.05	2.37	Si
SLV 15	179667	0.52	5799	-2062	115.02	277.78	2.42	Si
SLV 16	179667	0.52	5916	-2104	115.02	283.19	2.46	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 12.707 Wa = 0.05 Ta = 0.0479

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-1034	-4113	-75	3.709	258.2	0.889	60.61401	6.65425	Si
SLV 14	-1017	-4153	-75	3.742	256.6	0.889	61.15879	6.65425	Si
SLV 15	-965	-3639	-25	3.87	251.9	0.889	63.26879	6.65425	Si
SLV 16	-948	-3679	-25	3.906	250.3	0.889	63.85471	6.65425	Si
SLV 1	-556	-3579	18	4.945	216.1	0.895	80.3291	6.65425	Si
SLV 9	-944	-4485	-101	3.873	250	0.889	63.32404	5.21568	Si
SLV 2	-538	-3619	18	5.004	214.7	0.895	81.21705	6.65425	Si
SLV 10	-932	-4512	-101	3.897	248.9	0.889	63.72138	5.21568	Si
SLV 3	-487	-3105	68	5.15	210.7	0.898	83.36074	6.65425	Si
SLV 4	-470	-3145	68	5.215	209.3	0.899	84.30543	6.65425	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.993	SLU 65	Si
V_SLU	13.792	SLU 81	Si
PF_SLV	2.624	SLV 2	Si
V_SLV	5.339	SLV 2	Si
PFFP_SLV	1.838	SLV 7	Si
R_SLV	9.109	SLV 13	Si

Maschio 260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.685	-13.143	-4.685	L3	Z medio 271 cm	0.61	0.3	2.71	2.71	2.71			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	0	481.22	-10344	-0.0001484	0.0003743	0.0035	0.61	1403.25	1928.22	1928.22	4.01	No	Si
SLU 75	2.5	506.1	-11684	-0.0001696	0.0003743	0.0035	0.61	1328.7	2010.49	2010.49	3.97	No	Si
SLU 79	0	486.93	-10338	-0.0001489	0.0003743	0.0035	0.61	1403.43	1927.9	1927.9	3.96	No	Si
SLU 79	2.5	502.61	-11643	-0.0001686	0.0003743	0.0035	0.61	1331.87	2007.94	2007.94	4	No	Si
SLU 83	0	504.01	-10691	-0.0001555	0.0003743	0.0035	0.61	1389.6	1949.23	1949.23	3.87	No	Si
SLU 83	2.5	521.92	-12068	-0.0001771	0.0003743	0.0035	0.61	1296.54	2034.54	2034.54	3.9	No	Si
SLU 77	0	490.06	-10401	-0.0001501	0.0003743	0.0035	0.61	1401.27	1931.65	1931.65	3.94	No	Si
SLU 77	2.5	505.91	-11719	-0.0001701	0.0003743	0.0035	0.61	1326.02	2012.62	2012.62	3.98	No	Si
SLU 80	0	484.35	-10385	-0.0001492	0.0003743	0.0035	0.61	1401.83	1930.7	1930.7	3.99	No	Si
SLU 80	2.5	506.43	-11724	-0.0001702	0.0003743	0.0035	0.61	1325.59	2012.95	2012.95	3.97	No	Si
SLU 84	0	501.43	-10737	-0.0001559	0.0003743	0.0035	0.61	1387.46	1952.11	1952.11	3.89	No	Si
SLU 84	2.5	525.75	-12149	-0.0001788	0.0003743	0.0035	0.61	1289.13	2039.71	2039.71	3.88	No	Si
SLU 76	0	476.37	-10312	-0.0001474	0.0003743	0.0035	0.61	1404.29	1926.34	1926.34	4.04	No	Si
SLU 76	2.5	505.34	-11663	-0.0001692	0.0003743	0.0035	0.61	1330.36	2009.16	2009.16	3.98	No	Si
SLU 78	0	487.48	-10448	-0.0001504	0.0003743	0.0035	0.61	1399.57	1934.47	1934.47	3.97	No	Si
SLU 78	2.5	509.74	-11800	-0.0001717	0.0003743	0.0035	0.61	1319.53	2017.66	2017.66	3.96	No	Si
SLU 82	0	495.17	-10633	-0.0001538	0.0003743	0.0035	0.61	1392.12	1945.73	1945.73	3.93	No	Si
SLU 82	2.5	522.11	-12034	-0.0001766	0.0003743	0.0035	0.61	1299.61	2032.36	2032.36	3.89	No	Si
SLU 81	0	497.75	-10587	-0.0001534	0.0003743	0.0035	0.61	1394.11	1942.88	1942.88	3.9	No	Si
SLU 81	2.5	518.28	-11952	-0.0001749	0.0003743	0.0035	0.61	1306.72	2027.24	2027.24	3.91	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	0	280.1	196	-0.006623	0.0005615	0.0035	0.488		0	0	0		No
SLV 12	2.5	-246.05	972	0.3865844	0.0005615	0.0035	0.488		0	0	0		No
SLV 8	0	-348.57	2799	1.1053458	0.0005615	0.0035	0.488		0	0	0		No
SLV 8	2.5	227.34	-1240	-0.0000341	0.0005615	0.0035	0.61		386.24	386.24	1.7		Si
SLV 16	0	1191.35	-8505	-0.0001965	0.0005615	0.0035	0.61		2008.73	2008.73	1.69		Si
SLV 16	2.5	-491.03	-2168	-0.0000965	0.0005615	0.0035	0.488		691.98	691.98	1.41		Si
SLV 4	0	-904.22	172	-0.0092177	0.0005615	0.0035	0.488		0	0	0		No
SLV 4	2.5	1086.94	-9541	-0.000189	0.0005615	0.0035	0.61		2198.05	2198.05	2.02		Si
SLD 4	0	-459.9	-2461	-0.0000717	0.0005615	0.0035	0.488		770.31	770.31	1.67		Si
SLD 4	2.5	821.69	-8994	-0.0001549	0.0005615	0.0035	0.61		2099.72	2099.72	2.56		Si
SLV 15	0	1376.25	-9283	-0.0002328	0.0005615	0.0035	0.61		2154.07	2154.07	1.57		Si
SLV 15	2.5	-640.65	-1466	-0.0023611	0.0005615	0.0035	0.488		499.08	499.08	0.78		No
SLV 3	0	-719.33	-606	-0.0066907	0.0005615	0.0035	0.488		253.66	253.66	0.35		No
SLV 3	2.5	937.32	-8839	-0.0001648	0.0005615	0.0035	0.61		2070.72	2070.72	2.21		Si
SLV 7	0	-224.09	2275	0	0.0005615	0.0035	0.488		0	0	0		No
SLV 7	2.5	126.6	-767	-0.0000181	0.0005615	0.0035	0.61		250.59	250.59	1.98		Si
SLV 13	0	1554.54	-14247	-0.0003047	0.0005615	0.0035	0.61		2737.24	2737.24	1.76		Si
SLV 13	2.5	-398.19	-6272	-0.000088	0.0005615	0.0035	0.61		1667.02	1667.02	4.19		Si
SLV 11	0	404.58	-328	-0.0195971	0.0005615	0.0035	0.488		121.07	121.07	0.3		No
SLV 11	2.5	-346.79	1445	0.5742234	0.0005615	0.0035	0.488		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0	501.43	-10737	-9042	806	0.61	0.61	-49412	10833	2998	30925	5480	1555	7035	No	8.73	Si
SLU 84	2.5	525.75	-12149	-10231	-1663	0.61	0.61	-55907	10833	3315	30925	5480	1555	7035	No	4.23	Si
SLU 76	0	476.37	-10312	-8684	771	0.61	0.61	-47455	10833	2903	30925	5480	1555	7035	No	9.12	Si
SLU 76	2.5	505.34	-11663	-9821	-1613	0.61	0.61	-53670	10833	3206	30925	5480	1555	7035	No	4.36	Si
SLU 82	0	495.17	-10633	-8954	796	0.61	0.61	-48933	10833	2975	30925	5480	1555	7035	No	8.84	Si
SLU 82	2.5	522.11	-12034	-10134	-1652	0.61	0.61	-55376	10833	3289	30925	5480	1555	7035	No	4.26	Si
SLU 73	0	470.1	-10208	-8596	761	0.61	0.61	-46976	10833	2880	30925	5480	1555	7035	No	9.24	Si
SLU 73	2.5	501.7	-11547	-9724	-1601	0.61	0.61	-53139	10833	3180	30925	5480	1555	7035	No	4.39	Si
SLU 83	0	504.01	-10691	-9003	800	0.61	0.61	-49196	10833	2988	30925	5480	1555	7035	No	8.79	Si
SLU 83	2.5	521.92	-12068	-10162	-1632	0.61	0.61	-55534	10833	3297	30925	5480	1555	7035	No	4.31	Si
SLU 80	0	484.35	-10385	-8745	777	0.61	0.61	-47790	10833	2919	30925	5480	1555	7035	No	9.05	Si
SLU 80	2.5	506.43	-11724	-9873	-1603	0.61	0.61	-53952	10833	3220	30925	5480	1555	7035	No	4.39	Si
SLU 75	0	481.22	-10344	-8711	772	0.61	0.61	-47600	10833	2910	30925	5480	1555	7035	No	9.11	Si
SLU 75	2.5	506.1	-11684	-9839	-1601	0.61	0.61	-53769	10833	3211	30925	5480	1555	7035	No	4.39	Si
SLU 78	0	487.48	-10448	-8798	782	0.61	0.61	-48079	10833	2933	30925	5480	1555	7035	No	8.99	Si
SLU 78	2.5	509.74	-11800	-9937	-1613	0.61	0.61	-54300	10833	3237	30925	5480	1555	7035	No	4.36	Si
SLU 77	0	490.06	-10401	-8759	777	0.61	0.61	-47863	10833	2923	30925	5480	1555	7035	No	9.06	Si
SLU 77	2.5	505.91	-11719	-9868	-1582	0.61	0.61	-53927	10833	3219	30925	5480	1555	7035	No	4.45	Si
SLU 81	0	497.75	-10587	-8915	791	0.61	0.61	-48718	10833	2965	30925	5480	1555	7035	No	8.9	Si
SLU 81	2.5	518.28	-11952	-10065	-1620	0.61	0.61	-55003	10833	3271	30925	5480	1555	7035	No	4.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	0	245.74	-13747	-11577	297	0.61	0.61	-63262	16250	3968	30925	8219	1555	9775		32.92	Si
SLV 6	2.5	1035.55	-17257	-14532	-3270	0.61	0.61	-79414	16250	4756	30925	8219	1555	9775		2.99	Si
SLV 2	0	-725.93	-4792	-4035	-1608	0.61	0.4605	-29672	16250	2245	30925	8219	1555	9775		6.08	Si
SLV 2	2.5	1329.41	-14346	-12081	-4949	0.61	0.61	-66018	16250	4102	30925	8219	1555	9775		1.97	Si
SLD 1	0	-230.36	-6050	-5095	-613	0.61	0.61	-27841	15985	2925	30925	8219	1555	9775		15.96	Si
SLD 1	2.5	876.73	-11533	-9712	-3154	0.61	0.61	-53075	16250	3471	30925	8219	1555	9775		3.1	Si
SLV 1	0	-541.03	-5570	-4690	-1243	0.61	0.61	-25632	15543	2844	30925	8219	1555	9775		7.86	Si
SLV 1	2.5	1179.79	-13644	-11490	-4332	0.61	0.61	-62787	16250	3945	30925	8219	1555	9775		2.26	Si
SLV 13	0	1554.54	-14247	-11997	2954	0.61	0.5876	-65562	16250	4080	30925	8219	1555	9775		3.31	Si
SLV 13	2.5	-398.19	-6272	-5281	2187	0.61	0.61	-28861	16189	2962	30925	8219	1555	9775		4.47	Si
SLV 4	0	-904.22	172	145	-1931	0.488	0	0	0	0	30925	6576	1244	7820		4.05	Si
SLV 4	2.5	1086.94	-9541	-8034	-4347	0.61	0.5732	-43906	16250	3023	30925	8219	1555	9775		2.25	Si
SLV 3	0	-719.33	-606	-510	-1566	0.488	0	0	0	0	30925	6576	1244	7820		4.99	Si
SLV 3	2.5	937.32	-8839	-7443	-3729	0.61	0.5968	-40675	16250	2910	30925	8219	1555	9775		2.62	Si
SLD 4	0	-459.9	-2461	-2073	-1048	0.488	0.3544	0	0	0	30925	6576	1244	7820		7.46	Si
SLD 4	2.5	821.69	-8994	-7574	-3176	0.61	0.61	-41389	16250	2974	30925	8219	1555	9775		3.08	Si
SLV 15	0	1376.25	-9283	-7817	2632	0.61	0.4702	-42719	16250	2965	30925	8219	1555	9775		3.71	Si
SLV 15	2.5	-640.65	-1466	-1235	2790	0.488	0	0	0	0	30925	6576	1244	7820		2.8	Si
SLD 2	0	-348.49	-5553	-4676	-846	0.61	0.61	-25554	15527	2841	30925	8219	1555	9775		11.56	Si
SLD 2	2.5	972.32	-11982	-10090	-3549	0.61	0.61	-55139	16250	3572	30925	8219	1555	9775		2.75	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.355 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.27	0	428	28.54	0	0	No, Trazione
SLV 8	179667	0.27	0	1183	28.54	0	0	No, Trazione
SLV 7	179667	0.27	0	1060	28.54	0	0	No, Trazione
SLV 12	179667	0.27	0	551	28.54	0	0	No, Trazione
SLV 4	179667	0.27	19144	-3503	28.54	459.62	16.11	Si
SLV 3	179667	0.27	20146	-3687	28.54	480.05	16.82	Si
SLV 16	179667	0.27	30663	-5611	28.54	672.67	23.57	Si
SLV 15	179667	0.27	31665	-5794	28.54	688.95	24.14	Si
SLV 2	179667	0.27	44693	-8179	28.54	867.76	30.41	Si
SLV 1	179667	0.27	45695	-8362	28.54	878.99	30.8	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.355 Wa = 0.05 Ta = 0.0409

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-13736	-13747	61	0.294	1468.8	0.985	4.34296	3.1208	Si
SLV 5	-13483	-14271	61	0.299	1443	0.985	4.40854	3.1208	Si
SLV 2	-10580	-4792	31	0.366	1147.2	0.981	5.4157	3.82913	Si
SLV 1	-10203	-5570	30	0.377	1108.8	0.98	5.58223	3.82913	Si
SLV 10	-12552	-16350	59	0.316	1348.2	0.984	4.67282	3.1208	Si
SLV 9	-12299	-16874	59	0.321	1322.3	0.983	4.75124	3.1208	Si
SLV 14	-6633	-13469	24	0.54	745.1	0.971	8.07265	3.82913	Si
SLV 4	-6637	172	2	0.542	745.6	0.971	8.11263	3.82913	Si, Trazione
SLV 13	-6256	-14247	23	0.567	706.8	0.97	8.49301	3.82913	Si
SLV 3	-6261	-606	2	0.57	707.2	0.97	8.535	3.82913	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.867	SLU 83	Si
V_SLU	4.23	SLU 84	Si
PF_SLV	0	SLV 4	No
V_SLV	1.975	SLV 2	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.392	SLV 6	Si

Maschio 261

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.743	-4.685	-11.003	-4.685	L3	Z medio 271 cm	0.74	0.3	2.71	2.71	2.71			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	0	535.47	-10593	-0.0001159	0.0003743	0.0035	0.7401	2083.13	2632.72	2632.72	4.92	No	Si
SLU 82	2.5	-1037.96	-15512	-0.0002116	0.0003743	0.0035	0.7401	1801.38	3042.39	3042.39	2.93	No	Si
SLU 74	0	504.42	-10285	-0.0001108	0.0003743	0.0035	0.7401	2074.43	2585.83	2585.83	5.13	No	Si
SLU 74	2.5	-1000.22	-14973	-0.0002009	0.0003743	0.0035	0.7401	1870.92	3044.38	3044.38	3.04	No	Si
SLU 80	0	522.59	-10346	-0.0001126	0.0003743	0.0035	0.7401	2076.39	2595.01	2595.01	4.97	No	Si
SLU 80	2.5	-1010.01	-15126	-0.0002038	0.0003743	0.0035	0.7401	1852.17	3043.69	3043.69	3.01	No	Si
SLU 84	0	542.42	-10673	-0.0001171	0.0003743	0.0035	0.7401	2084.9	2645.11	2645.11	4.88	No	Si
SLU 84	2.5	-1050.54	-15672	-0.000215	0.0003743	0.0035	0.7401	1778.94	3041.77	3041.77	2.9	No	Si
SLU 77	0	511.38	-10366	-0.000112	0.0003743	0.0035	0.7401	2077.01	2598.05	2598.05	5.08	No	Si
SLU 77	2.5	-1012.79	-15133	-0.0002042	0.0003743	0.0035	0.7401	1851.3	3043.66	3043.66	3.01	No	Si
SLU 78	0	525.04	-10407	-0.0001134	0.0003743	0.0035	0.7401	2078.25	2604.33	2604.33	4.96	No	Si
SLU 78	2.5	-1015.86	-15218	-0.0002056	0.0003743	0.0035	0.7401	1840.44	3043.32	3043.32	3	No	Si
SLU 83	0	528.75	-10632	-0.0001158	0.0003743	0.0035	0.7401	2084.02	2638.75	2638.75	4.99	No	Si
SLU 83	2.5	-1047.47	-15586	-0.0002135	0.0003743	0.0035	0.7401	1791.07	3042.22	3042.22	2.9	No	Si
SLU 79	0	508.92	-10305	-0.0001113	0.0003743	0.0035	0.7401	2075.07	2588.75	2588.75	5.09	No	Si
SLU 79	2.5	-1006.94	-15040	-0.0002024	0.0003743	0.0035	0.7401	1862.77	3044.06	3044.06	3.02	No	Si
SLU 75	0	518.09	-10327	-0.0001121	0.0003743	0.0035	0.7401	2075.78	2592.09	2592.09	5	No	Si
SLU 75	2.5	-1003.29	-15058	-0.0002023	0.0003743	0.0035	0.7401	1860.51	3043.98	3043.98	3.03	No	Si
SLU 81	0	521.8	-10551	-0.0001145	0.0003743	0.0035	0.7401	2082.14	2626.38	2626.38	5.03	No	Si
SLU 81	2.5	-1034.89	-15426	-0.0002101	0.0003743	0.0035	0.7401	1813.06	3042.62	3042.62	2.94	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	0	882.53	3665	0.9189183	0.0005615	0.0035	0.5921		0	0	0		No
SLV 12	2.5	-460.9	-1856	-0.0000516	0.0005615	0.0035	0.5921		782.91	782.91	1.7		Si
SLV 8	0	15.06	916	0.2366135	0.0005615	0.0035	0.5921		0	0	0		No
SLV 8	2.5	213.69	934	0.2346733	0.0005615	0.0035	0.5921		0	0	0		No
SLV 15	0	1973.37	848	-0.0776311	0.0005615	0.0035	0.5921		0	0	0		No
SLV 15	2.5	-1755.12	-12369	-0.0002087	0.0005615	0.0035	0.7401		3437.2	3437.2	1.96		Si
SLD 16	0	1218.16	-2665	-0.0127312	0.0005615	0.0035	0.5921		958.97	958.97	0.79		No
SLD 16	2.5	-1236.37	-11154	-0.0001588	0.0005615	0.0035	0.7401		3217.51	3217.51	2.6		Si
SLD 15	0	1383.63	-2068	-0.0266287	0.0005615	0.0035	0.5921		761.15	761.15	0.55		No
SLD 15	2.5	-1367.63	-11634	-0.000172	0.0005615	0.0035	0.7401		3303.1	3303.1	2.42		Si
SLV 16	0	1714.38	-86	-0.0705919	0.0005615	0.0035	0.5921		65.85	65.85	0.04		No
SLV 16	2.5	-1549.68	-11618	-0.0001852	0.0005615	0.0035	0.7401		3300.22	3300.22	2.13		Si
SLV 7	0	189.43	1545	0.3942229	0.0005615	0.0035	0.5921		0	0	0		No
SLV 7	2.5	75.37	429	0.1085589	0.0005615	0.0035	0.5921		0	0	0		No
SLD 11	0	794.05	14	-0.0335275	0.0005615	0.0035	0.5921		28.99	28.99	0.04		No
SLD 11	2.5	-633.02	-5344	-0.0000732	0.0005615	0.0035	0.7401		1869.01	1869.01	2.95		Si
SLD 12	0	684.36	-381	-0.0221501	0.0005615	0.0035	0.5921		173.15	173.15	0.25		No
SLD 12	2.5	-546.01	-5026	-0.0000657	0.0005615	0.0035	0.7401		1777.99	1777.99	3.26		Si
SLV 11	0	1056.9	4294	1.0754914	0.0005615	0.0035	0.5921		0	0	0		No
SLV 11	2.5	-599.21	-2362	-0.0000696	0.0005615	0.0035	0.5921		951.85	951.85	1.59		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	0	542.42	-10673	-8988	1269	0.7401	0.7401	-40480	10833	3109	30925	6649	1887	8536	No	6.73	Si
SLU 84	2.5	-1050.54	-15672	-13197	3243	0.7401	0.7401	-59437	10833	4232	30925	6649	1887	8536	No	2.63	Si
SLU 75	0	518.09	-10327	-8696	1214	0.7401	0.7401	-39165	10833	3031	30925	6649	1887	8536	No	7.03	Si
SLU 75	2.5	-1003.29	-15058	-12681	3098	0.7401	0.7401	-57111	10833	4094	30925	6649	1887	8536	No	2.76	Si
SLU 82	0	535.47	-10593	-8920	1253	0.7401	0.7401	-40175	10833	3091	30925	6649	1887	8536	No	6.81	Si
SLU 82	2.5	-1037.96	-15512	-13063	3201	0.7401	0.7401	-58831	10833	4196	30925	6649	1887	8536	No	2.67	Si
SLU 77	0	511.38	-10366	-8729	1224	0.7401	0.7401	-39314	10833	3040	30925	6649	1887	8536	No	6.97	Si
SLU 77	2.5	-1012.79	-15133	-12743	3112	0.7401	0.7401	-57392	10833	4111	30925	6649	1887	8536	No	2.74	Si
SLU 80	0	522.59	-10346	-8712	1223	0.7401	0.7401	-39238	10833	3036	30925	6649	1887	8536	No	6.98	Si
SLU 80	2.5	-1010.01	-15126	-12737	3124	0.7401	0.7401	-57366	10833	4109	30925	6649	1887	8536	No	2.73	Si
SLU 81	0	521.8	-10551	-8885	1247	0.7401	0.7401	-40018	10833	3082	30925	6649	1887	8536	No	6.84	Si
SLU 81	2.5	-1034.89	-15426	-12991	3173	0.7401	0.7401	-58506	10833	4177	30925	6649	1887	8536	No	2.69	Si
SLU 78	0	525.04	-10407	-8764	1230	0.7401	0.7401	-39471	10833	3050	30925	6649	1887	8536	No	6.94	Si
SLU 78	2.5	-1015.86	-15218	-12815	3140	0.7401	0.7401	-57717	10833	4130	30925	6649	1887	8536	No	2.72	Si
SLU 76	0	524.75	-10293	-8668	1211	0.7401	0.7401	-39037	10833	3024	30925	6649	1887	8536	No	7.05	Si
SLU 76	2.5	-999.48	-15023	-12651	3100	0.7401	0.7401	-56976	10833	4086	30925	6649	1887	8536	No	2.75	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	0	508.92	-10305	-8678	1218	0.7401	0.7401	-39082	10833	3027	30925	6649	1887	8536	No	7.01	Si
SLU 79	2.5	-1006.94	-15040	-12665	3096	0.7401	0.7401	-57041	10833	4090	30925	6649	1887	8536	No	2.76	Si
SLU 83	0	528.75	-10632	-8953	1263	0.7401	0.7401	-40324	10833	3100	30925	6649	1887	8536	No	6.76	Si
SLU 83	2.5	-1047.47	-15586	-13125	3215	0.7401	0.7401	-59112	10833	4212	30925	6649	1887	8536	No	2.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0	662.93	-15153	-12760	1449	0.7401	0.7401	-57468	16250	4471	30925	9973	1887	11860		8.19	Si
SLV 9	2.5	-1557.28	-21302	-17939	4492	0.7401	0.7401	-80791	16250	5852	30925	9973	1887	11860		2.64	Si
SLD 14	0	1144.55	-6297	-5303	2380	0.7401	0.5649	-23883	15193	2575	30925	9973	1887	11860		4.98	Si
SLD 14	2.5	-1415.28	-14689	-12370	4575	0.7401	0.7401	-55712	16250	4367	30925	9973	1887	11860		2.59	Si
SLD 15	0	1383.63	-2068	-1741	2832	0.5921	0	0	0	0	30925	7979	1510	9488		3.35	Si
SLD 15	2.5	-1367.63	-11634	-9797	4682	0.7401	0.7401	-44122	16250	3681	30925	9973	1887	11860		2.53	Si
SLV 16	0	1714.38	-86	-72	3481	0.5921	0	0	0	0	30925	7979	1510	9488		2.73	Si
SLV 16	2.5	-1549.68	-11618	-9783	5408	0.7401	0.71	-44062	16250	3678	30925	9973	1887	11860		2.19	Si
SLV 13	0	1855.18	-4986	-4199	3748	0.5921	0	0	0	0	30925	7979	1510	9488		2.53	Si
SLV 13	2.5	-2042.54	-18051	-15201	6731	0.7401	0.7401	-68460	16250	5122	30925	9973	1887	11860		1.76	Si
SLV 15	0	1973.37	848	714	3971	0.5921	0	0	0	0	30925	7979	1510	9488		2.39	Si
SLV 15	2.5	-1755.12	-12369	-10416	6145	0.7401	0.6845	-52343	16250	3846	30925	9973	1887	11860		1.93	Si
SLD 13	0	1310.02	-5701	-4800	2693	0.7401	0.4208	-21620	14741	2349	30925	9973	1887	11860		4.4	Si
SLD 13	2.5	-1546.53	-15169	-12774	5046	0.7401	0.7401	-57531	16250	4475	30925	9973	1887	11860		2.35	Si
SLV 10	0	488.56	-15781	-13289	1119	0.7401	0.7401	-59852	16250	4613	30925	9973	1887	11860		10.6	Si
SLV 10	2.5	-1418.97	-20797	-17513	3996	0.7401	0.7401	-78874	16250	5739	30925	9973	1887	11860		2.97	Si
SLV 14	0	1596.19	-5920	-4985	3258	0.7401	0.3012	-22451	14907	2398	30925	9973	1887	11860		3.64	Si
SLV 14	2.5	-1837.1	-17300	-14568	5995	0.7401	0.7401	-65612	16250	4954	30925	9973	1887	11860		1.98	Si
SLD 16	0	1218.16	-2665	-2244	2518	0.5921	0	0	0	0	30925	7979	1510	9488		3.77	Si
SLD 16	2.5	-1236.37	-11154	-9393	4211	0.7401	0.7401	-42303	16250	3608	30925	9973	1887	11860		2.82	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.355 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.27	0	1092	34.63	0	0	No, Trazione
SLV 8	179667	0.27	0	940	34.63	0	0	No, Trazione
SLV 12	179667	0.27	0	1333	34.63	0	0	No, Trazione
SLV 11	179667	0.27	0	1485	34.63	0	0	No, Trazione
SLV 15	179667	0.27	21022	-4668	34.63	603.78	17.44	Si
SLV 16	179667	0.27	22041	-4894	34.63	628.13	18.14	Si
SLV 3	179667	0.27	26918	-5977	34.63	738.5	21.33	Si
SLV 4	179667	0.27	27937	-6203	34.63	760.23	21.96	Si
SLV 13	179667	0.27	46686	-10366	34.63	1079.56	31.18	Si
SLV 14	179667	0.27	47704	-10592	34.63	1092.52	31.55	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.355 Wa = 0.05 Ta = 0.0409

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-13532	-4986	18	0.352	1462.8	0.982	5.20478	3.82913	Si
SLV 9	-17187	-15153	16	0.291	1835.2	0.985	4.28678	3.1208	Si
SLV 10	-16916	-15781	15	0.294	1807.6	0.985	4.34172	3.1208	Si
SLV 14	-13131	-5920	17	0.36	1421.9	0.981	5.33676	3.82913	Si
SLV 5	-15571	-17902	14	0.314	1670.5	0.984	4.64327	3.1208	Si
SLV 6	-15301	-18531	13	0.319	1643	0.984	4.71006	3.1208	Si
SLV 15	-8727	848	17	0.505	973.3	0.973	7.54484	3.82913	Si, Trazione
SLV 16	-8326	-86	17	0.526	932.4	0.972	7.85864	3.82913	Si
SLV 1	-8146	-14151	11	0.536	914.1	0.972	8.01911	3.82913	Si
SLV 2	-7744	-15085	10	0.559	873.2	0.97	8.37905	3.82913	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.895	SLU 84	Si
V_SLU	2.633	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	1.762	SLV 13	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.359	SLV 13	Si

Maschio 264

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 271 cm	Z medio 611 cm	0.745	0.3	3.4	3.4	3.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	3.66	-326.49	-12925	-0.0001227	0.0003743	0.0035	0.745	2079.61	2948.06	2948.06	9.03	No	Si
SLU 73	5.66	111.85	-9294	-0.0000752	0.0003743	0.0035	0.745	2047.82	2462.06	2462.06	22.01	No	Si
SLU 78	3.66	-327.74	-13291	-0.0001265	0.0003743	0.0035	0.745	2058.87	2973.55	2973.55	9.07	No	Si
SLU 78	5.66	109.21	-9591	-0.0000775	0.0003743	0.0035	0.745	2066.64	2505.9	2505.9	22.94	No	Si
SLU 76	3.66	-328.01	-13085	-0.0001245	0.0003743	0.0035	0.745	2071.05	2959.11	2959.11	9.02	No	Si
SLU 76	5.66	111.16	-9423	-0.0000762	0.0003743	0.0035	0.745	2056.38	2481.19	2481.19	22.32	No	Si
SLU 75	3.66	-326.22	-13130	-0.0001248	0.0003743	0.0035	0.745	2068.51	2962.24	2962.24	9.08	No	Si
SLU 75	5.66	109.9	-9462	-0.0000764	0.0003743	0.0035	0.745	2058.79	2486.85	2486.85	22.63	No	Si
SLU 83	3.66	-333.38	-13500	-0.000129	0.0003743	0.0035	0.745	2045.03	2988.35	2988.35	8.96	No	Si
SLU 83	5.66	108.11	-9731	-0.0000786	0.0003743	0.0035	0.745	2074.49	2526.47	2526.47	23.37	No	Si
SLU 77	3.66	-322	-13210	-0.0001253	0.0003743	0.0035	0.745	2063.86	2967.8	2967.8	9.22	No	Si
SLU 77	5.66	106.99	-9541	-0.0000769	0.0003743	0.0035	0.745	2063.69	2498.6	2498.6	23.35	No	Si
SLU 80	3.66	-325.7	-13192	-0.0001254	0.0003743	0.0035	0.745	2064.92	2966.55	2966.55	9.11	No	Si
SLU 80	5.66	108.99	-9520	-0.0000769	0.0003743	0.0035	0.745	2062.39	2495.45	2495.45	22.9	No	Si
SLU 82	3.66	-337.61	-13421	-0.0001285	0.0003743	0.0035	0.745	2050.44	2982.86	2982.86	8.84	No	Si
SLU 82	5.66	111.03	-9651	-0.0000781	0.0003743	0.0035	0.745	2070.09	2514.71	2514.71	22.65	No	Si
SLU 81	3.66	-331.87	-13340	-0.0001273	0.0003743	0.0035	0.745	2055.77	2977.03	2977.03	8.97	No	Si
SLU 81	5.66	108.8	-9601	-0.0000776	0.0003743	0.0035	0.745	2067.23	2507.39	2507.39	23.05	No	Si
SLU 84	3.66	-339.12	-13581	-0.0001303	0.0003743	0.0035	0.745	2039.28	2994	2994	8.83	No	Si
SLU 84	5.66	110.34	-9781	-0.0000792	0.0003743	0.0035	0.745	2077.13	2533.83	2533.83	22.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	3.66	-1103.08	-3104	-0.0004934	0.0005615	0.0035	0.596		1200.99	1200.99	1.09		Si
SLV 3	5.66	1260.12	-8480	-0.0001374	0.0005615	0.0035	0.745		2581.2	2581.2	2.05		Si
SLD 15	3.66	631.37	-10100	-0.0001098	0.0005615	0.0035	0.745		2930.66	2930.66	4.64		Si
SLD 15	5.66	-902	-2724	-0.0002327	0.0005615	0.0035	0.596		1078.89	1078.89	1.2		Si
SLV 14	3.66	663.1	-14695	-0.0001515	0.0005615	0.0035	0.745		3748.5	3748.5	5.65		Si
SLV 14	5.66	-1094.4	-4378	-0.0001284	0.0005615	0.0035	0.596		1597.72	1597.72	1.46		Si
SLV 16	3.66	907.42	-10015	-0.0001262	0.0005615	0.0035	0.745		2912.15	2912.15	3.21		Si
SLV 16	5.66	-1204.18	-1327	-0.0052641	0.0005615	0.0035	0.596		607.04	607.04	0.5		No
SLV 13	3.66	868.39	-15385	-0.0001717	0.0005615	0.0035	0.745		3854.93	3854.93	4.44		Si
SLV 13	5.66	-1347.16	-3644	-0.0010095	0.0005615	0.0035	0.596		1373.25	1373.25	1.02		Si
SLV 4	3.66	-1308.38	-2414	-0.0034996	0.0005615	0.0035	0.596		975.71	975.71	0.75		No
SLV 4	5.66	1512.87	-9214	-0.000164	0.0005615	0.0035	0.745		2738.06	2738.06	1.81		Si
SLV 8	3.66	-214.27	272	0.0733702	0.0005615	0.0035	0.596		0	0	0		No
SLV 8	5.66	392.55	-2774	-0.0000404	0.0005615	0.0035	0.745		1001.87	1001.87	2.55		Si
SLV 15	3.66	1112.72	-10705	-0.0001451	0.0005615	0.0035	0.745		3063.85	3063.85	2.75		Si
SLV 15	5.66	-1456.93	-592	-0.0091915	0.0005615	0.0035	0.596		347.34	347.34	0.24		No
SLV 11	3.66	588.69	-2473	-0.0000629	0.0005615	0.0035	0.745		902.42	902.42	1.53		Si
SLV 11	5.66	-592.74	87	-0.00282	0.0005615	0.0035	0.596		0	0	0		No
SLV 12	3.66	450.47	-2008	-0.0000457	0.0005615	0.0035	0.745		746.45	746.45	1.66		Si
SLV 12	5.66	-422.57	-408	-0.0010417	0.0005615	0.0035	0.596		280.88	280.88	0.66		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	3.66	-339.12	-13581	-11437	2064	0.745	0.745	-51175	10833	3767	38062	6692	1900	8592	No	4.16	Si
SLU 84	5.66	110.34	-9781	-8236	-538	0.745	0.745	-36853	10833	2914	38062	6692	1900	8592	No	15.98	Si
SLU 80	3.66	-325.7	-13192	-11109	2003	0.745	0.745	-49706	10833	3679	38062	6692	1900	8592	No	4.29	Si
SLU 80	5.66	108.99	-9520	-8017	-536	0.745	0.745	-35871	10833	2855	38062	6692	1900	8592	No	16.02	Si
SLU 79	3.66	-319.96	-13110	-11040	1994	0.745	0.745	-49400	10833	3661	38062	6692	1900	8592	No	4.31	Si
SLU 79	5.66	106.76	-9470	-7975	-529	0.745	0.745	-35683	10833	2844	38062	6692	1900	8592	No	16.24	Si
SLU 81	3.66	-331.87	-13340	-11233	2026	0.745	0.745	-50264	10833	3713	38062	6692	1900	8592	No	4.24	Si
SLU 81	5.66	108.8	-9601	-8085	-529	0.745	0.745	-36178	10833	2873	38062	6692	1900	8592	No	16.25	Si
SLU 78	3.66	-327.74	-13291	-11192	2018	0.745	0.745	-50080	10833	3702	38062	6692	1900	8592	No	4.26	Si
SLU 78	5.66	109.21	-9591	-8077	-539	0.745	0.745	-36139	10833	2871	38062	6692	1900	8592	No	15.94	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	3.66	-328.01	-13085	-11019	1981	0.745	0.745	-49306	10833	3656	38062	6692	1900	8592	No	4.34	Si
SLU 76	5.66	111.16	-9423	-7936	-539	0.745	0.745	-35507	10833	2833	38062	6692	1900	8592	No	15.93	Si
SLU 77	3.66	-322	-13210	-11124	2009	0.745	0.745	-49773	10833	3683	38062	6692	1900	8592	No	4.28	Si
SLU 77	5.66	106.99	-9541	-8035	-532	0.745	0.745	-35952	10833	2860	38062	6692	1900	8592	No	16.16	Si
SLU 75	3.66	-326.22	-13130	-11057	1990	0.745	0.745	-49475	10833	3666	38062	6692	1900	8592	No	4.32	Si
SLU 75	5.66	109.9	-9462	-7968	-537	0.745	0.745	-35651	10833	2842	38062	6692	1900	8592	No	16	Si
SLU 83	3.66	-333.38	-13500	-11369	2054	0.745	0.745	-50869	10833	3749	38062	6692	1900	8592	No	4.18	Si
SLU 83	5.66	108.11	-9731	-8194	-530	0.745	0.745	-36666	10833	2902	38062	6692	1900	8592	No	16.2	Si
SLU 82	3.66	-337.61	-13421	-11302	2035	0.745	0.745	-50570	10833	3731	38062	6692	1900	8592	No	4.22	Si
SLU 82	5.66	111.03	-9651	-8127	-536	0.745	0.745	-36365	10833	2884	38062	6692	1900	8592	No	16.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	3.66	868.39	-15385	-12955	6228	0.745	0.745	-57969	16250	4531	38062	10038	1900	11938		1.92	Si
SLV 13	5.66	-1347.16	-3644	-3068	3910	0.596	0.0083	0	0	0	38062	8031	1520	9550		2.44	Si
SLV 2	3.66	-1552.7	-7093	-5973	-2971	0.596	0.4607	0	0	0	38062	8031	1520	9550		3.21	Si
SLV 2	5.66	1622.65	-12265	-10329	-5041	0.745	0.7206	-46215	16250	3830	38062	10038	1900	11938		2.37	Si
SLV 14	3.66	663.1	-14695	-12374	5414	0.745	0.745	-55369	16250	4376	38062	10038	1900	11938		2.21	Si
SLV 14	5.66	-1094.4	-4378	-3686	3158	0.596	0.3675	0	0	0	38062	8031	1520	9550		3.02	Si
SLV 16	3.66	907.42	-10015	-8434	4805	0.745	0.745	-37737	16250	3632	38062	10038	1900	11938		2.48	Si
SLV 16	5.66	-1204.18	-1327	-1117	3490	0.596	0	0	0	0	38062	8031	1520	9550		2.74	Si
SLV 15	3.66	1112.72	-10705	-9015	5619	0.745	0.745	-40337	16250	3632	38062	10038	1900	11938		2.12	Si
SLV 15	5.66	-1456.93	-592	-499	4243	0.596	0	0	0	0	38062	8031	1520	9550		2.25	Si
SLV 3	3.66	-1103.08	-3104	-2614	-2765	0.596	0.0513	0	0	0	38062	8031	1520	9550		3.45	Si
SLV 3	5.66	1260.12	-8480	-7141	-3957	0.745	0.6716	-31952	16250	3274	38062	10038	1900	11938		3.02	Si
SLD 15	3.66	631.37	-10100	-8505	4079	0.745	0.745	-38055	16250	3632	38062	10038	1900	11938		2.93	Si
SLD 15	5.66	-902	-2724	-2294	2570	0.596	0.124	0	0	0	38062	8031	1520	9550		3.72	Si
SLV 4	3.66	-1308.38	-2414	-2033	-3580	0.596	0	0	0	0	38062	8031	1520	9550		2.67	Si
SLV 4	5.66	1512.87	-9214	-7759	-4709	0.745	0.6249	-34718	16250	3145	38062	10038	1900	11938		2.54	Si
SLV 1	3.66	-1347.4	-7783	-6554	-2157	0.745	0.5981	-37274	16250	2916	38062	10038	1900	11938		5.54	Si
SLV 1	5.66	1369.9	-11531	-9710	-4289	0.745	0.745	-43449	16250	3665	38062	10038	1900	11938		2.78	Si
SLD 13	3.66	479.5	-13008	-10954	4459	0.745	0.745	-49014	16250	3997	38062	10038	1900	11938		2.68	Si
SLD 13	5.66	-833.82	-4615	-3887	2364	0.745	0.5755	-22763	14969	2584	38062	10038	1900	11938		5.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.41 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.34	5258	-1175	68.02	170.2	2.5	Si
SLV 7	179667	0.34	5789	-1294	68.02	186.73	2.75	Si
SLV 12	179667	0.34	8314	-1858	68.02	263.55	3.87	Si
SLV 11	179667	0.34	8846	-1977	68.02	279.36	4.11	Si
SLV 4	179667	0.34	18054	-4035	68.02	533.69	7.85	Si
SLV 3	179667	0.34	18844	-4211	68.02	553.76	8.14	Si
SLV 16	179667	0.34	28242	-6312	68.02	771.68	11.34	Si
SLV 15	179667	0.34	29031	-6488	68.02	788.21	11.59	Si
SLV 2	179667	0.34	32189	-7194	68.02	851.65	12.52	Si
SLV 1	179667	0.34	32979	-7370	68.02	866.82	12.74	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.41 Wa = 0.05 Ta = 0.0643

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-8953	-9913	-1	0.481	1018.5	0.968	7.22651	5.71982	Si
SLV 1	-8531	-9495	-1	0.501	975.5	0.967	7.53761	5.71982	Si
SLV 6	-10036	-12387	12	0.436	1128.8	0.971	6.52752	4.07538	Si
SLV 5	-9752	-12105	12	0.447	1099.8	0.97	6.69248	4.07538	Si
SLV 4	-6587	-6435	-8	0.623	777.7	0.959	9.43522	5.71982	Si
SLV 3	-6164	-6017	-8	0.658	734.7	0.957	9.99852	5.71982	Si
SLV 10	-8657	-11087	16	0.494	988.3	0.967	7.41728	4.07538	Si
SLV 9	-8372	-10806	16	0.508	959.4	0.966	7.6368	4.07538	Si
SLV 14	-4355	-5582	12	0.878	551.1	0.945	13.51205	5.71982	Si
SLV 13	-3933	-5164	11	0.955	508.2	0.941	14.74886	5.71982	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.829	SLU 84	Si
V_SLU	4.163	SLU 84	Si
PF_SLV	0	SLV 8	No
V_SLV	1.917	SLV 13	Si
PFFP_SLV	2.502	SLV 8	Si
R_SLV	1.263	SLV 2	Si

Maschio 265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 271 cm	Z medio 611 cm	0.725	0.3	3.4	3.4	3.4			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	3.66	799.71	-11185	-0.0001455	0.0003743	0.0035	0.7251	2007.36	2651.37	2651.37	3.32	No	Si
SLU 75	5.66	-528.39	-10880	-0.0001219	0.0003743	0.0035	0.7251	2006.94	2647.81	2647.81	5.01	No	Si
SLU 80	3.66	804.03	-11227	-0.0001463	0.0003743	0.0035	0.7251	2007.18	2657.85	2657.85	3.31	No	Si
SLU 80	5.66	-534.19	-10958	-0.0001231	0.0003743	0.0035	0.7251	2007.34	2658.18	2658.18	4.98	No	Si
SLU 82	3.66	828.84	-11420	-0.0001503	0.0003743	0.0035	0.7251	2005.61	2670.53	2670.53	3.22	No	Si
SLU 82	5.66	-547.86	-11130	-0.0001259	0.0003743	0.0035	0.7251	2007.51	2681.3	2681.3	4.89	No	Si
SLU 83	3.66	833.64	-11458	-0.0001511	0.0003743	0.0035	0.7251	2005.15	2672.99	2672.99	3.21	No	Si
SLU 83	5.66	-557.54	-11243	-0.0001277	0.0003743	0.0035	0.7251	2007.09	2696.58	2696.58	4.84	No	Si
SLU 81	3.66	824.25	-11335	-0.000149	0.0003743	0.0035	0.7251	2006.44	2665.18	2665.18	3.23	No	Si
SLU 81	5.66	-548.29	-11086	-0.0001254	0.0003743	0.0035	0.7251	2007.56	2675.29	2675.29	4.88	No	Si
SLU 78	3.66	809.11	-11308	-0.0001476	0.0003743	0.0035	0.7251	2006.67	2663.42	2663.42	3.29	No	Si
SLU 78	5.66	-537.64	-11037	-0.0001242	0.0003743	0.0035	0.7251	2007.54	2668.75	2668.75	4.96	No	Si
SLU 77	3.66	804.51	-11224	-0.0001463	0.0003743	0.0035	0.7251	2007.19	2657.32	2657.32	3.3	No	Si
SLU 77	5.66	-538.07	-10992	-0.0001237	0.0003743	0.0035	0.7251	2007.45	2662.78	2662.78	4.95	No	Si
SLU 79	3.66	799.43	-11143	-0.000145	0.0003743	0.0035	0.7251	2007.48	2644.83	2644.83	3.31	No	Si
SLU 79	5.66	-534.62	-10913	-0.0001227	0.0003743	0.0035	0.7251	2007.14	2652.25	2652.25	4.96	No	Si
SLU 84	3.66	838.24	-11542	-0.0001524	0.0003743	0.0035	0.7251	2003.97	2678.39	2678.39	3.2	No	Si
SLU 84	5.66	-557.11	-11287	-0.0001282	0.0003743	0.0035	0.7251	2006.82	2702.67	2702.67	4.85	No	Si
SLU 74	3.66	795.12	-11101	-0.0001443	0.0003743	0.0035	0.7251	2007.55	2638.23	2638.23	3.32	No	Si
SLU 74	5.66	-528.82	-10835	-0.0001215	0.0003743	0.0035	0.7251	2006.62	2641.92	2641.92	5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	3.66	1299.48	-2808	-0.0154719	0.0005615	0.0035	0.5801		983.22	983.22	0.76		No
SLV 16	5.66	-1582.83	-10135	-0.0001853	0.0005615	0.0035	0.7251		2958.92	2958.92	1.87		Si
SLV 15	3.66	1477.08	-2167	-0.0309866	0.0005615	0.0035	0.5801		777.04	777.04	0.53		No
SLV 15	5.66	-1832.92	-10886	-0.0002173	0.0005615	0.0035	0.7251		3085.44	3085.44	1.68		Si
SLV 13	3.66	1716	-7082	-0.0002311	0.0005615	0.0035	0.7251		2170.72	2170.72	1.26		Si
SLV 13	5.66	-1821.4	-13751	-0.0002354	0.0005615	0.0035	0.7251		3550.56	3550.56	1.95		Si
SLV 2	3.66	-416.07	-13106	-0.000126	0.0005615	0.0035	0.7251		3471.31	3471.31	8.34		Si
SLV 2	5.66	1138.05	-3811	-0.0002342	0.0005615	0.0035	0.7251		1290.37	1290.37	1.13		Si
SLV 12	3.66	365.69	1146	0.2810231	0.0005615	0.0035	0.5801		0	0	0		No
SLV 12	5.66	-688.84	-3699	-0.0000722	0.0005615	0.0035	0.7251		1351.99	1351.99	1.96		Si
SLV 3	3.66	-477.4	-7552	-0.0000834	0.0005615	0.0035	0.7251		2400.19	2400.19	5.03		Si
SLV 3	5.66	876.44	-1696	-0.0128109	0.0005615	0.0035	0.5801		621.38	621.38	0.71		No
SLV 8	3.66	-220.66	-469	-0.0002335	0.0005615	0.0035	0.5801		295.88	295.88	1.34		Si
SLV 8	5.66	123.97	-942	-0.0000134	0.0005615	0.0035	0.7251		365.43	365.43	2.95		Si
SLV 4	3.66	-654.99	-8192	-0.0000998	0.0005615	0.0035	0.7251		2551.76	2551.76	3.9		Si
SLV 4	5.66	1126.54	-946	-0.0336012	0.0005615	0.0035	0.5801		366.81	366.81	0.33		No
SLD 15	3.66	1139.55	-4179	-0.0001738	0.0005615	0.0035	0.7251		1390.74	1390.74	1.22		Si
SLD 15	5.66	-1298.77	-9643	-0.0001558	0.0005615	0.0035	0.7251		2869.58	2869.58	2.21		Si
SLV 11	3.66	485.26	1577	0.3877849	0.0005615	0.0035	0.5801		0	0	0		No
SLV 11	5.66	-857.22	-4204	-0.0000927	0.0005615	0.0035	0.7251		1501.13	1501.13	1.75		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	3.66	799.71	-11185	-9419	758	0.7251	0.7251	-43298	10833	3210	38062	6514	1849	8363	No	11.03	Si
SLU 75	5.66	-528.39	-10880	-9162	1814	0.7251	0.7251	-42115	10833	3141	38062	6514	1849	8363	No	4.61	Si
SLU 82	3.66	828.84	-11420	-9616	800	0.7251	0.7251	-44205	10833	3262	38062	6514	1849	8363	No	10.45	Si
SLU 82	5.66	-547.86	-11130	-9373	1868	0.7251	0.7251	-43085	10833	3197	38062	6514	1849	8363	No	4.48	Si
SLU 77	3.66	804.51	-11224	-9452	776	0.7251	0.7251	-43447	10833	3218	38062	6514	1849	8363	No	10.78	Si

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	5.66	-538.07	-10992	-9257	1848	0.7251	0.7251	-42551	10833	3166	38062	6514	1849	8363	No	4.53	Si
SLU 81	3.66	824.25	-11335	-9546	809	0.7251	0.7251	-43880	10833	3244	38062	6514	1849	8363	No	10.33	Si
SLU 81	5.66	-548.29	-11086	-9335	1869	0.7251	0.7251	-42912	10833	3187	38062	6514	1849	8363	No	4.48	Si
SLU 74	3.66	795.12	-11101	-9348	767	0.7251	0.7251	-42972	10833	3191	38062	6514	1849	8363	No	10.9	Si
SLU 74	5.66	-528.82	-10835	-9124	1815	0.7251	0.7251	-41942	10833	3131	38062	6514	1849	8363	No	4.61	Si
SLU 78	3.66	809.11	-11308	-9522	766	0.7251	0.7251	-43773	10833	3237	38062	6514	1849	8363	No	10.91	Si
SLU 78	5.66	-537.64	-11037	-9294	1848	0.7251	0.7251	-42723	10833	3176	38062	6514	1849	8363	No	4.53	Si
SLU 80	3.66	804.03	-11227	-9455	762	0.7251	0.7251	-43461	10833	3219	38062	6514	1849	8363	No	10.98	Si
SLU 80	5.66	-534.19	-10958	-9228	1835	0.7251	0.7251	-42417	10833	3159	38062	6514	1849	8363	No	4.56	Si
SLU 83	3.66	833.64	-11458	-9649	818	0.7251	0.7251	-44354	10833	3271	38062	6514	1849	8363	No	10.23	Si
SLU 83	5.66	-557.54	-11243	-9468	1902	0.7251	0.7251	-43520	10833	3223	38062	6514	1849	8363	No	4.4	Si
SLU 79	3.66	799.43	-11143	-9384	771	0.7251	0.7251	-43136	10833	3200	38062	6514	1849	8363	No	10.85	Si
SLU 79	5.66	-534.62	-10913	-9190	1836	0.7251	0.7251	-42245	10833	3149	38062	6514	1849	8363	No	4.56	Si
SLU 84	3.66	838.24	-11542	-9720	808	0.7251	0.7251	-44680	10833	3290	38062	6514	1849	8363	No	10.35	Si
SLU 84	5.66	-557.11	-11287	-9505	1902	0.7251	0.7251	-43693	10833	3233	38062	6514	1849	8363	No	4.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	3.66	1139.55	-4179	-3519	3302	0.7251	0.2696	-44643	16250	1986	38062	9771	1849	11620		3.52	Si
SLD 15	5.66	-1298.77	-9643	-8120	4044	0.7251	0.6837	-40507	16250	3333	38062	9771	1849	11620		2.87	Si
SLV 2	3.66	-416.07	-13106	-11037	-3892	0.7251	0.7251	-50734	16250	3990	38062	9771	1849	11620		2.99	Si
SLV 2	5.66	1138.05	-3811	-3210	-3224	0.7251	0.1919	-57733	16250	1903	38062	9771	1849	11620		3.6	Si
SLV 4	3.66	-654.99	-8192	-6898	-3383	0.7251	0.7251	-31710	16250	3535	38062	9771	1849	11620		3.44	Si
SLV 4	5.66	1126.54	-946	-797	-3200	0.5801	0	0	0	0	38062	7817	1479	9296		2.91	Si
SLV 13	3.66	1716	-7082	-5964	4378	0.7251	0.3608	-27414	15899	2637	38062	9771	1849	11620		2.65	Si
SLV 13	5.66	-1821.4	-13751	-11580	5613	0.7251	0.6903	-57962	16250	4135	38062	9771	1849	11620		2.07	Si
SLD 16	3.66	1026.08	-4588	-3863	2827	0.7251	0.4167	-17758	13968	2077	38062	9771	1849	11620		4.11	Si
SLD 16	5.66	-1138.98	-9163	-7717	3575	0.7251	0.7148	-35472	16250	3485	38062	9771	1849	11620		3.25	Si
SLV 15	3.66	1477.08	-2167	-1825	4887	0.5801	0	0	0	0	38062	7817	1479	9296		1.9	Si
SLV 15	5.66	-1832.92	-10886	-9167	5638	0.7251	0.5826	-54166	16250	3492	38062	9771	1849	11620		2.06	Si
SLV 16	3.66	1299.48	-2808	-2364	4143	0.5801	0	0	0	0	38062	7817	1479	9296		2.24	Si
SLV 16	5.66	-1582.83	-10135	-8535	4903	0.7251	0.6192	-47223	16250	3323	38062	9771	1849	11620		2.37	Si
SLD 13	3.66	1288.17	-7234	-6091	2987	0.7251	0.5535	-28001	16017	2672	38062	9771	1849	11620		3.89	Si
SLD 13	5.66	-1291.25	-11419	-9616	4028	0.7251	0.7251	-44203	16250	3611	38062	9771	1849	11620		2.88	Si
SLV 14	3.66	1538.4	-7722	-6503	3634	0.7251	0.49	-29892	16250	2781	38062	9771	1849	11620		3.2	Si
SLV 14	5.66	-1571.31	-13000	-10948	4879	0.7251	0.7251	-50325	16250	3967	38062	9771	1849	11620		2.38	Si
SLD 14	3.66	1174.7	-7643	-6436	2512	0.7251	0.6266	-29585	16250	3055	38062	9771	1849	11620		4.63	Si
SLD 14	5.66	-1131.47	-10939	-9212	3559	0.7251	0.7251	-42347	16250	3535	38062	9771	1849	11620		3.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.41 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.34	3872	-842	66.21	123.14	1.86	Si
SLV 12	179667	0.34	4315	-939	66.21	136.82	2.07	Si
SLV 7	179667	0.34	5005	-1089	66.21	157.97	2.39	Si
SLV 8	179667	0.34	5448	-1185	66.21	171.44	2.59	Si
SLV 15	179667	0.34	20326	-4422	66.21	574.99	8.68	Si
SLV 16	179667	0.34	20984	-4565	66.21	590.65	8.92	Si
SLV 3	179667	0.34	24104	-5244	66.21	662.39	10	Si
SLV 4	179667	0.34	24762	-5387	66.21	677	10.22	Si
SLV 13	179667	0.34	35655	-7756	66.21	891.83	13.47	Si
SLV 14	179667	0.34	36313	-7900	66.21	903.19	13.64	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.41 Wa = 0.05 Ta = 0.0643

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-9646	-11227	1	0.442	1086.2	0.971	6.6153	5.71982	Si
SLV 14	-9233	-10856	1	0.458	1044.1	0.97	6.87227	5.71982	Si
SLV 15	-7417	-7405	-8	0.551	859.3	0.964	8.30578	5.71982	Si
SLV 16	-7003	-7034	-8	0.578	817.2	0.962	8.73323	5.71982	Si
SLV 9	-10295	-13916	16	0.417	1152.3	0.972	6.23193	4.07538	Si
SLV 10	-10017	-13666	16	0.427	1124	0.972	6.3817	4.07538	Si
SLV 5	-8680	-12450	20	0.481	987.8	0.968	7.22134	4.07538	Si
SLV 6	-8401	-12200	20	0.494	959.5	0.967	7.42976	4.07538	Si
SLV 1	-4261	-6341	13	0.874	538.6	0.945	13.44599	5.71982	Si
SLV 2	-3848	-5970	13	0.95	496.7	0.941	14.67836	5.71982	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.195	SLU 84	Si
V_SLU	4.397	SLU 83	Si
PF_SLV	0	SLV 11	No
V_SLV	1.902	SLV 15	Si
PFFP_SLV	1.86	SLV 11	Si
R_SLV	1.157	SLV 13	Si

Maschio 270

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 611 cm	Z medio 959 cm	0.745	0.3	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	7.06	441.29	-9122	-0.0000949	0.0003743	0.0035	0.745	2035.74	2436.98	2436.98	5.52	No	Si
SLU 80	9.06	6.19	-6153	-0.0000437	0.0003743	0.0035	0.745	1672.25	1846.56	1846.56	298.34	No	Si
SLU 78	7.06	445.43	-9205	-0.0000959	0.0003743	0.0035	0.745	2041.79	2449.2	2449.2	5.5	No	Si
SLU 78	9.06	5.29	-6202	-0.000044	0.0003743	0.0035	0.745	1680.56	1856.99	1856.99	350.85	No	Si
SLU 83	7.06	450.32	-9269	-0.0000968	0.0003743	0.0035	0.745	2046.28	2458.6	2458.6	5.46	No	Si
SLU 83	9.06	-0.09	-6182	-0.0000436	0.0003743	0.0035	0.745	1677.09	1984.25	1984.25	22221.44	No	Si
SLU 75	7.06	436.14	-9040	-0.0000939	0.0003743	0.0035	0.745	2029.6	2425.09	2425.09	5.56	No	Si
SLU 75	9.06	5.02	-6044	-0.0000428	0.0003743	0.0035	0.745	1653.42	1823.41	1823.41	363.56	No	Si
SLU 81	7.06	441.03	-9104	-0.0000947	0.0003743	0.0035	0.745	2034.43	2434.41	2434.41	5.52	No	Si
SLU 81	9.06	-0.37	-6024	-0.0000424	0.0003743	0.0035	0.745	1649.85	1948.59	1948.59	5314.98	No	Si
SLU 79	7.06	441.11	-9091	-0.0000946	0.0003743	0.0035	0.745	2033.47	2432.53	2432.53	5.51	No	Si
SLU 79	9.06	4.44	-6139	-0.0000435	0.0003743	0.0035	0.745	1669.8	1843.53	1843.53	414.76	No	Si
SLU 82	7.06	441.21	-9135	-0.000095	0.0003743	0.0035	0.745	2036.69	2438.87	2438.87	5.53	No	Si
SLU 82	9.06	1.38	-6038	-0.0000425	0.0003743	0.0035	0.745	1652.34	1822.1	1822.1	1322.23	No	Si
SLU 77	7.06	445.25	-9175	-0.0000956	0.0003743	0.0035	0.745	2039.6	2444.72	2444.72	5.49	No	Si
SLU 77	9.06	3.55	-6188	-0.0000438	0.0003743	0.0035	0.745	1678.14	1853.94	1853.94	522.52	No	Si
SLU 84	7.06	450.5	-9300	-0.0000971	0.0003743	0.0035	0.745	2048.37	2463.09	2463.09	5.47	No	Si
SLU 84	9.06	1.66	-6196	-0.0000438	0.0003743	0.0035	0.745	1679.52	1855.67	1855.67	1120.99	No	Si
SLU 74	7.06	435.96	-9010	-0.0000936	0.0003743	0.0035	0.745	2027.24	2420.65	2420.65	5.55	No	Si
SLU 74	9.06	3.27	-6030	-0.0000426	0.0003743	0.0035	0.745	1650.93	1820.39	1820.39	556.56	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	7.06	874.8	-7676	-0.0001049	0.0005615	0.0035	0.745		2404.81	2404.81	2.75		Si
SLD 16	9.06	-661.5	-1363	-0.0008629	0.0005615	0.0035	0.596		619.8	619.8	0.94		No
SLV 13	7.06	1424.03	-11409	-0.0001719	0.0005615	0.0035	0.745		3220.86	3220.86	2.26		Si
SLV 13	9.06	-1169.14	-356	-0.0074956	0.0005615	0.0035	0.596		262.43	262.43	0.22		No
SLV 16	7.06	1200.48	-8504	-0.0001329	0.0005615	0.0035	0.745		2586.4	2586.4	2.15		Si
SLV 16	9.06	-1040.1	214	0.0068857	0.0005615	0.0035	0.596		0	0	0		No
SLV 11	7.06	608.05	-3883	-0.0000614	0.0005615	0.0035	0.745		1352.71	1352.71	2.22		Si
SLV 11	9.06	-543.45	-393	-0.001742	0.0005615	0.0035	0.596		275.59	275.59	0.51		No
SLD 13	7.06	1016.52	-9486	-0.0001285	0.0005615	0.0035	0.745		2796.91	2796.91	2.75		Si
SLD 13	9.06	-745.12	-1698	-0.0007906	0.0005615	0.0035	0.596		734.7	734.7	0.99		No
SLD 15	7.06	996.76	-8138	-0.0001161	0.0005615	0.0035	0.745		2509.1	2509.1	2.52		Si
SLD 15	9.06	-800.01	-865	-0.002624	0.0005615	0.0035	0.596		444.44	444.44	0.56		No
SLV 3	7.06	-648.69	-1568	-0.0005316	0.0005615	0.0035	0.596		690.73	690.73	1.06		Si
SLV 3	9.06	972.89	-7108	-0.0001068	0.0005615	0.0035	0.745		2242.65	2242.65	2.31		Si
SLV 14	7.06	1233.15	-10686	-0.0001527	0.0005615	0.0035	0.745		3059.71	3059.71	2.48		Si
SLV 14	9.06	-952.34	-1137	-0.0033408	0.0005615	0.0035	0.596		540.64	540.64	0.57		No
SLV 4	7.06	-839.58	-845	-0.0030184	0.0005615	0.0035	0.596		437.5	437.5	0.52		No
SLV 4	9.06	1189.69	-7889	-0.0001281	0.0005615	0.0035	0.745		2456.77	2456.77	2.07		Si
SLV 15	7.06	1391.37	-9227	-0.0001529	0.0005615	0.0035	0.745		2741	2741	1.97		Si
SLV 15	9.06	-1256.9	995	0.2723877	0.0005615	0.0035	0.596		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	7.06	441.29	-9122	-7682	2083	0.745	0.745	-34369	10833	2766	38062	6693	1900	8592	No	4.13	Si
SLU 80	9.06	6.19	-6153	-5182	-13	0.745	0.745	-23184	10036	2243	38062	6693	1900	8592	No	638.96	Si
SLU 77	7.06	445.25	-9175	-7726	2094	0.745	0.745	-34569	10833	2777	38062	6693	1900	8592	No	4.1	Si
SLU 77	9.06	3.55	-6188	-5211	-3	0.745	0.745	-23314	10053	2247	38062	6693	1900	8592	No	3055.03	Si
SLU 84	7.06	450.5	-9300	-7831	2139	0.745	0.745	-35040	10833	2806	38062	6693	1900	8592	No	4.02	Si
SLU 84	9.06	1.66	-6196	-5218	23	0.745	0.745	-23345	10057	2248	38062	6693	1900	8592	No	380.97	Si
SLU 78	7.06	445.43	-9205	-7752	2100	0.745	0.745	-34684	10833	2784	38062	6693	1900	8592	No	4.09	Si
SLU 78	9.06	5.29	-6202	-5223	-9	0.745	0.745	-23368	10060	2248	38062	6693	1900	8592	No	998.42	Si
SLU 79	7.06	441.11	-9091	-7656	2077	0.745	0.745	-34254	10833	2759	38062	6693	1900	8592	No	4.14	Si
SLU 79	9.06	4.44	-6139	-5170	-8	0.745	0.745	-23130	10028	2241	38062	6693	1900	8592	No	1122.61	Si
SLU 74	7.06	435.96	-9010	-7587	2055	0.745	0.745	-33947	10833	2740	38062	6693	1900	8592	No	4.18	Si
SLU 74	9.06	3.27	-6030	-5078	6	0.745	0.745	-22720	9974	2229	38062	6693	1900	8592	No	1512.07	Si
SLU 82	7.06	441.21	-9135	-7692	2099	0.745	0.745	-34418	10833	2769	38062	6693	1900	8592	No	4.09	Si
SLU 82	9.06	1.38	-6038	-5085	31	0.745	0.745	-22750	9978	2230	38062	6693	1900	8592	No	276.74	Si
SLU 83	7.06	450.32	-9269	-7806	2133	0.745	0.745	-34925	10833	2799	38062	6693	1900	8592	No	4.03	Si
SLU 83	9.06	-0.09	-6182	-5206	28	0.745	0.745	-23291	10050	2246	38062	6693	1900	8592	No	303.11	Si
SLU 75	7.06	436.14	-9040	-7613	2061	0.745	0.745	-34062	10833	2747	38062	6693	1900	8592	No	4.17	Si
SLU 75	9.06	5.02	-6044	-5090	0	0.745	0.745	-22774	9981	2231	38062	6693	1900	8592	No	77482	Si
SLU 81	7.06	441.03	-9104	-7667	2094	0.745	0.745	-34303	10833	2762	38062	6693	1900	8592	No	4.1	Si
SLU 81	9.06	-0.37	-6024	-5073	37	0.745	0.745	-22697	9971	2228	38062	6693	1900	8592	No	233.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	7.06	894.56	-9024	-7599	3779	0.745	0.745	-34000	16250	3632	38062	10039	1900	11939		3.16	Si
SLD 14	9.06	-606.61	-2196	-1850	2119	0.596	0.2889	0	0	0	38062	8031	1520	9551		4.51	Si
SLV 15	7.06	1391.37	-9227	-7770	5566	0.745	0.6651	-34766	16250	3242	38062	10039	1900	11939		2.14	Si
SLV 15	9.06	-1256.9	995	838	4306	0.596	0	0	0	0	38062	8031	1520	9551		2.22	Si
SLV 2	7.06	-806.91	-3027	-2549	-2833	0.596	0.3178	0	0	0	38062	8031	1520	9551		3.37	Si
SLV 2	9.06	1277.46	-9239	-7781	-4384	0.745	0.7027	-34812	16250	3426	38062	10039	1900	11939		2.72	Si
SLD 13	7.06	1016.52	-9486	-7988	4258	0.745	0.745	-35741	16250	3632	38062	10039	1900	11939		2.8	Si
SLD 13	9.06	-745.12	-1698	-1430	2599	0.596	0	0	0	0	38062	8031	1520	9551		3.67	Si
SLV 4	7.06	-839.58	-845	-712	-3155	0.596	0	0	0	0	38062	8031	1520	9551		3.03	Si
SLV 4	9.06	1189.69	-7889	-6643	-4160	0.745	0.6651	-29723	16250	3242	38062	10039	1900	11939		2.87	Si
SLV 14	7.06	1233.15	-10686	-8999	5139	0.745	0.745	-40262	16250	3632	38062	10039	1900	11939		2.32	Si
SLV 14	9.06	-952.34	-1137	-957	3331	0.596	0	0	0	0	38062	8031	1520	9551		2.87	Si
SLV 13	7.06	1424.03	-11409	-9608	5888	0.745	0.743	-42987	16250	3638	38062	10039	1900	11939		2.03	Si
SLV 13	9.06	-1169.14	-356	-300	4082	0.596	0	0	0	0	38062	8031	1520	9551		2.34	Si
SLV 1	7.06	-616.02	-3750	-3158	-2085	0.745	0.6247	-16992	13815	2589	38062	10039	1900	11939		5.73	Si
SLV 1	9.06	1060.66	-8459	-7123	-3633	0.745	0.7413	-31872	16250	3614	38062	10039	1900	11939		3.29	Si
SLV 16	7.06	1200.48	-8504	-7161	4818	0.745	0.694	-32041	16250	3383	38062	10039	1900	11939		2.48	Si
SLV 16	9.06	-1040.1	214	180	3555	0.596	0	0	0	0	38062	8031	1520	9551		2.69	Si
SLD 15	7.06	996.76	-8138	-6853	4060	0.745	0.745	-30662	16250	3632	38062	10039	1900	11939		2.94	Si
SLD 15	9.06	-800.01	-865	-728	2739	0.596	0	0	0	0	38062	8031	1520	9551		3.49	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.85 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.41	8958	-2002	86.79	282.7	3.26	Si
SLV 7	179667	0.41	9721	-2173	86.79	305.16	3.52	Si
SLV 12	179667	0.41	12673	-2832	86.79	389.62	4.49	Si
SLV 11	179667	0.41	13437	-3003	86.79	410.83	4.73	Si
SLV 4	179667	0.41	13657	-3052	86.79	416.89	4.8	Si
SLV 3	179667	0.41	14790	-3306	86.79	447.82	5.16	Si
SLV 2	179667	0.41	21558	-4818	86.79	620.7	7.15	Si
SLV 1	179667	0.41	22692	-5072	86.79	647.7	7.46	Si
SLV 16	179667	0.41	26041	-5820	86.79	724.16	8.34	Si
SLV 15	179667	0.41	27175	-6074	86.79	748.92	8.63	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.85 Wa = 0.05 Ta = 0.0674

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-5999	-6659	-1	0.672	720.5	0.955	10.22599	6.86137	Si
SLV 1	-5583	-6501	-1	0.714	678.2	0.953	10.88832	6.86137	Si
SLV 4	-5074	-4650	-12	0.771	626.5	0.949	11.80185	6.86137	Si
SLV 3	-4657	-4492	-12	0.828	584.3	0.946	12.71017	6.86137	Si
SLV 6	-5519	-8399	18	0.718	671.7	0.952	10.95503	4.80016	Si
SLV 5	-5238	-8293	18	0.75	643.2	0.951	11.46376	4.80016	Si
SLV 10	-4240	-7903	23	0.892	541.9	0.943	13.74832	4.80016	Si
SLV 9	-3959	-7797	23	0.943	513.5	0.94	14.57736	4.80016	Si
SLV 14	-1736	-5007	14	1.768	290	0.907	28.31894	6.86137	Si
SLV 8	-2434	-1702	-21	1.381	359.6	0.92	21.81876	4.80016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.46	SLU 83	Si
V_SLU	4.017	SLU 84	Si
PF_SLV	0	SLV 15	No
V_SLV	2.028	SLV 13	Si
PFFP_SLV	3.257	SLV 8	Si
R_SLV	1.49	SLV 2	Si

Maschio 271

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 611 cm	Z medio 959 cm	0.725	0.3	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	7.06	57.24	-7458	-0.0000587	0.0003743	0.0035	0.725	1793.04	2064.07	2064.07	36.06	No	Si
SLU 78	9.06	-443.85	-7627	-0.0000855	0.0003743	0.0035	0.725	1812.54	2177.32	2177.32	4.91	No	Si
SLU 80	7.06	57.15	-7394	-0.0000581	0.0003743	0.0035	0.725	1785.31	2049.7	2049.7	35.87	No	Si
SLU 80	9.06	-440.68	-7567	-0.0000847	0.0003743	0.0035	0.725	1805.74	2167.04	2167.04	4.92	No	Si
SLU 84	7.06	67.95	-7507	-0.0000597	0.0003743	0.0035	0.725	1798.75	2074.87	2074.87	30.54	No	Si
SLU 84	9.06	-456.87	-7685	-0.0000869	0.0003743	0.0035	0.725	1819	2187.31	2187.31	4.79	No	Si
SLU 77	7.06	59.05	-7419	-0.0000585	0.0003743	0.0035	0.725	1788.38	2055.38	2055.38	34.81	No	Si
SLU 77	9.06	-445.07	-7623	-0.0000855	0.0003743	0.0035	0.725	1812.01	2176.52	2176.52	4.89	No	Si
SLU 81	7.06	68.37	-7345	-0.0000585	0.0003743	0.0035	0.725	1779.41	2038.94	2038.94	29.82	No	Si
SLU 81	9.06	-448.02	-7493	-0.0000846	0.0003743	0.0035	0.725	1797.17	2154.4	2154.4	4.81	No	Si
SLU 82	7.06	66.57	-7384	-0.0000587	0.0003743	0.0035	0.725	1784.16	2047.59	2047.59	30.76	No	Si
SLU 82	9.06	-446.79	-7498	-0.0000845	0.0003743	0.0035	0.725	1797.71	2155.19	2155.19	4.82	No	Si
SLU 75	7.06	55.86	-7336	-0.0000576	0.0003743	0.0035	0.725	1778.26	2036.86	2036.86	36.46	No	Si
SLU 75	9.06	-433.77	-7440	-0.0000832	0.0003743	0.0035	0.725	1790.89	2145.35	2145.35	4.95	No	Si
SLU 74	7.06	57.67	-7296	-0.0000574	0.0003743	0.0035	0.725	1773.44	2028.22	2028.22	35.17	No	Si
SLU 74	9.06	-435	-7436	-0.0000832	0.0003743	0.0035	0.725	1790.34	2144.57	2144.57	4.93	No	Si
SLU 79	7.06	58.96	-7355	-0.0000579	0.0003743	0.0035	0.725	1780.57	2041.04	2041.04	34.62	No	Si
SLU 79	9.06	-441.9	-7563	-0.0000848	0.0003743	0.0035	0.725	1805.21	2166.24	2166.24	4.9	No	Si
SLU 83	7.06	69.75	-7468	-0.0000595	0.0003743	0.0035	0.725	1794.15	2066.16	2066.16	29.62	No	Si
SLU 83	9.06	-458.09	-7680	-0.0000869	0.0003743	0.0035	0.725	1818.49	2186.51	2186.51	4.77	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	7.06	732.79	-1872	-0.0044067	0.0005615	0.0035	0.58		679.56	679.56	0.93		No
SLD 15	9.06	-1076.59	-7674	-0.0001239	0.0005615	0.0035	0.725		2429.62	2429.62	2.26		Si
SLV 13	7.06	1033.01	-2597	-0.0075754	0.0005615	0.0035	0.58		915.77	915.77	0.89		No
SLV 13	9.06	-1484.11	-10084	-0.0001753	0.0005615	0.0035	0.725		2949.64	2949.64	1.99		Si
SLV 11	7.06	540.65	457	0.0405766	0.0005615	0.0035	0.58		0	0	0		No
SLV 11	9.06	-753.26	-4973	-0.0000818	0.0005615	0.0035	0.725		1723.21	1723.21	2.29		Si
SLV 2	7.06	-1078.93	-10021	-0.0001432	0.0005615	0.0035	0.725		2939.24	2939.24	2.72		Si
SLV 2	9.06	956.35	-871	-0.0274909	0.0005615	0.0035	0.58		340.54	340.54	0.36		No
SLV 16	7.06	948.48	-782	-0.0284885	0.0005615	0.0035	0.58		309.7	309.7	0.33		No
SLV 16	9.06	-1307.28	-8409	-0.0001487	0.0005615	0.0035	0.725		2601.54	2601.54	1.99		Si
SLV 1	7.06	-896.22	-9290	-0.0001247	0.0005615	0.0035	0.725		2797.11	2797.11	3.12		Si
SLV 1	9.06	741.15	-1611	-0.0084091	0.0005615	0.0035	0.58		592.44	592.44	0.8		No
SLV 15	7.06	1131.19	-51	-0.0489542	0.0005615	0.0035	0.58		51.36	51.36	0.05		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	9.06	-1522.49	-9149	-0.0001744	0.0005615	0.0035	0.725		2766.84	2766.84	1.82		Si
SLV 3	7.06	-798.04	-6744	-0.000097	0.0005615	0.0035	0.725		2198.39	2198.39	2.75		Si
SLV 3	9.06	702.77	-676	-0.0195771	0.0005615	0.0035	0.58		272.67	272.67	0.39		No
SLV 12	7.06	417.64	-35	-0.0175645	0.0005615	0.0035	0.58		45.79	45.79	0.11		No
SLV 12	9.06	-608.38	-4475	-0.0000678	0.0005615	0.0035	0.725		1579.74	1579.74	2.6		Si
SLV 4	7.06	-980.75	-7475	-0.0001152	0.0005615	0.0035	0.725		2380.97	2380.97	2.43		Si
SLV 4	9.06	917.97	64	-0.041524	0.0005615	0.0035	0.58		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7.06	55.86	-7336	-6177	-306	0.725	0.725	-28401	10731	2345	38062	6513	1849	8362	No	27.33	Si
SLU 75	9.06	-433.77	-7440	-6266	1546	0.725	0.725	-28807	10785	2369	38062	6513	1849	8362	No	5.41	Si
SLU 74	7.06	57.67	-7296	-6144	-294	0.725	0.725	-28250	10711	2336	38062	6513	1849	8362	No	28.42	Si
SLU 74	9.06	-435	-7436	-6262	1551	0.725	0.725	-28789	10783	2368	38062	6513	1849	8362	No	5.39	Si
SLU 78	7.06	57.24	-7458	-6281	-308	0.725	0.725	-28877	10795	2373	38062	6513	1849	8362	No	27.15	Si
SLU 78	9.06	-443.85	-7627	-6423	1591	0.725	0.725	-29531	10833	2411	38062	6513	1849	8362	No	5.26	Si
SLU 84	7.06	67.95	-7507	-6322	-291	0.725	0.725	-29065	10820	2384	38062	6513	1849	8362	No	28.74	Si
SLU 84	9.06	-456.87	-7685	-6472	1617	0.725	0.725	-29754	10833	2424	38062	6513	1849	8362	No	5.17	Si
SLU 82	7.06	66.57	-7384	-6218	-289	0.725	0.725	-28589	10756	2356	38062	6513	1849	8362	No	28.95	Si
SLU 82	9.06	-446.79	-7498	-6314	1572	0.725	0.725	-29031	10815	2382	38062	6513	1849	8362	No	5.32	Si
SLU 77	7.06	59.05	-7419	-6248	-296	0.725	0.725	-28726	10775	2364	38062	6513	1849	8362	No	28.23	Si
SLU 77	9.06	-445.07	-7623	-6419	1596	0.725	0.725	-29513	10833	2410	38062	6513	1849	8362	No	5.24	Si
SLU 80	7.06	57.15	-7394	-6226	-305	0.725	0.725	-28626	10761	2358	38062	6513	1849	8362	No	27.39	Si
SLU 80	9.06	-440.68	-7567	-6373	1581	0.725	0.725	-29299	10833	2397	38062	6513	1849	8362	No	5.29	Si
SLU 81	7.06	68.37	-7345	-6185	-277	0.725	0.725	-28438	10736	2347	38062	6513	1849	8362	No	30.18	Si
SLU 81	9.06	-448.02	-7493	-6310	1578	0.725	0.725	-29013	10813	2381	38062	6513	1849	8362	No	5.3	Si
SLU 83	7.06	69.75	-7468	-6289	-279	0.725	0.725	-28914	10800	2375	38062	6513	1849	8362	No	29.96	Si
SLU 83	9.06	-458.09	-7680	-6468	1623	0.725	0.725	-29736	10833	2423	38062	6513	1849	8362	No	5.15	Si
SLU 79	7.06	58.96	-7355	-6193	-294	0.725	0.725	-28475	10741	2350	38062	6513	1849	8362	No	28.49	Si
SLU 79	9.06	-441.9	-7563	-6369	1586	0.725	0.725	-29281	10833	2396	38062	6513	1849	8362	No	5.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	7.06	-798.04	-6744	-5679	-3405	0.725	0.725	-26111	15639	3401	38062	9769	1849	11618		3.41	Si
SLV 3	9.06	702.77	-676	-570	-2152	0.58	0	0	0	0	38062	7816	1479	9295		4.32	Si
SLV 15	7.06	1131.19	-51	-43	4290	0.58	0	0	0	0	38062	7816	1479	9295		2.17	Si
SLV 15	9.06	-1522.49	-9149	-7705	5180	0.725	0.5883	-44778	16250	3102	38062	9769	1849	11618		2.24	Si
SLV 16	7.06	948.48	-782	-659	3554	0.58	0	0	0	0	38062	7816	1479	9295		2.62	Si
SLV 16	9.06	-1307.28	-8409	-7081	4472	0.725	0.6211	-38832	16250	3028	38062	9769	1849	11618		2.6	Si
SLV 4	7.06	-980.75	-7475	-6295	-4141	0.725	0.6939	-28942	16205	3373	38062	9769	1849	11618		2.81	Si
SLV 4	9.06	917.97	64	54	-2860	0.58	0	0	0	0	38062	7816	1479	9295		3.25	Si
SLV 2	7.06	-1078.93	-10021	-8439	-4749	0.725	0.725	-38798	16250	3534	38062	9769	1849	11618		2.45	Si
SLV 2	9.06	956.35	-871	-733	-3135	0.58	0	0	0	0	38062	7816	1479	9295		2.97	Si
SLV 1	7.06	-896.22	-9290	-7823	-4013	0.725	0.725	-35967	16250	3534	38062	9769	1849	11618		2.9	Si
SLV 1	9.06	741.15	-1611	-1356	-2427	0.58	0	0	0	0	38062	7816	1479	9295		3.83	Si
SLD 15	7.06	732.79	-1872	-1576	2659	0.58	0	0	0	0	38062	7816	1479	9295		3.5	Si
SLD 15	9.06	-1076.59	-7674	-6462	3679	0.725	0.6666	-32893	16250	3250	38062	9769	1849	11618		3.16	Si
SLD 13	7.06	671.64	-3449	-2904	2281	0.725	0.5032	-13352	13087	1976	38062	9769	1849	11618		5.09	Si
SLD 13	9.06	-1051.55	-8243	-6942	3510	0.725	0.7048	-31917	16250	3436	38062	9769	1849	11618		3.31	Si
SLV 13	7.06	1033.01	-2597	-2187	3682	0.58	0	0	0	0	38062	7816	1479	9295		2.52	Si
SLV 13	9.06	-1484.11	-10084	-8492	4905	0.725	0.646	-44968	16250	3311	38062	9769	1849	11618		2.37	Si
SLV 14	7.06	850.3	-3328	-2802	2946	0.725	0.321	-12885	12994	1794	38062	9769	1849	11618		3.94	Si
SLV 14	9.06	-1268.9	-9344	-7868	4197	0.725	0.6801	-39426	16250	3315	38062	9769	1849	11618		2.77	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 7.85 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.41	6473	-1408	84.46	202.23	2.39	Si
SLV 12	179667	0.41	7232	-1573	84.46	224.76	2.66	Si
SLV 7	179667	0.41	8824	-1919	84.46	271.25	3.21	Si
SLV 8	179667	0.41	9583	-2084	84.46	293.01	3.47	Si
SLV 15	179667	0.41	13552	-2948	84.46	402.9	4.77	Si
SLV 16	179667	0.41	14679	-3193	84.46	432.86	5.12	Si
SLV 3	179667	0.41	21389	-4652	84.46	600.08	7.1	Si
SLV 13	179667	0.41	22129	-4813	84.46	617.33	7.31	Si
SLV 4	179667	0.41	22516	-4897	84.46	626.27	7.41	Si
SLV 14	179667	0.41	23255	-5058	84.46	643.17	7.61	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.85 Wa = 0.05 Ta = 0.0674

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-6465	-6682	-6	0.616	764.9	0.959	9.34161	6.86137	Si
SLV 14	-6081	-6580	-7	0.649	725.9	0.957	9.85455	6.86137	Si
SLV 15	-5772	-4734	-4	0.678	694.5	0.955	10.32031	6.86137	Si
SLV 16	-5389	-4631	-4	0.718	655.5	0.953	10.95787	6.86137	Si
SLV 9	-5601	-8251	-5	0.695	677.1	0.954	10.59191	4.80016	Si
SLV 10	-5343	-8182	-5	0.723	650.9	0.952	11.03655	4.80016	Si
SLV 5	-4223	-7662	-1	0.879	537.2	0.944	13.54422	4.80016	Si

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-3964	-7593	-1	0.926	511	0.941	14.29704	4.80016	Si
SLV 11	-3293	-1757	4	1.074	443.1	0.934	16.71896	4.80016	Si
SLV 12	-3035	-1688	4	1.146	417	0.93	17.89902	4.80016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.773	SLU 83	Si
V_SLU	5.153	SLU 83	Si
PF_SLV	0	SLV 4	No
V_SLV	2.167	SLV 15	Si
PFFP_SLV	2.394	SLV 11	Si
R_SLV	1.361	SLV 13	Si

Maschio 277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.685	-12.868	-4.685	Z medio 959 cm	F1	0.745	0.3	4.377	4.377	4.376			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	10.54	336.37	-5102	-0.0000551	0.0003743	0.0035	0.745	1474.42	1610.97	1610.97	4.79	No	Si
SLU 84	12.54	-23.31	-1818	-0.0000135	0.0003743	0.0035	0.745	622.99	764.86	764.86	32.82	No	Si
SLU 82	10.54	324.66	-4905	-0.0000529	0.0003743	0.0035	0.745	1433.2	1553.66	1553.66	4.79	No	Si
SLU 82	12.54	-25.58	-1643	-0.0000124	0.0003743	0.0035	0.745	567.77	707.84	707.84	27.68	No	Si
SLU 42	10.54	291.91	-4359	-0.0000468	0.0003743	0.0035	0.745	1312.57	1397.99	1397.99	4.79	No	Si
SLU 42	12.54	-24	-1508	-0.0000114	0.0003743	0.0035	0.745	524.59	662.7	662.7	27.61	No	Si
SLU 74	10.54	328.86	-5023	-0.0000541	0.0003743	0.0035	0.745	1458.09	1587.99	1587.99	4.83	No	Si
SLU 74	12.54	-20.2	-1812	-0.0000133	0.0003743	0.0035	0.745	621.32	763.12	763.12	37.79	No	Si
SLU 81	10.54	325.42	-4904	-0.0000529	0.0003743	0.0035	0.745	1433.12	1553.56	1553.56	4.77	No	Si
SLU 81	12.54	-26.79	-1632	-0.0000124	0.0003743	0.0035	0.745	564.27	704.25	704.25	26.29	No	Si
SLU 77	10.54	340.57	-5221	-0.0000563	0.0003743	0.0035	0.745	1498.54	1645.12	1645.12	4.83	No	Si
SLU 77	12.54	-17.93	-1987	-0.0000144	0.0003743	0.0035	0.745	675.57	819.86	819.86	45.74	No	Si
SLU 39	10.54	280.96	-4161	-0.0000447	0.0003743	0.0035	0.745	1266.46	1342.62	1342.62	4.78	No	Si
SLU 39	12.54	-27.49	-1322	-0.0000103	0.0003743	0.0035	0.745	463.99	599.3	599.3	21.8	No	Si
SLU 83	10.54	337.13	-5102	-0.0000551	0.0003743	0.0035	0.745	1474.34	1610.87	1610.87	4.78	No	Si
SLU 83	12.54	-24.52	-1807	-0.0000135	0.0003743	0.0035	0.745	619.55	761.28	761.28	31.05	No	Si
SLU 40	10.54	280.2	-4161	-0.0000447	0.0003743	0.0035	0.745	1266.54	1342.72	1342.72	4.79	No	Si
SLU 40	12.54	-26.27	-1333	-0.0000103	0.0003743	0.0035	0.745	467.6	603.06	603.06	22.95	No	Si
SLU 41	10.54	292.66	-4358	-0.0000469	0.0003743	0.0035	0.745	1312.49	1397.89	1397.89	4.78	No	Si
SLU 41	12.54	-25.22	-1497	-0.0000114	0.0003743	0.0035	0.745	521.04	659.01	659.01	26.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	10.54	675.34	-4830	-0.0000715	0.0005615	0.0035	0.745		1612.98	1612.98	2.39		Si
SLD 16	12.54	-365.24	717	0.1911921	0.0005615	0.0035	0.596		0	0	0		No
SLD 15	10.54	769.57	-5153	-0.00008	0.0005615	0.0035	0.745		1700.42	1700.42	2.21		Si
SLD 15	12.54	-427.15	1027	0.272816	0.0005615	0.0035	0.596		0	0	0		No
SLD 13	10.54	763.57	-5502	-0.0000817	0.0005615	0.0035	0.745		1795.32	1795.32	2.35		Si
SLD 13	12.54	-395.89	772	0.2058116	0.0005615	0.0035	0.596		0	0	0		No

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	10.54	932.54	-5622	-0.0000954	0.0005615	0.0035	0.745		1828.09	1828.09	1.96		Si
SLV 16	12.54	-566.52	1825	0.4826001	0.0005615	0.0035	0.596		0	0	0		No
SLV 12	10.54	418.53	-3096	-0.000044	0.0005615	0.0035	0.745		1106.54	1106.54	2.64		Si
SLV 12	12.54	-234.64	223	0.060762	0.0005615	0.0035	0.596		0	0	0		No
SLD 14	10.54	669.34	-5178	-0.0000734	0.0005615	0.0035	0.745		1707.14	1707.14	2.55		Si
SLD 14	12.54	-333.98	462	0.1241224	0.0005615	0.0035	0.596		0	0	0		No
SLV 15	10.54	1080.02	-6129	-0.0001109	0.0005615	0.0035	0.745		1967.77	1967.77	1.82		Si
SLV 15	12.54	-663.42	2310	0.6101924	0.0005615	0.0035	0.596		0	0	0		No
SLV 11	10.54	517.83	-3437	-0.0000526	0.0005615	0.0035	0.745		1215.56	1215.56	2.35		Si
SLV 11	12.54	-299.88	550	0.1468483	0.0005615	0.0035	0.596		0	0	0		No
SLV 13	10.54	1071.23	-6705	-0.000112	0.0005615	0.0035	0.745		2128.71	2128.71	1.99		Si
SLV 13	12.54	-613.37	1897	0.5018901	0.0005615	0.0035	0.596		0	0	0		No
SLV 14	10.54	923.74	-6198	-0.0000974	0.0005615	0.0035	0.745		1987.07	1987.07	2.15		Si
SLV 14	12.54	-516.47	1412	0.374249	0.0005615	0.0035	0.596		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	10.54	337.14	-5169	-4353	1656	0.745	0.745	-19475	9541	2132	49956	6693	1900	8592	No	5.19	Si
SLU 79	12.54	-17.26	-1984	-1671	36	0.745	0.745	-7476	7941	1775	49956	6693	1900	8592	No	236.96	Si
SLU 82	10.54	324.66	-4905	-4130	1637	0.745	0.745	-18480	9408	2103	49956	6693	1900	8592	No	5.25	Si
SLU 82	12.54	-25.58	-1643	-1383	199	0.745	0.745	-6190	7770	1737	49956	6693	1900	8592	No	43.23	Si
SLU 75	10.54	328.11	-5024	-4230	1624	0.745	0.745	-18928	9468	2116	49956	6693	1900	8592	No	5.29	Si
SLU 75	12.54	-18.98	-1823	-1535	116	0.745	0.745	-6870	7860	1757	49956	6693	1900	8592	No	73.85	Si
SLU 84	10.54	336.37	-5102	-4297	1682	0.745	0.745	-19224	9508	2125	49956	6693	1900	8592	No	5.11	Si
SLU 84	12.54	-23.31	-1818	-1531	135	0.745	0.745	-6849	7858	1756	49956	6693	1900	8592	No	63.68	Si
SLU 80	10.54	336.38	-5169	-4353	1653	0.745	0.745	-19476	9541	2132	49956	6693	1900	8592	No	5.2	Si
SLU 80	12.54	-16.05	-1995	-1680	30	0.745	0.745	-7518	7947	1776	49956	6693	1900	8592	No	290.9	Si
SLU 77	10.54	340.57	-5221	-4396	1672	0.745	0.745	-19671	9567	2138	49956	6693	1900	8592	No	5.14	Si
SLU 77	12.54	-17.93	-1987	-1673	59	0.745	0.745	-7487	7943	1775	49956	6693	1900	8592	No	145.05	Si
SLU 83	10.54	337.13	-5102	-4296	1685	0.745	0.745	-19223	9508	2125	49956	6693	1900	8592	No	5.1	Si
SLU 83	12.54	-24.52	-1807	-1521	142	0.745	0.745	-6807	7852	1755	49956	6693	1900	8592	No	60.65	Si
SLU 74	10.54	328.86	-5023	-4230	1627	0.745	0.745	-18927	9468	2116	49956	6693	1900	8592	No	5.28	Si
SLU 74	12.54	-20.2	-1812	-1526	123	0.745	0.745	-6829	7855	1756	49956	6693	1900	8592	No	69.81	Si
SLU 81	10.54	325.42	-4904	-4130	1640	0.745	0.745	-18479	9408	2103	49956	6693	1900	8592	No	5.24	Si
SLU 81	12.54	-26.79	-1632	-1374	205	0.745	0.745	-6149	7764	1735	49956	6693	1900	8592	No	41.81	Si
SLU 78	10.54	339.81	-5221	-4397	1669	0.745	0.745	-19672	9567	2138	49956	6693	1900	8592	No	5.15	Si
SLU 78	12.54	-16.71	-1998	-1683	53	0.745	0.745	-7529	7948	1776	49956	6693	1900	8592	No	163.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	10.54	-634.19	-89	-75	-2472	0.596	0	0	0	0	49956	8031	1520	9551		3.86	Si
SLV 4	12.54	593.8	-4356	-3668	-2499	0.745	0.7086	-16413	13699	2912	49956	10039	1900	11939		4.78	Si
SLV 15	10.54	1080.02	-6129	-5161	4677	0.745	0.5888	-23091	15035	2656	49956	10039	1900	11939		2.55	Si
SLV 15	12.54	-663.42	2310	1945	2675	0.596	0.256	0	0	0	49956	8031	1520	9551		3.57	Si
SLV 13	10.54	1071.23	-6705	-5646	4601	0.745	0.6382	-25263	15469	2962	49956	10039	1900	11939		2.59	Si
SLV 13	12.54	-613.37	1897	1597	2621	0.596	0.1474	0	0	0	49956	8031	1520	9551		3.64	Si
SLD 16	10.54	675.34	-4830	-4067	2942	0.745	0.698	-18197	14056	2943	49956	10039	1900	11939		4.06	Si
SLD 16	12.54	-365.24	717	604	1518	0.596	0	0	0	0	49956	8031	1520	9551		6.29	Si
SLD 13	10.54	763.57	-5502	-4633	3328	0.745	0.7012	-20730	14563	3063	49956	10039	1900	11939		3.59	Si
SLD 13	12.54	-395.89	772	650	1696	0.596	0	0	0	0	49956	8031	1520	9551		5.63	Si
SLD 15	10.54	769.57	-5153	-4340	3374	0.745	0.6695	-19417	14300	2872	49956	10039	1900	11939		3.54	Si
SLD 15	12.54	-427.15	1027	865	1730	0.596	0	0	0	0	49956	8031	1520	9551		5.52	Si
SLV 14	10.54	923.74	-6198	-5219	3925	0.745	0.6704	-23353	15087	3034	49956	10039	1900	11939		3.04	Si
SLV 14	12.54	-516.47	1412	1189	2289	0.596	0.0199	0	0	0	49956	8031	1520	9551		4.17	Si
SLV 2	10.54	-642.98	-665	-560	-2548	0.596	0	0	0	0	49956	8031	1520	9551		3.75	Si
SLV 2	12.54	643.85	-4770	-4017	-2553	0.745	0.7125	-17971	14011	2995	49956	10039	1900	11939		4.68	Si
SLV 16	10.54	932.54	-5622	-4734	4001	0.745	0.6199	-21182	14653	2725	49956	10039	1900	11939		2.98	Si
SLV 16	12.54	-566.52	1825	1537	2343	0.596	0.1862	0	0	0	49956	8031	1520	9551		4.08	Si
SLD 14	10.54	669.34	-5178	-4361	2896	0.745	0.7297	-19510	14319	3135	49956	10039	1900	11939		4.12	Si
SLD 14	12.54	-333.98	462	389	1483	0.596	0	0	0	0	49956	8031	1520	9551		6.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 11.778 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.5	6383	-1426	165.33	205.03	1.24	Si
SLV 11	179667	0.5	6498	-1452	165.33	208.58	1.26	Si
SLV 12	179667	0.5	7019	-1569	165.33	224.5	1.36	Si
SLV 16	179667	0.5	7157	-1600	165.33	228.68	1.38	Si
SLV 13	179667	0.5	7818	-1747	165.33	248.67	1.5	Si
SLV 7	179667	0.5	7924	-1771	165.33	251.85	1.52	Si
SLV 8	179667	0.5	8445	-1887	165.33	267.45	1.62	Si
SLV 14	179667	0.5	8592	-1920	165.33	271.83	1.64	Si
SLV 3	179667	0.5	11134	-2489	165.33	346.07	2.09	Si
SLV 9	179667	0.5	11281	-2521	165.33	350.27	2.12	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 11.778 Wa = 0.05 Ta = 0.1066

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-554	-2451	21	2.958	211	0.894	48.08006	12.28143	Si
SLV 14	-509	-2557	22	3.053	207.3	0.896	49.51269	12.28143	Si
SLV 15	-507	-1794	5	3.068	207.2	0.896	49.75255	12.28143	Si
SLV 16	-462	-1900	6	3.169	203.6	0.899	51.26217	12.28143	Si
SLV 1	-406	-3528	-8	3.304	199.4	0.903	53.20431	12.28143	Si
SLV 3	-360	-2871	-24	3.414	196	0.907	54.72576	12.28143	Si
SLV 2	-361	-3634	-7	3.424	196.1	0.907	54.89383	12.28143	Si
SLV 4	-314	-2977	-23	3.543	192.8	0.912	56.48325	12.28143	Si
SLV 9	-549	-3611	30	2.961	210.6	0.894	48.12677	6.78538	Si
SLV 10	-519	-3683	30	3.025	208.1	0.896	49.08655	6.78538	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.774	SLU 81	Si
V_SLU	5.098	SLU 83	Si
PF_SLV	0	SLD 13	No
V_SLV	2.553	SLV 15	Si
PFFP_SLV	1.24	SLV 15	Si
R_SLV	3.915	SLV 13	Si

Maschio 278

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.868	-4.685	-11.143	-4.685	Z medio 959 cm	F1	0.725	0.3	4.375	4.376	4.375			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	10.54	67.51	-3379	-0.0000277	0.0003743	0.0035	0.725	1038.05	1092.65	1092.65	16.18	No	Si
SLU 73	12.54	-221.27	-2846	-0.0000329	0.0003743	0.0035	0.725	899.06	1059.29	1059.29	4.79	No	Si
SLU 83	10.54	80.85	-3566	-0.0000299	0.0003743	0.0035	0.725	1084.62	1141.93	1141.93	14.12	No	Si
SLU 83	12.54	-241.43	-3121	-0.0000361	0.0003743	0.0035	0.725	971.94	1139.77	1139.77	4.72	No	Si
SLU 41	10.54	80.01	-2987	-0.0000256	0.0003743	0.0035	0.725	936.62	990.9	990.9	12.38	No	Si
SLU 41	12.54	-212.52	-2673	-0.0000311	0.0003743	0.0035	0.725	851.91	1008.34	1008.34	4.74	No	Si
SLU 84	10.54	79.6	-3575	-0.0000299	0.0003743	0.0035	0.725	1086.61	1144.08	1144.08	14.37	No	Si
SLU 84	12.54	-241.13	-3125	-0.0000362	0.0003743	0.0035	0.725	972.94	1140.89	1140.89	4.73	No	Si
SLU 81	10.54	83.11	-3408	-0.0000289	0.0003743	0.0035	0.725	1045.39	1100.3	1100.3	13.24	No	Si
SLU 81	12.54	-233.03	-2921	-0.0000341	0.0003743	0.0035	0.725	919.28	1081.4	1081.4	4.64	No	Si
SLU 42	10.54	78.76	-2995	-0.0000256	0.0003743	0.0035	0.725	938.77	992.98	992.98	12.61	No	Si
SLU 42	12.54	-212.22	-2677	-0.0000311	0.0003743	0.0035	0.725	852.97	1009.47	1009.47	4.76	No	Si
SLU 82	10.54	81.86	-3417	-0.0000289	0.0003743	0.0035	0.725	1047.42	1102.43	1102.43	13.47	No	Si
SLU 82	12.54	-232.73	-2925	-0.0000342	0.0003743	0.0035	0.725	920.31	1082.53	1082.53	4.65	No	Si
SLU 31	10.54	66.67	-2799	-0.0000234	0.0003743	0.0035	0.725	886.5	942.85	942.85	14.14	No	Si
SLU 31	12.54	-192.36	-2397	-0.0000279	0.0003743	0.0035	0.725	774.99	925.46	925.46	4.81	No	Si
SLU 40	10.54	81.01	-2837	-0.0000246	0.0003743	0.0035	0.725	896.57	952.54	952.54	11.76	No	Si
SLU 40	12.54	-203.81	-2477	-0.0000291	0.0003743	0.0035	0.725	797.4	949.4	949.4	4.66	No	Si
SLU 39	10.54	82.27	-2829	-0.0000246	0.0003743	0.0035	0.725	894.39	950.44	950.44	11.55	No	Si
SLU 39	12.54	-204.11	-2473	-0.0000291	0.0003743	0.0035	0.725	796.31	948.24	948.24	4.65	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	10.54	-668.68	-5148	-0.0000765	0.0005615	0.0035	0.725		1772.56	1772.56	2.65		Si
SLV 1	12.54	359.63	859	0.2046523	0.0005615	0.0035	0.58		0	0	0		No
SLV 13	10.54	810.2	-82	-0.0341856	0.0005615	0.0035	0.58		62.42	62.42	0.08		No
SLV 13	12.54	-758	-5542	-0.0000854	0.0005615	0.0035	0.725		1880.81	1880.81	2.48		Si
SLV 15	10.54	880.32	751	0.0687862	0.0005615	0.0035	0.58		0	0	0		No
SLV 15	12.54	-752.44	-5364	-0.0000838	0.0005615	0.0035	0.725		1832.05	1832.05	2.43		Si
SLV 2	10.54	-810.78	-5678	-0.0000902	0.0005615	0.0035	0.725		1917.75	1917.75	2.37		Si
SLV 2	12.54	451.05	1325	0.3231745	0.0005615	0.0035	0.58		0	0	0		No
SLV 4	10.54	-740.67	-4845	-0.0000801	0.0005615	0.0035	0.725		1687.09	1687.09	2.28		Si
SLV 4	12.54	456.62	1503	0.369986	0.0005615	0.0035	0.58		0	0	0		No
SLD 2	10.54	-505.36	-4509	-0.0000615	0.0005615	0.0035	0.725		1589.69	1589.69	3.15		Si
SLD 2	12.54	234.24	122	-0.0066191	0.0005615	0.0035	0.58		0	0	0		No
SLV 3	10.54	-598.56	-4315	-0.0000661	0.0005615	0.0035	0.725		1533.23	1533.23	2.56		Si
SLV 3	12.54	365.19	1037	0.2521092	0.0005615	0.0035	0.58		0	0	0		No
SLD 4	10.54	-461.61	-3996	-0.000055	0.0005615	0.0035	0.725		1439.85	1439.85	3.12		Si
SLD 4	12.54	237.05	226	0.0287426	0.0005615	0.0035	0.58		0	0	0		No
SLV 16	10.54	738.21	220	-0.0349873	0.0005615	0.0035	0.58		0	0	0		No
SLV 16	12.54	-661.01	-4898	-0.0000742	0.0005615	0.0035	0.725		1702.01	1702.01	2.57		Si
SLV 11	10.54	421.3	-138	-0.0158891	0.0005615	0.0035	0.58		82.3	82.3	0.2		No
SLV 11	12.54	-339.84	-2840	-0.0000393	0.0005615	0.0035	0.725		1085.32	1085.32	3.19		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	10.54	63.83	-3690	-3107	55	0.725	0.725	-14286	8849	1925	49956	6513	1849	8362	No	152.24	Si
SLU 80	12.54	-238.29	-3243	-2731	966	0.725	0.725	-12556	8619	1875	49956	6513	1849	8362	No	8.66	Si
SLU 69	10.54	34.03	-3617	-3046	-21	0.725	0.725	-14003	8811	1916	49956	6513	1849	8362	No	393.45	Si
SLU 69	12.54	-214.44	-3063	-2580	901	0.725	0.725	-11860	8526	1854	49956	6513	1849	8362	No	9.28	Si
SLU 84	10.54	79.6	-3575	-3010	97	0.725	0.725	-13840	8790	1912	49956	6513	1849	8362	No	85.97	Si
SLU 84	12.54	-241.13	-3125	-2632	900	0.725	0.725	-12099	8558	1861	49956	6513	1849	8362	No	9.29	Si
SLU 72	10.54	32.31	-3590	-3023	-28	0.725	0.725	-13900	8798	1914	49956	6513	1849	8362	No	303.07	Si
SLU 72	12.54	-212.03	-3052	-2570	913	0.725	0.725	-11816	8520	1853	49956	6513	1849	8362	No	9.15	Si
SLU 71	10.54	33.56	-3582	-3017	-22	0.725	0.725	-13869	8794	1913	49956	6513	1849	8362	No	384.94	Si
SLU 71	12.54	-212.33	-3048	-2567	913	0.725	0.725	-11801	8518	1853	49956	6513	1849	8362	No	9.16	Si
SLU 78	10.54	64.29	-3724	-3136	55	0.725	0.725	-14420	8867	1929	49956	6513	1849	8362	No	150.95	Si
SLU 78	12.54	-240.4	-3258	-2744	955	0.725	0.725	-12614	8626	1876	49956	6513	1849	8362	No	8.76	Si
SLU 83	10.54	80.85	-3566	-3003	103	0.725	0.725	-13808	8786	1911	49956	6513	1849	8362	No	81.08	Si
SLU 83	12.54	-241.43	-3121	-2628	899	0.725	0.725	-12084	8556	1861	49956	6513	1849	8362	No	9.3	Si
SLU 79	10.54	65.08	-3682	-3100	61	0.725	0.725	-14255	8845	1924	49956	6513	1849	8362	No	137.55	Si
SLU 79	12.54	-238.59	-3239	-2728	965	0.725	0.725	-12541	8617	1874	49956	6513	1849	8362	No	8.67	Si
SLU 70	10.54	32.78	-3625	-3052	-27	0.725	0.725	-14034	8816	1917	49956	6513	1849	8362	No	308.32	Si
SLU 70	12.54	-214.14	-3067	-2583	902	0.725	0.725	-11875	8528	1855	49956	6513	1849	8362	No	9.27	Si
SLU 77	10.54	65.55	-3716	-3130	61	0.725	0.725	-14389	8863	1928	49956	6513	1849	8362	No	136.49	Si
SLU 77	12.54	-240.7	-3254	-2740	954	0.725	0.725	-12599	8624	1876	49956	6513	1849	8362	No	8.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	10.54	-810.78	-5678	-4781	-3621	0.725	0.6591	-24449	15307	3027	49956	9769	1849	11618		3.21	Si
SLV 2	12.54	451.05	1325	1116	-2055	0.58	0.0664	0	0	0	49956	7816	1479	9295		4.52	Si
SLV 1	10.54	-668.68	-5148	-4335	-2956	0.725	0.6978	-19930	14403	3015	49956	9769	1849	11618		3.93	Si
SLV 1	12.54	359.63	859	723	-1726	0.58	0	0	0	0	49956	7816	1479	9295		5.38	Si
SLV 14	10.54	668.1	-612	-516	2643	0.58	0	0	0	0	49956	7816	1479	9295		3.52	Si
SLV 14	12.54	-666.58	-5076	-4275	2705	0.725	0.6936	-19654	14347	2985	49956	9769	1849	11618		4.29	Si
SLD 13	10.54	531.14	-931	-784	2124	0.58	0	0	0	0	49956	7816	1479	9295		4.38	Si
SLD 13	12.54	-538.44	-4265	-3592	2143	0.725	0.7088	-16515	13720	2917	49956	9769	1849	11618		5.42	Si
SLD 15	10.54	574.89	-418	-352	2336	0.58	0	0	0	0	49956	7816	1479	9295		3.98	Si
SLD 15	12.54	-535.62	-4161	-3504	2237	0.725	0.7013	-16109	13638	2869	49956	9769	1849	11618		5.19	Si
SLV 3	10.54	-598.56	-4315	-3634	-2615	0.725	0.6714	-18192	14055	2831	49956	9769	1849	11618		4.44	Si
SLV 3	12.54	365.19	1037	873	-1576	0.58	0.0311	0	0	0	49956	7816	1479	9295		5.9	Si
SLV 15	10.54	880.32	751	632	3649	0.58	0	0	0	0	49956	7816	1479	9295		2.55	Si
SLV 15	12.54	-752.44	-5364	-4517	3185	0.725	0.6667	-22824	14982	2996	49956	9769	1849	11618		3.65	Si
SLV 13	10.54	810.2	-82	-69	3307	0.58	0	0	0	0	49956	7816	1479	9295		2.81	Si
SLV 13	12.54	-758	-5542	-4667	3034	0.725	0.6772	-21459	14708	2988	49956	9769	1849	11618		3.83	Si
SLV 4	10.54	-740.67	-4845	-4080	-3279	0.725	0.6289	-21867	14790	2790	49956	9769	1849	11618		3.54	Si
SLV 4	12.54	456.62	1503	1266	-1904	0.58	0.1763	0	0	0	49956	7816	1479	9295		4.88	Si
SLV 16	10.54	738.21	220	186	2984	0.58	0	0	0	0	49956	7816	1479	9295		3.11	Si
SLV 16	12.54	-661.01	-4898	-4125	2856	0.725	0.6826	-18964	14209	2910	49956	9769	1849	11618		4.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 11.778 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.5	7125	-1550	160.78	221.62	1.38	Si
SLV 3	179667	0.5	7832	-1703	160.78	242.41	1.51	Si
SLV 8	179667	0.5	8141	-1771	160.78	251.44	1.56	Si
SLV 2	179667	0.5	8237	-1792	160.78	254.23	1.58	Si
SLV 7	179667	0.5	8617	-1874	160.78	265.26	1.65	Si
SLV 1	179667	0.5	8943	-1945	160.78	274.69	1.71	Si
SLV 12	179667	0.5	10024	-2180	160.78	305.56	1.9	Si
SLV 11	179667	0.5	10499	-2284	160.78	319	1.98	Si
SLV 6	179667	0.5	11846	-2576	160.78	356.48	2.22	Si
SLV 5	179667	0.5	12321	-2680	160.78	369.55	2.3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 11.778 Wa = 0.05 Ta = 0.1066

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-415	-2463	22	3.243	195.4	0.901	52.3081	12.2719	Si
SLV 1	-364	-2509	23	3.377	191.6	0.905	54.20846	12.2719	Si
SLV 14	-352	-3466	-7	3.422	190.8	0.906	54.86734	12.2719	Si
SLV 4	-341	-1871	8	3.454	190	0.908	55.31001	12.2719	Si
SLV 13	-301	-3513	-6	3.573	187.3	0.912	56.91636	12.2719	Si
SLV 3	-289	-1918	8	3.606	186.5	0.914	57.35765	12.2719	Si
SLV 16	-278	-2874	-22	3.631	185.8	0.915	57.65435	12.2719	Si
SLV 15	-227	-2921	-21	3.802	182.6	0.924	59.82774	12.2719	Si
SLV 6	-471	-3512	29	3.101	199.8	0.897	50.23382	6.78277	Si
SLV 10	-453	-3813	20	3.152	198.3	0.898	50.99543	6.78277	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.641	SLU 81	Si
V_SLU	8.658	SLU 80	Si
PF_SLV	0	SLD 2	No
V_SLV	2.547	SLV 15	Si
PFFP _SLV	1.378	SLV 4	Si
R_SLV	4.262	SLV 2	Si

Maschio 282

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.003	-0.354	-11.003	0.906	L4	L6	1.26	0.28	7.23	7.23	7.23			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.67	2187.93	-27652	-0.0002161	0.0003743	0.0035	1.26	4009.61	8175.9	8175.9	3.74	No	Si
SLU 84	7.9	-425.27	-14822	-0.0000787	0.0003743	0.0035	1.26	5484.65	6876.02	6876.02	16.17	No	Si
SLU 81	0.67	2191.4	-27309	-0.0002131	0.0003743	0.0035	1.26	4124.23	8187.45	8187.45	3.74	No	Si
SLU 81	7.9	-443.7	-14471	-0.0000772	0.0003743	0.0035	1.26	5443.81	6804.47	6804.47	15.34	No	Si
SLU 78	0.67	2158.38	-27037	-0.0002095	0.0003743	0.0035	1.26	4211.95	8196.73	8196.73	3.8	No	Si
SLU 78	7.9	-344.92	-14675	-0.000076	0.0003743	0.0035	1.26	5468.09	6845.9	6845.9	19.85	No	Si
SLU 82	0.67	2155.51	-27326	-0.000212	0.0003743	0.0035	1.26	4118.63	8186.87	8186.87	3.8	No	Si
SLU 82	7.9	-426.53	-14499	-0.000077	0.0003743	0.0035	1.26	5447.19	6810.07	6810.07	15.97	No	Si
SLU 77	0.67	2194.28	-27020	-0.0002106	0.0003743	0.0035	1.26	4217.38	8197.31	8197.31	3.74	No	Si
SLU 77	7.9	-362.1	-14647	-0.0000762	0.0003743	0.0035	1.26	5464.88	6840.24	6840.24	18.89	No	Si
SLU 74	0.67	2161.85	-26694	-0.0002066	0.0003743	0.0035	1.26	4319.17	8208.64	8208.64	3.8	No	Si
SLU 74	7.9	-363.36	-14324	-0.0000745	0.0003743	0.0035	1.26	5425.44	6772.85	6772.85	18.64	No	Si
SLU 79	0.67	2179.29	-26857	-0.0002087	0.0003743	0.0035	1.26	4268.71	8202.95	8202.95	3.76	No	Si
SLU 79	7.9	-362.81	-14507	-0.0000755	0.0003743	0.0035	1.26	5448.24	6811.81	6811.81	18.77	No	Si
SLU 83	0.67	2223.83	-27635	-0.0002172	0.0003743	0.0035	1.26	4015.4	8176.47	8176.47	3.68	No	Si
SLU 83	7.9	-442.45	-14794	-0.0000789	0.0003743	0.0035	1.26	5481.58	6870.32	6870.32	15.53	No	Si
SLU 80	0.67	2143.4	-26874	-0.0002076	0.0003743	0.0035	1.26	4263.38	8202.36	8202.36	3.83	No	Si
SLU 80	7.9	-345.64	-14535	-0.0000752	0.0003743	0.0035	1.26	5451.59	6817.42	6817.42	19.72	No	Si
SLU 75	0.67	2125.95	-26711	-0.0002056	0.0003743	0.0035	1.26	4313.94	8208.04	8208.04	3.86	No	Si
SLU 75	7.9	-346.18	-14351	-0.0000743	0.0003743	0.0035	1.26	5428.96	6780.53	6780.53	19.59	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.67	3755.35	-17243	-0.0001657	0.0005615	0.0035	1.26		8338.95	8338.95	2.22		Si
SLV 7	7.9	-1332.65	-7877	-0.0000619	0.0005615	0.0035	1.26		4775.69	4775.69	3.58		Si
SLD 12	0.67	3049	-17799	-0.0001513	0.0005615	0.0035	1.26		8554.03	8554.03	2.81		Si
SLD 12	7.9	-895.03	-8983	-0.0000577	0.0005615	0.0035	1.26		5313.71	5313.71	5.94		Si
SLV 11	0.67	3998.62	-17444	-0.0001735	0.0005615	0.0035	1.26		8416.65	8416.65	2.1		Si
SLV 11	7.9	-1333.69	-8598	-0.0000653	0.0005615	0.0035	1.26		5132	5132	3.85		Si
SLV 12	0.67	3989.04	-17513	-0.0001736	0.0005615	0.0035	1.26		8443.44	8443.44	2.12		Si
SLV 12	7.9	-1323.38	-8599	-0.0000651	0.0005615	0.0035	1.26		5132.33	5132.33	3.88		Si
SLD 11	0.67	3055.03	-17755	-0.0001512	0.0005615	0.0035	1.26		8537.12	8537.12	2.79		Si
SLD 11	7.9	-901.51	-8983	-0.0000579	0.0005615	0.0035	1.26		5313.51	5313.51	5.89		Si
SLV 8	0.67	3745.77	-17312	-0.0001658	0.0005615	0.0035	1.26		8365.66	8365.66	2.23		Si
SLV 8	7.9	-1322.34	-7878	-0.0000617	0.0005615	0.0035	1.26		4776.02	4776.02	3.61		Si
SLV 16	0.67	2604.05	-18389	-0.0001439	0.0005615	0.0035	1.26		8784.5	8784.5	3.37		Si
SLV 16	7.9	-525.52	-10407	-0.0000565	0.0005615	0.0035	1.26		5975.35	5975.35	11.37		Si
SLD 8	0.67	2893.69	-17669	-0.0001468	0.0005615	0.0035	1.26		8503.67	8503.67	2.94		Si
SLD 8	7.9	-894.5	-8521	-0.0000556	0.0005615	0.0035	1.26		5094.3	5094.3	5.7		Si
SLV 15	0.67	2618.28	-18287	-0.0001437	0.0005615	0.0035	1.26		8744.25	8744.25	3.34		Si
SLV 15	7.9	-540.84	-10406	-0.0000568	0.0005615	0.0035	1.26		5974.89	5974.89	11.05		Si
SLD 7	0.67	2899.72	-17625	-0.0001467	0.0005615	0.0035	1.26		8486.78	8486.78	2.93		Si
SLD 7	7.9	-900.99	-8521	-0.0000557	0.0005615	0.0035	1.26		5094.09	5094.09	5.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	0.67	2143.4	-26874	-22379	5614	1.26	1.26	-63431	10833	7100	83261	10564	3213	13777	No	2.45	Si
SLU 80	7.9	-345.64	-14535	-12103	-1228	1.26	1.26	-34307	10833	4360	83261	10564	3213	13777	No	11.22	Si
SLU 83	0.67	2223.83	-27635	-23012	5882	1.26	1.26	-65226	10833	7269	83261	10564	3213	13777	No	2.34	Si
SLU 83	7.9	-442.45	-14794	-12320	-1121	1.26	1.26	-34919	10833	4417	83261	10564	3213	13777	No	12.29	Si
SLU 84	0.67	2187.93	-27652	-23026	5742	1.26	1.26	-65266	10833	7272	83261	10564	3213	13777	No	2.4	Si
SLU 84	7.9	-425.27	-14822	-12343	-1212	1.26	1.26	-34985	10833	4423	83261	10564	3213	13777	No	11.37	Si
SLU 82	0.67	2155.51	-27326	-22755	5659	1.26	1.26	-64497	10833	7200	83261	10564	3213	13777	No	2.43	Si
SLU 82	7.9	-426.53	-14499	-12073	-1186	1.26	1.26	-34221	10833	4352	83261	10564	3213	13777	No	11.62	Si
SLU 77	0.67	2194.28	-27020	-22500	5793	1.26	1.26	-63776	10833	7132	83261	10564	3213	13777	No	2.38	Si
SLU 77	7.9	-362.1	-14647	-12197	-1157	1.26	1.26	-34572	10833	4385	83261	10564	3213	13777	No	11.91	Si
SLU 79	0.67	2179.29	-26857	-22364	5755	1.26	1.26	-63391	10833	7096	83261	10564	3213	13777	No	2.39	Si
SLU 79	7.9	-362.81	-14507	-12080	-1137	1.26	1.26	-34241	10833	4354	83261	10564	3213	13777	No	12.11	Si
SLU 75	0.67	2125.95	-26711	-22243	5570	1.26	1.26	-63046	10833	7063	83261	10564	3213	13777	No	2.47	Si
SLU 75	7.9	-346.18	-14351	-11951	-1222	1.26	1.26	-33874	10833	4319	83261	10564	3213	13777	No	11.28	Si
SLU 74	0.67	2161.85	-26694	-22229	5710	1.26	1.26	-63006	10833	7060	83261	10564	3213	13777	No	2.41	Si
SLU 74	7.9	-363.36	-14324	-11928	-1131	1.26	1.26	-33808	10833	4313	83261	10564	3213	13777	No	12.18	Si
SLU 78	0.67	2158.38	-27037	-22514	5653	1.26	1.26	-63816	10833	7136	83261	10564	3213	13777	No	2.44	Si
SLU 78	7.9	-344.92	-14675	-12220	-1248	1.26	1.26	-34638	10833	4391	83261	10564	3213	13777	No	11.04	Si
SLU 81	0.67	2191.4	-27309	-22740	5799	1.26	1.26	-64456	10833	7196	83261	10564	3213	13777	No	2.38	Si
SLU 81	7.9	-443.7	-14471	-12050	-1095	1.26	1.26	-34155	10833	4345	83261	10564	3213	13777	No	12.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0.67	3755.35	-17243	-14358	12211	1.26	1.2366	-40698	16250	5627	83261	15847	3213	19060		1.56	Si
SLV 7	7.9	-1332.65	-7877	-6560	5806	1.26	1.26	-18593	14135	4987	83261	15847	3213	19060		3.28	Si
SLD 7	0.67	2899.72	-17625	-14677	9083	1.26	1.26	-41601	16250	5733	83261	15847	3213	19060		2.1	Si
SLD 7	7.9	-900.99	-8521	-7095	3334	1.26	1.26	-20111	14439	5094	83261	15847	3213	19060		5.72	Si
SLD 11	0.67	3055.03	-17755	-14785	9781	1.26	1.26	-41907	16250	5733	83261	15847	3213	19060		1.95	Si
SLD 11	7.9	-901.51	-8983	-7480	3066	1.26	1.26	-21202	14657	5171	83261	15847	3213	19060		6.22	Si
SLD 8	0.67	2893.69	-17669	-14713	9037	1.26	1.26	-41703	16250	5733	83261	15847	3213	19060		2.11	Si
SLD 8	7.9	-894.5	-8521	-7096	3299	1.26	1.26	-20112	14439	5094	83261	15847	3213	19060		5.78	Si
SLV 16	0.67	2604.05	-18389	-15313	8345	1.26	1.26	-43404	16250	5782	83261	15847	3213	19060		2.28	Si
SLV 16	7.9	-525.52	-10407	-8666	405	1.26	1.26	-24564	15329	5408	83261	15847	3213	19060		47.11	Si
SLV 15	0.67	2618.28	-18287	-15227	8454	1.26	1.26	-43162	16250	5759	83261	15847	3213	19060		2.25	Si
SLV 15	7.9	-540.84	-10406	-8665	486	1.26	1.26	-24561	15329	5408	83261	15847	3213	19060		39.22	Si
SLD 12	0.67	3049	-17799	-14821	9736	1.26	1.26	-42010	16250	5733	83261	15847	3213	19060		1.96	Si
SLD 12	7.9	-895.03	-8983	-7480	3032	1.26	1.26	-21203	14657	5171	83261	15847	3213	19060		6.29	Si
SLV 8	0.67	3745.77	-17312	-14416	12138	1.26	1.2409	-40861	16250	5646	83261	15847	3213	19060		1.57	Si
SLV 8	7.9	-1322.34	-7878	-6560	5751	1.26	1.26	-18595	14136	4987	83261	15847	3213	19060		3.31	Si
SLV 11	0.67	3998.62	-17444	-14526	13302	1.26	1.2023	-41173	16250	5572	83261	15847	3213	19060		1.43	Si
SLV 11	7.9	-1333.69	-8598	-7160	5389	1.26	1.26	-20294	14475	5107	83261	15847	3213	19060		3.54	Si
SLV 12	0.67	3989.04	-17513	-14584	13229	1.26	1.2067	-41336	16250	5587	83261	15847	3213	19060		1.44	Si
SLV 12	7.9	-1323.38	-8599	-7160	5334	1.26	1.26	-20295	14476	5107	83261	15847	3213	19060		3.57	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.285 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.34	33661	-11876	495.36	1296.13	2.62	Si
SLV 4	179667	0.34	33677	-11881	495.36	1296.57	2.62	Si
SLV 1	179667	0.34	34376	-12128	495.36	1315.73	2.66	Si
SLV 2	179667	0.34	34392	-12134	495.36	1316.16	2.66	Si
SLV 7	179667	0.34	37334	-13171	495.36	1393.21	2.81	Si
SLV 8	179667	0.34	37345	-13175	495.36	1393.48	2.81	Si
SLV 5	179667	0.34	39719	-14013	495.36	1451.57	2.93	Si
SLV 6	179667	0.34	39729	-14017	495.36	1451.82	2.93	Si
SLV 11	179667	0.34	41195	-14534	495.36	1485.86	3	Si
SLV 12	179667	0.34	41206	-14538	495.36	1486.1	3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.285 Wa = 0.05 Ta = 0.3118

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-11237	-18925	275	0.525	1507.3	0.934	8.17236	14.99226	No
SLV 13	-11235	-18822	275	0.525	1507.2	0.934	8.17307	14.99226	No
SLV 16	-10407	-18389	259	0.56	1423.5	0.931	8.73604	14.99226	No
SLV 15	-10406	-18287	258	0.56	1423.4	0.931	8.73685	14.99226	No
SLV 10	-11364	-19298	93	0.534	1520.1	0.935	8.30256	13.96236	No
SLV 9	-11363	-19228	93	0.534	1520.1	0.935	8.30305	13.96236	No
SLV 6	-10643	-19096	-80	0.564	1447.3	0.932	8.78921	13.96236	No
SLV 5	-10642	-19027	-80	0.564	1447.3	0.932	8.78961	13.96236	No
SLV 2	-8835	-18254	-301	0.632	1265.1	0.924	9.93978	14.99226	No
SLV 1	-8834	-18151	-301	0.632	1265	0.924	9.94058	14.99226	No

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.677	SLU 83	Si
V_SLU	2.342	SLU 83	Si
PF_SLV	2.105	SLV 11	Si
V_SLV	1.433	SLV 11	Si
PFFP_SLV	2.617	SLV 3	Si
R_SLV	0.545	SLV 14	No

1.7 Verifiche travi di accoppiamento in muratura

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

X ini.: *coordinata punto iniziale. [m]*
Y ini.: *coordinata punto iniziale. [m]*
Z ini.inf.: *coordinata punto iniziale. [m]*
Z ini.sup.: *coordinata punto iniziale. [m]*
H ini.: *altezza della sezione iniziale. [m]*
X fin.: *coordinata punto finale. [m]*
Y fin.: *coordinata punto finale. [m]*
Z fin.inf.: *coordinata punto finale. [m]*
Z fin.sup: *coordinata punto finale. [m]*
H fin.: *altezza della sezione finale. [m]*
Luce: *lunghezza della trave. [m]*
Spessore: *spessore. [m]*
R. Trazione: *resistenza a trazione dell'elemento teso disposto orizzontalmente. [daN]*
fb_: *resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/m²]*
fhk: *resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]*
fvk0: *resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]*
fhmedio: *resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]*
τ0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]*
fv0: *resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]*
μ: *coefficiente di attrito [C8.7.1.17].*
φ: *coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.*
fvk,lim: *valore caratteristico massimo della resistenza a taglio che può essere impiegata nel calcolo (§11.10.3.3). [daN/m²]*
E: *modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]*
G: *modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]*
FC: *fattore di confidenza della muratura.*
Materiale: *descrizione del materiale.*
Fu Verticale: *carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]*
Fu Orizzontale: *carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]*
tfv: *spessore di calcolo equivalente verticale di uno strato di rinforzo.*
tfo: *spessore di calcolo equivalente orizzontale di uno strato di rinforzo.*
E: *modulo di elasticità longitudinale. [daN/m²]*
εu: *dilatazione a rottura.*
Tipo fibra: *natura della fibra.*
materiale: *materiale fibra del rinforzo.*
lato applicazione: *lato di applicazione del rinforzo.*
esposizione: *condizione di esposizione secondo CNR-DT 215 §3.2.*
ancoraggio verticale iniziale: *grado di ancoraggio iniziale dei rinforzi verticali.*

***ancoraggio verticale finale**: grado di ancoraggio finale dei rinforzi verticali.*
***ancoraggio orizzontale iniziale**: grado di ancoraggio iniziale dei rinforzi orizzontali.*
***ancoraggio orizzontale finale**: grado di ancoraggio finale dei rinforzi orizzontali.*
***strati**: numero strati del rinforzo.*
***verifica taglio**: tipo di verifica a taglio.*
***εlim,conv / ε,CNR DT-200**: dati relativi ai parametri per il calcolo della deformazione di progetto.*
***αt**: coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a tagliosecondo CNR-DT 215 §4.1.1.*
***α**: coeffiicente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.*
***εlim,conv**: deformazione limite convenzionale del rinforzo FRCM.*
***ε,fd**: deformazione di progetto del rinforzo FRCM ovvero CRM.*
***γF,d**: fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.*
***connettori**: presenza di connettori per la prevenzione del distacco del rinforzo.*
***tipo di muratura**: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.*
***CRM / Fibrenet?**: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.*
***CRM**: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.*
***intonaco**: materiale intonaco FRCM ovvero CRM.*
***spessore intonaco**: spessore intonaco. [m]*
***tipo blocco fibrenet**: tipo blocco muratura per verifica a tglio tipo Fibrenet.*
***Comb.**: combinazione.*
***Sez.**: sezione di verifica.*
***M**: momento flettente nel piano. [daN*m]*
***N**: sforzo normale. [daN]*
***εm**: deformazione della muratura.*
***εm_**: deformazione elastica della muratura.*
***εmu**: deformazione ultima della muratura.*
***df**: distanza tra il lembo compresso e la fibra tesa più lontana. [m]*
***M0d**: momento resistente della sezione non rinforzata. [daN*m]*
***M1d**: momento resistente della sezione rinforzata. [daN*m]*
***MRd**: momento resistente della sezione. [daN*m]*
***incremento > 50%**: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.*
***c.s.**: coefficiente di sicurezza.*
***Verifica**: stato di verifica.*
***V**: taglio nel piano. [daN]*
***df**: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]*
***fvd**: resistenza a taglio di calcolo. [daN/m²]*
***Vt**: resistenza a taglio della muratura non rinforzata. [daN]*
***Vt,f**: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]*
***Vt,c**: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]*
***Vt,c int.**: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]*
***Vt,R**: resistenza a taglio della sezione rinforzata. [daN]*
***Stato limite**: pF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche.*
***Coeff.s.**: coefficiente di sicurezza.*

Trave di accoppiamento 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.863	5.876	-1.95	0.05	2	-22.863	5.876	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-2019.19	-5635	-0.000219	0.0001872	0.0035	2		10737.13	10737.13	No	5.32	Si
SLU 80	fin.	3256.55	-8403	-0.0003803	0.0001872	0.0035	2		10722.86	10722.86	No	3.29	Si
SLU 79	ini.	-2063.38	-5695	-0.0002244	0.0001872	0.0035	2		10737.13	10737.13	No	5.2	Si
SLU 79	fin.	3288.6	-8517	-0.0003847	0.0001872	0.0035	2		10722.86	10722.86	No	3.26	Si
SLU 83	ini.	-2081.73	-5809	-0.0002266	0.0001872	0.0035	2		10737.13	10737.13	No	5.16	Si
SLU 83	fin.	3347.72	-8647	-0.000393	0.0001872	0.0035	2		10722.86	10722.86	No	3.2	Si
SLU 77	ini.	-2077.44	-5741	-0.0002261	0.0001872	0.0035	2		10737.13	10737.13	No	5.17	Si
SLU 77	fin.	3311.22	-8585	-0.0003879	0.0001872	0.0035	2		10722.86	10722.86	No	3.24	Si
SLU 75	ini.	-2011.3	-5585	-0.0002181	0.0001872	0.0035	2		10737.13	10737.13	No	5.34	Si
SLU 75	fin.	3236.93	-8337	-0.0003776	0.0001872	0.0035	2		10722.86	10722.86	No	3.31	Si
SLU 82	ini.	-2015.58	-5653	-0.0002186	0.0001872	0.0035	2		10737.13	10737.13	No	5.33	Si
SLU 82	fin.	3273.43	-8399	-0.0003826	0.0001872	0.0035	2		10722.86	10722.86	No	3.28	Si
SLU 74	ini.	-2055.48	-5645	-0.0002234	0.0001872	0.0035	2		10737.13	10737.13	No	5.22	Si
SLU 74	fin.	3268.97	-8452	-0.000382	0.0001872	0.0035	2		10722.86	10722.86	No	3.28	Si
SLU 84	ini.	-2037.54	-5749	-0.0002213	0.0001872	0.0035	2		10737.13	10737.13	No	5.27	Si
SLU 84	fin.	3315.67	-8533	-0.0003885	0.0001872	0.0035	2		10722.86	10722.86	No	3.23	Si
SLU 78	ini.	-2033.25	-5681	-0.0002207	0.0001872	0.0035	2		10737.13	10737.13	No	5.28	Si
SLU 78	fin.	3279.17	-8471	-0.0003834	0.0001872	0.0035	2		10722.86	10722.86	No	3.27	Si
SLU 81	ini.	-2059.77	-5713	-0.000224	0.0001872	0.0035	2		10737.13	10737.13	No	5.21	Si
SLU 81	fin.	3305.47	-8514	-0.0003871	0.0001872	0.0035	2		10722.86	10722.86	No	3.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-2081.73	5537	2	0	6250	7930	13475	5100	14180	No	2.56	Si
SLU 83	fin.	3347.72	12381	2	0	6250	7930	13475	5100	14180	No	1.15	Si
SLU 75	ini.	-2011.3	5412	2	0	6250	7930	13475	5100	14180	No	2.62	Si
SLU 75	fin.	3236.93	11919	2	0	6250	7930	13475	5100	14180	No	1.19	Si
SLU 74	ini.	-2055.48	5508	2	0	6250	7930	13475	5100	14180	No	2.57	Si
SLU 74	fin.	3268.97	12097	2	0	6250	7930	13475	5100	14180	No	1.17	Si
SLU 78	ini.	-2033.25	5465	2	0	6250	7930	13475	5100	14180	No	2.59	Si
SLU 78	fin.	3279.17	12088	2	0	6250	7930	13475	5100	14180	No	1.17	Si
SLU 81	ini.	-2059.77	5484	2	0	6250	7930	13475	5100	14180	No	2.59	Si
SLU 81	fin.	3305.47	12213	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 77	ini.	-2077.44	5561	2	0	6250	7930	13475	5100	14180	No	2.55	Si
SLU 77	fin.	3311.22	12265	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 84	ini.	-2037.54	5441	2	0	6250	7930	13475	5100	14180	No	2.61	Si
SLU 84	fin.	3315.67	12203	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 79	ini.	-2063.38	5526	2	0	6250	7930	13475	5100	14180	No	2.57	Si
SLU 79	fin.	3288.6	12175	2	0	6250	7930	13475	5100	14180	No	1.16	Si
SLU 82	ini.	-2015.58	5388	2	0	6250	7930	13475	5100	14180	No	2.63	Si
SLU 82	fin.	3273.43	12035	2	0	6250	7930	13475	5100	14180	No	1.18	Si
SLU 80	ini.	-2019.19	5429	2	0	6250	7930	13475	5100	14180	No	2.61	Si
SLU 80	fin.	3256.55	11997	2	0	6250	7930	13475	5100	14180	No	1.18	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-4623.23	-7417	-0.0005462	0.0002807	0.0035	2		15648.46	15648.46		3.38	Si
SLV 12	fin.	4823.94	-13636	-0.0005758	0.0002807	0.0035	2		15635.95	15635.95		3.24	Si
SLD 11	ini.	-3107.85	-6065	-0.0003424	0.0002807	0.0035	2		15648.46	15648.46		5.04	Si
SLD 11	fin.	3661.58	-10264	-0.0004141	0.0002807	0.0035	2		15635.95	15635.95		4.27	Si
SLV 16	ini.	-4051.98	-2826	-0.0004662	0.0002807	0.0035	2		15648.46	15648.46		3.86	Si
SLV 16	fin.	3840.68	-8181	-0.000438	0.0002807	0.0035	2		15635.95	15635.95		4.07	Si
SLV 15	ini.	-3266.54	-2857	-0.0003625	0.0002807	0.0035	2		15648.46	15648.46		4.79	Si
SLV 15	fin.	3356.08	-7185	-0.0003743	0.0002807	0.0035	2		15635.95	15635.95		4.66	Si
SLV 7	ini.	-3222.38	-8806	-0.0003569	0.0002807	0.0035	2		15648.46	15648.46		4.86	Si
SLV 7	fin.	4096.86	-13227	-0.0004728	0.0002807	0.0035	2		15635.95	15635.95		3.82	Si
SLD 7	ini.	-2560.42	-6952	-0.0002756	0.0002807	0.0035	2		15648.46	15648.46		6.11	Si
SLD 7	fin.	3404.65	-10451	-0.0003806	0.0002807	0.0035	2		15635.95	15635.95		4.59	Si
SLV 11	ini.	-4094.42	-7438	-0.000472	0.0002807	0.0035	2		15648.46	15648.46		3.82	Si
SLV 11	fin.	4497.68	-12966	-0.0005288	0.0002807	0.0035	2		15635.95	15635.95		3.48	Si
SLD 8	ini.	-2893.08	-6939	-0.0003158	0.0002807	0.0035	2		15648.46	15648.46		5.41	Si
SLD 8	fin.	3609.89	-10873	-0.0004073	0.0002807	0.0035	2		15635.95	15635.95		4.33	Si
SLD 12	ini.	-3440.51	-6052	-0.0003848	0.0002807	0.0035	2		15648.46	15648.46		4.55	Si
SLD 12	fin.	3866.83	-10685	-0.0004415	0.0002807	0.0035	2		15635.95	15635.95		4.04	Si
SLV 8	ini.	-3751.19	-8785	-0.0004256	0.0002807	0.0035	2		15648.46	15648.46		4.17	Si
SLV 8	fin.	4423.13	-13897	-0.0005183	0.0002807	0.0035	2		15635.95	15635.95		3.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-3266.54	9243	2	0	6643	7930	20213	5100	14573		1.58	Si
SLV 15	fin.	3356.08	12847	2	0	6643	7930	20213	5100	14573		1.13	Si
SLV 7	ini.	-3222.38	7761	2	0	6643	7930	20213	5100	14573		1.88	Si
SLV 7	fin.	4096.86	17786	2	0	6643	7930	20213	5100	14573		0.82	No
SLD 8	ini.	-2893.08	7263	2	0	6643	7930	20213	5100	14573		2.01	Si
SLD 8	fin.	3609.89	15245	2	0	6643	7930	20213	5100	14573		0.96	No
SLV 12	ini.	-4623.23	11991	2	0	6643	7930	20213	5100	14573		1.22	Si
SLV 12	fin.	4823.94	20826	2	0	6643	7930	20213	5100	14573		0.7	No
SLD 11	ini.	-3107.85	8086	2	0	6643	7930	20213	5100	14573		1.8	Si
SLD 11	fin.	3661.58	15138	2	0	6643	7930	20213	5100	14573		0.96	No
SLV 16	ini.	-4051.98	11452	2	0	6643	7930	20213	5100	14573		1.27	Si
SLV 16	fin.	3840.68	15243	2	0	6643	7930	20213	5100	14573		0.96	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-3440.51	9021	2	0	6643	7930	20213	5100	14573		1.62	Si
SLD 12	fin.	3866.83	16153	2	0	6643	7930	20213	5100	14573		0.9	No
SLV 11	ini.	-4094.42	10504	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 11	fin.	4497.68	19213	2	0	6643	7930	20213	5100	14573		0.76	No
SLD 7	ini.	-2560.42	6328	2	0	6643	7930	20213	5100	14573		2.3	Si
SLD 7	fin.	3404.65	14231	2	0	6643	7930	20213	5100	14573		1.02	Si
SLV 8	ini.	-3751.19	9248	2	0	6643	7930	20213	5100	14573		1.58	Si
SLV 8	fin.	4423.13	19399	2	0	6643	7930	20213	5100	14573		0.75	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.241	SLV 12	Si
V_SLV	0.7	SLV 12	No
PF_SLU	3.203	SLU 83	Si
V_SLU	1.145	SLU 83	Si

Trave di accoppiamento 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-19.618	1.366	0.05	0.67	0.62	-19.618	2.071	0.05	0.67	0.62	0.705	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	648.78	-1828	-0.0009106	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.22	Si
SLU 84	fin.	-1881.09	-5471	-0.0054035	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.77	No
SLU 74	ini.	633.38	-1799	-0.0008825	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.27	Si
SLU 74	fin.	-1844.54	-5375	-0.0052596	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.78	No
SLU 78	ini.	635.14	-1794	-0.0008857	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.26	Si
SLU 78	fin.	-1842.4	-5363	-0.0052511	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.78	No
SLU 82	ini.	640.56	-1803	-0.0008956	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.25	Si
SLU 82	fin.	-1856.68	-5398	-0.0053076	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.78	No
SLU 79	ini.	637.34	-1812	-0.0008897	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.26	Si
SLU 79	fin.	-1856.57	-5411	-0.0053071	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.78	No
SLU 75	ini.	626.93	-1769	-0.0008709	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.29	Si
SLU 75	fin.	-1817.99	-5289	-0.0051541	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.79	No
SLU 83	ini.	655.23	-1859	-0.0009225	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.2	Si
SLU 83	fin.	-1907.64	-5556	-0.0055071	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.76	No
SLU 80	ini.	630.89	-1781	-0.000878	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.28	Si
SLU 80	fin.	-1830.02	-5326	-0.005202	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.79	No
SLU 81	ini.	647.01	-1834	-0.0009073	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.22	Si
SLU 81	fin.	-1883.23	-5483	-0.0054119	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.77	No
SLU 77	ini.	641.6	-1825	-0.0008975	0.0002246	0.0035	0.62		1438.41	1438.41	No	2.24	Si
SLU 77	fin.	-1868.95	-5448	-0.0053559	0.0002246	0.0035	0.62		1442.3	1442.3	No	0.77	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	640.56	-2435	0.62	0	1550	4916	3342	1581	4923	No	2.02	Si
SLU 82	fin.	-1856.68	-7764	0.62	0	1550	4916	3342	1581	4923	No	0.63	No
SLU 77	ini.	641.6	-2481	0.62	0	1550	4916	3342	1581	4923	No	1.98	Si
SLU 77	fin.	-1868.95	-7781	0.62	0	1550	4916	3342	1581	4923	No	0.63	No
SLU 74	ini.	633.38	-2445	0.62	0	1550	4916	3342	1581	4923	No	2.01	Si
SLU 74	fin.	-1844.54	-7683	0.62	0	1550	4916	3342	1581	4923	No	0.64	No
SLU 79	ini.	637.34	-2463	0.62	0	1550	4916	3342	1581	4923	No	2	Si
SLU 79	fin.	-1856.57	-7731	0.62	0	1550	4916	3342	1581	4923	No	0.64	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	655.23	-2526	0.62	0	1550	4916	3342	1581	4923	No	1.95	Si
SLU 83	fin.	-1907.64	-7949	0.62	0	1550	4916	3342	1581	4923	No	0.62	No
SLU 84	ini.	648.78	-2472	0.62	0	1550	4916	3342	1581	4923	No	1.99	Si
SLU 84	fin.	-1881.09	-7861	0.62	0	1550	4916	3342	1581	4923	No	0.63	No
SLU 81	ini.	647.01	-2490	0.62	0	1550	4916	3342	1581	4923	No	1.98	Si
SLU 81	fin.	-1883.23	-7851	0.62	0	1550	4916	3342	1581	4923	No	0.63	No
SLU 75	ini.	626.93	-2390	0.62	0	1550	4916	3342	1581	4923	No	2.06	Si
SLU 75	fin.	-1817.99	-7596	0.62	0	1550	4916	3342	1581	4923	No	0.65	No
SLU 78	ini.	635.14	-2427	0.62	0	1550	4916	3342	1581	4923	No	2.03	Si
SLU 78	fin.	-1842.4	-7693	0.62	0	1550	4916	3342	1581	4923	No	0.64	No
SLU 80	ini.	630.89	-2408	0.62	0	1550	4916	3342	1581	4923	No	2.04	Si
SLU 80	fin.	-1830.02	-7643	0.62	0	1550	4916	3342	1581	4923	No	0.64	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	780.94	-2853	-0.00109	0.0003369	0.0035	0.62		1425.69	1425.69		1.83	Si
SLV 12	fin.	-2695.68	-8267	-0.0079528	0.0003369	0.0035	0.62		1429.72	1429.72		0.53	No
SLV 8	ini.	809.56	-2971	-0.0011452	0.0003369	0.0035	0.62		1425.69	1425.69		1.76	Si
SLV 8	fin.	-2789.82	-8569	-0.008273	0.0003369	0.0035	0.62		1429.72	1429.72		0.51	No
SLV 3	ini.	580.79	-1887	-0.0007406	0.0003369	0.0035	0.62		1425.69	1425.69		2.45	Si
SLV 3	fin.	-1824.06	-5476	-0.0048206	0.0003369	0.0035	0.62		1429.72	1429.72		0.78	No
SLV 4	ini.	592.57	-1953	-0.0007596	0.0003369	0.0035	0.62		1425.69	1425.69		2.41	Si
SLV 4	fin.	-1880.52	-5660	-0.0050387	0.0003369	0.0035	0.62		1429.72	1429.72		0.76	No
SLD 8	ini.	667.14	-2312	-0.0008842	0.0003369	0.0035	0.62		1425.69	1425.69		2.14	Si
SLD 8	fin.	-2211.55	-6718	-0.0062608	0.0003369	0.0035	0.62		1429.72	1429.72		0.65	No
SLD 7	ini.	662.15	-2284	-0.0008756	0.0003369	0.0035	0.62		1425.69	1425.69		2.15	Si
SLD 7	fin.	-2187.64	-6640	-0.0061744	0.0003369	0.0035	0.62		1429.72	1429.72		0.65	No
SLD 11	ini.	644.04	-2210	-0.0008448	0.0003369	0.0035	0.62		1425.69	1425.69		2.21	Si
SLD 11	fin.	-2127.59	-6447	-0.0059558	0.0003369	0.0035	0.62		1429.72	1429.72		0.67	No
SLV 11	ini.	773.01	-2809	-0.001075	0.0003369	0.0035	0.62		1425.69	1425.69		1.84	Si
SLV 11	fin.	-2657.67	-8143	-0.0078229	0.0003369	0.0035	0.62		1429.72	1429.72		0.54	No
SLV 7	ini.	801.62	-2926	-0.0011297	0.0003369	0.0035	0.62		1425.69	1425.69		1.78	Si
SLV 7	fin.	-2751.81	-8445	-0.008144	0.0003369	0.0035	0.62		1429.72	1429.72		0.52	No
SLD 12	ini.	649.03	-2238	-0.0008532	0.0003369	0.0035	0.62		1425.69	1425.69		2.2	Si
SLD 12	fin.	-2151.5	-6525	-0.0060432	0.0003369	0.0035	0.62		1429.72	1429.72		0.66	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	773.01	-4588	0.62	0	2325	4916	5013	1581	6594		1.44	Si
SLV 11	fin.	-2657.67	-9822	0.62	0	2325	4916	5013	1581	6594		0.67	No
SLV 7	ini.	801.62	-4725	0.62	0	2325	4916	5013	1581	6594		1.4	Si
SLV 7	fin.	-2751.81	-10196	0.62	0	2325	4916	5013	1581	6594		0.65	No
SLV 3	ini.	580.79	-2737	0.62	0	2325	4916	5013	1581	6594		2.41	Si
SLV 3	fin.	-1824.06	-7217	0.62	0	2325	4916	5013	1581	6594		0.91	No
SLV 8	ini.	809.56	-4807	0.62	0	2325	4916	5013	1581	6594		1.37	Si
SLV 8	fin.	-2789.82	-10316	0.62	0	2325	4916	5013	1581	6594		0.64	No
SLD 8	ini.	667.14	-3620	0.62	0	2325	4916	5013	1581	6594		1.82	Si
SLD 8	fin.	-2211.55	-8402	0.62	0	2325	4916	5013	1581	6594		0.78	No
SLV 12	ini.	780.94	-4670	0.62	0	2325	4916	5013	1581	6594		1.41	Si
SLV 12	fin.	-2695.68	-9942	0.62	0	2325	4916	5013	1581	6594		0.66	No
SLD 7	ini.	662.15	-3569	0.62	0	2325	4916	5013	1581	6594		1.85	Si
SLD 7	fin.	-2187.64	-8326	0.62	0	2325	4916	5013	1581	6594		0.79	No
SLD 12	ini.	649.03	-3533	0.62	0	2325	4916	5013	1581	6594		1.87	Si
SLD 12	fin.	-2151.5	-8163	0.62	0	2325	4916	5013	1581	6594		0.81	No
SLD 11	ini.	644.04	-3481	0.62	0	2325	4916	5013	1581	6594		1.89	Si
SLD 11	fin.	-2127.59	-8087	0.62	0	2325	4916	5013	1581	6594		0.82	No
SLV 4	ini.	592.57	-2858	0.62	0	2325	4916	5013	1581	6594		2.31	Si
SLV 4	fin.	-1880.52	-7394	0.62	0	2325	4916	5013	1581	6594		0.89	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.512	SLV 8	No
V_SLV	0.639	SLV 8	No
PF_SLU	0.756	SLU 83	No
V_SLU	0.619	SLU 83	No

Trave di accoppiamento 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.573	-3.284	-1.95	0.05	2	-22.573	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-4892.82	-2791	-0.0006222	0.0001872	0.0035	2		10737.13	10737.13	No	2.19	Si
SLU 75	fin.	4163.64	-7173	-0.0005109	0.0001872	0.0035	2		10722.86	10722.86	No	2.58	Si
SLU 84	ini.	-5008.08	-2893	-0.0006404	0.0001872	0.0035	2		10737.13	10737.13	No	2.14	Si
SLU 84	fin.	4267.48	-7374	-0.0005264	0.0001872	0.0035	2		10722.86	10722.86	No	2.51	Si
SLU 78	ini.	-4940.34	-2815	-0.0006297	0.0001872	0.0035	2		10737.13	10737.13	No	2.17	Si
SLU 78	fin.	4203.77	-7242	-0.0005169	0.0001872	0.0035	2		10722.86	10722.86	No	2.55	Si
SLU 82	ini.	-4960.56	-2869	-0.0006329	0.0001872	0.0035	2		10737.13	10737.13	No	2.16	Si
SLU 82	fin.	4227.35	-7306	-0.0005204	0.0001872	0.0035	2		10722.86	10722.86	No	2.54	Si
SLU 77	ini.	-4895.48	-2795	-0.0006226	0.0001872	0.0035	2		10737.13	10737.13	No	2.19	Si
SLU 77	fin.	4181.55	-7195	-0.0005135	0.0001872	0.0035	2		10722.86	10722.86	No	2.56	Si
SLU 80	ini.	-4910.76	-2798	-0.000625	0.0001872	0.0035	2		10737.13	10737.13	No	2.19	Si
SLU 80	fin.	4177.31	-7197	-0.0005129	0.0001872	0.0035	2		10722.86	10722.86	No	2.57	Si
SLU 83	ini.	-4963.21	-2873	-0.0006333	0.0001872	0.0035	2		10737.13	10737.13	No	2.16	Si
SLU 83	fin.	4245.26	-7327	-0.0005231	0.0001872	0.0035	2		10722.86	10722.86	No	2.53	Si
SLU 81	ini.	-4915.7	-2849	-0.0006258	0.0001872	0.0035	2		10737.13	10737.13	No	2.18	Si
SLU 81	fin.	4205.13	-7259	-0.0005171	0.0001872	0.0035	2		10722.86	10722.86	No	2.55	Si
SLU 79	ini.	-4865.89	-2778	-0.0006179	0.0001872	0.0035	2		10737.13	10737.13	No	2.21	Si
SLU 79	fin.	4155.09	-7150	-0.0005096	0.0001872	0.0035	2		10722.86	10722.86	No	2.58	Si
SLU 76	ini.	-4893.15	-2788	-0.0006222	0.0001872	0.0035	2		10737.13	10737.13	No	2.19	Si
SLU 76	fin.	4152	-7159	-0.0005091	0.0001872	0.0035	2		10722.86	10722.86	No	2.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-4960.56	11315	2	0	6250	7930	13475	5100	14180	No	1.25	Si
SLU 82	fin.	4227.35	15798	2	0	6250	7930	13475	5100	14180	No	0.9	No
SLU 77	ini.	-4895.48	11266	2	0	6250	7930	13475	5100	14180	No	1.26	Si
SLU 77	fin.	4181.55	15549	2	0	6250	7930	13475	5100	14180	No	0.91	No
SLU 79	ini.	-4865.89	11196	2	0	6250	7930	13475	5100	14180	No	1.27	Si
SLU 79	fin.	4155.09	15451	2	0	6250	7930	13475	5100	14180	No	0.92	No
SLU 76	ini.	-4893.15	11181	2	0	6250	7930	13475	5100	14180	No	1.27	Si
SLU 76	fin.	4152	15517	2	0	6250	7930	13475	5100	14180	No	0.91	No
SLU 84	ini.	-5008.08	11425	2	0	6250	7930	13475	5100	14180	No	1.24	Si
SLU 84	fin.	4267.48	15952	2	0	6250	7930	13475	5100	14180	No	0.89	No
SLU 81	ini.	-4915.7	11258	2	0	6250	7930	13475	5100	14180	No	1.26	Si
SLU 81	fin.	4205.13	15667	2	0	6250	7930	13475	5100	14180	No	0.91	No
SLU 80	ini.	-4910.76	11253	2	0	6250	7930	13475	5100	14180	No	1.26	Si
SLU 80	fin.	4177.31	15583	2	0	6250	7930	13475	5100	14180	No	0.91	No
SLU 75	ini.	-4892.82	11213	2	0	6250	7930	13475	5100	14180	No	1.26	Si
SLU 75	fin.	4163.64	15527	2	0	6250	7930	13475	5100	14180	No	0.91	No
SLU 78	ini.	-4940.34	11323	2	0	6250	7930	13475	5100	14180	No	1.25	Si
SLU 78	fin.	4203.77	15681	2	0	6250	7930	13475	5100	14180	No	0.9	No
SLU 83	ini.	-4963.21	11368	2	0	6250	7930	13475	5100	14180	No	1.25	Si
SLU 83	fin.	4245.26	15820	2	0	6250	7930	13475	5100	14180	No	0.9	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-5391.16	-4226	-0.0006597	0.0002807	0.0035	2		15648.46	15648.46		2.9	Si
SLD 6	fin.	4230.09	-8856	-0.0004912	0.0002807	0.0035	2		15635.95	15635.95		3.7	Si
SLV 13	ini.	-6308.63	-1278	-0.0008043	0.0002807	0.0035	2		15648.46	15648.46		2.48	Si
SLV 13	fin.	5469.36	-7078	-0.0006723	0.0002807	0.0035	2		15635.95	15635.95		2.86	Si
SLV 10	ini.	-7416.96	-4636	-0.0009934	0.0002807	0.0035	2		15648.46	15648.46		2.11	Si
SLV 10	fin.	5910.05	-11089	-0.000741	0.0002807	0.0035	2		15635.95	15635.95		2.65	Si
SLV 6	ini.	-6589.73	-5616	-0.0008507	0.0002807	0.0035	2		15648.46	15648.46		2.37	Si
SLV 6	fin.	5038.68	-11194	-0.0006074	0.0002807	0.0035	2		15635.95	15635.95		3.1	Si
SLV 5	ini.	-7087.05	-5665	-0.0009354	0.0002807	0.0035	2		15648.46	15648.46		2.21	Si
SLV 5	fin.	5425.95	-11685	-0.0006656	0.0002807	0.0035	2		15635.95	15635.95		2.88	Si
SLD 5	ini.	-5704.01	-4256	-0.0007078	0.0002807	0.0035	2		15648.46	15648.46		2.74	Si
SLD 5	fin.	4473.71	-9164	-0.0005254	0.0002807	0.0035	2		15635.95	15635.95		3.5	Si
SLV 9	ini.	-7914.28	-4685	-0.0010841	0.0002807	0.0035	2		15648.46	15648.46		1.98	Si
SLV 9	fin.	6297.31	-11579	-0.0008033	0.0002807	0.0035	2		15635.95	15635.95		2.48	Si
SLV 14	ini.	-5569.96	-1206	-0.000687	0.0002807	0.0035	2		15648.46	15648.46		2.81	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	fin.	4894.15	-6349	-0.000586	0.0002807	0.0035	2		15635.95	15635.95		3.19	Si
SLD 10	ini.	-5907.78	-3592	-0.0007398	0.0002807	0.0035	2		15648.46	15648.46		2.65	Si
SLD 10	fin.	4776.64	-8765	-0.0005689	0.0002807	0.0035	2		15635.95	15635.95		3.27	Si
SLD 9	ini.	-6220.63	-3623	-0.00079	0.0002807	0.0035	2		15648.46	15648.46		2.52	Si
SLD 9	fin.	5020.26	-9073	-0.0006046	0.0002807	0.0035	2		15635.95	15635.95		3.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-5391.16	11560	2	0	6643	7930	20213	5100	14573		1.26	Si
SLD 6	fin.	4230.09	17114	2	0	6643	7930	20213	5100	14573		0.85	No
SLV 14	ini.	-5569.96	13866	2	0	6643	7930	20213	5100	14573		1.05	Si
SLV 14	fin.	4894.15	16123	2	0	6643	7930	20213	5100	14573		0.9	No
SLD 10	ini.	-5907.78	13300	2	0	6643	7930	20213	5100	14573		1.1	Si
SLD 10	fin.	4776.64	18206	2	0	6643	7930	20213	5100	14573		0.8	No
SLV 5	ini.	-7087.05	15069	2	0	6643	7930	20213	5100	14573		0.97	No
SLV 5	fin.	5425.95	22375	2	0	6643	7930	20213	5100	14573		0.65	No
SLV 10	ini.	-7416.96	16518	2	0	6643	7930	20213	5100	14573		0.88	No
SLV 10	fin.	5910.05	22726	2	0	6643	7930	20213	5100	14573		0.64	No
SLV 9	ini.	-7914.28	17790	2	0	6643	7930	20213	5100	14573		0.82	No
SLV 9	fin.	6297.31	24103	2	0	6643	7930	20213	5100	14573		0.6	No
SLV 6	ini.	-6589.73	13798	2	0	6643	7930	20213	5100	14573		1.06	Si
SLV 6	fin.	5038.68	20998	2	0	6643	7930	20213	5100	14573		0.69	No
SLD 9	ini.	-6220.63	14099	2	0	6643	7930	20213	5100	14573		1.03	Si
SLD 9	fin.	5020.26	19073	2	0	6643	7930	20213	5100	14573		0.76	No
SLD 5	ini.	-5704.01	12359	2	0	6643	7930	20213	5100	14573		1.18	Si
SLD 5	fin.	4473.71	17980	2	0	6643	7930	20213	5100	14573		0.81	No
SLV 13	ini.	-6308.63	15754	2	0	6643	7930	20213	5100	14573		0.93	No
SLV 13	fin.	5469.36	18169	2	0	6643	7930	20213	5100	14573		0.8	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.977	SLV 9	Si
V_SLV	0.605	SLV 9	No
PF_SLU	2.144	SLU 84	Si
V_SLU	0.889	SLU 84	No

Trave di accoppiamento 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.273	-3.284	-1.95	0.05	2	-18.273	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	1006.95	-14178	-0.0001038	0.0001872	0.0035	2		10722.86	10722.86	No	10.65	Si
SLU 79	fin.	-1397.27	-9126	-0.0001466	0.0001872	0.0035	2		10737.13	10737.13	No	7.68	Si
SLU 58	ini.	867.42	-12674	-0.0000889	0.0001872	0.0035	2		10722.86	10722.86	No	12.36	Si
SLU 58	fin.	-1350.88	-8038	-0.0001414	0.0001872	0.0035	2		10737.13	10737.13	No	7.95	Si
SLU 78	ini.	957.39	-14321	-0.0000985	0.0001872	0.0035	2		10722.86	10722.86	No	11.2	Si
SLU 78	fin.	-1348.17	-9333	-0.0001411	0.0001872	0.0035	2		10737.13	10737.13	No	7.96	Si
SLU 83	ini.	1100.64	-14727	-0.000114	0.0001872	0.0035	2		10722.86	10722.86	No	9.74	Si
SLU 83	fin.	-1408.03	-9490	-0.0001478	0.0001872	0.0035	2		10737.13	10737.13	No	7.63	Si
SLU 56	ini.	866.36	-12733	-0.0000888	0.0001872	0.0035	2		10722.86	10722.86	No	12.38	Si
SLU 56	fin.	-1353.33	-8085	-0.0001417	0.0001872	0.0035	2		10737.13	10737.13	No	7.93	Si
SLU 62	ini.	961.11	-13223	-0.0000989	0.0001872	0.0035	2		10722.86	10722.86	No	11.16	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 62	fin.	-1361.64	-8403	-0.0001426	0.0001872	0.0035	2		10737.13	10737.13	No	7.89	Si
SLU 81	ini.	1086.18	-14622	-0.0001124	0.0001872	0.0035	2		10722.86	10722.86	No	9.87	Si
SLU 81	fin.	-1384.62	-9442	-0.0001452	0.0001872	0.0035	2		10737.13	10737.13	No	7.75	Si
SLU 77	ini.	1005.89	-14238	-0.0001037	0.0001872	0.0035	2		10722.86	10722.86	No	10.66	Si
SLU 77	fin.	-1399.72	-9172	-0.0001469	0.0001872	0.0035	2		10737.13	10737.13	No	7.67	Si
SLU 84	ini.	1052.13	-14810	-0.0001087	0.0001872	0.0035	2		10722.86	10722.86	No	10.19	Si
SLU 84	fin.	-1356.48	-9651	-0.000142	0.0001872	0.0035	2		10737.13	10737.13	No	7.92	Si
SLU 74	ini.	991.44	-14132	-0.0001021	0.0001872	0.0035	2		10722.86	10722.86	No	10.82	Si
SLU 74	fin.	-1376.31	-9124	-0.0001443	0.0001872	0.0035	2		10737.13	10737.13	No	7.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	1052.13	-7191	2	0	6250	7930	13475	5100	14180	No	1.97	Si
SLU 84	fin.	-1356.48	-7650	2	0	6250	7930	13475	5100	14180	No	1.85	Si
SLU 78	ini.	957.39	-6895	2	0	6250	7930	13475	5100	14180	No	2.06	Si
SLU 78	fin.	-1348.17	-7403	2	0	6250	7930	13475	5100	14180	No	1.92	Si
SLU 79	ini.	1006.95	-7038	2	0	6250	7930	13475	5100	14180	No	2.01	Si
SLU 79	fin.	-1397.27	-7577	2	0	6250	7930	13475	5100	14180	No	1.87	Si
SLU 82	ini.	1037.68	-7096	2	0	6250	7930	13475	5100	14180	No	2	Si
SLU 82	fin.	-1333.07	-7559	2	0	6250	7930	13475	5100	14180	No	1.88	Si
SLU 77	ini.	1005.89	-7055	2	0	6250	7930	13475	5100	14180	No	2.01	Si
SLU 77	fin.	-1399.72	-7589	2	0	6250	7930	13475	5100	14180	No	1.87	Si
SLU 83	ini.	1100.64	-7351	2	0	6250	7930	13475	5100	14180	No	1.93	Si
SLU 83	fin.	-1408.03	-7836	2	0	6250	7930	13475	5100	14180	No	1.81	Si
SLU 75	ini.	942.93	-6800	2	0	6250	7930	13475	5100	14180	No	2.09	Si
SLU 75	fin.	-1324.76	-7312	2	0	6250	7930	13475	5100	14180	No	1.94	Si
SLU 81	ini.	1086.18	-7256	2	0	6250	7930	13475	5100	14180	No	1.95	Si
SLU 81	fin.	-1384.62	-7746	2	0	6250	7930	13475	5100	14180	No	1.83	Si
SLU 74	ini.	991.44	-6960	2	0	6250	7930	13475	5100	14180	No	2.04	Si
SLU 74	fin.	-1376.31	-7499	2	0	6250	7930	13475	5100	14180	No	1.89	Si
SLU 80	ini.	958.45	-6878	2	0	6250	7930	13475	5100	14180	No	2.06	Si
SLU 80	fin.	-1345.72	-7391	2	0	6250	7930	13475	5100	14180	No	1.92	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-3516.3	-6637	-0.0003947	0.0002807	0.0035	2		15648.46	15648.46		4.45	Si
SLV 13	fin.	2802.81	-11150	-0.000305	0.0002807	0.0035	2		15635.95	15635.95		5.58	Si
SLV 7	ini.	3052.63	-4502	-0.0003358	0.0002807	0.0035	2		15635.95	15635.95		5.12	Si
SLV 7	fin.	-3537.46	1394	-0.0003974	0.0002807	0.0035	2		15648.46	15648.46		4.42	Si
SLD 4	ini.	3220.14	-11650	-0.0003569	0.0002807	0.0035	2		15635.95	15635.95		4.86	Si
SLD 4	fin.	-3407.44	-3142	-0.0003806	0.0002807	0.0035	2		15648.46	15648.46		4.59	Si
SLV 2	ini.	3714.15	-16562	-0.0004211	0.0002807	0.0035	2		15635.95	15635.95		4.21	Si
SLV 2	fin.	-3680.47	-5670	-0.0004162	0.0002807	0.0035	2		15648.46	15648.46		4.25	Si
SLV 4	ini.	4715.64	-12710	-0.0005601	0.0002807	0.0035	2		15635.95	15635.95		3.32	Si
SLV 4	fin.	-4782.94	-1331	-0.0005692	0.0002807	0.0035	2		15648.46	15648.46		3.27	Si
SLV 1	ini.	3096.13	-16068	-0.0003413	0.0002807	0.0035	2		15635.95	15635.95		5.05	Si
SLV 1	fin.	-3140.94	-6533	-0.0003466	0.0002807	0.0035	2		15648.46	15648.46		4.98	Si
SLV 14	ini.	-2898.28	-7131	-0.0003164	0.0002807	0.0035	2		15648.46	15648.46		5.4	Si
SLV 14	fin.	2263.29	-10287	-0.000241	0.0002807	0.0035	2		15635.95	15635.95		6.91	Si
SLD 3	ini.	2825.29	-11334	-0.0003078	0.0002807	0.0035	2		15635.95	15635.95		5.53	Si
SLD 3	fin.	-3062.74	-3693	-0.0003368	0.0002807	0.0035	2		15648.46	15648.46		5.11	Si
SLV 8	ini.	3468.73	-4835	-0.0003889	0.0002807	0.0035	2		15635.95	15635.95		4.51	Si
SLV 8	fin.	-3900.71	1975	-0.0004457	0.0002807	0.0035	2		15648.46	15648.46		4.01	Si
SLV 3	ini.	4097.62	-12216	-0.0004729	0.0002807	0.0035	2		15635.95	15635.95		3.82	Si
SLV 3	fin.	-4243.42	-2193	-0.0004926	0.0002807	0.0035	2		15648.46	15648.46		3.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	2203.71	-11757	2	0	6643	7930	20213	5100	14573		1.24	Si
SLD 1	fin.	-2375.74	-11819	2	0	6643	7930	20213	5100	14573		1.23	Si
SLV 4	ini.	4715.64	-19855	2	0	6643	7930	20213	5100	14573		0.73	No
SLV 4	fin.	-4782.94	-20770	2	0	6643	7930	20213	5100	14573		0.7	No
SLD 4	ini.	3220.14	-14368	2	0	6643	7930	20213	5100	14573		1.01	Si
SLD 4	fin.	-3407.44	-15124	2	0	6643	7930	20213	5100	14573		0.96	No
SLV 2	ini.	3714.15	-18239	2	0	6643	7930	20213	5100	14573		0.8	No
SLV 2	fin.	-3680.47	-18028	2	0	6643	7930	20213	5100	14573		0.81	No
SLD 3	ini.	2825.29	-12773	2	0	6643	7930	20213	5100	14573		1.14	Si
SLD 3	fin.	-3062.74	-13533	2	0	6643	7930	20213	5100	14573		1.08	Si
SLV 8	ini.	3468.73	-12142	2	0	6643	7930	20213	5100	14573		1.2	Si
SLV 8	fin.	-3900.71	-14478	2	0	6643	7930	20213	5100	14573		1.01	Si
SLV 3	ini.	4097.62	-17360	2	0	6643	7930	20213	5100	14573		0.84	No
SLV 3	fin.	-4243.42	-18280	2	0	6643	7930	20213	5100	14573		0.8	No
SLV 1	ini.	3096.13	-15744	2	0	6643	7930	20213	5100	14573		0.93	No
SLV 1	fin.	-3140.94	-15537	2	0	6643	7930	20213	5100	14573		0.94	No
SLD 2	ini.	2598.56	-13351	2	0	6643	7930	20213	5100	14573		1.09	Si
SLD 2	fin.	-2720.44	-13410	2	0	6643	7930	20213	5100	14573		1.09	Si
SLV 7	ini.	3052.63	-10462	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 7	fin.	-3537.46	-12801	2	0	6643	7930	20213	5100	14573		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.272	SLV 4	Si
V_SLV	0.702	SLV 4	No
PF_SLU	7.626	SLU 83	Si
V_SLU	1.81	SLU 83	Si

Trave di accoppiamento 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.813	6.576	-1.95	0.05	2	-16.813	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	3530.16	-7096	-0.0004186	0.0001872	0.0035	2		10722.86	10722.86	No	3.04	Si
SLU 84	fin.	-709.35	-5174	-0.0000721	0.0001872	0.0035	2		10737.13	10737.13	No	15.14	Si
SLU 81	ini.	3503.43	-7072	-0.0004149	0.0001872	0.0035	2		10722.86	10722.86	No	3.06	Si
SLU 81	fin.	-720.47	-5154	-0.0000733	0.0001872	0.0035	2		10737.13	10737.13	No	14.9	Si
SLU 74	ini.	3447.15	-6962	-0.0004069	0.0001872	0.0035	2		10722.86	10722.86	No	3.11	Si
SLU 74	fin.	-711.29	-5066	-0.0000723	0.0001872	0.0035	2		10737.13	10737.13	No	15.1	Si
SLU 75	ini.	3432.94	-6883	-0.0004049	0.0001872	0.0035	2		10722.86	10722.86	No	3.12	Si
SLU 75	fin.	-701.23	-4993	-0.0000713	0.0001872	0.0035	2		10737.13	10737.13	No	15.31	Si
SLU 83	ini.	3544.37	-7174	-0.0004207	0.0001872	0.0035	2		10722.86	10722.86	No	3.03	Si
SLU 83	fin.	-719.4	-5246	-0.0000732	0.0001872	0.0035	2		10737.13	10737.13	No	14.93	Si
SLU 77	ini.	3488.09	-7064	-0.0004127	0.0001872	0.0035	2		10722.86	10722.86	No	3.07	Si
SLU 77	fin.	-710.22	-5158	-0.0000722	0.0001872	0.0035	2		10737.13	10737.13	No	15.12	Si
SLU 79	ini.	3465.34	-7010	-0.0004095	0.0001872	0.0035	2		10722.86	10722.86	No	3.09	Si
SLU 79	fin.	-708.44	-5113	-0.000072	0.0001872	0.0035	2		10737.13	10737.13	No	15.16	Si
SLU 80	ini.	3451.13	-6932	-0.0004075	0.0001872	0.0035	2		10722.86	10722.86	No	3.11	Si
SLU 80	fin.	-698.38	-5041	-0.000071	0.0001872	0.0035	2		10737.13	10737.13	No	15.37	Si
SLU 82	ini.	3489.22	-6993	-0.0004129	0.0001872	0.0035	2		10722.86	10722.86	No	3.07	Si
SLU 82	fin.	-710.41	-5081	-0.0000722	0.0001872	0.0035	2		10737.13	10737.13	No	15.11	Si
SLU 78	ini.	3473.88	-6986	-0.0004107	0.0001872	0.0035	2		10722.86	10722.86	No	3.09	Si
SLU 78	fin.	-700.17	-5085	-0.0000712	0.0001872	0.0035	2		10737.13	10737.13	No	15.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	3473.88	-7942	2	0	6250	7930	13475	5100	14180	No	1.79	Si
SLU 78	fin.	-700.17	-3160	2	0	6250	7930	13475	5100	14180	No	4.49	Si
SLU 79	ini.	3465.34	-7952	2	0	6250	7930	13475	5100	14180	No	1.78	Si
SLU 79	fin.	-708.44	-3141	2	0	6250	7930	13475	5100	14180	No	4.51	Si
SLU 84	ini.	3530.16	-8076	2	0	6250	7930	13475	5100	14180	No	1.76	Si
SLU 84	fin.	-709.35	-3187	2	0	6250	7930	13475	5100	14180	No	4.45	Si
SLU 80	ini.	3451.13	-7888	2	0	6250	7930	13475	5100	14180	No	1.8	Si
SLU 80	fin.	-698.38	-3153	2	0	6250	7930	13475	5100	14180	No	4.5	Si
SLU 81	ini.	3503.43	-8047	2	0	6250	7930	13475	5100	14180	No	1.76	Si
SLU 81	fin.	-720.47	-3181	2	0	6250	7930	13475	5100	14180	No	4.46	Si
SLU 83	ini.	3544.37	-8140	2	0	6250	7930	13475	5100	14180	No	1.74	Si
SLU 83	fin.	-719.4	-3175	2	0	6250	7930	13475	5100	14180	No	4.47	Si
SLU 82	ini.	3489.22	-7983	2	0	6250	7930	13475	5100	14180	No	1.78	Si
SLU 82	fin.	-710.41	-3193	2	0	6250	7930	13475	5100	14180	No	4.44	Si
SLU 74	ini.	3447.15	-7913	2	0	6250	7930	13475	5100	14180	No	1.79	Si
SLU 74	fin.	-711.29	-3153	2	0	6250	7930	13475	5100	14180	No	4.5	Si
SLU 77	ini.	3488.09	-8006	2	0	6250	7930	13475	5100	14180	No	1.77	Si
SLU 77	fin.	-710.22	-3148	2	0	6250	7930	13475	5100	14180	No	4.5	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	3432.94	-7849	2	0	6250	7930	13475	5100	14180	No	1.81	Si
SLU 75	fin.	-701.23	-3165	2	0	6250	7930	13475	5100	14180	No	4.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	4807.12	-10684	-0.0005733	0.0002807	0.0035	2		15635.95	15635.95		3.25	Si
SLV 12	fin.	-1949.75	-6696	-0.000205	0.0002807	0.0035	2		15648.46	15648.46		8.03	Si
SLV 15	ini.	5691.57	-7574	-0.0007066	0.0002807	0.0035	2		15635.95	15635.95		2.75	Si
SLV 15	fin.	-2708.28	-741	-0.0002933	0.0002807	0.0035	2		15648.46	15648.46		5.78	Si
SLD 16	ini.	4944.6	-6972	-0.0005935	0.0002807	0.0035	2		15635.95	15635.95		3.16	Si
SLD 16	fin.	-2266.21	-1271	-0.0002411	0.0002807	0.0035	2		15648.46	15648.46		6.91	Si
SLD 14	ini.	4499.81	-5018	-0.0005291	0.0002807	0.0035	2		15635.95	15635.95		3.47	Si
SLD 14	fin.	-2059.58	543	-0.0002174	0.0002807	0.0035	2		15648.46	15648.46		7.6	Si
SLD 13	ini.	4044.87	-4568	-0.0004657	0.0002807	0.0035	2		15635.95	15635.95		3.87	Si
SLD 13	fin.	-1710.71	147	-0.0001783	0.0002807	0.0035	2		15648.46	15648.46		9.15	Si
SLV 14	ini.	5688.71	-5147	-0.0007062	0.0002807	0.0035	2		15635.95	15635.95		2.75	Si
SLV 14	fin.	-2922.67	2788	-0.0003194	0.0002807	0.0035	2		15648.46	15648.46		5.35	Si
SLD 15	ini.	4489.66	-6522	-0.0005277	0.0002807	0.0035	2		15635.95	15635.95		3.48	Si
SLD 15	fin.	-1917.33	-1668	-0.0002013	0.0002807	0.0035	2		15648.46	15648.46		8.16	Si
SLV 16	ini.	6403.63	-8278	-0.0008207	0.0002807	0.0035	2		15635.95	15635.95		2.44	Si
SLV 16	fin.	-3254.34	-120	-0.0003609	0.0002807	0.0035	2		15648.46	15648.46		4.81	Si
SLV 13	ini.	4976.64	-4443	-0.0005982	0.0002807	0.0035	2		15635.95	15635.95		3.14	Si
SLV 13	fin.	-2376.61	2167	-0.0002539	0.0002807	0.0035	2		15648.46	15648.46		6.58	Si
SLV 11	ini.	4327.71	-10210	-0.0005049	0.0002807	0.0035	2		15635.95	15635.95		3.61	Si
SLV 11	fin.	-1582.11	-7114	-0.0001642	0.0002807	0.0035	2		15648.46	15648.46		9.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	5688.71	-16530	2	0	6643	7930	20213	5100	14573		0.88	No
SLV 14	fin.	-2922.67	-15851	2	0	6643	7930	20213	5100	14573		0.92	No
SLV 3	ini.	-920.6	5615	2	0	6643	7930	20213	5100	14573		2.6	Si
SLV 3	fin.	1869.8	11116	2	0	6643	7930	20213	5100	14573		1.31	Si
SLD 16	ini.	4944.6	-14138	2	0	6643	7930	20213	5100	14573		1.03	Si
SLD 16	fin.	-2266.21	-10696	2	0	6643	7930	20213	5100	14573		1.36	Si
SLV 12	ini.	4807.12	-13915	2	0	6643	7930	20213	5100	14573		1.05	Si
SLV 12	fin.	-1949.75	-6079	2	0	6643	7930	20213	5100	14573		2.4	Si
SLD 15	ini.	4489.66	-12479	2	0	6643	7930	20213	5100	14573		1.17	Si
SLD 15	fin.	-1917.33	-9089	2	0	6643	7930	20213	5100	14573		1.6	Si
SLV 15	ini.	5691.57	-16494	2	0	6643	7930	20213	5100	14573		0.88	No
SLV 15	fin.	-2708.28	-12894	2	0	6643	7930	20213	5100	14573		1.13	Si
SLV 11	ini.	4327.71	-12167	2	0	6643	7930	20213	5100	14573		1.2	Si
SLV 11	fin.	-1582.11	-4386	2	0	6643	7930	20213	5100	14573		3.32	Si
SLV 13	ini.	4976.64	-13934	2	0	6643	7930	20213	5100	14573		1.05	Si
SLV 13	fin.	-2376.61	-13336	2	0	6643	7930	20213	5100	14573		1.09	Si
SLV 16	ini.	6403.63	-19090	2	0	6643	7930	20213	5100	14573		0.76	No
SLV 16	fin.	-3254.34	-15409	2	0	6643	7930	20213	5100	14573		0.95	No
SLD 14	ini.	4499.81	-12545	2	0	6643	7930	20213	5100	14573		1.16	Si
SLD 14	fin.	-2059.58	-10973	2	0	6643	7930	20213	5100	14573		1.33	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.442	SLV 16	Si
V_SLV	0.763	SLV 16	No
PF_SLU	3.025	SLU 83	Si
V_SLU	1.742	SLU 83	Si

Trave di accoppiamento 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.888	6.576	-1.95	0.05	2	-11.888	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	1373.7	-8289	-0.0001441	0.0001872	0.0035	2		10722.86	10722.86	No	7.81	Si
SLU 83	fin.	1514.13	-8365	-0.0001599	0.0001872	0.0035	2		10722.86	10722.86	No	7.08	Si
SLU 75	ini.	1322.71	-7969	-0.0001384	0.0001872	0.0035	2		10722.86	10722.86	No	8.11	Si
SLU 75	fin.	1452.83	-8036	-0.000153	0.0001872	0.0035	2		10722.86	10722.86	No	7.38	Si
SLU 79	ini.	1331.33	-8117	-0.0001394	0.0001872	0.0035	2		10722.86	10722.86	No	8.05	Si
SLU 79	fin.	1475.17	-8197	-0.0001555	0.0001872	0.0035	2		10722.86	10722.86	No	7.27	Si
SLU 74	ini.	1323.59	-8061	-0.0001385	0.0001872	0.0035	2		10722.86	10722.86	No	8.1	Si
SLU 74	fin.	1462.39	-8138	-0.0001541	0.0001872	0.0035	2		10722.86	10722.86	No	7.33	Si
SLU 78	ini.	1341.41	-8092	-0.0001405	0.0001872	0.0035	2		10722.86	10722.86	No	7.99	Si
SLU 78	fin.	1476.51	-8161	-0.0001557	0.0001872	0.0035	2		10722.86	10722.86	No	7.26	Si
SLU 80	ini.	1330.46	-8025	-0.0001393	0.0001872	0.0035	2		10722.86	10722.86	No	8.06	Si
SLU 80	fin.	1465.61	-8095	-0.0001544	0.0001872	0.0035	2		10722.86	10722.86	No	7.32	Si
SLU 84	ini.	1372.82	-8197	-0.000144	0.0001872	0.0035	2		10722.86	10722.86	No	7.81	Si
SLU 84	fin.	1504.58	-8263	-0.0001589	0.0001872	0.0035	2		10722.86	10722.86	No	7.13	Si
SLU 77	ini.	1342.28	-8184	-0.0001406	0.0001872	0.0035	2		10722.86	10722.86	No	7.99	Si
SLU 77	fin.	1486.07	-8264	-0.0001568	0.0001872	0.0035	2		10722.86	10722.86	No	7.22	Si
SLU 82	ini.	1354.12	-8074	-0.0001419	0.0001872	0.0035	2		10722.86	10722.86	No	7.92	Si
SLU 82	fin.	1480.9	-8137	-0.0001562	0.0001872	0.0035	2		10722.86	10722.86	No	7.24	Si
SLU 81	ini.	1355	-8166	-0.000142	0.0001872	0.0035	2		10722.86	10722.86	No	7.91	Si
SLU 81	fin.	1490.46	-8240	-0.0001572	0.0001872	0.0035	2		10722.86	10722.86	No	7.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	1342.28	-3084	2	0	6250	7930	13475	5100	14180	No	4.6	Si
SLU 77	fin.	1486.07	3345	2	0	6250	7930	13475	5100	14180	No	4.24	Si
SLU 83	ini.	1373.7	-3161	2	0	6250	7930	13475	5100	14180	No	4.49	Si
SLU 83	fin.	1514.13	3405	2	0	6250	7930	13475	5100	14180	No	4.16	Si
SLU 80	ini.	1330.46	-3031	2	0	6250	7930	13475	5100	14180	No	4.68	Si
SLU 80	fin.	1465.61	3262	2	0	6250	7930	13475	5100	14180	No	4.35	Si
SLU 78	ini.	1341.41	-3060	2	0	6250	7930	13475	5100	14180	No	4.63	Si
SLU 78	fin.	1476.51	3288	2	0	6250	7930	13475	5100	14180	No	4.31	Si
SLU 79	ini.	1331.33	-3055	2	0	6250	7930	13475	5100	14180	No	4.64	Si
SLU 79	fin.	1475.17	3319	2	0	6250	7930	13475	5100	14180	No	4.27	Si
SLU 82	ini.	1354.12	-3088	2	0	6250	7930	13475	5100	14180	No	4.59	Si
SLU 82	fin.	1480.9	3287	2	0	6250	7930	13475	5100	14180	No	4.31	Si
SLU 74	ini.	1323.59	-3035	2	0	6250	7930	13475	5100	14180	No	4.67	Si
SLU 74	fin.	1462.39	3285	2	0	6250	7930	13475	5100	14180	No	4.32	Si
SLU 81	ini.	1355	-3112	2	0	6250	7930	13475	5100	14180	No	4.56	Si
SLU 81	fin.	1490.46	3344	2	0	6250	7930	13475	5100	14180	No	4.24	Si
SLU 84	ini.	1372.82	-3137	2	0	6250	7930	13475	5100	14180	No	4.52	Si
SLU 84	fin.	1504.58	3348	2	0	6250	7930	13475	5100	14180	No	4.24	Si
SLU 75	ini.	1322.71	-3011	2	0	6250	7930	13475	5100	14180	No	4.71	Si
SLU 75	fin.	1452.83	3228	2	0	6250	7930	13475	5100	14180	No	4.39	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1741.49	-3637	-0.0001817	0.0002807	0.0035	2		15648.46	15648.46		8.99	Si
SLV 4	fin.	4330.98	-10342	-0.0005053	0.0002807	0.0035	2		15635.95	15635.95		3.61	Si
SLV 14	ini.	3980.42	-8185	-0.0004569	0.0002807	0.0035	2		15635.95	15635.95		3.93	Si
SLV 14	fin.	-2954.89	-276	-0.0003234	0.0002807	0.0035	2		15648.46	15648.46		5.3	Si
SLD 1	ini.	-1138.67	-1509	-0.0001164	0.0002807	0.0035	2		15648.46	15648.46		13.74	Si
SLD 1	fin.	3192.76	-6370	-0.0003535	0.0002807	0.0035	2		15635.95	15635.95		4.9	Si
SLV 1	ini.	-2283.48	798	-0.0002431	0.0002807	0.0035	2		15648.46	15648.46		6.85	Si
SLV 1	fin.	4433.49	-6774	-0.0005197	0.0002807	0.0035	2		15635.95	15635.95		3.53	Si
SLV 16	ini.	4058.38	-11807	-0.0004676	0.0002807	0.0035	2		15635.95	15635.95		3.85	Si
SLV 16	fin.	-2461.26	-4354	-0.0002639	0.0002807	0.0035	2		15648.46	15648.46		6.36	Si
SLV 2	ini.	-1819.44	-15	-0.0001904	0.0002807	0.0035	2		15648.46	15648.46		8.6	Si
SLV 2	fin.	3837.35	-6264	-0.0004376	0.0002807	0.0035	2		15635.95	15635.95		4.07	Si
SLV 13	ini.	3516.38	-7372	-0.0003951	0.0002807	0.0035	2		15635.95	15635.95		4.45	Si
SLV 13	fin.	-2358.75	-785	-0.0002519	0.0002807	0.0035	2		15648.46	15648.46		6.63	Si
SLD 3	ini.	-1090.68	-3765	-0.0001114	0.0002807	0.0035	2		15648.46	15648.46		14.35	Si
SLD 3	fin.	3501.36	-8911	-0.0003931	0.0002807	0.0035	2		15635.95	15635.95		4.47	Si
SLV 3	ini.	-2205.53	-2824	-0.0002341	0.0002807	0.0035	2		15648.46	15648.46		7.1	Si
SLV 3	fin.	4927.11	-10851	-0.0005909	0.0002807	0.0035	2		15635.95	15635.95		3.17	Si
SLV 15	ini.	3594.33	-10994	-0.0004053	0.0002807	0.0035	2		15635.95	15635.95		4.35	Si
SLV 15	fin.	-1865.13	-4863	-0.0001955	0.0002807	0.0035	2		15648.46	15648.46		8.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2205.53	12042	2	0	6643	7930	20213	5100	14573		1.21	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	fin.	4927.11	17683	2	0	6643	7930	20213	5100	14573		0.82	No
SLV 2	ini.	-1819.44	10501	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 2	fin.	3837.35	12931	2	0	6643	7930	20213	5100	14573		1.13	Si
SLV 13	ini.	3516.38	-13663	2	0	6643	7930	20213	5100	14573		1.07	Si
SLV 13	fin.	-2358.75	-10948	2	0	6643	7930	20213	5100	14573		1.33	Si
SLD 3	ini.	-1090.68	6980	2	0	6643	7930	20213	5100	14573		2.09	Si
SLD 3	fin.	3501.36	12072	2	0	6643	7930	20213	5100	14573		1.21	Si
SLV 16	ini.	4058.38	-16870	2	0	6643	7930	20213	5100	14573		0.86	No
SLV 16	fin.	-2461.26	-10890	2	0	6643	7930	20213	5100	14573		1.34	Si
SLV 15	ini.	3594.33	-14496	2	0	6643	7930	20213	5100	14573		1.01	Si
SLV 15	fin.	-1865.13	-8543	2	0	6643	7930	20213	5100	14573		1.71	Si
SLV 14	ini.	3980.42	-16037	2	0	6643	7930	20213	5100	14573		0.91	No
SLV 14	fin.	-2954.89	-13295	2	0	6643	7930	20213	5100	14573		1.1	Si
SLV 4	ini.	-1741.49	9668	2	0	6643	7930	20213	5100	14573		1.51	Si
SLV 4	fin.	4330.98	15336	2	0	6643	7930	20213	5100	14573		0.95	No
SLV 1	ini.	-2283.48	12876	2	0	6643	7930	20213	5100	14573		1.13	Si
SLV 1	fin.	4433.49	15278	2	0	6643	7930	20213	5100	14573		0.95	No
SLD 16	ini.	2913.56	-11492	2	0	6643	7930	20213	5100	14573		1.27	Si
SLD 16	fin.	-1220.53	-6184	2	0	6643	7930	20213	5100	14573		2.36	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.173	SLV 3	Si
V_SLV	0.824	SLV 3	No
PF_SLU	7.082	SLU 83	Si
V_SLU	4.165	SLU 83	Si

Trave di accoppiamento 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.576	-1.95	0.05	2	-6.963	6.576	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	278.4	-6210	-0.0000278	0.0001872	0.0035	2		10722.86	10722.86	No	38.52	Si
SLU 78	fin.	2341.22	-6105	-0.0002591	0.0001872	0.0035	2		10722.86	10722.86	No	4.58	Si
SLU 74	ini.	277.26	-6203	-0.0000277	0.0001872	0.0035	2		10722.86	10722.86	No	38.67	Si
SLU 74	fin.	2316.37	-6081	-0.0002559	0.0001872	0.0035	2		10722.86	10722.86	No	4.63	Si
SLU 75	ini.	274.94	-6127	-0.0000275	0.0001872	0.0035	2		10722.86	10722.86	No	39	Si
SLU 75	fin.	2307.43	-6024	-0.0002548	0.0001872	0.0035	2		10722.86	10722.86	No	4.65	Si
SLU 80	ini.	269.66	-6157	-0.000027	0.0001872	0.0035	2		10722.86	10722.86	No	39.76	Si
SLU 80	fin.	2328.97	-6064	-0.0002575	0.0001872	0.0035	2		10722.86	10722.86	No	4.6	Si
SLU 79	ini.	271.98	-6233	-0.0000272	0.0001872	0.0035	2		10722.86	10722.86	No	39.43	Si
SLU 79	fin.	2337.91	-6120	-0.0002586	0.0001872	0.0035	2		10722.86	10722.86	No	4.59	Si
SLU 83	ini.	310.95	-6413	-0.0000311	0.0001872	0.0035	2		10722.86	10722.86	No	34.48	Si
SLU 83	fin.	2373	-6250	-0.0002631	0.0001872	0.0035	2		10722.86	10722.86	No	4.52	Si
SLU 84	ini.	308.63	-6337	-0.0000309	0.0001872	0.0035	2		10722.86	10722.86	No	34.74	Si
SLU 84	fin.	2364.06	-6193	-0.0002619	0.0001872	0.0035	2		10722.86	10722.86	No	4.54	Si
SLU 77	ini.	280.72	-6287	-0.0000281	0.0001872	0.0035	2		10722.86	10722.86	No	38.2	Si
SLU 77	fin.	2350.16	-6162	-0.0002602	0.0001872	0.0035	2		10722.86	10722.86	No	4.56	Si
SLU 81	ini.	307.5	-6330	-0.0000308	0.0001872	0.0035	2		10722.86	10722.86	No	34.87	Si
SLU 81	fin.	2339.21	-6169	-0.0002588	0.0001872	0.0035	2		10722.86	10722.86	No	4.58	Si
SLU 82	ini.	305.18	-6253	-0.0000305	0.0001872	0.0035	2		10722.86	10722.86	No	35.14	Si
SLU 82	fin.	2330.27	-6112	-0.0002577	0.0001872	0.0035	2		10722.86	10722.86	No	4.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	310.95	-191	2	0	6250	7930	13475	5100	14180	No	74.21	Si
SLU 83	fin.	2373	4791	2	0	6250	7930	13475	5100	14180	No	2.96	Si
SLU 75	ini.	274.94	-34	2	0	6250	7930	13475	5100	14180	No	413.47	Si
SLU 75	fin.	2307.43	4670	2	0	6250	7930	13475	5100	14180	No	3.04	Si
SLU 79	ini.	271.98	-66	2	0	6250	7930	13475	5100	14180	No	214.55	Si
SLU 79	fin.	2337.91	4757	2	0	6250	7930	13475	5100	14180	No	2.98	Si
SLU 80	ini.	269.66	-19	2	0	6250	7930	13475	5100	14180	No	728.36	Si
SLU 80	fin.	2328.97	4730	2	0	6250	7930	13475	5100	14180	No	3	Si
SLU 78	ini.	278.4	-49	2	0	6250	7930	13475	5100	14180	No	287.7	Si
SLU 78	fin.	2341.22	4749	2	0	6250	7930	13475	5100	14180	No	2.99	Si
SLU 81	ini.	307.5	-176	2	0	6250	7930	13475	5100	14180	No	80.53	Si
SLU 81	fin.	2339.21	4713	2	0	6250	7930	13475	5100	14180	No	3.01	Si
SLU 74	ini.	277.26	-81	2	0	6250	7930	13475	5100	14180	No	175.24	Si
SLU 74	fin.	2316.37	4697	2	0	6250	7930	13475	5100	14180	No	3.02	Si
SLU 82	ini.	305.18	-129	2	0	6250	7930	13475	5100	14180	No	109.52	Si
SLU 82	fin.	2330.27	4686	2	0	6250	7930	13475	5100	14180	No	3.03	Si
SLU 77	ini.	280.72	-96	2	0	6250	7930	13475	5100	14180	No	147.85	Si
SLU 77	fin.	2350.16	4776	2	0	6250	7930	13475	5100	14180	No	2.97	Si
SLU 84	ini.	308.63	-144	2	0	6250	7930	13475	5100	14180	No	98.16	Si
SLU 84	fin.	2364.06	4764	2	0	6250	7930	13475	5100	14180	No	2.98	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1837.44	-2593	-0.0001924	0.0002807	0.0035	2		15648.46	15648.46		8.52	Si
SLV 4	fin.	3596.84	-5515	-0.0004056	0.0002807	0.0035	2		15635.95	15635.95		4.35	Si
SLV 1	ini.	-2518.48	934	-0.0002706	0.0002807	0.0035	2		15648.46	15648.46		6.21	Si
SLV 1	fin.	3576.65	-3450	-0.000403	0.0002807	0.0035	2		15635.95	15635.95		4.37	Si
SLV 3	ini.	-2285.62	-2138	-0.0002433	0.0002807	0.0035	2		15648.46	15648.46		6.85	Si
SLV 3	fin.	3985.04	-5739	-0.0004575	0.0002807	0.0035	2		15635.95	15635.95		3.92	Si
SLD 3	ini.	-1414.13	-2852	-0.0001459	0.0002807	0.0035	2		15648.46	15648.46		11.07	Si
SLD 3	fin.	3124.58	-5155	-0.0003449	0.0002807	0.0035	2		15635.95	15635.95		5	Si
SLV 2	ini.	-2070.29	479	-0.0002186	0.0002807	0.0035	2		15648.46	15648.46		7.56	Si
SLV 2	fin.	3188.45	-3226	-0.0003529	0.0002807	0.0035	2		15635.95	15635.95		4.9	Si
SLD 1	ini.	-1559.92	-936	-0.0001618	0.0002807	0.0035	2		15648.46	15648.46		10.03	Si
SLD 1	fin.	2870.41	-3729	-0.0003133	0.0002807	0.0035	2		15635.95	15635.95		5.45	Si
SLV 8	ini.	-21.27	-8453	-0.0000021	0.0002807	0.0035	2		15648.46	15648.46		735.63	Si
SLV 8	fin.	2758.76	-8019	-0.0002997	0.0002807	0.0035	2		15635.95	15635.95		5.67	Si
SLV 7	ini.	-323.02	-8147	-0.0000322	0.0002807	0.0035	2		15648.46	15648.46		48.44	Si
SLV 7	fin.	3020.12	-8170	-0.0003318	0.0002807	0.0035	2		15635.95	15635.95		5.18	Si
SLV 16	ini.	2784.61	-9309	-0.0003028	0.0002807	0.0035	2		15635.95	15635.95		5.62	Si
SLV 16	fin.	-340.17	-4936	-0.000034	0.0002807	0.0035	2		15648.46	15648.46		46	Si
SLD 4	ini.	-1127.79	-3142	-0.0001153	0.0002807	0.0035	2		15648.46	15648.46		13.88	Si
SLD 4	fin.	2876.56	-5012	-0.000314	0.0002807	0.0035	2		15635.95	15635.95		5.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2285.62	8402	2	0	6643	7930	20213	5100	14573		1.73	Si
SLV 3	fin.	3985.04	11688	2	0	6643	7930	20213	5100	14573		1.25	Si
SLV 15	ini.	2336.43	-8358	2	0	6643	7930	20213	5100	14573		1.74	Si
SLV 15	fin.	48.03	-2473	2	0	6643	7930	20213	5100	14573		5.89	Si
SLD 3	ini.	-1414.13	5447	2	0	6643	7930	20213	5100	14573		2.68	Si
SLD 3	fin.	3124.58	8642	2	0	6643	7930	20213	5100	14573		1.69	Si
SLV 1	ini.	-2518.48	10270	2	0	6643	7930	20213	5100	14573		1.42	Si
SLV 1	fin.	3576.65	10605	2	0	6643	7930	20213	5100	14573		1.37	Si
SLV 14	ini.	2551.75	-7980	2	0	6643	7930	20213	5100	14573		1.83	Si
SLV 14	fin.	-748.56	-5048	2	0	6643	7930	20213	5100	14573		2.89	Si
SLV 16	ini.	2784.61	-9847	2	0	6643	7930	20213	5100	14573		1.48	Si
SLV 16	fin.	-340.17	-3965	2	0	6643	7930	20213	5100	14573		3.68	Si
SLV 2	ini.	-2070.29	8780	2	0	6643	7930	20213	5100	14573		1.66	Si
SLV 2	fin.	3188.45	9113	2	0	6643	7930	20213	5100	14573		1.6	Si
SLV 4	ini.	-1837.44	6913	2	0	6643	7930	20213	5100	14573		2.11	Si
SLV 4	fin.	3596.84	10196	2	0	6643	7930	20213	5100	14573		1.43	Si
SLV 7	ini.	-323.02	114	2	0	6643	7930	20213	5100	14573		127.68	Si
SLV 7	fin.	3020.12	7751	2	0	6643	7930	20213	5100	14573		1.88	Si
SLD 1	ini.	-1559.92	6611	2	0	6643	7930	20213	5100	14573		2.2	Si
SLD 1	fin.	2870.41	7968	2	0	6643	7930	20213	5100	14573		1.83	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.924	SLV 3	Si
V_SLV	1.247	SLV 3	Si
PF_SLU	4.519	SLU 83	Si
V_SLU	2.96	SLU 83	Si

Trave di accoppiamento 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.778	1.366	0.05	0.67	0.62	-9.778	2.071	0.05	0.67	0.62	0.705	0.2	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	247.94	-855	-0.0002836	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.84	Si
SLU 79	fin.	-1495.43	-4183	-0.0037673	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.97	No
SLU 80	ini.	246.15	-840	-0.0002813	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.89	Si
SLU 80	fin.	-1471.9	-4110	-0.0036533	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.99	No
SLU 83	ini.	254.57	-872	-0.0002922	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.69	Si
SLU 83	fin.	-1528.96	-4267	-0.0039251	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.95	No
SLU 77	ini.	249.49	-860	-0.0002856	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.81	Si
SLU 77	fin.	-1505.58	-4213	-0.0038156	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.96	No
SLU 74	ini.	246.3	-848	-0.0002815	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.88	Si
SLU 74	fin.	-1483.73	-4149	-0.0037109	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.98	No
SLU 82	ini.	249.59	-845	-0.0002858	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.8	Si
SLU 82	fin.	-1483.58	-4130	-0.0037102	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.98	No
SLU 75	ini.	244.51	-834	-0.0002792	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.92	Si
SLU 75	fin.	-1460.19	-4076	-0.0035955	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.99	No
SLU 84	ini.	252.78	-858	-0.0002899	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.73	Si
SLU 84	fin.	-1505.42	-4194	-0.0038148	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.96	No
SLU 81	ini.	251.38	-859	-0.0002881	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.76	Si
SLU 81	fin.	-1507.12	-4203	-0.0038229	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.96	No
SLU 78	ini.	247.7	-846	-0.0002833	0.0002246	0.0035	0.62		1448.65	1448.65	No	5.85	Si
SLU 78	fin.	-1482.04	-4140	-0.0037027	0.0002246	0.0035	0.62		1452.54	1452.54	No	0.98	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	251.38	-2727	0.62	0	1033	4916	2228	1581	3809	No	1.4	Si
SLU 81	fin.	-1507.12	-5350	0.62	10833	1033	4916	2228	1581	3809	No	0.71	No
SLU 79	ini.	247.94	-2736	0.62	0	1033	4916	2228	1581	3809	No	1.39	Si
SLU 79	fin.	-1495.43	-5283	0.62	10833	1033	4916	2228	1581	3809	No	0.72	No
SLU 74	ini.	246.3	-2711	0.62	0	1033	4916	2228	1581	3809	No	1.41	Si
SLU 74	fin.	-1483.73	-5245	0.62	10833	1033	4916	2228	1581	3809	No	0.73	No
SLU 78	ini.	247.7	-2706	0.62	0	1033	4916	2228	1581	3809	No	1.41	Si
SLU 78	fin.	-1482.04	-5247	0.62	10833	1033	4916	2228	1581	3809	No	0.73	No
SLU 83	ini.	254.57	-2774	0.62	0	1033	4916	2228	1581	3809	No	1.37	Si
SLU 83	fin.	-1528.96	-5421	0.62	10833	1033	4916	2228	1581	3809	No	0.7	No
SLU 77	ini.	249.49	-2757	0.62	0	1033	4916	2228	1581	3809	No	1.38	Si
SLU 77	fin.	-1505.58	-5316	0.62	10833	1033	4916	2228	1581	3809	No	0.72	No
SLU 75	ini.	244.51	-2659	0.62	0	1033	4916	2228	1581	3809	No	1.43	Si
SLU 75	fin.	-1460.19	-5175	0.62	10833	1033	4916	2228	1581	3809	No	0.74	No
SLU 80	ini.	246.15	-2684	0.62	0	1033	4916	2228	1581	3809	No	1.42	Si
SLU 80	fin.	-1471.9	-5213	0.62	10833	1033	4916	2228	1581	3809	No	0.73	No
SLU 82	ini.	249.59	-2676	0.62	0	1033	4916	2228	1581	3809	No	1.42	Si
SLU 82	fin.	-1483.58	-5280	0.62	10833	1033	4916	2228	1581	3809	No	0.72	No
SLU 84	ini.	252.78	-2723	0.62	0	1033	4916	2228	1581	3809	No	1.4	Si
SLU 84	fin.	-1505.42	-5352	0.62	10833	1033	4916	2228	1581	3809	No	0.71	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	252.1	-1029	-0.0002797	0.0003369	0.0035	0.62		1487.52	1487.52		5.9	Si
SLD 12	fin.	-1861.79	-5462	-0.0049668	0.0003369	0.0035	0.62		1491.48	1491.48		0.8	No
SLV 8	ini.	305.67	-1352	-0.000346	0.0003369	0.0035	0.62		1487.52	1487.52		4.87	Si
SLV 8	fin.	-2431.25	-7251	-0.00704	0.0003369	0.0035	0.62		1491.48	1491.48		0.61	No
SLV 12	ini.	306.33	-1288	-0.0003468	0.0003369	0.0035	0.62		1487.52	1487.52		4.86	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	fin.	-2374.44	-7047	-0.0068407	0.0003369	0.0035	0.62		1491.48	1491.48		0.63	No
SLD 11	ini.	252.66	-1035	-0.0002804	0.0003369	0.0035	0.62		1487.52	1487.52		5.89	Si
SLD 11	fin.	-1872.03	-5494	-0.0050061	0.0003369	0.0035	0.62		1491.48	1491.48		0.8	No
SLD 7	ini.	252.14	-1076	-0.0002798	0.0003369	0.0035	0.62		1487.52	1487.52		5.9	Si
SLD 7	fin.	-1908.2	-5623	-0.0051442	0.0003369	0.0035	0.62		1491.48	1491.48		0.78	No
SLD 8	ini.	251.58	-1071	-0.0002791	0.0003369	0.0035	0.62		1487.52	1487.52		5.91	Si
SLD 8	fin.	-1897.96	-5591	-0.0051052	0.0003369	0.0035	0.62		1491.48	1491.48		0.79	No
SLV 4	ini.	208.03	-907	-0.0002274	0.0003369	0.0035	0.62		1487.52	1487.52		7.15	Si
SLV 4	fin.	-1517.59	-4449	-0.0035277	0.0003369	0.0035	0.62		1491.48	1491.48		0.98	No
SLV 11	ini.	307.22	-1297	-0.0003479	0.0003369	0.0035	0.62		1487.52	1487.52		4.84	Si
SLV 11	fin.	-2390.71	-7098	-0.0068979	0.0003369	0.0035	0.62		1491.48	1491.48		0.62	No
SLV 3	ini.	209.35	-921	-0.0002289	0.0003369	0.0035	0.62		1487.52	1487.52		7.11	Si
SLV 3	fin.	-1541.76	-4525	-0.0036402	0.0003369	0.0035	0.62		1491.48	1491.48		0.97	No
SLV 7	ini.	306.56	-1362	-0.0003471	0.0003369	0.0035	0.62		1487.52	1487.52		4.85	Si
SLV 7	fin.	-2447.53	-7302	-0.0070969	0.0003369	0.0035	0.62		1491.48	1491.48		0.61	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	306.33	-4822	0.62	0	1550	4916	3342	1581	4923		1.02	Si
SLV 12	fin.	-2374.44	-7595	0.62	16250	1550	4916	3342	1581	4923		0.65	No
SLV 4	ini.	208.03	-3015	0.62	0	1550	4916	3342	1581	4923		1.63	Si
SLV 4	fin.	-1517.59	-5155	0.62	0	1550	4916	3342	1581	4923		0.96	No
SLV 7	ini.	306.56	-5012	0.62	0	1550	4916	3342	1581	4923		0.98	No
SLV 7	fin.	-2447.53	-7860	0.62	16250	1550	4916	3342	1581	4923		0.63	No
SLV 11	ini.	307.22	-4858	0.62	0	1550	4916	3342	1581	4923		1.01	Si
SLV 11	fin.	-2390.71	-7641	0.62	16250	1550	4916	3342	1581	4923		0.64	No
SLD 11	ini.	252.66	-3732	0.62	0	1550	4916	3342	1581	4923		1.32	Si
SLD 11	fin.	-1872.03	-6110	0.62	0	1550	4916	3342	1581	4923		0.81	No
SLV 8	ini.	305.67	-4976	0.62	0	1550	4916	3342	1581	4923		0.99	No
SLV 8	fin.	-2431.25	-7813	0.62	16250	1550	4916	3342	1581	4923		0.63	No
SLD 12	ini.	252.1	-3710	0.62	0	1550	4916	3342	1581	4923		1.33	Si
SLD 12	fin.	-1861.79	-6081	0.62	0	1550	4916	3342	1581	4923		0.81	No
SLD 7	ini.	252.14	-3828	0.62	0	1550	4916	3342	1581	4923		1.29	Si
SLD 7	fin.	-1908.2	-6247	0.62	0	1550	4916	3342	1581	4923		0.79	No
SLD 8	ini.	251.58	-3805	0.62	0	1550	4916	3342	1581	4923		1.29	Si
SLD 8	fin.	-1897.96	-6217	0.62	0	1550	4916	3342	1581	4923		0.79	No
SLV 3	ini.	209.35	-3069	0.62	0	1550	4916	3342	1581	4923		1.6	Si
SLV 3	fin.	-1541.76	-5224	0.62	0	1550	4916	3342	1581	4923		0.94	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.609	SLV 7	No
V_SLV	0.626	SLV 7	No
PF_SLU	0.95	SLU 83	No
V_SLU	0.703	SLU 83	No

Trave di accoppiamento 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-10.553	-3.284	0.1	0.67	0.57	-8.253	-3.284	0.1	0.67	0.57	2.3	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-194.32	-1127	-0.0002652	0.0001872	0.0035	0.57		912.83	912.83	No	4.7	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-717.16	-3003	-0.0013505	0.0001872	0.0035	0.57		912.83	912.83	No	1.27	Si
SLU 83	ini.	-201.74	-1189	-0.0002768	0.0001872	0.0035	0.57		912.83	912.83	No	4.52	Si
SLU 83	fin.	-751.98	-3114	-0.0014472	0.0001872	0.0035	0.57		912.83	912.83	No	1.21	Si
SLU 81	ini.	-201.8	-1192	-0.0002769	0.0001872	0.0035	0.57		912.83	912.83	No	4.52	Si
SLU 81	fin.	-746.12	-3080	-0.0014306	0.0001872	0.0035	0.57		912.83	912.83	No	1.22	Si
SLU 82	ini.	-203.73	-1198	-0.00028	0.0001872	0.0035	0.57		912.83	912.83	No	4.48	Si
SLU 82	fin.	-747.49	-3088	-0.0014345	0.0001872	0.0035	0.57		912.83	912.83	No	1.22	Si
SLU 80	ini.	-196.25	-1133	-0.0002682	0.0001872	0.0035	0.57		912.83	912.83	No	4.65	Si
SLU 80	fin.	-718.54	-3011	-0.0013542	0.0001872	0.0035	0.57		912.83	912.83	No	1.27	Si
SLU 74	ini.	-195.07	-1133	-0.0002664	0.0001872	0.0035	0.57		912.83	912.83	No	4.68	Si
SLU 74	fin.	-714.03	-2986	-0.001342	0.0001872	0.0035	0.57		912.83	912.83	No	1.28	Si
SLU 77	ini.	-195.01	-1130	-0.0002663	0.0001872	0.0035	0.57		912.83	912.83	No	4.68	Si
SLU 77	fin.	-719.9	-3019	-0.0013579	0.0001872	0.0035	0.57		912.83	912.83	No	1.27	Si
SLU 75	ini.	-197	-1139	-0.0002694	0.0001872	0.0035	0.57		912.83	912.83	No	4.63	Si
SLU 75	fin.	-715.41	-2994	-0.0013457	0.0001872	0.0035	0.57		912.83	912.83	No	1.28	Si
SLU 84	ini.	-203.67	-1195	-0.0002799	0.0001872	0.0035	0.57		912.83	912.83	No	4.48	Si
SLU 84	fin.	-753.36	-3122	-0.0014512	0.0001872	0.0035	0.57		912.83	912.83	No	1.21	Si
SLU 78	ini.	-196.94	-1136	-0.0002693	0.0001872	0.0035	0.57		912.83	912.83	No	4.64	Si
SLU 78	fin.	-721.27	-3027	-0.0013617	0.0001872	0.0035	0.57		912.83	912.83	No	1.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-195.07	-269	0.57	0	635	4520	3840	1454	5155	No	19.15	Si
SLU 74	fin.	-714.03	-3593	0.57	0	635	4520	3840	1454	5155	No	1.43	Si
SLU 81	ini.	-201.8	-182	0.57	0	635	4520	3840	1454	5155	No	28.36	Si
SLU 81	fin.	-746.12	-3778	0.57	0	635	4520	3840	1454	5155	No	1.36	Si
SLU 78	ini.	-196.94	-308	0.57	0	635	4520	3840	1454	5155	No	16.74	Si
SLU 78	fin.	-721.27	-3617	0.57	0	635	4520	3840	1454	5155	No	1.43	Si
SLU 80	ini.	-196.25	-295	0.57	0	635	4520	3840	1454	5155	No	17.48	Si
SLU 80	fin.	-718.54	-3607	0.57	0	635	4520	3840	1454	5155	No	1.43	Si
SLU 84	ini.	-203.67	-220	0.57	0	635	4520	3840	1454	5155	No	23.39	Si
SLU 84	fin.	-753.36	-3801	0.57	0	635	4520	3840	1454	5155	No	1.36	Si
SLU 82	ini.	-203.73	-195	0.57	0	635	4520	3840	1454	5155	No	26.43	Si
SLU 82	fin.	-747.49	-3781	0.57	0	635	4520	3840	1454	5155	No	1.36	Si
SLU 83	ini.	-201.74	-207	0.57	0	635	4520	3840	1454	5155	No	24.89	Si
SLU 83	fin.	-751.98	-3798	0.57	0	635	4520	3840	1454	5155	No	1.36	Si
SLU 77	ini.	-195.01	-295	0.57	0	635	4520	3840	1454	5155	No	17.5	Si
SLU 77	fin.	-719.9	-3614	0.57	0	635	4520	3840	1454	5155	No	1.43	Si
SLU 79	ini.	-194.32	-282	0.57	0	635	4520	3840	1454	5155	No	18.31	Si
SLU 79	fin.	-717.16	-3604	0.57	0	635	4520	3840	1454	5155	No	1.43	Si
SLU 75	ini.	-197	-282	0.57	0	635	4520	3840	1454	5155	No	18.25	Si
SLU 75	fin.	-715.41	-3596	0.57	0	635	4520	3840	1454	5155	No	1.43	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	202.92	1191	-0.000269	0.0002807	0.0035	0.57		1278.06	1278.06		6.3	Si
SLV 16	fin.	-859.71	-4000	-0.0016557	0.0002807	0.0035	0.57		1281.66	1281.66		1.49	Si
SLD 13	ini.	67.97	533	-0.000085	0.0002807	0.0035	0.57		1278.06	1278.06		18.8	Si
SLD 13	fin.	-835.98	-3911	-0.0015837	0.0002807	0.0035	0.57		1281.66	1281.66		1.53	Si
SLV 14	ini.	136.8	973	-0.0001759	0.0002807	0.0035	0.57		1278.06	1278.06		9.34	Si
SLV 14	fin.	-983.88	-4701	-0.0020964	0.0002807	0.0035	0.57		1281.66	1281.66		1.3	Si
SLV 9	ini.	-132.71	-437	-0.0001698	0.0002807	0.0035	0.57		1281.66	1281.66		9.66	Si
SLV 9	fin.	-844.97	-4028	-0.0016106	0.0002807	0.0035	0.57		1281.66	1281.66		1.52	Si
SLV 13	ini.	181.71	1262	-0.0002384	0.0002807	0.0035	0.57		1278.06	1278.06		7.03	Si
SLV 13	fin.	-1039.25	-4977	-0.0023359	0.0002807	0.0035	0.57		1281.66	1281.66		1.23	Si
SLV 15	ini.	247.83	1481	-0.0003363	0.0002807	0.0035	0.57		1278.06	1278.06		5.16	Si
SLV 15	fin.	-915.08	-4276	-0.0018375	0.0002807	0.0035	0.57		1281.66	1281.66		1.4	Si
SLV 10	ini.	-162.95	-632	-0.0002113	0.0002807	0.0035	0.57		1281.66	1281.66		7.87	Si
SLV 10	fin.	-807.69	-3843	-0.0015016	0.0002807	0.0035	0.57		1281.66	1281.66		1.59	Si
SLD 16	ini.	80.4	484	-0.000101	0.0002807	0.0035	0.57		1278.06	1278.06		15.9	Si
SLD 16	fin.	-723.28	-3297	-0.0012766	0.0002807	0.0035	0.57		1281.66	1281.66		1.77	Si
SLD 15	ini.	109.09	669	-0.0001386	0.0002807	0.0035	0.57		1278.06	1278.06		11.72	Si
SLD 15	fin.	-758.65	-3474	-0.0013677	0.0002807	0.0035	0.57		1281.66	1281.66		1.69	Si
SLD 14	ini.	39.28	348	-0.0000486	0.0002807	0.0035	0.57		1278.06	1278.06		32.54	Si
SLD 14	fin.	-800.61	-3734	-0.0014817	0.0002807	0.0035	0.57		1281.66	1281.66		1.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	136.8	-1884	0.57	0	712	4520	5761	1454	5232		2.78	Si
SLV 14	fin.	-983.88	-4157	0.57	0	712	4520	5761	1454	5232		1.26	Si
SLD 15	ini.	109.09	-1028	0.57	0	712	4520	5761	1454	5232		5.09	Si
SLD 15	fin.	-758.65	-3411	0.57	0	712	4520	5761	1454	5232		1.53	Si
SLV 9	ini.	-132.71	-1737	0.57	0	712	4520	5761	1454	5232		3.01	Si
SLV 9	fin.	-844.97	-3602	0.57	0	712	4520	5761	1454	5232		1.45	Si
SLV 15	ini.	247.83	-1454	0.57	0	712	4520	5761	1454	5232		3.6	Si
SLV 15	fin.	-915.08	-3977	0.57	0	712	4520	5761	1454	5232		1.32	Si
SLV 16	ini.	202.92	-1285	0.57	0	712	4520	5761	1454	5232		4.07	Si
SLV 16	fin.	-859.71	-3775	0.57	0	712	4520	5761	1454	5232		1.39	Si
SLV 13	ini.	181.71	-2053	0.57	0	712	4520	5761	1454	5232		2.55	Si
SLV 13	fin.	-1039.25	-4359	0.57	0	712	4520	5761	1454	5232		1.2	Si
SLD 14	ini.	39.28	-1293	0.57	0	712	4520	5761	1454	5232		4.05	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	fin.	-800.61	-3520	0.57	0	712	4520	5761	1454	5232		1.49	Si
SLD 16	ini.	80.4	-920	0.57	0	712	4520	5761	1454	5232		5.69	Si
SLD 16	fin.	-723.28	-3281	0.57	0	712	4520	5761	1454	5232		1.59	Si
SLD 13	ini.	67.97	-1401	0.57	0	712	4520	5761	1454	5232		3.73	Si
SLD 13	fin.	-835.98	-3649	0.57	0	712	4520	5761	1454	5232		1.43	Si
SLV 10	ini.	-162.95	-1623	0.57	0	712	4520	5761	1454	5232		3.22	Si
SLV 10	fin.	-807.69	-3466	0.57	0	712	4520	5761	1454	5232		1.51	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.233	SLV 13	Si
V_SLV	1.2	SLV 13	Si
PF_SLU	1.212	SLU 84	Si
V_SLU	1.356	SLU 84	Si

Trave di accoppiamento 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	1.366	0.15	0.67	0.52	-5.158	2.071	0.15	0.67	0.52	0.705	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	246.7	-757	-0.0004236	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.1	Si
SLU 79	fin.	-1272.58	-4733	-0.0051038	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.8	No
SLU 75	ini.	240.1	-725	-0.0004102	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.21	Si
SLU 75	fin.	-1244.29	-4612	-0.0049419	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.82	No
SLU 83	ini.	253.84	-777	-0.0004383	0.0002246	0.0035	0.52		1010.95	1010.95	No	3.98	Si
SLU 83	fin.	-1310.01	-4868	-0.0053148	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.77	No
SLU 78	ini.	243.21	-734	-0.0004165	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.16	Si
SLU 78	fin.	-1259.6	-4669	-0.0050298	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.81	No
SLU 77	ini.	248.58	-764	-0.0004275	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.07	Si
SLU 77	fin.	-1281.44	-4767	-0.0051541	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.79	No
SLU 81	ini.	250.73	-768	-0.0004319	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.03	Si
SLU 81	fin.	-1294.7	-4811	-0.0052289	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.78	No
SLU 82	ini.	245.36	-738	-0.0004209	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.12	Si
SLU 82	fin.	-1272.85	-4713	-0.0051054	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.8	No
SLU 80	ini.	241.33	-727	-0.0004127	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.19	Si
SLU 80	fin.	-1250.73	-4635	-0.004979	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.81	No
SLU 74	ini.	245.47	-755	-0.0004211	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.12	Si
SLU 74	fin.	-1266.14	-4710	-0.0050671	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.8	No
SLU 84	ini.	248.47	-747	-0.0004272	0.0002246	0.0035	0.52		1010.95	1010.95	No	4.07	Si
SLU 84	fin.	-1288.16	-4770	-0.0051921	0.0002246	0.0035	0.52		1014.2	1014.2	No	0.79	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	246.7	-1386	0.52	0	1300	4123	2803	1326	4129	No	2.98	Si
SLU 79	fin.	-1272.58	-5785	0.52	0	1300	4123	2803	1326	4129	No	0.71	No
SLU 84	ini.	248.47	-1382	0.52	0	1300	4123	2803	1326	4129	No	2.99	Si
SLU 84	fin.	-1288.16	-5872	0.52	0	1300	4123	2803	1326	4129	No	0.7	No
SLU 82	ini.	245.36	-1365	0.52	0	1300	4123	2803	1326	4129	No	3.03	Si
SLU 82	fin.	-1272.85	-5803	0.52	0	1300	4123	2803	1326	4129	No	0.71	No
SLU 80	ini.	241.33	-1342	0.52	0	1300	4123	2803	1326	4129	No	3.08	Si
SLU 80	fin.	-1250.73	-5701	0.52	0	1300	4123	2803	1326	4129	No	0.72	No
SLU 75	ini.	240.1	-1336	0.52	0	1300	4123	2803	1326	4129	No	3.09	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	fin.	-1244.29	-5670	0.52	0	1300	4123	2803	1326	4129	No	0.73	No
SLU 78	ini.	243.21	-1354	0.52	0	1300	4123	2803	1326	4129	No	3.05	Si
SLU 78	fin.	-1259.6	-5739	0.52	0	1300	4123	2803	1326	4129	No	0.72	No
SLU 83	ini.	253.84	-1426	0.52	0	1300	4123	2803	1326	4129	No	2.89	Si
SLU 83	fin.	-1310.01	-5956	0.52	0	1300	4123	2803	1326	4129	No	0.69	No
SLU 74	ini.	245.47	-1381	0.52	0	1300	4123	2803	1326	4129	No	2.99	Si
SLU 74	fin.	-1266.14	-5754	0.52	0	1300	4123	2803	1326	4129	No	0.72	No
SLU 77	ini.	248.58	-1398	0.52	0	1300	4123	2803	1326	4129	No	2.95	Si
SLU 77	fin.	-1281.44	-5823	0.52	0	1300	4123	2803	1326	4129	No	0.71	No
SLU 81	ini.	250.73	-1409	0.52	0	1300	4123	2803	1326	4129	No	2.93	Si
SLU 81	fin.	-1294.7	-5887	0.52	0	1300	4123	2803	1326	4129	No	0.7	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	336.31	-1079	-0.0005813	0.0003369	0.0035	0.52		998.47	998.47		2.97	Si
SLV 15	fin.	-1470.92	-5564	-0.0058073	0.0003369	0.0035	0.52		1001.89	1001.89		0.68	No
SLD 8	ini.	330.32	-1569	-0.0005688	0.0003369	0.0035	0.52		998.47	998.47		3.02	Si
SLD 8	fin.	-1571.14	-6448	-0.0063235	0.0003369	0.0035	0.52		1001.89	1001.89		0.64	No
SLV 8	ini.	428.87	-2210	-0.000786	0.0003369	0.0035	0.52		998.47	998.47		2.33	Si
SLV 8	fin.	-2003.34	-8418	-0.0084501	0.0003369	0.0035	0.52		1001.89	1001.89		0.5	No
SLV 16	ini.	323.86	-1003	-0.0005554	0.0003369	0.0035	0.52		998.47	998.47		3.08	Si
SLV 16	fin.	-1419.09	-5328	-0.0055376	0.0003369	0.0035	0.52		1001.89	1001.89		0.71	No
SLV 12	ini.	474.9	-2215	-0.0008962	0.0003369	0.0035	0.52		998.47	998.47		2.1	Si
SLV 12	fin.	-2133.43	-8778	-0.0090704	0.0003369	0.0035	0.52		1001.89	1001.89		0.47	No
SLV 7	ini.	437.25	-2261	-0.0008056	0.0003369	0.0035	0.52		998.47	998.47		2.28	Si
SLV 7	fin.	-2038.23	-8578	-0.0086171	0.0003369	0.0035	0.52		1001.89	1001.89		0.49	No
SLD 12	ini.	359.14	-1571	-0.0006298	0.0003369	0.0035	0.52		998.47	998.47		2.78	Si
SLD 12	fin.	-1654.09	-6678	-0.0067427	0.0003369	0.0035	0.52		1001.89	1001.89		0.61	No
SLD 7	ini.	335.59	-1601	-0.0005798	0.0003369	0.0035	0.52		998.47	998.47		2.98	Si
SLD 7	fin.	-1593.09	-6548	-0.0064352	0.0003369	0.0035	0.52		1001.89	1001.89		0.63	No
SLV 11	ini.	483.29	-2266	-0.0009169	0.0003369	0.0035	0.52		998.47	998.47		2.07	Si
SLV 11	fin.	-2168.33	-8937	-0.0092357	0.0003369	0.0035	0.52		1001.89	1001.89		0.46	No
SLD 11	ini.	364.42	-1603	-0.0006412	0.0003369	0.0035	0.52		998.47	998.47		2.74	Si
SLD 11	fin.	-1676.04	-6778	-0.0068525	0.0003369	0.0035	0.52		1001.89	1001.89		0.6	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	437.25	-3394	0.52	0	1950	4123	4205	1326	5531		1.63	Si
SLV 7	fin.	-2038.23	-8411	0.52	0	1950	4123	4205	1326	5531		0.66	No
SLD 11	ini.	364.42	-2553	0.52	0	1950	4123	4205	1326	5531		2.17	Si
SLD 11	fin.	-1676.04	-7099	0.52	0	1950	4123	4205	1326	5531		0.78	No
SLV 12	ini.	474.9	-3459	0.52	0	1950	4123	4205	1326	5531		1.6	Si
SLV 12	fin.	-2133.43	-8886	0.52	0	1950	4123	4205	1326	5531		0.62	No
SLV 8	ini.	428.87	-3322	0.52	0	1950	4123	4205	1326	5531		1.67	Si
SLV 8	fin.	-2003.34	-8278	0.52	0	1950	4123	4205	1326	5531		0.67	No
SLV 11	ini.	483.29	-3531	0.52	0	1950	4123	4205	1326	5531		1.57	Si
SLV 11	fin.	-2168.33	-9019	0.52	0	1950	4123	4205	1326	5531		0.61	No
SLV 16	ini.	323.86	-1857	0.52	0	1950	4123	4205	1326	5531		2.98	Si
SLV 16	fin.	-1419.09	-6250	0.52	0	1950	4123	4205	1326	5531		0.88	No
SLD 12	ini.	359.14	-2508	0.52	0	1950	4123	4205	1326	5531		2.21	Si
SLD 12	fin.	-1654.09	-7016	0.52	0	1950	4123	4205	1326	5531		0.79	No
SLD 7	ini.	335.59	-2465	0.52	0	1950	4123	4205	1326	5531		2.24	Si
SLD 7	fin.	-1593.09	-6710	0.52	0	1950	4123	4205	1326	5531		0.82	No
SLD 8	ini.	330.32	-2419	0.52	0	1950	4123	4205	1326	5531		2.29	Si
SLD 8	fin.	-1571.14	-6626	0.52	0	1950	4123	4205	1326	5531		0.83	No
SLV 15	ini.	336.31	-1964	0.52	0	1950	4123	4205	1326	5531		2.82	Si
SLV 15	fin.	-1470.92	-6447	0.52	0	1950	4123	4205	1326	5531		0.86	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.462	SLV 11	No
V_SLV	0.613	SLV 11	No
PF_SLU	0.774	SLU 83	No
V_SLU	0.693	SLU 83	No

Trave di accoppiamento 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.498	-3.284	-1.95	0.05	2	-6.503	-3.284	-1.95	0.05	2	0.995	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 62	ini.	1427.97	-14909	-0.0001502	0.0001872	0.0035	2		10722.86	10722.86	No	7.51	Si
SLU 62	fin.	-962.3	-7318	-0.0000989	0.0001872	0.0035	2		10737.13	10737.13	No	11.16	Si
SLU 81	ini.	1512.25	-16450	-0.0001597	0.0001872	0.0035	2		10722.86	10722.86	No	7.09	Si
SLU 81	fin.	-936.23	-8239	-0.0000961	0.0001872	0.0035	2		10737.13	10737.13	No	11.47	Si
SLU 83	ini.	1550.12	-16564	-0.000164	0.0001872	0.0035	2		10722.86	10722.86	No	6.92	Si
SLU 83	fin.	-960.73	-8266	-0.0000988	0.0001872	0.0035	2		10737.13	10737.13	No	11.18	Si
SLU 77	ini.	1483.64	-16064	-0.0001565	0.0001872	0.0035	2		10722.86	10722.86	No	7.23	Si
SLU 77	fin.	-972.62	-7968	-0.0001	0.0001872	0.0035	2		10737.13	10737.13	No	11.04	Si
SLU 78	ini.	1404.5	-16178	-0.0001475	0.0001872	0.0035	2		10722.86	10722.86	No	7.63	Si
SLU 78	fin.	-920.63	-8124	-0.0000945	0.0001872	0.0035	2		10737.13	10737.13	No	11.66	Si
SLU 74	ini.	1445.76	-15949	-0.0001522	0.0001872	0.0035	2		10722.86	10722.86	No	7.42	Si
SLU 74	fin.	-948.11	-7941	-0.0000974	0.0001872	0.0035	2		10737.13	10737.13	No	11.32	Si
SLU 79	ini.	1484.18	-15990	-0.0001565	0.0001872	0.0035	2		10722.86	10722.86	No	7.22	Si
SLU 79	fin.	-973.84	-7925	-0.0001002	0.0001872	0.0035	2		10737.13	10737.13	No	11.03	Si
SLU 84	ini.	1470.98	-16679	-0.000155	0.0001872	0.0035	2		10722.86	10722.86	No	7.29	Si
SLU 84	fin.	-908.74	-8422	-0.0000932	0.0001872	0.0035	2		10737.13	10737.13	No	11.82	Si
SLU 80	ini.	1405.04	-16104	-0.0001476	0.0001872	0.0035	2		10722.86	10722.86	No	7.63	Si
SLU 80	fin.	-921.85	-8080	-0.0000946	0.0001872	0.0035	2		10737.13	10737.13	No	11.65	Si
SLU 82	ini.	1433.11	-16564	-0.0001508	0.0001872	0.0035	2		10722.86	10722.86	No	7.48	Si
SLU 82	fin.	-884.24	-8395	-0.0000906	0.0001872	0.0035	2		10737.13	10737.13	No	12.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	1405.04	-8857	2	0	6250	7890	13475	5100	14140	No	1.6	Si
SLU 80	fin.	-921.85	-11142	2	0	6250	7890	13475	5100	14140	No	1.27	Si
SLU 78	ini.	1404.5	-8884	2	0	6250	7890	13475	5100	14140	No	1.59	Si
SLU 78	fin.	-920.63	-11172	2	0	6250	7890	13475	5100	14140	No	1.27	Si
SLU 81	ini.	1512.25	-9157	2	0	6250	7890	13475	5100	14140	No	1.54	Si
SLU 81	fin.	-936.23	-11450	2	0	6250	7890	13475	5100	14140	No	1.23	Si
SLU 77	ini.	1483.64	-9052	2	0	6250	7890	13475	5100	14140	No	1.56	Si
SLU 77	fin.	-972.62	-11351	2	0	6250	7890	13475	5100	14140	No	1.25	Si
SLU 84	ini.	1470.98	-9134	2	0	6250	7890	13475	5100	14140	No	1.55	Si
SLU 84	fin.	-908.74	-11422	2	0	6250	7890	13475	5100	14140	No	1.24	Si
SLU 75	ini.	1366.63	-8739	2	0	6250	7890	13475	5100	14140	No	1.62	Si
SLU 75	fin.	-896.12	-11021	2	0	6250	7890	13475	5100	14140	No	1.28	Si
SLU 82	ini.	1433.11	-8989	2	0	6250	7890	13475	5100	14140	No	1.57	Si
SLU 82	fin.	-884.24	-11271	2	0	6250	7890	13475	5100	14140	No	1.25	Si
SLU 79	ini.	1484.18	-9025	2	0	6250	7890	13475	5100	14140	No	1.57	Si
SLU 79	fin.	-973.84	-11322	2	0	6250	7890	13475	5100	14140	No	1.25	Si
SLU 83	ini.	1550.12	-9302	2	0	6250	7890	13475	5100	14140	No	1.52	Si
SLU 83	fin.	-960.73	-11601	2	0	6250	7890	13475	5100	14140	No	1.22	Si
SLU 74	ini.	1445.76	-8907	2	0	6250	7890	13475	5100	14140	No	1.59	Si
SLU 74	fin.	-948.11	-11200	2	0	6250	7890	13475	5100	14140	No	1.26	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	4703.97	-16851	-0.0005584	0.0002807	0.0035	2		15635.95	15635.95		3.32	Si
SLV 14	fin.	-2565.78	-5689	-0.0002762	0.0002807	0.0035	2		15648.46	15648.46		6.1	Si
SLV 2	ini.	-5621.36	-9221	-0.000695	0.0002807	0.0035	2		15648.46	15648.46		2.78	Si
SLV 2	fin.	3098.6	-10353	-0.0003416	0.0002807	0.0035	2		15635.95	15635.95		5.05	Si
SLD 16	ini.	4518.47	-12034	-0.0005318	0.0002807	0.0035	2		15635.95	15635.95		3.46	Si
SLD 16	fin.	-2783.43	-2841	-0.0003024	0.0002807	0.0035	2		15648.46	15648.46		5.62	Si
SLV 15	ini.	7500.25	-12744	-0.0010094	0.0002807	0.0035	2		15635.95	15635.95		2.08	Si
SLV 15	fin.	-4496.39	-505	-0.0005281	0.0002807	0.0035	2		15648.46	15648.46		3.48	Si
SLD 15	ini.	5118.1	-12149	-0.0006192	0.0002807	0.0035	2		15635.95	15635.95		3.06	Si
SLD 15	fin.	-3117.07	-2320	-0.0003436	0.0002807	0.0035	2		15648.46	15648.46		5.02	Si
SLV 12	ini.	5268.53	-4921	-0.0006417	0.0002807	0.0035	2		15635.95	15635.95		2.97	Si
SLV 12	fin.	-3720.08	2274	-0.0004215	0.0002807	0.0035	2		15648.46	15648.46		4.21	Si
SLV 11	ini.	5900.42	-5042	-0.0007394	0.0002807	0.0035	2		15635.95	15635.95		2.65	Si
SLV 11	fin.	-4071.67	2824	-0.0004689	0.0002807	0.0035	2		15648.46	15648.46		3.84	Si
SLV 1	ini.	-4682.82	-9401	-0.0005548	0.0002807	0.0035	2		15648.46	15648.46		3.34	Si
SLV 1	fin.	2576.38	-9537	-0.0002777	0.0002807	0.0035	2		15635.95	15635.95		6.07	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	6561.71	-12564	-0.0008469	0.0002807	0.0035	2		15635.95	15635.95		2.38	Si
SLV 16	fin.	-3974.17	-1322	-0.0004556	0.0002807	0.0035	2		15648.46	15648.46		3.94	Si
SLV 13	ini.	5642.51	-17031	-0.000699	0.0002807	0.0035	2		15635.95	15635.95		2.77	Si
SLV 13	fin.	-3088	-4873	-0.0003399	0.0002807	0.0035	2		15648.46	15648.46		5.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 16	ini.	4518.47	-15203	2	0	6677	7890	20213	5100	14567		0.96	No
SLD 16	fin.	-2783.43	-17102	2	0	6677	7890	20213	5100	14567		0.85	No
SLV 14	ini.	4703.97	-17336	2	0	6677	7890	20213	5100	14567		0.84	No
SLV 14	fin.	-2565.78	-18837	2	0	6677	7890	20213	5100	14567		0.77	No
SLD 13	ini.	3960.54	-14873	2	0	6677	7890	20213	5100	14567		0.98	No
SLD 13	fin.	-2238.75	-16448	2	0	6677	7890	20213	5100	14567		0.89	No
SLV 11	ini.	5900.42	-16192	2	0	6677	7890	20213	5100	14567		0.9	No
SLV 11	fin.	-4071.67	-18750	2	0	6677	7890	20213	5100	14567		0.78	No
SLD 14	ini.	3360.9	-13299	2	0	6677	7890	20213	5100	14567		1.1	Si
SLD 14	fin.	-1905.11	-14890	2	0	6677	7890	20213	5100	14567		0.98	No
SLV 16	ini.	6561.71	-20386	2	0	6677	7890	20213	5100	14567		0.71	No
SLV 16	fin.	-3974.17	-22386	2	0	6677	7890	20213	5100	14567		0.65	No
SLV 12	ini.	5268.53	-14533	2	0	6677	7890	20213	5100	14567		1	Si
SLV 12	fin.	-3720.08	-17108	2	0	6677	7890	20213	5100	14567		0.85	No
SLV 13	ini.	5642.51	-19800	2	0	6677	7890	20213	5100	14567		0.74	No
SLV 13	fin.	-3088	-21276	2	0	6677	7890	20213	5100	14567		0.68	No
SLD 15	ini.	5118.1	-16777	2	0	6677	7890	20213	5100	14567		0.87	No
SLD 15	fin.	-3117.07	-18660	2	0	6677	7890	20213	5100	14567		0.78	No
SLV 15	ini.	7500.25	-22850	2	0	6677	7890	20213	5100	14567		0.64	No
SLV 15	fin.	-4496.39	-24825	2	0	6677	7890	20213	5100	14567		0.59	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.085	SLV 15	Si
V_SLV	0.587	SLV 15	No
PF_SLU	6.917	SLU 83	Si
V_SLU	1.219	SLU 83	Si

Trave di accoppiamento 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-3.403	-3.284	-1.95	0.05	2	-2.403	-3.284	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-4180.56	-2485	-0.0005129	0.0001872	0.0035	2		10737.13	10737.13	No	2.57	Si
SLU 82	fin.	3496.09	-6535	-0.0004138	0.0001872	0.0035	2		10722.86	10722.86	No	3.07	Si
SLU 73	ini.	-4074.84	-2398	-0.0004972	0.0001872	0.0035	2		10737.13	10737.13	No	2.63	Si
SLU 73	fin.	3391.65	-6339	-0.0003991	0.0001872	0.0035	2		10722.86	10722.86	No	3.16	Si
SLU 80	ini.	-4096.86	-2421	-0.0005004	0.0001872	0.0035	2		10737.13	10737.13	No	2.62	Si
SLU 80	fin.	3412.97	-6390	-0.0004021	0.0001872	0.0035	2		10722.86	10722.86	No	3.14	Si
SLU 75	ini.	-4101.38	-2415	-0.0005011	0.0001872	0.0035	2		10737.13	10737.13	No	2.62	Si
SLU 75	fin.	3420.62	-6392	-0.0004032	0.0001872	0.0035	2		10722.86	10722.86	No	3.13	Si
SLU 76	ini.	-4097.45	-2418	-0.0005005	0.0001872	0.0035	2		10737.13	10737.13	No	2.62	Si
SLU 76	fin.	3407.77	-6380	-0.0004014	0.0001872	0.0035	2		10722.86	10722.86	No	3.15	Si
SLU 81	ini.	-4145.75	-2459	-0.0005077	0.0001872	0.0035	2		10737.13	10737.13	No	2.59	Si
SLU 81	fin.	3479.71	-6489	-0.0004115	0.0001872	0.0035	2		10722.86	10722.86	No	3.08	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-4203.17	-2505	-0.0005163	0.0001872	0.0035	2		10737.13	10737.13	No	2.55	Si
SLU 84	fin.	3512.21	-6576	-0.0004161	0.0001872	0.0035	2		10722.86	10722.86	No	3.05	Si
SLU 83	ini.	-4168.36	-2479	-0.000511	0.0001872	0.0035	2		10737.13	10737.13	No	2.58	Si
SLU 83	fin.	3495.83	-6530	-0.0004138	0.0001872	0.0035	2		10722.86	10722.86	No	3.07	Si
SLU 77	ini.	-4089.18	-2409	-0.0004993	0.0001872	0.0035	2		10737.13	10737.13	No	2.63	Si
SLU 77	fin.	3420.36	-6387	-0.0004031	0.0001872	0.0035	2		10722.86	10722.86	No	3.14	Si
SLU 78	ini.	-4123.99	-2435	-0.0005044	0.0001872	0.0035	2		10737.13	10737.13	No	2.6	Si
SLU 78	fin.	3436.74	-6433	-0.0004055	0.0001872	0.0035	2		10722.86	10722.86	No	3.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-4097.45	9173	2	0	6250	7930	13475	5100	14180	No	1.55	Si
SLU 76	fin.	3407.77	14246	2	0	6250	7930	13475	5100	14180	No	1	No
SLU 81	ini.	-4145.75	9311	2	0	6250	7930	13475	5100	14180	No	1.52	Si
SLU 81	fin.	3479.71	14490	2	0	6250	7930	13475	5100	14180	No	0.98	No
SLU 77	ini.	-4089.18	9221	2	0	6250	7930	13475	5100	14180	No	1.54	Si
SLU 77	fin.	3420.36	14232	2	0	6250	7930	13475	5100	14180	No	1	No
SLU 75	ini.	-4101.38	9213	2	0	6250	7930	13475	5100	14180	No	1.54	Si
SLU 75	fin.	3420.62	14267	2	0	6250	7930	13475	5100	14180	No	0.99	No
SLU 82	ini.	-4180.56	9345	2	0	6250	7930	13475	5100	14180	No	1.52	Si
SLU 82	fin.	3496.09	14606	2	0	6250	7930	13475	5100	14180	No	0.97	No
SLU 78	ini.	-4123.99	9254	2	0	6250	7930	13475	5100	14180	No	1.53	Si
SLU 78	fin.	3436.74	14348	2	0	6250	7930	13475	5100	14180	No	0.99	No
SLU 83	ini.	-4168.36	9352	2	0	6250	7930	13475	5100	14180	No	1.52	Si
SLU 83	fin.	3495.83	14570	2	0	6250	7930	13475	5100	14180	No	0.97	No
SLU 73	ini.	-4074.84	9131	2	0	6250	7930	13475	5100	14180	No	1.55	Si
SLU 73	fin.	3391.65	14165	2	0	6250	7930	13475	5100	14180	No	1	Si
SLU 84	ini.	-4203.17	9386	2	0	6250	7930	13475	5100	14180	No	1.51	Si
SLU 84	fin.	3512.21	14686	2	0	6250	7930	13475	5100	14180	No	0.97	No
SLU 80	ini.	-4096.86	9191	2	0	6250	7930	13475	5100	14180	No	1.54	Si
SLU 80	fin.	3412.97	14249	2	0	6250	7930	13475	5100	14180	No	1	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-4578.76	-4066	-0.0005399	0.0002807	0.0035	2		15648.46	15648.46		3.42	Si
SLD 10	fin.	3289.76	-8026	-0.0003658	0.0002807	0.0035	2		15635.95	15635.95		4.75	Si
SLV 6	ini.	-6429.71	-4536	-0.0008242	0.0002807	0.0035	2		15648.46	15648.46		2.43	Si
SLV 6	fin.	4875.44	-10416	-0.0005833	0.0002807	0.0035	2		15635.95	15635.95		3.21	Si
SLD 6	ini.	-5086.29	-3432	-0.0006138	0.0002807	0.0035	2		15648.46	15648.46		3.08	Si
SLD 6	fin.	3938.6	-8155	-0.0004512	0.0002807	0.0035	2		15635.95	15635.95		3.97	Si
SLV 9	ini.	-5192.53	-5467	-0.0006297	0.0002807	0.0035	2		15648.46	15648.46		3.01	Si
SLV 9	fin.	3505.97	-9674	-0.0003937	0.0002807	0.0035	2		15635.95	15635.95		4.46	Si
SLV 1	ini.	-4774.16	-960	-0.000568	0.0002807	0.0035	2		15648.46	15648.46		3.28	Si
SLV 1	fin.	4384.03	-6109	-0.0005128	0.0002807	0.0035	2		15635.95	15635.95		3.57	Si
SLD 5	ini.	-4816.38	-3396	-0.0005741	0.0002807	0.0035	2		15648.46	15648.46		3.25	Si
SLD 5	fin.	3723.5	-7832	-0.0004224	0.0002807	0.0035	2		15635.95	15635.95		4.2	Si
SLD 2	ini.	-4461.37	-1236	-0.0005232	0.0002807	0.0035	2		15648.46	15648.46		3.51	Si
SLD 2	fin.	3963.8	-5936	-0.0004547	0.0002807	0.0035	2		15635.95	15635.95		3.94	Si
SLV 2	ini.	-5411.45	-1044	-0.0006627	0.0002807	0.0035	2		15648.46	15648.46		2.89	Si
SLV 2	fin.	4891.9	-6872	-0.0005857	0.0002807	0.0035	2		15635.95	15635.95		3.2	Si
SLV 5	ini.	-6000.64	-4480	-0.0007546	0.0002807	0.0035	2		15648.46	15648.46		2.61	Si
SLV 5	fin.	4533.51	-9902	-0.0005339	0.0002807	0.0035	2		15635.95	15635.95		3.45	Si
SLV 10	ini.	-5621.6	-5523	-0.000695	0.0002807	0.0035	2		15648.46	15648.46		2.78	Si
SLV 10	fin.	3847.9	-10188	-0.000439	0.0002807	0.0035	2		15635.95	15635.95		4.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-5086.29	11145	2	0	6643	7930	20213	5100	14573		1.31	Si
SLD 6	fin.	3938.6	16852	2	0	6643	7930	20213	5100	14573		0.86	No
SLV 5	ini.	-6000.64	12722	2	0	6643	7930	20213	5100	14573		1.15	Si
SLV 5	fin.	4533.51	19788	2	0	6643	7930	20213	5100	14573		0.74	No
SLD 9	ini.	-4308.85	8252	2	0	6643	7930	20213	5100	14573		1.77	Si
SLD 9	fin.	3074.66	14678	2	0	6643	7930	20213	5100	14573		0.99	No
SLV 10	ini.	-5621.6	10485	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 10	fin.	3847.9	18906	2	0	6643	7930	20213	5100	14573		0.77	No
SLD 5	ini.	-4816.38	10409	2	0	6643	7930	20213	5100	14573		1.4	Si
SLD 5	fin.	3723.5	16047	2	0	6643	7930	20213	5100	14573		0.91	No
SLD 10	ini.	-4578.76	8987	2	0	6643	7930	20213	5100	14573		1.62	Si
SLD 10	fin.	3289.76	15483	2	0	6643	7930	20213	5100	14573		0.94	No
SLV 9	ini.	-5192.53	9315	2	0	6643	7930	20213	5100	14573		1.56	Si
SLV 9	fin.	3505.97	17626	2	0	6643	7930	20213	5100	14573		0.83	No
SLV 2	ini.	-5411.45	14610	2	0	6643	7930	20213	5100	14573		1	No
SLV 2	fin.	4891.9	17247	2	0	6643	7930	20213	5100	14573		0.84	No
SLV 1	ini.	-4774.16	12873	2	0	6643	7930	20213	5100	14573		1.13	Si
SLV 1	fin.	4384.03	15345	2	0	6643	7930	20213	5100	14573		0.95	No
SLV 6	ini.	-6429.71	13892	2	0	6643	7930	20213	5100	14573		1.05	Si
SLV 6	fin.	4875.44	21068	2	0	6643	7930	20213	5100	14573		0.69	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.434	SLV 6	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.692	SLV 6	No
PF_SLU	2.555	SLU 84	Si
V_SLU	0.965	SLU 84	No

Trave di accoppiamento 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.914	5.876	-1.95	0.05	2	-1.914	5.876	-1.95	0.05	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-3370.37	-3895	-0.0003958	0.0001872	0.0035	2		10737.13	10737.13	No	3.19	Si
SLU 83	fin.	3848.46	-7104	-0.0004644	0.0001872	0.0035	2		10722.86	10722.86	No	2.79	Si
SLU 74	ini.	-3305.27	-3789	-0.0003867	0.0001872	0.0035	2		10737.13	10737.13	No	3.25	Si
SLU 74	fin.	3768.01	-6939	-0.0004527	0.0001872	0.0035	2		10722.86	10722.86	No	2.85	Si
SLU 80	ini.	-3278.73	-3766	-0.000383	0.0001872	0.0035	2		10737.13	10737.13	No	3.27	Si
SLU 80	fin.	3762.26	-6900	-0.0004519	0.0001872	0.0035	2		10722.86	10722.86	No	2.85	Si
SLU 81	ini.	-3325.68	-3827	-0.0003895	0.0001872	0.0035	2		10737.13	10737.13	No	3.23	Si
SLU 81	fin.	3787.63	-6987	-0.0004556	0.0001872	0.0035	2		10722.86	10722.86	No	2.83	Si
SLU 75	ini.	-3255.31	-3733	-0.0003798	0.0001872	0.0035	2		10737.13	10737.13	No	3.3	Si
SLU 75	fin.	3728.45	-6840	-0.000447	0.0001872	0.0035	2		10722.86	10722.86	No	2.88	Si
SLU 79	ini.	-3328.69	-3823	-0.0003899	0.0001872	0.0035	2		10737.13	10737.13	No	3.23	Si
SLU 79	fin.	3801.82	-6999	-0.0004576	0.0001872	0.0035	2		10722.86	10722.86	No	2.82	Si
SLU 78	ini.	-3300	-3802	-0.000386	0.0001872	0.0035	2		10737.13	10737.13	No	3.25	Si
SLU 78	fin.	3789.28	-6957	-0.0004558	0.0001872	0.0035	2		10722.86	10722.86	No	2.83	Si
SLU 82	ini.	-3275.72	-3770	-0.0003826	0.0001872	0.0035	2		10737.13	10737.13	No	3.28	Si
SLU 82	fin.	3748.08	-6888	-0.0004498	0.0001872	0.0035	2		10722.86	10722.86	No	2.86	Si
SLU 77	ini.	-3349.96	-3858	-0.0003929	0.0001872	0.0035	2		10737.13	10737.13	No	3.21	Si
SLU 77	fin.	3828.84	-7056	-0.0004615	0.0001872	0.0035	2		10722.86	10722.86	No	2.8	Si
SLU 84	ini.	-3320.41	-3839	-0.0003888	0.0001872	0.0035	2		10737.13	10737.13	No	3.23	Si
SLU 84	fin.	3808.9	-7005	-0.0004586	0.0001872	0.0035	2		10722.86	10722.86	No	2.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-3255.31	7303	2	0	6250	7930	13475	5100	14180	No	1.94	Si
SLU 75	fin.	3728.45	12633	2	0	6250	7930	13475	5100	14180	No	1.12	Si
SLU 80	ini.	-3278.73	7359	2	0	6250	7930	13475	5100	14180	No	1.93	Si
SLU 80	fin.	3762.26	12742	2	0	6250	7930	13475	5100	14180	No	1.11	Si
SLU 78	ini.	-3300	7405	2	0	6250	7930	13475	5100	14180	No	1.91	Si
SLU 78	fin.	3789.28	12835	2	0	6250	7930	13475	5100	14180	No	1.1	Si
SLU 84	ini.	-3320.41	7390	2	0	6250	7930	13475	5100	14180	No	1.92	Si
SLU 84	fin.	3808.9	12949	2	0	6250	7930	13475	5100	14180	No	1.1	Si
SLU 83	ini.	-3370.37	7487	2	0	6250	7930	13475	5100	14180	No	1.89	Si
SLU 83	fin.	3848.46	13116	2	0	6250	7930	13475	5100	14180	No	1.08	Si
SLU 81	ini.	-3325.68	7385	2	0	6250	7930	13475	5100	14180	No	1.92	Si
SLU 81	fin.	3787.63	12914	2	0	6250	7930	13475	5100	14180	No	1.1	Si
SLU 74	ini.	-3305.27	7401	2	0	6250	7930	13475	5100	14180	No	1.92	Si
SLU 74	fin.	3768.01	12800	2	0	6250	7930	13475	5100	14180	No	1.11	Si
SLU 79	ini.	-3328.69	7457	2	0	6250	7930	13475	5100	14180	No	1.9	Si
SLU 79	fin.	3801.82	12909	2	0	6250	7930	13475	5100	14180	No	1.1	Si
SLU 77	ini.	-3349.96	7503	2	0	6250	7930	13475	5100	14180	No	1.89	Si
SLU 77	fin.	3828.84	13002	2	0	6250	7930	13475	5100	14180	No	1.09	Si
SLU 82	ini.	-3275.72	7288	2	0	6250	7930	13475	5100	14180	No	1.95	Si
SLU 82	fin.	3748.08	12747	2	0	6250	7930	13475	5100	14180	No	1.11	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-5506.17	-6026	-0.0006772	0.0002807	0.0035	2		15648.46	15648.46		2.84	Si
SLV 8	fin.	5488.19	-10752	-0.0006752	0.0002807	0.0035	2		15635.95	15635.95		2.85	Si
SLD 11	ini.	-4206.73	-5361	-0.0004875	0.0002807	0.0035	2		15648.46	15648.46		3.72	Si
SLD 11	fin.	4357.29	-9279	-0.000509	0.0002807	0.0035	2		15635.95	15635.95		3.59	Si
SLV 12	ini.	-4884.13	-7017	-0.000584	0.0002807	0.0035	2		15648.46	15648.46		3.2	Si
SLV 12	fin.	5079.42	-11587	-0.0006134	0.0002807	0.0035	2		15635.95	15635.95		3.08	Si
SLD 8	ini.	-4303.21	-4702	-0.0005009	0.0002807	0.0035	2		15648.46	15648.46		3.64	Si
SLD 8	fin.	4397.48	-8499	-0.0005147	0.0002807	0.0035	2		15635.95	15635.95		3.56	Si
SLD 7	ini.	-4590.58	-4717	-0.0005415	0.0002807	0.0035	2		15648.46	15648.46		3.41	Si
SLD 7	fin.	4598.79	-8769	-0.0005433	0.0002807	0.0035	2		15635.95	15635.95		3.4	Si
SLD 12	ini.	-3919.36	-5346	-0.0004482	0.0002807	0.0035	2		15648.46	15648.46		3.99	Si
SLD 12	fin.	4155.98	-9009	-0.000481	0.0002807	0.0035	2		15635.95	15635.95		3.76	Si
SLV 7	ini.	-5962.99	-6050	-0.0007486	0.0002807	0.0035	2		15648.46	15648.46		2.62	Si
SLV 7	fin.	5808.2	-11181	-0.0007249	0.0002807	0.0035	2		15635.95	15635.95		2.69	Si
SLV 11	ini.	-5340.95	-7041	-0.000652	0.0002807	0.0035	2		15648.46	15648.46		2.93	Si
SLV 11	fin.	5399.42	-12016	-0.0006616	0.0002807	0.0035	2		15635.95	15635.95		2.9	Si
SLV 4	ini.	-3952.56	-2087	-0.0004527	0.0002807	0.0035	2		15648.46	15648.46		3.96	Si
SLV 4	fin.	3914.31	-5050	-0.000448	0.0002807	0.0035	2		15635.95	15635.95		3.99	Si
SLV 3	ini.	-4631.06	-2122	-0.0005473	0.0002807	0.0035	2		15648.46	15648.46		3.38	Si
SLV 3	fin.	4389.62	-5687	-0.0005136	0.0002807	0.0035	2		15635.95	15635.95		3.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 7	ini.	-4590.58	10131	2	0	6643	7930	20213	5100	14573		1.44	Si
SLD 7	fin.	4598.79	16156	2	0	6643	7930	20213	5100	14573		0.9	No
SLD 12	ini.	-3919.36	8483	2	0	6643	7930	20213	5100	14573		1.72	Si
SLD 12	fin.	4155.98	15162	2	0	6643	7930	20213	5100	14573		0.96	No
SLV 7	ini.	-5962.99	13017	2	0	6643	7930	20213	5100	14573		1.12	Si
SLV 7	fin.	5808.2	20547	2	0	6643	7930	20213	5100	14573		0.71	No
SLD 11	ini.	-4206.73	9172	2	0	6643	7930	20213	5100	14573		1.59	Si
SLD 11	fin.	4357.29	15945	2	0	6643	7930	20213	5100	14573		0.91	No
SLV 15	ini.	-2557.58	5581	2	0	6643	7930	20213	5100	14573		2.61	Si
SLV 15	fin.	3027.04	12588	2	0	6643	7930	20213	5100	14573		1.16	Si
SLV 12	ini.	-4884.13	10443	2	0	6643	7930	20213	5100	14573		1.4	Si
SLV 12	fin.	5079.42	19025	2	0	6643	7930	20213	5100	14573		0.77	No
SLV 11	ini.	-5340.95	11538	2	0	6643	7930	20213	5100	14573		1.26	Si
SLV 11	fin.	5399.42	20269	2	0	6643	7930	20213	5100	14573		0.72	No
SLD 8	ini.	-4303.21	9442	2	0	6643	7930	20213	5100	14573		1.54	Si
SLD 8	fin.	4397.48	15374	2	0	6643	7930	20213	5100	14573		0.95	No
SLV 8	ini.	-5506.17	11923	2	0	6643	7930	20213	5100	14573		1.22	Si
SLV 8	fin.	5488.19	19303	2	0	6643	7930	20213	5100	14573		0.75	No
SLV 3	ini.	-4631.06	10512	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 3	fin.	4389.62	13515	2	0	6643	7930	20213	5100	14573		1.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.624	SLV 7	Si
V_SLV	0.709	SLV 7	No
PF_SLU	2.786	SLU 83	Si
V_SLU	1.081	SLU 83	Si

Trave di accoppiamento 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.828	5.951	0.67	1.57	0.9	-22.828	5.951	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	106.92	-898	-0.0000534	0.0001872	0.0035	0.9		2959	2959	No	27.68	Si
SLU 83	fin.	937.09	-3453	-0.0005824	0.0001872	0.0035	0.9		2959	2959	No	3.16	Si
SLU 77	ini.	104.28	-889	-0.0000521	0.0001872	0.0035	0.9		2959	2959	No	28.37	Si
SLU 77	fin.	937.55	-3441	-0.0005827	0.0001872	0.0035	0.9		2959	2959	No	3.16	Si
SLU 79	ini.	102.21	-874	-0.000051	0.0001872	0.0035	0.9		2959	2959	No	28.95	Si
SLU 79	fin.	930.98	-3414	-0.0005777	0.0001872	0.0035	0.9		2959	2959	No	3.18	Si
SLU 81	ini.	100.5	-859	-0.0000501	0.0001872	0.0035	0.9		2959	2959	No	29.44	Si
SLU 81	fin.	926.86	-3403	-0.0005746	0.0001872	0.0035	0.9		2959	2959	No	3.19	Si
SLU 74	ini.	97.86	-850	-0.0000488	0.0001872	0.0035	0.9		2959	2959	No	30.24	Si
SLU 74	fin.	927.32	-3390	-0.0005749	0.0001872	0.0035	0.9		2959	2959	No	3.19	Si
SLU 75	ini.	102.72	-865	-0.0000513	0.0001872	0.0035	0.9		2959	2959	No	28.81	Si
SLU 75	fin.	908.85	-3344	-0.0005609	0.0001872	0.0035	0.9		2959	2959	No	3.26	Si
SLU 80	ini.	107.06	-890	-0.0000535	0.0001872	0.0035	0.9		2959	2959	No	27.64	Si
SLU 80	fin.	912.51	-3367	-0.0005637	0.0001872	0.0035	0.9		2959	2959	No	3.24	Si
SLU 82	ini.	105.36	-874	-0.0000526	0.0001872	0.0035	0.9		2959	2959	No	28.09	Si
SLU 82	fin.	908.39	-3356	-0.0005605	0.0001872	0.0035	0.9		2959	2959	No	3.26	Si
SLU 78	ini.	109.14	-904	-0.0000545	0.0001872	0.0035	0.9		2959	2959	No	27.11	Si
SLU 78	fin.	919.08	-3394	-0.0005687	0.0001872	0.0035	0.9		2959	2959	No	3.22	Si
SLU 84	ini.	111.77	-913	-0.0000559	0.0001872	0.0035	0.9		2959	2959	No	26.47	Si
SLU 84	fin.	918.62	-3407	-0.0005683	0.0001872	0.0035	0.9		2959	2959	No	3.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	109.14	342	0.9	0	1750	7137	3773	2295	6068	No	17.73	Si
SLU 78	fin.	919.08	1935	0.9	0	1750	7137	3773	2295	6068	No	3.14	Si
SLU 71	ini.	76.24	480	0.9	0	1750	7137	3773	2295	6068	No	12.63	Si
SLU 71	fin.	892.85	1931	0.9	0	1750	7137	3773	2295	6068	No	3.14	Si
SLU 81	ini.	100.5	390	0.9	0	1750	7137	3773	2295	6068	No	15.55	Si
SLU 81	fin.	926.86	1961	0.9	0	1750	7137	3773	2295	6068	No	3.09	Si
SLU 74	ini.	97.86	401	0.9	0	1750	7137	3773	2295	6068	No	15.14	Si
SLU 74	fin.	927.32	1973	0.9	0	1750	7137	3773	2295	6068	No	3.08	Si
SLU 66	ini.	71.9	499	0.9	0	1750	7137	3773	2295	6068	No	12.16	Si
SLU 66	fin.	889.19	1928	0.9	0	1750	7137	3773	2295	6068	No	3.15	Si
SLU 77	ini.	104.28	376	0.9	0	1750	7137	3773	2295	6068	No	16.14	Si
SLU 77	fin.	937.55	1990	0.9	0	1750	7137	3773	2295	6068	No	3.05	Si
SLU 79	ini.	102.21	382	0.9	0	1750	7137	3773	2295	6068	No	15.87	Si
SLU 79	fin.	930.98	1976	0.9	0	1750	7137	3773	2295	6068	No	3.07	Si
SLU 84	ini.	111.77	332	0.9	0	1750	7137	3773	2295	6068	No	18.3	Si
SLU 84	fin.	918.62	1924	0.9	0	1750	7137	3773	2295	6068	No	3.15	Si
SLU 83	ini.	106.92	365	0.9	0	1750	7137	3773	2295	6068	No	16.61	Si
SLU 83	fin.	937.09	1978	0.9	0	1750	7137	3773	2295	6068	No	3.07	Si
SLU 69	ini.	78.32	474	0.9	0	1750	7137	3773	2295	6068	No	12.8	Si
SLU 69	fin.	899.42	1945	0.9	0	1750	7137	3773	2295	6068	No	3.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-408.38	1602	-0.0002126	0.0002807	0.0035	0.9		2995.37	2995.37		7.33	Si
SLD 16	fin.	1497.69	-3732	-0.0009926	0.0002807	0.0035	0.9		2989.59	2989.59		2	Si
SLV 15	ini.	-497.4	2028	-0.0002634	0.0002807	0.0035	0.9		2995.37	2995.37		6.02	Si
SLV 15	fin.	1640.61	-3923	-0.0011227	0.0002807	0.0035	0.9		2989.59	2989.59		1.82	Si
SLV 7	ini.	127.66	-1036	-0.0000636	0.0002807	0.0035	0.9		2989.59	2989.59		23.42	Si
SLV 7	fin.	1476.19	-5022	-0.0009737	0.0002807	0.0035	0.9		2989.59	2989.59		2.03	Si
SLV 8	ini.	12.5	-520	-0.0000061	0.0002807	0.0035	0.9		2989.59	2989.59		239.17	Si
SLV 8	fin.	1704.57	-5435	-0.0011836	0.0002807	0.0035	0.9		2989.59	2989.59		1.75	Si
SLV 11	ini.	-223.77	612	-0.0001129	0.0002807	0.0035	0.9		2995.37	2995.37		13.39	Si
SLV 11	fin.	1953.62	-5573	-0.0014401	0.0002807	0.0035	0.9		2989.59	2989.59		1.53	Si
SLD 12	ini.	-195.96	529	-0.0000985	0.0002807	0.0035	0.9		2995.37	2995.37		15.29	Si
SLD 12	fin.	1613.93	-4625	-0.0010978	0.0002807	0.0035	0.9		2989.59	2989.59		1.85	Si
SLD 11	ini.	-123.52	205	-0.0000614	0.0002807	0.0035	0.9		2995.37	2995.37		24.25	Si
SLD 11	fin.	1470.27	-4365	-0.0009686	0.0002807	0.0035	0.9		2989.59	2989.59		2.03	Si
SLD 8	ini.	28.41	-523	-0.000014	0.0002807	0.0035	0.9		2989.59	2989.59		105.23	Si
SLD 8	fin.	1310.02	-4276	-0.0008331	0.0002807	0.0035	0.9		2989.59	2989.59		2.28	Si
SLV 16	ini.	-668.44	2794	-0.000367	0.0002807	0.0035	0.9		2995.37	2995.37		4.48	Si
SLV 16	fin.	1979.81	-4535	-0.0014692	0.0002807	0.0035	0.9		2989.59	2989.59		1.51	Si
SLV 12	ini.	-338.93	1128	-0.0001743	0.0002807	0.0035	0.9		2995.37	2995.37		8.84	Si
SLV 12	fin.	2181.99	-5986	-0.0017117	0.0002807	0.0035	0.9		2989.59	2989.59		1.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-195.96	2595	0.9	0	2577	7137	5660	2295	7954		3.06	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	fin.	1613.93	4111	0.9	0	2577	7137	5660	2295	7954		1.94	Si
SLV 1	ini.	766.95	-4182	0.9	0	2577	7137	5660	2295	7954		1.9	Si
SLV 1	fin.	-649.04	-2887	0.9	0	2577	7137	5660	2295	7954		2.76	Si
SLV 14	ini.	-575.51	3717	0.9	0	2577	7137	5660	2295	7954		2.14	Si
SLV 14	fin.	1281.59	3970	0.9	0	2577	7137	5660	2295	7954		2	Si
SLD 11	ini.	-123.52	2148	0.9	0	2577	7137	5660	2295	7954		3.7	Si
SLD 11	fin.	1470.27	3630	0.9	0	2577	7137	5660	2295	7954		2.19	Si
SLV 12	ini.	-338.93	3897	0.9	0	2577	7137	5660	2295	7954		2.04	Si
SLV 12	fin.	2181.99	5690	0.9	0	2577	7137	5660	2295	7954		1.4	Si
SLV 15	ini.	-497.4	3930	0.9	0	2577	7137	5660	2295	7954		2.02	Si
SLV 15	fin.	1640.61	4638	0.9	0	2577	7137	5660	2295	7954		1.72	Si
SLD 16	ini.	-408.38	3312	0.9	0	2577	7137	5660	2295	7954		2.4	Si
SLD 16	fin.	1497.69	4194	0.9	0	2577	7137	5660	2295	7954		1.9	Si
SLV 8	ini.	12.5	1843	0.9	0	2577	7137	5660	2295	7954		4.31	Si
SLV 8	fin.	1704.57	3974	0.9	0	2577	7137	5660	2295	7954		2	Si
SLV 11	ini.	-223.77	3186	0.9	0	2577	7137	5660	2295	7954		2.5	Si
SLV 11	fin.	1953.62	4925	0.9	0	2577	7137	5660	2295	7954		1.62	Si
SLV 16	ini.	-668.44	4985	0.9	0	2577	7137	5660	2295	7954		1.6	Si
SLV 16	fin.	1979.81	5774	0.9	0	2577	7137	5660	2295	7954		1.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.37	SLV 12	Si
V_SLV	1.378	SLV 16	Si
PF_SLU	3.156	SLU 77	Si
V_SLU	3.049	SLU 77	Si

Trave di accoppiamento 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.828	5.951	3.47	4.35	0.88	-22.828	5.951	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-852.74	-4642	-0.0005463	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.33	Si
SLU 78	fin.	-13.17	-1002	-0.0000067	0.0001872	0.0035	0.88		2838.31	2838.31	No	215.45	Si
SLU 83	ini.	-868.45	-4731	-0.0005586	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.27	Si
SLU 83	fin.	-9.24	-1004	-0.0000047	0.0001872	0.0035	0.88		2838.31	2838.31	No	307.08	Si
SLU 75	ini.	-841.13	-4574	-0.0005372	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.37	Si
SLU 75	fin.	-7.34	-963	-0.0000038	0.0001872	0.0035	0.88		2838.31	2838.31	No	386.56	Si
SLU 74	ini.	-854.44	-4634	-0.0005476	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.32	Si
SLU 74	fin.	-0.77	-946	-0.0000004	0.0001872	0.0035	0.88		2838.31	2838.31	No	3683.09	Si
SLU 80	ini.	-846.01	-4604	-0.000541	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.35	Si
SLU 80	fin.	-11.52	-987	-0.0000059	0.0001872	0.0035	0.88		2838.31	2838.31	No	246.32	Si
SLU 82	ini.	-843.52	-4602	-0.0005391	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.36	Si
SLU 82	fin.	-9.98	-983	-0.0000051	0.0001872	0.0035	0.88		2838.31	2838.31	No	284.31	Si
SLU 84	ini.	-855.14	-4671	-0.0005482	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.32	Si
SLU 84	fin.	-15.81	-1021	-0.0000081	0.0001872	0.0035	0.88		2838.31	2838.31	No	179.47	Si
SLU 79	ini.	-859.32	-4664	-0.0005514	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.3	Si
SLU 79	fin.	-4.95	-970	-0.0000025	0.0001872	0.0035	0.88		2838.31	2838.31	No	573.25	Si
SLU 77	ini.	-866.05	-4702	-0.0005567	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.28	Si
SLU 77	fin.	-6.6	-985	-0.0000034	0.0001872	0.0035	0.88		2838.31	2838.31	No	429.92	Si
SLU 81	ini.	-856.83	-4662	-0.0005495	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.31	Si
SLU 81	fin.	-3.41	-966	-0.0000017	0.0001872	0.0035	0.88		2838.31	2838.31	No	831.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-866.05	6966	0.88	0	1711	6978	3689	2244	5933	No	0.85	No
SLU 77	fin.	-6.6	-1286	0.88	0	1711	6978	3689	2244	5933	No	4.61	Si
SLU 78	ini.	-852.74	6888	0.88	0	1711	6978	3689	2244	5933	No	0.86	No
SLU 78	fin.	-13.17	-1321	0.88	0	1711	6978	3689	2244	5933	No	4.49	Si
SLU 81	ini.	-856.83	6960	0.88	0	1711	6978	3689	2244	5933	No	0.85	No
SLU 81	fin.	-3.41	-1311	0.88	0	1711	6978	3689	2244	5933	No	4.52	Si
SLU 83	ini.	-868.45	7054	0.88	0	1711	6978	3689	2244	5933	No	0.84	No
SLU 83	fin.	-9.24	-1356	0.88	0	1711	6978	3689	2244	5933	No	4.37	Si
SLU 74	ini.	-854.44	6871	0.88	0	1711	6978	3689	2244	5933	No	0.86	No
SLU 74	fin.	-0.77	-1241	0.88	0	1711	6978	3689	2244	5933	No	4.78	Si
SLU 75	ini.	-841.13	6794	0.88	0	1711	6978	3689	2244	5933	No	0.87	No
SLU 75	fin.	-7.34	-1276	0.88	0	1711	6978	3689	2244	5933	No	4.65	Si
SLU 79	ini.	-859.32	6913	0.88	0	1711	6978	3689	2244	5933	No	0.86	No
SLU 79	fin.	-4.95	-1270	0.88	0	1711	6978	3689	2244	5933	No	4.67	Si
SLU 84	ini.	-855.14	6977	0.88	0	1711	6978	3689	2244	5933	No	0.85	No
SLU 84	fin.	-15.81	-1391	0.88	0	1711	6978	3689	2244	5933	No	4.27	Si
SLU 82	ini.	-843.52	6882	0.88	0	1711	6978	3689	2244	5933	No	0.86	No
SLU 82	fin.	-9.98	-1346	0.88	0	1711	6978	3689	2244	5933	No	4.41	Si
SLU 80	ini.	-846.01	6835	0.88	0	1711	6978	3689	2244	5933	No	0.87	No
SLU 80	fin.	-11.52	-1305	0.88	0	1711	6978	3689	2244	5933	No	4.55	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-1158.82	-5532	-0.0007517	0.0002807	0.0035	0.88		2866.69	2866.69		2.47	Si
SLD 16	fin.	551.21	1192	-0.0003106	0.0002807	0.0035	0.88		2861.04	2861.04		5.19	Si
SLD 12	ini.	-1318.99	-6464	-0.0008877	0.0002807	0.0035	0.88		2866.69	2866.69		2.17	Si
SLD 12	fin.	392.39	369	-0.000214	0.0002807	0.0035	0.88		2861.04	2861.04		7.29	Si
SLV 12	ini.	-1750.36	-8418	-0.0013043	0.0002807	0.0035	0.88		2866.69	2866.69		1.64	Si
SLV 12	fin.	612.8	916	-0.0003502	0.0002807	0.0035	0.88		2861.04	2861.04		4.67	Si
SLV 16	ini.	-1483.15	-6880	-0.0010367	0.0002807	0.0035	0.88		2866.69	2866.69		1.93	Si
SLV 16	fin.	853.69	2187	-0.0005167	0.0002807	0.0035	0.88		2861.04	2861.04		3.35	Si
SLD 8	ini.	-1130.74	-5737	-0.0007288	0.0002807	0.0035	0.88		2866.69	2866.69		2.54	Si
SLD 8	fin.	150.16	-493	-0.0000785	0.0002807	0.0035	0.88		2861.04	2861.04		19.05	Si
SLV 7	ini.	-1305.79	-6658	-0.0008761	0.0002807	0.0035	0.88		2866.69	2866.69		2.2	Si
SLV 7	fin.	100.66	-867	-0.0000522	0.0002807	0.0035	0.88		2861.04	2861.04		28.42	Si
SLV 15	ini.	-1262.38	-5965	-0.0008386	0.0002807	0.0035	0.88		2866.69	2866.69		2.27	Si
SLV 15	fin.	656.67	1543	-0.0003791	0.0002807	0.0035	0.88		2861.04	2861.04		4.36	Si
SLV 11	ini.	-1601.73	-7801	-0.0011512	0.0002807	0.0035	0.88		2866.69	2866.69		1.79	Si
SLV 11	fin.	480.15	482	-0.0002665	0.0002807	0.0035	0.88		2861.04	2861.04		5.96	Si
SLV 8	ini.	-1454.42	-7274	-0.0010098	0.0002807	0.0035	0.88		2866.69	2866.69		1.97	Si
SLV 8	fin.	233.31	-433	-0.0001237	0.0002807	0.0035	0.88		2861.04	2861.04		12.26	Si
SLD 11	ini.	-1225.48	-6077	-0.0008072	0.0002807	0.0035	0.88		2866.69	2866.69		2.34	Si
SLD 11	fin.	308.95	96	-0.0001659	0.0002807	0.0035	0.88		2861.04	2861.04		9.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-1750.36	11319	0.88	0	2507	6978	5534	2244	7778		0.69	No
SLV 12	fin.	612.8	2399	0.88	0	2507	6978	5534	2244	7778		3.24	Si
SLV 8	ini.	-1454.42	9678	0.88	0	2507	6978	5534	2244	7778		0.8	No
SLV 8	fin.	233.31	496	0.88	0	2507	6978	5534	2244	7778		15.68	Si
SLD 11	ini.	-1225.48	8323	0.88	0	2507	6978	5534	2244	7778		0.93	No
SLD 11	fin.	308.95	821	0.88	0	2507	6978	5534	2244	7778		9.48	Si
SLD 8	ini.	-1130.74	7803	0.88	0	2507	6978	5534	2244	7778		1	No
SLD 8	fin.	150.16	24	0.88	0	2507	6978	5534	2244	7778		323.87	Si
SLV 7	ini.	-1305.79	8845	0.88	0	2507	6978	5534	2244	7778		0.88	No
SLV 7	fin.	100.66	-168	0.88	0	2507	6978	5534	2244	7778		46.31	Si
SLV 15	ini.	-1262.38	8454	0.88	0	2507	6978	5534	2244	7778		0.92	No
SLV 15	fin.	656.67	2535	0.88	0	2507	6978	5534	2244	7778		3.07	Si
SLD 12	ini.	-1318.99	8847	0.88	0	2507	6978	5534	2244	7778		0.88	No
SLD 12	fin.	392.39	1238	0.88	0	2507	6978	5534	2244	7778		6.28	Si
SLD 16	ini.	-1158.82	7865	0.88	0	2507	6978	5534	2244	7778		0.99	No
SLD 16	fin.	551.21	1987	0.88	0	2507	6978	5534	2244	7778		3.91	Si
SLV 16	ini.	-1483.15	9690	0.88	0	2507	6978	5534	2244	7778		0.8	No
SLV 16	fin.	853.69	3521	0.88	0	2507	6978	5534	2244	7778		2.21	Si
SLV 11	ini.	-1601.73	10487	0.88	0	2507	6978	5534	2244	7778		0.74	No
SLV 11	fin.	480.15	1735	0.88	0	2507	6978	5534	2244	7778		4.48	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.638	SLV 12	Si
V_SLV	0.687	SLV 12	No
PF_SLU	3.268	SLU 83	Si
V_SLU	0.841	SLU 83	No

Trave di accoppiamento 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.528	-3.169	0.67	1.57	0.9	-22.528	-3.169	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	501.83	-2531	-0.0002769	0.0001872	0.0035	0.9		2959	2959	No	5.9	Si
SLU 77	fin.	422.66	-2867	-0.0002279	0.0001872	0.0035	0.9		2959	2959	No	7	Si
SLU 79	ini.	496.59	-2506	-0.0002736	0.0001872	0.0035	0.9		2959	2959	No	5.96	Si
SLU 79	fin.	422.35	-2850	-0.0002277	0.0001872	0.0035	0.9		2959	2959	No	7.01	Si
SLU 81	ini.	520.19	-2611	-0.0002886	0.0001872	0.0035	0.9		2959	2959	No	5.69	Si
SLU 81	fin.	402.56	-2860	-0.0002158	0.0001872	0.0035	0.9		2959	2959	No	7.35	Si
SLU 84	ini.	505.66	-2587	-0.0002793	0.0001872	0.0035	0.9		2959	2959	No	5.85	Si
SLU 84	fin.	430.93	-2923	-0.0002329	0.0001872	0.0035	0.9		2959	2959	No	6.87	Si
SLU 78	ini.	484.51	-2492	-0.000266	0.0001872	0.0035	0.9		2959	2959	No	6.11	Si
SLU 78	fin.	442.83	-2896	-0.0002401	0.0001872	0.0035	0.9		2959	2959	No	6.68	Si
SLU 83	ini.	522.98	-2627	-0.0002904	0.0001872	0.0035	0.9		2959	2959	No	5.66	Si
SLU 83	fin.	410.75	-2894	-0.0002207	0.0001872	0.0035	0.9		2959	2959	No	7.2	Si
SLU 82	ini.	502.87	-2571	-0.0002776	0.0001872	0.0035	0.9		2959	2959	No	5.88	Si
SLU 82	fin.	422.73	-2889	-0.0002279	0.0001872	0.0035	0.9		2959	2959	No	7	Si
SLU 80	ini.	479.27	-2466	-0.0002627	0.0001872	0.0035	0.9		2959	2959	No	6.17	Si
SLU 80	fin.	442.52	-2879	-0.00024	0.0001872	0.0035	0.9		2959	2959	No	6.69	Si
SLU 74	ini.	499.03	-2515	-0.0002751	0.0001872	0.0035	0.9		2959	2959	No	5.93	Si
SLU 74	fin.	414.46	-2833	-0.0002229	0.0001872	0.0035	0.9		2959	2959	No	7.14	Si
SLU 75	ini.	481.72	-2476	-0.0002642	0.0001872	0.0035	0.9		2959	2959	No	6.14	Si
SLU 75	fin.	434.64	-2862	-0.0002351	0.0001872	0.0035	0.9		2959	2959	No	6.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 42	ini.	443.26	-935	0.9	0	1750	7137	3773	2295	6068	No	6.49	Si
SLU 42	fin.	340.85	-200	0.9	0	1750	7137	3773	2295	6068	No	30.33	Si
SLU 40	ini.	440.47	-937	0.9	0	1750	7137	3773	2295	6068	No	6.48	Si
SLU 40	fin.	332.66	-215	0.9	0	1750	7137	3773	2295	6068	No	28.26	Si
SLU 82	ini.	502.87	-962	0.9	0	1750	7137	3773	2295	6068	No	6.31	Si
SLU 82	fin.	422.73	-188	0.9	0	1750	7137	3773	2295	6068	No	32.26	Si
SLU 84	ini.	505.66	-961	0.9	0	1750	7137	3773	2295	6068	No	6.32	Si
SLU 84	fin.	430.93	-173	0.9	0	1750	7137	3773	2295	6068	No	34.99	Si
SLU 73	ini.	462.14	-897	0.9	0	1750	7137	3773	2295	6068	No	6.76	Si
SLU 73	fin.	439.58	-34	0.9	0	1750	7137	3773	2295	6068	No	176.96	Si
SLU 81	ini.	520.19	-908	0.9	0	1750	7137	3773	2295	6068	No	6.68	Si
SLU 81	fin.	402.56	-326	0.9	0	1750	7137	3773	2295	6068	No	18.64	Si
SLU 76	ini.	464.93	-896	0.9	0	1750	7137	3773	2295	6068	No	6.77	Si
SLU 76	fin.	447.78	-20	0.9	0	1750	7137	3773	2295	6068	No	309.21	Si
SLU 39	ini.	457.79	-883	0.9	0	1750	7137	3773	2295	6068	No	6.87	Si
SLU 39	fin.	312.48	-352	0.9	0	1750	7137	3773	2295	6068	No	17.23	Si
SLU 41	ini.	460.58	-881	0.9	0	1750	7137	3773	2295	6068	No	6.88	Si
SLU 41	fin.	320.68	-338	0.9	0	1750	7137	3773	2295	6068	No	17.98	Si
SLU 83	ini.	522.98	-907	0.9	0	1750	7137	3773	2295	6068	No	6.69	Si
SLU 83	fin.	410.75	-311	0.9	0	1750	7137	3773	2295	6068	No	19.52	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-82.96	-374	-0.000041	0.0002807	0.0035	0.9		2995.37	2995.37		36.11	Si
SLV 10	fin.	1694.8	-5269	-0.0011742	0.0002807	0.0035	0.9		2989.59	2989.59		1.76	Si
SLD 13	ini.	-264.35	672	-0.0001343	0.0002807	0.0035	0.9		2995.37	2995.37		11.33	Si
SLD 13	fin.	1424.53	-3767	-0.000929	0.0002807	0.0035	0.9		2989.59	2989.59		2.1	Si
SLV 8	ini.	866.77	-3472	-0.0004991	0.0002807	0.0035	0.9		2989.59	2989.59		3.45	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	fin.	-1330.68	1725	-0.000848	0.0002807	0.0035	0.9		2995.37	2995.37		2.25	Si
SLV 13	ini.	-600.73	1998	-0.000325	0.0002807	0.0035	0.9		2995.37	2995.37		4.99	Si
SLV 13	fin.	2061.84	-4792	-0.0015635	0.0002807	0.0035	0.9		2989.59	2989.59		1.45	Si
SLV 15	ini.	-453.12	1629	-0.0002379	0.0002807	0.0035	0.9		2995.37	2995.37		6.61	Si
SLV 15	fin.	1371.54	-2972	-0.0008841	0.0002807	0.0035	0.9		2989.59	2989.59		2.18	Si
SLV 4	ini.	1258.98	-5342	-0.0007917	0.0002807	0.0035	0.9		2989.59	2989.59		2.37	Si
SLV 4	fin.	-1434.44	795	-0.0009352	0.0002807	0.0035	0.9		2995.37	2995.37		2.09	Si
SLV 14	ini.	-414.23	1253	-0.0002159	0.0002807	0.0035	0.9		2995.37	2995.37		7.23	Si
SLV 14	fin.	1670.81	-4119	-0.0011512	0.0002807	0.0035	0.9		2989.59	2989.59		1.79	Si
SLD 9	ini.	-10.73	-533	-0.0000052	0.0002807	0.0035	0.9		2995.37	2995.37		279.12	Si
SLD 9	fin.	1343.8	-4325	-0.0008609	0.0002807	0.0035	0.9		2989.59	2989.59		2.22	Si
SLV 9	ini.	-208.52	127	-0.000105	0.0002807	0.0035	0.9		2995.37	2995.37		14.36	Si
SLV 9	fin.	1958.07	-5723	-0.001445	0.0002807	0.0035	0.9		2989.59	2989.59		1.53	Si
SLV 5	ini.	249.16	-1740	-0.0001265	0.0002807	0.0035	0.9		2989.59	2989.59		12	Si
SLV 5	fin.	1233.59	-4795	-0.0007714	0.0002807	0.0035	0.9		2989.59	2989.59		2.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	1258.98	-5879	0.9	0	2577	7137	5660	2295	7955		1.35	Si
SLV 4	fin.	-1434.44	-5720	0.9	0	2577	7137	5660	2295	7955		1.39	Si
SLV 9	ini.	-208.52	3331	0.9	0	2577	7137	5660	2295	7955		2.39	Si
SLV 9	fin.	1958.07	4813	0.9	0	2577	7137	5660	2295	7955		1.65	Si
SLV 10	ini.	-82.96	2548	0.9	0	2577	7137	5660	2295	7955		3.12	Si
SLV 10	fin.	1694.8	3993	0.9	0	2577	7137	5660	2295	7955		1.99	Si
SLV 8	ini.	866.77	-4251	0.9	0	2577	7137	5660	2295	7955		1.87	Si
SLV 8	fin.	-1330.68	-5030	0.9	0	2577	7137	5660	2295	7955		1.58	Si
SLV 14	ini.	-414.23	3795	0.9	0	2577	7137	5660	2295	7955		2.1	Si
SLV 14	fin.	1670.81	4286	0.9	0	2577	7137	5660	2295	7955		1.86	Si
SLV 2	ini.	1111.37	-4594	0.9	0	2577	7137	5660	2295	7955		1.73	Si
SLV 2	fin.	-744.14	-3735	0.9	0	2577	7137	5660	2295	7955		2.13	Si
SLV 7	ini.	741.21	-3468	0.9	0	2577	7137	5660	2295	7955		2.29	Si
SLV 7	fin.	-1067.41	-4210	0.9	0	2577	7137	5660	2295	7955		1.89	Si
SLV 13	ini.	-600.73	4958	0.9	0	2577	7137	5660	2295	7955		1.6	Si
SLV 13	fin.	2061.84	5503	0.9	0	2577	7137	5660	2295	7955		1.45	Si
SLV 3	ini.	1072.48	-4715	0.9	0	2577	7137	5660	2295	7955		1.69	Si
SLV 3	fin.	-1043.41	-4503	0.9	0	2577	7137	5660	2295	7955		1.77	Si
SLD 4	ini.	922.61	-3911	0.9	0	2577	7137	5660	2295	7955		2.03	Si
SLD 4	fin.	-797.13	-3679	0.9	0	2577	7137	5660	2295	7955		2.16	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.45	SLV 13	Si
V_SLV	1.353	SLV 4	Si
PF_SLU	5.658	SLU 83	Si
V_SLU	6.307	SLU 82	Si

Trave di accoppiamento 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.528	-3.169	3.47	4.35	0.88	-22.528	-3.169	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-503.69	-4134	-0.000292	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.64	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-465.95	-2512	-0.0002669	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.09	Si
SLU 76	ini.	-508.49	-4178	-0.0002952	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.58	Si
SLU 76	fin.	-427.1	-2396	-0.0002418	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.65	Si
SLU 80	ini.	-511.23	-4193	-0.000297	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.55	Si
SLU 80	fin.	-443.82	-2455	-0.0002525	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.4	Si
SLU 82	ini.	-504.82	-4220	-0.0002927	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.62	Si
SLU 82	fin.	-473.05	-2556	-0.0002716	0.0001872	0.0035	0.88		2838.31	2838.31	No	6	Si
SLU 77	ini.	-505.86	-4160	-0.0002934	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.61	Si
SLU 77	fin.	-472.09	-2538	-0.000271	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.01	Si
SLU 78	ini.	-513.4	-4218	-0.0002985	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.53	Si
SLU 78	fin.	-449.96	-2481	-0.0002565	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.31	Si
SLU 75	ini.	-505.63	-4165	-0.0002933	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.61	Si
SLU 75	fin.	-448	-2461	-0.0002552	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.34	Si
SLU 73	ini.	-500.72	-4125	-0.00029	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.67	Si
SLU 73	fin.	-425.14	-2375	-0.0002405	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.68	Si
SLU 84	ini.	-512.59	-4274	-0.0002979	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.54	Si
SLU 84	fin.	-475.02	-2576	-0.0002729	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.98	Si
SLU 83	ini.	-505.05	-4215	-0.0002929	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.62	Si
SLU 83	fin.	-497.14	-2633	-0.0002876	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-505.05	5438	0.88	0	1711	6978	3689	2244	5933	No	1.09	Si
SLU 83	fin.	-497.14	-2421	0.88	0	1711	6978	3689	2244	5933	No	2.45	Si
SLU 75	ini.	-505.63	5393	0.88	0	1711	6978	3689	2244	5933	No	1.1	Si
SLU 75	fin.	-448	-2213	0.88	0	1711	6978	3689	2244	5933	No	2.68	Si
SLU 77	ini.	-505.86	5347	0.88	0	1711	6978	3689	2244	5933	No	1.11	Si
SLU 77	fin.	-472.09	-2290	0.88	0	1711	6978	3689	2244	5933	No	2.59	Si
SLU 81	ini.	-497.28	5373	0.88	0	1711	6978	3689	2244	5933	No	1.1	Si
SLU 81	fin.	-495.18	-2411	0.88	0	1711	6978	3689	2244	5933	No	2.46	Si
SLU 76	ini.	-508.49	5434	0.88	0	1711	6978	3689	2244	5933	No	1.09	Si
SLU 76	fin.	-427.1	-2141	0.88	0	1711	6978	3689	2244	5933	No	2.77	Si
SLU 78	ini.	-513.4	5458	0.88	0	1711	6978	3689	2244	5933	No	1.09	Si
SLU 78	fin.	-449.96	-2224	0.88	0	1711	6978	3689	2244	5933	No	2.67	Si
SLU 82	ini.	-504.82	5484	0.88	0	1711	6978	3689	2244	5933	No	1.08	Si
SLU 82	fin.	-473.05	-2344	0.88	0	1711	6978	3689	2244	5933	No	2.53	Si
SLU 80	ini.	-511.23	5426	0.88	0	1711	6978	3689	2244	5933	No	1.09	Si
SLU 80	fin.	-443.82	-2197	0.88	0	1711	6978	3689	2244	5933	No	2.7	Si
SLU 84	ini.	-512.59	5549	0.88	0	1711	6978	3689	2244	5933	No	1.07	Si
SLU 84	fin.	-475.02	-2354	0.88	0	1711	6978	3689	2244	5933	No	2.52	Si
SLU 73	ini.	-500.72	5368	0.88	0	1711	6978	3689	2244	5933	No	1.11	Si
SLU 73	fin.	-425.14	-2131	0.88	0	1711	6978	3689	2244	5933	No	2.78	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1320.39	-7848	-0.0008889	0.0002807	0.0035	0.88		2866.69	2866.69		2.17	Si
SLV 9	fin.	505.9	-199	-0.0002823	0.0002807	0.0035	0.88		2861.04	2861.04		5.66	Si
SLV 13	ini.	-1282.3	-7250	-0.0008558	0.0002807	0.0035	0.88		2866.69	2866.69		2.24	Si
SLV 13	fin.	1013.69	1735	-0.0006372	0.0002807	0.0035	0.88		2861.04	2861.04		2.82	Si
SLV 2	ini.	142.08	-758	-0.0000742	0.0002807	0.0035	0.88		2861.04	2861.04		20.14	Si
SLV 2	fin.	-1376.47	-4848	-0.0009387	0.0002807	0.0035	0.88		2866.69	2866.69		2.08	Si
SLD 4	ini.	230.4	-68	-0.0001221	0.0002807	0.0035	0.88		2861.04	2861.04		12.42	Si
SLD 4	fin.	-1139.37	-3834	-0.0007358	0.0002807	0.0035	0.88		2866.69	2866.69		2.52	Si
SLV 4	ini.	568.06	1540	-0.0003213	0.0002807	0.0035	0.88		2861.04	2861.04		5.04	Si
SLV 4	fin.	-1615.32	-5060	-0.0011647	0.0002807	0.0035	0.88		2866.69	2866.69		1.77	Si
SLV 1	ini.	-70.33	-1776	-0.0000363	0.0002807	0.0035	0.88		2866.69	2866.69		40.76	Si
SLV 1	fin.	-1108.01	-4189	-0.0007104	0.0002807	0.0035	0.88		2866.69	2866.69		2.59	Si
SLV 3	ini.	355.64	522	-0.0001926	0.0002807	0.0035	0.88		2861.04	2861.04		8.04	Si
SLV 3	fin.	-1346.86	-4400	-0.0009123	0.0002807	0.0035	0.88		2866.69	2866.69		2.13	Si
SLV 8	ini.	606.14	2139	-0.0003459	0.0002807	0.0035	0.88		2861.04	2861.04		4.72	Si
SLV 8	fin.	-1107.52	-3125	-0.00071	0.0002807	0.0035	0.88		2866.69	2866.69		2.59	Si
SLV 14	ini.	-1069.89	-6232	-0.0006799	0.0002807	0.0035	0.88		2866.69	2866.69		2.68	Si
SLV 14	fin.	745.24	1076	-0.0004395	0.0002807	0.0035	0.88		2861.04	2861.04		3.84	Si
SLV 10	ini.	-1177.38	-7163	-0.000767	0.0002807	0.0035	0.88		2866.69	2866.69		2.43	Si
SLV 10	fin.	325.16	-643	-0.0001751	0.0002807	0.0035	0.88		2861.04	2861.04		8.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-956.8	7474	0.88	0	2507	6978	5534	2244	7778		1.04	Si
SLV 5	fin.	-130.61	-380	0.88	0	2507	6978	5534	2244	7778		20.45	Si
SLV 10	ini.	-1177.38	8890	0.88	0	2507	6978	5534	2244	7778		0.87	No
SLV 10	fin.	325.16	1551	0.88	0	2507	6978	5534	2244	7778		5.01	Si
SLV 13	ini.	-1282.3	9524	0.88	0	2507	6978	5534	2244	7778		0.82	No
SLV 13	fin.	1013.69	4304	0.88	0	2507	6978	5534	2244	7778		1.81	Si
SLD 13	ini.	-944.64	7377	0.88	0	2507	6978	5534	2244	7778		1.05	Si
SLD 13	fin.	537.75	2216	0.88	0	2507	6978	5534	2244	7778		3.51	Si
SLV 14	ini.	-1069.89	8195	0.88	0	2507	6978	5534	2244	7778		0.95	No
SLV 14	fin.	745.24	3119	0.88	0	2507	6978	5534	2244	7778		2.49	Si
SLD 9	ini.	-960.08	7493	0.88	0	2507	6978	5534	2244	7778		1.04	Si
SLD 9	fin.	207.63	930	0.88	0	2507	6978	5534	2244	7778		8.36	Si
SLV 15	ini.	-856.33	6803	0.88	0	2507	6978	5534	2244	7778		1.14	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	fin.	774.85	3084	0.88	0	2507	6978	5534	2244	7778		2.52	Si
SLV 4	ini.	568.06	-2229	0.88	0	2507	6978	5534	2244	7778		3.49	Si
SLV 4	fin.	-1615.32	-7198	0.88	0	2507	6978	5534	2244	7778		1.08	Si
SLV 9	ini.	-1320.39	9785	0.88	0	2507	6978	5534	2244	7778		0.79	No
SLV 9	fin.	505.9	2349	0.88	0	2507	6978	5534	2244	7778		3.31	Si
SLD 10	ini.	-870.12	6930	0.88	0	2507	6978	5534	2244	7778		1.12	Si
SLD 10	fin.	93.93	428	0.88	0	2507	6978	5534	2244	7778		18.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.775	SLV 4	Si
V_SLV	0.795	SLV 9	No
PF_SLU	5.528	SLU 78	Si
V_SLU	1.069	SLU 84	Si

Trave di accoppiamento 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	3.47	4.35	0.88	-19.293	-3.169	3.47	4.35	0.88	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-324.07	-1385	-0.000178	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.76	Si
SLU 74	fin.	636.44	1124	-0.0003848	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.45	Si
SLU 80	ini.	-323.24	-1405	-0.0001775	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.78	Si
SLU 80	fin.	631.59	1076	-0.0003813	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.49	Si
SLU 79	ini.	-326.12	-1396	-0.0001793	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.7	Si
SLU 79	fin.	636.22	1121	-0.0003847	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.45	Si
SLU 75	ini.	-321.19	-1394	-0.0001763	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.84	Si
SLU 75	fin.	631.81	1079	-0.0003815	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.48	Si
SLU 83	ini.	-341.82	-1491	-0.0001887	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.3	Si
SLU 83	fin.	644.71	1097	-0.0003908	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.39	Si
SLU 84	ini.	-338.94	-1500	-0.000187	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.37	Si
SLU 84	fin.	640.09	1053	-0.0003875	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.43	Si
SLU 81	ini.	-338.65	-1474	-0.0001868	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.38	Si
SLU 81	fin.	639.68	1094	-0.0003872	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.43	Si
SLU 77	ini.	-327.24	-1402	-0.0001799	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.67	Si
SLU 77	fin.	641.47	1128	-0.0003885	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.42	Si
SLU 78	ini.	-324.36	-1411	-0.0001782	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.75	Si
SLU 78	fin.	636.84	1083	-0.0003851	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.45	Si
SLU 82	ini.	-335.78	-1483	-0.0001851	0.0001872	0.0035	0.88		2838.31	2838.31	No	8.45	Si
SLU 82	fin.	635.06	1049	-0.0003838	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-321.19	7178	0.88	0	1711	3965	3689	2244	5676	No	0.79	No
SLU 75	fin.	631.81	399	0.88	0	1711	3965	3689	2244	5676	No	14.21	Si
SLU 82	ini.	-335.78	7353	0.88	0	1711	3965	3689	2244	5676	No	0.77	No
SLU 82	fin.	635.06	377	0.88	0	1711	3965	3689	2244	5676	No	15.05	Si
SLU 79	ini.	-326.12	7212	0.88	0	1711	3965	3689	2244	5676	No	0.79	No
SLU 79	fin.	636.22	485	0.88	0	1711	3965	3689	2244	5676	No	11.7	Si
SLU 74	ini.	-324.07	7199	0.88	0	1711	3965	3689	2244	5676	No	0.79	No
SLU 74	fin.	636.44	478	0.88	0	1711	3965	3689	2244	5676	No	11.86	Si
SLU 78	ini.	-324.36	7243	0.88	0	1711	3965	3689	2244	5676	No	0.78	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	636.84	397	0.88	0	1711	3965	3689	2244	5676	No	14.31	Si
SLU 83	ini.	-341.82	7439	0.88	0	1711	3965	3689	2244	5676	No	0.76	No
SLU 83	fin.	644.71	453	0.88	0	1711	3965	3689	2244	5676	No	12.53	Si
SLU 81	ini.	-338.65	7374	0.88	0	1711	3965	3689	2244	5676	No	0.77	No
SLU 81	fin.	639.68	456	0.88	0	1711	3965	3689	2244	5676	No	12.45	Si
SLU 77	ini.	-327.24	7264	0.88	0	1711	3965	3689	2244	5676	No	0.78	No
SLU 77	fin.	641.47	476	0.88	0	1711	3965	3689	2244	5676	No	11.93	Si
SLU 84	ini.	-338.94	7419	0.88	0	1711	3965	3689	2244	5676	No	0.77	No
SLU 84	fin.	640.09	374	0.88	0	1711	3965	3689	2244	5676	No	15.17	Si
SLU 80	ini.	-323.24	7191	0.88	0	1711	3965	3689	2244	5676	No	0.79	No
SLU 80	fin.	631.59	406	0.88	0	1711	3965	3689	2244	5676	No	13.97	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-155.17	-47	-0.0000811	0.0002807	0.0035	0.88		2866.69	2866.69		18.47	Si
SLV 10	fin.	960.55	2524	-0.0005963	0.0002807	0.0035	0.88		2861.04	2861.04		2.98	Si
SLV 16	ini.	-43.71	871	-0.0000224	0.0002807	0.0035	0.88		2866.69	2866.69		65.58	Si
SLV 16	fin.	899.22	3063	-0.0005502	0.0002807	0.0035	0.88		2861.04	2861.04		3.18	Si
SLV 13	ini.	-11.04	1530	-0.0000056	0.0002807	0.0035	0.88		2866.69	2866.69		259.57	Si
SLV 13	fin.	1299.8	4411	-0.0008731	0.0002807	0.0035	0.88		2861.04	2861.04		2.2	Si
SLV 15	ini.	-18.89	1315	-0.0000097	0.0002807	0.0035	0.88		2866.69	2866.69		151.74	Si
SLV 15	fin.	1075.71	3787	-0.0006861	0.0002807	0.0035	0.88		2861.04	2861.04		2.66	Si
SLD 9	ini.	-166.53	-159	-0.0000871	0.0002807	0.0035	0.88		2866.69	2866.69		17.21	Si
SLD 9	fin.	845.73	2220	-0.0005109	0.0002807	0.0035	0.88		2861.04	2861.04		3.38	Si
SLV 14	ini.	-35.86	1086	-0.0000184	0.0002807	0.0035	0.88		2866.69	2866.69		79.93	Si
SLV 14	fin.	1123.31	3687	-0.0007245	0.0002807	0.0035	0.88		2861.04	2861.04		2.55	Si
SLD 13	ini.	-87.06	664	-0.000045	0.0002807	0.0035	0.88		2866.69	2866.69		32.93	Si
SLD 13	fin.	992.08	3129	-0.0006205	0.0002807	0.0035	0.88		2861.04	2861.04		2.88	Si
SLV 9	ini.	-138.46	252	-0.0000721	0.0002807	0.0035	0.88		2866.69	2866.69		20.7	Si
SLV 9	fin.	1079.38	3011	-0.0006891	0.0002807	0.0035	0.88		2861.04	2861.04		2.65	Si
SLD 15	ini.	-92.59	528	-0.0000479	0.0002807	0.0035	0.88		2866.69	2866.69		30.96	Si
SLD 15	fin.	852.95	2739	-0.0005162	0.0002807	0.0035	0.88		2861.04	2861.04		3.35	Si
SLD 14	ini.	-102.91	380	-0.0000533	0.0002807	0.0035	0.88		2866.69	2866.69		27.86	Si
SLD 14	fin.	879.32	2666	-0.0005355	0.0002807	0.0035	0.88		2861.04	2861.04		3.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-138.46	7840	0.88	0	2567	3965	5534	2244	6531		0.83	No
SLV 9	fin.	1079.38	1307	0.88	0	2567	3965	5534	2244	6531		5	Si
SLV 5	ini.	-252.04	7118	0.88	0	2567	3965	5534	2244	6531		0.92	No
SLV 5	fin.	691.06	-53	0.88	0	2567	3965	5534	2244	6531		122.83	Si
SLD 10	ini.	-177.04	6516	0.88	0	2567	3965	5534	2244	6531		1	Si
SLD 10	fin.	770.98	748	0.88	0	2567	3965	5534	2244	6531		8.74	Si
SLV 6	ini.	-268.75	6747	0.88	0	2567	3965	5534	2244	6531		0.97	No
SLV 6	fin.	572.24	-435	0.88	0	2567	3965	5534	2244	6531		15	Si
SLV 10	ini.	-155.17	7470	0.88	0	2567	3965	5534	2244	6531		0.87	No
SLV 10	fin.	960.55	925	0.88	0	2567	3965	5534	2244	6531		7.06	Si
SLV 14	ini.	-35.86	6575	0.88	0	2567	3965	5534	2244	6531		0.99	No
SLV 14	fin.	1123.31	2416	0.88	0	2567	3965	5534	2244	6531		2.7	Si
SLV 13	ini.	-11.04	7125	0.88	0	2567	3965	5534	2244	6531		0.92	No
SLV 13	fin.	1299.8	2984	0.88	0	2567	3965	5534	2244	6531		2.19	Si
SLD 9	ini.	-166.53	6750	0.88	0	2567	3965	5534	2244	6531		0.97	No
SLD 9	fin.	845.73	988	0.88	0	2567	3965	5534	2244	6531		6.61	Si
SLD 5	ini.	-237.89	6288	0.88	0	2567	3965	5534	2244	6531		1.04	Si
SLD 5	fin.	597.45	121	0.88	0	2567	3965	5534	2244	6531		54.09	Si
SLD 13	ini.	-87.06	6323	0.88	0	2567	3965	5534	2244	6531		1.03	Si
SLD 13	fin.	992.08	2059	0.88	0	2567	3965	5534	2244	6531		3.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.201	SLV 13	Si
V_SLV	0.833	SLV 9	No
PF_SLU	4.394	SLU 83	Si
V_SLU	0.763	SLU 83	No

Trave di accoppiamento 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.263	-3.169	0.67	1.57	0.9	-18.263	-3.169	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-339.77	397	-0.0001787	0.0001872	0.0035	0.9		2964.67	2964.67	No	8.73	Si
SLU 74	fin.	-402.21	-552	-0.0002151	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.37	Si
SLU 78	ini.	-341.98	382	-0.0001799	0.0001872	0.0035	0.9		2964.67	2964.67	No	8.67	Si
SLU 78	fin.	-395.45	-596	-0.0002111	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.5	Si
SLU 81	ini.	-328.97	374	-0.0001725	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.01	Si
SLU 81	fin.	-431.2	-541	-0.0002326	0.0001872	0.0035	0.9		2964.67	2964.67	No	6.88	Si
SLU 77	ini.	-340.28	393	-0.000179	0.0001872	0.0035	0.9		2964.67	2964.67	No	8.71	Si
SLU 77	fin.	-405.88	-561	-0.0002173	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.3	Si
SLU 80	ini.	-337.56	375	-0.0001774	0.0001872	0.0035	0.9		2964.67	2964.67	No	8.78	Si
SLU 80	fin.	-395.33	-589	-0.000211	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.5	Si
SLU 62	ini.	-285.15	298	-0.0001479	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.4	Si
SLU 62	fin.	-397.44	-491	-0.0002123	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.46	Si
SLU 84	ini.	-331.18	358	-0.0001738	0.0001872	0.0035	0.9		2964.67	2964.67	No	8.95	Si
SLU 84	fin.	-424.43	-584	-0.0002285	0.0001872	0.0035	0.9		2964.67	2964.67	No	6.98	Si
SLU 83	ini.	-329.48	369	-0.0001728	0.0001872	0.0035	0.9		2964.67	2964.67	No	9	Si
SLU 83	fin.	-434.87	-550	-0.0002348	0.0001872	0.0035	0.9		2964.67	2964.67	No	6.82	Si
SLU 82	ini.	-330.66	363	-0.0001735	0.0001872	0.0035	0.9		2964.67	2964.67	No	8.97	Si
SLU 82	fin.	-420.77	-575	-0.0002263	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.05	Si
SLU 79	ini.	-335.87	386	-0.0001764	0.0001872	0.0035	0.9		2964.67	2964.67	No	8.83	Si
SLU 79	fin.	-405.76	-554	-0.0002173	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-355.68	-119	0.9	0	1750	7137	3773	2295	6068	No	50.89	Si
SLU 70	fin.	-318.98	1131	0.9	0	1750	7137	3773	2295	6068	No	5.36	Si
SLU 66	ini.	-353.47	-121	0.9	0	1750	7137	3773	2295	6068	No	50.29	Si
SLU 66	fin.	-325.75	1097	0.9	0	1750	7137	3773	2295	6068	No	5.53	Si
SLU 72	ini.	-351.27	-122	0.9	0	1750	7137	3773	2295	6068	No	49.75	Si
SLU 72	fin.	-318.87	1114	0.9	0	1750	7137	3773	2295	6068	No	5.45	Si
SLU 68	ini.	-351.88	-103	0.9	0	1750	7137	3773	2295	6068	No	58.91	Si
SLU 68	fin.	-308.25	1121	0.9	0	1750	7137	3773	2295	6068	No	5.41	Si
SLU 65	ini.	-351.36	-92	0.9	0	1750	7137	3773	2295	6068	No	65.82	Si
SLU 65	fin.	-304.58	1112	0.9	0	1750	7137	3773	2295	6068	No	5.46	Si
SLU 67	ini.	-355.17	-108	0.9	0	1750	7137	3773	2295	6068	No	55.96	Si
SLU 67	fin.	-315.31	1122	0.9	0	1750	7137	3773	2295	6068	No	5.41	Si
SLU 75	ini.	-341.46	-307	0.9	0	1750	7137	3773	2295	6068	No	19.79	Si
SLU 75	fin.	-391.78	1099	0.9	0	1750	7137	3773	2295	6068	No	5.52	Si
SLU 76	ini.	-338.18	-301	0.9	0	1750	7137	3773	2295	6068	No	20.15	Si
SLU 76	fin.	-384.71	1098	0.9	0	1750	7137	3773	2295	6068	No	5.53	Si
SLU 69	ini.	-353.99	-131	0.9	0	1750	7137	3773	2295	6068	No	46.15	Si
SLU 69	fin.	-329.41	1107	0.9	0	1750	7137	3773	2295	6068	No	5.48	Si
SLU 78	ini.	-341.98	-317	0.9	0	1750	7137	3773	2295	6068	No	19.12	Si
SLU 78	fin.	-395.45	1108	0.9	0	1750	7137	3773	2295	6068	No	5.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1182.33	-2521	-0.000731	0.0002807	0.0035	0.9		2989.59	2989.59		2.53	Si
SLV 3	fin.	-1582.95	1132	-0.0010666	0.0002807	0.0035	0.9		2995.37	2995.37		1.89	Si
SLV 9	ini.	-1361.8	2081	-0.0008738	0.0002807	0.0035	0.9		2995.37	2995.37		2.2	Si
SLV 9	fin.	718.48	-2480	-0.0003998	0.0002807	0.0035	0.9		2989.59	2989.59		4.16	Si
SLV 13	ini.	-2028.24	3820	-0.00152	0.0002807	0.0035	0.9		2995.37	2995.37		1.48	Si
SLV 13	fin.	1355.64	-2255	-0.0008708	0.0002807	0.0035	0.9		2989.59	2989.59		2.21	Si
SLV 14	ini.	-1691.23	3144	-0.0011678	0.0002807	0.0035	0.9		2995.37	2995.37		1.77	Si
SLV 14	fin.	1060.38	-1922	-0.000638	0.0002807	0.0035	0.9		2989.59	2989.59		2.82	Si
SLD 13	ini.	-1386.74	2554	-0.0008947	0.0002807	0.0035	0.9		2995.37	2995.37		2.16	Si
SLD 13	fin.	770.96	-1576	-0.0004342	0.0002807	0.0035	0.9		2989.59	2989.59		3.88	Si
SLV 16	ini.	-1353.44	2754	-0.0008669	0.0002807	0.0035	0.9		2995.37	2995.37		2.21	Si
SLV 16	fin.	770.55	-956	-0.000434	0.0002807	0.0035	0.9		2989.59	2989.59		3.88	Si
SLD 4	ini.	877.83	-1931	-0.0005067	0.0002807	0.0035	0.9		2989.59	2989.59		3.41	Si
SLD 4	fin.	-1293.53	786	-0.0008177	0.0002807	0.0035	0.9		2995.37	2995.37		2.32	Si
SLV 4	ini.	1519.33	-3197	-0.0010118	0.0002807	0.0035	0.9		2989.59	2989.59		1.97	Si
SLV 4	fin.	-1878.21	1465	-0.0013552	0.0002807	0.0035	0.9		2995.37	2995.37		1.59	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1181.54	-2808	-0.0007304	0.0002807	0.0035	0.9		2989.59	2989.59		2.53	Si
SLV 2	fin.	-1588.38	499	-0.0010716	0.0002807	0.0035	0.9		2995.37	2995.37		1.89	Si
SLV 15	ini.	-1690.44	3430	-0.001167	0.0002807	0.0035	0.9		2995.37	2995.37		1.77	Si
SLV 15	fin.	1065.81	-1289	-0.0006421	0.0002807	0.0035	0.9		2989.59	2989.59		2.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1134.91	2174	0.9	0	2577	7137	5660	2295	7955		3.66	Si
SLV 10	fin.	519.68	4281	0.9	0	2577	7137	5660	2295	7955		1.86	Si
SLD 13	ini.	-1386.74	3370	0.9	0	2577	7137	5660	2295	7955		2.36	Si
SLD 13	fin.	770.96	4460	0.9	0	2577	7137	5660	2295	7955		1.78	Si
SLV 16	ini.	-1353.44	3559	0.9	0	2577	7137	5660	2295	7955		2.23	Si
SLV 16	fin.	770.55	3946	0.9	0	2577	7137	5660	2295	7955		2.02	Si
SLV 14	ini.	-1691.23	4326	0.9	0	2577	7137	5660	2295	7955		1.84	Si
SLV 14	fin.	1060.38	5462	0.9	0	2577	7137	5660	2295	7955		1.46	Si
SLV 15	ini.	-1690.44	4587	0.9	0	2577	7137	5660	2295	7955		1.73	Si
SLV 15	fin.	1065.81	5037	0.9	0	2577	7137	5660	2295	7955		1.58	Si
SLV 9	ini.	-1361.8	2866	0.9	0	2577	7137	5660	2295	7955		2.78	Si
SLV 9	fin.	718.48	5016	0.9	0	2577	7137	5660	2295	7955		1.59	Si
SLV 4	ini.	1519.33	-5622	0.9	0	2577	7137	5660	2295	7955		1.41	Si
SLV 4	fin.	-1878.21	-4990	0.9	0	2577	7137	5660	2295	7955		1.59	Si
SLV 3	ini.	1182.33	-4594	0.9	0	2577	7137	5660	2295	7955		1.73	Si
SLV 3	fin.	-1582.95	-3899	0.9	0	2577	7137	5660	2295	7955		2.04	Si
SLV 2	ini.	1181.54	-4856	0.9	0	2577	7137	5660	2295	7955		1.64	Si
SLV 2	fin.	-1588.38	-3474	0.9	0	2577	7137	5660	2295	7955		2.29	Si
SLV 13	ini.	-2028.24	5354	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLV 13	fin.	1355.64	6553	0.9	0	2577	7137	5660	2295	7955		1.21	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.477	SLV 13	Si
V_SLV	1.214	SLV 13	Si
PF_SLU	6.817	SLU 83	Si
V_SLU	5.363	SLU 70	Si

Trave di accoppiamento 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.263	-3.169	3.47	4.35	0.88	-18.263	-3.169	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-476.09	-1545	-0.0002736	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.96	Si
SLU 78	fin.	-60.3	-560	-0.0000311	0.0001872	0.0035	0.88		2838.31	2838.31	No	47.07	Si
SLU 77	ini.	-472.08	-1530	-0.000271	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.01	Si
SLU 77	fin.	-57.05	-545	-0.0000294	0.0001872	0.0035	0.88		2838.31	2838.31	No	49.75	Si
SLU 79	ini.	-467.26	-1516	-0.0002678	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.07	Si
SLU 79	fin.	-57.41	-545	-0.0000296	0.0001872	0.0035	0.88		2838.31	2838.31	No	49.44	Si
SLU 84	ini.	-467.98	-1555	-0.0002683	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.07	Si
SLU 84	fin.	-76.02	-640	-0.0000394	0.0001872	0.0035	0.88		2838.31	2838.31	No	37.34	Si
SLU 75	ini.	-468.96	-1521	-0.0002689	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.05	Si
SLU 75	fin.	-58.75	-550	-0.0000303	0.0001872	0.0035	0.88		2838.31	2838.31	No	48.31	Si
SLU 76	ini.	-466.81	-1517	-0.0002675	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.08	Si
SLU 76	fin.	-61.29	-560	-0.0000317	0.0001872	0.0035	0.88		2838.31	2838.31	No	46.31	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-464.95	-1505	-0.0002663	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.1	Si
SLU 74	fin.	-55.5	-534	-0.0000286	0.0001872	0.0035	0.88		2838.31	2838.31	No	51.14	Si
SLU 70	ini.	-467.12	-1432	-0.0002677	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.08	Si
SLU 70	fin.	-20.86	-350	-0.0000107	0.0001872	0.0035	0.88		2838.31	2838.31	No	136.03	Si
SLU 80	ini.	-471.27	-1531	-0.0002704	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.02	Si
SLU 80	fin.	-60.67	-560	-0.0000313	0.0001872	0.0035	0.88		2838.31	2838.31	No	46.78	Si
SLU 83	ini.	-463.97	-1540	-0.0002657	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.12	Si
SLU 83	fin.	-72.77	-625	-0.0000377	0.0001872	0.0035	0.88		2838.31	2838.31	No	39.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-460.84	3592	0.88	0	1711	6978	3689	2244	5933	No	1.65	Si
SLU 82	fin.	-74.47	-3332	0.88	0	1711	6978	3689	2244	5933	No	1.78	Si
SLU 81	ini.	-456.84	3576	0.88	0	1711	6978	3689	2244	5933	No	1.66	Si
SLU 81	fin.	-71.21	-3308	0.88	0	1711	6978	3689	2244	5933	No	1.79	Si
SLU 75	ini.	-468.96	3566	0.88	0	1711	6978	3689	2244	5933	No	1.66	Si
SLU 75	fin.	-58.75	-3153	0.88	0	1711	6978	3689	2244	5933	No	1.88	Si
SLU 83	ini.	-463.97	3615	0.88	0	1711	6978	3689	2244	5933	No	1.64	Si
SLU 83	fin.	-72.77	-3338	0.88	0	1711	6978	3689	2244	5933	No	1.78	Si
SLU 80	ini.	-471.27	3573	0.88	0	1711	6978	3689	2244	5933	No	1.66	Si
SLU 80	fin.	-60.67	-3161	0.88	0	1711	6978	3689	2244	5933	No	1.88	Si
SLU 79	ini.	-467.26	3557	0.88	0	1711	6978	3689	2244	5933	No	1.67	Si
SLU 79	fin.	-57.41	-3138	0.88	0	1711	6978	3689	2244	5933	No	1.89	Si
SLU 74	ini.	-464.95	3551	0.88	0	1711	6978	3689	2244	5933	No	1.67	Si
SLU 74	fin.	-55.5	-3129	0.88	0	1711	6978	3689	2244	5933	No	1.9	Si
SLU 84	ini.	-467.98	3630	0.88	0	1711	6978	3689	2244	5933	No	1.63	Si
SLU 84	fin.	-76.02	-3361	0.88	0	1711	6978	3689	2244	5933	No	1.77	Si
SLU 77	ini.	-472.08	3589	0.88	0	1711	6978	3689	2244	5933	No	1.65	Si
SLU 77	fin.	-57.05	-3159	0.88	0	1711	6978	3689	2244	5933	No	1.88	Si
SLU 78	ini.	-476.09	3605	0.88	0	1711	6978	3689	2244	5933	No	1.65	Si
SLU 78	fin.	-60.3	-3182	0.88	0	1711	6978	3689	2244	5933	No	1.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-966.43	-2710	-0.0005994	0.0002807	0.0035	0.88		2866.69	2866.69		2.97	Si
SLV 5	fin.	47.24	-103	-0.0000243	0.0002807	0.0035	0.88		2861.04	2861.04		60.56	Si
SLV 13	ini.	-1145.66	-2016	-0.0007409	0.0002807	0.0035	0.88		2866.69	2866.69		2.5	Si
SLV 13	fin.	845.51	3194	-0.0005107	0.0002807	0.0035	0.88		2861.04	2861.04		3.38	Si
SLD 10	ini.	-851.89	-2126	-0.0005142	0.0002807	0.0035	0.88		2866.69	2866.69		3.37	Si
SLD 10	fin.	221.52	645	-0.0001172	0.0002807	0.0035	0.88		2861.04	2861.04		12.92	Si
SLV 4	ini.	473.43	-69	-0.0002624	0.0002807	0.0035	0.88		2861.04	2861.04		6.04	Si
SLV 4	fin.	-885.43	-3756	-0.0005388	0.0002807	0.0035	0.88		2866.69	2866.69		3.24	Si
SLD 13	ini.	-849.92	-1655	-0.0005128	0.0002807	0.0035	0.88		2866.69	2866.69		3.37	Si
SLD 13	fin.	532.61	1939	-0.0002989	0.0002807	0.0035	0.88		2861.04	2861.04		5.37	Si
SLV 10	ini.	-1160.79	-2780	-0.0007533	0.0002807	0.0035	0.88		2866.69	2866.69		2.47	Si
SLV 10	fin.	361.81	1184	-0.0001962	0.0002807	0.0035	0.88		2861.04	2861.04		7.91	Si
SLV 14	ini.	-980.84	-1802	-0.0006104	0.0002807	0.0035	0.88		2866.69	2866.69		2.92	Si
SLV 14	fin.	676.69	2527	-0.0003926	0.0002807	0.0035	0.88		2861.04	2861.04		4.23	Si
SLV 9	ini.	-1271.76	-2924	-0.0008467	0.0002807	0.0035	0.88		2866.69	2866.69		2.25	Si
SLV 9	fin.	475.47	1634	-0.0002636	0.0002807	0.0035	0.88		2861.04	2861.04		6.02	Si
SLD 9	ini.	-921.69	-2216	-0.0005657	0.0002807	0.0035	0.88		2866.69	2866.69		3.11	Si
SLD 9	fin.	293.02	928	-0.0001569	0.0002807	0.0035	0.88		2861.04	2861.04		9.76	Si
SLV 6	ini.	-855.46	-2566	-0.0005168	0.0002807	0.0035	0.88		2866.69	2866.69		3.35	Si
SLV 6	fin.	-66.42	-552	-0.0000342	0.0002807	0.0035	0.88		2866.69	2866.69		43.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-921.69	5002	0.88	0	2507	6978	5534	2244	7778		1.55	Si
SLD 9	fin.	293.02	-937	0.88	0	2507	6978	5534	2244	7778		8.3	Si
SLV 4	ini.	473.43	-1028	0.88	0	2507	6978	5534	2244	7778		7.57	Si
SLV 4	fin.	-885.43	-5850	0.88	0	2507	6978	5534	2244	7778		1.33	Si
SLV 9	ini.	-1271.76	6506	0.88	0	2507	6978	5534	2244	7778		1.2	Si
SLV 9	fin.	475.47	-323	0.88	0	2507	6978	5534	2244	7778		24.09	Si
SLV 14	ini.	-980.84	5292	0.88	0	2507	6978	5534	2244	7778		1.47	Si
SLV 14	fin.	676.69	1082	0.88	0	2507	6978	5534	2244	7778		7.19	Si
SLV 3	ini.	308.61	-319	0.88	0	2507	6978	5534	2244	7778		24.34	Si
SLV 3	fin.	-716.61	-5102	0.88	0	2507	6978	5534	2244	7778		1.52	Si
SLV 13	ini.	-1145.66	6000	0.88	0	2507	6978	5534	2244	7778		1.3	Si
SLV 13	fin.	845.51	1830	0.88	0	2507	6978	5534	2244	7778		4.25	Si
SLV 2	ini.	36.94	840	0.88	0	2507	6978	5534	2244	7778		9.26	Si
SLV 2	fin.	-750.74	-5589	0.88	0	2507	6978	5534	2244	7778		1.39	Si
SLV 1	ini.	-127.89	1548	0.88	0	2507	6978	5534	2244	7778		5.02	Si
SLV 1	fin.	-581.91	-4841	0.88	0	2507	6978	5534	2244	7778		1.61	Si
SLV 10	ini.	-1160.79	6029	0.88	0	2507	6978	5534	2244	7778		1.29	Si
SLV 10	fin.	361.81	-827	0.88	0	2507	6978	5534	2244	7778		9.41	Si
SLV 5	ini.	-966.43	5170	0.88	0	2507	6978	5534	2244	7778		1.5	Si
SLV 5	fin.	47.24	-2324	0.88	0	2507	6978	5534	2244	7778		3.35	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.254	SLV 9	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.196	SLV 9	Si
PF_SLU	5.962	SLU 78	Si
V_SLU	1.634	SLU 84	Si

Trave di accoppiamento 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	2.77	4.35	1.58	-18.498	0.841	2.77	4.35	1.58	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	3086.41	1341	-0.0006135	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.05	Si
SLU 77	fin.	-83.13	-194	-0.0000132	0.0002246	0.0035	1.58		9434.52	9434.52	No	113.49	Si
SLU 79	ini.	3059.81	1327	-0.000607	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.08	Si
SLU 79	fin.	-82.62	-195	-0.0000131	0.0002246	0.0035	1.58		9434.52	9434.52	No	114.2	Si
SLU 78	ini.	3031.49	1273	-0.0006	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.11	Si
SLU 78	fin.	-73.5	-229	-0.0000117	0.0002246	0.0035	1.58		9434.52	9434.52	No	128.36	Si
SLU 84	ini.	3043.23	1232	-0.0006029	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.1	Si
SLU 84	fin.	-66.71	-271	-0.0000106	0.0002246	0.0035	1.58		9434.52	9434.52	No	141.42	Si
SLU 80	ini.	3004.89	1260	-0.0005936	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.14	Si
SLU 80	fin.	-72.99	-229	-0.0000116	0.0002246	0.0035	1.58		9434.52	9434.52	No	129.27	Si
SLU 83	ini.	3098.15	1300	-0.0006164	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.04	Si
SLU 83	fin.	-76.34	-236	-0.0000121	0.0002246	0.0035	1.58		9434.52	9434.52	No	123.58	Si
SLU 81	ini.	3069.95	1299	-0.0006095	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.07	Si
SLU 81	fin.	-81.1	-226	-0.0000129	0.0002246	0.0035	1.58		9434.52	9434.52	No	116.34	Si
SLU 75	ini.	3003.28	1273	-0.0005932	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.14	Si
SLU 75	fin.	-78.25	-219	-0.0000124	0.0002246	0.0035	1.58		9434.52	9434.52	No	120.57	Si
SLU 82	ini.	3015.03	1232	-0.000596	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.13	Si
SLU 82	fin.	-71.47	-261	-0.0000114	0.0002246	0.0035	1.58		9434.52	9434.52	No	132.02	Si
SLU 74	ini.	3058.2	1340	-0.0006066	0.0002246	0.0035	1.58		9424.76	9424.76	No	3.08	Si
SLU 74	fin.	-87.88	-184	-0.000014	0.0002246	0.0035	1.58		9434.52	9434.52	No	107.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	3004.89	-5089	1.58	10833	1843	6344	3975	4029	8004	No	1.57	Si
SLU 80	fin.	-72.99	-5541	1.58	0	1843	6344	3975	4029	8004	No	1.44	Si
SLU 74	ini.	3058.2	-5210	1.58	10833	1843	6344	3975	4029	8004	No	1.54	Si
SLU 74	fin.	-87.88	-5661	1.58	0	1843	6344	3975	4029	8004	No	1.41	Si
SLU 79	ini.	3059.81	-5202	1.58	10833	1843	6344	3975	4029	8004	No	1.54	Si
SLU 79	fin.	-82.62	-5654	1.58	0	1843	6344	3975	4029	8004	No	1.42	Si
SLU 77	ini.	3086.41	-5249	1.58	10833	1843	6344	3975	4029	8004	No	1.52	Si
SLU 77	fin.	-83.13	-5701	1.58	0	1843	6344	3975	4029	8004	No	1.4	Si
SLU 81	ini.	3069.95	-5217	1.58	10833	1843	6344	3975	4029	8004	No	1.53	Si
SLU 81	fin.	-81.1	-5669	1.58	0	1843	6344	3975	4029	8004	No	1.41	Si
SLU 78	ini.	3031.49	-5136	1.58	10833	1843	6344	3975	4029	8004	No	1.56	Si
SLU 78	fin.	-73.5	-5588	1.58	0	1843	6344	3975	4029	8004	No	1.43	Si
SLU 83	ini.	3098.15	-5257	1.58	10833	1843	6344	3975	4029	8004	No	1.52	Si
SLU 83	fin.	-76.34	-5708	1.58	0	1843	6344	3975	4029	8004	No	1.4	Si
SLU 82	ini.	3015.03	-5103	1.58	10833	1843	6344	3975	4029	8004	No	1.57	Si
SLU 82	fin.	-71.47	-5555	1.58	0	1843	6344	3975	4029	8004	No	1.44	Si
SLU 84	ini.	3043.23	-5143	1.58	10833	1843	6344	3975	4029	8004	No	1.56	Si
SLU 84	fin.	-66.71	-5595	1.58	0	1843	6344	3975	4029	8004	No	1.43	Si
SLU 75	ini.	3003.28	-5096	1.58	10833	1843	6344	3975	4029	8004	No	1.57	Si
SLU 75	fin.	-78.25	-5548	1.58	0	1843	6344	3975	4029	8004	No	1.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	5557.74	5566	-0.0012375	0.0003369	0.0035	1.58		9684.63	9684.63		1.74	Si
SLV 8	fin.	-416.99	2433	-0.0000671	0.0003369	0.0035	1.58		9694.84	9694.84		23.25	Si
SLV 16	ini.	3444.08	2782	-0.0006612	0.0003369	0.0035	1.58		9684.63	9684.63		2.81	Si
SLV 16	fin.	-560.77	770	-0.0000908	0.0003369	0.0035	1.58		9694.84	9694.84		17.29	Si
SLV 7	ini.	5481.01	5455	-0.0012135	0.0003369	0.0035	1.58		9684.63	9684.63		1.77	Si
SLV 7	fin.	-403.56	2369	-0.0000649	0.0003369	0.0035	1.58		9694.84	9694.84		24.02	Si
SLV 12	ini.	5672.33	5739	-0.0012739	0.0003369	0.0035	1.58		9684.63	9684.63		1.71	Si
SLV 12	fin.	-619.11	2455	-0.0001005	0.0003369	0.0035	1.58		9694.84	9694.84		15.66	Si
SLV 11	ini.	5595.61	5628	-0.0012495	0.0003369	0.0035	1.58		9684.63	9684.63		1.73	Si
SLV 11	fin.	-605.68	2392	-0.0000983	0.0003369	0.0035	1.58		9694.84	9694.84		16.01	Si
SLD 12	ini.	4351.43	3967	-0.0008892	0.0003369	0.0035	1.58		9684.63	9684.63		2.23	Si
SLD 12	fin.	-418.38	1509	-0.0000674	0.0003369	0.0035	1.58		9694.84	9694.84		23.17	Si
SLD 8	ini.	4283.52	3861	-0.0008712	0.0003369	0.0035	1.58		9684.63	9684.63		2.26	Si
SLD 8	fin.	-290.99	1495	-0.0000466	0.0003369	0.0035	1.58		9694.84	9694.84		33.32	Si
SLD 11	ini.	4303.16	3897	-0.0008764	0.0003369	0.0035	1.58		9684.63	9684.63		2.25	Si
SLD 11	fin.	-409.93	1469	-0.000066	0.0003369	0.0035	1.58		9694.84	9694.84		23.65	Si
SLV 15	ini.	3330.12	2617	-0.0006343	0.0003369	0.0035	1.58		9684.63	9684.63		2.91	Si
SLV 15	fin.	-540.82	675	-0.0000875	0.0003369	0.0035	1.58		9694.84	9694.84		17.93	Si
SLD 7	ini.	4235.25	3791	-0.0008585	0.0003369	0.0035	1.58		9684.63	9684.63		2.29	Si
SLD 7	fin.	-282.54	1455	-0.0000452	0.0003369	0.0035	1.58		9694.84	9694.84		34.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 7	ini.	4235.25	-7854	1.58	16250	2765	6344	5962	4029	9109		1.16	Si
SLD 7	fin.	-282.54	-8214	1.58	0	2765	6344	5962	4029	9109		1.11	Si
SLD 11	ini.	4303.16	-8134	1.58	16250	2765	6344	5962	4029	9109		1.12	Si
SLD 11	fin.	-409.93	-8451	1.58	0	2765	6344	5962	4029	9109		1.08	Si
SLV 8	ini.	5557.74	-10511	1.58	16250	2765	6344	5962	4029	9109		0.87	No
SLV 8	fin.	-416.99	-10883	1.58	0	2765	6344	5962	4029	9109		0.84	No
SLD 12	ini.	4351.43	-8235	1.58	16250	2765	6344	5962	4029	9109		1.11	Si
SLD 12	fin.	-418.38	-8551	1.58	0	2765	6344	5962	4029	9109		1.07	Si
SLV 12	ini.	5672.33	-10961	1.58	16250	2765	6344	5962	4029	9109		0.83	No
SLV 12	fin.	-619.11	-11256	1.58	0	2765	6344	5962	4029	9109		0.81	No
SLD 8	ini.	4283.52	-7955	1.58	16250	2765	6344	5962	4029	9109		1.15	Si
SLD 8	fin.	-290.99	-8314	1.58	0	2765	6344	5962	4029	9109		1.1	Si
SLV 15	ini.	3330.12	-6445	1.58	16250	2765	6344	5962	4029	9109		1.41	Si
SLV 15	fin.	-540.82	-6657	1.58	0	2765	6344	5962	4029	9109		1.37	Si
SLV 11	ini.	5595.61	-10801	1.58	16250	2765	6344	5962	4029	9109		0.84	No
SLV 11	fin.	-605.68	-11096	1.58	0	2765	6344	5962	4029	9109		0.82	No
SLV 16	ini.	3444.08	-6683	1.58	16250	2765	6344	5962	4029	9109		1.36	Si
SLV 16	fin.	-560.77	-6894	1.58	0	2765	6344	5962	4029	9109		1.32	Si
SLV 7	ini.	5481.01	-10351	1.58	16250	2765	6344	5962	4029	9109		0.88	No
SLV 7	fin.	-403.56	-10723	1.58	0	2765	6344	5962	4029	9109		0.85	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.707	SLV 12	Si
V_SLV	0.809	SLV 12	No
PF_SLU	3.042	SLU 83	Si
V_SLU	1.402	SLU 83	Si

Trave di accoppiamento 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.343	-3.169	2.77	4.35	1.58	-16.243	-3.169	2.77	4.35	1.58	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1743.31	-5508	-0.000317	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.21	Si
SLU 81	fin.	242.96	-4561	-0.0000391	0.0001872	0.0035	1.58		9075.6	9075.6	No	37.35	Si
SLU 78	ini.	-1765.44	-5459	-0.0003217	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.15	Si
SLU 78	fin.	233.05	-4574	-0.0000375	0.0001872	0.0035	1.58		9075.6	9075.6	No	38.94	Si
SLU 84	ini.	-1760.97	-5573	-0.0003208	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.16	Si
SLU 84	fin.	229.35	-4649	-0.0000369	0.0001872	0.0035	1.58		9075.6	9075.6	No	39.57	Si
SLU 79	ini.	-1744.4	-5394	-0.0003172	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.21	Si
SLU 79	fin.	233.04	-4508	-0.0000375	0.0001872	0.0035	1.58		9075.6	9075.6	No	38.94	Si
SLU 80	ini.	-1749.47	-5414	-0.0003183	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.19	Si
SLU 80	fin.	227.78	-4537	-0.0000366	0.0001872	0.0035	1.58		9075.6	9075.6	No	39.84	Si
SLU 74	ini.	-1747.78	-5394	-0.000318	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.2	Si
SLU 74	fin.	246.66	-4486	-0.0000397	0.0001872	0.0035	1.58		9075.6	9075.6	No	36.79	Si
SLU 77	ini.	-1760.37	-5439	-0.0003206	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.16	Si
SLU 77	fin.	238.32	-4546	-0.0000383	0.0001872	0.0035	1.58		9075.6	9075.6	No	38.08	Si
SLU 75	ini.	-1752.85	-5414	-0.000319	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.18	Si
SLU 75	fin.	241.4	-4515	-0.0000388	0.0001872	0.0035	1.58		9075.6	9075.6	No	37.6	Si
SLU 83	ini.	-1755.9	-5553	-0.0003197	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.17	Si
SLU 83	fin.	234.62	-4620	-0.0000377	0.0001872	0.0035	1.58		9075.6	9075.6	No	38.68	Si
SLU 82	ini.	-1748.38	-5528	-0.0003181	0.0001872	0.0035	1.58		9085.55	9085.55	No	5.2	Si
SLU 82	fin.	237.7	-4589	-0.0000382	0.0001872	0.0035	1.58		9075.6	9075.6	No	38.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1743.31	5745	1.58	0	3072	7137	6624	4029	10209	No	1.78	Si
SLU 81	fin.	242.96	1898	1.58	0	3072	7137	6624	4029	10209	No	5.38	Si
SLU 84	ini.	-1760.97	5780	1.58	0	3072	7137	6624	4029	10209	No	1.77	Si
SLU 84	fin.	229.35	1880	1.58	0	3072	7137	6624	4029	10209	No	5.43	Si
SLU 75	ini.	-1752.85	5585	1.58	0	3072	7137	6624	4029	10209	No	1.83	Si
SLU 75	fin.	241.4	1938	1.58	0	3072	7137	6624	4029	10209	No	5.27	Si
SLU 77	ini.	-1760.37	5605	1.58	0	3072	7137	6624	4029	10209	No	1.82	Si
SLU 77	fin.	238.32	1937	1.58	0	3072	7137	6624	4029	10209	No	5.27	Si
SLU 78	ini.	-1765.44	5612	1.58	0	3072	7137	6624	4029	10209	No	1.82	Si
SLU 78	fin.	233.05	1929	1.58	0	3072	7137	6624	4029	10209	No	5.29	Si
SLU 79	ini.	-1744.4	5565	1.58	0	3072	7137	6624	4029	10209	No	1.83	Si
SLU 79	fin.	233.04	1908	1.58	0	3072	7137	6624	4029	10209	No	5.35	Si
SLU 83	ini.	-1755.9	5773	1.58	0	3072	7137	6624	4029	10209	No	1.77	Si
SLU 83	fin.	234.62	1889	1.58	0	3072	7137	6624	4029	10209	No	5.41	Si
SLU 82	ini.	-1748.38	5752	1.58	0	3072	7137	6624	4029	10209	No	1.77	Si
SLU 82	fin.	237.7	1889	1.58	0	3072	7137	6624	4029	10209	No	5.4	Si
SLU 74	ini.	-1747.78	5578	1.58	0	3072	7137	6624	4029	10209	No	1.83	Si
SLU 74	fin.	246.66	1946	1.58	0	3072	7137	6624	4029	10209	No	5.24	Si
SLU 80	ini.	-1749.47	5572	1.58	0	3072	7137	6624	4029	10209	No	1.83	Si
SLU 80	fin.	227.78	1899	1.58	0	3072	7137	6624	4029	10209	No	5.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	527.76	-898	-0.0000857	0.0002807	0.0035	1.58		9001.52	9001.52		17.06	Si
SLV 2	fin.	-2719.82	-4435	-0.0005082	0.0002807	0.0035	1.58		9011.94	9011.94		3.31	Si
SLV 15	ini.	-3030.97	-6516	-0.0005795	0.0002807	0.0035	1.58		9011.94	9011.94		2.97	Si
SLV 15	fin.	3082.69	-1729	-0.0005924	0.0002807	0.0035	1.58		9001.52	9001.52		2.92	Si
SLD 13	ini.	-2673.02	-6429	-0.0004978	0.0002807	0.0035	1.58		9011.94	9011.94		3.37	Si
SLD 13	fin.	2011.32	-3308	-0.0003571	0.0002807	0.0035	1.58		9001.52	9001.52		4.48	Si
SLV 16	ini.	-2620.69	-5752	-0.0004861	0.0002807	0.0035	1.58		9011.94	9011.94		3.44	Si
SLV 16	fin.	2551.57	-1664	-0.0004715	0.0002807	0.0035	1.58		9001.52	9001.52		3.53	Si
SLV 13	ini.	-3478.78	-7979	-0.0006872	0.0002807	0.0035	1.58		9011.94	9011.94		2.59	Si
SLV 13	fin.	3040.6	-3460	-0.0005826	0.0002807	0.0035	1.58		9001.52	9001.52		2.96	Si
SLV 10	ini.	-2399.28	-6835	-0.0004378	0.0002807	0.0035	1.58		9011.94	9011.94		3.76	Si
SLV 10	fin.	716.87	-5789	-0.0001176	0.0002807	0.0035	1.58		9001.52	9001.52		12.56	Si
SLD 14	ini.	-2410.89	-5940	-0.0004403	0.0002807	0.0035	1.58		9011.94	9011.94		3.74	Si
SLD 14	fin.	1671.99	-3267	-0.0002899	0.0002807	0.0035	1.58		9001.52	9001.52		5.38	Si
SLV 4	ini.	975.57	565	-0.0001622	0.0002807	0.0035	1.58		9001.52	9001.52		9.23	Si
SLV 4	fin.	-2677.72	-2704	-0.0004988	0.0002807	0.0035	1.58		9011.94	9011.94		3.37	Si
SLV 9	ini.	-2675.51	-7350	-0.0004983	0.0002807	0.0035	1.58		9011.94	9011.94		3.37	Si
SLV 9	fin.	1074.46	-5833	-0.0001796	0.0002807	0.0035	1.58		9001.52	9001.52		8.38	Si
SLV 14	ini.	-3068.5	-7215	-0.0005883	0.0002807	0.0035	1.58		9011.94	9011.94		2.94	Si
SLV 14	fin.	2509.48	-3395	-0.0004622	0.0002807	0.0035	1.58		9001.52	9001.52		3.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-2675.51	7392	1.58	0	4608	7137	9936	4029	11745		1.59	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	fin.	1074.46	4779	1.58	0	4608	7137	9936	4029	11745		2.46	Si
SLV 14	ini.	-3068.5	9282	1.58	0	4608	7137	9936	4029	11745		1.27	Si
SLV 14	fin.	2509.48	8845	1.58	0	4608	7137	9936	4029	11745		1.33	Si
SLD 13	ini.	-2673.02	8059	1.58	0	4608	7137	9936	4029	11745		1.46	Si
SLD 13	fin.	2011.32	7249	1.58	0	4608	7137	9936	4029	11745		1.62	Si
SLD 14	ini.	-2410.89	7294	1.58	0	4608	7137	9936	4029	11745		1.61	Si
SLD 14	fin.	1671.99	6179	1.58	0	4608	7137	9936	4029	11745		1.9	Si
SLV 2	ini.	527.76	-2003	1.58	0	4608	7137	9936	4029	11745		5.86	Si
SLV 2	fin.	-2719.82	-7435	1.58	0	4608	7137	9936	4029	11745		1.58	Si
SLV 13	ini.	-3478.78	10479	1.58	0	4608	7137	9936	4029	11745		1.12	Si
SLV 13	fin.	3040.6	10519	1.58	0	4608	7137	9936	4029	11745		1.12	Si
SLV 16	ini.	-2620.69	8375	1.58	0	4608	7137	9936	4029	11745		1.4	Si
SLV 16	fin.	2551.57	8646	1.58	0	4608	7137	9936	4029	11745		1.36	Si
SLV 15	ini.	-3030.97	9571	1.58	0	4608	7137	9936	4029	11745		1.23	Si
SLV 15	fin.	3082.69	10320	1.58	0	4608	7137	9936	4029	11745		1.14	Si
SLV 4	ini.	975.57	-2911	1.58	0	4608	7137	9936	4029	11745		4.03	Si
SLV 4	fin.	-2677.72	-7634	1.58	0	4608	7137	9936	4029	11745		1.54	Si
SLD 15	ini.	-2394.21	7496	1.58	0	4608	7137	9936	4029	11745		1.57	Si
SLD 15	fin.	2038.31	7126	1.58	0	4608	7137	9936	4029	11745		1.65	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.591	SLV 13	Si
V_SLV	1.117	SLV 13	Si
PF_SLU	5.146	SLU 78	Si
V_SLU	1.766	SLU 84	Si

Trave di accoppiamento 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	2.77	4.35	1.58	-15.058	2.206	2.77	4.35	1.58	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	1223	-3674	-0.0002089	0.0002246	0.0035	1.58		9424.76	9424.76	No	7.71	Si
SLU 83	fin.	-1992.94	-5298	-0.0003621	0.0002246	0.0035	1.58		9434.52	9434.52	No	4.73	Si
SLU 77	ini.	1201.01	-3590	-0.0002048	0.0002246	0.0035	1.58		9424.76	9424.76	No	7.85	Si
SLU 77	fin.	-1934.8	-5174	-0.0003498	0.0002246	0.0035	1.58		9434.52	9434.52	No	4.88	Si
SLU 84	ini.	1201.75	-3599	-0.000205	0.0002246	0.0035	1.58		9424.76	9424.76	No	7.84	Si
SLU 84	fin.	-1880.31	-5152	-0.0003384	0.0002246	0.0035	1.58		9434.52	9434.52	No	5.02	Si
SLU 81	ini.	1200.23	-3606	-0.0002047	0.0002246	0.0035	1.58		9424.76	9424.76	No	7.85	Si
SLU 81	fin.	-1942.89	-5192	-0.0003515	0.0002246	0.0035	1.58		9434.52	9434.52	No	4.86	Si
SLU 82	ini.	1178.98	-3531	-0.0002008	0.0002246	0.0035	1.58		9424.76	9424.76	No	7.99	Si
SLU 82	fin.	-1830.27	-5045	-0.000328	0.0002246	0.0035	1.58		9434.52	9434.52	No	5.15	Si
SLU 79	ini.	1191.34	-3562	-0.000203	0.0002246	0.0035	1.58		9424.76	9424.76	No	7.91	Si
SLU 79	fin.	-1918.24	-5132	-0.0003463	0.0002246	0.0035	1.58		9434.52	9434.52	No	4.92	Si
SLU 78	ini.	1179.76	-3515	-0.0002009	0.0002246	0.0035	1.58		9424.76	9424.76	No	7.99	Si
SLU 78	fin.	-1822.18	-5028	-0.0003263	0.0002246	0.0035	1.58		9434.52	9434.52	No	5.18	Si
SLU 41	ini.	1065.75	-3219	-0.00018	0.0002246	0.0035	1.58		9424.76	9424.76	No	8.84	Si
SLU 41	fin.	-1793.27	-4667	-0.0003204	0.0002246	0.0035	1.58		9434.52	9434.52	No	5.26	Si
SLU 80	ini.	1170.09	-3487	-0.0001991	0.0002246	0.0035	1.58		9424.76	9424.76	No	8.05	Si
SLU 80	fin.	-1805.62	-4986	-0.0003229	0.0002246	0.0035	1.58		9434.52	9434.52	No	5.23	Si
SLU 74	ini.	1178.24	-3522	-0.0002006	0.0002246	0.0035	1.58		9424.76	9424.76	No	8	Si
SLU 74	fin.	-1884.76	-5068	-0.0003393	0.0002246	0.0035	1.58		9434.52	9434.52	No	5.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	1191.34	-5222	1.58	0	1843	6344	3975	4029	8004	No	1.53	Si
SLU 79	fin.	-1918.24	-5667	1.58	0	1843	6344	3975	4029	8004	No	1.41	Si
SLU 81	ini.	1200.23	-5279	1.58	0	1843	6344	3975	4029	8004	No	1.52	Si
SLU 81	fin.	-1942.89	-5723	1.58	0	1843	6344	3975	4029	8004	No	1.4	Si
SLU 78	ini.	1179.76	-5030	1.58	0	1843	6344	3975	4029	8004	No	1.59	Si
SLU 78	fin.	-1822.18	-5475	1.58	0	1843	6344	3975	4029	8004	No	1.46	Si
SLU 80	ini.	1170.09	-4984	1.58	0	1843	6344	3975	4029	8004	No	1.61	Si
SLU 80	fin.	-1805.62	-5429	1.58	0	1843	6344	3975	4029	8004	No	1.47	Si
SLU 75	ini.	1156.99	-4901	1.58	0	1843	6344	3975	4029	8004	No	1.63	Si
SLU 75	fin.	-1772.14	-5346	1.58	0	1843	6344	3975	4029	8004	No	1.5	Si
SLU 84	ini.	1201.75	-5170	1.58	0	1843	6344	3975	4029	8004	No	1.55	Si
SLU 84	fin.	-1880.31	-5615	1.58	0	1843	6344	3975	4029	8004	No	1.43	Si
SLU 82	ini.	1178.98	-5041	1.58	0	1843	6344	3975	4029	8004	No	1.59	Si
SLU 82	fin.	-1830.27	-5485	1.58	0	1843	6344	3975	4029	8004	No	1.46	Si
SLU 83	ini.	1223	-5408	1.58	0	1843	6344	3975	4029	8004	No	1.48	Si
SLU 83	fin.	-1992.94	-5853	1.58	10833	1843	6344	3975	4029	8004	No	1.37	Si
SLU 77	ini.	1201.01	-5268	1.58	0	1843	6344	3975	4029	8004	No	1.52	Si
SLU 77	fin.	-1934.8	-5713	1.58	0	1843	6344	3975	4029	8004	No	1.4	Si
SLU 74	ini.	1178.24	-5139	1.58	0	1843	6344	3975	4029	8004	No	1.56	Si
SLU 74	fin.	-1884.76	-5584	1.58	0	1843	6344	3975	4029	8004	No	1.43	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1860	-7464	-0.0003218	0.0003369	0.0035	1.58		9684.63	9684.63		5.21	Si
SLV 8	fin.	-8455.41	-12997	-0.0025166	0.0003369	0.0035	1.58		9694.84	9694.84		1.15	Si
SLV 5	ini.	-355.73	2898	-0.0000571	0.0003369	0.0035	1.58		9694.84	9694.84		27.25	Si
SLV 5	fin.	6347.19	6626	-0.0015037	0.0003369	0.0035	1.58		9684.63	9684.63		1.53	Si
SLV 9	ini.	-289.24	2813	-0.0000463	0.0003369	0.0035	1.58		9694.84	9694.84		33.52	Si
SLV 9	fin.	6075.48	6361	-0.0014078	0.0003369	0.0035	1.58		9684.63	9684.63		1.59	Si
SLD 11	ini.	1492.26	-5539	-0.000253	0.0003369	0.0035	1.58		9684.63	9684.63		6.49	Si
SLD 11	fin.	-5829.53	-9443	-0.001323	0.0003369	0.0035	1.58		9694.84	9694.84		1.66	Si
SLV 7	ini.	1844.36	-7409	-0.0003188	0.0003369	0.0035	1.58		9684.63	9684.63		5.25	Si
SLV 7	fin.	-8363.62	-12885	-0.0024587	0.0003369	0.0035	1.58		9694.84	9694.84		1.16	Si
SLV 10	ini.	-273.59	2758	-0.0000438	0.0003369	0.0035	1.58		9694.84	9694.84		35.44	Si
SLV 10	fin.	5983.69	6249	-0.0013765	0.0003369	0.0035	1.58		9684.63	9684.63		1.62	Si
SLV 6	ini.	-340.08	2843	-0.0000546	0.0003369	0.0035	1.58		9694.84	9694.84		28.51	Si
SLV 6	fin.	6255.4	6514	-0.0014707	0.0003369	0.0035	1.58		9684.63	9684.63		1.55	Si
SLV 11	ini.	1910.85	-7495	-0.0003316	0.0003369	0.0035	1.58		9684.63	9684.63		5.07	Si
SLV 11	fin.	-8635.34	-13150	-0.0026344	0.0003369	0.0035	1.58		9694.84	9694.84		1.12	Si
SLV 12	ini.	1926.5	-7550	-0.0003346	0.0003369	0.0035	1.58		9684.63	9684.63		5.03	Si
SLV 12	fin.	-8727.13	-13262	-0.0026969	0.0003369	0.0035	1.58		9694.84	9694.84		1.11	Si
SLD 12	ini.	1502.1	-5574	-0.0002548	0.0003369	0.0035	1.58		9684.63	9684.63		6.45	Si
SLD 12	fin.	-5887.28	-9514	-0.0013421	0.0003369	0.0035	1.58		9694.84	9694.84		1.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	1492.26	-12927	1.58	0	2765	6344	5962	4029	9109		0.7	No
SLD 11	fin.	-5829.53	-13256	1.58	16250	2765	6344	5962	4029	9109		0.69	No
SLV 12	ini.	1926.5	-18946	1.58	0	2765	6344	5962	4029	9109		0.48	No
SLV 12	fin.	-8727.13	-19271	1.58	16250	2765	6344	5962	4029	9109		0.47	No
SLV 8	ini.	1860	-18368	1.58	0	2765	6344	5962	4029	9109		0.5	No
SLV 8	fin.	-8455.41	-18715	1.58	16250	2765	6344	5962	4029	9109		0.49	No
SLV 7	ini.	1844.36	-18177	1.58	0	2765	6344	5962	4029	9109		0.5	No
SLV 7	fin.	-8363.62	-18524	1.58	16250	2765	6344	5962	4029	9109		0.49	No
SLV 11	ini.	1910.85	-18756	1.58	0	2765	6344	5962	4029	9109		0.49	No
SLV 11	fin.	-8635.34	-19080	1.58	16250	2765	6344	5962	4029	9109		0.48	No
SLV 5	ini.	-355.73	12374	1.58	0	2765	6344	5962	4029	9109		0.74	No
SLV 5	fin.	6347.19	12026	1.58	16250	2765	6344	5962	4029	9109		0.76	No
SLD 8	ini.	1459.76	-12678	1.58	0	2765	6344	5962	4029	9109		0.72	No
SLD 8	fin.	-5713.73	-13021	1.58	16250	2765	6344	5962	4029	9109		0.7	No
SLD 12	ini.	1502.1	-13047	1.58	0	2765	6344	5962	4029	9109		0.7	No
SLD 12	fin.	-5887.28	-13376	1.58	16250	2765	6344	5962	4029	9109		0.68	No
SLD 7	ini.	1449.92	-12558	1.58	0	2765	6344	5962	4029	9109		0.73	No
SLD 7	fin.	-5655.99	-12901	1.58	16250	2765	6344	5962	4029	9109		0.71	No
SLV 6	ini.	-340.08	12184	1.58	0	2765	6344	5962	4029	9109		0.75	No
SLV 6	fin.	6255.4	11835	1.58	16250	2765	6344	5962	4029	9109		0.77	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.111	SLV 12	Si
V_SLV	0.473	SLV 12	No
PF_SLU	4.734	SLU 83	Si
V_SLU	1.368	SLU 83	Si

Trave di accoppiamento 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.793	6.661	0.67	1.57	0.9	-16.793	6.661	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	1124.66	-3840	-0.0007311	0.0001872	0.0035	0.9		2959	2959	No	2.63	Si
SLU 83	fin.	89.52	-694	-0.0000446	0.0001872	0.0035	0.9		2959	2959	No	33.05	Si
SLU 78	ini.	1102.38	-3768	-0.0007129	0.0001872	0.0035	0.9		2959	2959	No	2.68	Si
SLU 78	fin.	89.49	-683	-0.0000445	0.0001872	0.0035	0.9		2959	2959	No	33.07	Si
SLU 80	ini.	1094.81	-3738	-0.0007067	0.0001872	0.0035	0.9		2959	2959	No	2.7	Si
SLU 80	fin.	87.06	-669	-0.0000433	0.0001872	0.0035	0.9		2959	2959	No	33.99	Si
SLU 81	ini.	1110.79	-3783	-0.0007197	0.0001872	0.0035	0.9		2959	2959	No	2.66	Si
SLU 81	fin.	84.1	-664	-0.0000418	0.0001872	0.0035	0.9		2959	2959	No	35.18	Si
SLU 74	ini.	1101.08	-3747	-0.0007118	0.0001872	0.0035	0.9		2959	2959	No	2.69	Si
SLU 74	fin.	83.03	-654	-0.0000413	0.0001872	0.0035	0.9		2959	2959	No	35.64	Si
SLU 75	ini.	1088.52	-3710	-0.0007016	0.0001872	0.0035	0.9		2959	2959	No	2.72	Si
SLU 75	fin.	84.07	-654	-0.0000418	0.0001872	0.0035	0.9		2959	2959	No	35.2	Si
SLU 79	ini.	1107.37	-3774	-0.0007169	0.0001872	0.0035	0.9		2959	2959	No	2.67	Si
SLU 79	fin.	86.02	-669	-0.0000428	0.0001872	0.0035	0.9		2959	2959	No	34.4	Si
SLU 84	ini.	1112.1	-3804	-0.0007208	0.0001872	0.0035	0.9		2959	2959	No	2.66	Si
SLU 84	fin.	90.56	-694	-0.0000451	0.0001872	0.0035	0.9		2959	2959	No	32.67	Si
SLU 82	ini.	1098.23	-3746	-0.0007095	0.0001872	0.0035	0.9		2959	2959	No	2.69	Si
SLU 82	fin.	85.14	-664	-0.0000423	0.0001872	0.0035	0.9		2959	2959	No	34.75	Si
SLU 77	ini.	1114.94	-3804	-0.0007231	0.0001872	0.0035	0.9		2959	2959	No	2.65	Si
SLU 77	fin.	88.45	-683	-0.000044	0.0001872	0.0035	0.9		2959	2959	No	33.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	1107.37	-2533	0.9	0	1750	7137	3773	2295	6068	No	2.4	Si
SLU 79	fin.	86.02	-819	0.9	0	1750	7137	3773	2295	6068	No	7.41	Si
SLU 83	ini.	1124.66	-2577	0.9	0	1750	7137	3773	2295	6068	No	2.35	Si
SLU 83	fin.	89.52	-807	0.9	0	1750	7137	3773	2295	6068	No	7.52	Si
SLU 74	ini.	1101.08	-2520	0.9	0	1750	7137	3773	2295	6068	No	2.41	Si
SLU 74	fin.	83.03	-826	0.9	0	1750	7137	3773	2295	6068	No	7.35	Si
SLU 82	ini.	1098.23	-2513	0.9	0	1750	7137	3773	2295	6068	No	2.41	Si
SLU 82	fin.	85.14	-800	0.9	0	1750	7137	3773	2295	6068	No	7.59	Si
SLU 75	ini.	1088.52	-2486	0.9	0	1750	7137	3773	2295	6068	No	2.44	Si
SLU 75	fin.	84.07	-809	0.9	0	1750	7137	3773	2295	6068	No	7.5	Si
SLU 81	ini.	1110.79	-2547	0.9	0	1750	7137	3773	2295	6068	No	2.38	Si
SLU 81	fin.	84.1	-817	0.9	0	1750	7137	3773	2295	6068	No	7.43	Si
SLU 80	ini.	1094.81	-2499	0.9	0	1750	7137	3773	2295	6068	No	2.43	Si
SLU 80	fin.	87.06	-802	0.9	0	1750	7137	3773	2295	6068	No	7.56	Si
SLU 77	ini.	1114.94	-2550	0.9	0	1750	7137	3773	2295	6068	No	2.38	Si
SLU 77	fin.	88.45	-816	0.9	0	1750	7137	3773	2295	6068	No	7.44	Si
SLU 84	ini.	1112.1	-2543	0.9	0	1750	7137	3773	2295	6068	No	2.39	Si
SLU 84	fin.	90.56	-790	0.9	0	1750	7137	3773	2295	6068	No	7.68	Si
SLU 78	ini.	1102.38	-2516	0.9	0	1750	7137	3773	2295	6068	No	2.41	Si
SLU 78	fin.	89.49	-799	0.9	0	1750	7137	3773	2295	6068	No	7.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	2058.11	-5773	-0.0015591	0.0002807	0.0035	0.9		2989.59	2989.59		1.45	Si
SLV 11	fin.	-201.06	599	-0.0001011	0.0002807	0.0035	0.9		2995.37	2995.37		14.9	Si
SLV 14	ini.	2324.75	-4494	-0.0019079	0.0002807	0.0035	0.9		2989.59	2989.59		1.29	Si
SLV 14	fin.	-1022.94	4421	-0.0006089	0.0002807	0.0035	0.9		2995.37	2995.37		2.93	Si
SLV 15	ini.	2504.41	-5486	-0.0021932	0.0002807	0.0035	0.9		2989.59	2989.59		1.19	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	fin.	-838.13	3527	-0.0004784	0.0002807	0.0035	0.9		2995.37	2995.37		3.57	Si
SLD 16	ini.	2112.94	-4817	-0.0016249	0.0002807	0.0035	0.9		2989.59	2989.59		1.41	Si
SLD 16	fin.	-645.35	2679	-0.0003525	0.0002807	0.0035	0.9		2995.37	2995.37		4.64	Si
SLV 12	ini.	2308.61	-6186	-0.0018844	0.0002807	0.0035	0.9		2989.59	2989.59		1.29	Si
SLV 12	fin.	-332.28	1184	-0.0001707	0.0002807	0.0035	0.9		2995.37	2995.37		9.01	Si
SLD 14	ini.	1769.8	-3819	-0.0012476	0.0002807	0.0035	0.9		2989.59	2989.59		1.69	Si
SLD 14	fin.	-639.72	2693	-0.000349	0.0002807	0.0035	0.9		2995.37	2995.37		4.68	Si
SLD 12	ini.	1736.91	-4836	-0.0012151	0.0002807	0.0035	0.9		2989.59	2989.59		1.72	Si
SLD 12	fin.	-195.42	623	-0.0000982	0.0002807	0.0035	0.9		2995.37	2995.37		15.33	Si
SLV 16	ini.	2876.47	-6099	-0.0029543	0.0002807	0.0035	0.9		2989.59	2989.59		1.04	Si
SLV 16	fin.	-1033.03	4397	-0.0006163	0.0002807	0.0035	0.9		2995.37	2995.37		2.9	Si
SLV 13	ini.	1952.69	-3880	-0.0014391	0.0002807	0.0035	0.9		2989.59	2989.59		1.53	Si
SLV 13	fin.	-828.04	3551	-0.0004715	0.0002807	0.0035	0.9		2995.37	2995.37		3.62	Si
SLD 15	ini.	1875.23	-4425	-0.0013557	0.0002807	0.0035	0.9		2989.59	2989.59		1.59	Si
SLD 15	fin.	-520.83	2124	-0.0002771	0.0002807	0.0035	0.9		2995.37	2995.37		5.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1952.69	-5998	0.9	0	2577	7137	5660	2295	7955		1.33	Si
SLV 13	fin.	-828.04	-5479	0.9	0	2577	7137	5660	2295	7955		1.45	Si
SLV 16	ini.	2876.47	-8578	0.9	0	2577	7137	5660	2295	7955		0.93	No
SLV 16	fin.	-1033.03	-7300	0.9	0	2577	7137	5660	2295	7955		1.09	Si
SLD 16	ini.	2112.94	-6106	0.9	0	2577	7137	5660	2295	7955		1.3	Si
SLD 16	fin.	-645.35	-4908	0.9	0	2577	7137	5660	2295	7955		1.62	Si
SLV 14	ini.	2324.75	-7220	0.9	0	2577	7137	5660	2295	7955		1.1	Si
SLV 14	fin.	-1022.94	-6684	0.9	0	2577	7137	5660	2295	7955		1.19	Si
SLD 15	ini.	1875.23	-5325	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLD 15	fin.	-520.83	-4138	0.9	0	2577	7137	5660	2295	7955		1.92	Si
SLV 12	ini.	2308.61	-6092	0.9	0	2577	7137	5660	2295	7955		1.31	Si
SLV 12	fin.	-332.28	-3825	0.9	0	2577	7137	5660	2295	7955		2.08	Si
SLV 1	ini.	-1335.16	5062	0.9	0	2577	7137	5660	2295	7955		1.57	Si
SLV 1	fin.	1116.78	5945	0.9	0	2577	7137	5660	2295	7955		1.34	Si
SLV 3	ini.	-783.44	3704	0.9	0	2577	7137	5660	2295	7955		2.15	Si
SLV 3	fin.	1106.69	5329	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLV 15	ini.	2504.41	-7356	0.9	0	2577	7137	5660	2295	7955		1.08	Si
SLV 15	fin.	-838.13	-6096	0.9	0	2577	7137	5660	2295	7955		1.3	Si
SLV 11	ini.	2058.11	-5269	0.9	0	2577	7137	5660	2295	7955		1.51	Si
SLV 11	fin.	-201.06	-3014	0.9	0	2577	7137	5660	2295	7955		2.64	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.039	SLV 16	Si
V_SLV	0.927	SLV 16	No
PF_SLU	2.631	SLU 83	Si
V_SLU	2.354	SLU 83	Si

Trave di accoppiamento 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.793	6.661	3.47	4.35	0.88	-16.793	6.661	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-84.62	-1534	-0.0000439	0.0001872	0.0035	0.88		2838.31	2838.31	No	33.54	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-769.74	-5524	-0.0004823	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.69	Si
SLU 75	ini.	-79.17	-1486	-0.000041	0.0001872	0.0035	0.88		2838.31	2838.31	No	35.85	Si
SLU 75	fin.	-751.99	-5402	-0.0004688	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.77	Si
SLU 78	ini.	-86.77	-1532	-0.0000451	0.0001872	0.0035	0.88		2838.31	2838.31	No	32.71	Si
SLU 78	fin.	-762.96	-5490	-0.0004771	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.72	Si
SLU 81	ini.	-77.87	-1503	-0.0000404	0.0001872	0.0035	0.88		2838.31	2838.31	No	36.45	Si
SLU 81	fin.	-767.05	-5519	-0.0004802	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.7	Si
SLU 74	ini.	-77.03	-1488	-0.0000399	0.0001872	0.0035	0.88		2838.31	2838.31	No	36.85	Si
SLU 74	fin.	-758.77	-5437	-0.000474	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.74	Si
SLU 84	ini.	-87.61	-1546	-0.0000455	0.0001872	0.0035	0.88		2838.31	2838.31	No	32.4	Si
SLU 84	fin.	-771.23	-5572	-0.0004834	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.68	Si
SLU 82	ini.	-80.02	-1500	-0.0000415	0.0001872	0.0035	0.88		2838.31	2838.31	No	35.47	Si
SLU 82	fin.	-760.27	-5485	-0.0004751	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.73	Si
SLU 79	ini.	-81.42	-1513	-0.0000422	0.0001872	0.0035	0.88		2838.31	2838.31	No	34.86	Si
SLU 79	fin.	-763.72	-5477	-0.0004777	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.72	Si
SLU 83	ini.	-85.47	-1548	-0.0000444	0.0001872	0.0035	0.88		2838.31	2838.31	No	33.21	Si
SLU 83	fin.	-778.01	-5607	-0.0004885	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.65	Si
SLU 80	ini.	-83.57	-1511	-0.0000434	0.0001872	0.0035	0.88		2838.31	2838.31	No	33.96	Si
SLU 80	fin.	-756.94	-5443	-0.0004726	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-80.02	1666	0.88	0	1711	6978	3689	2244	5933	No	3.56	Si
SLU 82	fin.	-760.27	-8771	0.88	0	1711	6978	3689	2244	5933	No	0.68	No
SLU 81	ini.	-77.87	1653	0.88	0	1711	6978	3689	2244	5933	No	3.59	Si
SLU 81	fin.	-767.05	-8811	0.88	0	1711	6978	3689	2244	5933	No	0.67	No
SLU 84	ini.	-87.61	1717	0.88	0	1711	6978	3689	2244	5933	No	3.46	Si
SLU 84	fin.	-771.23	-8909	0.88	0	1711	6978	3689	2244	5933	No	0.67	No
SLU 75	ini.	-79.17	1619	0.88	0	1711	6978	3689	2244	5933	No	3.66	Si
SLU 75	fin.	-751.99	-8600	0.88	0	1711	6978	3689	2244	5933	No	0.69	No
SLU 79	ini.	-81.42	1634	0.88	0	1711	6978	3689	2244	5933	No	3.63	Si
SLU 79	fin.	-763.72	-8706	0.88	0	1711	6978	3689	2244	5933	No	0.68	No
SLU 77	ini.	-84.62	1656	0.88	0	1711	6978	3689	2244	5933	No	3.58	Si
SLU 77	fin.	-769.74	-8779	0.88	0	1711	6978	3689	2244	5933	No	0.68	No
SLU 83	ini.	-85.47	1704	0.88	0	1711	6978	3689	2244	5933	No	3.48	Si
SLU 83	fin.	-778.01	-8950	0.88	0	1711	6978	3689	2244	5933	No	0.66	No
SLU 74	ini.	-77.03	1606	0.88	0	1711	6978	3689	2244	5933	No	3.69	Si
SLU 74	fin.	-758.77	-8640	0.88	0	1711	6978	3689	2244	5933	No	0.69	No
SLU 78	ini.	-86.77	1669	0.88	0	1711	6978	3689	2244	5933	No	3.55	Si
SLU 78	fin.	-762.96	-8738	0.88	0	1711	6978	3689	2244	5933	No	0.68	No
SLU 80	ini.	-83.57	1647	0.88	0	1711	6978	3689	2244	5933	No	3.6	Si
SLU 80	fin.	-756.94	-8665	0.88	0	1711	6978	3689	2244	5933	No	0.68	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	597.19	4	-0.00034	0.0002807	0.0035	0.88		2861.04	2861.04		4.79	Si
SLV 12	fin.	-1355.23	-7644	-0.0009197	0.0002807	0.0035	0.88		2866.69	2866.69		2.12	Si
SLV 11	ini.	418.2	-428	-0.0002292	0.0002807	0.0035	0.88		2861.04	2861.04		6.84	Si
SLV 11	fin.	-1225.12	-7100	-0.0008069	0.0002807	0.0035	0.88		2866.69	2866.69		2.34	Si
SLV 4	ini.	-1164.2	-3985	-0.0007561	0.0002807	0.0035	0.88		2866.69	2866.69		2.46	Si
SLV 4	fin.	96.92	-1285	-0.0000503	0.0002807	0.0035	0.88		2861.04	2861.04		29.52	Si
SLD 16	ini.	919.72	1315	-0.0005655	0.0002807	0.0035	0.88		2861.04	2861.04		3.11	Si
SLD 16	fin.	-1235	-6721	-0.0008153	0.0002807	0.0035	0.88		2866.69	2866.69		2.32	Si
SLV 14	ini.	1369.73	2739	-0.0009349	0.0002807	0.0035	0.88		2861.04	2861.04		2.09	Si
SLV 14	fin.	-1336.65	-6888	-0.0009032	0.0002807	0.0035	0.88		2866.69	2866.69		2.14	Si
SLV 1	ini.	-1516.91	-4474	-0.0010686	0.0002807	0.0035	0.88		2866.69	2866.69		1.89	Si
SLV 1	fin.	593.97	1092	-0.000338	0.0002807	0.0035	0.88		2861.04	2861.04		4.82	Si
SLV 15	ini.	1190.72	1945	-0.00078	0.0002807	0.0035	0.88		2861.04	2861.04		2.4	Si
SLV 15	fin.	-1447.19	-7648	-0.0010031	0.0002807	0.0035	0.88		2866.69	2866.69		1.98	Si
SLV 16	ini.	1456.58	2587	-0.0010144	0.0002807	0.0035	0.88		2861.04	2861.04		1.96	Si
SLV 16	fin.	-1640.45	-8457	-0.00119	0.0002807	0.0035	0.88		2866.69	2866.69		1.75	Si
SLV 2	ini.	-1251.05	-3832	-0.0008289	0.0002807	0.0035	0.88		2866.69	2866.69		2.29	Si
SLV 2	fin.	400.72	284	-0.0002189	0.0002807	0.0035	0.88		2861.04	2861.04		7.14	Si
SLV 3	ini.	-1430.06	-4626	-0.0009873	0.0002807	0.0035	0.88		2866.69	2866.69		2	Si
SLV 3	fin.	290.17	-476	-0.0001553	0.0002807	0.0035	0.88		2861.04	2861.04		9.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	597.19	-1890	0.88	0	2507	6978	5534	2244	7778		4.11	Si
SLV 12	fin.	-1355.23	-10471	0.88	0	2507	6978	5534	2244	7778		0.74	No
SLV 13	ini.	1103.87	-3943	0.88	0	2507	6978	5534	2244	7778		1.97	Si
SLV 13	fin.	-1143.4	-8907	0.88	0	2507	6978	5534	2244	7778		0.87	No
SLV 16	ini.	1456.58	-5581	0.88	0	2507	6978	5534	2244	7778		1.39	Si
SLV 16	fin.	-1640.45	-11682	0.88	0	2507	6978	5534	2244	7778		0.67	No
SLD 15	ini.	749.86	-2454	0.88	0	2507	6978	5534	2244	7778		3.17	Si
SLD 15	fin.	-1111.53	-8914	0.88	0	2507	6978	5534	2244	7778		0.87	No
SLV 14	ini.	1369.73	-5137	0.88	0	2507	6978	5534	2244	7778		1.51	Si
SLV 14	fin.	-1336.65	-9883	0.88	0	2507	6978	5534	2244	7778		0.79	No
SLV 11	ini.	418.2	-1086	0.88	0	2507	6978	5534	2244	7778		7.16	Si
SLV 11	fin.	-1225.12	-9814	0.88	0	2507	6978	5534	2244	7778		0.79	No
SLV 15	ini.	1190.72	-4387	0.88	0	2507	6978	5534	2244	7778		1.77	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	fin.	-1447.19	-10706	0.88	0	2507	6978	5534	2244	7778		0.73	No
SLD 14	ini.	866.66	-2941	0.88	0	2507	6978	5534	2244	7778		2.64	Si
SLD 14	fin.	-1045.92	-8419	0.88	0	2507	6978	5534	2244	7778		0.92	No
SLD 16	ini.	919.72	-3217	0.88	0	2507	6978	5534	2244	7778		2.42	Si
SLD 16	fin.	-1235	-9538	0.88	0	2507	6978	5534	2244	7778		0.82	No
SLD 12	ini.	366.08	-842	0.88	0	2507	6978	5534	2244	7778		9.24	Si
SLD 12	fin.	-1045.93	-8728	0.88	0	2507	6978	5534	2244	7778		0.89	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.748	SLV 16	Si
V_SLV	0.666	SLV 16	No
PF_SLU	3.648	SLU 83	Si
V_SLU	0.663	SLU 83	No

Trave di accoppiamento 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	6.661	0.67	1.57	0.9	-11.868	6.661	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	437.41	-3356	-0.0002368	0.0001872	0.0035	0.9		2959	2959	No	6.76	Si
SLU 78	fin.	689.11	-3211	-0.0004014	0.0001872	0.0035	0.9		2959	2959	No	4.29	Si
SLU 74	ini.	427.19	-3315	-0.0002306	0.0001872	0.0035	0.9		2959	2959	No	6.93	Si
SLU 74	fin.	684.62	-3196	-0.0003983	0.0001872	0.0035	0.9		2959	2959	No	4.32	Si
SLU 75	ini.	428.56	-3299	-0.0002314	0.0001872	0.0035	0.9		2959	2959	No	6.9	Si
SLU 75	fin.	678.52	-3159	-0.0003941	0.0001872	0.0035	0.9		2959	2959	No	4.36	Si
SLU 79	ini.	432.6	-3342	-0.0002339	0.0001872	0.0035	0.9		2959	2959	No	6.84	Si
SLU 79	fin.	688.44	-3215	-0.0004009	0.0001872	0.0035	0.9		2959	2959	No	4.3	Si
SLU 77	ini.	436.05	-3371	-0.000236	0.0001872	0.0035	0.9		2959	2959	No	6.79	Si
SLU 77	fin.	695.2	-3247	-0.0004056	0.0001872	0.0035	0.9		2959	2959	No	4.26	Si
SLU 84	ini.	446.48	-3415	-0.0002424	0.0001872	0.0035	0.9		2959	2959	No	6.63	Si
SLU 84	fin.	699.69	-3254	-0.0004088	0.0001872	0.0035	0.9		2959	2959	No	4.23	Si
SLU 83	ini.	445.12	-3431	-0.0002415	0.0001872	0.0035	0.9		2959	2959	No	6.65	Si
SLU 83	fin.	705.78	-3291	-0.000413	0.0001872	0.0035	0.9		2959	2959	No	4.19	Si
SLU 80	ini.	433.97	-3327	-0.0002347	0.0001872	0.0035	0.9		2959	2959	No	6.82	Si
SLU 80	fin.	682.35	-3178	-0.0003967	0.0001872	0.0035	0.9		2959	2959	No	4.34	Si
SLU 82	ini.	437.62	-3359	-0.000237	0.0001872	0.0035	0.9		2959	2959	No	6.76	Si
SLU 82	fin.	689.11	-3203	-0.0004014	0.0001872	0.0035	0.9		2959	2959	No	4.29	Si
SLU 81	ini.	436.26	-3374	-0.0002361	0.0001872	0.0035	0.9		2959	2959	No	6.78	Si
SLU 81	fin.	695.2	-3240	-0.0004056	0.0001872	0.0035	0.9		2959	2959	No	4.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	433.97	-69	0.9	0	1750	7137	3773	2295	6068	No	87.37	Si
SLU 80	fin.	682.35	2009	0.9	0	1750	7137	3773	2295	6068	No	3.02	Si
SLU 83	ini.	445.12	-65	0.9	0	1750	7137	3773	2295	6068	No	93.25	Si
SLU 83	fin.	705.78	2092	0.9	0	1750	7137	3773	2295	6068	No	2.9	Si
SLU 82	ini.	437.62	-66	0.9	0	1750	7137	3773	2295	6068	No	92.15	Si
SLU 82	fin.	689.11	2021	0.9	0	1750	7137	3773	2295	6068	No	3	Si
SLU 84	ini.	446.48	-77	0.9	0	1750	7137	3773	2295	6068	No	78.43	Si
SLU 84	fin.	699.69	2057	0.9	0	1750	7137	3773	2295	6068	No	2.95	Si
SLU 81	ini.	436.26	-54	0.9	0	1750	7137	3773	2295	6068	No	113.32	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	fin.	695.2	2056	0.9	0	1750	7137	3773	2295	6068	No	2.95	Si
SLU 74	ini.	427.19	-47	0.9	0	1750	7137	3773	2295	6068	No	130.33	Si
SLU 74	fin.	684.62	2033	0.9	0	1750	7137	3773	2295	6068	No	2.98	Si
SLU 75	ini.	428.56	-59	0.9	0	1750	7137	3773	2295	6068	No	103.1	Si
SLU 75	fin.	678.52	1998	0.9	0	1750	7137	3773	2295	6068	No	3.04	Si
SLU 77	ini.	436.05	-58	0.9	0	1750	7137	3773	2295	6068	No	104.47	Si
SLU 77	fin.	695.2	2069	0.9	0	1750	7137	3773	2295	6068	No	2.93	Si
SLU 78	ini.	437.41	-70	0.9	0	1750	7137	3773	2295	6068	No	86.22	Si
SLU 78	fin.	689.11	2034	0.9	0	1750	7137	3773	2295	6068	No	2.98	Si
SLU 79	ini.	432.6	-57	0.9	0	1750	7137	3773	2295	6068	No	106.17	Si
SLU 79	fin.	688.44	2044	0.9	0	1750	7137	3773	2295	6068	No	2.97	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	1555.27	-3979	-0.0010441	0.0002807	0.0035	0.9		2989.59	2989.59		1.92	Si
SLD 14	fin.	-250.18	1767	-0.0001268	0.0002807	0.0035	0.9		2995.37	2995.37		11.97	Si
SLV 13	ini.	1957.37	-4464	-0.0014443	0.0002807	0.0035	0.9		2989.59	2989.59		1.53	Si
SLV 13	fin.	-494.51	3143	-0.0002617	0.0002807	0.0035	0.9		2995.37	2995.37		6.06	Si
SLV 15	ini.	1917.09	-5234	-0.0014003	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLV 15	fin.	-269.66	1379	-0.0001371	0.0002807	0.0035	0.9		2995.37	2995.37		11.11	Si
SLV 16	ini.	2232.57	-5729	-0.0017785	0.0002807	0.0035	0.9		2989.59	2989.59		1.34	Si
SLV 16	fin.	-430.39	2235	-0.000225	0.0002807	0.0035	0.9		2995.37	2995.37		6.96	Si
SLV 3	ini.	-1710.34	514	-0.0011862	0.0002807	0.0035	0.9		2995.37	2995.37		1.75	Si
SLV 3	fin.	1579.43	-8314	-0.001066	0.0002807	0.0035	0.9		2989.59	2989.59		1.89	Si
SLD 16	ini.	1529.72	-4459	-0.0010211	0.0002807	0.0035	0.9		2989.59	2989.59		1.95	Si
SLD 16	fin.	-110.77	665	-0.0000549	0.0002807	0.0035	0.9		2995.37	2995.37		27.04	Si
SLV 14	ini.	2272.85	-4959	-0.0018337	0.0002807	0.0035	0.9		2989.59	2989.59		1.32	Si
SLV 14	fin.	-655.25	3998	-0.0003587	0.0002807	0.0035	0.9		2995.37	2995.37		4.57	Si
SLV 4	ini.	-1394.87	19	-0.0009016	0.0002807	0.0035	0.9		2995.37	2995.37		2.15	Si
SLV 4	fin.	1418.7	-7458	-0.000924	0.0002807	0.0035	0.9		2989.59	2989.59		2.11	Si
SLV 1	ini.	-1670.07	1285	-0.0011476	0.0002807	0.0035	0.9		2995.37	2995.37		1.79	Si
SLV 1	fin.	1354.58	-6550	-0.0008699	0.0002807	0.0035	0.9		2989.59	2989.59		2.21	Si
SLD 13	ini.	1353.71	-3663	-0.0008692	0.0002807	0.0035	0.9		2989.59	2989.59		2.21	Si
SLD 13	fin.	-147.49	1221	-0.0000736	0.0002807	0.0035	0.9		2995.37	2995.37		20.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1354.59	5600	0.9	0	2577	7137	5660	2295	7955		1.42	Si
SLV 2	fin.	1193.84	5982	0.9	0	2577	7137	5660	2295	7955		1.33	Si
SLV 14	ini.	2272.85	-6667	0.9	0	2577	7137	5660	2295	7955		1.19	Si
SLV 14	fin.	-655.25	-6057	0.9	0	2577	7137	5660	2295	7955		1.31	Si
SLV 4	ini.	-1394.87	5606	0.9	0	2577	7137	5660	2295	7955		1.42	Si
SLV 4	fin.	1418.7	7708	0.9	0	2577	7137	5660	2295	7955		1.03	Si
SLD 3	ini.	-992.77	4272	0.9	0	2577	7137	5660	2295	7955		1.86	Si
SLD 3	fin.	1174.37	6092	0.9	0	2577	7137	5660	2295	7955		1.31	Si
SLV 16	ini.	2232.57	-6661	0.9	0	2577	7137	5660	2295	7955		1.19	Si
SLV 16	fin.	-430.39	-4331	0.9	0	2577	7137	5660	2295	7955		1.84	Si
SLV 1	ini.	-1670.07	6674	0.9	0	2577	7137	5660	2295	7955		1.19	Si
SLV 1	fin.	1354.58	7046	0.9	0	2577	7137	5660	2295	7955		1.13	Si
SLV 8	ini.	-223.79	1494	0.9	0	2577	7137	5660	2295	7955		5.32	Si
SLV 8	fin.	1060.1	5683	0.9	0	2577	7137	5660	2295	7955		1.4	Si
SLV 13	ini.	1957.37	-5593	0.9	0	2577	7137	5660	2295	7955		1.42	Si
SLV 13	fin.	-494.51	-4993	0.9	0	2577	7137	5660	2295	7955		1.59	Si
SLV 7	ini.	-436.19	2217	0.9	0	2577	7137	5660	2295	7955		3.59	Si
SLV 7	fin.	1168.32	6399	0.9	0	2577	7137	5660	2295	7955		1.24	Si
SLV 3	ini.	-1710.34	6679	0.9	0	2577	7137	5660	2295	7955		1.19	Si
SLV 3	fin.	1579.43	8773	0.9	0	2577	7137	5660	2295	7955		0.91	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.315	SLV 14	Si
V_SLV	0.907	SLV 3	No
PF_SLU	4.193	SLU 83	Si
V_SLU	2.901	SLU 83	Si

Trave di accoppiamento 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	6.661	3.47	4.35	0.88	-11.868	6.661	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-848.93	-4010	-0.0005433	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.34	Si
SLU 74	fin.	-798.36	-3276	-0.0005041	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.56	Si
SLU 82	ini.	-855.54	-4056	-0.0005485	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.32	Si
SLU 82	fin.	-818.64	-3338	-0.0005197	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.47	Si
SLU 78	ini.	-855	-4053	-0.0005481	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.32	Si
SLU 78	fin.	-812.81	-3326	-0.0005152	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.49	Si
SLU 84	ini.	-869.2	-4125	-0.0005592	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.27	Si
SLU 84	fin.	-832.68	-3396	-0.0005306	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.41	Si
SLU 79	ini.	-853.52	-4036	-0.0005469	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.33	Si
SLU 79	fin.	-804.66	-3300	-0.0005089	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.53	Si
SLU 75	ini.	-841.34	-3984	-0.0005374	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.37	Si
SLU 75	fin.	-798.77	-3268	-0.0005044	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.55	Si
SLU 81	ini.	-863.13	-4082	-0.0005544	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.29	Si
SLU 81	fin.	-818.23	-3346	-0.0005194	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.47	Si
SLU 83	ini.	-876.79	-4151	-0.0005652	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.24	Si
SLU 83	fin.	-832.27	-3403	-0.0005303	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.41	Si
SLU 77	ini.	-862.59	-4078	-0.000554	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.29	Si
SLU 77	fin.	-812.4	-3333	-0.0005149	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.49	Si
SLU 80	ini.	-845.93	-4010	-0.0005409	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.36	Si
SLU 80	fin.	-805.08	-3292	-0.0005093	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-869.2	4800	0.88	0	1711	6978	3689	2244	5933	No	1.24	Si
SLU 84	fin.	-832.68	-3793	0.88	0	1711	6978	3689	2244	5933	No	1.56	Si
SLU 75	ini.	-841.34	4633	0.88	0	1711	6978	3689	2244	5933	No	1.28	Si
SLU 75	fin.	-798.77	-3641	0.88	0	1711	6978	3689	2244	5933	No	1.63	Si
SLU 83	ini.	-876.79	4829	0.88	0	1711	6978	3689	2244	5933	No	1.23	Si
SLU 83	fin.	-832.27	-3789	0.88	0	1711	6978	3689	2244	5933	No	1.57	Si
SLU 79	ini.	-853.52	4687	0.88	0	1711	6978	3689	2244	5933	No	1.27	Si
SLU 79	fin.	-804.66	-3661	0.88	0	1711	6978	3689	2244	5933	No	1.62	Si
SLU 80	ini.	-845.93	4658	0.88	0	1711	6978	3689	2244	5933	No	1.27	Si
SLU 80	fin.	-805.08	-3664	0.88	0	1711	6978	3689	2244	5933	No	1.62	Si
SLU 78	ini.	-855	4705	0.88	0	1711	6978	3689	2244	5933	No	1.26	Si
SLU 78	fin.	-812.81	-3698	0.88	0	1711	6978	3689	2244	5933	No	1.6	Si
SLU 82	ini.	-855.54	4727	0.88	0	1711	6978	3689	2244	5933	No	1.26	Si
SLU 82	fin.	-818.64	-3736	0.88	0	1711	6978	3689	2244	5933	No	1.59	Si
SLU 74	ini.	-848.93	4662	0.88	0	1711	6978	3689	2244	5933	No	1.27	Si
SLU 74	fin.	-798.36	-3637	0.88	0	1711	6978	3689	2244	5933	No	1.63	Si
SLU 81	ini.	-863.13	4757	0.88	0	1711	6978	3689	2244	5933	No	1.25	Si
SLU 81	fin.	-818.23	-3733	0.88	0	1711	6978	3689	2244	5933	No	1.59	Si
SLU 77	ini.	-862.59	4735	0.88	0	1711	6978	3689	2244	5933	No	1.25	Si
SLU 77	fin.	-812.4	-3694	0.88	0	1711	6978	3689	2244	5933	No	1.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	772.51	-204	-0.0004585	0.0002807	0.0035	0.88		2861.04	2861.04		3.7	Si
SLV 15	fin.	-2023.77	-5337	-0.0016226	0.0002807	0.0035	0.88		2866.69	2866.69		1.42	Si
SLV 13	ini.	1104.29	946	-0.0007091	0.0002807	0.0035	0.88		2861.04	2861.04		2.59	Si
SLV 13	fin.	-2014.77	-4919	-0.0016111	0.0002807	0.0035	0.88		2866.69	2866.69		1.42	Si
SLV 3	ini.	-2534.25	-6871	-0.0024484	0.0002807	0.0035	0.88		2866.69	2866.69		1.13	Si
SLV 3	fin.	1257.42	1163	-0.0008364	0.0002807	0.0035	0.88		2861.04	2861.04		2.28	Si
SLV 4	ini.	-2240.03	-6279	-0.0019253	0.0002807	0.0035	0.88		2866.69	2866.69		1.28	Si
SLV 4	fin.	966.85	592	-0.0006011	0.0002807	0.0035	0.88		2861.04	2861.04		2.96	Si
SLV 1	ini.	-2202.47	-5722	-0.0018684	0.0002807	0.0035	0.88		2866.69	2866.69		1.3	Si
SLV 1	fin.	1266.43	1581	-0.0008441	0.0002807	0.0035	0.88		2861.04	2861.04		2.26	Si
SLV 2	ini.	-1908.24	-5130	-0.0014812	0.0002807	0.0035	0.88		2866.69	2866.69		1.5	Si
SLV 2	fin.	975.85	1011	-0.000608	0.0002807	0.0035	0.88		2861.04	2861.04		2.93	Si
SLD 3	ini.	-1823.27	-5347	-0.001384	0.0002807	0.0035	0.88		2866.69	2866.69		1.57	Si
SLD 3	fin.	616.1	-31	-0.0003523	0.0002807	0.0035	0.88		2861.04	2861.04		4.64	Si
SLV 14	ini.	1398.52	1537	-0.000961	0.0002807	0.0035	0.88		2861.04	2861.04		2.05	Si
SLV 14	fin.	-2305.35	-5489	-0.0020292	0.0002807	0.0035	0.88		2866.69	2866.69		1.24	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1066.73	388	-0.000679	0.0002807	0.0035	0.88		2861.04	2861.04		2.68	Si
SLV 16	fin.	-2314.35	-5908	-0.002044	0.0002807	0.0035	0.88		2866.69	2866.69		1.24	Si
SLV 7	ini.	-1715.9	-5782	-0.0012678	0.0002807	0.0035	0.88		2866.69	2866.69		1.67	Si
SLV 7	fin.	51.03	-1694	-0.0000263	0.0002807	0.0035	0.88		2861.04	2861.04		56.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-2240.03	9478	0.88	0	2507	6978	5534	2244	7778		0.82	No
SLV 4	fin.	966.85	3155	0.88	0	2507	6978	5534	2244	7778		2.47	Si
SLV 7	ini.	-1715.9	7513	0.88	0	2507	6978	5534	2244	7778		1.04	Si
SLV 7	fin.	51.03	-85	0.88	0	2507	6978	5534	2244	7778		91.46	Si
SLV 15	ini.	772.51	-1977	0.88	0	2507	6978	5534	2244	7778		3.93	Si
SLV 15	fin.	-2023.77	-7878	0.88	0	2507	6978	5534	2244	7778		0.99	No
SLV 1	ini.	-2202.47	9302	0.88	0	2507	6978	5534	2244	7778		0.84	No
SLV 1	fin.	1266.43	4141	0.88	0	2507	6978	5534	2244	7778		1.88	Si
SLV 13	ini.	1104.29	-3265	0.88	0	2507	6978	5534	2244	7778		2.38	Si
SLV 13	fin.	-2014.77	-7963	0.88	0	2507	6978	5534	2244	7778		0.98	No
SLV 2	ini.	-1908.24	8190	0.88	0	2507	6978	5534	2244	7778		0.95	No
SLV 2	fin.	975.85	3069	0.88	0	2507	6978	5534	2244	7778		2.53	Si
SLV 3	ini.	-2534.25	10590	0.88	0	2507	6978	5534	2244	7778		0.73	No
SLV 3	fin.	1257.42	4226	0.88	0	2507	6978	5534	2244	7778		1.84	Si
SLD 3	ini.	-1823.27	7883	0.88	0	2507	6978	5534	2244	7778		0.99	No
SLD 3	fin.	616.1	1838	0.88	0	2507	6978	5534	2244	7778		4.23	Si
SLV 16	ini.	1066.73	-3089	0.88	0	2507	6978	5534	2244	7778		2.52	Si
SLV 16	fin.	-2314.35	-8949	0.88	0	2507	6978	5534	2244	7778		0.87	No
SLV 14	ini.	1398.52	-4377	0.88	0	2507	6978	5534	2244	7778		1.78	Si
SLV 14	fin.	-2305.35	-9035	0.88	0	2507	6978	5534	2244	7778		0.86	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.131	SLV 3	Si
V_SLV	0.734	SLV 3	No
PF_SLU	3.237	SLU 83	Si
V_SLU	1.229	SLU 83	Si

Trave di accoppiamento 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.661	0.67	1.57	0.9	-6.963	6.661	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-319.04	-1452	-0.0001669	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.29	Si
SLU 78	fin.	765.53	-2828	-0.0004553	0.0001872	0.0035	0.9		2959	2959	No	3.87	Si
SLU 80	ini.	-320.56	-1432	-0.0001677	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.25	Si
SLU 80	fin.	761.51	-2805	-0.0004524	0.0001872	0.0035	0.9		2959	2959	No	3.89	Si
SLU 84	ini.	-317.52	-1471	-0.000166	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.34	Si
SLU 84	fin.	765.39	-2843	-0.0004552	0.0001872	0.0035	0.9		2959	2959	No	3.87	Si
SLU 77	ini.	-324.05	-1459	-0.0001697	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.15	Si
SLU 77	fin.	773.71	-2851	-0.0004612	0.0001872	0.0035	0.9		2959	2959	No	3.82	Si
SLU 82	ini.	-311.93	-1445	-0.0001629	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.5	Si
SLU 82	fin.	749.59	-2790	-0.0004439	0.0001872	0.0035	0.9		2959	2959	No	3.95	Si
SLU 83	ini.	-322.52	-1478	-0.0001688	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.19	Si
SLU 83	fin.	773.57	-2866	-0.0004611	0.0001872	0.0035	0.9		2959	2959	No	3.83	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-325.56	-1438	-0.0001706	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.11	Si
SLU 79	fin.	769.69	-2828	-0.0004583	0.0001872	0.0035	0.9		2959	2959	No	3.84	Si
SLU 81	ini.	-316.93	-1452	-0.0001657	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.35	Si
SLU 81	fin.	757.76	-2813	-0.0004497	0.0001872	0.0035	0.9		2959	2959	No	3.9	Si
SLU 74	ini.	-318.46	-1433	-0.0001665	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.31	Si
SLU 74	fin.	757.91	-2799	-0.0004498	0.0001872	0.0035	0.9		2959	2959	No	3.9	Si
SLU 75	ini.	-313.46	-1426	-0.0001637	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.46	Si
SLU 75	fin.	749.73	-2776	-0.000444	0.0001872	0.0035	0.9		2959	2959	No	3.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-316.93	1484	0.9	0	1750	7137	3773	2295	6068	No	4.09	Si
SLU 81	fin.	757.76	1808	0.9	0	1750	7137	3773	2295	6068	No	3.36	Si
SLU 83	ini.	-322.52	1509	0.9	0	1750	7137	3773	2295	6068	No	4.02	Si
SLU 83	fin.	773.57	1848	0.9	0	1750	7137	3773	2295	6068	No	3.28	Si
SLU 79	ini.	-325.56	1525	0.9	0	1750	7137	3773	2295	6068	No	3.98	Si
SLU 79	fin.	769.69	1838	0.9	0	1750	7137	3773	2295	6068	No	3.3	Si
SLU 80	ini.	-320.56	1508	0.9	0	1750	7137	3773	2295	6068	No	4.02	Si
SLU 80	fin.	761.51	1813	0.9	0	1750	7137	3773	2295	6068	No	3.35	Si
SLU 77	ini.	-324.05	1523	0.9	0	1750	7137	3773	2295	6068	No	3.98	Si
SLU 77	fin.	773.71	1845	0.9	0	1750	7137	3773	2295	6068	No	3.29	Si
SLU 84	ini.	-317.52	1493	0.9	0	1750	7137	3773	2295	6068	No	4.06	Si
SLU 84	fin.	765.39	1824	0.9	0	1750	7137	3773	2295	6068	No	3.33	Si
SLU 74	ini.	-318.46	1498	0.9	0	1750	7137	3773	2295	6068	No	4.05	Si
SLU 74	fin.	757.91	1805	0.9	0	1750	7137	3773	2295	6068	No	3.36	Si
SLU 78	ini.	-319.04	1507	0.9	0	1750	7137	3773	2295	6068	No	4.03	Si
SLU 78	fin.	765.53	1820	0.9	0	1750	7137	3773	2295	6068	No	3.33	Si
SLU 75	ini.	-313.46	1481	0.9	0	1750	7137	3773	2295	6068	No	4.1	Si
SLU 75	fin.	749.73	1780	0.9	0	1750	7137	3773	2295	6068	No	3.41	Si
SLU 82	ini.	-311.93	1468	0.9	0	1750	7137	3773	2295	6068	No	4.13	Si
SLU 82	fin.	749.59	1783	0.9	0	1750	7137	3773	2295	6068	No	3.4	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1608.41	1636	-0.0010899	0.0002807	0.0035	0.9		2995.37	2995.37		1.86	Si
SLV 2	fin.	1639.6	-2811	-0.0011217	0.0002807	0.0035	0.9		2989.59	2989.59		1.82	Si
SLV 16	ini.	1499.65	-4066	-0.0009944	0.0002807	0.0035	0.9		2989.59	2989.59		1.99	Si
SLV 16	fin.	-909.63	-627	-0.0005278	0.0002807	0.0035	0.9		2995.37	2995.37		3.29	Si
SLD 3	ini.	-1474.18	776	-0.0009696	0.0002807	0.0035	0.9		2995.37	2995.37		2.03	Si
SLD 3	fin.	1686.21	-3450	-0.0011659	0.0002807	0.0035	0.9		2989.59	2989.59		1.77	Si
SLD 4	ini.	-1244.24	435	-0.000778	0.0002807	0.0035	0.9		2995.37	2995.37		2.41	Si
SLD 4	fin.	1478.02	-3192	-0.0009753	0.0002807	0.0035	0.9		2989.59	2989.59		2.02	Si
SLV 7	ini.	-1198.41	-689	-0.0007418	0.0002807	0.0035	0.9		2995.37	2995.37		2.5	Si
SLV 7	fin.	1708.35	-4403	-0.0011873	0.0002807	0.0035	0.9		2989.59	2989.59		1.75	Si
SLV 4	ini.	-1815.78	1209	-0.0012907	0.0002807	0.0035	0.9		2995.37	2995.37		1.65	Si
SLV 4	fin.	2018.52	-3922	-0.0015131	0.0002807	0.0035	0.9		2989.59	2989.59		1.48	Si
SLV 8	ini.	-956.11	-1048	-0.0005606	0.0002807	0.0035	0.9		2995.37	2995.37		3.13	Si
SLV 8	fin.	1488.97	-4130	-0.0009849	0.0002807	0.0035	0.9		2989.59	2989.59		2.01	Si
SLV 14	ini.	1707.02	-3639	-0.001186	0.0002807	0.0035	0.9		2989.59	2989.59		1.75	Si
SLV 14	fin.	-1288.55	484	-0.0008136	0.0002807	0.0035	0.9		2995.37	2995.37		2.32	Si
SLV 3	ini.	-2175.67	1743	-0.0016985	0.0002807	0.0035	0.9		2995.37	2995.37		1.38	Si
SLV 3	fin.	2344.36	-4326	-0.0019368	0.0002807	0.0035	0.9		2989.59	2989.59		1.28	Si
SLV 1	ini.	-1968.3	2170	-0.0014524	0.0002807	0.0035	0.9		2995.37	2995.37		1.52	Si
SLV 1	fin.	1965.44	-3216	-0.0014532	0.0002807	0.0035	0.9		2989.59	2989.59		1.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1499.65	-4263	0.9	0	2577	7137	5660	2295	7955		1.87	Si
SLV 16	fin.	-909.63	-3644	0.9	0	2577	7137	5660	2295	7955		2.18	Si
SLD 1	ini.	-1344.08	4541	0.9	0	2577	7137	5660	2295	7955		1.75	Si
SLD 1	fin.	1449.69	4386	0.9	0	2577	7137	5660	2295	7955		1.81	Si
SLV 1	ini.	-1968.3	6470	0.9	0	2577	7137	5660	2295	7955		1.23	Si
SLV 1	fin.	1965.44	6142	0.9	0	2577	7137	5660	2295	7955		1.3	Si
SLV 7	ini.	-1198.41	4353	0.9	0	2577	7137	5660	2295	7955		1.83	Si
SLV 7	fin.	1708.35	4765	0.9	0	2577	7137	5660	2295	7955		1.67	Si
SLD 4	ini.	-1244.24	4313	0.9	0	2577	7137	5660	2295	7955		1.84	Si
SLD 4	fin.	1478.02	4323	0.9	0	2577	7137	5660	2295	7955		1.84	Si
SLV 4	ini.	-1815.78	6131	0.9	0	2577	7137	5660	2295	7955		1.3	Si
SLV 4	fin.	2018.52	6067	0.9	0	2577	7137	5660	2295	7955		1.31	Si
SLD 3	ini.	-1474.18	5033	0.9	0	2577	7137	5660	2295	7955		1.58	Si
SLD 3	fin.	1686.21	5020	0.9	0	2577	7137	5660	2295	7955		1.58	Si
SLV 2	ini.	-1608.41	5345	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLV 2	fin.	1639.6	5051	0.9	0	2577	7137	5660	2295	7955		1.57	Si
SLV 3	ini.	-2175.67	7257	0.9	0	2577	7137	5660	2295	7955		1.1	Si
SLV 3	fin.	2344.36	7157	0.9	0	2577	7137	5660	2295	7955		1.11	Si
SLV 14	ini.	1707.02	-5049	0.9	0	2577	7137	5660	2295	7955		1.58	Si
SLV 14	fin.	-1288.55	-4660	0.9	0	2577	7137	5660	2295	7955		1.71	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.275	SLV 3	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.096	SLV 3	Si
PF_SLU	3.824	SLU 77	Si
V_SLU	3.283	SLU 83	Si

Trave di accoppiamento 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.963	6.661	3.47	4.35	0.88	-6.963	6.661	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-1392.07	-3447	-0.0010172	0.0001872	0.0035	0.88		2838.31	2838.31	No	2.04	Si
SLU 75	fin.	323.04	-1044	-0.0001778	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.77	Si
SLU 79	ini.	-1409.52	-3494	-0.0010343	0.0001872	0.0035	0.88		2838.31	2838.31	No	2.01	Si
SLU 79	fin.	333.43	-1046	-0.000184	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.5	Si
SLU 74	ini.	-1401.56	-3468	-0.0010265	0.0001872	0.0035	0.88		2838.31	2838.31	No	2.03	Si
SLU 74	fin.	329.37	-1041	-0.0001816	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.6	Si
SLU 83	ini.	-1446.19	-3575	-0.0010705	0.0001872	0.0035	0.88		2838.31	2838.31	No	1.96	Si
SLU 83	fin.	337.96	-1076	-0.0001868	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.38	Si
SLU 80	ini.	-1400.03	-3472	-0.001025	0.0001872	0.0035	0.88		2838.31	2838.31	No	2.03	Si
SLU 80	fin.	327.11	-1049	-0.0001802	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.66	Si
SLU 77	ini.	-1421.07	-3527	-0.0010456	0.0001872	0.0035	0.88		2838.31	2838.31	No	2	Si
SLU 77	fin.	332.44	-1066	-0.0001834	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.52	Si
SLU 78	ini.	-1411.59	-3506	-0.0010363	0.0001872	0.0035	0.88		2838.31	2838.31	No	2.01	Si
SLU 78	fin.	326.11	-1069	-0.0001796	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.69	Si
SLU 84	ini.	-1436.71	-3554	-0.0010611	0.0001872	0.0035	0.88		2838.31	2838.31	No	1.98	Si
SLU 84	fin.	331.63	-1079	-0.0001829	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.54	Si
SLU 82	ini.	-1417.19	-3495	-0.0010418	0.0001872	0.0035	0.88		2838.31	2838.31	No	2	Si
SLU 82	fin.	328.56	-1054	-0.0001811	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.62	Si
SLU 81	ini.	-1426.67	-3516	-0.0010511	0.0001872	0.0035	0.88		2838.31	2838.31	No	1.99	Si
SLU 81	fin.	334.89	-1051	-0.0001849	0.0001872	0.0035	0.88		2832.78	2832.78	No	8.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1436.71	5811	0.88	0	1711	6978	3689	2244	5933	No	1.02	Si
SLU 84	fin.	331.63	-288	0.88	0	1711	6978	3689	2244	5933	No	20.58	Si
SLU 83	ini.	-1446.19	5842	0.88	0	1711	6978	3689	2244	5933	No	1.02	Si
SLU 83	fin.	337.96	-266	0.88	0	1711	6978	3689	2244	5933	No	22.29	Si
SLU 74	ini.	-1401.56	5646	0.88	0	1711	6978	3689	2244	5933	No	1.05	Si
SLU 74	fin.	329.37	-228	0.88	0	1711	6978	3689	2244	5933	No	26.07	Si
SLU 78	ini.	-1411.59	5681	0.88	0	1711	6978	3689	2244	5933	No	1.04	Si
SLU 78	fin.	326.11	-243	0.88	0	1711	6978	3689	2244	5933	No	24.44	Si
SLU 81	ini.	-1426.67	5776	0.88	0	1711	6978	3689	2244	5933	No	1.03	Si
SLU 81	fin.	334.89	-273	0.88	0	1711	6978	3689	2244	5933	No	21.72	Si
SLU 79	ini.	-1409.52	5664	0.88	0	1711	6978	3689	2244	5933	No	1.05	Si
SLU 79	fin.	333.43	-202	0.88	0	1711	6978	3689	2244	5933	No	29.37	Si
SLU 80	ini.	-1400.03	5633	0.88	0	1711	6978	3689	2244	5933	No	1.05	Si
SLU 80	fin.	327.11	-224	0.88	0	1711	6978	3689	2244	5933	No	26.48	Si
SLU 75	ini.	-1392.07	5615	0.88	0	1711	6978	3689	2244	5933	No	1.06	Si
SLU 75	fin.	323.04	-250	0.88	0	1711	6978	3689	2244	5933	No	23.76	Si
SLU 82	ini.	-1417.19	5746	0.88	0	1711	6978	3689	2244	5933	No	1.03	Si
SLU 82	fin.	328.56	-295	0.88	0	1711	6978	3689	2244	5933	No	20.09	Si
SLU 77	ini.	-1421.07	5711	0.88	0	1711	6978	3689	2244	5933	No	1.04	Si
SLU 77	fin.	332.44	-221	0.88	0	1711	6978	3689	2244	5933	No	26.89	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-2007.16	-4042	-0.0016015	0.0002807	0.0035	0.88		2866.69	2866.69		1.43	Si
SLD 3	fin.	1390.39	1208	-0.0009536	0.0002807	0.0035	0.88		2861.04	2861.04		2.06	Si
SLD 1	ini.	-1751.73	-3408	-0.0013058	0.0002807	0.0035	0.88		2866.69	2866.69		1.64	Si
SLD 1	fin.	1249.1	1238	-0.0008293	0.0002807	0.0035	0.88		2861.04	2861.04		2.29	Si
SLV 8	ini.	-1926.14	-4461	-0.0015024	0.0002807	0.0035	0.88		2866.69	2866.69		1.49	Si
SLV 8	fin.	959.05	-131	-0.0005952	0.0002807	0.0035	0.88		2861.04	2861.04		2.98	Si
SLV 1	ini.	-2199.56	-3998	-0.0018641	0.0002807	0.0035	0.88		2866.69	2866.69		1.3	Si
SLV 1	fin.	1817.29	2310	-0.0013811	0.0002807	0.0035	0.88		2861.04	2861.04		1.57	Si
SLV 2	ini.	-1905.77	-3535	-0.0014783	0.0002807	0.0035	0.88		2866.69	2866.69		1.5	Si
SLV 2	fin.	1483.73	1756	-0.0010398	0.0002807	0.0035	0.88		2861.04	2861.04		1.93	Si
SLV 7	ini.	-2123.94	-4772	-0.0017556	0.0002807	0.0035	0.88		2866.69	2866.69		1.35	Si
SLV 7	fin.	1183.63	242	-0.0007741	0.0002807	0.0035	0.88		2861.04	2861.04		2.42	Si
SLD 4	ini.	-1819.46	-3746	-0.0013797	0.0002807	0.0035	0.88		2866.69	2866.69		1.58	Si
SLD 4	fin.	1177.28	854	-0.0007688	0.0002807	0.0035	0.88		2861.04	2861.04		2.43	Si
SLV 3	ini.	-2608.81	-5016	-0.0026056	0.0002807	0.0035	0.88		2866.69	2866.69		1.1	Si
SLV 3	fin.	2043.39	2261	-0.0016527	0.0002807	0.0035	0.88		2861.04	2861.04		1.4	Si
SLV 4	ini.	-2315.02	-4553	-0.0020451	0.0002807	0.0035	0.88		2866.69	2866.69		1.24	Si
SLV 4	fin.	1709.83	1707	-0.0012647	0.0002807	0.0035	0.88		2861.04	2861.04		1.67	Si
SLD 7	ini.	-1689.37	-3865	-0.0012401	0.0002807	0.0035	0.88		2866.69	2866.69		1.7	Si
SLD 7	fin.	835.52	-84	-0.0005035	0.0002807	0.0035	0.88		2861.04	2861.04		3.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-2123.94	7517	0.88	0	2507	6978	5534	2244	7778		1.03	Si
SLV 7	fin.	1183.63	3369	0.88	0	2507	6978	5534	2244	7778		2.31	Si
SLV 8	ini.	-1926.14	6890	0.88	0	2507	6978	5534	2244	7778		1.13	Si
SLV 8	fin.	959.05	2542	0.88	0	2507	6978	5534	2244	7778		3.06	Si
SLV 4	ini.	-2315.02	8144	0.88	0	2507	6978	5534	2244	7778		0.96	No
SLV 4	fin.	1709.83	5267	0.88	0	2507	6978	5534	2244	7778		1.48	Si
SLD 4	ini.	-1819.46	6572	0.88	0	2507	6978	5534	2244	7778		1.18	Si
SLD 4	fin.	1177.28	3338	0.88	0	2507	6978	5534	2244	7778		2.33	Si
SLV 14	ini.	706.65	-1443	0.88	0	2507	6978	5534	2244	7778		5.39	Si
SLV 14	fin.	-1570.72	-6651	0.88	0	2507	6978	5534	2244	7778		1.17	Si
SLV 3	ini.	-2608.81	9075	0.88	0	2507	6978	5534	2244	7778		0.86	No
SLV 3	fin.	2043.39	6496	0.88	0	2507	6978	5534	2244	7778		1.2	Si
SLV 1	ini.	-2199.56	7789	0.88	0	2507	6978	5534	2244	7778		1	No
SLV 1	fin.	1817.29	5675	0.88	0	2507	6978	5534	2244	7778		1.37	Si
SLD 1	ini.	-1751.73	6364	0.88	0	2507	6978	5534	2244	7778		1.22	Si
SLD 1	fin.	1249.1	3610	0.88	0	2507	6978	5534	2244	7778		2.15	Si
SLD 3	ini.	-2007.16	7167	0.88	0	2507	6978	5534	2244	7778		1.09	Si
SLD 3	fin.	1390.39	4124	0.88	0	2507	6978	5534	2244	7778		1.89	Si
SLV 2	ini.	-1905.77	6859	0.88	0	2507	6978	5534	2244	7778		1.13	Si
SLV 2	fin.	1483.73	4446	0.88	0	2507	6978	5534	2244	7778		1.75	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.099	SLV 3	Si
V_SLV	0.857	SLV 3	No
PF_SLU	1.963	SLU 83	Si
V_SLU	1.016	SLU 83	Si

Trave di accoppiamento 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.623	1.141	2.77	4.35	1.58	-19.423	1.141	2.77	4.35	1.58	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-3575.53	-11147	-0.0007364	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.62	Si
SLU 75	fin.	2301.74	-8454	-0.0004298	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.06	Si
SLU 82	ini.	-3646.2	-11366	-0.0007549	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.56	Si
SLU 82	fin.	2341.41	-8622	-0.0004386	0.0002246	0.0035	1.58		9341.96	9341.96	No	3.99	Si
SLU 73	ini.	-3575.79	-10924	-0.0007365	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.62	Si
SLU 73	fin.	2325.52	-8215	-0.0004351	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.02	Si
SLU 78	ini.	-3590.42	-11301	-0.0007403	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.6	Si
SLU 78	fin.	2301.25	-8603	-0.0004297	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.06	Si
SLU 81	ini.	-3593.16	-11343	-0.000741	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.6	Si
SLU 81	fin.	2287.71	-8652	-0.0004266	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.08	Si
SLU 84	ini.	-3661.09	-11520	-0.0007588	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.55	Si
SLU 84	fin.	2340.91	-8771	-0.0004385	0.0002246	0.0035	1.58		9341.96	9341.96	No	3.99	Si
SLU 83	ini.	-3608.05	-11497	-0.0007449	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.59	Si
SLU 83	fin.	2287.21	-8800	-0.0004265	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.08	Si
SLU 80	ini.	-3570.22	-11216	-0.000735	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.62	Si
SLU 80	fin.	2288.73	-8533	-0.0004268	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.08	Si
SLU 77	ini.	-3537.38	-11278	-0.0007265	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.64	Si
SLU 77	fin.	2247.55	-8632	-0.0004177	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.16	Si
SLU 76	ini.	-3590.68	-11077	-0.0007404	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.6	Si
SLU 76	fin.	2325.02	-8364	-0.0004349	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-3593.16	11274	1.58	0	3687	6344	7949	4029	10030	No	0.89	No
SLU 81	fin.	2287.71	8818	1.58	0	3687	6344	7949	4029	10030	No	1.14	Si
SLU 83	ini.	-3608.05	11297	1.58	0	3687	6344	7949	4029	10030	No	0.89	No
SLU 83	fin.	2287.21	8841	1.58	0	3687	6344	7949	4029	10030	No	1.13	Si
SLU 76	ini.	-3590.68	11251	1.58	0	3687	6344	7949	4029	10030	No	0.89	No
SLU 76	fin.	2325.02	8971	1.58	0	3687	6344	7949	4029	10030	No	1.12	Si
SLU 78	ini.	-3590.42	11206	1.58	0	3687	6344	7949	4029	10030	No	0.9	No
SLU 78	fin.	2301.25	8927	1.58	0	3687	6344	7949	4029	10030	No	1.12	Si
SLU 82	ini.	-3646.2	11459	1.58	0	3687	6344	7949	4029	10030	No	0.88	No
SLU 82	fin.	2341.41	9003	1.58	0	3687	6344	7949	4029	10030	No	1.11	Si
SLU 77	ini.	-3537.38	11021	1.58	0	3687	6344	7949	4029	10030	No	0.91	No
SLU 77	fin.	2247.55	8742	1.58	0	3687	6344	7949	4029	10030	No	1.15	Si
SLU 75	ini.	-3575.53	11183	1.58	0	3687	6344	7949	4029	10030	No	0.9	No
SLU 75	fin.	2301.74	8904	1.58	0	3687	6344	7949	4029	10030	No	1.13	Si
SLU 80	ini.	-3570.22	11150	1.58	0	3687	6344	7949	4029	10030	No	0.9	No
SLU 80	fin.	2288.73	8871	1.58	0	3687	6344	7949	4029	10030	No	1.13	Si
SLU 84	ini.	-3661.09	11482	1.58	0	3687	6344	7949	4029	10030	No	0.87	No
SLU 84	fin.	2340.91	9025	1.58	0	3687	6344	7949	4029	10030	No	1.11	Si
SLU 73	ini.	-3575.79	11228	1.58	0	3687	6344	7949	4029	10030	No	0.89	No
SLU 73	fin.	2325.52	8948	1.58	0	3687	6344	7949	4029	10030	No	1.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-7125.4	-9400	-0.0018098	0.0003369	0.0035	1.58		8928.38	8928.38		1.25	Si
SLV 9	fin.	6406.34	-2899	-0.0015253	0.0003369	0.0035	1.58		8917.73	8917.73		1.39	Si
SLD 14	ini.	-5397.58	-8156	-0.001186	0.0003369	0.0035	1.58		8928.38	8928.38		1.65	Si
SLD 14	fin.	4702.22	-3310	-0.0009846	0.0003369	0.0035	1.58		8917.73	8917.73		1.9	Si
SLD 13	ini.	-5531.43	-8237	-0.0012274	0.0003369	0.0035	1.58		8928.38	8928.38		1.61	Si
SLD 13	fin.	4832.15	-3267	-0.0010211	0.0003369	0.0035	1.58		8917.73	8917.73		1.85	Si
SLV 16	ini.	-4976.05	-7524	-0.0010607	0.0003369	0.0035	1.58		8928.38	8928.38		1.79	Si
SLV 16	fin.	4330.07	-3047	-0.0008835	0.0003369	0.0035	1.58		8917.73	8917.73		2.06	Si
SLV 10	ini.	-6984.35	-9314	-0.0017494	0.0003369	0.0035	1.58		8928.38	8928.38		1.28	Si
SLV 10	fin.	6269.42	-2944	-0.0014757	0.0003369	0.0035	1.58		8917.73	8917.73		1.42	Si
SLD 10	ini.	-5308.13	-8654	-0.0011587	0.0003369	0.0035	1.58		8928.38	8928.38		1.68	Si
SLD 10	fin.	4537.15	-3956	-0.0009391	0.0003369	0.0035	1.58		8917.73	8917.73		1.97	Si
SLV 13	ini.	-7271.62	-8636	-0.0018751	0.0003369	0.0035	1.58		8928.38	8928.38		1.23	Si
SLV 13	fin.	6666.51	-1903	-0.0016237	0.0003369	0.0035	1.58		8917.73	8917.73		1.34	Si
SLD 9	ini.	-5396.87	-8709	-0.0011858	0.0003369	0.0035	1.58		8928.38	8928.38		1.65	Si
SLD 9	fin.	4623.28	-3928	-0.0009627	0.0003369	0.0035	1.58		8917.73	8917.73		1.93	Si
SLV 14	ini.	-7062.11	-8508	-0.0017824	0.0003369	0.0035	1.58		8928.38	8928.38		1.26	Si
SLV 14	fin.	6463.14	-1970	-0.0015463	0.0003369	0.0035	1.58		8917.73	8917.73		1.38	Si
SLV 15	ini.	-5185.56	-7652	-0.001122	0.0003369	0.0035	1.58		8928.38	8928.38		1.72	Si
SLV 15	fin.	4533.45	-2980	-0.0009381	0.0003369	0.0035	1.58		8917.73	8917.73		1.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-4976.05	16752	1.58	0	5530	6344	11924	4029	11874		0.71	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	fin.	4330.07	15278	1.58	0	5530	6344	11924	4029	11874		0.78	No
SLD 14	ini.	-5397.58	18128	1.58	0	5530	6344	11924	4029	11874		0.65	No
SLD 14	fin.	4702.22	16662	1.58	0	5530	6344	11924	4029	11874		0.71	No
SLV 14	ini.	-7062.11	24061	1.58	0	5530	6344	11924	4029	11874		0.49	No
SLV 14	fin.	6463.14	22588	1.58	0	5530	6344	11924	4029	11874		0.53	No
SLD 10	ini.	-5308.13	17692	1.58	0	5530	6344	11924	4029	11874		0.67	No
SLD 10	fin.	4537.15	16232	1.58	0	5530	6344	11924	4029	11874		0.73	No
SLV 10	ini.	-6984.35	23596	1.58	0	5530	6344	11924	4029	11874		0.5	No
SLV 10	fin.	6269.42	22135	1.58	0	5530	6344	11924	4029	11874		0.54	No
SLV 15	ini.	-5185.56	17461	1.58	0	5530	6344	11924	4029	11874		0.68	No
SLV 15	fin.	4533.45	15987	1.58	0	5530	6344	11924	4029	11874		0.74	No
SLV 13	ini.	-7271.62	24769	1.58	0	5530	6344	11924	4029	11874		0.48	No
SLV 13	fin.	6666.51	23297	1.58	0	5530	6344	11924	4029	11874		0.51	No
SLV 9	ini.	-7125.4	24073	1.58	0	5530	6344	11924	4029	11874		0.49	No
SLV 9	fin.	6406.34	22613	1.58	0	5530	6344	11924	4029	11874		0.53	No
SLD 13	ini.	-5531.43	18581	1.58	0	5530	6344	11924	4029	11874		0.64	No
SLD 13	fin.	4832.15	17115	1.58	0	5530	6344	11924	4029	11874		0.69	No
SLD 9	ini.	-5396.87	17992	1.58	0	5530	6344	11924	4029	11874		0.66	No
SLD 9	fin.	4623.28	16532	1.58	0	5530	6344	11924	4029	11874		0.72	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.228	SLV 13	Si
V_SLV	0.479	SLV 13	No
PF_SLU	2.554	SLU 84	Si
V_SLU	0.874	SLU 84	No

Trave di accoppiamento 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	3.17	4.35	1.18	-12.263	1.141	3.17	4.35	1.18	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-2097.01	-8075	-0.0007846	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.49	Si
SLU 74	fin.	203.51	-5721	-0.000059	0.0002246	0.0035	1.18		5205.04	5205.04	No	25.58	Si
SLU 82	ini.	-2193.02	-8294	-0.0008309	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.38	Si
SLU 82	fin.	229.03	-5812	-0.0000665	0.0002246	0.0035	1.18		5205.04	5205.04	No	22.73	Si
SLU 81	ini.	-2193.14	-8294	-0.000831	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.38	Si
SLU 81	fin.	232.85	-5805	-0.0000677	0.0002246	0.0035	1.18		5205.04	5205.04	No	22.35	Si
SLU 75	ini.	-2096.9	-8074	-0.0007845	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.49	Si
SLU 75	fin.	199.69	-5728	-0.0000578	0.0002246	0.0035	1.18		5205.04	5205.04	No	26.07	Si
SLU 77	ini.	-2124.02	-8193	-0.0007975	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.45	Si
SLU 77	fin.	210.37	-5806	-0.000061	0.0002246	0.0035	1.18		5205.04	5205.04	No	24.74	Si
SLU 84	ini.	-2220.03	-8412	-0.0008441	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.35	Si
SLU 84	fin.	235.89	-5896	-0.0000686	0.0002246	0.0035	1.18		5205.04	5205.04	No	22.07	Si
SLU 83	ini.	-2220.14	-8413	-0.0008442	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.35	Si
SLU 83	fin.	239.71	-5890	-0.0000697	0.0002246	0.0035	1.18		5205.04	5205.04	No	21.71	Si
SLU 80	ini.	-2108.23	-8132	-0.00079	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.47	Si
SLU 80	fin.	201.85	-5772	-0.0000585	0.0002246	0.0035	1.18		5205.04	5205.04	No	25.79	Si
SLU 79	ini.	-2108.34	-8132	-0.00079	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.47	Si
SLU 79	fin.	205.67	-5766	-0.0000596	0.0002246	0.0035	1.18		5205.04	5205.04	No	25.31	Si
SLU 78	ini.	-2123.9	-8193	-0.0007975	0.0002246	0.0035	1.18		5212.34	5212.34	No	2.45	Si
SLU 78	fin.	206.55	-5813	-0.0000599	0.0002246	0.0035	1.18		5205.04	5205.04	No	25.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-2193.14	5162	1.18	0	2753	8881	5937	3009	8946	No	1.73	Si
SLU 81	fin.	232.85	1861	1.18	0	2753	8881	5937	3009	8946	No	4.81	Si
SLU 82	ini.	-2193.02	5155	1.18	0	2753	8881	5937	3009	8946	No	1.74	Si
SLU 82	fin.	229.03	1854	1.18	0	2753	8881	5937	3009	8946	No	4.82	Si
SLU 77	ini.	-2124.02	4874	1.18	0	2753	8881	5937	3009	8946	No	1.84	Si
SLU 77	fin.	210.37	1869	1.18	0	2753	8881	5937	3009	8946	No	4.79	Si
SLU 74	ini.	-2097.01	4826	1.18	0	2753	8881	5937	3009	8946	No	1.85	Si
SLU 74	fin.	203.51	1821	1.18	0	2753	8881	5937	3009	8946	No	4.91	Si
SLU 78	ini.	-2123.9	4867	1.18	0	2753	8881	5937	3009	8946	No	1.84	Si
SLU 78	fin.	206.55	1862	1.18	0	2753	8881	5937	3009	8946	No	4.8	Si
SLU 84	ini.	-2220.03	5203	1.18	0	2753	8881	5937	3009	8946	No	1.72	Si
SLU 84	fin.	235.89	1902	1.18	0	2753	8881	5937	3009	8946	No	4.7	Si
SLU 83	ini.	-2220.14	5210	1.18	0	2753	8881	5937	3009	8946	No	1.72	Si
SLU 83	fin.	239.71	1909	1.18	0	2753	8881	5937	3009	8946	No	4.69	Si
SLU 75	ini.	-2096.9	4819	1.18	0	2753	8881	5937	3009	8946	No	1.86	Si
SLU 75	fin.	199.69	1814	1.18	0	2753	8881	5937	3009	8946	No	4.93	Si
SLU 80	ini.	-2108.23	4838	1.18	0	2753	8881	5937	3009	8946	No	1.85	Si
SLU 80	fin.	201.85	1833	1.18	0	2753	8881	5937	3009	8946	No	4.88	Si
SLU 79	ini.	-2108.34	4845	1.18	0	2753	8881	5937	3009	8946	No	1.85	Si
SLU 79	fin.	205.67	1840	1.18	0	2753	8881	5937	3009	8946	No	4.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-5845.02	-10375	-0.0039691	0.0003369	0.0035	1.18		5093.53	5093.53		0.87	No
SLV 15	fin.	5107.09	1408	-0.0030179	0.0003369	0.0035	1.18		5085.47	5085.47		1	No
SLV 16	ini.	-5766.93	-10281	-0.003875	0.0003369	0.0035	1.18		5093.53	5093.53		0.88	No
SLV 16	fin.	5028.17	1334	-0.0029106	0.0003369	0.0035	1.18		5085.47	5085.47		1.01	Si
SLD 15	ini.	-4229.94	-8581	-0.0020225	0.0003369	0.0035	1.18		5093.53	5093.53		1.2	Si
SLD 15	fin.	3300.94	-511	-0.0013544	0.0003369	0.0035	1.18		5085.47	5085.47		1.54	Si
SLV 4	ini.	3154.12	-435	-0.0012684	0.0003369	0.0035	1.18		5085.47	5085.47		1.61	Si
SLV 4	fin.	-4746.53	-9006	-0.0025497	0.0003369	0.0035	1.18		5093.53	5093.53		1.07	Si
SLV 14	ini.	-5778.57	-10246	-0.0038891	0.0003369	0.0035	1.18		5093.53	5093.53		0.88	No
SLV 14	fin.	4840.62	1084	-0.0026698	0.0003369	0.0035	1.18		5085.47	5085.47		1.05	Si
SLV 13	ini.	-5856.65	-10339	-0.003983	0.0003369	0.0035	1.18		5093.53	5093.53		0.87	No
SLV 13	fin.	4919.54	1157	-0.0027684	0.0003369	0.0035	1.18		5085.47	5085.47		1.03	Si
SLV 3	ini.	3076.04	-529	-0.0012241	0.0003369	0.0035	1.18		5085.47	5085.47		1.65	Si
SLV 3	fin.	-4667.61	-8932	-0.0024599	0.0003369	0.0035	1.18		5093.53	5093.53		1.09	Si
SLV 1	ini.	3064.41	-494	-0.0012176	0.0003369	0.0035	1.18		5085.47	5085.47		1.66	Si
SLV 1	fin.	-4855.16	-9183	-0.0026794	0.0003369	0.0035	1.18		5093.53	5093.53		1.05	Si
SLD 13	ini.	-4237.55	-8560	-0.0020293	0.0003369	0.0035	1.18		5093.53	5093.53		1.2	Si
SLD 13	fin.	3184.91	-666	-0.0012861	0.0003369	0.0035	1.18		5085.47	5085.47		1.6	Si
SLV 2	ini.	3142.49	-400	-0.0012617	0.0003369	0.0035	1.18		5085.47	5085.47		1.62	Si
SLV 2	fin.	-4934.08	-9257	-0.0027782	0.0003369	0.0035	1.18		5093.53	5093.53		1.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-5778.57	16369	1.18	0	3261	8881	8905	3009	11914		0.73	No
SLV 14	fin.	4840.62	14476	1.18	0	3261	8881	8905	3009	11914		0.82	No
SLD 15	ini.	-4229.94	11896	1.18	0	3261	8881	8905	3009	11914		1	Si
SLD 15	fin.	3300.94	10073	1.18	0	3261	8881	8905	3009	11914		1.18	Si
SLV 2	ini.	3142.49	-10893	1.18	0	3261	8881	8905	3009	11914		1.09	Si
SLV 2	fin.	-4934.08	-12809	1.18	0	3261	8881	8905	3009	11914		0.93	No
SLD 16	ini.	-4180.05	11750	1.18	0	3261	8881	8905	3009	11914		1.01	Si
SLD 16	fin.	3250.52	9927	1.18	0	3261	8881	8905	3009	11914		1.2	Si
SLV 16	ini.	-5766.93	16662	1.18	0	3261	8881	8905	3009	11914		0.72	No
SLV 16	fin.	5028.17	14867	1.18	0	3261	8881	8905	3009	11914		0.8	No
SLV 15	ini.	-5845.02	16890	1.18	0	3261	8881	8905	3009	11914		0.71	No
SLV 15	fin.	5107.09	15095	1.18	0	3261	8881	8905	3009	11914		0.79	No
SLV 13	ini.	-5856.65	16598	1.18	0	3261	8881	8905	3009	11914		0.72	No
SLV 13	fin.	4919.54	14704	1.18	0	3261	8881	8905	3009	11914		0.81	No
SLV 4	ini.	3154.12	-10600	1.18	0	3261	8881	8905	3009	11914		1.12	Si
SLV 4	fin.	-4746.53	-12418	1.18	0	3261	8881	8905	3009	11914		0.96	No
SLV 3	ini.	3076.04	-10372	1.18	0	3261	8881	8905	3009	11914		1.15	Si
SLV 3	fin.	-4667.61	-12189	1.18	0	3261	8881	8905	3009	11914		0.98	No
SLV 1	ini.	3064.41	-10665	1.18	0	3261	8881	8905	3009	11914		1.12	Si
SLV 1	fin.	-4855.16	-12580	1.18	0	3261	8881	8905	3009	11914		0.95	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.87	SLV 13	No
V_SLV	0.705	SLV 15	No
PF_SLU	2.348	SLU 83	Si
V_SLU	1.717	SLU 83	Si

Trave di accoppiamento 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	2.77	4.35	1.58	-4.893	1.141	2.77	4.35	1.58	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	2210.27	-7584	-0.0004095	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.23	Si
SLU 78	fin.	-3670.14	-10434	-0.0007612	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.55	Si
SLU 74	ini.	2212.18	-7462	-0.0004099	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.22	Si
SLU 74	fin.	-3656.27	-10307	-0.0007576	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.56	Si
SLU 80	ini.	2195.14	-7524	-0.0004062	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.26	Si
SLU 80	fin.	-3647.78	-10356	-0.0007553	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.56	Si
SLU 81	ini.	2264.05	-7620	-0.0004214	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.13	Si
SLU 81	fin.	-3756.14	-10539	-0.000784	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.49	Si
SLU 82	ini.	2260.01	-7625	-0.0004205	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.13	Si
SLU 82	fin.	-3757	-10543	-0.0007842	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.49	Si
SLU 77	ini.	2214.3	-7579	-0.0004104	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.22	Si
SLU 77	fin.	-3669.28	-10430	-0.000761	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.55	Si
SLU 75	ini.	2208.15	-7467	-0.000409	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.23	Si
SLU 75	fin.	-3657.13	-10310	-0.0007578	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.56	Si
SLU 79	ini.	2199.17	-7519	-0.0004071	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.25	Si
SLU 79	fin.	-3646.92	-10352	-0.0007551	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.56	Si
SLU 84	ini.	2262.14	-7742	-0.0004209	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.13	Si
SLU 84	fin.	-3770.01	-10667	-0.0007877	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.48	Si
SLU 83	ini.	2266.17	-7737	-0.0004218	0.0002246	0.0035	1.58		9341.96	9341.96	No	4.12	Si
SLU 83	fin.	-3769.15	-10663	-0.0007875	0.0002246	0.0035	1.58		9351.86	9351.86	No	2.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	2208.15	-9030	1.58	0	3687	6344	7949	4029	10030	No	1.11	Si
SLU 75	fin.	-3657.13	-11208	1.58	0	3687	6344	7949	4029	10030	No	0.89	No
SLU 84	ini.	2262.14	-9238	1.58	0	3687	6344	7949	4029	10030	No	1.09	Si
SLU 84	fin.	-3770.01	-11580	1.58	0	3687	6344	7949	4029	10030	No	0.87	No
SLU 78	ini.	2210.27	-9056	1.58	0	3687	6344	7949	4029	10030	No	1.11	Si
SLU 78	fin.	-3670.14	-11234	1.58	0	3687	6344	7949	4029	10030	No	0.89	No
SLU 80	ini.	2195.14	-8991	1.58	0	3687	6344	7949	4029	10030	No	1.12	Si
SLU 80	fin.	-3647.78	-11169	1.58	0	3687	6344	7949	4029	10030	No	0.9	No
SLU 82	ini.	2260.01	-9212	1.58	0	3687	6344	7949	4029	10030	No	1.09	Si
SLU 82	fin.	-3757	-11554	1.58	0	3687	6344	7949	4029	10030	No	0.87	No
SLU 81	ini.	2264.05	-9217	1.58	0	3687	6344	7949	4029	10030	No	1.09	Si
SLU 81	fin.	-3756.14	-11559	1.58	0	3687	6344	7949	4029	10030	No	0.87	No
SLU 79	ini.	2199.17	-8997	1.58	0	3687	6344	7949	4029	10030	No	1.11	Si
SLU 79	fin.	-3646.92	-11175	1.58	0	3687	6344	7949	4029	10030	No	0.9	No
SLU 83	ini.	2266.17	-9243	1.58	0	3687	6344	7949	4029	10030	No	1.09	Si
SLU 83	fin.	-3769.15	-11585	1.58	0	3687	6344	7949	4029	10030	No	0.87	No
SLU 74	ini.	2212.18	-9036	1.58	0	3687	6344	7949	4029	10030	No	1.11	Si
SLU 74	fin.	-3656.27	-11214	1.58	0	3687	6344	7949	4029	10030	No	0.89	No
SLU 77	ini.	2214.3	-9062	1.58	0	3687	6344	7949	4029	10030	No	1.11	Si
SLU 77	fin.	-3669.28	-11239	1.58	0	3687	6344	7949	4029	10030	No	0.89	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	3480.07	-3718	-0.0006697	0.0003369	0.0035	1.58		8917.73	8917.73		2.56	Si
SLD 1	fin.	-4420.17	-7573	-0.0009063	0.0003369	0.0035	1.58		8928.38	8928.38		2.02	Si
SLV 6	ini.	2359.56	-4816	-0.000421	0.0003369	0.0035	1.58		8917.73	8917.73		3.78	Si
SLV 6	fin.	-3533.53	-7630	-0.0006816	0.0003369	0.0035	1.58		8928.38	8928.38		2.53	Si
SLD 4	ini.	3546.84	-3547	-0.0006857	0.0003369	0.0035	1.58		8917.73	8917.73		2.51	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	fin.	-4406.27	-7441	-0.0009025	0.0003369	0.0035	1.58		8928.38	8928.38		2.03	Si
SLV 4	ini.	4665.64	-2718	-0.0009744	0.0003369	0.0035	1.58		8917.73	8917.73		1.91	Si
SLV 4	fin.	-5453.52	-7684	-0.0012032	0.0003369	0.0035	1.58		8928.38	8928.38		1.64	Si
SLV 5	ini.	2340.67	-4821	-0.0004171	0.0003369	0.0035	1.58		8917.73	8917.73		3.81	Si
SLV 5	fin.	-3510.11	-7620	-0.000676	0.0003369	0.0035	1.58		8928.38	8928.38		2.54	Si
SLV 2	ini.	4589.14	-2989	-0.0009533	0.0003369	0.0035	1.58		8917.73	8917.73		1.94	Si
SLV 2	fin.	-5513.28	-7915	-0.0012218	0.0003369	0.0035	1.58		8928.38	8928.38		1.62	Si
SLV 1	ini.	4561.08	-2996	-0.0009457	0.0003369	0.0035	1.58		8917.73	8917.73		1.96	Si
SLV 1	fin.	-5478.49	-7900	-0.0012109	0.0003369	0.0035	1.58		8928.38	8928.38		1.63	Si
SLD 3	ini.	3528.91	-3552	-0.0006814	0.0003369	0.0035	1.58		8917.73	8917.73		2.53	Si
SLD 3	fin.	-4384.04	-7431	-0.0008966	0.0003369	0.0035	1.58		8928.38	8928.38		2.04	Si
SLD 2	ini.	3498	-3713	-0.000674	0.0003369	0.0035	1.58		8917.73	8917.73		2.55	Si
SLD 2	fin.	-4442.4	-7582	-0.0009122	0.0003369	0.0035	1.58		8928.38	8928.38		2.01	Si
SLV 3	ini.	4637.59	-2725	-0.0009667	0.0003369	0.0035	1.58		8917.73	8917.73		1.92	Si
SLV 3	fin.	-5418.73	-7669	-0.0011925	0.0003369	0.0035	1.58		8928.38	8928.38		1.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	3498	-12992	1.58	0	5530	6344	11924	4029	11874		0.91	No
SLD 2	fin.	-4442.4	-14388	1.58	0	5530	6344	11924	4029	11874		0.83	No
SLD 3	ini.	3528.91	-12964	1.58	0	5530	6344	11924	4029	11874		0.92	No
SLD 3	fin.	-4384.04	-14393	1.58	0	5530	6344	11924	4029	11874		0.82	No
SLV 8	ini.	2614.58	-9604	1.58	0	5530	6344	11924	4029	11874		1.24	Si
SLV 8	fin.	-3334.34	-11106	1.58	0	5530	6344	11924	4029	11874		1.07	Si
SLD 4	ini.	3546.84	-13028	1.58	0	5530	6344	11924	4029	11874		0.91	No
SLD 4	fin.	-4406.27	-14457	1.58	0	5530	6344	11924	4029	11874		0.82	No
SLV 3	ini.	4637.59	-16675	1.58	0	5530	6344	11924	4029	11874		0.71	No
SLV 3	fin.	-5418.73	-18123	1.58	0	5530	6344	11924	4029	11874		0.66	No
SLV 1	ini.	4561.08	-16619	1.58	0	5530	6344	11924	4029	11874		0.71	No
SLV 1	fin.	-5478.49	-18010	1.58	0	5530	6344	11924	4029	11874		0.66	No
SLV 2	ini.	4589.14	-16719	1.58	0	5530	6344	11924	4029	11874		0.71	No
SLV 2	fin.	-5513.28	-18110	1.58	0	5530	6344	11924	4029	11874		0.66	No
SLV 7	ini.	2595.69	-9536	1.58	0	5530	6344	11924	4029	11874		1.25	Si
SLV 7	fin.	-3310.92	-11039	1.58	0	5530	6344	11924	4029	11874		1.08	Si
SLV 4	ini.	4665.64	-16775	1.58	0	5530	6344	11924	4029	11874		0.71	No
SLV 4	fin.	-5453.52	-18223	1.58	0	5530	6344	11924	4029	11874		0.65	No
SLD 1	ini.	3480.07	-12928	1.58	0	5530	6344	11924	4029	11874		0.92	No
SLD 1	fin.	-4420.17	-14324	1.58	0	5530	6344	11924	4029	11874		0.83	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.619	SLV 2	Si
V_SLV	0.652	SLV 4	No
PF_SLU	2.481	SLU 84	Si
V_SLU	0.866	SLU 83	No

Trave di accoppiamento 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	2.77	4.35	1.58	-9.443	-3.169	2.77	4.35	1.58	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	93.23	-6448	-0.0000149	0.0001872	0.0035	1.58		9075.6	9075.6	No	97.35	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-3037.8	-7909	-0.0006177	0.0001872	0.0035	1.58		9085.55	9085.55	No	2.99	Si
SLU 78	ini.	91.37	-6307	-0.0000146	0.0001872	0.0035	1.58		9075.6	9075.6	No	99.32	Si
SLU 78	fin.	-2958.46	-7734	-0.0005978	0.0001872	0.0035	1.58		9085.55	9085.55	No	3.07	Si
SLU 81	ini.	115.35	-6346	-0.0000184	0.0001872	0.0035	1.58		9075.6	9075.6	No	78.68	Si
SLU 81	fin.	-3026.11	-7810	-0.0006148	0.0001872	0.0035	1.58		9085.55	9085.55	No	3	Si
SLU 74	ini.	113.5	-6205	-0.0000181	0.0001872	0.0035	1.58		9075.6	9075.6	No	79.96	Si
SLU 74	fin.	-2946.77	-7635	-0.0005949	0.0001872	0.0035	1.58		9085.55	9085.55	No	3.08	Si
SLU 82	ini.	115.89	-6386	-0.0000185	0.0001872	0.0035	1.58		9075.6	9075.6	No	78.32	Si
SLU 82	fin.	-3042.95	-7856	-0.000619	0.0001872	0.0035	1.58		9085.55	9085.55	No	2.99	Si
SLU 76	ini.	106.84	-6222	-0.000017	0.0001872	0.0035	1.58		9075.6	9075.6	No	84.95	Si
SLU 76	fin.	-2947.27	-7647	-0.000595	0.0001872	0.0035	1.58		9085.55	9085.55	No	3.08	Si
SLU 77	ini.	90.84	-6267	-0.0000145	0.0001872	0.0035	1.58		9075.6	9075.6	No	99.91	Si
SLU 77	fin.	-2941.62	-7688	-0.0005936	0.0001872	0.0035	1.58		9085.55	9085.55	No	3.09	Si
SLU 75	ini.	114.03	-6245	-0.0000182	0.0001872	0.0035	1.58		9075.6	9075.6	No	79.59	Si
SLU 75	fin.	-2963.61	-7681	-0.0005991	0.0001872	0.0035	1.58		9085.55	9085.55	No	3.07	Si
SLU 83	ini.	92.69	-6408	-0.0000148	0.0001872	0.0035	1.58		9075.6	9075.6	No	97.91	Si
SLU 83	fin.	-3020.96	-7863	-0.0006135	0.0001872	0.0035	1.58		9085.55	9085.55	No	3.01	Si
SLU 73	ini.	129.5	-6160	-0.0000207	0.0001872	0.0035	1.58		9075.6	9075.6	No	70.08	Si
SLU 73	fin.	-2952.43	-7594	-0.0005963	0.0001872	0.0035	1.58		9085.55	9085.55	No	3.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	92.69	-3663	1.58	0	3072	7137	6624	4029	10209	No	2.79	Si
SLU 83	fin.	-3020.96	-5776	1.58	0	3072	7137	6624	4029	10209	No	1.77	Si
SLU 84	ini.	93.23	-3688	1.58	0	3072	7137	6624	4029	10209	No	2.77	Si
SLU 84	fin.	-3037.8	-5801	1.58	0	3072	7137	6624	4029	10209	No	1.76	Si
SLU 76	ini.	106.84	-3629	1.58	0	3072	7137	6624	4029	10209	No	2.81	Si
SLU 76	fin.	-2947.27	-5624	1.58	0	3072	7137	6624	4029	10209	No	1.82	Si
SLU 73	ini.	129.5	-3667	1.58	0	3072	7137	6624	4029	10209	No	2.78	Si
SLU 73	fin.	-2952.43	-5662	1.58	0	3072	7137	6624	4029	10209	No	1.8	Si
SLU 75	ini.	114.03	-3665	1.58	0	3072	7137	6624	4029	10209	No	2.79	Si
SLU 75	fin.	-2963.61	-5660	1.58	0	3072	7137	6624	4029	10209	No	1.8	Si
SLU 74	ini.	113.5	-3640	1.58	0	3072	7137	6624	4029	10209	No	2.8	Si
SLU 74	fin.	-2946.77	-5635	1.58	0	3072	7137	6624	4029	10209	No	1.81	Si
SLU 81	ini.	115.35	-3701	1.58	0	3072	7137	6624	4029	10209	No	2.76	Si
SLU 81	fin.	-3026.11	-5814	1.58	0	3072	7137	6624	4029	10209	No	1.76	Si
SLU 82	ini.	115.89	-3726	1.58	0	3072	7137	6624	4029	10209	No	2.74	Si
SLU 82	fin.	-3042.95	-5839	1.58	0	3072	7137	6624	4029	10209	No	1.75	Si
SLU 77	ini.	90.84	-3602	1.58	0	3072	7137	6624	4029	10209	No	2.83	Si
SLU 77	fin.	-2941.62	-5597	1.58	0	3072	7137	6624	4029	10209	No	1.82	Si
SLU 78	ini.	91.37	-3627	1.58	0	3072	7137	6624	4029	10209	No	2.81	Si
SLU 78	fin.	-2958.46	-5622	1.58	0	3072	7137	6624	4029	10209	No	1.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	2601.11	-3208	-0.0004824	0.0002807	0.0035	1.58		9001.52	9001.52		3.46	Si
SLD 4	fin.	-4449.02	-6034	-0.0009418	0.0002807	0.0035	1.58		9011.94	9011.94		2.03	Si
SLV 5	ini.	1256.75	-7714	-0.0002123	0.0002807	0.0035	1.58		9001.52	9001.52		7.16	Si
SLV 5	fin.	-4608.75	-10058	-0.0009869	0.0002807	0.0035	1.58		9011.94	9011.94		1.96	Si
SLV 4	ini.	4009.23	-2590	-0.0008237	0.0002807	0.0035	1.58		9001.52	9001.52		2.25	Si
SLV 4	fin.	-5786.16	-6439	-0.0013524	0.0002807	0.0035	1.58		9011.94	9011.94		1.56	Si
SLV 3	ini.	3372.28	-2458	-0.0006619	0.0002807	0.0035	1.58		9001.52	9001.52		2.67	Si
SLV 3	fin.	-5031.58	-5817	-0.0011108	0.0002807	0.0035	1.58		9011.94	9011.94		1.79	Si
SLV 1	ini.	3536.99	-4673	-0.0007025	0.0002807	0.0035	1.58		9001.52	9001.52		2.54	Si
SLV 1	fin.	-6027.67	-8434	-0.0014364	0.0002807	0.0035	1.58		9011.94	9011.94		1.5	Si
SLD 1	ini.	2296.21	-4504	-0.0004163	0.0002807	0.0035	1.58		9001.52	9001.52		3.92	Si
SLD 1	fin.	-4586.64	-7266	-0.0009806	0.0002807	0.0035	1.58		9011.94	9011.94		1.96	Si
SLV 15	ini.	-3989.02	-3702	-0.0008172	0.0002807	0.0035	1.58		9011.94	9011.94		2.26	Si
SLV 15	fin.	2695.01	-1445	-0.0005033	0.0002807	0.0035	1.58		9001.52	9001.52		3.34	Si
SLV 2	ini.	4173.94	-4805	-0.0008677	0.0002807	0.0035	1.58		9001.52	9001.52		2.16	Si
SLV 2	fin.	-6782.25	-9056	-0.0017278	0.0002807	0.0035	1.58		9011.94	9011.94		1.33	Si
SLD 2	ini.	2703.16	-4588	-0.0005051	0.0002807	0.0035	1.58		9001.52	9001.52		3.33	Si
SLD 2	fin.	-5068.75	-7664	-0.0011221	0.0002807	0.0035	1.58		9011.94	9011.94		1.78	Si
SLV 6	ini.	1685.59	-7803	-0.0002925	0.0002807	0.0035	1.58		9001.52	9001.52		5.34	Si
SLV 6	fin.	-5116.78	-10477	-0.0011367	0.0002807	0.0035	1.58		9011.94	9011.94		1.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	3536.99	-13119	1.58	0	4608	7137	9936	4029	11745		0.9	No
SLV 1	fin.	-6027.67	-14465	1.58	0	4608	7137	9936	4029	11745		0.81	No
SLD 2	ini.	2703.16	-10574	1.58	0	4608	7137	9936	4029	11745		1.11	Si
SLD 2	fin.	-5068.75	-11918	1.58	0	4608	7137	9936	4029	11745		0.99	No
SLV 4	ini.	4009.23	-13523	1.58	0	4608	7137	9936	4029	11745		0.87	No
SLV 4	fin.	-5786.16	-14805	1.58	0	4608	7137	9936	4029	11745		0.79	No
SLV 15	ini.	-3989.02	9964	1.58	0	4608	7137	9936	4029	11745		1.18	Si
SLV 15	fin.	2695.01	8633	1.58	0	4608	7137	9936	4029	11745		1.36	Si
SLD 4	ini.	2601.11	-9597	1.58	0	4608	7137	9936	4029	11745		1.22	Si
SLD 4	fin.	-4449.02	-10901	1.58	0	4608	7137	9936	4029	11745		1.08	Si
SLV 3	ini.	3372.28	-11546	1.58	0	4608	7137	9936	4029	11745		1.02	Si
SLV 3	fin.	-5031.58	-12829	1.58	0	4608	7137	9936	4029	11745		0.92	No
SLV 2	ini.	4173.94	-15096	1.58	0	4608	7137	9936	4029	11745		0.78	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	fin.	-6782.25	-16442	1.58	0	4608	7137	9936	4029	11745		0.71	No
SLD 3	ini.	2194.16	-8334	1.58	0	4608	7137	9936	4029	11745		1.41	Si
SLD 3	fin.	-3966.92	-9638	1.58	0	4608	7137	9936	4029	11745		1.22	Si
SLV 6	ini.	1685.59	-9080	1.58	0	4608	7137	9936	4029	11745		1.29	Si
SLV 6	fin.	-5116.78	-10517	1.58	0	4608	7137	9936	4029	11745		1.12	Si
SLD 1	ini.	2296.21	-9312	1.58	0	4608	7137	9936	4029	11745		1.26	Si
SLD 1	fin.	-4586.64	-10655	1.58	0	4608	7137	9936	4029	11745		1.1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.329	SLV 2	Si
V_SLV	0.714	SLV 2	No
PF_SLU	2.986	SLU 82	Si
V_SLU	1.748	SLU 82	Si

Trave di accoppiamento 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.453	-3.169	0.67	1.57	0.9	-7.453	-3.169	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-132.76	2267	-0.0000665	0.0001872	0.0035	0.9		2964.67	2964.67	No	22.33	Si
SLU 83	fin.	263.48	-597	-0.0001362	0.0001872	0.0035	0.9		2959	2959	No	11.23	Si
SLU 79	ini.	-124.56	2183	-0.0000623	0.0001872	0.0035	0.9		2964.67	2964.67	No	23.8	Si
SLU 79	fin.	250.1	-565	-0.0001289	0.0001872	0.0035	0.9		2959	2959	No	11.83	Si
SLU 82	ini.	-119.63	2200	-0.0000598	0.0001872	0.0035	0.9		2964.67	2964.67	No	24.78	Si
SLU 82	fin.	253.03	-566	-0.0001305	0.0001872	0.0035	0.9		2959	2959	No	11.69	Si
SLU 80	ini.	-115.31	2143	-0.0000576	0.0001872	0.0035	0.9		2964.67	2964.67	No	25.71	Si
SLU 80	fin.	249.65	-565	-0.0001286	0.0001872	0.0035	0.9		2959	2959	No	11.85	Si
SLU 77	ini.	-123	2188	-0.0000615	0.0001872	0.0035	0.9		2964.67	2964.67	No	24.1	Si
SLU 77	fin.	248.38	-558	-0.0001279	0.0001872	0.0035	0.9		2959	2959	No	11.91	Si
SLU 78	ini.	-113.75	2149	-0.0000568	0.0001872	0.0035	0.9		2964.67	2964.67	No	26.06	Si
SLU 78	fin.	247.92	-558	-0.0001277	0.0001872	0.0035	0.9		2959	2959	No	11.94	Si
SLU 62	ini.	-124.17	2052	-0.0000621	0.0001872	0.0035	0.9		2964.67	2964.67	No	23.88	Si
SLU 62	fin.	251.19	-591	-0.0001295	0.0001872	0.0035	0.9		2959	2959	No	11.78	Si
SLU 81	ini.	-128.89	2239	-0.0000645	0.0001872	0.0035	0.9		2964.67	2964.67	No	23	Si
SLU 81	fin.	253.49	-566	-0.0001307	0.0001872	0.0035	0.9		2959	2959	No	11.67	Si
SLU 63	ini.	-114.92	2012	-0.0000574	0.0001872	0.0035	0.9		2964.67	2964.67	No	25.8	Si
SLU 63	fin.	250.73	-591	-0.0001292	0.0001872	0.0035	0.9		2959	2959	No	11.8	Si
SLU 84	ini.	-123.51	2227	-0.0000618	0.0001872	0.0035	0.9		2964.67	2964.67	No	24	Si
SLU 84	fin.	263.02	-597	-0.0001359	0.0001872	0.0035	0.9		2959	2959	No	11.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-124.56	-1186	0.9	0	1750	7137	3773	2295	6068	No	5.12	Si
SLU 79	fin.	250.1	3398	0.9	0	1750	7137	3773	2295	6068	No	1.79	Si
SLU 84	ini.	-123.51	-1231	0.9	0	1750	7137	3773	2295	6068	No	4.93	Si
SLU 84	fin.	263.02	3528	0.9	0	1750	7137	3773	2295	6068	No	1.72	Si
SLU 82	ini.	-119.63	-1247	0.9	0	1750	7137	3773	2295	6068	No	4.87	Si
SLU 82	fin.	253.03	3471	0.9	0	1750	7137	3773	2295	6068	No	1.75	Si
SLU 81	ini.	-128.89	-1217	0.9	0	1750	7137	3773	2295	6068	No	4.98	Si
SLU 81	fin.	253.49	3480	0.9	0	1750	7137	3773	2295	6068	No	1.74	Si
SLU 77	ini.	-123	-1212	0.9	0	1750	7137	3773	2295	6068	No	5.01	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	248.38	3410	0.9	0	1750	7137	3773	2295	6068	No	1.78	Si
SLU 80	ini.	-115.31	-1215	0.9	0	1750	7137	3773	2295	6068	No	4.99	Si
SLU 80	fin.	249.65	3390	0.9	0	1750	7137	3773	2295	6068	No	1.79	Si
SLU 83	ini.	-132.76	-1202	0.9	0	1750	7137	3773	2295	6068	No	5.05	Si
SLU 83	fin.	263.48	3536	0.9	0	1750	7137	3773	2295	6068	No	1.72	Si
SLU 78	ini.	-113.75	-1241	0.9	0	1750	7137	3773	2295	6068	No	4.89	Si
SLU 78	fin.	247.92	3402	0.9	0	1750	7137	3773	2295	6068	No	1.78	Si
SLU 75	ini.	-109.87	-1257	0.9	0	1750	7137	3773	2295	6068	No	4.83	Si
SLU 75	fin.	237.93	3345	0.9	0	1750	7137	3773	2295	6068	No	1.81	Si
SLU 74	ini.	-119.13	-1228	0.9	0	1750	7137	3773	2295	6068	No	4.94	Si
SLU 74	fin.	238.39	3354	0.9	0	1750	7137	3773	2295	6068	No	1.81	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1077.72	5095	-0.0006495	0.0002807	0.0035	0.9		2995.37	2995.37		2.78	Si
SLV 15	fin.	1917.44	-5981	-0.0014007	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLV 11	ini.	-897.18	3966	-0.0005191	0.0002807	0.0035	0.9		2995.37	2995.37		3.34	Si
SLV 11	fin.	1153.67	-3509	-0.0007088	0.0002807	0.0035	0.9		2989.59	2989.59		2.59	Si
SLV 1	ini.	765.94	-1597	-0.0004309	0.0002807	0.0035	0.9		2989.59	2989.59		3.9	Si
SLV 1	fin.	-1331.73	4425	-0.0008489	0.0002807	0.0035	0.9		2995.37	2995.37		2.25	Si
SLV 16	ini.	-914.6	4526	-0.0005312	0.0002807	0.0035	0.9		2995.37	2995.37		3.28	Si
SLV 16	fin.	1627.65	-5052	-0.0011106	0.0002807	0.0035	0.9		2989.59	2989.59		1.84	Si
SLV 4	ini.	605.06	-1305	-0.0003283	0.0002807	0.0035	0.9		2989.59	2989.59		4.94	Si
SLV 4	fin.	-1344.08	4482	-0.0008591	0.0002807	0.0035	0.9		2995.37	2995.37		2.23	Si
SLV 13	ini.	-753.72	4234	-0.000422	0.0002807	0.0035	0.9		2995.37	2995.37		3.97	Si
SLV 13	fin.	1640	-5110	-0.0011221	0.0002807	0.0035	0.9		2989.59	2989.59		1.82	Si
SLV 2	ini.	929.05	-2166	-0.0005426	0.0002807	0.0035	0.9		2989.59	2989.59		3.22	Si
SLV 2	fin.	-1621.52	5354	-0.0011021	0.0002807	0.0035	0.9		2995.37	2995.37		1.85	Si
SLD 15	ini.	-713.63	3781	-0.0003959	0.0002807	0.0035	0.9		2995.37	2995.37		4.2	Si
SLD 15	fin.	1278.09	-3934	-0.0008071	0.0002807	0.0035	0.9		2989.59	2989.59		2.34	Si
SLV 14	ini.	-590.61	3665	-0.0003188	0.0002807	0.0035	0.9		2995.37	2995.37		5.07	Si
SLV 14	fin.	1350.21	-4181	-0.0008663	0.0002807	0.0035	0.9		2989.59	2989.59		2.21	Si
SLD 13	ini.	-511.49	3245	-0.0002716	0.0002807	0.0035	0.9		2995.37	2995.37		5.86	Si
SLD 13	fin.	1105.4	-3392	-0.0006719	0.0002807	0.0035	0.9		2989.59	2989.59		2.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	929.05	-7930	0.9	0	2577	7137	5660	2295	7955		1	Si
SLV 2	fin.	-1621.52	-4255	0.9	0	2577	7137	5660	2295	7954		1.87	Si
SLV 6	ini.	748.52	-6762	0.9	0	2577	7137	5660	2295	7955		1.18	Si
SLV 6	fin.	-857.75	-626	0.9	0	2577	7137	5660	2295	7954		12.71	Si
SLV 13	ini.	-753.72	3811	0.9	0	2577	7137	5660	2295	7955		2.09	Si
SLV 13	fin.	1640	8248	0.9	0	2577	7137	5660	2295	7954		0.96	No
SLV 5	ini.	638.7	-5970	0.9	0	2577	7137	5660	2295	7955		1.33	Si
SLV 5	fin.	-662.65	73	0.9	0	2577	7137	5660	2295	7954		109.06	Si
SLV 14	ini.	-590.61	2635	0.9	0	2577	7137	5660	2295	7955		3.02	Si
SLV 14	fin.	1350.21	7210	0.9	0	2577	7137	5660	2295	7954		1.1	Si
SLD 13	ini.	-511.49	2135	0.9	0	2577	7137	5660	2295	7955		3.73	Si
SLD 13	fin.	1105.4	6088	0.9	0	2577	7137	5660	2295	7954		1.31	Si
SLV 1	ini.	765.94	-6754	0.9	0	2577	7137	5660	2295	7955		1.18	Si
SLV 1	fin.	-1331.73	-3217	0.9	0	2577	7137	5660	2295	7954		2.47	Si
SLD 15	ini.	-713.63	3588	0.9	0	2577	7137	5660	2295	7955		2.22	Si
SLD 15	fin.	1278.09	6384	0.9	0	2577	7137	5660	2295	7954		1.25	Si
SLV 15	ini.	-1077.72	6143	0.9	0	2577	7137	5660	2295	7955		1.29	Si
SLV 15	fin.	1917.44	8722	0.9	0	2577	7137	5660	2295	7954		0.91	No
SLV 16	ini.	-914.6	4967	0.9	0	2577	7137	5660	2295	7955		1.6	Si
SLV 16	fin.	1627.65	7684	0.9	0	2577	7137	5660	2295	7954		1.04	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.559	SLV 15	Si
V_SLV	0.912	SLV 15	No
PF_SLU	11.231	SLU 83	Si
V_SLU	1.716	SLU 83	Si

Trave di accoppiamento 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.453	-3.169	3.47	4.35	0.88	-7.453	-3.169	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-104.05	-1189	-0.0000542	0.0001872	0.0035	0.88		2838.31	2838.31	No	27.28	Si
SLU 69	fin.	-189.05	-1958	-0.0001004	0.0001872	0.0035	0.88		2838.31	2838.31	No	15.01	Si
SLU 68	ini.	-100.76	-1161	-0.0000525	0.0001872	0.0035	0.88		2838.31	2838.31	No	28.17	Si
SLU 68	fin.	-193.8	-1960	-0.000103	0.0001872	0.0035	0.88		2838.31	2838.31	No	14.65	Si
SLU 72	ini.	-105.57	-1185	-0.000055	0.0001872	0.0035	0.88		2838.31	2838.31	No	26.88	Si
SLU 72	fin.	-190.48	-1958	-0.0001012	0.0001872	0.0035	0.88		2838.31	2838.31	No	14.9	Si
SLU 78	ini.	-148.73	-1453	-0.0000783	0.0001872	0.0035	0.88		2838.31	2838.31	No	19.08	Si
SLU 78	fin.	-189.19	-2131	-0.0001005	0.0001872	0.0035	0.88		2838.31	2838.31	No	15	Si
SLU 67	ini.	-99.5	-1165	-0.0000518	0.0001872	0.0035	0.88		2838.31	2838.31	No	28.52	Si
SLU 67	fin.	-194.05	-1969	-0.0001032	0.0001872	0.0035	0.88		2838.31	2838.31	No	14.63	Si
SLU 65	ini.	-95.43	-1136	-0.0000496	0.0001872	0.0035	0.88		2838.31	2838.31	No	29.74	Si
SLU 65	fin.	-193.79	-1946	-0.000103	0.0001872	0.0035	0.88		2838.31	2838.31	No	14.65	Si
SLU 66	ini.	-98.72	-1164	-0.0000514	0.0001872	0.0035	0.88		2838.31	2838.31	No	28.75	Si
SLU 66	fin.	-189.04	-1944	-0.0001004	0.0001872	0.0035	0.88		2838.31	2838.31	No	15.01	Si
SLU 70	ini.	-104.83	-1190	-0.0000546	0.0001872	0.0035	0.88		2838.31	2838.31	No	27.07	Si
SLU 70	fin.	-194.06	-1983	-0.0001032	0.0001872	0.0035	0.88		2838.31	2838.31	No	14.63	Si
SLU 75	ini.	-143.4	-1428	-0.0000754	0.0001872	0.0035	0.88		2838.31	2838.31	No	19.79	Si
SLU 75	fin.	-189.18	-2117	-0.0001005	0.0001872	0.0035	0.88		2838.31	2838.31	No	15	Si
SLU 76	ini.	-144.66	-1424	-0.0000761	0.0001872	0.0035	0.88		2838.31	2838.31	No	19.62	Si
SLU 76	fin.	-188.93	-2108	-0.0001003	0.0001872	0.0035	0.88		2838.31	2838.31	No	15.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-147.95	4214	0.88	0	1711	6978	3689	2244	5933	No	1.41	Si
SLU 77	fin.	-184.18	-5122	0.88	0	1711	6978	3689	2244	5933	No	1.16	Si
SLU 82	ini.	-157.63	4357	0.88	0	1711	6978	3689	2244	5933	No	1.36	Si
SLU 82	fin.	-183.5	-5234	0.88	0	1711	6978	3689	2244	5933	No	1.13	Si
SLU 80	ini.	-149.47	4200	0.88	0	1711	6978	3689	2244	5933	No	1.41	Si
SLU 80	fin.	-185.61	-5109	0.88	0	1711	6978	3689	2244	5933	No	1.16	Si
SLU 78	ini.	-148.73	4224	0.88	0	1711	6978	3689	2244	5933	No	1.4	Si
SLU 78	fin.	-189.19	-5161	0.88	0	1711	6978	3689	2244	5933	No	1.15	Si
SLU 83	ini.	-162.18	4396	0.88	0	1711	6978	3689	2244	5933	No	1.35	Si
SLU 83	fin.	-178.5	-5228	0.88	0	1711	6978	3689	2244	5933	No	1.13	Si
SLU 81	ini.	-156.85	4348	0.88	0	1711	6978	3689	2244	5933	No	1.36	Si
SLU 81	fin.	-178.49	-5195	0.88	0	1711	6978	3689	2244	5933	No	1.14	Si
SLU 74	ini.	-142.62	4166	0.88	0	1711	6978	3689	2244	5933	No	1.42	Si
SLU 74	fin.	-184.17	-5090	0.88	0	1711	6978	3689	2244	5933	No	1.17	Si
SLU 75	ini.	-143.4	4175	0.88	0	1711	6978	3689	2244	5933	No	1.42	Si
SLU 75	fin.	-189.18	-5129	0.88	0	1711	6978	3689	2244	5933	No	1.16	Si
SLU 76	ini.	-144.66	4157	0.88	0	1711	6978	3689	2244	5933	No	1.43	Si
SLU 76	fin.	-188.93	-5103	0.88	0	1711	6978	3689	2244	5933	No	1.16	Si
SLU 84	ini.	-162.96	4406	0.88	0	1711	6978	3689	2244	5933	No	1.35	Si
SLU 84	fin.	-183.51	-5266	0.88	0	1711	6978	3689	2244	5933	No	1.13	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-771.36	-3432	-0.0004567	0.0002807	0.0035	0.88		2866.69	2866.69		3.72	Si
SLD 15	fin.	331.4	220	-0.0001787	0.0002807	0.0035	0.88		2861.04	2861.04		8.63	Si
SLV 1	ini.	819.7	2414	-0.0004921	0.0002807	0.0035	0.88		2861.04	2861.04		3.49	Si
SLV 1	fin.	-743.16	-3611	-0.0004371	0.0002807	0.0035	0.88		2866.69	2866.69		3.86	Si
SLV 5	ini.	522.91	1259	-0.0002928	0.0002807	0.0035	0.88		2861.04	2861.04		5.47	Si
SLV 5	fin.	-862.7	-4667	-0.0005221	0.0002807	0.0035	0.88		2866.69	2866.69		3.32	Si
SLV 16	ini.	-981.98	-4235	-0.0006113	0.0002807	0.0035	0.88		2866.69	2866.69		2.92	Si
SLV 16	fin.	466	694	-0.0002579	0.0002807	0.0035	0.88		2861.04	2861.04		6.14	Si
SLV 6	ini.	644.65	1680	-0.0003711	0.0002807	0.0035	0.88		2861.04	2861.04		4.44	Si
SLV 6	fin.	-953.62	-5000	-0.0005897	0.0002807	0.0035	0.88		2866.69	2866.69		3.01	Si
SLV 11	ini.	-806.93	-3501	-0.0004819	0.0002807	0.0035	0.88		2866.69	2866.69		3.55	Si
SLV 11	fin.	676.46	2083	-0.0003924	0.0002807	0.0035	0.88		2861.04	2861.04		4.23	Si
SLV 13	ini.	-920.46	-4011	-0.0005648	0.0002807	0.0035	0.88		2866.69	2866.69		3.11	Si
SLV 13	fin.	226.56	-561	-0.00012	0.0002807	0.0035	0.88		2861.04	2861.04		12.63	Si
SLV 15	ini.	-1162.8	-4861	-0.000755	0.0002807	0.0035	0.88		2866.69	2866.69		2.47	Si
SLV 15	fin.	601.04	1189	-0.0003425	0.0002807	0.0035	0.88		2861.04	2861.04		4.76	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1000.52	3040	-0.000627	0.0002807	0.0035	0.88		2861.04	2861.04		2.86	Si
SLV 2	fin.	-878.2	-4106	-0.0005334	0.0002807	0.0035	0.88		2866.69	2866.69		3.26	Si
SLV 4	ini.	758.18	2190	-0.0004485	0.0002807	0.0035	0.88		2861.04	2861.04		3.77	Si
SLV 4	fin.	-503.72	-2356	-0.0002804	0.0002807	0.0035	0.88		2866.69	2866.69		5.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	375.83	1052	0.88	0	2507	6978	5534	2244	7778		7.39	Si
SLD 6	fin.	-648.96	-7213	0.88	0	2507	6978	5534	2244	7778		1.08	Si
SLV 10	ini.	122.6	2475	0.88	0	2507	6978	5534	2244	7778		3.14	Si
SLV 10	fin.	-662.7	-7813	0.88	0	2507	6978	5534	2244	7778		1	No
SLD 5	ini.	299.25	1388	0.88	0	2507	6978	5534	2244	7778		5.61	Si
SLD 5	fin.	-591.77	-6867	0.88	0	2507	6978	5534	2244	7778		1.13	Si
SLV 2	ini.	1000.52	-2038	0.88	0	2507	6978	5534	2244	7778		3.82	Si
SLV 2	fin.	-878.2	-8072	0.88	0	2507	6978	5534	2244	7778		0.96	No
SLV 5	ini.	522.91	596	0.88	0	2507	6978	5534	2244	7778		13.06	Si
SLV 5	fin.	-862.7	-8889	0.88	0	2507	6978	5534	2244	7778		0.88	No
SLV 1	ini.	819.7	-1245	0.88	0	2507	6978	5534	2244	7778		6.25	Si
SLV 1	fin.	-743.16	-7256	0.88	0	2507	6978	5534	2244	7778		1.07	Si
SLV 9	ini.	0.86	3008	0.88	0	2507	6978	5534	2244	7778		2.59	Si
SLV 9	fin.	-571.78	-7264	0.88	0	2507	6978	5534	2244	7778		1.07	Si
SLV 6	ini.	644.65	62	0.88	0	2507	6978	5534	2244	7778		125.5	Si
SLV 6	fin.	-953.62	-9438	0.88	0	2507	6978	5534	2244	7778		0.82	No
SLV 15	ini.	-1162.8	7522	0.88	0	2507	6978	5534	2244	7778		1.03	Si
SLV 15	fin.	601.04	1070	0.88	0	2507	6978	5534	2244	7778		7.27	Si
SLV 13	ini.	-920.46	6798	0.88	0	2507	6978	5534	2244	7778		1.14	Si
SLV 13	fin.	226.56	-1840	0.88	0	2507	6978	5534	2244	7778		4.23	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.465	SLV 15	Si
V_SLV	0.824	SLV 6	No
PF_SLU	14.626	SLU 70	Si
V_SLU	1.127	SLU 84	Si

Trave di accoppiamento 64

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	3.47	4.35	0.88	-5.938	-3.169	3.47	4.35	0.88	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	569.55	463	-0.0003376	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.97	Si
SLU 84	fin.	-459.76	-2205	-0.0002629	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.17	Si
SLU 82	ini.	570.53	481	-0.0003383	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.97	Si
SLU 82	fin.	-456.32	-2181	-0.0002607	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.22	Si
SLU 83	ini.	574.44	504	-0.000341	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.93	Si
SLU 83	fin.	-463.7	-2215	-0.0002655	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.12	Si
SLU 81	ini.	575.42	522	-0.0003417	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.92	Si
SLU 81	fin.	-460.26	-2192	-0.0002632	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.17	Si
SLU 74	ini.	569.03	547	-0.0003372	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.98	Si
SLU 74	fin.	-443.84	-2096	-0.0002526	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.39	Si
SLU 79	ini.	561.92	522	-0.0003323	0.0001872	0.0035	0.88		2832.78	2832.78	No	5.04	Si
SLU 79	fin.	-444.87	-2108	-0.0002532	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.38	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	564.15	506	-0.0003338	0.0001872	0.0035	0.88		2832.78	2832.78	No	5.02	Si
SLU 75	fin.	-439.89	-2085	-0.00025	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.45	Si
SLU 78	ini.	563.17	489	-0.0003332	0.0001872	0.0035	0.88		2832.78	2832.78	No	5.03	Si
SLU 78	fin.	-443.33	-2109	-0.0002522	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.4	Si
SLU 80	ini.	557.04	481	-0.0003289	0.0001872	0.0035	0.88		2832.78	2832.78	No	5.09	Si
SLU 80	fin.	-440.93	-2098	-0.0002507	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.44	Si
SLU 77	ini.	568.06	530	-0.0003365	0.0001872	0.0035	0.88		2832.78	2832.78	No	4.99	Si
SLU 77	fin.	-447.28	-2119	-0.0002548	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	574.44	-511	0.88	0	1711	3965	3689	2244	5676	No	11.11	Si
SLU 83	fin.	-463.7	-8170	0.88	0	1711	3965	3689	2244	5676	No	0.69	No
SLU 74	ini.	569.03	-539	0.88	0	1711	3965	3689	2244	5676	No	10.53	Si
SLU 74	fin.	-443.84	-7917	0.88	0	1711	3965	3689	2244	5676	No	0.72	No
SLU 79	ini.	561.92	-519	0.88	0	1711	3965	3689	2244	5676	No	10.93	Si
SLU 79	fin.	-444.87	-7891	0.88	0	1711	3965	3689	2244	5676	No	0.72	No
SLU 82	ini.	570.53	-438	0.88	0	1711	3965	3689	2244	5676	No	12.95	Si
SLU 82	fin.	-456.32	-8096	0.88	0	1711	3965	3689	2244	5676	No	0.7	No
SLU 77	ini.	568.06	-517	0.88	0	1711	3965	3689	2244	5676	No	10.97	Si
SLU 77	fin.	-447.28	-7957	0.88	0	1711	3965	3689	2244	5676	No	0.71	No
SLU 81	ini.	575.42	-533	0.88	0	1711	3965	3689	2244	5676	No	10.65	Si
SLU 81	fin.	-460.26	-8130	0.88	0	1711	3965	3689	2244	5676	No	0.7	No
SLU 80	ini.	557.04	-425	0.88	0	1711	3965	3689	2244	5676	No	13.37	Si
SLU 80	fin.	-440.93	-7857	0.88	0	1711	3965	3689	2244	5676	No	0.72	No
SLU 75	ini.	564.15	-444	0.88	0	1711	3965	3689	2244	5676	No	12.77	Si
SLU 75	fin.	-439.89	-7883	0.88	0	1711	3965	3689	2244	5676	No	0.72	No
SLU 78	ini.	563.17	-423	0.88	0	1711	3965	3689	2244	5676	No	13.43	Si
SLU 78	fin.	-443.33	-7923	0.88	0	1711	3965	3689	2244	5676	No	0.72	No
SLU 84	ini.	569.55	-416	0.88	0	1711	3965	3689	2244	5676	No	13.63	Si
SLU 84	fin.	-459.76	-8136	0.88	0	1711	3965	3689	2244	5676	No	0.7	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1213.58	3606	-0.0007992	0.0002807	0.0035	0.88		2861.04	2861.04		2.36	Si
SLV 1	fin.	-44.68	1257	-0.000023	0.0002807	0.0035	0.88		2866.69	2866.69		64.16	Si
SLD 2	ini.	1041.02	2909	-0.0006587	0.0002807	0.0035	0.88		2861.04	2861.04		2.75	Si
SLD 2	fin.	-116.4	572	-0.0000604	0.0002807	0.0035	0.88		2866.69	2866.69		24.63	Si
SLD 6	ini.	896.48	1876	-0.0005482	0.0002807	0.0035	0.88		2861.04	2861.04		3.19	Si
SLD 6	fin.	-161.47	-82	-0.0000844	0.0002807	0.0035	0.88		2866.69	2866.69		17.75	Si
SLV 6	ini.	1184.61	2703	-0.0007749	0.0002807	0.0035	0.88		2861.04	2861.04		2.42	Si
SLV 6	fin.	-77.75	688	-0.0000401	0.0002807	0.0035	0.88		2866.69	2866.69		36.87	Si
SLV 4	ini.	1106.95	3669	-0.0007112	0.0002807	0.0035	0.88		2861.04	2861.04		2.58	Si
SLV 4	fin.	-100.26	982	-0.0000519	0.0002807	0.0035	0.88		2866.69	2866.69		28.59	Si
SLD 4	ini.	858.45	2516	-0.0005202	0.0002807	0.0035	0.88		2861.04	2861.04		3.33	Si
SLD 4	fin.	-169.81	132	-0.0000889	0.0002807	0.0035	0.88		2866.69	2866.69		16.88	Si
SLV 2	ini.	1399.84	4300	-0.0009622	0.0002807	0.0035	0.88		2861.04	2861.04		2.04	Si
SLV 2	fin.	-13.46	1689	-0.0000069	0.0002807	0.0035	0.88		2866.69	2866.69		212.91	Si
SLV 3	ini.	920.69	2975	-0.0005662	0.0002807	0.0035	0.88		2861.04	2861.04		3.11	Si
SLV 3	fin.	-131.48	551	-0.0000684	0.0002807	0.0035	0.88		2866.69	2866.69		21.8	Si
SLV 5	ini.	1059.21	2236	-0.000673	0.0002807	0.0035	0.88		2861.04	2861.04		2.7	Si
SLV 5	fin.	-98.76	397	-0.0000511	0.0002807	0.0035	0.88		2866.69	2866.69		29.03	Si
SLD 1	ini.	922.02	2465	-0.0005672	0.0002807	0.0035	0.88		2861.04	2861.04		3.1	Si
SLD 1	fin.	-136.34	297	-0.000071	0.0002807	0.0035	0.88		2866.69	2866.69		21.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	733.32	835	0.88	0	2567	3965	5534	2244	6531		7.83	Si
SLV 10	fin.	-215.27	-7165	0.88	0	2567	3965	5534	2244	6531		0.91	No
SLV 5	ini.	1059.21	-85	0.88	0	2567	3965	5534	2244	6531		76.94	Si
SLV 5	fin.	-98.76	-7633	0.88	0	2567	3965	5534	2244	6531		0.86	No
SLV 2	ini.	1399.84	-2651	0.88	0	2567	3965	5534	2244	6531		2.46	Si
SLV 2	fin.	-13.46	-7685	0.88	0	2567	3965	5534	2244	6531		0.85	No
SLD 2	ini.	1041.02	-1869	0.88	0	2567	3965	5534	2244	6531		3.49	Si
SLD 2	fin.	-116.4	-6851	0.88	0	2567	3965	5534	2244	6531		0.95	No
SLV 9	ini.	607.92	1206	0.88	0	2567	3965	5534	2244	6531		5.42	Si
SLV 9	fin.	-236.29	-6806	0.88	0	2567	3965	5534	2244	6531		0.96	No
SLV 1	ini.	1213.58	-2100	0.88	0	2567	3965	5534	2244	6531		3.11	Si
SLV 1	fin.	-44.68	-7152	0.88	0	2567	3965	5534	2244	6531		0.91	No
SLD 5	ini.	817.6	-240	0.88	0	2567	3965	5534	2244	6531		27.2	Si
SLD 5	fin.	-174.69	-6808	0.88	0	2567	3965	5534	2244	6531		0.96	No
SLD 6	ini.	896.48	-474	0.88	0	2567	3965	5534	2244	6531		13.79	Si
SLD 6	fin.	-161.47	-7034	0.88	0	2567	3965	5534	2244	6531		0.93	No
SLV 6	ini.	1184.61	-456	0.88	0	2567	3965	5534	2244	6531		14.31	Si
SLV 6	fin.	-77.75	-7992	0.88	0	2567	3965	5534	2244	6531		0.82	No
SLV 4	ini.	1106.95	-3165	0.88	0	2567	3965	5534	2244	6531		2.06	Si
SLV 4	fin.	-100.26	-6520	0.88	0	2567	3965	5534	2244	6531		1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.044	SLV 2	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.817	SLV 6	No
PF_SLU	4.923	SLU 81	Si
V_SLU	0.695	SLU 83	No

Trave di accoppiamento 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.163	-3.169	0.67	1.57	0.9	-3.163	-3.169	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	300.13	-2151	-0.0001565	0.0001872	0.0035	0.9		2959	2959	No	9.86	Si
SLU 83	fin.	703.3	-3163	-0.0004113	0.0001872	0.0035	0.9		2959	2959	No	4.21	Si
SLU 74	ini.	306.45	-2128	-0.0001601	0.0001872	0.0035	0.9		2959	2959	No	9.66	Si
SLU 74	fin.	671.45	-3032	-0.0003892	0.0001872	0.0035	0.9		2959	2959	No	4.41	Si
SLU 81	ini.	301.7	-2145	-0.0001574	0.0001872	0.0035	0.9		2959	2959	No	9.81	Si
SLU 81	fin.	695.72	-3132	-0.000406	0.0001872	0.0035	0.9		2959	2959	No	4.25	Si
SLU 75	ini.	324.1	-2167	-0.0001701	0.0001872	0.0035	0.9		2959	2959	No	9.13	Si
SLU 75	fin.	658.76	-3014	-0.0003805	0.0001872	0.0035	0.9		2959	2959	No	4.49	Si
SLU 84	ini.	317.79	-2190	-0.0001665	0.0001872	0.0035	0.9		2959	2959	No	9.31	Si
SLU 84	fin.	690.62	-3145	-0.0004025	0.0001872	0.0035	0.9		2959	2959	No	4.28	Si
SLU 82	ini.	319.35	-2184	-0.0001674	0.0001872	0.0035	0.9		2959	2959	No	9.27	Si
SLU 82	fin.	683.04	-3113	-0.0003972	0.0001872	0.0035	0.9		2959	2959	No	4.33	Si
SLU 77	ini.	304.88	-2134	-0.0001592	0.0001872	0.0035	0.9		2959	2959	No	9.71	Si
SLU 77	fin.	679.02	-3063	-0.0003944	0.0001872	0.0035	0.9		2959	2959	No	4.36	Si
SLU 80	ini.	320.21	-2156	-0.0001679	0.0001872	0.0035	0.9		2959	2959	No	9.24	Si
SLU 80	fin.	660.71	-3020	-0.0003818	0.0001872	0.0035	0.9		2959	2959	No	4.48	Si
SLU 78	ini.	322.53	-2173	-0.0001692	0.0001872	0.0035	0.9		2959	2959	No	9.17	Si
SLU 78	fin.	666.34	-3045	-0.0003857	0.0001872	0.0035	0.9		2959	2959	No	4.44	Si
SLU 79	ini.	302.55	-2117	-0.0001579	0.0001872	0.0035	0.9		2959	2959	No	9.78	Si
SLU 79	fin.	673.39	-3038	-0.0003905	0.0001872	0.0035	0.9		2959	2959	No	4.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 40	ini.	247.11	712	0.9	0	1750	7137	3773	2295	6068	No	8.52	Si
SLU 40	fin.	598.36	1198	0.9	0	1750	7137	3773	2295	6068	No	5.07	Si
SLU 82	ini.	319.35	759	0.9	0	1750	7137	3773	2295	6068	No	7.99	Si
SLU 82	fin.	683.04	1259	0.9	0	1750	7137	3773	2295	6068	No	4.82	Si
SLU 80	ini.	320.21	710	0.9	0	1750	7137	3773	2295	6068	No	8.54	Si
SLU 80	fin.	660.71	1199	0.9	0	1750	7137	3773	2295	6068	No	5.06	Si
SLU 75	ini.	324.1	696	0.9	0	1750	7137	3773	2295	6068	No	8.71	Si
SLU 75	fin.	658.76	1186	0.9	0	1750	7137	3773	2295	6068	No	5.12	Si
SLU 84	ini.	317.79	777	0.9	0	1750	7137	3773	2295	6068	No	7.81	Si
SLU 84	fin.	690.62	1285	0.9	0	1750	7137	3773	2295	6068	No	4.72	Si
SLU 78	ini.	322.53	715	0.9	0	1750	7137	3773	2295	6068	No	8.49	Si
SLU 78	fin.	666.34	1212	0.9	0	1750	7137	3773	2295	6068	No	5.01	Si
SLU 76	ini.	333.54	597	0.9	0	1750	7137	3773	2295	6068	No	10.16	Si
SLU 76	fin.	644.67	1207	0.9	0	1750	7137	3773	2295	6068	No	5.03	Si
SLU 42	ini.	245.54	731	0.9	0	1750	7137	3773	2295	6068	No	8.31	Si
SLU 42	fin.	605.93	1224	0.9	0	1750	7137	3773	2295	6068	No	4.96	Si
SLU 83	ini.	300.13	919	0.9	0	1750	7137	3773	2295	6068	No	6.6	Si
SLU 83	fin.	703.3	1234	0.9	0	1750	7137	3773	2295	6068	No	4.92	Si
SLU 81	ini.	301.7	901	0.9	0	1750	7137	3773	2295	6068	No	6.73	Si
SLU 81	fin.	695.72	1208	0.9	0	1750	7137	3773	2295	6068	No	5.02	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1389.63	-5144	-0.0008993	0.0002807	0.0035	0.9		2989.59	2989.59		2.15	Si
SLV 6	fin.	-10.22	-1115	-0.000005	0.0002807	0.0035	0.9		2995.37	2995.37		293.03	Si
SLV 14	ini.	-336.85	-614	-0.0001732	0.0002807	0.0035	0.9		2995.37	2995.37		8.89	Si
SLV 14	fin.	1146.58	-4628	-0.0007033	0.0002807	0.0035	0.9		2989.59	2989.59		2.61	Si
SLV 16	ini.	-794.54	1009	-0.000449	0.0002807	0.0035	0.9		2995.37	2995.37		3.77	Si
SLV 16	fin.	1226.51	-4528	-0.0007658	0.0002807	0.0035	0.9		2989.59	2989.59		2.44	Si
SLV 2	ini.	1573.08	-4864	-0.0010602	0.0002807	0.0035	0.9		2989.59	2989.59		1.9	Si
SLV 2	fin.	-539.8	1119	-0.0002883	0.0002807	0.0035	0.9		2995.37	2995.37		5.55	Si
SLD 2	ini.	1087.44	-3650	-0.0006583	0.0002807	0.0035	0.9		2989.59	2989.59		2.75	Si
SLD 2	fin.	-184.56	-14	-0.0000926	0.0002807	0.0035	0.9		2995.37	2995.37		16.23	Si
SLV 13	ini.	-636.5	155	-0.000347	0.0002807	0.0035	0.9		2995.37	2995.37		4.71	Si
SLV 13	fin.	1346.14	-5268	-0.0008629	0.0002807	0.0035	0.9		2989.59	2989.59		2.22	Si
SLV 15	ini.	-1094.19	1778	-0.0006618	0.0002807	0.0035	0.9		2995.37	2995.37		2.74	Si
SLV 15	fin.	1426.07	-5167	-0.0009303	0.0002807	0.0035	0.9		2989.59	2989.59		2.1	Si
SLV 5	ini.	1187.88	-4626	-0.0007353	0.0002807	0.0035	0.9		2989.59	2989.59		2.52	Si
SLV 5	fin.	124.14	-1545	-0.0000618	0.0002807	0.0035	0.9		2989.59	2989.59		24.08	Si
SLV 4	ini.	1115.38	-3241	-0.0006794	0.0002807	0.0035	0.9		2989.59	2989.59		2.68	Si
SLV 4	fin.	-459.87	1220	-0.0002418	0.0002807	0.0035	0.9		2995.37	2995.37		6.51	Si
SLV 1	ini.	1273.43	-4094	-0.0008033	0.0002807	0.0035	0.9		2989.59	2989.59		2.35	Si
SLV 1	fin.	-340.24	479	-0.000175	0.0002807	0.0035	0.9		2995.37	2995.37		8.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-794.54	4542	0.9	0	2577	7137	5660	2295	7955		1.75	Si
SLV 16	fin.	1226.51	4753	0.9	0	2577	7137	5660	2295	7955		1.67	Si
SLV 12	ini.	-709	3601	0.9	0	2577	7137	5660	2295	7955		2.21	Si
SLV 12	fin.	762.13	3182	0.9	0	2577	7137	5660	2295	7955		2.5	Si
SLV 1	ini.	1273.43	-3565	0.9	0	2577	7137	5660	2295	7955		2.23	Si
SLV 1	fin.	-340.24	-3438	0.9	0	2577	7137	5660	2295	7955		2.31	Si
SLV 14	ini.	-336.85	3152	0.9	0	2577	7137	5660	2295	7955		2.52	Si
SLV 14	fin.	1146.58	3761	0.9	0	2577	7137	5660	2295	7955		2.11	Si
SLV 4	ini.	1115.38	-3311	0.9	0	2577	7137	5660	2295	7955		2.4	Si
SLV 4	fin.	-459.87	-3559	0.9	0	2577	7137	5660	2295	7955		2.23	Si
SLV 15	ini.	-1094.19	5678	0.9	0	2577	7137	5660	2295	7955		1.4	Si
SLV 15	fin.	1426.07	5866	0.9	0	2577	7137	5660	2295	7955		1.36	Si
SLD 15	ini.	-608.55	3795	0.9	0	2577	7137	5660	2295	7955		2.1	Si
SLD 15	fin.	1070.83	3979	0.9	0	2577	7137	5660	2295	7955		2	Si
SLV 13	ini.	-636.5	4288	0.9	0	2577	7137	5660	2295	7955		1.85	Si
SLV 13	fin.	1346.14	4874	0.9	0	2577	7137	5660	2295	7955		1.63	Si
SLV 11	ini.	-910.74	4366	0.9	0	2577	7137	5660	2295	7955		1.82	Si
SLV 11	fin.	896.49	3931	0.9	0	2577	7137	5660	2295	7955		2.02	Si
SLV 2	ini.	1573.08	-4701	0.9	0	2577	7137	5660	2295	7955		1.69	Si
SLV 2	fin.	-539.8	-4551	0.9	0	2577	7137	5660	2295	7955		1.75	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.9	SLV 2	Si
V_SLV	1.356	SLV 15	Si
PF_SLU	4.207	SLU 83	Si
V_SLU	4.721	SLU 84	Si

Trave di accoppiamento 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.163	-3.169	3.47	4.35	0.88	-3.163	-3.169	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-518.35	-2475	-0.0003018	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.48	Si
SLU 77	fin.	-743.28	-3252	-0.0004623	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.82	Si
SLU 80	ini.	-495.5	-2418	-0.0002865	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.73	Si
SLU 80	fin.	-754.74	-3257	-0.0004709	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.76	Si
SLU 78	ini.	-500.48	-2441	-0.0002898	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.67	Si
SLU 78	fin.	-760.5	-3285	-0.0004753	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.73	Si
SLU 82	ini.	-518.16	-2496	-0.0003017	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.48	Si
SLU 82	fin.	-767.58	-3332	-0.0004806	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.7	Si
SLU 76	ini.	-476.01	-2371	-0.0002736	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.96	Si
SLU 76	fin.	-765.34	-3263	-0.0004789	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.71	Si
SLU 84	ini.	-525.74	-2521	-0.0003068	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.4	Si
SLU 84	fin.	-768.46	-3348	-0.0004813	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.69	Si
SLU 75	ini.	-492.9	-2417	-0.0002848	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.76	Si
SLU 75	fin.	-759.62	-3269	-0.0004746	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.74	Si
SLU 81	ini.	-536.03	-2529	-0.0003138	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.3	Si
SLU 81	fin.	-750.36	-3299	-0.0004676	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.78	Si
SLU 73	ini.	-468.43	-2347	-0.0002686	0.0001872	0.0035	0.88		2838.31	2838.31	No	6.06	Si
SLU 73	fin.	-764.46	-3247	-0.0004783	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.71	Si
SLU 83	ini.	-543.61	-2554	-0.000319	0.0001872	0.0035	0.88		2838.31	2838.31	No	5.22	Si
SLU 83	fin.	-751.24	-3315	-0.0004683	0.0001872	0.0035	0.88		2838.31	2838.31	No	3.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-468.43	1736	0.88	0	1711	6978	3689	2244	5933	No	3.42	Si
SLU 73	fin.	-764.46	-3303	0.88	0	1711	6978	3689	2244	5933	No	1.8	Si
SLU 76	ini.	-476.01	1759	0.88	0	1711	6978	3689	2244	5933	No	3.37	Si
SLU 76	fin.	-765.34	-3307	0.88	0	1711	6978	3689	2244	5933	No	1.79	Si
SLU 78	ini.	-500.48	1832	0.88	0	1711	6978	3689	2244	5933	No	3.24	Si
SLU 78	fin.	-760.5	-3281	0.88	0	1711	6978	3689	2244	5933	No	1.81	Si
SLU 75	ini.	-492.9	1808	0.88	0	1711	6978	3689	2244	5933	No	3.28	Si
SLU 75	fin.	-759.62	-3277	0.88	0	1711	6978	3689	2244	5933	No	1.81	Si
SLU 80	ini.	-495.5	1815	0.88	0	1711	6978	3689	2244	5933	No	3.27	Si
SLU 80	fin.	-754.74	-3256	0.88	0	1711	6978	3689	2244	5933	No	1.82	Si
SLU 83	ini.	-543.61	1979	0.88	0	1711	6978	3689	2244	5933	No	3	Si
SLU 83	fin.	-751.24	-3259	0.88	0	1711	6978	3689	2244	5933	No	1.82	Si
SLU 82	ini.	-518.16	1907	0.88	0	1711	6978	3689	2244	5933	No	3.11	Si
SLU 82	fin.	-767.58	-3337	0.88	0	1711	6978	3689	2244	5933	No	1.78	Si
SLU 81	ini.	-536.03	1956	0.88	0	1711	6978	3689	2244	5933	No	3.03	Si
SLU 81	fin.	-750.36	-3255	0.88	0	1711	6978	3689	2244	5933	No	1.82	Si
SLU 84	ini.	-525.74	1930	0.88	0	1711	6978	3689	2244	5933	No	3.07	Si
SLU 84	fin.	-768.46	-3341	0.88	0	1711	6978	3689	2244	5933	No	1.78	Si
SLU 77	ini.	-518.35	1881	0.88	0	1711	6978	3689	2244	5933	No	3.16	Si
SLU 77	fin.	-743.28	-3199	0.88	0	1711	6978	3689	2244	5933	No	1.85	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1814	-4027	-0.0013737	0.0002807	0.0035	0.88		2866.69	2866.69		1.58	Si
SLV 15	fin.	1052.24	751	-0.0006675	0.0002807	0.0035	0.88		2861.04	2861.04		2.72	Si
SLV 4	ini.	943.83	857	-0.0005836	0.0002807	0.0035	0.88		2861.04	2861.04		3.03	Si
SLV 4	fin.	-1549.35	-3642	-0.0010998	0.0002807	0.0035	0.88		2866.69	2866.69		1.85	Si
SLD 6	ini.	217.88	-1215	-0.0001152	0.0002807	0.0035	0.88		2861.04	2861.04		13.13	Si
SLD 6	fin.	-1428.66	-4468	-0.0009861	0.0002807	0.0035	0.88		2866.69	2866.69		2.01	Si
SLV 6	ini.	532.47	-972	-0.0002988	0.0002807	0.0035	0.88		2861.04	2861.04		5.37	Si
SLV 6	fin.	-1958.41	-5786	-0.0015412	0.0002807	0.0035	0.88		2866.69	2866.69		1.46	Si
SLV 5	ini.	321.85	-1277	-0.0001733	0.0002807	0.0035	0.88		2861.04	2861.04		8.89	Si
SLV 5	fin.	-1718.06	-5309	-0.00127	0.0002807	0.0035	0.88		2866.69	2866.69		1.67	Si
SLV 16	ini.	-1501.17	-3575	-0.0010537	0.0002807	0.0035	0.88		2866.69	2866.69		1.91	Si
SLV 16	fin.	695.25	42	-0.0004051	0.0002807	0.0035	0.88		2861.04	2861.04		4.12	Si
SLV 13	ini.	-1585.31	-4121	-0.001135	0.0002807	0.0035	0.88		2866.69	2866.69		1.81	Si
SLV 13	fin.	473.94	-887	-0.0002627	0.0002807	0.0035	0.88		2861.04	2861.04		6.04	Si
SLV 2	ini.	1172.52	763	-0.0007648	0.0002807	0.0035	0.88		2861.04	2861.04		2.44	Si
SLV 2	fin.	-2127.65	-5280	-0.0017608	0.0002807	0.0035	0.88		2866.69	2866.69		1.35	Si
SLD 2	ini.	632.52	-101	-0.0003631	0.0002807	0.0035	0.88		2861.04	2861.04		4.52	Si
SLD 2	fin.	-1548.72	-4177	-0.0010992	0.0002807	0.0035	0.88		2866.69	2866.69		1.85	Si
SLV 1	ini.	859.69	310	-0.0005211	0.0002807	0.0035	0.88		2861.04	2861.04		3.33	Si
SLV 1	fin.	-1770.66	-4571	-0.0013262	0.0002807	0.0035	0.88		2866.69	2866.69		1.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1585.31	5420	0.88	0	2507	6978	5534	2244	7778		1.44	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	fin.	473.94	1376	0.88	0	2507	6978	5534	2244	7778		5.65	Si
SLV 6	ini.	532.47	-2087	0.88	0	2507	6978	5534	2244	7778		3.73	Si
SLV 6	fin.	-1958.41	-7215	0.88	0	2507	6978	5534	2244	7778		1.08	Si
SLV 16	ini.	-1501.17	5294	0.88	0	2507	6978	5534	2244	7778		1.47	Si
SLV 16	fin.	695.25	2110	0.88	0	2507	6978	5534	2244	7778		3.69	Si
SLD 6	ini.	217.88	-871	0.88	0	2507	6978	5534	2244	7778		8.93	Si
SLD 6	fin.	-1428.66	-5372	0.88	0	2507	6978	5534	2244	7778		1.45	Si
SLV 5	ini.	321.85	-1344	0.88	0	2507	6978	5534	2244	7778		5.79	Si
SLV 5	fin.	-1718.06	-6370	0.88	0	2507	6978	5534	2244	7778		1.22	Si
SLV 15	ini.	-1814	6397	0.88	0	2507	6978	5534	2244	7778		1.22	Si
SLV 15	fin.	1052.24	3365	0.88	0	2507	6978	5534	2244	7778		2.31	Si
SLV 1	ini.	859.69	-2956	0.88	0	2507	6978	5534	2244	7778		2.63	Si
SLV 1	fin.	-1770.66	-6655	0.88	0	2507	6978	5534	2244	7778		1.17	Si
SLV 2	ini.	1172.52	-4058	0.88	0	2507	6978	5534	2244	7778		1.92	Si
SLV 2	fin.	-2127.65	-7910	0.88	0	2507	6978	5534	2244	7778		0.98	No
SLD 2	ini.	632.52	-2162	0.88	0	2507	6978	5534	2244	7778		3.6	Si
SLD 2	fin.	-1548.72	-5856	0.88	0	2507	6978	5534	2244	7778		1.33	Si
SLV 4	ini.	943.83	-3081	0.88	0	2507	6978	5534	2244	7778		2.52	Si
SLV 4	fin.	-1549.35	-5921	0.88	0	2507	6978	5534	2244	7778		1.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.347	SLV 2	Si
V_SLV	0.983	SLV 2	No
PF_SLU	3.694	SLU 84	Si
V_SLU	1.776	SLU 84	Si

Trave di accoppiamento 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.903	5.951	0.67	1.57	0.9	-2.903	5.951	0.67	1.57	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	665.61	-3155	-0.0003852	0.0001872	0.0035	0.9		2959	2959	No	4.45	Si
SLU 77	fin.	22.87	-2056	-0.0000112	0.0001872	0.0035	0.9		2959	2959	No	129.41	Si
SLU 74	ini.	655.83	-3107	-0.0003785	0.0001872	0.0035	0.9		2959	2959	No	4.51	Si
SLU 74	fin.	14.76	-2004	-0.0000072	0.0001872	0.0035	0.9		2959	2959	No	200.54	Si
SLU 78	ini.	655.14	-3100	-0.000378	0.0001872	0.0035	0.9		2959	2959	No	4.52	Si
SLU 78	fin.	31.85	-2053	-0.0000157	0.0001872	0.0035	0.9		2959	2959	No	92.9	Si
SLU 79	ini.	661.1	-3132	-0.0003821	0.0001872	0.0035	0.9		2959	2959	No	4.48	Si
SLU 79	fin.	20.95	-2037	-0.0000103	0.0001872	0.0035	0.9		2959	2959	No	141.22	Si
SLU 75	ini.	645.37	-3053	-0.0003713	0.0001872	0.0035	0.9		2959	2959	No	4.58	Si
SLU 75	fin.	23.74	-2002	-0.0000117	0.0001872	0.0035	0.9		2959	2959	No	124.64	Si
SLU 80	ini.	650.63	-3077	-0.0003749	0.0001872	0.0035	0.9		2959	2959	No	4.55	Si
SLU 80	fin.	29.94	-2034	-0.0000147	0.0001872	0.0035	0.9		2959	2959	No	98.83	Si
SLU 82	ini.	643.18	-3036	-0.0003698	0.0001872	0.0035	0.9		2959	2959	No	4.6	Si
SLU 82	fin.	29.29	-2020	-0.0000144	0.0001872	0.0035	0.9		2959	2959	No	101.01	Si
SLU 83	ini.	663.43	-3139	-0.0003837	0.0001872	0.0035	0.9		2959	2959	No	4.46	Si
SLU 83	fin.	28.42	-2074	-0.000014	0.0001872	0.0035	0.9		2959	2959	No	104.13	Si
SLU 81	ini.	653.65	-3091	-0.000377	0.0001872	0.0035	0.9		2959	2959	No	4.53	Si
SLU 81	fin.	20.31	-2023	-0.00001	0.0001872	0.0035	0.9		2959	2959	No	145.71	Si
SLU 84	ini.	652.96	-3084	-0.0003765	0.0001872	0.0035	0.9		2959	2959	No	4.53	Si
SLU 84	fin.	37.4	-2071	-0.0000184	0.0001872	0.0035	0.9		2959	2959	No	79.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	663.43	-1857	0.9	0	1750	7137	3773	2295	6068	No	3.27	Si
SLU 83	fin.	28.42	-909	0.9	0	1750	7137	3773	2295	6068	No	6.68	Si
SLU 71	ini.	632.85	-1846	0.9	0	1750	7137	3773	2295	6068	No	3.29	Si
SLU 71	fin.	-15.39	-987	0.9	0	1750	7137	3773	2295	6068	No	6.15	Si
SLU 69	ini.	637.36	-1861	0.9	0	1750	7137	3773	2295	6068	No	3.26	Si
SLU 69	fin.	-13.47	-987	0.9	0	1750	7137	3773	2295	6068	No	6.15	Si
SLU 79	ini.	661.1	-1871	0.9	0	1750	7137	3773	2295	6068	No	3.24	Si
SLU 79	fin.	20.95	-924	0.9	0	1750	7137	3773	2295	6068	No	6.57	Si
SLU 77	ini.	665.61	-1886	0.9	0	1750	7137	3773	2295	6068	No	3.22	Si
SLU 77	fin.	22.87	-924	0.9	0	1750	7137	3773	2295	6068	No	6.57	Si
SLU 66	ini.	627.58	-1837	0.9	0	1750	7137	3773	2295	6068	No	3.3	Si
SLU 66	fin.	-21.58	-999	0.9	0	1750	7137	3773	2295	6068	No	6.08	Si
SLU 81	ini.	653.65	-1833	0.9	0	1750	7137	3773	2295	6068	No	3.31	Si
SLU 81	fin.	20.31	-921	0.9	0	1750	7137	3773	2295	6068	No	6.59	Si
SLU 74	ini.	655.83	-1862	0.9	0	1750	7137	3773	2295	6068	No	3.26	Si
SLU 74	fin.	14.76	-936	0.9	0	1750	7137	3773	2295	6068	No	6.49	Si
SLU 80	ini.	650.63	-1817	0.9	0	1750	7137	3773	2295	6068	No	3.34	Si
SLU 80	fin.	29.94	-887	0.9	0	1750	7137	3773	2295	6068	No	6.84	Si
SLU 78	ini.	655.14	-1831	0.9	0	1750	7137	3773	2295	6068	No	3.31	Si
SLU 78	fin.	31.85	-887	0.9	0	1750	7137	3773	2295	6068	No	6.84	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	1166.58	-5598	-0.0007188	0.0002807	0.0035	0.9		2989.59	2989.59		2.56	Si
SLV 11	fin.	-307.32	-2427	-0.0001572	0.0002807	0.0035	0.9		2995.37	2995.37		9.75	Si
SLD 7	ini.	1050.5	-4955	-0.0006306	0.0002807	0.0035	0.9		2989.59	2989.59		2.85	Si
SLD 7	fin.	-549.01	-1338	-0.0002938	0.0002807	0.0035	0.9		2995.37	2995.37		5.46	Si
SLV 3	ini.	1175.9	-5394	-0.000726	0.0002807	0.0035	0.9		2989.59	2989.59		2.54	Si
SLV 3	fin.	-1222.57	420	-0.0007608	0.0002807	0.0035	0.9		2995.37	2995.37		2.45	Si
SLV 7	ini.	1401.5	-6595	-0.0009094	0.0002807	0.0035	0.9		2989.59	2989.59		2.13	Si
SLV 7	fin.	-859.02	-1364	-0.0004927	0.0002807	0.0035	0.9		2995.37	2995.37		3.49	Si
SLV 8	ini.	1280.74	-6001	-0.0008092	0.0002807	0.0035	0.9		2989.59	2989.59		2.33	Si
SLV 8	fin.	-669.68	-1608	-0.0003678	0.0002807	0.0035	0.9		2995.37	2995.37		4.47	Si
SLV 1	ini.	722.5	-3245	-0.0004025	0.0002807	0.0035	0.9		2989.59	2989.59		4.14	Si
SLV 1	fin.	-943.1	836	-0.0005514	0.0002807	0.0035	0.9		2995.37	2995.37		3.18	Si
SLV 4	ini.	996.53	-4512	-0.000591	0.0002807	0.0035	0.9		2989.59	2989.59		3	Si
SLV 4	fin.	-941.35	58	-0.0005501	0.0002807	0.0035	0.9		2995.37	2995.37		3.18	Si
SLV 14	ini.	-239.95	959	-0.0001214	0.0002807	0.0035	0.9		2995.37	2995.37		12.48	Si
SLV 14	fin.	1177.1	-3070	-0.0007269	0.0002807	0.0035	0.9		2989.59	2989.59		2.54	Si
SLD 8	ini.	974.53	-4582	-0.0005751	0.0002807	0.0035	0.9		2989.59	2989.59		3.07	Si
SLD 8	fin.	-429.9	-1492	-0.0002247	0.0002807	0.0035	0.9		2995.37	2995.37		6.97	Si
SLV 12	ini.	1045.81	-5004	-0.0006272	0.0002807	0.0035	0.9		2989.59	2989.59		2.86	Si
SLV 12	fin.	-117.99	-2671	-0.0000586	0.0002807	0.0035	0.9		2995.37	2995.37		25.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	722.5	-3508	0.9	0	2577	7137	5660	2295	7955		2.27	Si
SLV 1	fin.	-943.1	-3638	0.9	0	2577	7137	5660	2295	7955		2.19	Si
SLV 7	ini.	1401.5	-5548	0.9	0	2577	7137	5660	2295	7955		1.43	Si
SLV 7	fin.	-859.02	-4400	0.9	0	2577	7137	5660	2295	7955		1.81	Si
SLV 11	ini.	1166.58	-4027	0.9	0	2577	7137	5660	2295	7955		1.98	Si
SLV 11	fin.	-307.32	-2553	0.9	0	2577	7137	5660	2295	7955		3.12	Si
SLV 8	ini.	1280.74	-4835	0.9	0	2577	7137	5660	2295	7955		1.65	Si
SLV 8	fin.	-669.68	-3724	0.9	0	2577	7137	5660	2295	7955		2.14	Si
SLV 4	ini.	996.53	-4289	0.9	0	2577	7137	5660	2295	7955		1.85	Si
SLV 4	fin.	-941.35	-4056	0.9	0	2577	7137	5660	2295	7955		1.96	Si
SLV 3	ini.	1175.9	-5348	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLV 3	fin.	-1222.57	-5060	0.9	0	2577	7137	5660	2295	7955		1.57	Si
SLD 7	ini.	1050.5	-4001	0.9	0	2577	7137	5660	2295	7955		1.99	Si
SLD 7	fin.	-549.01	-3046	0.9	0	2577	7137	5660	2295	7955		2.61	Si
SLV 14	ini.	-239.95	2618	0.9	0	2577	7137	5660	2295	7955		3.04	Si
SLV 14	fin.	1177.1	3522	0.9	0	2577	7137	5660	2295	7955		2.26	Si
SLD 8	ini.	974.53	-3553	0.9	0	2577	7137	5660	2295	7955		2.24	Si
SLD 8	fin.	-429.9	-2620	0.9	0	2577	7137	5660	2295	7955		3.04	Si
SLD 3	ini.	914.95	-3893	0.9	0	2577	7137	5660	2295	7955		2.04	Si
SLD 3	fin.	-786.05	-3494	0.9	0	2577	7137	5660	2295	7955		2.28	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.133	SLV 7	Si
V_SLV	1.434	SLV 7	Si
PF_SLU	4.446	SLU 77	Si
V_SLU	3.218	SLU 77	Si

Trave di accoppiamento 68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.903	5.951	3.47	4.35	0.88	-2.903	5.951	3.47	4.35	0.88	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-232.96	-1604	-0.000125	0.0001872	0.0035	0.88		2838.31	2838.31	No	12.18	Si
SLU 78	fin.	-599.23	-4021	-0.0003576	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.74	Si
SLU 79	ini.	-225.43	-1578	-0.0001207	0.0001872	0.0035	0.88		2838.31	2838.31	No	12.59	Si
SLU 79	fin.	-605.07	-4043	-0.0003617	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.69	Si
SLU 74	ini.	-217.12	-1538	-0.0001161	0.0001872	0.0035	0.88		2838.31	2838.31	No	13.07	Si
SLU 74	fin.	-600.42	-3999	-0.0003584	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.73	Si
SLU 81	ini.	-222.49	-1559	-0.0001191	0.0001872	0.0035	0.88		2838.31	2838.31	No	12.76	Si
SLU 81	fin.	-596.62	-3996	-0.0003557	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.76	Si
SLU 80	ini.	-229.9	-1587	-0.0001233	0.0001872	0.0035	0.88		2838.31	2838.31	No	12.35	Si
SLU 80	fin.	-595.06	-3993	-0.0003546	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.77	Si
SLU 83	ini.	-233.86	-1615	-0.0001255	0.0001872	0.0035	0.88		2838.31	2838.31	No	12.14	Si
SLU 83	fin.	-605.44	-4068	-0.0003619	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.69	Si
SLU 69	ini.	-182.28	-1377	-0.0000966	0.0001872	0.0035	0.88		2838.31	2838.31	No	15.57	Si
SLU 69	fin.	-587.78	-3845	-0.0003495	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.83	Si
SLU 77	ini.	-228.48	-1595	-0.0001225	0.0001872	0.0035	0.88		2838.31	2838.31	No	12.42	Si
SLU 77	fin.	-609.24	-4071	-0.0003646	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.66	Si
SLU 84	ini.	-238.34	-1624	-0.0001281	0.0001872	0.0035	0.88		2838.31	2838.31	No	11.91	Si
SLU 84	fin.	-595.43	-4018	-0.0003549	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.77	Si
SLU 75	ini.	-221.59	-1548	-0.0001186	0.0001872	0.0035	0.88		2838.31	2838.31	No	12.81	Si
SLU 75	fin.	-590.41	-3949	-0.0003514	0.0001872	0.0035	0.88		2838.31	2838.31	No	4.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-222.49	2192	0.88	0	1711	6978	3689	2244	5933	No	2.71	Si
SLU 81	fin.	-596.62	-6018	0.88	0	1711	6978	3689	2244	5933	No	0.99	No
SLU 80	ini.	-229.9	2202	0.88	0	1711	6978	3689	2244	5933	No	2.69	Si
SLU 80	fin.	-595.06	-5991	0.88	0	1711	6978	3689	2244	5933	No	0.99	No
SLU 78	ini.	-232.96	2222	0.88	0	1711	6978	3689	2244	5933	No	2.67	Si
SLU 78	fin.	-599.23	-6029	0.88	0	1711	6978	3689	2244	5933	No	0.98	No
SLU 74	ini.	-217.12	2123	0.88	0	1711	6978	3689	2244	5933	No	2.8	Si
SLU 74	fin.	-600.42	-5983	0.88	0	1711	6978	3689	2244	5933	No	0.99	No
SLU 77	ini.	-228.48	2199	0.88	0	1711	6978	3689	2244	5933	No	2.7	Si
SLU 77	fin.	-609.24	-6094	0.88	0	1711	6978	3689	2244	5933	No	0.97	No
SLU 79	ini.	-225.43	2179	0.88	0	1711	6978	3689	2244	5933	No	2.72	Si
SLU 79	fin.	-605.07	-6056	0.88	0	1711	6978	3689	2244	5933	No	0.98	No
SLU 83	ini.	-233.86	2269	0.88	0	1711	6978	3689	2244	5933	No	2.62	Si
SLU 83	fin.	-605.44	-6130	0.88	0	1711	6978	3689	2244	5933	No	0.97	No
SLU 84	ini.	-238.34	2291	0.88	0	1711	6978	3689	2244	5933	No	2.59	Si
SLU 84	fin.	-595.43	-6065	0.88	0	1711	6978	3689	2244	5933	No	0.98	No
SLU 82	ini.	-226.97	2215	0.88	0	1711	6978	3689	2244	5933	No	2.68	Si
SLU 82	fin.	-586.61	-5954	0.88	0	1711	6978	3689	2244	5933	No	1	No
SLU 75	ini.	-221.59	2145	0.88	0	1711	6978	3689	2244	5933	No	2.77	Si
SLU 75	fin.	-590.41	-5918	0.88	0	1711	6978	3689	2244	5933	No	1	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	390.12	670	-0.0002127	0.0002807	0.0035	0.88		2861.04	2861.04		7.33	Si
SLD 3	fin.	-928.11	-5056	-0.0005705	0.0002807	0.0035	0.88		2866.69	2866.69		3.09	Si
SLV 7	ini.	280.17	28	-0.0001497	0.0002807	0.0035	0.88		2861.04	2861.04		10.21	Si
SLV 7	fin.	-1345.26	-7370	-0.0009108	0.0002807	0.0035	0.88		2866.69	2866.69		2.13	Si
SLD 8	ini.	55.55	-583	-0.0000286	0.0002807	0.0035	0.88		2861.04	2861.04		51.5	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	fin.	-918.67	-5273	-0.0005634	0.0002807	0.0035	0.88		2866.69	2866.69		3.12	Si
SLV 14	ini.	-921.79	-3514	-0.0005658	0.0002807	0.0035	0.88		2866.69	2866.69		3.11	Si
SLV 14	fin.	352.77	750	-0.000191	0.0002807	0.0035	0.88		2861.04	2861.04		8.11	Si
SLD 7	ini.	135.03	-340	-0.0000704	0.0002807	0.0035	0.88		2861.04	2861.04		21.19	Si
SLD 7	fin.	-1002.97	-5658	-0.0006275	0.0002807	0.0035	0.88		2866.69	2866.69		2.86	Si
SLV 12	ini.	-245.46	-1698	-0.0001301	0.0002807	0.0035	0.88		2866.69	2866.69		11.68	Si
SLV 12	fin.	-927.35	-5556	-0.0005699	0.0002807	0.0035	0.88		2866.69	2866.69		3.09	Si
SLV 8	ini.	153.82	-359	-0.0000805	0.0002807	0.0035	0.88		2861.04	2861.04		18.6	Si
SLV 8	fin.	-1211.25	-6758	-0.0007953	0.0002807	0.0035	0.88		2866.69	2866.69		2.37	Si
SLV 3	ini.	679.81	1597	-0.0003947	0.0002807	0.0035	0.88		2861.04	2861.04		4.21	Si
SLV 3	fin.	-1215.56	-6361	-0.0007989	0.0002807	0.0035	0.88		2866.69	2866.69		2.36	Si
SLV 4	ini.	492.16	1023	-0.0002738	0.0002807	0.0035	0.88		2861.04	2861.04		5.81	Si
SLV 4	fin.	-1016.51	-5451	-0.000638	0.0002807	0.0035	0.88		2866.69	2866.69		2.82	Si
SLV 11	ini.	-119.12	-1311	-0.0000619	0.0002807	0.0035	0.88		2866.69	2866.69		24.07	Si
SLV 11	fin.	-1061.36	-6168	-0.0006731	0.0002807	0.0035	0.88		2866.69	2866.69		2.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 7	ini.	135.03	41	0.88	0	2507	6978	5534	2244	7778		190.47	Si
SLD 7	fin.	-1002.97	-7754	0.88	0	2507	6978	5534	2244	7778		1	Si
SLV 11	ini.	-119.12	1289	0.88	0	2507	6978	5534	2244	7778		6.04	Si
SLV 11	fin.	-1061.36	-8257	0.88	0	2507	6978	5534	2244	7778		0.94	No
SLV 3	ini.	679.81	-2631	0.88	0	2507	6978	5534	2244	7778		2.96	Si
SLV 3	fin.	-1215.56	-8867	0.88	0	2507	6978	5534	2244	7778		0.88	No
SLV 7	ini.	280.17	-659	0.88	0	2507	6978	5534	2244	7778		11.8	Si
SLV 7	fin.	-1345.26	-9919	0.88	0	2507	6978	5534	2244	7778		0.78	No
SLD 11	ini.	-119.66	1283	0.88	0	2507	6978	5534	2244	7778		6.06	Si
SLD 11	fin.	-822.12	-6697	0.88	0	2507	6978	5534	2244	7778		1.16	Si
SLV 4	ini.	492.16	-1708	0.88	0	2507	6978	5534	2244	7778		4.55	Si
SLV 4	fin.	-1016.51	-7672	0.88	0	2507	6978	5534	2244	7778		1.01	Si
SLV 12	ini.	-245.46	1910	0.88	0	2507	6978	5534	2244	7778		4.07	Si
SLV 12	fin.	-927.35	-7453	0.88	0	2507	6978	5534	2244	7778		1.04	Si
SLD 3	ini.	390.12	-1219	0.88	0	2507	6978	5534	2244	7778		6.38	Si
SLD 3	fin.	-928.11	-7131	0.88	0	2507	6978	5534	2244	7778		1.09	Si
SLD 8	ini.	55.55	432	0.88	0	2507	6978	5534	2244	7778		18.01	Si
SLD 8	fin.	-918.67	-7248	0.88	0	2507	6978	5534	2244	7778		1.07	Si
SLV 8	ini.	153.82	-38	0.88	0	2507	6978	5534	2244	7778		207.05	Si
SLV 8	fin.	-1211.25	-9114	0.88	0	2507	6978	5534	2244	7778		0.85	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.131	SLV 7	Si
V_SLV	0.784	SLV 7	No
PF_SLU	4.659	SLU 77	Si
V_SLU	0.968	SLU 83	No

Trave di accoppiamento 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	4.35	5.25	0.9	-22.778	5.951	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-11.99	-784	-0.0000059	0.0001872	0.0035	0.9		2964.67	2964.67	No	247.33	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	369.86	-1948	-0.0001965	0.0001872	0.0035	0.9		2959	2959	No	8	Si
SLU 69	ini.	-29.99	-710	-0.0000147	0.0001872	0.0035	0.9		2964.67	2964.67	No	98.87	Si
SLU 69	fin.	371.76	-1958	-0.0001976	0.0001872	0.0035	0.9		2959	2959	No	7.96	Si
SLU 74	ini.	-18.44	-765	-0.000009	0.0001872	0.0035	0.9		2964.67	2964.67	No	160.76	Si
SLU 74	fin.	378.43	-1986	-0.0002015	0.0001872	0.0035	0.9		2959	2959	No	7.82	Si
SLU 83	ini.	-11.65	-797	-0.0000057	0.0001872	0.0035	0.9		2964.67	2964.67	No	254.38	Si
SLU 83	fin.	380.05	-1993	-0.0002024	0.0001872	0.0035	0.9		2959	2959	No	7.79	Si
SLU 80	ini.	-7.15	-820	-0.0000035	0.0001872	0.0035	0.9		2964.67	2964.67	No	414.45	Si
SLU 80	fin.	370.63	-1961	-0.0001969	0.0001872	0.0035	0.9		2959	2959	No	7.98	Si
SLU 81	ini.	-16.89	-748	-0.0000083	0.0001872	0.0035	0.9		2964.67	2964.67	No	175.51	Si
SLU 81	fin.	376.54	-1962	-0.0002004	0.0001872	0.0035	0.9		2959	2959	No	7.86	Si
SLU 78	ini.	-6.75	-833	-0.0000033	0.0001872	0.0035	0.9		2964.67	2964.67	No	439.29	Si
SLU 78	fin.	373.37	-1979	-0.0001985	0.0001872	0.0035	0.9		2959	2959	No	7.93	Si
SLU 77	ini.	-13.2	-814	-0.0000065	0.0001872	0.0035	0.9		2964.67	2964.67	No	224.52	Si
SLU 77	fin.	381.94	-2016	-0.0002035	0.0001872	0.0035	0.9		2959	2959	No	7.75	Si
SLU 84	ini.	-5.2	-816	-0.0000025	0.0001872	0.0035	0.9		2964.67	2964.67	No	570.26	Si
SLU 84	fin.	371.48	-1955	-0.0001974	0.0001872	0.0035	0.9		2959	2959	No	7.97	Si
SLU 79	ini.	-13.61	-802	-0.0000067	0.0001872	0.0035	0.9		2964.67	2964.67	No	217.85	Si
SLU 79	fin.	379.2	-1998	-0.0002019	0.0001872	0.0035	0.9		2959	2959	No	7.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-29.99	-1646	0.9	0	1750	7137	3773	2295	6068	No	3.69	Si
SLU 69	fin.	371.76	3187	0.9	0	1750	7137	3773	2295	6068	No	1.9	Si
SLU 78	ini.	-6.75	-1841	0.9	0	1750	7137	3773	2295	6068	No	3.3	Si
SLU 78	fin.	373.37	3190	0.9	0	1750	7137	3773	2295	6068	No	1.9	Si
SLU 71	ini.	-30.39	-1613	0.9	0	1750	7137	3773	2295	6068	No	3.76	Si
SLU 71	fin.	369.02	3151	0.9	0	1750	7137	3773	2295	6068	No	1.93	Si
SLU 77	ini.	-13.2	-1820	0.9	0	1750	7137	3773	2295	6068	No	3.33	Si
SLU 77	fin.	381.94	3253	0.9	0	1750	7137	3773	2295	6068	No	1.87	Si
SLU 75	ini.	-11.99	-1753	0.9	0	1750	7137	3773	2295	6068	No	3.46	Si
SLU 75	fin.	369.86	3138	0.9	0	1750	7137	3773	2295	6068	No	1.93	Si
SLU 83	ini.	-11.65	-1775	0.9	0	1750	7137	3773	2295	6068	No	3.42	Si
SLU 83	fin.	380.05	3194	0.9	0	1750	7137	3773	2295	6068	No	1.9	Si
SLU 80	ini.	-7.15	-1808	0.9	0	1750	7137	3773	2295	6068	No	3.36	Si
SLU 80	fin.	370.63	3153	0.9	0	1750	7137	3773	2295	6068	No	1.92	Si
SLU 74	ini.	-18.44	-1733	0.9	0	1750	7137	3773	2295	6068	No	3.5	Si
SLU 74	fin.	378.43	3202	0.9	0	1750	7137	3773	2295	6068	No	1.9	Si
SLU 79	ini.	-13.61	-1787	0.9	0	1750	7137	3773	2295	6068	No	3.39	Si
SLU 79	fin.	379.2	3217	0.9	0	1750	7137	3773	2295	6068	No	1.89	Si
SLU 81	ini.	-16.89	-1687	0.9	0	1750	7137	3773	2295	6068	No	3.6	Si
SLU 81	fin.	376.54	3142	0.9	0	1750	7137	3773	2295	6068	No	1.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-505.16	916	-0.0002679	0.0002807	0.0035	0.9		2995.37	2995.37		5.93	Si
SLV 11	fin.	967.57	-4495	-0.0005701	0.0002807	0.0035	0.9		2989.59	2989.59		3.09	Si
SLV 14	ini.	-451.15	1709	-0.0002368	0.0002807	0.0035	0.9		2995.37	2995.37		6.64	Si
SLV 14	fin.	700.52	-2821	-0.0003883	0.0002807	0.0035	0.9		2989.59	2989.59		4.27	Si
SLV 7	ini.	-232.56	-348	-0.0001175	0.0002807	0.0035	0.9		2995.37	2995.37		12.88	Si
SLV 7	fin.	662.17	-3388	-0.0003639	0.0002807	0.0035	0.9		2989.59	2989.59		4.51	Si
SLD 12	ini.	-400.08	704	-0.000208	0.0002807	0.0035	0.9		2995.37	2995.37		7.49	Si
SLD 12	fin.	790.66	-3664	-0.0004474	0.0002807	0.0035	0.9		2989.59	2989.59		3.78	Si
SLD 16	ini.	-449.16	1298	-0.0002356	0.0002807	0.0035	0.9		2995.37	2995.37		6.67	Si
SLD 16	fin.	776.02	-3366	-0.0004376	0.0002807	0.0035	0.9		2989.59	2989.59		3.85	Si
SLV 12	ini.	-619.48	1388	-0.0003365	0.0002807	0.0035	0.9		2995.37	2995.37		4.84	Si
SLV 12	fin.	1098	-5003	-0.0006663	0.0002807	0.0035	0.9		2989.59	2989.59		2.72	Si
SLD 11	ini.	-328.16	407	-0.0001685	0.0002807	0.0035	0.9		2995.37	2995.37		9.13	Si
SLD 11	fin.	708.61	-3344	-0.0003935	0.0002807	0.0035	0.9		2989.59	2989.59		4.22	Si
SLV 15	ini.	-518.64	1593	-0.0002758	0.0002807	0.0035	0.9		2995.37	2995.37		5.78	Si
SLV 15	fin.	869.29	-3726	-0.0005008	0.0002807	0.0035	0.9		2989.59	2989.59		3.44	Si
SLV 16	ini.	-688.44	2295	-0.0003797	0.0002807	0.0035	0.9		2995.37	2995.37		4.35	Si
SLV 16	fin.	1063.02	-4481	-0.00064	0.0002807	0.0035	0.9		2989.59	2989.59		2.81	Si
SLV 8	ini.	-346.87	125	-0.0001787	0.0002807	0.0035	0.9		2995.37	2995.37		8.64	Si
SLV 8	fin.	792.61	-3897	-0.0004487	0.0002807	0.0035	0.9		2989.59	2989.59		3.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-232.56	-1494	0.9	0	2625	7137	5660	2295	7955		5.33	Si
SLV 7	fin.	662.17	5722	0.9	0	2625	7137	5660	2295	7955		1.39	Si
SLV 8	ini.	-346.87	-821	0.9	0	2625	7137	5660	2295	7955		9.69	Si
SLV 8	fin.	792.61	6563	0.9	0	2625	7137	5660	2295	7955		1.21	Si
SLV 12	ini.	-619.48	1158	0.9	0	2625	7137	5660	2295	7955		6.87	Si
SLV 12	fin.	1098	8261	0.9	0	2625	7137	5660	2295	7955		0.96	No
SLD 16	ini.	-449.16	1510	0.9	0	2625	7137	5660	2295	7955		5.27	Si
SLD 16	fin.	776.02	5395	0.9	0	2625	7137	5660	2295	7955		1.47	Si
SLV 16	ini.	-688.44	2982	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLV 16	fin.	1063.02	7172	0.9	0	2625	7137	5660	2295	7955		1.11	Si
SLD 11	ini.	-328.16	-92	0.9	0	2625	7137	5660	2295	7955		86.57	Si
SLD 11	fin.	708.61	5504	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 15	ini.	-518.64	1983	0.9	0	2625	7137	5660	2295	7955		4.01	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	fin.	869.29	5923	0.9	0	2625	7137	5660	2295	7955		1.34	Si
SLD 12	ini.	-400.08	331	0.9	0	2625	7137	5660	2295	7955		24	Si
SLD 12	fin.	790.66	6034	0.9	0	2625	7137	5660	2295	7955		1.32	Si
SLV 1	ini.	627.34	-5166	0.9	0	2625	7137	5660	2295	7955		1.54	Si
SLV 1	fin.	-511.19	-2544	0.9	0	2625	7137	5660	2295	7955		3.13	Si
SLV 11	ini.	-505.16	485	0.9	0	2625	7137	5660	2295	7955		16.41	Si
SLV 11	fin.	967.57	7420	0.9	0	2625	7137	5660	2295	7955		1.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.723	SLV 12	Si
V_SLV	0.963	SLV 12	No
PF_SLU	7.747	SLU 77	Si
V_SLU	1.865	SLU 77	Si

Trave di accoppiamento 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	7.05	7.9	0.85	-22.778	5.951	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-221.21	-1957	-0.0001272	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.01	Si
SLU 70	fin.	2.33	-529	-0.0000013	0.0001872	0.0035	0.85		2650.49	2650.49	No	1136.2	Si
SLU 69	ini.	-228.08	-1992	-0.0001313	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.64	Si
SLU 69	fin.	8.41	-503	-0.0000046	0.0001872	0.0035	0.85		2650.49	2650.49	No	315.09	Si
SLU 77	ini.	-225.32	-2092	-0.0001297	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.79	Si
SLU 77	fin.	-10.79	-650	-0.0000059	0.0001872	0.0035	0.85		2655.83	2655.83	No	246.19	Si
SLU 66	ini.	-224.32	-1958	-0.0001291	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.84	Si
SLU 66	fin.	13.41	-469	-0.0000074	0.0001872	0.0035	0.85		2650.49	2650.49	No	197.64	Si
SLU 79	ini.	-223.92	-2073	-0.0001288	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.86	Si
SLU 79	fin.	-9.21	-637	-0.000005	0.0001872	0.0035	0.85		2655.83	2655.83	No	288.29	Si
SLU 64	ini.	-219.17	-1905	-0.0001259	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.12	Si
SLU 64	fin.	19.98	-422	-0.000011	0.0001872	0.0035	0.85		2650.49	2650.49	No	132.62	Si
SLU 74	ini.	-221.56	-2058	-0.0001274	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.99	Si
SLU 74	fin.	-5.79	-616	-0.0000032	0.0001872	0.0035	0.85		2655.83	2655.83	No	458.78	Si
SLU 48	ini.	-219.89	-1806	-0.0001264	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.08	Si
SLU 48	fin.	30.16	-324	-0.0000166	0.0001872	0.0035	0.85		2650.49	2650.49	No	87.88	Si
SLU 71	ini.	-226.69	-1973	-0.0001305	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.72	Si
SLU 71	fin.	9.99	-490	-0.0000055	0.0001872	0.0035	0.85		2650.49	2650.49	No	265.39	Si
SLU 72	ini.	-219.82	-1938	-0.0001263	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.08	Si
SLU 72	fin.	3.91	-516	-0.0000021	0.0001872	0.0035	0.85		2650.49	2650.49	No	678.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-212.11	4417	0.85	0	1653	6740	3563	2168	5731	No	1.3	Si
SLU 84	fin.	-18.52	-2136	0.85	0	1653	6740	3563	2168	5731	No	2.68	Si
SLU 77	ini.	-225.32	4441	0.85	0	1653	6740	3563	2168	5731	No	1.29	Si
SLU 77	fin.	-10.79	-2039	0.85	0	1653	6740	3563	2168	5731	No	2.81	Si
SLU 83	ini.	-218.98	4471	0.85	0	1653	6740	3563	2168	5731	No	1.28	Si
SLU 83	fin.	-12.44	-2099	0.85	0	1653	6740	3563	2168	5731	No	2.73	Si
SLU 82	ini.	-208.35	4355	0.85	0	1653	6740	3563	2168	5731	No	1.32	Si
SLU 82	fin.	-13.52	-2075	0.85	0	1653	6740	3563	2168	5731	No	2.76	Si
SLU 79	ini.	-223.92	4397	0.85	0	1653	6740	3563	2168	5731	No	1.3	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-9.21	-2009	0.85	0	1653	6740	3563	2168	5731	No	2.85	Si
SLU 74	ini.	-221.56	4380	0.85	0	1653	6740	3563	2168	5731	No	1.31	Si
SLU 74	fin.	-5.79	-1978	0.85	0	1653	6740	3563	2168	5731	No	2.9	Si
SLU 78	ini.	-218.44	4387	0.85	0	1653	6740	3563	2168	5731	No	1.31	Si
SLU 78	fin.	-16.87	-2075	0.85	0	1653	6740	3563	2168	5731	No	2.76	Si
SLU 81	ini.	-215.22	4409	0.85	0	1653	6740	3563	2168	5731	No	1.3	Si
SLU 81	fin.	-7.44	-2038	0.85	0	1653	6740	3563	2168	5731	No	2.81	Si
SLU 75	ini.	-214.68	4326	0.85	0	1653	6740	3563	2168	5731	No	1.32	Si
SLU 75	fin.	-11.87	-2015	0.85	0	1653	6740	3563	2168	5731	No	2.84	Si
SLU 80	ini.	-217.05	4342	0.85	0	1653	6740	3563	2168	5731	No	1.32	Si
SLU 80	fin.	-15.29	-2045	0.85	0	1653	6740	3563	2168	5731	No	2.8	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-592.41	-3645	-0.0003634	0.0002807	0.0035	0.85		2680.73	2680.73		4.53	Si
SLD 12	fin.	375.55	1122	-0.0002196	0.0002807	0.0035	0.85		2675.27	2675.27		7.12	Si
SLV 8	ini.	-611.66	-3814	-0.000377	0.0002807	0.0035	0.85		2680.73	2680.73		4.38	Si
SLV 8	fin.	344.81	991	-0.0002004	0.0002807	0.0035	0.85		2675.27	2675.27		7.76	Si
SLV 5	ini.	515.37	2050	-0.0003109	0.0002807	0.0035	0.85		2675.27	2675.27		5.19	Si
SLV 5	fin.	-561.3	-2638	-0.0003416	0.0002807	0.0035	0.85		2680.73	2680.73		4.78	Si
SLD 16	ini.	-563.39	-3425	-0.0003431	0.0002807	0.0035	0.85		2680.73	2680.73		4.76	Si
SLD 16	fin.	403.51	1245	-0.0002374	0.0002807	0.0035	0.85		2675.27	2675.27		6.63	Si
SLD 11	ini.	-524.59	-3304	-0.0003165	0.0002807	0.0035	0.85		2680.73	2680.73		5.11	Si
SLD 11	fin.	305.46	830	-0.0001762	0.0002807	0.0035	0.85		2675.27	2675.27		8.76	Si
SLV 16	ini.	-791.82	-4560	-0.000511	0.0002807	0.0035	0.85		2680.73	2680.73		3.39	Si
SLV 16	fin.	626.33	2146	-0.0003883	0.0002807	0.0035	0.85		2675.27	2675.27		4.27	Si
SLV 1	ini.	459.82	1653	-0.0002738	0.0002807	0.0035	0.85		2675.27	2675.27		5.82	Si
SLV 1	fin.	-596.99	-2800	-0.0003666	0.0002807	0.0035	0.85		2680.73	2680.73		4.49	Si
SLV 11	ini.	-739.57	-4414	-0.0004709	0.0002807	0.0035	0.85		2680.73	2680.73		3.62	Si
SLV 11	fin.	479.21	1520	-0.0002866	0.0002807	0.0035	0.85		2675.27	2675.27		5.58	Si
SLV 15	ini.	-631.69	-3754	-0.0003913	0.0002807	0.0035	0.85		2680.73	2680.73		4.24	Si
SLV 15	fin.	460.83	1458	-0.0002745	0.0002807	0.0035	0.85		2675.27	2675.27		5.81	Si
SLV 12	ini.	-847.38	-4957	-0.0005547	0.0002807	0.0035	0.85		2680.73	2680.73		3.16	Si
SLV 12	fin.	590.63	1984	-0.0003629	0.0002807	0.0035	0.85		2675.27	2675.27		4.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-631.69	6356	0.85	0	2479	6740	5345	2168	7513		1.18	Si
SLV 15	fin.	460.83	1586	0.85	0	2479	6740	5345	2168	7513		4.74	Si
SLD 16	ini.	-563.39	5903	0.85	0	2479	6740	5345	2168	7513		1.27	Si
SLD 16	fin.	403.51	1213	0.85	0	2479	6740	5345	2168	7513		6.19	Si
SLD 11	ini.	-524.59	5830	0.85	0	2479	6740	5345	2168	7513		1.29	Si
SLD 11	fin.	305.46	501	0.85	0	2479	6740	5345	2168	7513		14.99	Si
SLD 8	ini.	-441.76	5302	0.85	0	2479	6740	5345	2168	7513		1.42	Si
SLD 8	fin.	218.47	-69	0.85	0	2479	6740	5345	2168	7513		108.53	Si
SLV 11	ini.	-739.57	7510	0.85	0	2479	6740	5345	2168	7513		1	Si
SLV 11	fin.	479.21	1513	0.85	0	2479	6740	5345	2168	7513		4.97	Si
SLV 16	ini.	-791.82	7559	0.85	0	2479	6740	5345	2168	7513		0.99	No
SLV 16	fin.	626.33	2589	0.85	0	2479	6740	5345	2168	7513		2.9	Si
SLV 7	ini.	-503.85	5887	0.85	0	2479	6740	5345	2168	7513		1.28	Si
SLV 7	fin.	233.39	-45	0.85	0	2479	6740	5345	2168	7513		167.14	Si
SLV 8	ini.	-611.66	6697	0.85	0	2479	6740	5345	2168	7513		1.12	Si
SLV 8	fin.	344.81	630	0.85	0	2479	6740	5345	2168	7513		11.92	Si
SLD 12	ini.	-592.41	6339	0.85	0	2479	6740	5345	2168	7513		1.19	Si
SLD 12	fin.	375.55	926	0.85	0	2479	6740	5345	2168	7513		8.11	Si
SLV 12	ini.	-847.38	8321	0.85	0	2479	6740	5345	2168	7513		0.9	No
SLV 12	fin.	590.63	2188	0.85	0	2479	6740	5345	2168	7513		3.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.164	SLV 12	Si
V_SLV	0.903	SLV 12	No
PF_SLU	11.644	SLU 69	Si
V_SLU	1.282	SLU 83	Si

Trave di accoppiamento 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	4.35	5.25	0.9	-22.478	-3.169	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	373.23	-1842	-0.0001984	0.0001872	0.0035	0.9		2959	2959	No	7.93	Si
SLU 83	fin.	208.55	-1412	-0.0001064	0.0001872	0.0035	0.9		2959	2959	No	14.19	Si
SLU 81	ini.	374.36	-1825	-0.0001991	0.0001872	0.0035	0.9		2959	2959	No	7.9	Si
SLU 81	fin.	201.07	-1379	-0.0001025	0.0001872	0.0035	0.9		2959	2959	No	14.72	Si
SLU 39	ini.	347.55	-1581	-0.0001835	0.0001872	0.0035	0.9		2959	2959	No	8.51	Si
SLU 39	fin.	148.44	-1101	-0.0000748	0.0001872	0.0035	0.9		2959	2959	No	19.93	Si
SLU 41	ini.	346.41	-1597	-0.0001828	0.0001872	0.0035	0.9		2959	2959	No	8.54	Si
SLU 41	fin.	155.92	-1134	-0.0000787	0.0001872	0.0035	0.9		2959	2959	No	18.98	Si
SLU 74	ini.	350.72	-1784	-0.0001853	0.0001872	0.0035	0.9		2959	2959	No	8.44	Si
SLU 74	fin.	214.29	-1413	-0.0001095	0.0001872	0.0035	0.9		2959	2959	No	13.81	Si
SLU 79	ini.	341.89	-1777	-0.0001802	0.0001872	0.0035	0.9		2959	2959	No	8.65	Si
SLU 79	fin.	221.91	-1437	-0.0001136	0.0001872	0.0035	0.9		2959	2959	No	13.33	Si
SLU 75	ini.	335.73	-1776	-0.0001767	0.0001872	0.0035	0.9		2959	2959	No	8.81	Si
SLU 75	fin.	226.86	-1454	-0.0001163	0.0001872	0.0035	0.9		2959	2959	No	13.04	Si
SLU 84	ini.	358.24	-1833	-0.0001897	0.0001872	0.0035	0.9		2959	2959	No	8.26	Si
SLU 84	fin.	221.12	-1454	-0.0001132	0.0001872	0.0035	0.9		2959	2959	No	13.38	Si
SLU 77	ini.	349.59	-1801	-0.0001847	0.0001872	0.0035	0.9		2959	2959	No	8.46	Si
SLU 77	fin.	221.76	-1446	-0.0001135	0.0001872	0.0035	0.9		2959	2959	No	13.34	Si
SLU 82	ini.	359.37	-1817	-0.0001903	0.0001872	0.0035	0.9		2959	2959	No	8.23	Si
SLU 82	fin.	213.65	-1421	-0.0001092	0.0001872	0.0035	0.9		2959	2959	No	13.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 47	ini.	174.07	-686	0.9	0	1750	7137	3773	2295	6068	No	8.84	Si
SLU 47	fin.	252.58	1532	0.9	0	1750	7137	3773	2295	6068	No	3.96	Si
SLU 68	ini.	247.55	-952	0.9	0	1750	7137	3773	2295	6068	No	6.37	Si
SLU 68	fin.	249.13	1516	0.9	0	1750	7137	3773	2295	6068	No	4	Si
SLU 49	ini.	190.63	-750	0.9	0	1750	7137	3773	2295	6068	No	8.09	Si
SLU 49	fin.	251.52	1540	0.9	0	1750	7137	3773	2295	6068	No	3.94	Si
SLU 44	ini.	175.2	-684	0.9	0	1750	7137	3773	2295	6068	No	8.87	Si
SLU 44	fin.	245.1	1483	0.9	0	1750	7137	3773	2295	6068	No	4.09	Si
SLU 46	ini.	191.76	-748	0.9	0	1750	7137	3773	2295	6068	No	8.11	Si
SLU 46	fin.	244.04	1491	0.9	0	1750	7137	3773	2295	6068	No	4.07	Si
SLU 72	ini.	256.41	-984	0.9	0	1750	7137	3773	2295	6068	No	6.16	Si
SLU 72	fin.	248.23	1518	0.9	0	1750	7137	3773	2295	6068	No	4	Si
SLU 70	ini.	264.11	-1016	0.9	0	1750	7137	3773	2295	6068	No	5.97	Si
SLU 70	fin.	248.08	1524	0.9	0	1750	7137	3773	2295	6068	No	3.98	Si
SLU 48	ini.	205.62	-796	0.9	0	1750	7137	3773	2295	6068	No	7.63	Si
SLU 48	fin.	238.95	1471	0.9	0	1750	7137	3773	2295	6068	No	4.13	Si
SLU 51	ini.	182.93	-719	0.9	0	1750	7137	3773	2295	6068	No	8.44	Si
SLU 51	fin.	251.67	1534	0.9	0	1750	7137	3773	2295	6068	No	3.96	Si
SLU 67	ini.	265.25	-1014	0.9	0	1750	7137	3773	2295	6068	No	5.98	Si
SLU 67	fin.	240.6	1476	0.9	0	1750	7137	3773	2295	6068	No	4.11	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1312.06	-1973	-0.0008348	0.0002807	0.0035	0.9		2989.59	2989.59		2.28	Si
SLV 8	fin.	-799.31	2115	-0.0004522	0.0002807	0.0035	0.9		2995.37	2995.37		3.75	Si
SLV 2	ini.	1293.65	-2692	-0.0008197	0.0002807	0.0035	0.9		2989.59	2989.59		2.31	Si
SLV 2	fin.	-516.5	700	-0.0002745	0.0002807	0.0035	0.9		2995.37	2995.37		5.8	Si
SLV 7	ini.	1098.87	-1747	-0.0006669	0.0002807	0.0035	0.9		2989.59	2989.59		2.72	Si
SLV 7	fin.	-638.48	1639	-0.0003483	0.0002807	0.0035	0.9		2995.37	2995.37		4.69	Si
SLV 4	ini.	1687.07	-2837	-0.0011668	0.0002807	0.0035	0.9		2989.59	2989.59		1.77	Si
SLV 4	fin.	-910.85	2073	-0.0005286	0.0002807	0.0035	0.9		2995.37	2995.37		3.29	Si
SLV 9	ini.	-883.05	-425	-0.0005092	0.0002807	0.0035	0.9		2995.37	2995.37		3.39	Si
SLV 9	fin.	1132.51	-4176	-0.0006925	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 14	ini.	-941.41	103	-0.0005502	0.0002807	0.0035	0.9		2995.37	2995.37		3.18	Si
SLV 14	fin.	1005.16	-3428	-0.0005973	0.0002807	0.0035	0.9		2989.59	2989.59		2.97	Si
SLV 1	ini.	977	-2357	-0.0005769	0.0002807	0.0035	0.9		2989.59	2989.59		3.06	Si
SLV 1	fin.	-277.62	-6	-0.0001413	0.0002807	0.0035	0.9		2995.37	2995.37		10.79	Si
SLV 3	ini.	1370.42	-2502	-0.0008831	0.0002807	0.0035	0.9		2989.59	2989.59		2.18	Si
SLV 3	fin.	-671.96	1367	-0.0003693	0.0002807	0.0035	0.9		2995.37	2995.37		4.46	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	1153.57	-2246	-0.0007087	0.0002807	0.0035	0.9		2989.59	2989.59		2.59	Si
SLD 4	fin.	-519.48	943	-0.0002763	0.0002807	0.0035	0.9		2995.37	2995.37		5.77	Si
SLV 13	ini.	-1258.06	439	-0.0007891	0.0002807	0.0035	0.9		2995.37	2995.37		2.38	Si
SLV 13	fin.	1244.05	-4134	-0.0007797	0.0002807	0.0035	0.9		2989.59	2989.59		2.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1312.06	-4450	0.9	0	2625	7137	5660	2295	7955		1.79	Si
SLV 8	fin.	-799.31	-4146	0.9	0	2625	7137	5660	2295	7955		1.92	Si
SLV 13	ini.	-1258.06	4429	0.9	0	2625	7137	5660	2295	7955		1.8	Si
SLV 13	fin.	1244.05	6177	0.9	0	2625	7137	5660	2295	7955		1.29	Si
SLD 9	ini.	-475.64	1491	0.9	0	2625	7137	5660	2295	7955		5.34	Si
SLD 9	fin.	772.86	4262	0.9	0	2625	7137	5660	2295	7955		1.87	Si
SLV 10	ini.	-669.86	2100	0.9	0	2625	7137	5660	2295	7955		3.79	Si
SLV 10	fin.	971.68	5400	0.9	0	2625	7137	5660	2295	7955		1.47	Si
SLV 2	ini.	1293.65	-4801	0.9	0	2625	7137	5660	2295	7955		1.66	Si
SLV 2	fin.	-516.5	-1890	0.9	0	2625	7137	5660	2295	7955		4.21	Si
SLD 13	ini.	-724.56	2534	0.9	0	2625	7137	5660	2295	7955		3.14	Si
SLD 13	fin.	852.68	4301	0.9	0	2625	7137	5660	2295	7955		1.85	Si
SLV 4	ini.	1687.07	-6034	0.9	0	2625	7137	5660	2295	7955		1.32	Si
SLV 4	fin.	-910.85	-4133	0.9	0	2625	7137	5660	2295	7955		1.92	Si
SLV 3	ini.	1370.42	-4928	0.9	0	2625	7137	5660	2295	7955		1.61	Si
SLV 3	fin.	-671.96	-2961	0.9	0	2625	7137	5660	2295	7955		2.69	Si
SLV 9	ini.	-883.05	2845	0.9	0	2625	7137	5660	2295	7955		2.8	Si
SLV 9	fin.	1132.51	6190	0.9	0	2625	7137	5660	2295	7955		1.29	Si
SLV 14	ini.	-941.41	3323	0.9	0	2625	7137	5660	2295	7955		2.39	Si
SLV 14	fin.	1005.16	5004	0.9	0	2625	7137	5660	2295	7955		1.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.772	SLV 4	Si
V_SLV	1.285	SLV 9	Si
PF_SLU	7.904	SLU 81	Si
V_SLU	3.941	SLU 49	Si

Trave di accoppiamento 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	7.05	7.9	0.85	-22.478	-3.169	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-342.08	-1407	-0.0002035	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.76	Si
SLU 72	fin.	-174.48	-1119	-0.0000991	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.22	Si
SLU 46	ini.	-331.21	-1252	-0.0001964	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.02	Si
SLU 46	fin.	-128.05	-880	-0.0000719	0.0001872	0.0035	0.85		2655.83	2655.83	No	20.74	Si
SLU 44	ini.	-329.84	-1219	-0.0001955	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.05	Si
SLU 44	fin.	-117.87	-827	-0.0000661	0.0001872	0.0035	0.85		2655.83	2655.83	No	22.53	Si
SLU 47	ini.	-342.54	-1252	-0.0002038	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.75	Si
SLU 47	fin.	-116.58	-834	-0.0000653	0.0001872	0.0035	0.85		2655.83	2655.83	No	22.78	Si
SLU 50	ini.	-329.27	-1249	-0.0001951	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.07	Si
SLU 50	fin.	-129.59	-890	-0.0000728	0.0001872	0.0035	0.85		2655.83	2655.83	No	20.49	Si
SLU 67	ini.	-328.43	-1388	-0.0001946	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.09	Si
SLU 67	fin.	-181.51	-1139	-0.0001033	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.63	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 51	ini.	-344.86	-1271	-0.0002054	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.7	Si
SLU 51	fin.	-121.01	-860	-0.0000679	0.0001872	0.0035	0.85		2655.83	2655.83	No	21.95	Si
SLU 68	ini.	-339.77	-1389	-0.000202	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.82	Si
SLU 68	fin.	-170.05	-1093	-0.0000965	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.62	Si
SLU 49	ini.	-343.92	-1285	-0.0002047	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.72	Si
SLU 49	fin.	-126.76	-887	-0.0000712	0.0001872	0.0035	0.85		2655.83	2655.83	No	20.95	Si
SLU 70	ini.	-341.14	-1421	-0.0002029	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.79	Si
SLU 70	fin.	-180.23	-1146	-0.0001025	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-276.45	1619	0.85	0	1653	6740	3563	2168	5731	No	3.54	Si
SLU 81	fin.	-258.18	-2381	0.85	0	1653	6740	3563	2168	5731	No	2.41	Si
SLU 78	ini.	-323.9	1773	0.85	0	1653	6740	3563	2168	5731	No	3.23	Si
SLU 78	fin.	-231.01	-2227	0.85	0	1653	6740	3563	2168	5731	No	2.57	Si
SLU 74	ini.	-295.61	1667	0.85	0	1653	6740	3563	2168	5731	No	3.44	Si
SLU 74	fin.	-240.87	-2261	0.85	0	1653	6740	3563	2168	5731	No	2.53	Si
SLU 84	ini.	-304.75	1725	0.85	0	1653	6740	3563	2168	5731	No	3.32	Si
SLU 84	fin.	-248.32	-2347	0.85	0	1653	6740	3563	2168	5731	No	2.44	Si
SLU 79	ini.	-309.25	1713	0.85	0	1653	6740	3563	2168	5731	No	3.35	Si
SLU 79	fin.	-233.84	-2231	0.85	0	1653	6740	3563	2168	5731	No	2.57	Si
SLU 75	ini.	-311.2	1723	0.85	0	1653	6740	3563	2168	5731	No	3.33	Si
SLU 75	fin.	-232.3	-2218	0.85	0	1653	6740	3563	2168	5731	No	2.58	Si
SLU 82	ini.	-292.04	1675	0.85	0	1653	6740	3563	2168	5731	No	3.42	Si
SLU 82	fin.	-249.6	-2338	0.85	0	1653	6740	3563	2168	5731	No	2.45	Si
SLU 80	ini.	-324.84	1769	0.85	0	1653	6740	3563	2168	5731	No	3.24	Si
SLU 80	fin.	-225.27	-2188	0.85	0	1653	6740	3563	2168	5731	No	2.62	Si
SLU 77	ini.	-308.31	1716	0.85	0	1653	6740	3563	2168	5731	No	3.34	Si
SLU 77	fin.	-239.59	-2270	0.85	0	1653	6740	3563	2168	5731	No	2.52	Si
SLU 83	ini.	-289.16	1669	0.85	0	1653	6740	3563	2168	5731	No	3.43	Si
SLU 83	fin.	-256.89	-2390	0.85	0	1653	6740	3563	2168	5731	No	2.4	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1557	-2991	-0.0012164	0.0002807	0.0035	0.85		2680.73	2680.73		1.72	Si
SLV 9	fin.	536.74	1336	-0.0003254	0.0002807	0.0035	0.85		2675.27	2675.27		4.98	Si
SLV 10	ini.	-1333.45	-2703	-0.0009847	0.0002807	0.0035	0.85		2680.73	2680.73		2.01	Si
SLV 10	fin.	406.49	892	-0.0002393	0.0002807	0.0035	0.85		2675.27	2675.27		6.58	Si
SLV 5	ini.	-954.75	-2286	-0.0006421	0.0002807	0.0035	0.85		2680.73	2680.73		2.81	Si
SLV 5	fin.	157.34	15	-0.0000883	0.0002807	0.0035	0.85		2675.27	2675.27		17	Si
SLV 15	ini.	-1122.01	-1950	-0.0007866	0.0002807	0.0035	0.85		2680.73	2680.73		2.39	Si
SLV 15	fin.	455.3	1246	-0.0002709	0.0002807	0.0035	0.85		2675.27	2675.27		5.88	Si
SLD 13	ini.	-1146.65	-2174	-0.0008087	0.0002807	0.0035	0.85		2680.73	2680.73		2.34	Si
SLD 13	fin.	400.6	985	-0.0002355	0.0002807	0.0035	0.85		2675.27	2675.27		6.68	Si
SLV 8	ini.	1102.43	973	-0.0007711	0.0002807	0.0035	0.85		2675.27	2675.27		2.43	Si
SLV 8	fin.	-827.84	-3102	-0.0005392	0.0002807	0.0035	0.85		2680.73	2680.73		3.24	Si
SLV 4	ini.	1217.53	824	-0.000876	0.0002807	0.0035	0.85		2675.27	2675.27		2.2	Si
SLV 4	fin.	-1002.87	-3815	-0.0006826	0.0002807	0.0035	0.85		2680.73	2680.73		2.67	Si
SLD 9	ini.	-1060.93	-2249	-0.0007326	0.0002807	0.0035	0.85		2680.73	2680.73		2.53	Si
SLD 9	fin.	282.89	511	-0.0001624	0.0002807	0.0035	0.85		2675.27	2675.27		9.46	Si
SLV 13	ini.	-1672.1	-2842	-0.0013468	0.0002807	0.0035	0.85		2680.73	2680.73		1.6	Si
SLV 13	fin.	711.77	2048	-0.0004511	0.0002807	0.0035	0.85		2675.27	2675.27		3.76	Si
SLV 14	ini.	-1340.07	-2415	-0.0009912	0.0002807	0.0035	0.85		2680.73	2680.73		2	Si
SLV 14	fin.	518.3	1389	-0.0003129	0.0002807	0.0035	0.85		2675.27	2675.27		5.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	885.5	-2478	0.85	0	2479	6740	5345	2168	7513		3.03	Si
SLV 3	fin.	-809.4	-5134	0.85	0	2479	6740	5345	2168	7513		1.46	Si
SLV 10	ini.	-1333.45	5001	0.85	0	2479	6740	5345	2168	7513		1.5	Si
SLV 10	fin.	406.49	1566	0.85	0	2479	6740	5345	2168	7513		4.8	Si
SLV 8	ini.	1102.43	-3312	0.85	0	2479	6740	5345	2168	7513		2.27	Si
SLV 8	fin.	-827.84	-5122	0.85	0	2479	6740	5345	2168	7513		1.47	Si
SLV 2	ini.	667.44	-1690	0.85	0	2479	6740	5345	2168	7513		4.45	Si
SLV 2	fin.	-746.39	-4844	0.85	0	2479	6740	5345	2168	7513		1.55	Si
SLV 9	ini.	-1557	5748	0.85	0	2479	6740	5345	2168	7513		1.31	Si
SLV 9	fin.	536.74	2288	0.85	0	2479	6740	5345	2168	7513		3.28	Si
SLV 14	ini.	-1340.07	4915	0.85	0	2479	6740	5345	2168	7513		1.53	Si
SLV 14	fin.	518.3	2300	0.85	0	2479	6740	5345	2168	7513		3.27	Si
SLV 13	ini.	-1672.1	6025	0.85	0	2479	6740	5345	2168	7513		1.25	Si
SLV 13	fin.	711.77	3373	0.85	0	2479	6740	5345	2168	7513		2.23	Si
SLD 4	ini.	692.08	-1839	0.85	0	2479	6740	5345	2168	7513		4.08	Si
SLD 4	fin.	-691.69	-4468	0.85	0	2479	6740	5345	2168	7513		1.68	Si
SLV 7	ini.	878.88	-2564	0.85	0	2479	6740	5345	2168	7513		2.93	Si
SLV 7	fin.	-697.58	-4400	0.85	0	2479	6740	5345	2168	7513		1.71	Si
SLV 4	ini.	1217.53	-3589	0.85	0	2479	6740	5345	2168	7513		2.09	Si
SLV 4	fin.	-1002.87	-6207	0.85	0	2479	6740	5345	2168	7513		1.21	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.603	SLV 13	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.21	SLV 4	Si
PF_SLU	7.701	SLU 51	Si
V_SLU	2.397	SLU 83	Si

Trave di accoppiamento 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	4.35	6.35	2	-19.293	-3.169	4.35	6.35	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-397.75	-2938	-0.0000399	0.0001872	0.0035	2		14357.01	14357.01	No	36.1	Si
SLU 65	fin.	283.54	-4431	-0.0000284	0.0001872	0.0035	2		14344.28	14344.28	No	50.59	Si
SLU 71	ini.	-388.68	-2979	-0.000039	0.0001872	0.0035	2		14357.01	14357.01	No	36.94	Si
SLU 71	fin.	299.51	-4520	-0.00003	0.0001872	0.0035	2		14344.28	14344.28	No	47.89	Si
SLU 69	ini.	-393.67	-3021	-0.0000395	0.0001872	0.0035	2		14357.01	14357.01	No	36.47	Si
SLU 69	fin.	299.96	-4573	-0.00003	0.0001872	0.0035	2		14344.28	14344.28	No	47.82	Si
SLU 49	ini.	-379.88	-2726	-0.0000381	0.0001872	0.0035	2		14357.01	14357.01	No	37.79	Si
SLU 49	fin.	264.47	-4094	-0.0000264	0.0001872	0.0035	2		14344.28	14344.28	No	54.24	Si
SLU 64	ini.	-384.91	-2891	-0.0000386	0.0001872	0.0035	2		14357.01	14357.01	No	37.3	Si
SLU 64	fin.	294.01	-4407	-0.0000294	0.0001872	0.0035	2		14344.28	14344.28	No	48.79	Si
SLU 67	ini.	-399.49	-3006	-0.0000401	0.0001872	0.0035	2		14357.01	14357.01	No	35.94	Si
SLU 67	fin.	290.93	-4531	-0.0000291	0.0001872	0.0035	2		14344.28	14344.28	No	49.31	Si
SLU 70	ini.	-401.38	-3050	-0.0000403	0.0001872	0.0035	2		14357.01	14357.01	No	35.77	Si
SLU 70	fin.	293.68	-4588	-0.0000294	0.0001872	0.0035	2		14344.28	14344.28	No	48.84	Si
SLU 72	ini.	-396.39	-3007	-0.0000398	0.0001872	0.0035	2		14357.01	14357.01	No	36.22	Si
SLU 72	fin.	293.23	-4534	-0.0000293	0.0001872	0.0035	2		14344.28	14344.28	No	48.92	Si
SLU 68	ini.	-399.64	-2982	-0.0000401	0.0001872	0.0035	2		14357.01	14357.01	No	35.92	Si
SLU 68	fin.	286.29	-4487	-0.0000286	0.0001872	0.0035	2		14344.28	14344.28	No	50.1	Si
SLU 66	ini.	-391.78	-2977	-0.0000393	0.0001872	0.0035	2		14357.01	14357.01	No	36.65	Si
SLU 66	fin.	297.2	-4517	-0.0000297	0.0001872	0.0035	2		14344.28	14344.28	No	48.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-340.95	2671	2	0	3889	3965	8384	5100	7854	No	2.94	Si
SLU 83	fin.	324.94	7366	2	0	3889	3965	8384	5100	7854	No	1.07	Si
SLU 82	ini.	-346.77	2617	2	0	3889	3965	8384	5100	7854	No	3	Si
SLU 82	fin.	315.91	7302	2	0	3889	3965	8384	5100	7854	No	1.08	Si
SLU 78	ini.	-369.28	2593	2	0	3889	3965	8384	5100	7854	No	3.03	Si
SLU 78	fin.	313.4	7306	2	0	3889	3965	8384	5100	7854	No	1.07	Si
SLU 79	ini.	-356.59	2638	2	0	3889	3965	8384	5100	7854	No	2.98	Si
SLU 79	fin.	319.23	7231	2	0	3889	3965	8384	5100	7854	No	1.09	Si
SLU 80	ini.	-364.3	2587	2	0	3889	3965	8384	5100	7854	No	3.04	Si
SLU 80	fin.	312.96	7239	2	0	3889	3965	8384	5100	7854	No	1.08	Si
SLU 77	ini.	-361.57	2644	2	0	3889	3965	8384	5100	7854	No	2.97	Si
SLU 77	fin.	319.68	7298	2	0	3889	3965	8384	5100	7854	No	1.08	Si
SLU 81	ini.	-339.06	2667	2	0	3889	3965	8384	5100	7854	No	2.94	Si
SLU 81	fin.	322.18	7294	2	0	3889	3965	8384	5100	7854	No	1.08	Si
SLU 84	ini.	-348.65	2620	2	0	3889	3965	8384	5100	7854	No	3	Si
SLU 84	fin.	318.66	7373	2	0	3889	3965	8384	5100	7854	No	1.07	Si
SLU 74	ini.	-359.69	2640	2	0	3889	3965	8384	5100	7854	No	2.97	Si
SLU 74	fin.	316.93	7227	2	0	3889	3965	8384	5100	7854	No	1.09	Si
SLU 75	ini.	-367.39	2590	2	0	3889	3965	8384	5100	7854	No	3.03	Si
SLU 75	fin.	310.65	7235	2	0	3889	3965	8384	5100	7854	No	1.09	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1247.67	-5014	-0.000128	0.0002807	0.0035	2		14215.41	14215.41		11.39	Si
SLV 10	fin.	493.62	-6413	-0.0000495	0.0002807	0.0035	2		14202.07	14202.07		28.77	Si
SLV 14	ini.	-1616.87	-4210	-0.000168	0.0002807	0.0035	2		14215.41	14215.41		8.79	Si
SLV 14	fin.	911.82	-6268	-0.0000927	0.0002807	0.0035	2		14202.07	14202.07		15.58	Si
SLV 13	ini.	-1940.03	-4706	-0.0002039	0.0002807	0.0035	2		14215.41	14215.41		7.33	Si
SLV 13	fin.	1106.41	-7029	-0.0001131	0.0002807	0.0035	2		14202.07	14202.07		12.84	Si
SLD 15	ini.	-1082.38	-2845	-0.0001105	0.0002807	0.0035	2		14215.41	14215.41		13.13	Si
SLD 15	fin.	748.17	-4748	-0.0000756	0.0002807	0.0035	2		14202.07	14202.07		18.98	Si
SLD 14	ini.	-1132.45	-3473	-0.0001158	0.0002807	0.0035	2		14215.41	14215.41		12.55	Si
SLD 14	fin.	664.8	-5211	-0.000067	0.0002807	0.0035	2		14202.07	14202.07		21.36	Si
SLV 16	ini.	-1204.53	-2691	-0.0001234	0.0002807	0.0035	2		14215.41	14215.41		11.8	Si
SLV 16	fin.	846.79	-4741	-0.0000859	0.0002807	0.0035	2		14202.07	14202.07		16.77	Si
SLD 13	ini.	-1338.92	-3790	-0.0001378	0.0002807	0.0035	2		14215.41	14215.41		10.62	Si
SLD 13	fin.	789.12	-5698	-0.0000799	0.0002807	0.0035	2		14202.07	14202.07		18	Si
SLV 9	ini.	-1465.24	-5348	-0.0001515	0.0002807	0.0035	2		14215.41	14215.41		9.7	Si
SLV 9	fin.	624.64	-6925	-0.0000629	0.0002807	0.0035	2		14202.07	14202.07		22.74	Si
SLV 15	ini.	-1527.69	-3187	-0.0001582	0.0002807	0.0035	2		14215.41	14215.41		9.31	Si
SLV 15	fin.	1041.38	-5502	-0.0001063	0.0002807	0.0035	2		14202.07	14202.07		13.64	Si
SLV 4	ini.	1375.65	309	-0.0001419	0.0002807	0.0035	2		14202.07	14202.07		10.32	Si
SLV 4	fin.	-655.66	293	-0.0000661	0.0002807	0.0035	2		14215.41	14215.41		21.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-1025.77	3841	2	0	5833	3965	12577	5100	9798		2.55	Si
SLD 9	fin.	479.17	8295	2	0	5833	3965	12577	5100	9798		1.18	Si
SLD 15	ini.	-1082.38	6647	2	0	5833	3965	12577	5100	9798		1.47	Si
SLD 15	fin.	748.17	8655	2	0	5833	3965	12577	5100	9798		1.13	Si
SLV 13	ini.	-1940.03	9575	2	0	5833	3965	12577	5100	9798		1.02	Si
SLV 13	fin.	1106.41	12404	2	0	5833	3965	12577	5100	9798		0.79	No
SLV 16	ini.	-1204.53	7735	2	0	5833	3965	12577	5100	9798		1.27	Si
SLV 16	fin.	846.79	9108	2	0	5833	3965	12577	5100	9798		1.08	Si
SLV 14	ini.	-1616.87	8010	2	0	5833	3965	12577	5100	9798		1.22	Si
SLV 14	fin.	911.82	10857	2	0	5833	3965	12577	5100	9798		0.9	No
SLV 10	ini.	-1247.67	3881	2	0	5833	3965	12577	5100	9798		2.52	Si
SLV 10	fin.	493.62	9165	2	0	5833	3965	12577	5100	9798		1.07	Si
SLD 13	ini.	-1338.92	6818	2	0	5833	3965	12577	5100	9798		1.44	Si
SLD 13	fin.	789.12	9742	2	0	5833	3965	12577	5100	9798		1.01	Si
SLV 15	ini.	-1527.69	9300	2	0	5833	3965	12577	5100	9798		1.05	Si
SLV 15	fin.	1041.38	10656	2	0	5833	3965	12577	5100	9798		0.92	No
SLV 9	ini.	-1465.24	4935	2	0	5833	3965	12577	5100	9798		1.99	Si
SLV 9	fin.	624.64	10207	2	0	5833	3965	12577	5100	9798		0.96	No
SLD 14	ini.	-1132.45	5818	2	0	5833	3965	12577	5100	9798		1.68	Si
SLD 14	fin.	664.8	8753	2	0	5833	3965	12577	5100	9798		1.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.327	SLV 13	Si
V_SLV	0.79	SLV 13	No
PF_SLU	35.77	SLU 70	Si
V_SLU	1.065	SLU 84	Si

Trave di accoppiamento 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	7.15	7.9	0.75	-19.293	-3.169	7.15	7.9	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-123.15	-982	-0.0000894	0.0001872	0.0035	0.75		2074.44	2074.44	No	16.84	Si
SLU 78	fin.	202.03	-281	-0.0001508	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.25	Si
SLU 66	ini.	-100.71	-779	-0.0000726	0.0001872	0.0035	0.75		2074.44	2074.44	No	20.6	Si
SLU 66	fin.	200.57	-130	-0.0001497	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.32	Si
SLU 83	ini.	-130.46	-1031	-0.0000949	0.0001872	0.0035	0.75		2074.44	2074.44	No	15.9	Si
SLU 83	fin.	200.46	-296	-0.0001496	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.33	Si
SLU 74	ini.	-121.85	-962	-0.0000884	0.0001872	0.0035	0.75		2074.44	2074.44	No	17.02	Si
SLU 74	fin.	202.11	-252	-0.0001509	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.24	Si
SLU 77	ini.	-123.66	-979	-0.0000898	0.0001872	0.0035	0.75		2074.44	2074.44	No	16.78	Si
SLU 77	fin.	202.33	-269	-0.0001511	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.23	Si
SLU 70	ini.	-102.01	-800	-0.0000735	0.0001872	0.0035	0.75		2074.44	2074.44	No	20.34	Si
SLU 70	fin.	200.48	-158	-0.0001496	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.32	Si
SLU 69	ini.	-102.51	-797	-0.0000739	0.0001872	0.0035	0.75		2074.44	2074.44	No	20.24	Si
SLU 69	fin.	200.78	-147	-0.0001498	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.31	Si
SLU 67	ini.	-100.2	-783	-0.0000722	0.0001872	0.0035	0.75		2074.44	2074.44	No	20.7	Si
SLU 67	fin.	200.26	-142	-0.0001494	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.34	Si
SLU 81	ini.	-128.65	-1014	-0.0000935	0.0001872	0.0035	0.75		2074.44	2074.44	No	16.12	Si
SLU 81	fin.	200.24	-279	-0.0001494	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.34	Si
SLU 75	ini.	-121.34	-965	-0.000088	0.0001872	0.0035	0.75		2074.44	2074.44	No	17.1	Si
SLU 75	fin.	201.81	-264	-0.0001507	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-128.65	3485	0.75	0	1458	3965	3144	1913	5057	No	1.45	Si
SLU 81	fin.	200.24	-1577	0.75	0	1458	3965	3144	1913	5057	No	3.21	Si
SLU 77	ini.	-123.66	3448	0.75	0	1458	3965	3144	1913	5057	No	1.47	Si
SLU 77	fin.	202.33	-1584	0.75	0	1458	3965	3144	1913	5057	No	3.19	Si
SLU 83	ini.	-130.46	3518	0.75	0	1458	3965	3144	1913	5057	No	1.44	Si
SLU 83	fin.	200.46	-1606	0.75	0	1458	3965	3144	1913	5057	No	3.15	Si
SLU 80	ini.	-122.69	3415	0.75	0	1458	3965	3144	1913	5057	No	1.48	Si
SLU 80	fin.	199.71	-1572	0.75	0	1458	3965	3144	1913	5057	No	3.22	Si
SLU 75	ini.	-121.34	3421	0.75	0	1458	3965	3144	1913	5057	No	1.48	Si
SLU 75	fin.	201.81	-1579	0.75	0	1458	3965	3144	1913	5057	No	3.2	Si
SLU 78	ini.	-123.15	3454	0.75	0	1458	3965	3144	1913	5057	No	1.46	Si
SLU 78	fin.	202.03	-1608	0.75	0	1458	3965	3144	1913	5057	No	3.14	Si
SLU 84	ini.	-129.95	3523	0.75	0	1458	3965	3144	1913	5057	No	1.44	Si
SLU 84	fin.	200.15	-1630	0.75	0	1458	3965	3144	1913	5057	No	3.1	Si
SLU 74	ini.	-121.85	3415	0.75	0	1458	3965	3144	1913	5057	No	1.48	Si
SLU 74	fin.	202.11	-1555	0.75	0	1458	3965	3144	1913	5057	No	3.25	Si
SLU 82	ini.	-128.15	3491	0.75	0	1458	3965	3144	1913	5057	No	1.45	Si
SLU 82	fin.	199.94	-1601	0.75	0	1458	3965	3144	1913	5057	No	3.16	Si
SLU 79	ini.	-123.2	3409	0.75	0	1458	3965	3144	1913	5057	No	1.48	Si
SLU 79	fin.	200.01	-1548	0.75	0	1458	3965	3144	1913	5057	No	3.27	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-14.21	382	-0.00001	0.0002807	0.0035	0.75		2090.82	2090.82		147.11	Si
SLD 13	fin.	496.08	1683	-0.0003956	0.0002807	0.0035	0.75		2085.94	2085.94		4.2	Si
SLV 15	ini.	-5.88	746	-0.0000041	0.0002807	0.0035	0.75		2090.82	2090.82		355.42	Si
SLV 15	fin.	601.75	2561	-0.0004969	0.0002807	0.0035	0.75		2085.94	2085.94		3.47	Si
SLD 14	ini.	-25.44	200	-0.0000179	0.0002807	0.0035	0.75		2090.82	2090.82		82.17	Si
SLD 14	fin.	425.82	1325	-0.000332	0.0002807	0.0035	0.75		2085.94	2085.94		4.9	Si
SLV 14	ini.	4.25	650	-0.000003	0.0002807	0.0035	0.75		2085.94	2085.94		490.82	Si
SLV 14	fin.	582.91	2126	-0.0004784	0.0002807	0.0035	0.75		2085.94	2085.94		3.58	Si
SLV 13	ini.	21.83	935	-0.0000154	0.0002807	0.0035	0.75		2085.94	2085.94		95.56	Si
SLV 13	fin.	692.87	2687	-0.0005894	0.0002807	0.0035	0.75		2085.94	2085.94		3.01	Si
SLV 4	ini.	-179.3	-2140	-0.0001305	0.0002807	0.0035	0.75		2090.82	2090.82		11.66	Si
SLV 4	fin.	-395.77	-2885	-0.000305	0.0002807	0.0035	0.75		2090.82	2090.82		5.28	Si
SLV 10	ini.	-15.09	7	-0.0000106	0.0002807	0.0035	0.75		2090.82	2090.82		138.52	Si
SLV 10	fin.	396.53	654	-0.0003064	0.0002807	0.0035	0.75		2085.94	2085.94		5.26	Si
SLV 16	ini.	-23.46	461	-0.0000165	0.0002807	0.0035	0.75		2090.82	2090.82		89.12	Si
SLV 16	fin.	491.79	2001	-0.0003917	0.0002807	0.0035	0.75		2085.94	2085.94		4.24	Si
SLV 9	ini.	-3.26	198	-0.0000023	0.0002807	0.0035	0.75		2090.82	2090.82		641.54	Si
SLV 9	fin.	470.56	1031	-0.0003722	0.0002807	0.0035	0.75		2085.94	2085.94		4.43	Si
SLD 15	ini.	-31.39	265	-0.0000221	0.0002807	0.0035	0.75		2090.82	2090.82		66.62	Si
SLD 15	fin.	439.75	1605	-0.0003444	0.0002807	0.0035	0.75		2085.94	2085.94		4.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-14.21	3342	0.75	0	2188	3965	4716	1913	6152		1.84	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	fin.	496.08	430	0.75	0	2188	3965	4716	1913	6152		14.3	Si
SLV 2	ini.	-151.59	1156	0.75	0	2188	3965	4716	1913	6152		5.32	Si
SLV 2	fin.	-304.65	-3581	0.75	0	2188	3965	4716	1913	6152		1.72	Si
SLV 10	ini.	-15.09	3295	0.75	0	2188	3965	4716	1913	6152		1.87	Si
SLV 10	fin.	396.53	-1125	0.75	0	2188	3965	4716	1913	6152		5.47	Si
SLV 9	ini.	-3.26	3539	0.75	0	2188	3965	4716	1913	6152		1.74	Si
SLV 9	fin.	470.56	-814	0.75	0	2188	3965	4716	1913	6152		7.56	Si
SLV 15	ini.	-5.88	3491	0.75	0	2188	3965	4716	1913	6152		1.76	Si
SLV 15	fin.	601.75	1599	0.75	0	2188	3965	4716	1913	6152		3.85	Si
SLV 16	ini.	-23.46	3128	0.75	0	2188	3965	4716	1913	6152		1.97	Si
SLV 16	fin.	491.79	1138	0.75	0	2188	3965	4716	1913	6152		5.41	Si
SLV 14	ini.	4.25	3567	0.75	0	2188	3965	4716	1913	6152		1.72	Si
SLV 14	fin.	582.91	760	0.75	0	2188	3965	4716	1913	6152		8.1	Si
SLV 4	ini.	-179.3	717	0.75	0	2188	3965	4716	1913	6152		8.58	Si
SLV 4	fin.	-395.77	-3203	0.75	0	2188	3965	4716	1913	6152		1.92	Si
SLV 1	ini.	-134.02	1520	0.75	0	2188	3965	4716	1913	6152		4.05	Si
SLV 1	fin.	-194.69	-3119	0.75	0	2188	3965	4716	1913	6152		1.97	Si
SLV 13	ini.	21.83	3930	0.75	0	2188	3965	4716	1913	6152		1.57	Si
SLV 13	fin.	692.87	1221	0.75	0	2188	3965	4716	1913	6152		5.04	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.011	SLV 13	Si
V_SLV	1.565	SLV 13	Si
PF_SLU	10.23	SLU 77	Si
V_SLU	1.435	SLU 84	Si

Trave di accoppiamento 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	4.35	5.25	0.9	-18.213	-3.169	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-230.77	-379	-0.0001182	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.85	Si
SLU 77	fin.	357.91	-2548	-0.0001895	0.0001872	0.0035	0.9		2959	2959	No	8.27	Si
SLU 75	ini.	-232.37	-369	-0.000119	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.76	Si
SLU 75	fin.	356.9	-2540	-0.0001889	0.0001872	0.0035	0.9		2959	2959	No	8.29	Si
SLU 78	ini.	-230.56	-386	-0.000118	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.86	Si
SLU 78	fin.	360.74	-2573	-0.0001911	0.0001872	0.0035	0.9		2959	2959	No	8.2	Si
SLU 69	ini.	-260.3	-288	-0.0001342	0.0001872	0.0035	0.9		2964.67	2964.67	No	11.39	Si
SLU 69	fin.	357.39	-2479	-0.0001892	0.0001872	0.0035	0.9		2959	2959	No	8.28	Si
SLU 70	ini.	-260.09	-296	-0.0001341	0.0001872	0.0035	0.9		2964.67	2964.67	No	11.4	Si
SLU 70	fin.	360.22	-2504	-0.0001908	0.0001872	0.0035	0.9		2959	2959	No	8.21	Si
SLU 72	ini.	-256.44	-293	-0.0001321	0.0001872	0.0035	0.9		2964.67	2964.67	No	11.56	Si
SLU 72	fin.	355.28	-2470	-0.000188	0.0001872	0.0035	0.9		2959	2959	No	8.33	Si
SLU 80	ini.	-226.91	-384	-0.0001161	0.0001872	0.0035	0.9		2964.67	2964.67	No	13.07	Si
SLU 80	fin.	355.8	-2540	-0.0001883	0.0001872	0.0035	0.9		2959	2959	No	8.32	Si
SLU 76	ini.	-228.59	-372	-0.000117	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.97	Si
SLU 76	fin.	353.84	-2523	-0.0001871	0.0001872	0.0035	0.9		2959	2959	No	8.36	Si
SLU 67	ini.	-261.9	-278	-0.0001351	0.0001872	0.0035	0.9		2964.67	2964.67	No	11.32	Si
SLU 67	fin.	356.37	-2471	-0.0001886	0.0001872	0.0035	0.9		2959	2959	No	8.3	Si
SLU 74	ini.	-232.59	-361	-0.0001191	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.75	Si
SLU 74	fin.	354.06	-2516	-0.0001873	0.0001872	0.0035	0.9		2959	2959	No	8.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-228.59	400	0.9	0	1750	7137	3773	2295	6068	No	15.18	Si
SLU 76	fin.	353.84	4284	0.9	0	1750	7137	3773	2295	6068	No	1.42	Si
SLU 82	ini.	-217.89	356	0.9	0	1750	7137	3773	2295	6068	No	17.06	Si
SLU 82	fin.	348.33	4271	0.9	0	1750	7137	3773	2295	6068	No	1.42	Si
SLU 84	ini.	-216.07	340	0.9	0	1750	7137	3773	2295	6068	No	17.87	Si
SLU 84	fin.	352.18	4323	0.9	0	1750	7137	3773	2295	6068	No	1.4	Si
SLU 74	ini.	-232.59	410	0.9	0	1750	7137	3773	2295	6068	No	14.81	Si
SLU 74	fin.	354.06	4282	0.9	0	1750	7137	3773	2295	6068	No	1.42	Si
SLU 77	ini.	-230.77	394	0.9	0	1750	7137	3773	2295	6068	No	15.41	Si
SLU 77	fin.	357.91	4333	0.9	0	1750	7137	3773	2295	6068	No	1.4	Si
SLU 78	ini.	-230.56	391	0.9	0	1750	7137	3773	2295	6068	No	15.53	Si
SLU 78	fin.	360.74	4369	0.9	0	1750	7137	3773	2295	6068	No	1.39	Si
SLU 83	ini.	-216.29	343	0.9	0	1750	7137	3773	2295	6068	No	17.71	Si
SLU 83	fin.	349.34	4287	0.9	0	1750	7137	3773	2295	6068	No	1.42	Si
SLU 80	ini.	-226.91	386	0.9	0	1750	7137	3773	2295	6068	No	15.73	Si
SLU 80	fin.	355.8	4312	0.9	0	1750	7137	3773	2295	6068	No	1.41	Si
SLU 75	ini.	-232.37	407	0.9	0	1750	7137	3773	2295	6068	No	14.92	Si
SLU 75	fin.	356.9	4318	0.9	0	1750	7137	3773	2295	6068	No	1.41	Si
SLU 79	ini.	-227.13	389	0.9	0	1750	7137	3773	2295	6068	No	15.61	Si
SLU 79	fin.	352.97	4276	0.9	0	1750	7137	3773	2295	6068	No	1.42	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1328.69	1941	-0.0008464	0.0002807	0.0035	0.9		2995.37	2995.37		2.25	Si
SLV 14	fin.	954.39	-4800	-0.0005606	0.0002807	0.0035	0.9		2989.59	2989.59		3.13	Si
SLV 13	ini.	-1606.26	2472	-0.001088	0.0002807	0.0035	0.9		2995.37	2995.37		1.86	Si
SLV 13	fin.	1119.76	-5520	-0.0006828	0.0002807	0.0035	0.9		2989.59	2989.59		2.67	Si
SLV 9	ini.	-986.39	870	-0.0005824	0.0002807	0.0035	0.9		2995.37	2995.37		3.04	Si
SLV 9	fin.	938.53	-5293	-0.0005493	0.0002807	0.0035	0.9		2989.59	2989.59		3.19	Si
SLV 4	ini.	1234.16	-2898	-0.0007718	0.0002807	0.0035	0.9		2989.59	2989.59		2.42	Si
SLV 4	fin.	-604.83	1923	-0.0003275	0.0002807	0.0035	0.9		2995.37	2995.37		4.95	Si
SLV 16	ini.	-1116.07	1824	-0.0006784	0.0002807	0.0035	0.9		2995.37	2995.37		2.68	Si
SLV 16	fin.	696.25	-3321	-0.0003855	0.0002807	0.0035	0.9		2989.59	2989.59		4.29	Si
SLV 15	ini.	-1393.65	2354	-0.0009005	0.0002807	0.0035	0.9		2995.37	2995.37		2.15	Si
SLV 15	fin.	861.62	-4041	-0.0004955	0.0002807	0.0035	0.9		2989.59	2989.59		3.47	Si
SLD 13	ini.	-1093.68	1506	-0.0006615	0.0002807	0.0035	0.9		2995.37	2995.37		2.74	Si
SLD 13	fin.	807.29	-4168	-0.0004585	0.0002807	0.0035	0.9		2989.59	2989.59		3.7	Si
SLV 2	ini.	1021.54	-2781	-0.0006093	0.0002807	0.0035	0.9		2989.59	2989.59		2.93	Si
SLV 2	fin.	-346.69	444	-0.0001786	0.0002807	0.0035	0.9		2995.37	2995.37		8.64	Si
SLV 3	ini.	956.58	-2367	-0.0005622	0.0002807	0.0035	0.9		2989.59	2989.59		3.13	Si
SLV 3	fin.	-439.46	1203	-0.0002301	0.0002807	0.0035	0.9		2995.37	2995.37		6.82	Si
SLD 15	ini.	-961.32	1432	-0.0005643	0.0002807	0.0035	0.9		2995.37	2995.37		3.12	Si
SLD 15	fin.	646.62	-3247	-0.0003541	0.0002807	0.0035	0.9		2989.59	2989.59		4.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1328.69	5142	0.9	0	2625	7137	5660	2295	7955		1.55	Si
SLV 14	fin.	954.39	7493	0.9	0	2625	7137	5660	2295	7955		1.06	Si
SLV 15	ini.	-1393.65	5525	0.9	0	2625	7137	5660	2295	7955		1.44	Si
SLV 15	fin.	861.62	6309	0.9	0	2625	7137	5660	2295	7955		1.26	Si
SLD 10	ini.	-573.7	1871	0.9	0	2625	7137	5660	2295	7955		4.25	Si
SLD 10	fin.	615.22	5918	0.9	0	2625	7137	5660	2295	7955		1.34	Si
SLV 9	ini.	-986.39	3494	0.9	0	2625	7137	5660	2295	7955		2.28	Si
SLV 9	fin.	938.53	8363	0.9	0	2625	7137	5660	2295	7955		0.95	No
SLD 14	ini.	-916.34	3426	0.9	0	2625	7137	5660	2295	7955		2.32	Si
SLD 14	fin.	701.64	5874	0.9	0	2625	7137	5660	2295	7955		1.35	Si
SLV 13	ini.	-1606.26	6272	0.9	0	2625	7137	5660	2295	7955		1.27	Si
SLV 13	fin.	1119.76	8583	0.9	0	2625	7137	5660	2295	7955		0.93	No
SLV 10	ini.	-799.5	2733	0.9	0	2625	7137	5660	2295	7955		2.91	Si
SLV 10	fin.	827.19	7629	0.9	0	2625	7137	5660	2295	7955		1.04	Si
SLD 13	ini.	-1093.68	4148	0.9	0	2625	7137	5660	2295	7955		1.92	Si
SLD 13	fin.	807.29	6571	0.9	0	2625	7137	5660	2295	7955		1.21	Si
SLV 5	ini.	-281.32	523	0.9	0	2625	7137	5660	2295	7955		15.2	Si
SLV 5	fin.	548.2	6052	0.9	0	2625	7137	5660	2295	7955		1.31	Si
SLD 9	ini.	-691.27	2349	0.9	0	2625	7137	5660	2295	7955		3.39	Si
SLD 9	fin.	685.26	6380	0.9	0	2625	7137	5660	2295	7955		1.25	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.865	SLV 13	Si
V_SLV	0.927	SLV 13	No
PF_SLU	8.203	SLU 78	Si
V_SLU	1.389	SLU 78	Si

Trave di accoppiamento 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	7.05	7.9	0.85	-18.213	-3.169	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-299.64	-1089	-0.000176	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.86	Si
SLU 78	fin.	47.09	-673	-0.000026	0.0001872	0.0035	0.85		2650.49	2650.49	No	56.29	Si
SLU 72	ini.	-302.35	-1036	-0.0001778	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.78	Si
SLU 72	fin.	67.71	-466	-0.0000376	0.0001872	0.0035	0.85		2650.49	2650.49	No	39.14	Si
SLU 68	ini.	-299.02	-1019	-0.0001756	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.88	Si
SLU 68	fin.	69.32	-452	-0.0000385	0.0001872	0.0035	0.85		2650.49	2650.49	No	38.24	Si
SLU 69	ini.	-303.41	-1042	-0.0001784	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.75	Si
SLU 69	fin.	68.94	-467	-0.0000383	0.0001872	0.0035	0.85		2650.49	2650.49	No	38.45	Si
SLU 66	ini.	-297.91	-1018	-0.0001749	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.91	Si
SLU 66	fin.	71.06	-447	-0.0000395	0.0001872	0.0035	0.85		2650.49	2650.49	No	37.3	Si
SLU 70	ini.	-306.67	-1052	-0.0001805	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.66	Si
SLU 70	fin.	68.16	-474	-0.0000378	0.0001872	0.0035	0.85		2650.49	2650.49	No	38.89	Si
SLU 80	ini.	-295.33	-1072	-0.0001733	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.99	Si
SLU 80	fin.	46.64	-666	-0.0000258	0.0001872	0.0035	0.85		2650.49	2650.49	No	56.82	Si
SLU 71	ini.	-299.1	-1025	-0.0001757	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.88	Si
SLU 71	fin.	68.49	-459	-0.000038	0.0001872	0.0035	0.85		2650.49	2650.49	No	38.7	Si
SLU 67	ini.	-301.17	-1028	-0.000177	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.82	Si
SLU 67	fin.	70.28	-455	-0.000039	0.0001872	0.0035	0.85		2650.49	2650.49	No	37.71	Si
SLU 77	ini.	-296.39	-1078	-0.0001739	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.96	Si
SLU 77	fin.	47.87	-666	-0.0000265	0.0001872	0.0035	0.85		2650.49	2650.49	No	55.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-296.39	2511	0.85	0	1653	6740	3563	2168	5731	No	2.28	Si
SLU 77	fin.	47.87	-2334	0.85	0	1653	6740	3563	2168	5731	No	2.45	Si
SLU 79	ini.	-292.07	2477	0.85	0	1653	6740	3563	2168	5731	No	2.31	Si
SLU 79	fin.	47.42	-2305	0.85	0	1653	6740	3563	2168	5731	No	2.49	Si
SLU 84	ini.	-286.82	2497	0.85	0	1653	6740	3563	2168	5731	No	2.29	Si
SLU 84	fin.	39.74	-2468	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 74	ini.	-290.88	2482	0.85	0	1653	6740	3563	2168	5731	No	2.31	Si
SLU 74	fin.	49.99	-2302	0.85	0	1653	6740	3563	2168	5731	No	2.49	Si
SLU 78	ini.	-299.64	2523	0.85	0	1653	6740	3563	2168	5731	No	2.27	Si
SLU 78	fin.	47.09	-2347	0.85	0	1653	6740	3563	2168	5731	No	2.44	Si
SLU 80	ini.	-295.33	2490	0.85	0	1653	6740	3563	2168	5731	No	2.3	Si
SLU 80	fin.	46.64	-2318	0.85	0	1653	6740	3563	2168	5731	No	2.47	Si
SLU 75	ini.	-294.14	2494	0.85	0	1653	6740	3563	2168	5731	No	2.3	Si
SLU 75	fin.	49.21	-2315	0.85	0	1653	6740	3563	2168	5731	No	2.48	Si
SLU 76	ini.	-292	2469	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 76	fin.	48.25	-2294	0.85	0	1653	6740	3563	2168	5731	No	2.5	Si
SLU 82	ini.	-281.31	2468	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 82	fin.	41.86	-2436	0.85	0	1653	6740	3563	2168	5731	No	2.35	Si
SLU 83	ini.	-283.56	2484	0.85	0	1653	6740	3563	2168	5731	No	2.31	Si
SLU 83	fin.	40.52	-2456	0.85	0	1653	6740	3563	2168	5731	No	2.33	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	181.73	-405	-0.0001025	0.0002807	0.0035	0.85		2675.27	2675.27		14.72	Si
SLV 2	fin.	-604.46	-3149	-0.0003719	0.0002807	0.0035	0.85		2680.73	2680.73		4.43	Si
SLV 4	ini.	469.28	361	-0.0002801	0.0002807	0.0035	0.85		2675.27	2675.27		5.7	Si
SLV 4	fin.	-703.73	-3487	-0.000444	0.0002807	0.0035	0.85		2680.73	2680.73		3.81	Si
SLV 9	ini.	-882.86	-2281	-0.0005831	0.0002807	0.0035	0.85		2680.73	2680.73		3.04	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	fin.	453.61	1209	-0.0002698	0.0002807	0.0035	0.85		2675.27	2675.27		5.9	Si
SLV 15	ini.	-611.82	-1081	-0.0003771	0.0002807	0.0035	0.85		2680.73	2680.73		4.38	Si
SLV 15	fin.	702.85	2436	-0.0004444	0.0002807	0.0035	0.85		2675.27	2675.27		3.81	Si
SLV 10	ini.	-787.64	-2116	-0.0005078	0.0002807	0.0035	0.85		2680.73	2680.73		3.4	Si
SLV 10	fin.	352.71	793	-0.0002053	0.0002807	0.0035	0.85		2675.27	2675.27		7.58	Si
SLD 9	ini.	-633.41	-1703	-0.0003925	0.0002807	0.0035	0.85		2680.73	2680.73		4.23	Si
SLD 9	fin.	304.79	634	-0.0001758	0.0002807	0.0035	0.85		2675.27	2675.27		8.78	Si
SLV 13	ini.	-899.37	-1846	-0.0005965	0.0002807	0.0035	0.85		2680.73	2680.73		2.98	Si
SLV 13	fin.	802.13	2773	-0.0005202	0.0002807	0.0035	0.85		2675.27	2675.27		3.34	Si
SLV 5	ini.	-600.96	-1922	-0.0003694	0.0002807	0.0035	0.85		2680.73	2680.73		4.46	Si
SLV 5	fin.	76.6	-382	-0.0000424	0.0002807	0.0035	0.85		2675.27	2675.27		34.92	Si
SLD 13	ini.	-650.6	-1442	-0.000405	0.0002807	0.0035	0.85		2680.73	2680.73		4.12	Si
SLD 13	fin.	530.47	1644	-0.0003212	0.0002807	0.0035	0.85		2675.27	2675.27		5.04	Si
SLV 14	ini.	-757.95	-1602	-0.0004849	0.0002807	0.0035	0.85		2680.73	2680.73		3.54	Si
SLV 14	fin.	652.25	2155	-0.0004071	0.0002807	0.0035	0.85		2675.27	2675.27		4.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-650.6	3951	0.85	0	2479	6740	5345	2168	7513		1.9	Si
SLD 13	fin.	530.47	1134	0.85	0	2479	6740	5345	2168	7513		6.63	Si
SLV 10	ini.	-787.64	4435	0.85	0	2479	6740	5345	2168	7513		1.69	Si
SLV 10	fin.	352.71	57	0.85	0	2479	6740	5345	2168	7513		130.97	Si
SLV 4	ini.	469.28	-1671	0.85	0	2479	6740	5345	2168	7513		4.5	Si
SLV 4	fin.	-703.73	-5465	0.85	0	2479	6740	5345	2168	7513		1.37	Si
SLV 2	ini.	181.73	-364	0.85	0	2479	6740	5345	2168	7513		20.63	Si
SLV 2	fin.	-604.46	-5014	0.85	0	2479	6740	5345	2168	7513		1.5	Si
SLV 13	ini.	-899.37	5200	0.85	0	2479	6740	5345	2168	7513		1.44	Si
SLV 13	fin.	802.13	2585	0.85	0	2479	6740	5345	2168	7513		2.91	Si
SLV 14	ini.	-757.95	4497	0.85	0	2479	6740	5345	2168	7513		1.67	Si
SLV 14	fin.	652.25	1775	0.85	0	2479	6740	5345	2168	7513		4.23	Si
SLV 1	ini.	40.3	339	0.85	0	2479	6740	5345	2168	7513		22.19	Si
SLV 1	fin.	-454.58	-4203	0.85	0	2479	6740	5345	2168	7513		1.79	Si
SLV 9	ini.	-882.86	4908	0.85	0	2479	6740	5345	2168	7513		1.53	Si
SLV 9	fin.	453.61	603	0.85	0	2479	6740	5345	2168	7513		12.46	Si
SLV 3	ini.	327.86	-968	0.85	0	2479	6740	5345	2168	7513		7.76	Si
SLV 3	fin.	-553.85	-4654	0.85	0	2479	6740	5345	2168	7513		1.61	Si
SLD 4	ini.	220.51	-422	0.85	0	2479	6740	5345	2168	7513		17.79	Si
SLD 4	fin.	-432.07	-4013	0.85	0	2479	6740	5345	2168	7513		1.87	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.981	SLV 13	Si
V_SLV	1.375	SLV 4	Si
PF_SLU	8.66	SLU 70	Si
V_SLU	2.271	SLU 78	Si

Trave di accoppiamento 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	6.45	7.9	1.45	-18.498	0.841	6.45	7.9	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	1323.6	483	-0.0002762	0.0002246	0.0035	1.45		7949.58	7949.58	No	6.01	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	33.01	-276	-0.0000062	0.0002246	0.0035	1.45		7949.58	7949.58	No	240.81	Si
SLU 77	ini.	1333.6	505	-0.0002785	0.0002246	0.0035	1.45		7949.58	7949.58	No	5.96	Si
SLU 77	fin.	31.12	-258	-0.0000059	0.0002246	0.0035	1.45		7949.58	7949.58	No	255.48	Si
SLU 81	ini.	1327.79	517	-0.0002772	0.0002246	0.0035	1.45		7949.58	7949.58	No	5.99	Si
SLU 81	fin.	20.06	-254	-0.0000038	0.0002246	0.0035	1.45		7949.58	7949.58	No	396.23	Si
SLU 79	ini.	1319.57	502	-0.0002752	0.0002246	0.0035	1.45		7949.58	7949.58	No	6.02	Si
SLU 79	fin.	29.87	-254	-0.0000056	0.0002246	0.0035	1.45		7949.58	7949.58	No	266.11	Si
SLU 74	ini.	1337.79	539	-0.0002795	0.0002246	0.0035	1.45		7949.58	7949.58	No	5.94	Si
SLU 74	fin.	18.17	-235	-0.0000034	0.0002246	0.0035	1.45		7949.58	7949.58	No	437.59	Si
SLU 67	ini.	1299.64	608	-0.0002705	0.0002246	0.0035	1.45		7949.58	7949.58	No	6.12	Si
SLU 67	fin.	-10.25	-156	-0.0000019	0.0002246	0.0035	1.45		7958.5	7958.5	No	776.16	Si
SLU 66	ini.	1338.17	663	-0.0002796	0.0002246	0.0035	1.45		7949.58	7949.58	No	5.94	Si
SLU 66	fin.	-19.37	-129	-0.0000036	0.0002246	0.0035	1.45		7958.5	7958.5	No	410.82	Si
SLU 64	ini.	1328.33	693	-0.0002773	0.0002246	0.0035	1.45		7949.58	7949.58	No	5.98	Si
SLU 64	fin.	-33.56	-102	-0.0000063	0.0002246	0.0035	1.45		7958.5	7958.5	No	237.12	Si
SLU 69	ini.	1333.97	629	-0.0002786	0.0002246	0.0035	1.45		7949.58	7949.58	No	5.96	Si
SLU 69	fin.	-6.42	-152	-0.0000012	0.0002246	0.0035	1.45		7958.5	7958.5	No	1239.06	Si
SLU 71	ini.	1319.94	625	-0.0002753	0.0002246	0.0035	1.45		7949.58	7949.58	No	6.02	Si
SLU 71	fin.	-7.67	-148	-0.0000014	0.0002246	0.0035	1.45		7958.5	7958.5	No	1038.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 66	ini.	1338.17	-2210	1.45	0	1692	6344	3648	3698	7345	No	3.32	Si
SLU 66	fin.	-19.37	-2611	1.45	0	1692	6344	3648	3698	7345	No	2.81	Si
SLU 74	ini.	1337.79	-2146	1.45	0	1692	6344	3648	3698	7345	No	3.42	Si
SLU 74	fin.	18.17	-2547	1.45	0	1692	6344	3648	3698	7345	No	2.88	Si
SLU 64	ini.	1328.33	-2219	1.45	0	1692	6344	3648	3698	7345	No	3.31	Si
SLU 64	fin.	-33.56	-2620	1.45	0	1692	6344	3648	3698	7345	No	2.8	Si
SLU 71	ini.	1319.94	-2156	1.45	0	1692	6344	3648	3698	7345	No	3.41	Si
SLU 71	fin.	-7.67	-2557	1.45	0	1692	6344	3648	3698	7345	No	2.87	Si
SLU 77	ini.	1333.6	-2115	1.45	0	1692	6344	3648	3698	7345	No	3.47	Si
SLU 77	fin.	31.12	-2515	1.45	0	1692	6344	3648	3698	7345	No	2.92	Si
SLU 69	ini.	1333.97	-2178	1.45	0	1692	6344	3648	3698	7345	No	3.37	Si
SLU 69	fin.	-6.42	-2579	1.45	0	1692	6344	3648	3698	7345	No	2.85	Si
SLU 45	ini.	1270.75	-2153	1.45	0	1692	6344	3648	3698	7345	No	3.41	Si
SLU 45	fin.	-50.63	-2529	1.45	0	1692	6344	3648	3698	7345	No	2.9	Si
SLU 81	ini.	1327.79	-2128	1.45	0	1692	6344	3648	3698	7345	No	3.45	Si
SLU 81	fin.	20.06	-2529	1.45	0	1692	6344	3648	3698	7345	No	2.9	Si
SLU 67	ini.	1299.64	-2125	1.45	0	1692	6344	3648	3698	7345	No	3.46	Si
SLU 67	fin.	-10.25	-2526	1.45	0	1692	6344	3648	3698	7345	No	2.91	Si
SLU 43	ini.	1260.92	-2162	1.45	0	1692	6344	3648	3698	7345	No	3.4	Si
SLU 43	fin.	-64.83	-2538	1.45	0	1692	6344	3648	3698	7345	No	2.89	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	3708.44	4547	-0.000904	0.0003369	0.0035	1.45		8142.56	8142.56		2.2	Si
SLV 12	fin.	-525.27	1996	-0.0001014	0.0003369	0.0035	1.45		8151.83	8151.83		15.52	Si
SLV 16	ini.	2136.08	2109	-0.0004582	0.0003369	0.0035	1.45		8142.56	8142.56		3.81	Si
SLV 16	fin.	-444.58	611	-0.0000855	0.0003369	0.0035	1.45		8151.83	8151.83		18.34	Si
SLV 7	ini.	3475.81	4256	-0.0008313	0.0003369	0.0035	1.45		8142.56	8142.56		2.34	Si
SLV 7	fin.	-339.62	1926	-0.0000649	0.0003369	0.0035	1.45		8151.83	8151.83		24	Si
SLV 8	ini.	3512.69	4316	-0.0008426	0.0003369	0.0035	1.45		8142.56	8142.56		2.32	Si
SLV 8	fin.	-350.39	1961	-0.000067	0.0003369	0.0035	1.45		8151.83	8151.83		23.27	Si
SLD 8	ini.	2565.52	2880	-0.0005696	0.0003369	0.0035	1.45		8142.56	8142.56		3.17	Si
SLD 8	fin.	-224.48	1189	-0.0000427	0.0003369	0.0035	1.45		8151.83	8151.83		36.31	Si
SLD 11	ini.	2667.45	2991	-0.0005972	0.0003369	0.0035	1.45		8142.56	8142.56		3.05	Si
SLD 11	fin.	-329.77	1190	-0.000063	0.0003369	0.0035	1.45		8151.83	8151.83		24.72	Si
SLD 12	ini.	2690.65	3028	-0.0006035	0.0003369	0.0035	1.45		8142.56	8142.56		3.03	Si
SLD 12	fin.	-336.54	1212	-0.0000643	0.0003369	0.0035	1.45		8151.83	8151.83		24.22	Si
SLV 15	ini.	2081.3	2020	-0.0004445	0.0003369	0.0035	1.45		8142.56	8142.56		3.91	Si
SLV 15	fin.	-428.59	560	-0.0000823	0.0003369	0.0035	1.45		8151.83	8151.83		19.02	Si
SLV 11	ini.	3671.56	4487	-0.0008923	0.0003369	0.0035	1.45		8142.56	8142.56		2.22	Si
SLV 11	fin.	-514.51	1962	-0.0000993	0.0003369	0.0035	1.45		8151.83	8151.83		15.84	Si
SLD 7	ini.	2542.32	2843	-0.0005634	0.0003369	0.0035	1.45		8142.56	8142.56		3.2	Si
SLD 7	fin.	-217.71	1167	-0.0000414	0.0003369	0.0035	1.45		8151.83	8151.83		37.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	2667.45	-5244	1.45	16250	2538	6344	5471	3698	8881		1.69	Si
SLD 11	fin.	-329.77	-5533	1.45	0	2538	6344	5471	3698	8881		1.61	Si
SLV 8	ini.	3512.69	-6839	1.45	16250	2538	6344	5471	3698	8881		1.3	Si
SLV 8	fin.	-350.39	-7122	1.45	0	2538	6344	5471	3698	8881		1.25	Si
SLV 11	ini.	3671.56	-7403	1.45	16250	2538	6344	5471	3698	8881		1.2	Si
SLV 11	fin.	-514.51	-7679	1.45	0	2538	6344	5471	3698	8881		1.16	Si
SLV 12	ini.	3708.44	-7485	1.45	16250	2538	6344	5471	3698	8881		1.19	Si
SLV 12	fin.	-525.27	-7761	1.45	0	2538	6344	5471	3698	8881		1.14	Si
SLV 7	ini.	3475.81	-6757	1.45	16250	2538	6344	5471	3698	8881		1.31	Si
SLV 7	fin.	-339.62	-7040	1.45	0	2538	6344	5471	3698	8881		1.26	Si
SLD 7	ini.	2542.32	-4831	1.45	0	2538	6344	5471	3698	8881		1.84	Si
SLD 7	fin.	-217.71	-5124	1.45	0	2538	6344	5471	3698	8881		1.73	Si
SLV 15	ini.	2081.3	-4325	1.45	0	2538	6344	5471	3698	8881		2.05	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	fin.	-428.59	-4610	1.45	0	2538	6344	5471	3698	8881		1.93	Si
SLV 16	ini.	2136.08	-4447	1.45	0	2538	6344	5471	3698	8881		2	Si
SLV 16	fin.	-444.58	-4732	1.45	0	2538	6344	5471	3698	8881		1.88	Si
SLD 8	ini.	2565.52	-4883	1.45	0	2538	6344	5471	3698	8881		1.82	Si
SLD 8	fin.	-224.48	-5175	1.45	0	2538	6344	5471	3698	8881		1.72	Si
SLD 12	ini.	2690.65	-5296	1.45	16250	2538	6344	5471	3698	8881		1.68	Si
SLD 12	fin.	-336.54	-5585	1.45	0	2538	6344	5471	3698	8881		1.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.196	SLV 12	Si
V_SLV	1.144	SLV 12	Si
PF_SLU	5.941	SLU 66	Si
V_SLU	2.804	SLU 64	Si

Trave di accoppiamento 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.363	-3.169	6.45	7.9	1.45	-16.263	-3.169	6.45	7.9	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-2411.33	-4517	-0.0005747	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.18	Si
SLU 81	fin.	1447.36	-2653	-0.0003124	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.29	Si
SLU 83	ini.	-2408.58	-4559	-0.0005739	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.18	Si
SLU 83	fin.	1442.52	-2700	-0.0003112	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.31	Si
SLU 78	ini.	-2354.05	-4564	-0.000558	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.26	Si
SLU 78	fin.	1421.39	-2743	-0.0003059	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.39	Si
SLU 75	ini.	-2356.8	-4523	-0.0005588	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.25	Si
SLU 75	fin.	1426.23	-2696	-0.0003071	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.37	Si
SLU 84	ini.	-2409.73	-4576	-0.0005742	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.18	Si
SLU 84	fin.	1440.4	-2718	-0.0003107	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.32	Si
SLU 76	ini.	-2332.17	-4474	-0.0005516	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.29	Si
SLU 76	fin.	1406.84	-2670	-0.0003023	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.44	Si
SLU 73	ini.	-2334.92	-4432	-0.0005524	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.28	Si
SLU 73	fin.	1411.68	-2622	-0.0003035	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.43	Si
SLU 77	ini.	-2352.9	-4547	-0.0005576	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.26	Si
SLU 77	fin.	1423.5	-2725	-0.0003065	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.38	Si
SLU 82	ini.	-2412.48	-4534	-0.000575	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.18	Si
SLU 82	fin.	1445.24	-2671	-0.0003119	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.3	Si
SLU 74	ini.	-2355.64	-4506	-0.0005584	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.26	Si
SLU 74	fin.	1428.34	-2678	-0.0003077	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-2332.17	6523	1.45	0	2819	7137	6079	3698	9776	No	1.5	Si
SLU 76	fin.	1406.84	4735	1.45	0	2819	7137	6079	3698	9776	No	2.06	Si
SLU 74	ini.	-2355.64	6592	1.45	0	2819	7137	6079	3698	9776	No	1.48	Si
SLU 74	fin.	1428.34	4804	1.45	0	2819	7137	6079	3698	9776	No	2.03	Si
SLU 84	ini.	-2409.73	6748	1.45	0	2819	7137	6079	3698	9776	No	1.45	Si
SLU 84	fin.	1440.4	4842	1.45	0	2819	7137	6079	3698	9776	No	2.02	Si
SLU 75	ini.	-2356.8	6590	1.45	0	2819	7137	6079	3698	9776	No	1.48	Si
SLU 75	fin.	1426.23	4802	1.45	0	2819	7137	6079	3698	9776	No	2.04	Si
SLU 78	ini.	-2354.05	6577	1.45	0	2819	7137	6079	3698	9776	No	1.49	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	1421.39	4789	1.45	0	2819	7137	6079	3698	9776	No	2.04	Si
SLU 82	ini.	-2412.48	6761	1.45	0	2819	7137	6079	3698	9776	No	1.45	Si
SLU 82	fin.	1445.24	4855	1.45	0	2819	7137	6079	3698	9776	No	2.01	Si
SLU 81	ini.	-2411.33	6763	1.45	0	2819	7137	6079	3698	9776	No	1.45	Si
SLU 81	fin.	1447.36	4858	1.45	0	2819	7137	6079	3698	9776	No	2.01	Si
SLU 77	ini.	-2352.9	6579	1.45	0	2819	7137	6079	3698	9776	No	1.49	Si
SLU 77	fin.	1423.5	4791	1.45	0	2819	7137	6079	3698	9776	No	2.04	Si
SLU 73	ini.	-2334.92	6536	1.45	0	2819	7137	6079	3698	9776	No	1.5	Si
SLU 73	fin.	1411.68	4748	1.45	0	2819	7137	6079	3698	9776	No	2.06	Si
SLU 83	ini.	-2408.58	6750	1.45	0	2819	7137	6079	3698	9776	No	1.45	Si
SLU 83	fin.	1442.52	4844	1.45	0	2819	7137	6079	3698	9776	No	2.02	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-3217.06	-4613	-0.0007739	0.0002807	0.0035	1.45		7655.81	7655.81		2.38	Si
SLD 14	fin.	2399.71	-1998	-0.0005388	0.0002807	0.0035	1.45		7646.28	7646.28		3.19	Si
SLV 14	ini.	-4110.86	-5460	-0.0010669	0.0002807	0.0035	1.45		7655.81	7655.81		1.86	Si
SLV 14	fin.	3184.74	-2090	-0.0007652	0.0002807	0.0035	1.45		7646.28	7646.28		2.4	Si
SLV 9	ini.	-3129.23	-5791	-0.0007472	0.0002807	0.0035	1.45		7655.81	7655.81		2.45	Si
SLV 9	fin.	2137.66	-3458	-0.000469	0.0002807	0.0035	1.45		7646.28	7646.28		3.58	Si
SLV 13	ini.	-4734.19	-6035	-0.0012984	0.0002807	0.0035	1.45		7655.81	7655.81		1.62	Si
SLV 13	fin.	3711.09	-2168	-0.0009323	0.0002807	0.0035	1.45		7646.28	7646.28		2.06	Si
SLD 13	ini.	-3615.31	-4981	-0.0008995	0.0002807	0.0035	1.45		7655.81	7655.81		2.12	Si
SLD 13	fin.	2736	-2048	-0.0006326	0.0002807	0.0035	1.45		7646.28	7646.28		2.79	Si
SLV 15	ini.	-4437.71	-4930	-0.001185	0.0002807	0.0035	1.45		7655.81	7655.81		1.73	Si
SLV 15	fin.	3563.93	-1186	-0.0008842	0.0002807	0.0035	1.45		7646.28	7646.28		2.15	Si
SLD 15	ini.	-3431.17	-4294	-0.0008405	0.0002807	0.0035	1.45		7655.81	7655.81		2.23	Si
SLD 15	fin.	2644.38	-1437	-0.0006066	0.0002807	0.0035	1.45		7646.28	7646.28		2.89	Si
SLV 16	ini.	-3814.38	-4354	-0.0009652	0.0002807	0.0035	1.45		7655.81	7655.81		2.01	Si
SLV 16	fin.	3037.57	-1108	-0.0007207	0.0002807	0.0035	1.45		7646.28	7646.28		2.52	Si
SLV 10	ini.	-2709.56	-5403	-0.0006241	0.0002807	0.0035	1.45		7655.81	7655.81		2.83	Si
SLV 10	fin.	1783.28	-3406	-0.0003792	0.0002807	0.0035	1.45		7646.28	7646.28		4.29	Si
SLD 16	ini.	-3032.93	-3926	-0.0007183	0.0002807	0.0035	1.45		7655.81	7655.81		2.52	Si
SLD 16	fin.	2308.1	-1388	-0.000514	0.0002807	0.0035	1.45		7646.28	7646.28		3.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-4437.71	12440	1.45	0	4229	7137	9118	3698	11366		0.91	No
SLV 15	fin.	3563.93	11272	1.45	0	4229	7137	9118	3698	11366		1.01	Si
SLV 10	ini.	-2709.56	7167	1.45	0	4229	7137	9118	3698	11366		1.59	Si
SLV 10	fin.	1783.28	5956	1.45	0	4229	7137	9118	3698	11366		1.91	Si
SLV 16	ini.	-3814.38	10762	1.45	0	4229	7137	9118	3698	11366		1.06	Si
SLV 16	fin.	3037.57	9593	1.45	0	4229	7137	9118	3698	11366		1.18	Si
SLD 16	ini.	-3032.93	8537	1.45	0	4229	7137	9118	3698	11366		1.33	Si
SLD 16	fin.	2308.1	7365	1.45	0	4229	7137	9118	3698	11366		1.54	Si
SLV 14	ini.	-4110.86	11344	1.45	0	4229	7137	9118	3698	11366		1	Si
SLV 14	fin.	3184.74	10156	1.45	0	4229	7137	9118	3698	11366		1.12	Si
SLV 9	ini.	-3129.23	8297	1.45	0	4229	7137	9118	3698	11366		1.37	Si
SLV 9	fin.	2137.66	7086	1.45	0	4229	7137	9118	3698	11366		1.6	Si
SLD 13	ini.	-3615.31	9971	1.45	0	4229	7137	9118	3698	11366		1.14	Si
SLD 13	fin.	2736	8786	1.45	0	4229	7137	9118	3698	11366		1.29	Si
SLV 13	ini.	-4734.19	13022	1.45	0	4229	7137	9118	3698	11366		0.87	No
SLV 13	fin.	3711.09	11834	1.45	0	4229	7137	9118	3698	11366		0.96	No
SLD 15	ini.	-3431.17	9609	1.45	0	4229	7137	9118	3698	11366		1.18	Si
SLD 15	fin.	2644.38	8437	1.45	0	4229	7137	9118	3698	11366		1.35	Si
SLD 14	ini.	-3217.06	8899	1.45	0	4229	7137	9118	3698	11366		1.28	Si
SLD 14	fin.	2399.71	7714	1.45	0	4229	7137	9118	3698	11366		1.47	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.617	SLV 13	Si
V_SLV	0.873	SLV 13	No
PF_SLU	3.179	SLU 82	Si
V_SLU	1.445	SLU 81	Si

Trave di accoppiamento 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	6.45	7.9	1.45	-15.058	2.206	6.45	7.9	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	924.42	-1931	-0.000186	0.0002246	0.0035	1.45		7949.58	7949.58	No	8.6	Si
SLU 79	fin.	-1187.86	-3053	-0.0002443	0.0002246	0.0035	1.45		7958.5	7958.5	No	6.7	Si
SLU 78	ini.	914.41	-1902	-0.0001838	0.0002246	0.0035	1.45		7949.58	7949.58	No	8.69	Si
SLU 78	fin.	-1128.38	-2984	-0.0002308	0.0002246	0.0035	1.45		7958.5	7958.5	No	7.05	Si
SLU 77	ini.	933.84	-1951	-0.000188	0.0002246	0.0035	1.45		7949.58	7949.58	No	8.51	Si
SLU 77	fin.	-1201.43	-3086	-0.0002474	0.0002246	0.0035	1.45		7958.5	7958.5	No	6.62	Si
SLU 82	ini.	904.33	-1883	-0.0001816	0.0002246	0.0035	1.45		7949.58	7949.58	No	8.79	Si
SLU 82	fin.	-1123.87	-2951	-0.0002298	0.0002246	0.0035	1.45		7958.5	7958.5	No	7.08	Si
SLU 35	ini.	824.83	-1742	-0.0001646	0.0002246	0.0035	1.45		7949.58	7949.58	No	9.64	Si
SLU 35	fin.	-1124.14	-2781	-0.0002299	0.0002246	0.0035	1.45		7958.5	7958.5	No	7.08	Si
SLU 81	ini.	923.76	-1932	-0.0001858	0.0002246	0.0035	1.45		7949.58	7949.58	No	8.61	Si
SLU 81	fin.	-1196.92	-3053	-0.0002464	0.0002246	0.0035	1.45		7958.5	7958.5	No	6.65	Si
SLU 74	ini.	908.73	-1894	-0.0001826	0.0002246	0.0035	1.45		7949.58	7949.58	No	8.75	Si
SLU 74	fin.	-1152.69	-2986	-0.0002363	0.0002246	0.0035	1.45		7958.5	7958.5	No	6.9	Si
SLU 84	ini.	929.44	-1940	-0.0001871	0.0002246	0.0035	1.45		7949.58	7949.58	No	8.55	Si
SLU 84	fin.	-1172.61	-3051	-0.0002409	0.0002246	0.0035	1.45		7958.5	7958.5	No	6.79	Si
SLU 41	ini.	839.87	-1779	-0.0001678	0.0002246	0.0035	1.45		7949.58	7949.58	No	9.47	Si
SLU 41	fin.	-1168.37	-2848	-0.0002399	0.0002246	0.0035	1.45		7958.5	7958.5	No	6.81	Si
SLU 83	ini.	948.88	-1989	-0.0001913	0.0002246	0.0035	1.45		7949.58	7949.58	No	8.38	Si
SLU 83	fin.	-1245.66	-3153	-0.0002576	0.0002246	0.0035	1.45		7958.5	7958.5	No	6.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	908.73	-3360	1.45	0	1692	6344	3648	3698	7345	No	2.19	Si
SLU 74	fin.	-1152.69	-3772	1.45	0	1692	6344	3648	3698	7345	No	1.95	Si
SLU 84	ini.	929.44	-3427	1.45	0	1692	6344	3648	3698	7345	No	2.14	Si
SLU 84	fin.	-1172.61	-3839	1.45	0	1692	6344	3648	3698	7345	No	1.91	Si
SLU 83	ini.	948.88	-3591	1.45	0	1692	6344	3648	3698	7345	No	2.05	Si
SLU 83	fin.	-1245.66	-4003	1.45	0	1692	6344	3648	3698	7345	No	1.83	Si
SLU 80	ini.	904.99	-3287	1.45	0	1692	6344	3648	3698	7345	No	2.23	Si
SLU 80	fin.	-1114.81	-3699	1.45	0	1692	6344	3648	3698	7345	No	1.99	Si
SLU 79	ini.	924.42	-3450	1.45	0	1692	6344	3648	3698	7345	No	2.13	Si
SLU 79	fin.	-1187.86	-3862	1.45	0	1692	6344	3648	3698	7345	No	1.9	Si
SLU 78	ini.	914.41	-3327	1.45	0	1692	6344	3648	3698	7345	No	2.21	Si
SLU 78	fin.	-1128.38	-3739	1.45	0	1692	6344	3648	3698	7345	No	1.96	Si
SLU 82	ini.	904.33	-3296	1.45	0	1692	6344	3648	3698	7345	No	2.23	Si
SLU 82	fin.	-1123.87	-3708	1.45	0	1692	6344	3648	3698	7345	No	1.98	Si
SLU 77	ini.	933.84	-3491	1.45	0	1692	6344	3648	3698	7345	No	2.1	Si
SLU 77	fin.	-1201.43	-3903	1.45	0	1692	6344	3648	3698	7345	No	1.88	Si
SLU 41	ini.	839.87	-3312	1.45	0	1692	6344	3648	3698	7345	No	2.22	Si
SLU 41	fin.	-1168.37	-3643	1.45	0	1692	6344	3648	3698	7345	No	2.02	Si
SLU 81	ini.	923.76	-3460	1.45	0	1692	6344	3648	3698	7345	No	2.12	Si
SLU 81	fin.	-1196.92	-3872	1.45	0	1692	6344	3648	3698	7345	No	1.9	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1819.27	-4798	-0.0003809	0.0003369	0.0035	1.45		8142.56	8142.56		4.48	Si
SLV 7	fin.	-5851.59	-9353	-0.0017362	0.0003369	0.0035	1.45		8151.83	8151.83		1.39	Si
SLV 9	ini.	-660	2433	-0.0001283	0.0003369	0.0035	1.45		8151.83	8151.83		12.35	Si
SLV 9	fin.	4577.88	5714	-0.0012008	0.0003369	0.0035	1.45		8142.56	8142.56		1.78	Si
SLV 10	ini.	-644.9	2394	-0.0001253	0.0003369	0.0035	1.45		8151.83	8151.83		12.64	Si
SLV 10	fin.	4518.45	5634	-0.0011791	0.0003369	0.0035	1.45		8142.56	8142.56		1.8	Si
SLD 12	ini.	1408	-3507	-0.0002864	0.0003369	0.0035	1.45		8142.56	8142.56		5.78	Si
SLD 12	fin.	-4064.48	-6739	-0.0010189	0.0003369	0.0035	1.45		8151.83	8151.83		2.01	Si
SLV 6	ini.	-718.74	2454	-0.0001402	0.0003369	0.0035	1.45		8151.83	8151.83		11.34	Si
SLV 6	fin.	4726.82	5890	-0.0012563	0.0003369	0.0035	1.45		8142.56	8142.56		1.72	Si
SLV 5	ini.	-733.84	2492	-0.0001432	0.0003369	0.0035	1.45		8151.83	8151.83		11.11	Si
SLV 5	fin.	4786.25	5971	-0.0012789	0.0003369	0.0035	1.45		8142.56	8142.56		1.7	Si
SLV 11	ini.	1893.11	-4857	-0.0003985	0.0003369	0.0035	1.45		8142.56	8142.56		4.3	Si
SLV 11	fin.	-6059.96	-9609	-0.0018431	0.0003369	0.0035	1.45		8151.83	8151.83		1.35	Si
SLD 11	ini.	1398.5	-3482	-0.0002843	0.0003369	0.0035	1.45		8142.56	8142.56		5.82	Si
SLD 11	fin.	-4027.09	-6689	-0.0010063	0.0003369	0.0035	1.45		8151.83	8151.83		2.02	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	1908.21	-4896	-0.0004022	0.0003369	0.0035	1.45		8142.56	8142.56		4.27	Si
SLV 12	fin.	-6119.39	-9690	-0.0018749	0.0003369	0.0035	1.45		8151.83	8151.83		1.33	Si
SLV 8	ini.	1834.37	-4837	-0.0003845	0.0003369	0.0035	1.45		8142.56	8142.56		4.44	Si
SLV 8	fin.	-5911.02	-9434	-0.001766	0.0003369	0.0035	1.45		8151.83	8151.83		1.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-718.74	9742	1.45	0	2538	6344	5471	3698	8881		0.91	No
SLV 6	fin.	4726.82	9439	1.45	16250	2538	6344	5471	3698	8881		0.94	No
SLV 7	ini.	1819.27	-13302	1.45	0	2538	6344	5471	3698	8881		0.67	No
SLV 7	fin.	-5851.59	-13633	1.45	16250	2538	6344	5471	3698	8881		0.65	No
SLV 12	ini.	1908.21	-13888	1.45	0	2538	6344	5471	3698	8881		0.64	No
SLV 12	fin.	-6119.39	-14207	1.45	16250	2538	6344	5471	3698	8881		0.63	No
SLV 11	ini.	1893.11	-13757	1.45	0	2538	6344	5471	3698	8881		0.65	No
SLV 11	fin.	-6059.96	-14076	1.45	16250	2538	6344	5471	3698	8881		0.63	No
SLV 5	ini.	-733.84	9873	1.45	0	2538	6344	5471	3698	8881		0.9	No
SLV 5	fin.	4786.25	9570	1.45	16250	2538	6344	5471	3698	8881		0.93	No
SLD 11	ini.	1398.5	-9328	1.45	0	2538	6344	5471	3698	8881		0.95	No
SLD 11	fin.	-4027.09	-9642	1.45	16250	2538	6344	5471	3698	8881		0.92	No
SLD 12	ini.	1408	-9411	1.45	0	2538	6344	5471	3698	8881		0.94	No
SLD 12	fin.	-4064.48	-9725	1.45	16250	2538	6344	5471	3698	8881		0.91	No
SLV 9	ini.	-660	9418	1.45	0	2538	6344	5471	3698	8881		0.94	No
SLV 9	fin.	4577.88	9127	1.45	16250	2538	6344	5471	3698	8881		0.97	No
SLD 8	ini.	1360.83	-9121	1.45	0	2538	6344	5471	3698	8881		0.97	No
SLD 8	fin.	-3931.41	-9442	1.45	16250	2538	6344	5471	3698	8881		0.94	No
SLV 8	ini.	1834.37	-13433	1.45	0	2538	6344	5471	3698	8881		0.66	No
SLV 8	fin.	-5911.02	-13764	1.45	16250	2538	6344	5471	3698	8881		0.65	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.332	SLV 12	Si
V_SLV	0.625	SLV 12	No
PF_SLU	6.389	SLU 83	Si
V_SLU	1.835	SLU 83	Si

Trave di accoppiamento 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	4.35	5.25	0.9	-16.843	6.661	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	612.05	-2837	-0.0003488	0.0001872	0.0035	0.9		2959	2959	No	4.83	Si
SLU 78	fin.	80.77	-2230	-0.0000401	0.0001872	0.0035	0.9		2959	2959	No	36.64	Si
SLU 82	ini.	608.7	-2801	-0.0003466	0.0001872	0.0035	0.9		2959	2959	No	4.86	Si
SLU 82	fin.	65.34	-2175	-0.0000324	0.0001872	0.0035	0.9		2959	2959	No	45.29	Si
SLU 77	ini.	616.76	-2848	-0.000352	0.0001872	0.0035	0.9		2959	2959	No	4.8	Si
SLU 77	fin.	75.29	-2225	-0.0000374	0.0001872	0.0035	0.9		2959	2959	No	39.3	Si
SLU 75	ini.	603.68	-2784	-0.0003432	0.0001872	0.0035	0.9		2959	2959	No	4.9	Si
SLU 75	fin.	69.77	-2169	-0.0000346	0.0001872	0.0035	0.9		2959	2959	No	42.41	Si
SLU 84	ini.	617.07	-2854	-0.0003522	0.0001872	0.0035	0.9		2959	2959	No	4.8	Si
SLU 84	fin.	76.33	-2236	-0.0000379	0.0001872	0.0035	0.9		2959	2959	No	38.76	Si
SLU 74	ini.	608.4	-2795	-0.0003464	0.0001872	0.0035	0.9		2959	2959	No	4.86	Si
SLU 74	fin.	64.3	-2164	-0.0000318	0.0001872	0.0035	0.9		2959	2959	No	46.02	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	606.6	-2807	-0.0003452	0.0001872	0.0035	0.9		2959	2959	No	4.88	Si
SLU 80	fin.	76.55	-2200	-0.000038	0.0001872	0.0035	0.9		2959	2959	No	38.66	Si
SLU 83	ini.	621.78	-2865	-0.0003554	0.0001872	0.0035	0.9		2959	2959	No	4.76	Si
SLU 83	fin.	70.86	-2232	-0.0000351	0.0001872	0.0035	0.9		2959	2959	No	41.76	Si
SLU 81	ini.	613.41	-2812	-0.0003497	0.0001872	0.0035	0.9		2959	2959	No	4.82	Si
SLU 81	fin.	59.87	-2171	-0.0000296	0.0001872	0.0035	0.9		2959	2959	No	49.43	Si
SLU 79	ini.	611.31	-2818	-0.0003483	0.0001872	0.0035	0.9		2959	2959	No	4.84	Si
SLU 79	fin.	71.07	-2195	-0.0000352	0.0001872	0.0035	0.9		2959	2959	No	41.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	608.4	-3263	0.9	0	1750	7137	3773	2295	6068	No	1.86	Si
SLU 74	fin.	64.3	580	0.9	0	1750	7137	3773	2295	6068	No	10.47	Si
SLU 79	ini.	611.31	-3289	0.9	0	1750	7137	3773	2295	6068	No	1.84	Si
SLU 79	fin.	71.07	611	0.9	0	1750	7137	3773	2295	6068	No	9.93	Si
SLU 84	ini.	617.07	-3284	0.9	0	1750	7137	3773	2295	6068	No	1.85	Si
SLU 84	fin.	76.33	611	0.9	0	1750	7137	3773	2295	6068	No	9.93	Si
SLU 77	ini.	616.76	-3325	0.9	0	1750	7137	3773	2295	6068	No	1.82	Si
SLU 77	fin.	75.29	634	0.9	0	1750	7137	3773	2295	6068	No	9.58	Si
SLU 82	ini.	608.7	-3222	0.9	0	1750	7137	3773	2295	6068	No	1.88	Si
SLU 82	fin.	65.34	557	0.9	0	1750	7137	3773	2295	6068	No	10.9	Si
SLU 83	ini.	621.78	-3313	0.9	0	1750	7137	3773	2295	6068	No	1.83	Si
SLU 83	fin.	70.86	599	0.9	0	1750	7137	3773	2295	6068	No	10.14	Si
SLU 75	ini.	603.68	-3234	0.9	0	1750	7137	3773	2295	6068	No	1.88	Si
SLU 75	fin.	69.77	592	0.9	0	1750	7137	3773	2295	6068	No	10.25	Si
SLU 80	ini.	606.6	-3260	0.9	0	1750	7137	3773	2295	6068	No	1.86	Si
SLU 80	fin.	76.55	623	0.9	0	1750	7137	3773	2295	6068	No	9.73	Si
SLU 78	ini.	612.05	-3296	0.9	0	1750	7137	3773	2295	6068	No	1.84	Si
SLU 78	fin.	80.77	646	0.9	0	1750	7137	3773	2295	6068	No	9.39	Si
SLU 81	ini.	613.41	-3251	0.9	0	1750	7137	3773	2295	6068	No	1.87	Si
SLU 81	fin.	59.87	544	0.9	0	1750	7137	3773	2295	6068	No	11.14	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1243.44	-3353	-0.0007792	0.0002807	0.0035	0.9		2989.59	2989.59		2.4	Si
SLV 13	fin.	-1347.52	662	-0.000862	0.0002807	0.0035	0.9		2995.37	2995.37		2.22	Si
SLV 14	ini.	1461.09	-3740	-0.0009606	0.0002807	0.0035	0.9		2989.59	2989.59		2.05	Si
SLV 14	fin.	-1699.52	1190	-0.0011757	0.0002807	0.0035	0.9		2995.37	2995.37		1.76	Si
SLV 4	ini.	-398.93	-446	-0.0002074	0.0002807	0.0035	0.9		2995.37	2995.37		7.51	Si
SLV 4	fin.	1383.41	-3492	-0.0008941	0.0002807	0.0035	0.9		2989.59	2989.59		2.16	Si
SLV 1	ini.	-830.43	462	-0.0004731	0.0002807	0.0035	0.9		2995.37	2995.37		3.61	Si
SLV 1	fin.	1970.19	-4192	-0.0014585	0.0002807	0.0035	0.9		2989.59	2989.59		1.52	Si
SLV 2	ini.	-612.77	75	-0.0003324	0.0002807	0.0035	0.9		2995.37	2995.37		4.89	Si
SLV 2	fin.	1618.19	-3663	-0.0011017	0.0002807	0.0035	0.9		2989.59	2989.59		1.85	Si
SLV 15	ini.	1457.28	-3875	-0.0009573	0.0002807	0.0035	0.9		2989.59	2989.59		2.05	Si
SLV 15	fin.	-1582.3	833	-0.001066	0.0002807	0.0035	0.9		2995.37	2995.37		1.89	Si
SLD 1	ini.	-377.57	-393	-0.0001955	0.0002807	0.0035	0.9		2995.37	2995.37		7.93	Si
SLD 1	fin.	1265.58	-3192	-0.000797	0.0002807	0.0035	0.9		2989.59	2989.59		2.36	Si
SLV 3	ini.	-616.58	-60	-0.0003347	0.0002807	0.0035	0.9		2995.37	2995.37		4.86	Si
SLV 3	fin.	1735.41	-4020	-0.0012136	0.0002807	0.0035	0.9		2989.59	2989.59		1.72	Si
SLD 16	ini.	1222.08	-3406	-0.0007623	0.0002807	0.0035	0.9		2989.59	2989.59		2.45	Si
SLD 16	fin.	-1229.69	361	-0.0007665	0.0002807	0.0035	0.9		2995.37	2995.37		2.44	Si
SLV 16	ini.	1674.93	-4261	-0.0011551	0.0002807	0.0035	0.9		2989.59	2989.59		1.78	Si
SLV 16	fin.	-1934.3	1362	-0.0014151	0.0002807	0.0035	0.9		2995.37	2995.37		1.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-612.77	2533	0.9	0	2625	7137	5660	2295	7955		3.14	Si
SLV 2	fin.	1618.19	5579	0.9	0	2625	7137	5660	2295	7955		1.43	Si
SLD 16	ini.	1222.08	-5962	0.9	0	2625	7137	5660	2295	7955		1.33	Si
SLD 16	fin.	-1229.69	-3806	0.9	0	2625	7137	5660	2295	7955		2.09	Si
SLV 3	ini.	-616.58	2207	0.9	0	2625	7137	5660	2295	7955		3.6	Si
SLV 3	fin.	1735.41	6208	0.9	0	2625	7137	5660	2295	7955		1.28	Si
SLV 1	ini.	-830.43	3527	0.9	0	2625	7137	5660	2295	7955		2.26	Si
SLV 1	fin.	1970.19	6737	0.9	0	2625	7137	5660	2295	7955		1.18	Si
SLV 16	ini.	1674.93	-8060	0.9	0	2625	7137	5660	2295	7955		0.99	No
SLV 16	fin.	-1934.3	-6127	0.9	0	2625	7137	5660	2295	7955		1.3	Si
SLV 13	ini.	1243.44	-5745	0.9	0	2625	7137	5660	2295	7955		1.38	Si
SLV 13	fin.	-1347.52	-4440	0.9	0	2625	7137	5660	2295	7955		1.79	Si
SLV 14	ini.	1461.09	-6740	0.9	0	2625	7137	5660	2295	7955		1.18	Si
SLV 14	fin.	-1699.52	-5597	0.9	0	2625	7137	5660	2295	7955		1.42	Si
SLV 15	ini.	1457.28	-7066	0.9	0	2625	7137	5660	2295	7955		1.13	Si
SLV 15	fin.	-1582.3	-4969	0.9	0	2625	7137	5660	2295	7955		1.6	Si
SLV 12	ini.	1163.01	-6192	0.9	0	2625	7137	5660	2295	7955		1.28	Si
SLV 12	fin.	-989.5	-2643	0.9	0	2625	7137	5660	2295	7955		3.01	Si
SLV 11	ini.	1016.47	-5523	0.9	0	2625	7137	5660	2295	7955		1.44	Si
SLV 11	fin.	-752.51	-1864	0.9	0	2625	7137	5660	2295	7955		4.27	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.517	SLV 1	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.987	SLV 16	No
PF_SLU	4.759	SLU 83	Si
V_SLU	1.825	SLU 77	Si

Trave di accoppiamento 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	7.05	7.9	0.85	-16.843	6.661	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-131.15	-1147	-0.0000737	0.0001872	0.0035	0.85		2655.83	2655.83	No	20.25	Si
SLU 84	fin.	-318.14	-3221	-0.0001879	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.35	Si
SLU 83	ini.	-128.01	-1138	-0.0000719	0.0001872	0.0035	0.85		2655.83	2655.83	No	20.75	Si
SLU 83	fin.	-321.23	-3239	-0.0001899	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.27	Si
SLU 78	ini.	-133.18	-1152	-0.0000749	0.0001872	0.0035	0.85		2655.83	2655.83	No	19.94	Si
SLU 78	fin.	-317.22	-3201	-0.0001873	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.37	Si
SLU 82	ini.	-121.58	-1095	-0.0000682	0.0001872	0.0035	0.85		2655.83	2655.83	No	21.85	Si
SLU 82	fin.	-313.66	-3156	-0.000185	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.47	Si
SLU 74	ini.	-120.47	-1091	-0.0000676	0.0001872	0.0035	0.85		2655.83	2655.83	No	22.05	Si
SLU 74	fin.	-315.82	-3153	-0.0001864	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.41	Si
SLU 80	ini.	-129.92	-1131	-0.000073	0.0001872	0.0035	0.85		2655.83	2655.83	No	20.44	Si
SLU 80	fin.	-313.65	-3161	-0.000185	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.47	Si
SLU 81	ini.	-118.43	-1086	-0.0000664	0.0001872	0.0035	0.85		2655.83	2655.83	No	22.42	Si
SLU 81	fin.	-316.75	-3173	-0.000187	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.38	Si
SLU 79	ini.	-126.78	-1122	-0.0000712	0.0001872	0.0035	0.85		2655.83	2655.83	No	20.95	Si
SLU 79	fin.	-316.74	-3178	-0.000187	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.39	Si
SLU 75	ini.	-123.61	-1100	-0.0000694	0.0001872	0.0035	0.85		2655.83	2655.83	No	21.49	Si
SLU 75	fin.	-312.74	-3135	-0.0001844	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.49	Si
SLU 77	ini.	-130.04	-1143	-0.0000731	0.0001872	0.0035	0.85		2655.83	2655.83	No	20.42	Si
SLU 77	fin.	-320.3	-3218	-0.0001893	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-126.78	2077	0.85	0	1653	6740	3563	2168	5731	No	2.76	Si
SLU 79	fin.	-316.74	-6007	0.85	0	1653	6740	3563	2168	5731	No	0.95	No
SLU 84	ini.	-131.15	2143	0.85	0	1653	6740	3563	2168	5731	No	2.67	Si
SLU 84	fin.	-318.14	-6109	0.85	0	1653	6740	3563	2168	5731	No	0.94	No
SLU 81	ini.	-118.43	2044	0.85	0	1653	6740	3563	2168	5731	No	2.8	Si
SLU 81	fin.	-316.75	-6009	0.85	0	1653	6740	3563	2168	5731	No	0.95	No
SLU 74	ini.	-120.47	2028	0.85	0	1653	6740	3563	2168	5731	No	2.83	Si
SLU 74	fin.	-315.82	-5954	0.85	0	1653	6740	3563	2168	5731	No	0.96	No
SLU 77	ini.	-130.04	2110	0.85	0	1653	6740	3563	2168	5731	No	2.72	Si
SLU 77	fin.	-320.3	-6081	0.85	0	1653	6740	3563	2168	5731	No	0.94	No
SLU 75	ini.	-123.61	2043	0.85	0	1653	6740	3563	2168	5731	No	2.8	Si
SLU 75	fin.	-312.74	-5927	0.85	0	1653	6740	3563	2168	5731	No	0.97	No
SLU 82	ini.	-121.58	2060	0.85	0	1653	6740	3563	2168	5731	No	2.78	Si
SLU 82	fin.	-313.66	-5982	0.85	0	1653	6740	3563	2168	5731	No	0.96	No
SLU 80	ini.	-129.92	2092	0.85	0	1653	6740	3563	2168	5731	No	2.74	Si
SLU 80	fin.	-313.65	-5981	0.85	0	1653	6740	3563	2168	5731	No	0.96	No
SLU 78	ini.	-133.18	2126	0.85	0	1653	6740	3563	2168	5731	No	2.7	Si
SLU 78	fin.	-317.22	-6054	0.85	0	1653	6740	3563	2168	5731	No	0.95	No
SLU 83	ini.	-128.01	2127	0.85	0	1653	6740	3563	2168	5731	No	2.69	Si
SLU 83	fin.	-321.23	-6136	0.85	0	1653	6740	3563	2168	5731	No	0.93	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-803.77	-3097	-0.0005203	0.0002807	0.0035	0.85		2680.73	2680.73		3.34	Si
SLV 4	fin.	267.95	179	-0.0001534	0.0002807	0.0035	0.85		2675.27	2675.27		9.98	Si
SLV 16	ini.	1020.39	2846	-0.0006993	0.0002807	0.0035	0.85		2675.27	2675.27		2.62	Si
SLV 16	fin.	-991.07	-5906	-0.0006726	0.0002807	0.0035	0.85		2680.73	2680.73		2.7	Si
SLV 1	ini.	-1146.42	-4162	-0.0008085	0.0002807	0.0035	0.85		2680.73	2680.73		2.34	Si
SLV 1	fin.	552.01	1680	-0.0003359	0.0002807	0.0035	0.85		2675.27	2675.27		4.85	Si
SLV 13	ini.	677.74	1781	-0.0004258	0.0002807	0.0035	0.85		2675.27	2675.27		3.95	Si
SLV 13	fin.	-707.01	-4404	-0.0004465	0.0002807	0.0035	0.85		2680.73	2680.73		3.79	Si
SLV 3	ini.	-1008.43	-3773	-0.0006874	0.0002807	0.0035	0.85		2680.73	2680.73		2.66	Si
SLV 3	fin.	405.99	842	-0.000239	0.0002807	0.0035	0.85		2675.27	2675.27		6.59	Si
SLV 14	ini.	882.4	2457	-0.0005841	0.0002807	0.0035	0.85		2675.27	2675.27		3.03	Si
SLV 14	fin.	-845.05	-5068	-0.0005528	0.0002807	0.0035	0.85		2680.73	2680.73		3.17	Si
SLD 16	ini.	629.21	1581	-0.0003904	0.0002807	0.0035	0.85		2675.27	2675.27		4.25	Si
SLD 16	fin.	-711.96	-4533	-0.0004502	0.0002807	0.0035	0.85		2680.73	2680.73		3.77	Si
SLV 2	ini.	-941.76	-3486	-0.0006313	0.0002807	0.0035	0.85		2680.73	2680.73		2.85	Si
SLV 2	fin.	413.97	1017	-0.0002441	0.0002807	0.0035	0.85		2675.27	2675.27		6.46	Si
SLV 15	ini.	815.73	2170	-0.0005309	0.0002807	0.0035	0.85		2675.27	2675.27		3.28	Si
SLV 15	fin.	-853.03	-5242	-0.0005592	0.0002807	0.0035	0.85		2680.73	2680.73		3.14	Si
SLD 1	ini.	-755.24	-2897	-0.0004829	0.0002807	0.0035	0.85		2680.73	2680.73		3.55	Si
SLD 1	fin.	272.9	308	-0.0001564	0.0002807	0.0035	0.85		2675.27	2675.27		9.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	509.49	-1739	0.85	0	2479	6740	5345	2168	7513		4.32	Si
SLV 12	fin.	-698.22	-7616	0.85	0	2479	6740	5345	2168	7513		0.99	No
SLV 14	ini.	882.4	-3919	0.85	0	2479	6740	5345	2168	7513		1.92	Si
SLV 14	fin.	-845.05	-7965	0.85	0	2479	6740	5345	2168	7513		0.94	No
SLV 1	ini.	-1146.42	7051	0.85	0	2479	6740	5345	2168	7513		1.07	Si
SLV 1	fin.	552.01	1308	0.85	0	2479	6740	5345	2168	7513		5.74	Si
SLD 14	ini.	543.35	-2071	0.85	0	2479	6740	5345	2168	7513		3.63	Si
SLD 14	fin.	-621.13	-6533	0.85	0	2479	6740	5345	2168	7513		1.15	Si
SLD 15	ini.	498.45	-1781	0.85	0	2479	6740	5345	2168	7513		4.22	Si
SLD 15	fin.	-623.76	-6731	0.85	0	2479	6740	5345	2168	7513		1.12	Si
SLD 16	ini.	629.21	-2488	0.85	0	2479	6740	5345	2168	7513		3.02	Si
SLD 16	fin.	-711.96	-7315	0.85	0	2479	6740	5345	2168	7513		1.03	Si
SLV 13	ini.	677.74	-2812	0.85	0	2479	6740	5345	2168	7513		2.67	Si
SLV 13	fin.	-707.01	-7051	0.85	0	2479	6740	5345	2168	7513		1.07	Si
SLV 15	ini.	815.73	-3483	0.85	0	2479	6740	5345	2168	7513		2.16	Si
SLV 15	fin.	-853.03	-8309	0.85	0	2479	6740	5345	2168	7513		0.9	No
SLV 16	ini.	1020.39	-4589	0.85	0	2479	6740	5345	2168	7513		1.64	Si
SLV 16	fin.	-991.07	-9223	0.85	0	2479	6740	5345	2168	7513		0.81	No
SLV 11	ini.	371.7	-994	0.85	0	2479	6740	5345	2168	7513		7.56	Si
SLV 11	fin.	-605.28	-7001	0.85	0	2479	6740	5345	2168	7513		1.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.338	SLV 1	Si
V_SLV	0.815	SLV 16	No
PF_SLU	8.268	SLU 83	Si
V_SLU	0.934	SLU 83	No

Trave di accoppiamento 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	4.35	5.25	0.9	-11.918	6.661	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	466.96	-2913	-0.000255	0.0001872	0.0035	0.9		2959	2959	No	6.34	Si
SLU 81	fin.	730.2	-3575	-0.0004302	0.0001872	0.0035	0.9		2959	2959	No	4.05	Si
SLU 75	ini.	467.12	-2897	-0.0002551	0.0001872	0.0035	0.9		2959	2959	No	6.33	Si
SLU 75	fin.	720.32	-3535	-0.0004232	0.0001872	0.0035	0.9		2959	2959	No	4.11	Si
SLU 78	ini.	479.7	-2963	-0.000263	0.0001872	0.0035	0.9		2959	2959	No	6.17	Si
SLU 78	fin.	732.01	-3599	-0.0004314	0.0001872	0.0035	0.9		2959	2959	No	4.04	Si
SLU 79	ini.	471.18	-2924	-0.0002577	0.0001872	0.0035	0.9		2959	2959	No	6.28	Si
SLU 79	fin.	726.97	-3565	-0.0004279	0.0001872	0.0035	0.9		2959	2959	No	4.07	Si
SLU 84	ini.	481.36	-2978	-0.000264	0.0001872	0.0035	0.9		2959	2959	No	6.15	Si
SLU 84	fin.	737.09	-3625	-0.000435	0.0001872	0.0035	0.9		2959	2959	No	4.01	Si
SLU 80	ini.	473	-2924	-0.0002588	0.0001872	0.0035	0.9		2959	2959	No	6.26	Si
SLU 80	fin.	722.17	-3551	-0.0004245	0.0001872	0.0035	0.9		2959	2959	No	4.1	Si
SLU 77	ini.	477.88	-2964	-0.0002618	0.0001872	0.0035	0.9		2959	2959	No	6.19	Si
SLU 77	fin.	736.81	-3613	-0.0004348	0.0001872	0.0035	0.9		2959	2959	No	4.02	Si
SLU 82	ini.	468.78	-2912	-0.0002562	0.0001872	0.0035	0.9		2959	2959	No	6.31	Si
SLU 82	fin.	725.4	-3561	-0.0004268	0.0001872	0.0035	0.9		2959	2959	No	4.08	Si
SLU 83	ini.	479.54	-2979	-0.0002629	0.0001872	0.0035	0.9		2959	2959	No	6.17	Si
SLU 83	fin.	741.89	-3639	-0.0004384	0.0001872	0.0035	0.9		2959	2959	No	3.99	Si
SLU 74	ini.	465.3	-2898	-0.000254	0.0001872	0.0035	0.9		2959	2959	No	6.36	Si
SLU 74	fin.	725.12	-3549	-0.0004266	0.0001872	0.0035	0.9		2959	2959	No	4.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	467.12	-2247	0.9	0	1750	7137	3773	2295	6068	No	2.7	Si
SLU 75	fin.	720.32	3022	0.9	0	1750	7137	3773	2295	6068	No	2.01	Si
SLU 81	ini.	466.96	-2225	0.9	0	1750	7137	3773	2295	6068	No	2.73	Si
SLU 81	fin.	730.2	3046	0.9	0	1750	7137	3773	2295	6068	No	1.99	Si
SLU 78	ini.	479.7	-2318	0.9	0	1750	7137	3773	2295	6068	No	2.62	Si
SLU 78	fin.	732.01	3081	0.9	0	1750	7137	3773	2295	6068	No	1.97	Si
SLU 77	ini.	477.88	-2317	0.9	0	1750	7137	3773	2295	6068	No	2.62	Si
SLU 77	fin.	736.81	3107	0.9	0	1750	7137	3773	2295	6068	No	1.95	Si
SLU 83	ini.	479.54	-2296	0.9	0	1750	7137	3773	2295	6068	No	2.64	Si
SLU 83	fin.	741.89	3105	0.9	0	1750	7137	3773	2295	6068	No	1.95	Si
SLU 84	ini.	481.36	-2296	0.9	0	1750	7137	3773	2295	6068	No	2.64	Si
SLU 84	fin.	737.09	3079	0.9	0	1750	7137	3773	2295	6068	No	1.97	Si
SLU 82	ini.	468.78	-2226	0.9	0	1750	7137	3773	2295	6068	No	2.73	Si
SLU 82	fin.	725.4	3020	0.9	0	1750	7137	3773	2295	6068	No	2.01	Si
SLU 74	ini.	465.3	-2247	0.9	0	1750	7137	3773	2295	6068	No	2.7	Si
SLU 74	fin.	725.12	3048	0.9	0	1750	7137	3773	2295	6068	No	1.99	Si
SLU 79	ini.	471.18	-2283	0.9	0	1750	7137	3773	2295	6068	No	2.66	Si
SLU 79	fin.	726.97	3061	0.9	0	1750	7137	3773	2295	6068	No	1.98	Si
SLU 80	ini.	473	-2283	0.9	0	1750	7137	3773	2295	6068	No	2.66	Si
SLU 80	fin.	722.17	3035	0.9	0	1750	7137	3773	2295	6068	No	2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1235.08	1645	-0.0007707	0.0002807	0.0035	0.9		2995.37	2995.37		2.43	Si
SLV 1	fin.	2067.49	-5177	-0.0015702	0.0002807	0.0035	0.9		2989.59	2989.59		1.45	Si
SLD 3	ini.	-718.78	302	-0.0003992	0.0002807	0.0035	0.9		2995.37	2995.37		4.17	Si
SLD 3	fin.	1629.01	-4567	-0.0011118	0.0002807	0.0035	0.9		2989.59	2989.59		1.84	Si
SLV 4	ini.	-1030.44	956	-0.0006144	0.0002807	0.0035	0.9		2995.37	2995.37		2.91	Si
SLV 4	fin.	1989.92	-5282	-0.0014806	0.0002807	0.0035	0.9		2989.59	2989.59		1.5	Si
SLV 14	ini.	1906.47	-5408	-0.0013889	0.0002807	0.0035	0.9		2989.59	2989.59		1.57	Si
SLV 14	fin.	-1290.11	1029	-0.0008149	0.0002807	0.0035	0.9		2995.37	2995.37		2.32	Si
SLD 1	ini.	-681.31	359	-0.0003752	0.0002807	0.0035	0.9		2995.37	2995.37		4.4	Si
SLD 1	fin.	1501.98	-4179	-0.0009964	0.0002807	0.0035	0.9		2989.59	2989.59		1.99	Si
SLV 15	ini.	1581.34	-4902	-0.0010678	0.0002807	0.0035	0.9		2989.59	2989.59		1.89	Si
SLV 15	fin.	-804.97	-114	-0.000456	0.0002807	0.0035	0.9		2995.37	2995.37		3.72	Si
SLV 13	ini.	1641.59	-4810	-0.0011236	0.0002807	0.0035	0.9		2989.59	2989.59		1.82	Si
SLV 13	fin.	-1008.75	510	-0.0005986	0.0002807	0.0035	0.9		2995.37	2995.37		2.97	Si
SLV 16	ini.	1846.22	-5500	-0.0013254	0.0002807	0.0035	0.9		2989.59	2989.59		1.62	Si
SLV 16	fin.	-1086.32	405	-0.0006559	0.0002807	0.0035	0.9		2995.37	2995.37		2.76	Si
SLV 3	ini.	-1295.32	1553	-0.0008191	0.0002807	0.0035	0.9		2995.37	2995.37		2.31	Si
SLV 3	fin.	2271.28	-5801	-0.0018315	0.0002807	0.0035	0.9		2989.59	2989.59		1.32	Si
SLV 2	ini.	-970.19	1048	-0.0005707	0.0002807	0.0035	0.9		2995.37	2995.37		3.09	Si
SLV 2	fin.	1786.14	-4659	-0.001264	0.0002807	0.0035	0.9		2989.59	2989.59		1.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1846.22	-8376	0.9	0	2625	7137	5660	2295	7955		0.95	No

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	fin.	-1086.32	-4474	0.9	0	2625	7137	5660	2295	7955		1.78	Si
SLD 3	ini.	-718.78	2862	0.9	0	2625	7137	5660	2295	7955		2.78	Si
SLD 3	fin.	1629.01	6948	0.9	0	2625	7137	5660	2295	7955		1.14	Si
SLV 2	ini.	-970.19	4244	0.9	0	2625	7137	5660	2295	7955		1.87	Si
SLV 2	fin.	1786.14	7407	0.9	0	2625	7137	5660	2295	7955		1.07	Si
SLV 15	ini.	1581.34	-7226	0.9	0	2625	7137	5660	2295	7955		1.1	Si
SLV 15	fin.	-804.97	-3283	0.9	0	2625	7137	5660	2295	7955		2.42	Si
SLV 7	ini.	-315.51	628	0.9	0	2625	7137	5660	2295	7955		12.67	Si
SLV 7	fin.	1386.38	6264	0.9	0	2625	7137	5660	2295	7955		1.27	Si
SLV 14	ini.	1906.47	-8287	0.9	0	2625	7137	5660	2295	7955		0.96	No
SLV 14	fin.	-1290.11	-5585	0.9	0	2625	7137	5660	2295	7955		1.42	Si
SLV 4	ini.	-1030.44	4155	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLV 4	fin.	1989.92	8519	0.9	0	2625	7137	5660	2295	7955		0.93	No
SLV 3	ini.	-1295.32	5305	0.9	0	2625	7137	5660	2295	7955		1.5	Si
SLV 3	fin.	2271.28	9709	0.9	0	2625	7137	5660	2295	7955		0.82	No
SLV 1	ini.	-1235.08	5394	0.9	0	2625	7137	5660	2295	7955		1.47	Si
SLV 1	fin.	2067.49	8598	0.9	0	2625	7137	5660	2295	7955		0.93	No
SLV 13	ini.	1641.59	-7137	0.9	0	2625	7137	5660	2295	7955		1.11	Si
SLV 13	fin.	-1008.75	-4394	0.9	0	2625	7137	5660	2295	7955		1.81	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.316	SLV 3	Si
V_SLV	0.819	SLV 3	No
PF_SLU	3.988	SLU 83	Si
V_SLU	1.953	SLU 77	Si

Trave di accoppiamento 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	7.05	7.9	0.85	-11.918	6.661	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-735.51	-3016	-0.0004955	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.61	Si
SLU 82	fin.	-334.73	-2333	-0.0001987	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.93	Si
SLU 78	ini.	-743.71	-3059	-0.0005023	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.57	Si
SLU 78	fin.	-342.28	-2376	-0.0002037	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.76	Si
SLU 79	ini.	-737.2	-3028	-0.0004969	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.6	Si
SLU 79	fin.	-333.9	-2336	-0.0001982	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.95	Si
SLU 74	ini.	-733.33	-3008	-0.0004938	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.62	Si
SLU 74	fin.	-329.61	-2315	-0.0001954	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.06	Si
SLU 77	ini.	-747.55	-3072	-0.0005054	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.55	Si
SLU 77	fin.	-339.9	-2374	-0.0002021	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.81	Si
SLU 84	ini.	-749.73	-3080	-0.0005072	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.54	Si
SLU 84	fin.	-345.02	-2392	-0.0002055	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.7	Si
SLU 81	ini.	-739.35	-3029	-0.0004987	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.59	Si
SLU 81	fin.	-332.35	-2332	-0.0001971	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.99	Si
SLU 83	ini.	-753.58	-3093	-0.0005104	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.52	Si
SLU 83	fin.	-342.64	-2391	-0.0002039	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.75	Si
SLU 80	ini.	-733.35	-3015	-0.0004938	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.62	Si
SLU 80	fin.	-336.28	-2337	-0.0001997	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.9	Si
SLU 75	ini.	-729.48	-2995	-0.0004906	0.0001872	0.0035	0.85		2655.83	2655.83	No	3.64	Si
SLU 75	fin.	-331.99	-2317	-0.0001969	0.0001872	0.0035	0.85		2655.83	2655.83	No	8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-739.35	4196	0.85	0	1653	6740	3563	2168	5731	No	1.37	Si
SLU 81	fin.	-332.35	-2432	0.85	0	1653	6740	3563	2168	5731	No	2.36	Si
SLU 80	ini.	-733.35	4158	0.85	0	1653	6740	3563	2168	5731	No	1.38	Si
SLU 80	fin.	-336.28	-2433	0.85	0	1653	6740	3563	2168	5731	No	2.36	Si
SLU 82	ini.	-735.51	4178	0.85	0	1653	6740	3563	2168	5731	No	1.37	Si
SLU 82	fin.	-334.73	-2442	0.85	0	1653	6740	3563	2168	5731	No	2.35	Si
SLU 84	ini.	-749.73	4260	0.85	0	1653	6740	3563	2168	5731	No	1.35	Si
SLU 84	fin.	-345.02	-2502	0.85	0	1653	6740	3563	2168	5731	No	2.29	Si
SLU 83	ini.	-753.58	4278	0.85	0	1653	6740	3563	2168	5731	No	1.34	Si
SLU 83	fin.	-342.64	-2493	0.85	0	1653	6740	3563	2168	5731	No	2.3	Si
SLU 78	ini.	-743.71	4215	0.85	0	1653	6740	3563	2168	5731	No	1.36	Si
SLU 78	fin.	-342.28	-2471	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 75	ini.	-729.48	4133	0.85	0	1653	6740	3563	2168	5731	No	1.39	Si
SLU 75	fin.	-331.99	-2410	0.85	0	1653	6740	3563	2168	5731	No	2.38	Si
SLU 77	ini.	-747.55	4233	0.85	0	1653	6740	3563	2168	5731	No	1.35	Si
SLU 77	fin.	-339.9	-2461	0.85	0	1653	6740	3563	2168	5731	No	2.33	Si
SLU 74	ini.	-733.33	4151	0.85	0	1653	6740	3563	2168	5731	No	1.38	Si
SLU 74	fin.	-329.61	-2401	0.85	0	1653	6740	3563	2168	5731	No	2.39	Si
SLU 79	ini.	-737.2	4177	0.85	0	1653	6740	3563	2168	5731	No	1.37	Si
SLU 79	fin.	-333.9	-2424	0.85	0	1653	6740	3563	2168	5731	No	2.36	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1739.43	-5314	-0.0014273	0.0002807	0.0035	0.85		2680.73	2680.73		1.54	Si
SLV 1	fin.	1355.1	1707	-0.0010087	0.0002807	0.0035	0.85		2675.27	2675.27		1.97	Si
SLV 2	ini.	-1503.47	-4678	-0.0011586	0.0002807	0.0035	0.85		2680.73	2680.73		1.78	Si
SLV 2	fin.	1069.33	1135	-0.0007418	0.0002807	0.0035	0.85		2675.27	2675.27		2.5	Si
SLV 16	ini.	763.97	1335	-0.0004907	0.0002807	0.0035	0.85		2675.27	2675.27		3.5	Si
SLV 16	fin.	-1770.66	-4706	-0.0014659	0.0002807	0.0035	0.85		2680.73	2680.73		1.51	Si
SLV 15	ini.	528.01	699	-0.0003195	0.0002807	0.0035	0.85		2675.27	2675.27		5.07	Si
SLV 15	fin.	-1484.89	-4134	-0.0011388	0.0002807	0.0035	0.85		2680.73	2680.73		1.81	Si
SLV 4	ini.	-1665.2	-5229	-0.0013388	0.0002807	0.0035	0.85		2680.73	2680.73		1.61	Si
SLV 4	fin.	1147.52	1122	-0.0008116	0.0002807	0.0035	0.85		2675.27	2675.27		2.33	Si
SLV 13	ini.	689.74	1249	-0.0004346	0.0002807	0.0035	0.85		2675.27	2675.27		3.88	Si
SLV 13	fin.	-1563.08	-4122	-0.0012231	0.0002807	0.0035	0.85		2680.73	2680.73		1.72	Si
SLV 3	ini.	-1901.16	-5864	-0.0016367	0.0002807	0.0035	0.85		2680.73	2680.73		1.41	Si
SLV 3	fin.	1433.29	1694	-0.0010879	0.0002807	0.0035	0.85		2675.27	2675.27		1.87	Si
SLD 1	ini.	-1290.34	-4123	-0.0009428	0.0002807	0.0035	0.85		2680.73	2680.73		2.08	Si
SLD 1	fin.	793.36	553	-0.0005134	0.0002807	0.0035	0.85		2675.27	2675.27		3.37	Si
SLV 14	ini.	925.7	1885	-0.0006195	0.0002807	0.0035	0.85		2675.27	2675.27		2.89	Si
SLV 14	fin.	-1848.85	-4693	-0.0015662	0.0002807	0.0035	0.85		2680.73	2680.73		1.45	Si
SLD 3	ini.	-1391.13	-4466	-0.0010421	0.0002807	0.0035	0.85		2680.73	2680.73		1.93	Si
SLD 3	fin.	842.21	545	-0.0005519	0.0002807	0.0035	0.85		2675.27	2675.27		3.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1739.43	8709	0.85	0	2479	6740	5345	2168	7513		0.86	No
SLV 1	fin.	1355.1	4860	0.85	0	2479	6740	5345	2168	7513		1.55	Si
SLV 3	ini.	-1901.16	9469	0.85	0	2479	6740	5345	2168	7513		0.79	No
SLV 3	fin.	1433.29	5191	0.85	0	2479	6740	5345	2168	7513		1.45	Si
SLD 1	ini.	-1290.34	6568	0.85	0	2479	6740	5345	2168	7513		1.14	Si
SLD 1	fin.	793.36	2558	0.85	0	2479	6740	5345	2168	7513		2.94	Si
SLV 14	ini.	925.7	-3979	0.85	0	2479	6740	5345	2168	7513		1.89	Si
SLV 14	fin.	-1848.85	-8280	0.85	0	2479	6740	5345	2168	7513		0.91	No
SLV 16	ini.	763.97	-3219	0.85	0	2479	6740	5345	2168	7513		2.33	Si
SLV 16	fin.	-1770.66	-7949	0.85	0	2479	6740	5345	2168	7513		0.95	No
SLV 4	ini.	-1665.2	8346	0.85	0	2479	6740	5345	2168	7513		0.9	No
SLV 4	fin.	1147.52	4023	0.85	0	2479	6740	5345	2168	7513		1.87	Si
SLV 2	ini.	-1503.47	7586	0.85	0	2479	6740	5345	2168	7513		0.99	No
SLV 2	fin.	1069.33	3692	0.85	0	2479	6740	5345	2168	7513		2.04	Si
SLV 15	ini.	528.01	-2096	0.85	0	2479	6740	5345	2168	7513		3.58	Si
SLV 15	fin.	-1484.89	-6781	0.85	0	2479	6740	5345	2168	7513		1.11	Si
SLD 3	ini.	-1391.13	7042	0.85	0	2479	6740	5345	2168	7513		1.07	Si
SLD 3	fin.	842.21	2764	0.85	0	2479	6740	5345	2168	7513		2.72	Si
SLV 13	ini.	689.74	-2856	0.85	0	2479	6740	5345	2168	7513		2.63	Si
SLV 13	fin.	-1563.08	-7112	0.85	0	2479	6740	5345	2168	7513		1.06	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.41	SLV 3	Si
V_SLV	0.793	SLV 3	No
PF_SLU	3.524	SLU 83	Si
V_SLU	1.339	SLU 83	Si

Trave di accoppiamento 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	4.35	5.25	0.9	-7.013	6.661	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-142.2	-1558	-0.0000714	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.85	Si
SLU 84	fin.	778.02	-2729	-0.0004643	0.0001872	0.0035	0.9		2959	2959	No	3.8	Si
SLU 74	ini.	-143.4	-1506	-0.000072	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.67	Si
SLU 74	fin.	760.63	-2658	-0.0004518	0.0001872	0.0035	0.9		2959	2959	No	3.89	Si
SLU 82	ini.	-144.1	-1536	-0.0000724	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.57	Si
SLU 82	fin.	772.76	-2708	-0.0004605	0.0001872	0.0035	0.9		2959	2959	No	3.83	Si
SLU 77	ini.	-141.5	-1528	-0.000071	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.95	Si
SLU 77	fin.	765.89	-2679	-0.0004555	0.0001872	0.0035	0.9		2959	2959	No	3.86	Si
SLU 75	ini.	-139.5	-1512	-0.00007	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.25	Si
SLU 75	fin.	757.71	-2654	-0.0004497	0.0001872	0.0035	0.9		2959	2959	No	3.91	Si
SLU 83	ini.	-146.1	-1552	-0.0000734	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.29	Si
SLU 83	fin.	780.94	-2733	-0.0004664	0.0001872	0.0035	0.9		2959	2959	No	3.79	Si
SLU 79	ini.	-145.32	-1495	-0.000073	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.4	Si
SLU 79	fin.	757.98	-2643	-0.0004499	0.0001872	0.0035	0.9		2959	2959	No	3.9	Si
SLU 80	ini.	-141.42	-1502	-0.000071	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.96	Si
SLU 80	fin.	755.06	-2639	-0.0004478	0.0001872	0.0035	0.9		2959	2959	No	3.92	Si
SLU 78	ini.	-137.6	-1535	-0.000069	0.0001872	0.0035	0.9		2964.67	2964.67	No	21.54	Si
SLU 78	fin.	762.97	-2675	-0.0004535	0.0001872	0.0035	0.9		2959	2959	No	3.88	Si
SLU 81	ini.	-147.99	-1529	-0.0000744	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.03	Si
SLU 81	fin.	775.69	-2712	-0.0004626	0.0001872	0.0035	0.9		2959	2959	No	3.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-139.5	92	0.9	0	1750	7137	3773	2295	6068	No	66.1	Si
SLU 75	fin.	757.71	3251	0.9	0	1750	7137	3773	2295	6068	No	1.87	Si
SLU 78	ini.	-137.6	66	0.9	0	1750	7137	3773	2295	6068	No	91.5	Si
SLU 78	fin.	762.97	3285	0.9	0	1750	7137	3773	2295	6068	No	1.85	Si
SLU 84	ini.	-142.2	107	0.9	0	1750	7137	3773	2295	6068	No	56.52	Si
SLU 84	fin.	778.02	3319	0.9	0	1750	7137	3773	2295	6068	No	1.83	Si
SLU 82	ini.	-144.1	133	0.9	0	1750	7137	3773	2295	6068	No	45.68	Si
SLU 82	fin.	772.76	3285	0.9	0	1750	7137	3773	2295	6068	No	1.85	Si
SLU 74	ini.	-143.4	100	0.9	0	1750	7137	3773	2295	6068	No	60.56	Si
SLU 74	fin.	760.63	3268	0.9	0	1750	7137	3773	2295	6068	No	1.86	Si
SLU 83	ini.	-146.1	116	0.9	0	1750	7137	3773	2295	6068	No	52.42	Si
SLU 83	fin.	780.94	3335	0.9	0	1750	7137	3773	2295	6068	No	1.82	Si
SLU 81	ini.	-147.99	141	0.9	0	1750	7137	3773	2295	6068	No	42.96	Si
SLU 81	fin.	775.69	3302	0.9	0	1750	7137	3773	2295	6068	No	1.84	Si
SLU 79	ini.	-145.32	100	0.9	0	1750	7137	3773	2295	6068	No	60.81	Si
SLU 79	fin.	757.98	3260	0.9	0	1750	7137	3773	2295	6068	No	1.86	Si
SLU 77	ini.	-141.5	75	0.9	0	1750	7137	3773	2295	6068	No	81.22	Si
SLU 77	fin.	765.89	3301	0.9	0	1750	7137	3773	2295	6068	No	1.84	Si
SLU 80	ini.	-141.42	91	0.9	0	1750	7137	3773	2295	6068	No	66.39	Si
SLU 80	fin.	755.06	3243	0.9	0	1750	7137	3773	2295	6068	No	1.87	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	-969.43	622	-0.0005702	0.0002807	0.0035	0.9		2995.37	2995.37		3.09	Si
SLD 4	fin.	1150.63	-2565	-0.0007064	0.0002807	0.0035	0.9		2989.59	2989.59		2.6	Si
SLV 2	ini.	-1303.83	1293	-0.0008261	0.0002807	0.0035	0.9		2995.37	2995.37		2.3	Si
SLV 2	fin.	1388.59	-2845	-0.0008984	0.0002807	0.0035	0.9		2989.59	2989.59		2.15	Si
SLV 16	ini.	1380.45	-3843	-0.0008916	0.0002807	0.0035	0.9		2989.59	2989.59		2.17	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	fin.	-555.97	-524	-0.0002979	0.0002807	0.0035	0.9		2995.37	2995.37		5.39	Si
SLV 4	ini.	-1450.95	1521	-0.0009495	0.0002807	0.0035	0.9		2995.37	2995.37		2.06	Si
SLV 4	fin.	1505.17	-2999	-0.0009992	0.0002807	0.0035	0.9		2989.59	2989.59		1.99	Si
SLD 3	ini.	-1165.1	1003	-0.0007159	0.0002807	0.0035	0.9		2995.37	2995.37		2.57	Si
SLD 3	fin.	1286.51	-2711	-0.0008139	0.0002807	0.0035	0.9		2989.59	2989.59		2.32	Si
SLV 1	ini.	-1610.09	1890	-0.0010915	0.0002807	0.0035	0.9		2995.37	2995.37		1.86	Si
SLV 1	fin.	1601.26	-3074	-0.0010861	0.0002807	0.0035	0.9		2989.59	2989.59		1.87	Si
SLV 14	ini.	1527.57	-4070	-0.0010192	0.0002807	0.0035	0.9		2989.59	2989.59		1.96	Si
SLV 14	fin.	-672.55	-370	-0.0003696	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si
SLV 13	ini.	1221.32	-3473	-0.0007616	0.0002807	0.0035	0.9		2989.59	2989.59		2.45	Si
SLV 13	fin.	-459.87	-599	-0.0002418	0.0002807	0.0035	0.9		2995.37	2995.37		6.51	Si
SLV 3	ini.	-1757.2	2118	-0.0012319	0.0002807	0.0035	0.9		2995.37	2995.37		1.7	Si
SLV 3	fin.	1717.85	-3228	-0.0011965	0.0002807	0.0035	0.9		2989.59	2989.59		1.74	Si
SLD 1	ini.	-1072.96	861	-0.0006459	0.0002807	0.0035	0.9		2995.37	2995.37		2.79	Si
SLD 1	fin.	1213.38	-2614	-0.0007554	0.0002807	0.0035	0.9		2989.59	2989.59		2.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1757.2	6210	0.9	0	2625	7137	5660	2295	7955		1.28	Si
SLV 3	fin.	1717.85	6999	0.9	0	2625	7137	5660	2295	7955		1.14	Si
SLV 16	ini.	1380.45	-5727	0.9	0	2625	7137	5660	2295	7955		1.39	Si
SLV 16	fin.	-555.97	-1767	0.9	0	2625	7137	5660	2295	7955		4.5	Si
SLD 3	ini.	-1165.1	4020	0.9	0	2625	7137	5660	2295	7955		1.98	Si
SLD 3	fin.	1286.51	5282	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLD 1	ini.	-1072.96	3882	0.9	0	2625	7137	5660	2295	7955		2.05	Si
SLD 1	fin.	1213.38	4823	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 13	ini.	1221.32	-4811	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 13	fin.	-459.87	-1668	0.9	0	2625	7137	5660	2295	7955		4.77	Si
SLV 7	ini.	-887.81	2497	0.9	0	2625	7137	5660	2295	7955		3.19	Si
SLV 7	fin.	1097.72	4945	0.9	0	2625	7137	5660	2295	7955		1.61	Si
SLV 4	ini.	-1450.95	5077	0.9	0	2625	7137	5660	2295	7955		1.57	Si
SLV 4	fin.	1505.17	6164	0.9	0	2625	7137	5660	2295	7955		1.29	Si
SLV 1	ini.	-1610.09	5994	0.9	0	2625	7137	5660	2295	7955		1.33	Si
SLV 1	fin.	1601.26	6264	0.9	0	2625	7137	5660	2295	7955		1.27	Si
SLV 2	ini.	-1303.83	4860	0.9	0	2625	7137	5660	2295	7955		1.64	Si
SLV 2	fin.	1388.59	5428	0.9	0	2625	7137	5660	2295	7955		1.47	Si
SLV 14	ini.	1527.57	-5944	0.9	0	2625	7137	5660	2295	7955		1.34	Si
SLV 14	fin.	-672.55	-2503	0.9	0	2625	7137	5660	2295	7955		3.18	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.705	SLV 3	Si
V_SLV	1.136	SLV 3	Si
PF_SLU	3.789	SLU 83	Si
V_SLU	1.819	SLU 83	Si

Trave di accoppiamento 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	7.05	7.9	0.85	-7.013	6.661	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-916.84	-2338	-0.0006497	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.9	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	104.88	-269	-0.0000587	0.0001872	0.0035	0.85		2650.49	2650.49	No	25.27	Si
SLU 77	ini.	-926.95	-2368	-0.0006586	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.87	Si
SLU 77	fin.	105.75	-272	-0.0000592	0.0001872	0.0035	0.85		2650.49	2650.49	No	25.06	Si
SLU 82	ini.	-934.82	-2380	-0.0006656	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.84	Si
SLU 82	fin.	106.38	-276	-0.0000596	0.0001872	0.0035	0.85		2650.49	2650.49	No	24.92	Si
SLU 74	ini.	-920.58	-2342	-0.000653	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.88	Si
SLU 74	fin.	107.45	-261	-0.0000602	0.0001872	0.0035	0.85		2650.49	2650.49	No	24.67	Si
SLU 83	ini.	-944.92	-2410	-0.0006746	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.81	Si
SLU 83	fin.	107.24	-280	-0.0000601	0.0001872	0.0035	0.85		2650.49	2650.49	No	24.71	Si
SLU 78	ini.	-923.22	-2364	-0.0006553	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.88	Si
SLU 78	fin.	103.19	-280	-0.0000577	0.0001872	0.0035	0.85		2650.49	2650.49	No	25.69	Si
SLU 84	ini.	-941.19	-2406	-0.0006713	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.82	Si
SLU 84	fin.	104.68	-287	-0.0000586	0.0001872	0.0035	0.85		2650.49	2650.49	No	25.32	Si
SLU 79	ini.	-916.19	-2329	-0.0006491	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.9	Si
SLU 79	fin.	108.23	-252	-0.0000606	0.0001872	0.0035	0.85		2650.49	2650.49	No	24.49	Si
SLU 80	ini.	-912.46	-2325	-0.0006458	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.91	Si
SLU 80	fin.	105.67	-259	-0.0000592	0.0001872	0.0035	0.85		2650.49	2650.49	No	25.08	Si
SLU 81	ini.	-938.55	-2384	-0.0006689	0.0001872	0.0035	0.85		2655.83	2655.83	No	2.83	Si
SLU 81	fin.	108.94	-269	-0.000061	0.0001872	0.0035	0.85		2650.49	2650.49	No	24.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-912.46	4018	0.85	0	1653	6740	3563	2168	5731	No	1.43	Si
SLU 80	fin.	105.67	-604	0.85	0	1653	6740	3563	2168	5731	No	9.49	Si
SLU 74	ini.	-920.58	4047	0.85	0	1653	6740	3563	2168	5731	No	1.42	Si
SLU 74	fin.	107.45	-606	0.85	0	1653	6740	3563	2168	5731	No	9.45	Si
SLU 77	ini.	-926.95	4080	0.85	0	1653	6740	3563	2168	5731	No	1.4	Si
SLU 77	fin.	105.75	-622	0.85	0	1653	6740	3563	2168	5731	No	9.21	Si
SLU 83	ini.	-944.92	4162	0.85	0	1653	6740	3563	2168	5731	No	1.38	Si
SLU 83	fin.	107.24	-654	0.85	0	1653	6740	3563	2168	5731	No	8.76	Si
SLU 81	ini.	-938.55	4129	0.85	0	1653	6740	3563	2168	5731	No	1.39	Si
SLU 81	fin.	108.94	-638	0.85	0	1653	6740	3563	2168	5731	No	8.98	Si
SLU 79	ini.	-916.19	4031	0.85	0	1653	6740	3563	2168	5731	No	1.42	Si
SLU 79	fin.	108.23	-591	0.85	0	1653	6740	3563	2168	5731	No	9.69	Si
SLU 75	ini.	-916.84	4034	0.85	0	1653	6740	3563	2168	5731	No	1.42	Si
SLU 75	fin.	104.88	-619	0.85	0	1653	6740	3563	2168	5731	No	9.26	Si
SLU 78	ini.	-923.22	4067	0.85	0	1653	6740	3563	2168	5731	No	1.41	Si
SLU 78	fin.	103.19	-635	0.85	0	1653	6740	3563	2168	5731	No	9.03	Si
SLU 84	ini.	-941.19	4149	0.85	0	1653	6740	3563	2168	5731	No	1.38	Si
SLU 84	fin.	104.68	-667	0.85	0	1653	6740	3563	2168	5731	No	8.6	Si
SLU 82	ini.	-934.82	4116	0.85	0	1653	6740	3563	2168	5731	No	1.39	Si
SLU 82	fin.	106.38	-651	0.85	0	1653	6740	3563	2168	5731	No	8.81	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-1392.39	-2217	-0.0010434	0.0002807	0.0035	0.85		2680.73	2680.73		1.93	Si
SLD 1	fin.	681.03	1706	-0.0004282	0.0002807	0.0035	0.85		2675.27	2675.27		3.93	Si
SLD 4	ini.	-1329.71	-2223	-0.000981	0.0002807	0.0035	0.85		2680.73	2680.73		2.02	Si
SLD 4	fin.	615.41	1484	-0.0003805	0.0002807	0.0035	0.85		2675.27	2675.27		4.35	Si
SLV 1	ini.	-1819.59	-2586	-0.001528	0.0002807	0.0035	0.85		2680.73	2680.73		1.47	Si
SLV 1	fin.	1012.8	2725	-0.0006928	0.0002807	0.0035	0.85		2675.27	2675.27		2.64	Si
SLV 7	ini.	-1320.73	-2300	-0.0009722	0.0002807	0.0035	0.85		2680.73	2680.73		2.03	Si
SLV 7	fin.	585.34	1374	-0.0003592	0.0002807	0.0035	0.85		2675.27	2675.27		4.57	Si
SLV 3	ini.	-1977.6	-2804	-0.0017455	0.0002807	0.0035	0.85		2680.73	2680.73		1.36	Si
SLV 3	fin.	1112.88	3010	-0.0007804	0.0002807	0.0035	0.85		2675.27	2675.27		2.4	Si
SLV 2	ini.	-1566.86	-2382	-0.0012273	0.0002807	0.0035	0.85		2680.73	2680.73		1.71	Si
SLV 2	fin.	812.14	2099	-0.0005281	0.0002807	0.0035	0.85		2675.27	2675.27		3.29	Si
SLD 3	ini.	-1491.18	-2353	-0.0011455	0.0002807	0.0035	0.85		2680.73	2680.73		1.8	Si
SLD 3	fin.	743.61	1884	-0.0004751	0.0002807	0.0035	0.85		2675.27	2675.27		3.6	Si
SLV 8	ini.	-1150.57	-2163	-0.0008123	0.0002807	0.0035	0.85		2680.73	2680.73		2.33	Si
SLV 8	fin.	450.24	953	-0.0002676	0.0002807	0.0035	0.85		2675.27	2675.27		5.94	Si
SLD 2	ini.	-1230.91	-2087	-0.0008863	0.0002807	0.0035	0.85		2680.73	2680.73		2.18	Si
SLD 2	fin.	552.82	1306	-0.0003365	0.0002807	0.0035	0.85		2675.27	2675.27		4.84	Si
SLV 4	ini.	-1724.86	-2601	-0.0014096	0.0002807	0.0035	0.85		2680.73	2680.73		1.55	Si
SLV 4	fin.	912.21	2384	-0.0006084	0.0002807	0.0035	0.85		2675.27	2675.27		2.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1724.86	6308	0.85	0	2479	6740	5345	2168	7513		1.19	Si
SLV 4	fin.	912.21	3881	0.85	0	2479	6740	5345	2168	7513		1.94	Si
SLV 14	ini.	718.63	-1634	0.85	0	2479	6740	5345	2168	7513		4.6	Si
SLV 14	fin.	-935.04	-5503	0.85	0	2479	6740	5345	2168	7513		1.37	Si
SLD 3	ini.	-1491.18	5544	0.85	0	2479	6740	5345	2168	7513		1.36	Si
SLD 3	fin.	743.61	3026	0.85	0	2479	6740	5345	2168	7513		2.48	Si
SLV 16	ini.	560.63	-1071	0.85	0	2479	6740	5345	2168	7513		7.02	Si
SLV 16	fin.	-834.96	-5031	0.85	0	2479	6740	5345	2168	7513		1.49	Si
SLV 1	ini.	-1819.59	6563	0.85	0	2479	6740	5345	2168	7513		1.14	Si
SLV 1	fin.	1012.8	4430	0.85	0	2479	6740	5345	2168	7513		1.7	Si
SLV 2	ini.	-1566.86	5744	0.85	0	2479	6740	5345	2168	7513		1.31	Si
SLV 2	fin.	812.14	3409	0.85	0	2479	6740	5345	2168	7513		2.2	Si
SLV 3	ini.	-1977.6	7127	0.85	0	2479	6740	5345	2168	7513		1.05	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	fin.	1112.88	4902	0.85	0	2479	6740	5345	2168	7513		1.53	Si
SLD 1	ini.	-1392.39	5192	0.85	0	2479	6740	5345	2168	7513		1.45	Si
SLD 1	fin.	681.03	2731	0.85	0	2479	6740	5345	2168	7513		2.75	Si
SLV 7	ini.	-1320.73	5069	0.85	0	2479	6740	5345	2168	7513		1.48	Si
SLV 7	fin.	585.34	2166	0.85	0	2479	6740	5345	2168	7513		3.47	Si
SLD 4	ini.	-1329.71	5020	0.85	0	2479	6740	5345	2168	7513		1.5	Si
SLD 4	fin.	615.41	2374	0.85	0	2479	6740	5345	2168	7513		3.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.356	SLV 3	Si
V_SLV	1.054	SLV 3	Si
PF_SLU	2.811	SLU 83	Si
V_SLU	1.377	SLU 83	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.623	1.141	6.45	7.9	1.45	-19.423	1.141	6.45	7.9	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1885.02	-7047	-0.0004155	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.17	Si
SLU 81	fin.	820.05	-5617	-0.0001636	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.58	Si
SLU 84	ini.	-1910.57	-7199	-0.0004222	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.12	Si
SLU 84	fin.	829.3	-5750	-0.0001655	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.47	Si
SLU 74	ini.	-1853.87	-7011	-0.0004074	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.24	Si
SLU 74	fin.	807.61	-5604	-0.0001609	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.73	Si
SLU 76	ini.	-1905.42	-6966	-0.0004208	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.13	Si
SLU 76	fin.	864.86	-5500	-0.0001731	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.08	Si
SLU 80	ini.	-1865.09	-7084	-0.0004103	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.22	Si
SLU 80	fin.	810.97	-5669	-0.0001616	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.69	Si
SLU 75	ini.	-1893.4	-7031	-0.0004177	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.15	Si
SLU 75	fin.	845.5	-5583	-0.000169	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.29	Si
SLU 82	ini.	-1924.55	-7068	-0.0004259	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.09	Si
SLU 82	fin.	857.94	-5595	-0.0001717	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.16	Si
SLU 83	ini.	-1871.04	-7179	-0.0004119	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.2	Si
SLU 83	fin.	791.41	-5771	-0.0001575	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.93	Si
SLU 73	ini.	-1919.4	-6834	-0.0004245	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.1	Si
SLU 73	fin.	893.5	-5346	-0.0001793	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.79	Si
SLU 78	ini.	-1879.42	-7163	-0.000414	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.18	Si
SLU 78	fin.	816.87	-5738	-0.0001629	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-1885.02	5906	1.45	0	3383	6344	7295	3698	9727	No	1.65	Si
SLU 81	fin.	820.05	3518	1.45	0	3383	6344	7295	3697	9727	No	2.76	Si
SLU 73	ini.	-1919.4	6005	1.45	0	3383	6344	7295	3698	9727	No	1.62	Si
SLU 73	fin.	893.5	3794	1.45	0	3383	6344	7295	3697	9727	No	2.56	Si
SLU 84	ini.	-1910.57	5966	1.45	0	3383	6344	7295	3698	9727	No	1.63	Si
SLU 84	fin.	829.3	3578	1.45	0	3383	6344	7295	3697	9727	No	2.72	Si
SLU 74	ini.	-1853.87	5741	1.45	0	3383	6344	7295	3698	9727	No	1.69	Si
SLU 74	fin.	807.61	3531	1.45	0	3383	6344	7295	3697	9727	No	2.76	Si
SLU 75	ini.	-1893.4	5876	1.45	0	3383	6344	7295	3698	9727	No	1.66	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	fin.	845.5	3665	1.45	0	3383	6344	7295	3697	9727	No	2.65	Si
SLU 78	ini.	-1879.42	5801	1.45	0	3383	6344	7295	3698	9727	No	1.68	Si
SLU 78	fin.	816.87	3591	1.45	0	3383	6344	7295	3697	9727	No	2.71	Si
SLU 80	ini.	-1865.09	5766	1.45	0	3383	6344	7295	3698	9727	No	1.69	Si
SLU 80	fin.	810.97	3555	1.45	0	3383	6344	7295	3697	9727	No	2.74	Si
SLU 83	ini.	-1871.04	5832	1.45	0	3383	6344	7295	3698	9727	No	1.67	Si
SLU 83	fin.	791.41	3444	1.45	0	3383	6344	7295	3697	9727	No	2.82	Si
SLU 82	ini.	-1924.55	6040	1.45	0	3383	6344	7295	3698	9727	No	1.61	Si
SLU 82	fin.	857.94	3653	1.45	0	3383	6344	7295	3697	9727	No	2.66	Si
SLU 76	ini.	-1905.42	5930	1.45	0	3383	6344	7295	3698	9727	No	1.64	Si
SLU 76	fin.	864.86	3720	1.45	0	3383	6344	7295	3697	9727	No	2.62	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-5010.19	-6512	-0.0013641	0.0003369	0.0035	1.45		7587.09	7587.09		1.51	Si
SLV 10	fin.	4258.9	-1544	-0.0010869	0.0003369	0.0035	1.45		7577.35	7577.35		1.78	Si
SLD 10	ini.	-3649.14	-5860	-0.0008838	0.0003369	0.0035	1.45		7587.09	7587.09		2.08	Si
SLD 10	fin.	2913.26	-2349	-0.0006654	0.0003369	0.0035	1.45		7577.35	7577.35		2.6	Si
SLD 14	ini.	-3807.3	-5634	-0.0009342	0.0003369	0.0035	1.45		7587.09	7587.09		1.99	Si
SLD 14	fin.	3168.51	-1909	-0.0007389	0.0003369	0.0035	1.45		7577.35	7577.35		2.39	Si
SLD 9	ini.	-3689.83	-5885	-0.0008967	0.0003369	0.0035	1.45		7587.09	7587.09		2.06	Si
SLD 9	fin.	2951.16	-2334	-0.0006761	0.0003369	0.0035	1.45		7577.35	7577.35		2.57	Si
SLV 9	ini.	-5074.87	-6551	-0.0013901	0.0003369	0.0035	1.45		7587.09	7587.09		1.5	Si
SLV 9	fin.	4319.14	-1521	-0.0011079	0.0003369	0.0035	1.45		7577.35	7577.35		1.75	Si
SLV 16	ini.	-3547.24	-5246	-0.000852	0.0003369	0.0035	1.45		7587.09	7587.09		2.14	Si
SLV 16	fin.	2998.32	-1758	-0.0006896	0.0003369	0.0035	1.45		7577.35	7577.35		2.53	Si
SLV 13	ini.	-5301.9	-6189	-0.0014843	0.0003369	0.0035	1.45		7587.09	7587.09		1.43	Si
SLV 13	fin.	4697.34	-849	-0.0012452	0.0003369	0.0035	1.45		7577.35	7577.35		1.61	Si
SLD 13	ini.	-3868.68	-5671	-0.0009541	0.0003369	0.0035	1.45		7587.09	7587.09		1.96	Si
SLD 13	fin.	3225.67	-1886	-0.0007558	0.0003369	0.0035	1.45		7577.35	7577.35		2.35	Si
SLV 14	ini.	-5205.84	-6131	-0.0014438	0.0003369	0.0035	1.45		7587.09	7587.09		1.46	Si
SLV 14	fin.	4607.87	-883	-0.0012119	0.0003369	0.0035	1.45		7577.35	7577.35		1.64	Si
SLV 15	ini.	-3643.31	-5304	-0.000882	0.0003369	0.0035	1.45		7587.09	7587.09		2.08	Si
SLV 15	fin.	3087.79	-1724	-0.0007154	0.0003369	0.0035	1.45		7577.35	7577.35		2.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-5301.9	17984	1.45	0	5075	6344	10943	3698	11419		0.63	No
SLV 13	fin.	4697.34	16580	1.45	0	5075	6344	10943	3697	11419		0.69	No
SLD 10	ini.	-3649.14	12098	1.45	0	5075	6344	10943	3698	11419		0.94	No
SLD 10	fin.	2913.26	10694	1.45	0	5075	6344	10943	3697	11419		1.07	Si
SLD 13	ini.	-3868.68	12972	1.45	0	5075	6344	10943	3698	11419		0.88	No
SLD 13	fin.	3225.67	11567	1.45	0	5075	6344	10943	3697	11419		0.99	No
SLV 15	ini.	-3643.31	12304	1.45	0	5075	6344	10943	3698	11419		0.93	No
SLV 15	fin.	3087.79	10898	1.45	0	5075	6344	10943	3697	11419		1.05	Si
SLV 16	ini.	-3547.24	11987	1.45	0	5075	6344	10943	3698	11419		0.95	No
SLV 16	fin.	2998.32	10581	1.45	0	5075	6344	10943	3697	11419		1.08	Si
SLD 14	ini.	-3807.3	12770	1.45	0	5075	6344	10943	3698	11419		0.89	No
SLD 14	fin.	3168.51	11365	1.45	0	5075	6344	10943	3697	11419		1	Si
SLV 9	ini.	-5074.87	17005	1.45	0	5075	6344	10943	3698	11419		0.67	No
SLV 9	fin.	4319.14	15604	1.45	0	5075	6344	10943	3697	11419		0.73	No
SLV 14	ini.	-5205.84	17667	1.45	0	5075	6344	10943	3698	11419		0.65	No
SLV 14	fin.	4607.87	16264	1.45	0	5075	6344	10943	3697	11419		0.7	No
SLV 10	ini.	-5010.19	16792	1.45	0	5075	6344	10943	3698	11419		0.68	No
SLV 10	fin.	4258.9	15390	1.45	0	5075	6344	10943	3697	11419		0.74	No
SLD 9	ini.	-3689.83	12232	1.45	0	5075	6344	10943	3698	11419		0.93	No
SLD 9	fin.	2951.16	10828	1.45	0	5075	6344	10943	3697	11419		1.05	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.431	SLV 13	Si
V_SLV	0.635	SLV 13	No
PF_SLU	4.086	SLU 82	Si
V_SLU	1.61	SLU 82	Si

Trave di accoppiamento 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	6.85	7.9	1.05	-12.263	1.141	6.85	7.9	1.05	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1264.9	-4819	-0.0005593	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.27	Si
SLU 84	fin.	36.31	-3306	-0.0000131	0.0002246	0.0035	1.05		4125.57	4125.57	No	113.63	Si
SLU 83	ini.	-1247.42	-4760	-0.0005498	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.31	Si
SLU 83	fin.	37.72	-3268	-0.0000136	0.0002246	0.0035	1.05		4125.57	4125.57	No	109.36	Si
SLU 82	ini.	-1249.75	-4732	-0.0005511	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.31	Si
SLU 82	fin.	34.01	-3236	-0.0000123	0.0002246	0.0035	1.05		4125.57	4125.57	No	121.31	Si
SLU 80	ini.	-1202.93	-4726	-0.000526	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.44	Si
SLU 80	fin.	11.48	-3324	-0.0000041	0.0002246	0.0035	1.05		4125.57	4125.57	No	359.34	Si
SLU 81	ini.	-1232.27	-4672	-0.0005417	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.35	Si
SLU 81	fin.	35.43	-3198	-0.0000128	0.0002246	0.0035	1.05		4125.57	4125.57	No	116.46	Si
SLU 79	ini.	-1185.45	-4666	-0.0005167	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.49	Si
SLU 79	fin.	12.9	-3286	-0.0000046	0.0002246	0.0035	1.05		4125.57	4125.57	No	319.89	Si
SLU 75	ini.	-1201.75	-4690	-0.0005254	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.44	Si
SLU 75	fin.	15.21	-3283	-0.0000055	0.0002246	0.0035	1.05		4125.57	4125.57	No	271.23	Si
SLU 77	ini.	-1199.42	-4719	-0.0005241	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.45	Si
SLU 77	fin.	18.93	-3316	-0.0000068	0.0002246	0.0035	1.05		4125.57	4125.57	No	217.99	Si
SLU 78	ini.	-1216.9	-4778	-0.0005335	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.4	Si
SLU 78	fin.	17.51	-3354	-0.0000063	0.0002246	0.0035	1.05		4125.57	4125.57	No	235.62	Si
SLU 76	ini.	-1199.43	-4678	-0.0005241	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.45	Si
SLU 76	fin.	8.24	-3279	-0.000003	0.0002246	0.0035	1.05		4125.57	4125.57	No	500.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1249.75	3482	1.05	0	2450	8326	5283	2678	7960	No	2.29	Si
SLU 82	fin.	34.01	281	1.05	0	2450	8326	5283	2678	7960	No	28.28	Si
SLU 81	ini.	-1232.27	3457	1.05	0	2450	8326	5283	2678	7960	No	2.3	Si
SLU 81	fin.	35.43	257	1.05	0	2450	8326	5283	2678	7960	No	30.96	Si
SLU 39	ini.	-1124.46	3246	1.05	0	2450	8326	5283	2678	7960	No	2.45	Si
SLU 39	fin.	73.34	282	1.05	0	2450	8326	5283	2678	7960	No	28.21	Si
SLU 83	ini.	-1247.42	3481	1.05	0	2450	8326	5283	2678	7960	No	2.29	Si
SLU 83	fin.	37.72	281	1.05	0	2450	8326	5283	2678	7960	No	28.34	Si
SLU 40	ini.	-1141.93	3271	1.05	0	2450	8326	5283	2678	7960	No	2.43	Si
SLU 40	fin.	71.93	307	1.05	0	2450	8326	5283	2678	7960	No	25.97	Si
SLU 84	ini.	-1264.9	3505	1.05	0	2450	8326	5283	2678	7960	No	2.27	Si
SLU 84	fin.	36.31	305	1.05	0	2450	8326	5283	2678	7960	No	26.08	Si
SLU 42	ini.	-1157.09	3294	1.05	0	2450	8326	5283	2678	7960	No	2.42	Si
SLU 42	fin.	74.23	330	1.05	0	2450	8326	5283	2678	7960	No	24.1	Si
SLU 78	ini.	-1216.9	3252	1.05	0	2450	8326	5283	2678	7960	No	2.45	Si
SLU 78	fin.	17.51	347	1.05	0	2450	8326	5283	2678	7960	No	22.91	Si
SLU 41	ini.	-1139.61	3270	1.05	0	2450	8326	5283	2678	7960	No	2.43	Si
SLU 41	fin.	75.64	306	1.05	0	2450	8326	5283	2678	7960	No	26.02	Si
SLU 75	ini.	-1201.75	3228	1.05	0	2450	8326	5283	2678	7960	No	2.47	Si
SLU 75	fin.	15.21	324	1.05	0	2450	8326	5283	2678	7960	No	24.58	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2192.39	-1153	-0.0010582	0.0003369	0.0035	1.05		4086.9	4086.9		1.86	Si
SLV 16	fin.	3599.88	5904	-0.002341	0.0003369	0.0035	1.05		4079.77	4079.77		1.13	Si
SLV 3	ini.	1501.54	-2389	-0.0006516	0.0003369	0.0035	1.05		4079.77	4079.77		2.72	Si
SLV 3	fin.	-3602.8	-8782	-0.0023374	0.0003369	0.0035	1.05		4086.9	4086.9		1.13	Si
SLV 4	ini.	1505.21	-2431	-0.0006536	0.0003369	0.0035	1.05		4079.77	4079.77		2.71	Si
SLV 4	fin.	-3633.02	-8864	-0.002378	0.0003369	0.0035	1.05		4086.9	4086.9		1.12	Si
SLV 1	ini.	693.47	-5029	-0.0002676	0.0003369	0.0035	1.05		4079.77	4079.77		5.88	Si
SLV 1	fin.	-3670.74	-10466	-0.0024299	0.0003369	0.0035	1.05		4086.9	4086.9		1.11	Si
SLV 14	ini.	-3000.47	-3794	-0.0016729	0.0003369	0.0035	1.05		4086.9	4086.9		1.36	Si
SLV 14	fin.	3531.93	4220	-0.0022523	0.0003369	0.0035	1.05		4079.77	4079.77		1.16	Si
SLV 10	ini.	-2649.65	-7315	-0.001381	0.0003369	0.0035	1.05		4086.9	4086.9		1.54	Si
SLV 10	fin.	926.08	-2900	-0.0003684	0.0003369	0.0035	1.05		4079.77	4079.77		4.41	Si
SLV 2	ini.	697.14	-5071	-0.0002692	0.0003369	0.0035	1.05		4079.77	4079.77		5.85	Si
SLV 2	fin.	-3700.97	-10548	-0.0024723	0.0003369	0.0035	1.05		4086.9	4086.9		1.1	Si
SLV 15	ini.	-2196.06	-1112	-0.0010606	0.0003369	0.0035	1.05		4086.9	4086.9		1.86	Si
SLV 15	fin.	3630.11	5987	-0.0023818	0.0003369	0.0035	1.05		4079.77	4079.77		1.12	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-3004.13	-3752	-0.0016763	0.0003369	0.0035	1.05		4086.9	4086.9		1.36	Si
SLV 13	fin.	3562.16	4303	-0.0022913	0.0003369	0.0035	1.05		4079.77	4079.77		1.15	Si
SLV 9	ini.	-2652.12	-7287	-0.0013829	0.0003369	0.0035	1.05		4086.9	4086.9		1.54	Si
SLV 9	fin.	946.43	-2845	-0.0003776	0.0003369	0.0035	1.05		4079.77	4079.77		4.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2192.39	9302	1.05	0	2855	8326	7924	2678	10602		1.14	Si
SLV 16	fin.	3599.88	7535	1.05	0	2855	8326	7924	2678	10602		1.41	Si
SLV 3	ini.	1501.54	-6654	1.05	0	2855	8326	7924	2678	10602		1.59	Si
SLV 3	fin.	-3602.8	-8413	1.05	0	2855	8326	7924	2678	10602		1.26	Si
SLD 13	ini.	-2186.54	7436	1.05	0	2855	8326	7924	2678	10602		1.43	Si
SLD 13	fin.	2269.9	5646	1.05	0	2855	8326	7924	2678	10602		1.88	Si
SLV 4	ini.	1505.21	-6704	1.05	0	2855	8326	7924	2678	10602		1.58	Si
SLV 4	fin.	-3633.02	-8462	1.05	0	2855	8326	7924	2678	10602		1.25	Si
SLV 14	ini.	-3000.47	10501	1.05	0	2855	8326	7924	2678	10602		1.01	Si
SLV 14	fin.	3531.93	8702	1.05	0	2855	8326	7924	2678	10602		1.22	Si
SLV 2	ini.	697.14	-5505	1.05	0	2855	8326	7924	2678	10602		1.93	Si
SLV 2	fin.	-3700.97	-7295	1.05	0	2855	8326	7924	2678	10602		1.45	Si
SLD 14	ini.	-2184.19	7405	1.05	0	2855	8326	7924	2678	10602		1.43	Si
SLD 14	fin.	2250.59	5614	1.05	0	2855	8326	7924	2678	10602		1.89	Si
SLV 1	ini.	693.47	-5455	1.05	0	2855	8326	7924	2678	10602		1.94	Si
SLV 1	fin.	-3670.74	-7245	1.05	0	2855	8326	7924	2678	10602		1.46	Si
SLV 15	ini.	-2196.06	9352	1.05	0	2855	8326	7924	2678	10602		1.13	Si
SLV 15	fin.	3630.11	7584	1.05	0	2855	8326	7924	2678	10602		1.4	Si
SLV 13	ini.	-3004.13	10551	1.05	0	2855	8326	7924	2678	10602		1	Si
SLV 13	fin.	3562.16	8751	1.05	0	2855	8326	7924	2678	10602		1.21	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.104	SLV 2	Si
V_SLV	1.005	SLV 13	Si
PF_SLU	3.267	SLU 84	Si
V_SLU	2.271	SLU 84	Si

Trave di accoppiamento 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	6.85	7.9	1.05	-10.466	1.141	6.85	7.9	1.05	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-541.22	-3667	-0.0002093	0.0002246	0.0035	1.05		4132.15	4132.15	No	7.63	Si
SLU 81	fin.	-724.58	-5325	-0.0002896	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.7	Si
SLU 76	ini.	-475.23	-3448	-0.0001818	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.7	Si
SLU 76	fin.	-764.92	-5190	-0.000308	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.4	Si
SLU 82	ini.	-519.09	-3607	-0.0002	0.0002246	0.0035	1.05		4132.15	4132.15	No	7.96	Si
SLU 82	fin.	-761.92	-5338	-0.0003067	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.42	Si
SLU 78	ini.	-503.21	-3585	-0.0001934	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.21	Si
SLU 78	fin.	-755.22	-5345	-0.0003036	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.47	Si
SLU 80	ini.	-499.66	-3553	-0.0001919	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.27	Si
SLU 80	fin.	-745.8	-5288	-0.0002993	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.54	Si
SLU 77	ini.	-525.35	-3645	-0.0002026	0.0002246	0.0035	1.05		4132.15	4132.15	No	7.87	Si
SLU 77	fin.	-717.88	-5331	-0.0002865	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.76	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-550.89	-3732	-0.0002134	0.0002246	0.0035	1.05		4132.15	4132.15	No	7.5	Si
SLU 83	fin.	-730.36	-5432	-0.0002922	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.66	Si
SLU 73	ini.	-465.56	-3383	-0.0001778	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.88	Si
SLU 73	fin.	-759.14	-5083	-0.0003054	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.44	Si
SLU 75	ini.	-493.55	-3520	-0.0001894	0.0002246	0.0035	1.05		4132.15	4132.15	No	8.37	Si
SLU 75	fin.	-749.44	-5237	-0.0003009	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.51	Si
SLU 84	ini.	-528.76	-3673	-0.0002041	0.0002246	0.0035	1.05		4132.15	4132.15	No	7.81	Si
SLU 84	fin.	-767.7	-5446	-0.0003093	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 43	ini.	-376.37	1965	1.05	0	2450	8326	5283	2678	7960	No	4.05	Si
SLU 43	fin.	-464.72	-701	1.05	0	2450	8326	5283	2678	7960	No	11.36	Si
SLU 57	ini.	-467.6	1928	1.05	0	2450	8326	5283	2678	7960	No	4.13	Si
SLU 57	fin.	-587.63	-793	1.05	0	2450	8326	5283	2678	7960	No	10.04	Si
SLU 49	ini.	-377.13	2058	1.05	0	2450	8326	5283	2678	7960	No	3.87	Si
SLU 49	fin.	-523.04	-817	1.05	0	2450	8326	5283	2678	7960	No	9.74	Si
SLU 50	ini.	-395.71	1997	1.05	0	2450	8326	5283	2678	7960	No	3.99	Si
SLU 50	fin.	-476.28	-653	1.05	0	2450	8326	5283	2678	7960	No	12.19	Si
SLU 47	ini.	-349.15	2045	1.05	0	2450	8326	5283	2678	7960	No	3.89	Si
SLU 47	fin.	-532.73	-930	1.05	0	2450	8326	5283	2678	7960	No	8.56	Si
SLU 48	ini.	-399.27	2019	1.05	0	2450	8326	5283	2678	7960	No	3.94	Si
SLU 48	fin.	-485.7	-666	1.05	0	2450	8326	5283	2678	7960	No	11.96	Si
SLU 51	ini.	-373.57	2036	1.05	0	2450	8326	5283	2678	7960	No	3.91	Si
SLU 51	fin.	-513.62	-805	1.05	0	2450	8326	5283	2678	7960	No	9.89	Si
SLU 45	ini.	-389.6	2003	1.05	0	2450	8326	5283	2678	7960	No	3.97	Si
SLU 45	fin.	-479.92	-689	1.05	0	2450	8326	5283	2678	7960	No	11.55	Si
SLU 44	ini.	-339.48	2029	1.05	0	2450	8326	5283	2678	7960	No	3.92	Si
SLU 44	fin.	-526.95	-954	1.05	0	2450	8326	5283	2678	7960	No	8.34	Si
SLU 46	ini.	-367.46	2042	1.05	0	2450	8326	5283	2678	7960	No	3.9	Si
SLU 46	fin.	-517.26	-841	1.05	0	2450	8326	5283	2678	7960	No	9.46	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1927.47	4041	-0.000894	0.0003369	0.0035	1.05		4079.77	4079.77		2.12	Si
SLV 6	fin.	-3451.32	-3842	-0.0021453	0.0003369	0.0035	1.05		4086.9	4086.9		1.18	Si
SLV 16	ini.	-2714.78	-9919	-0.0014317	0.0003369	0.0035	1.05		4086.9	4086.9		1.51	Si
SLV 16	fin.	940.46	-4979	-0.0003749	0.0003369	0.0035	1.05		4079.77	4079.77		4.34	Si
SLV 5	ini.	1905.73	3987	-0.0008809	0.0003369	0.0035	1.05		4079.77	4079.77		2.14	Si
SLV 5	fin.	-3427.93	-3883	-0.0021173	0.0003369	0.0035	1.05		4086.9	4086.9		1.19	Si
SLD 5	ini.	1069.28	1607	-0.0004343	0.0003369	0.0035	1.05		4079.77	4079.77		3.82	Si
SLD 5	fin.	-2313.57	-3695	-0.0011388	0.0003369	0.0035	1.05		4086.9	4086.9		1.77	Si
SLD 6	ini.	1082.96	1641	-0.0004407	0.0003369	0.0035	1.05		4079.77	4079.77		3.77	Si
SLD 6	fin.	-2328.28	-3669	-0.0011488	0.0003369	0.0035	1.05		4086.9	4086.9		1.76	Si
SLV 10	ini.	793.05	325	-0.0003099	0.0003369	0.0035	1.05		4079.77	4079.77		5.14	Si
SLV 10	fin.	-3098.99	-4983	-0.0017651	0.0003369	0.0035	1.05		4086.9	4086.9		1.32	Si
SLV 12	ini.	-2575.59	-8786	-0.001325	0.0003369	0.0035	1.05		4086.9	4086.9		1.59	Si
SLV 12	fin.	2491.9	-2944	-0.0012664	0.0003369	0.0035	1.05		4079.77	4079.77		1.64	Si
SLV 11	ini.	-2597.33	-8841	-0.0013413	0.0003369	0.0035	1.05		4086.9	4086.9		1.57	Si
SLV 11	fin.	2515.28	-2985	-0.0012835	0.0003369	0.0035	1.05		4079.77	4079.77		1.62	Si
SLV 9	ini.	771.31	270	-0.0003006	0.0003369	0.0035	1.05		4079.77	4079.77		5.29	Si
SLV 9	fin.	-3075.61	-5024	-0.0017427	0.0003369	0.0035	1.05		4086.9	4086.9		1.33	Si
SLV 15	ini.	-2747.07	-10001	-0.0014573	0.0003369	0.0035	1.05		4086.9	4086.9		1.49	Si
SLV 15	fin.	975.19	-5041	-0.0003907	0.0003369	0.0035	1.05		4079.77	4079.77		4.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-1462.91	-2630	1.05	0	2961	8326	7924	2678	10602		4.03	Si
SLV 7	fin.	2162.96	9713	1.05	0	2961	8326	7924	2678	10602		1.09	Si
SLV 12	ini.	-2575.59	-141	1.05	0	2961	8326	7924	2678	10602		75.18	Si
SLV 12	fin.	2491.9	11682	1.05	0	2961	8326	7924	2678	10602		0.91	No
SLD 5	ini.	1069.28	2314	1.05	0	2961	8326	7924	2678	10602		4.58	Si
SLD 5	fin.	-2313.57	-8423	1.05	0	2961	8326	7924	2678	10602		1.26	Si
SLV 6	ini.	1927.47	3009	1.05	0	2961	8326	7924	2678	10602		3.52	Si
SLV 6	fin.	-3451.32	-13218	1.05	0	2961	8326	7924	2678	10602		0.8	No
SLD 6	ini.	1082.96	2377	1.05	0	2961	8326	7924	2678	10602		4.46	Si
SLD 6	fin.	-2328.28	-8511	1.05	0	2961	8326	7924	2678	10602		1.25	Si
SLV 10	ini.	793.05	5398	1.05	0	2961	8326	7924	2678	10602		1.96	Si
SLV 10	fin.	-3098.99	-11108	1.05	0	2961	8326	7924	2678	10602		0.95	No
SLV 8	ini.	-1441.17	-2529	1.05	0	2961	8326	7924	2678	10602		4.19	Si
SLV 8	fin.	2139.57	9573	1.05	0	2961	8326	7924	2678	10602		1.11	Si
SLV 11	ini.	-2597.33	-242	1.05	0	2961	8326	7924	2678	10602		43.89	Si
SLV 11	fin.	2515.28	11822	1.05	0	2961	8326	7924	2678	10602		0.9	No
SLV 5	ini.	1905.73	2909	1.05	0	2961	8326	7924	2678	10602		3.64	Si
SLV 5	fin.	-3427.93	-13078	1.05	0	2961	8326	7924	2678	10602		0.81	No
SLV 9	ini.	771.31	5297	1.05	0	2961	8326	7924	2678	10602		2	Si
SLV 9	fin.	-3075.61	-10968	1.05	0	2961	8326	7924	2678	10602		0.97	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.184	SLV 6	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.802	SLV 6	No
PF_SLU	5.382	SLU 84	Si
V_SLU	3.868	SLU 49	Si

Trave di accoppiamento 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	6.45	7.9	1.45	-7.443	1.141	6.45	7.9	1.45	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	805.2	-3858	-0.0001604	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.76	Si
SLU 74	fin.	-1793.65	-6263	-0.0003918	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.38	Si
SLU 80	ini.	815.11	-3877	-0.0001625	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.64	Si
SLU 80	fin.	-1790.27	-6287	-0.0003909	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.39	Si
SLU 83	ini.	794.8	-3997	-0.0001582	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.88	Si
SLU 83	fin.	-1812.37	-6401	-0.0003966	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.34	Si
SLU 79	ini.	812.4	-3888	-0.000162	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.67	Si
SLU 79	fin.	-1793.16	-6300	-0.0003917	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.39	Si
SLU 75	ini.	807.9	-3848	-0.000161	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.72	Si
SLU 75	fin.	-1790.77	-6250	-0.000391	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.39	Si
SLU 77	ini.	817.97	-3933	-0.0001631	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.6	Si
SLU 77	fin.	-1805.82	-6363	-0.0003949	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.36	Si
SLU 78	ini.	820.67	-3923	-0.0001637	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.57	Si
SLU 78	fin.	-1802.93	-6350	-0.0003942	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.36	Si
SLU 81	ini.	782.03	-3922	-0.0001555	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.04	Si
SLU 81	fin.	-1800.2	-6300	-0.0003935	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.37	Si
SLU 84	ini.	797.5	-3987	-0.0001588	0.0002246	0.0035	1.45		7855.43	7855.43	No	9.85	Si
SLU 84	fin.	-1809.48	-6388	-0.0003959	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.35	Si
SLU 82	ini.	784.73	-3912	-0.0001561	0.0002246	0.0035	1.45		7855.43	7855.43	No	10.01	Si
SLU 82	fin.	-1797.32	-6287	-0.0003927	0.0002246	0.0035	1.45		7864.45	7864.45	No	4.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	794.8	-2351	1.45	0	3383	7930	7295	3698	10993	No	4.68	Si
SLU 83	fin.	-1812.37	-6351	1.45	0	3383	7930	7295	3698	10993	No	1.73	Si
SLU 77	ini.	817.97	-2552	1.45	0	3383	7930	7295	3698	10993	No	4.31	Si
SLU 77	fin.	-1805.82	-6221	1.45	0	3383	7930	7295	3698	10993	No	1.77	Si
SLU 75	ini.	807.9	-2507	1.45	0	3383	7930	7295	3698	10993	No	4.39	Si
SLU 75	fin.	-1790.77	-6175	1.45	0	3383	7930	7295	3698	10993	No	1.78	Si
SLU 74	ini.	805.2	-2509	1.45	0	3383	7930	7295	3698	10993	No	4.38	Si
SLU 74	fin.	-1793.65	-6177	1.45	0	3383	7930	7295	3698	10993	No	1.78	Si
SLU 79	ini.	812.4	-2521	1.45	0	3383	7930	7295	3698	10993	No	4.36	Si
SLU 79	fin.	-1793.16	-6190	1.45	0	3383	7930	7295	3698	10993	No	1.78	Si
SLU 84	ini.	797.5	-2349	1.45	0	3383	7930	7295	3698	10993	No	4.68	Si
SLU 84	fin.	-1809.48	-6349	1.45	0	3383	7930	7295	3698	10993	No	1.73	Si
SLU 81	ini.	782.03	-2307	1.45	0	3383	7930	7295	3698	10993	No	4.76	Si
SLU 81	fin.	-1800.2	-6308	1.45	0	3383	7930	7295	3698	10993	No	1.74	Si
SLU 80	ini.	815.11	-2519	1.45	0	3383	7930	7295	3698	10993	No	4.36	Si
SLU 80	fin.	-1790.27	-6188	1.45	0	3383	7930	7295	3698	10993	No	1.78	Si
SLU 82	ini.	784.73	-2305	1.45	0	3383	7930	7295	3698	10993	No	4.77	Si
SLU 82	fin.	-1797.32	-6306	1.45	0	3383	7930	7295	3698	10993	No	1.74	Si
SLU 78	ini.	820.67	-2550	1.45	0	3383	7930	7295	3698	10993	No	4.31	Si
SLU 78	fin.	-1802.93	-6219	1.45	0	3383	7930	7295	3698	10993	No	1.77	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	1991.25	-1004	-0.0004223	0.0003369	0.0035	1.45		7577.35	7577.35		3.81	Si
SLD 3	fin.	-2717.83	-5231	-0.0006101	0.0003369	0.0035	1.45		7587.09	7587.09		2.79	Si
SLD 4	ini.	1978.68	-1008	-0.0004193	0.0003369	0.0035	1.45		7577.35	7577.35		3.83	Si
SLD 4	fin.	-2695.05	-5195	-0.0006039	0.0003369	0.0035	1.45		7587.09	7587.09		2.82	Si
SLV 8	ini.	1031.45	-2512	-0.000205	0.0003369	0.0035	1.45		7577.35	7577.35		7.35	Si
SLV 8	fin.	-2058	-5419	-0.0004382	0.0003369	0.0035	1.45		7587.09	7587.09		3.69	Si
SLV 7	ini.	1044.71	-2508	-0.0002078	0.0003369	0.0035	1.45		7577.35	7577.35		7.25	Si
SLV 7	fin.	-2082	-5457	-0.0004441	0.0003369	0.0035	1.45		7587.09	7587.09		3.64	Si
SLD 2	ini.	2064.04	-733	-0.0004403	0.0003369	0.0035	1.45		7577.35	7577.35		3.67	Si
SLD 2	fin.	-2647.72	-4908	-0.000591	0.0003369	0.0035	1.45		7587.09	7587.09		2.87	Si
SLV 3	ini.	2773.99	-136	-0.0006264	0.0003369	0.0035	1.45		7577.35	7577.35		2.73	Si
SLV 3	fin.	-3521.76	-5752	-0.0008441	0.0003369	0.0035	1.45		7587.09	7587.09		2.15	Si
SLV 4	ini.	2754.31	-142	-0.000621	0.0003369	0.0035	1.45		7577.35	7577.35		2.75	Si
SLV 4	fin.	-3486.11	-5695	-0.0008332	0.0003369	0.0035	1.45		7587.09	7587.09		2.18	Si
SLV 2	ini.	2891.08	302	-0.0006591	0.0003369	0.0035	1.45		7577.35	7577.35		2.62	Si
SLV 2	fin.	-3409.71	-5236	-0.0008098	0.0003369	0.0035	1.45		7587.09	7587.09		2.23	Si
SLV 1	ini.	2910.76	308	-0.0006647	0.0003369	0.0035	1.45		7577.35	7577.35		2.6	Si
SLV 1	fin.	-3445.36	-5293	-0.0008207	0.0003369	0.0035	1.45		7587.09	7587.09		2.2	Si
SLD 1	ini.	2076.62	-729	-0.0004434	0.0003369	0.0035	1.45		7577.35	7577.35		3.65	Si
SLD 1	fin.	-2670.5	-4945	-0.0005972	0.0003369	0.0035	1.45		7587.09	7587.09		2.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	2910.76	-9194	1.45	0	4598	7930	10943	3698	12527		1.36	Si
SLV 1	fin.	-3445.36	-11459	1.45	0	4598	7930	10943	3698	12527		1.09	Si
SLD 4	ini.	1978.68	-6515	1.45	0	4598	7930	10943	3698	12527		1.92	Si
SLD 4	fin.	-2695.05	-8782	1.45	0	4598	7930	10943	3698	12527		1.43	Si
SLD 3	ini.	1991.25	-6579	1.45	0	4598	7930	10943	3698	12527		1.9	Si
SLD 3	fin.	-2717.83	-8846	1.45	0	4598	7930	10943	3698	12527		1.42	Si
SLV 4	ini.	2754.31	-9041	1.45	0	4598	7930	10943	3698	12527		1.39	Si
SLV 4	fin.	-3486.11	-11303	1.45	0	4598	7930	10943	3698	12527		1.11	Si
SLV 5	ini.	1500.61	-4271	1.45	0	4598	7930	10943	3698	12527		2.93	Si
SLV 5	fin.	-1827.33	-6546	1.45	0	4598	7930	10943	3698	12527		1.91	Si
SLD 1	ini.	2076.62	-6610	1.45	0	4598	7930	10943	3698	12527		1.9	Si
SLD 1	fin.	-2670.5	-8879	1.45	0	4598	7930	10943	3698	12527		1.41	Si
SLV 6	ini.	1487.36	-4203	1.45	0	4598	7930	10943	3698	12527		2.98	Si
SLV 6	fin.	-1803.33	-6478	1.45	0	4598	7930	10943	3698	12527		1.93	Si
SLV 2	ini.	2891.08	-9093	1.45	0	4598	7930	10943	3698	12527		1.38	Si
SLV 2	fin.	-3409.71	-11358	1.45	0	4598	7930	10943	3698	12527		1.1	Si
SLD 2	ini.	2064.04	-6545	1.45	0	4598	7930	10943	3698	12527		1.91	Si
SLD 2	fin.	-2647.72	-8815	1.45	0	4598	7930	10943	3698	12527		1.42	Si
SLV 3	ini.	2773.99	-9142	1.45	0	4598	7930	10943	3698	12527		1.37	Si
SLV 3	fin.	-3521.76	-11404	1.45	0	4598	7930	10943	3698	12527		1.1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.154	SLV 3	Si
V_SLV	1.093	SLV 1	Si
PF_SLU	4.339	SLU 83	Si
V_SLU	1.731	SLU 83	Si

Trave di accoppiamento 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	6.45	7.9	1.45	-4.893	1.141	6.45	7.9	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	1549.5	-2991	-0.0003307	0.0002246	0.0035	1.45		7855.43	7855.43	No	5.07	Si
SLU 74	fin.	-1494.2	-4483	-0.0003167	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.26	Si
SLU 82	ini.	1601.78	-2991	-0.0003437	0.0002246	0.0035	1.45		7855.43	7855.43	No	4.9	Si
SLU 82	fin.	-1567.13	-4548	-0.0003346	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.02	Si
SLU 84	ini.	1582.11	-3096	-0.0003388	0.0002246	0.0035	1.45		7855.43	7855.43	No	4.97	Si
SLU 84	fin.	-1547.89	-4630	-0.0003299	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.08	Si
SLU 83	ini.	1581.65	-3097	-0.0003386	0.0002246	0.0035	1.45		7855.43	7855.43	No	4.97	Si
SLU 83	fin.	-1545.75	-4630	-0.0003293	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.09	Si
SLU 77	ini.	1529.84	-3096	-0.0003258	0.0002246	0.0035	1.45		7855.43	7855.43	No	5.13	Si
SLU 77	fin.	-1474.95	-4565	-0.000312	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.33	Si
SLU 75	ini.	1549.96	-2990	-0.0003308	0.0002246	0.0035	1.45		7855.43	7855.43	No	5.07	Si
SLU 75	fin.	-1496.34	-4483	-0.0003172	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.26	Si
SLU 78	ini.	1530.3	-3095	-0.000326	0.0002246	0.0035	1.45		7855.43	7855.43	No	5.13	Si
SLU 78	fin.	-1477.1	-4565	-0.0003125	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.32	Si
SLU 76	ini.	1536.44	-2946	-0.0003275	0.0002246	0.0035	1.45		7855.43	7855.43	No	5.11	Si
SLU 76	fin.	-1486.16	-4427	-0.0003147	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.29	Si
SLU 81	ini.	1601.32	-2993	-0.0003435	0.0002246	0.0035	1.45		7855.43	7855.43	No	4.91	Si
SLU 81	fin.	-1564.99	-4548	-0.0003341	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.03	Si
SLU 73	ini.	1556.11	-2842	-0.0003323	0.0002246	0.0035	1.45		7855.43	7855.43	No	5.05	Si
SLU 73	fin.	-1505.4	-4345	-0.0003194	0.0002246	0.0035	1.45		7864.45	7864.45	No	5.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	1536.44	-4047	1.45	0	3383	6344	7295	3698	9727	No	2.4	Si
SLU 76	fin.	-1486.16	-6156	1.45	0	3383	6344	7295	3698	9727	No	1.58	Si
SLU 74	ini.	1549.5	-4084	1.45	0	3383	6344	7295	3698	9727	No	2.38	Si
SLU 74	fin.	-1494.2	-6193	1.45	0	3383	6344	7295	3698	9727	No	1.57	Si
SLU 84	ini.	1582.11	-4148	1.45	0	3383	6344	7295	3698	9727	No	2.34	Si
SLU 84	fin.	-1547.89	-6422	1.45	0	3383	6344	7295	3698	9727	No	1.51	Si
SLU 83	ini.	1581.65	-4144	1.45	0	3383	6344	7295	3698	9727	No	2.35	Si
SLU 83	fin.	-1545.75	-6417	1.45	0	3383	6344	7295	3698	9727	No	1.52	Si
SLU 77	ini.	1529.84	-4015	1.45	0	3383	6344	7295	3698	9727	No	2.42	Si
SLU 77	fin.	-1474.95	-6124	1.45	0	3383	6344	7295	3698	9727	No	1.59	Si
SLU 81	ini.	1601.32	-4213	1.45	0	3383	6344	7295	3698	9727	No	2.31	Si
SLU 81	fin.	-1564.99	-6486	1.45	0	3383	6344	7295	3698	9727	No	1.5	Si
SLU 82	ini.	1601.78	-4217	1.45	0	3383	6344	7295	3698	9727	No	2.31	Si
SLU 82	fin.	-1567.13	-6490	1.45	0	3383	6344	7295	3698	9727	No	1.5	Si
SLU 75	ini.	1549.96	-4088	1.45	0	3383	6344	7295	3698	9727	No	2.38	Si
SLU 75	fin.	-1496.34	-6197	1.45	0	3383	6344	7295	3698	9727	No	1.57	Si
SLU 73	ini.	1556.11	-4116	1.45	0	3383	6344	7295	3698	9727	No	2.36	Si
SLU 73	fin.	-1505.4	-6225	1.45	0	3383	6344	7295	3698	9727	No	1.56	Si
SLU 78	ini.	1530.3	-4019	1.45	0	3383	6344	7295	3698	9727	No	2.42	Si
SLU 78	fin.	-1477.1	-6128	1.45	0	3383	6344	7295	3698	9727	No	1.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	3830.17	1780	-0.0009431	0.0003369	0.0035	1.45		7577.35	7577.35		1.98	Si
SLV 3	fin.	-2494.63	-1340	-0.00055	0.0003369	0.0035	1.45		7587.09	7587.09		3.04	Si
SLV 2	ini.	3858.9	1815	-0.0009524	0.0003369	0.0035	1.45		7577.35	7577.35		1.96	Si
SLV 2	fin.	-2572.18	-1349	-0.0005706	0.0003369	0.0035	1.45		7587.09	7587.09		2.95	Si
SLD 4	ini.	2826.25	422	-0.000641	0.0003369	0.0035	1.45		7577.35	7577.35		2.68	Si
SLD 4	fin.	-1962.93	-1933	-0.0004149	0.0003369	0.0035	1.45		7587.09	7587.09		3.87	Si
SLV 5	ini.	2056.76	-671	-0.0004384	0.0003369	0.0035	1.45		7577.35	7577.35		3.68	Si
SLV 5	fin.	-1658.15	-2500	-0.0003427	0.0003369	0.0035	1.45		7587.09	7587.09		4.58	Si
SLV 6	ini.	2030.55	-698	-0.000432	0.0003369	0.0035	1.45		7577.35	7577.35		3.73	Si
SLV 6	fin.	-1646.31	-2502	-0.0003399	0.0003369	0.0035	1.45		7587.09	7587.09		4.61	Si
SLV 4	ini.	3791.23	1740	-0.0009305	0.0003369	0.0035	1.45		7577.35	7577.35		2	Si
SLV 4	fin.	-2477.04	-1344	-0.0005453	0.0003369	0.0035	1.45		7587.09	7587.09		3.06	Si
SLD 1	ini.	2892.91	494	-0.0006597	0.0003369	0.0035	1.45		7577.35	7577.35		2.62	Si
SLD 1	fin.	-2033	-1934	-0.000432	0.0003369	0.0035	1.45		7587.09	7587.09		3.73	Si
SLD 3	ini.	2851.12	447	-0.0006479	0.0003369	0.0035	1.45		7577.35	7577.35		2.66	Si
SLD 3	fin.	-1974.17	-1930	-0.0004176	0.0003369	0.0035	1.45		7587.09	7587.09		3.84	Si
SLV 1	ini.	3897.83	1855	-0.0009651	0.0003369	0.0035	1.45		7577.35	7577.35		1.94	Si
SLV 1	fin.	-2589.77	-1345	-0.0005754	0.0003369	0.0035	1.45		7587.09	7587.09		2.93	Si
SLD 2	ini.	2868.04	468	-0.0006527	0.0003369	0.0035	1.45		7577.35	7577.35		2.64	Si
SLD 2	fin.	-2021.76	-1936	-0.0004293	0.0003369	0.0035	1.45		7587.09	7587.09		3.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	ini.	2826.25	-7383	1.45	0	5075	6344	10943	3698	11419		1.55	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	fin.	-1962.93	-8737	1.45	0	5075	6344	10943	3698	11419		1.31	Si
SLV 1	ini.	3897.83	-10246	1.45	0	5075	6344	10943	3698	11419		1.11	Si
SLV 1	fin.	-2589.77	-11587	1.45	0	5075	6344	10943	3698	11419		0.99	No
SLV 2	ini.	3858.9	-10143	1.45	0	5075	6344	10943	3698	11419		1.13	Si
SLV 2	fin.	-2572.18	-11484	1.45	0	5075	6344	10943	3698	11419		0.99	No
SLV 3	ini.	3830.17	-9972	1.45	0	5075	6344	10943	3698	11419		1.15	Si
SLV 3	fin.	-2494.63	-11327	1.45	0	5075	6344	10943	3698	11419		1.01	Si
SLD 2	ini.	2868.04	-7553	1.45	0	5075	6344	10943	3698	11419		1.51	Si
SLD 2	fin.	-2021.76	-8897	1.45	0	5075	6344	10943	3698	11419		1.28	Si
SLD 3	ini.	2851.12	-7449	1.45	0	5075	6344	10943	3698	11419		1.53	Si
SLD 3	fin.	-1974.17	-8803	1.45	0	5075	6344	10943	3698	11419		1.3	Si
SLD 1	ini.	2892.91	-7619	1.45	0	5075	6344	10943	3698	11419		1.5	Si
SLD 1	fin.	-2033	-8963	1.45	0	5075	6344	10943	3698	11419		1.27	Si
SLV 6	ini.	2030.55	-5517	1.45	0	5075	6344	10943	3698	11419		2.07	Si
SLV 6	fin.	-1646.31	-6843	1.45	0	5075	6344	10943	3698	11419		1.67	Si
SLV 4	ini.	3791.23	-9869	1.45	0	5075	6344	10943	3698	11419		1.16	Si
SLV 4	fin.	-2477.04	-11224	1.45	0	5075	6344	10943	3698	11419		1.02	Si
SLV 5	ini.	2056.76	-5586	1.45	0	5075	6344	10943	3698	11419		2.04	Si
SLV 5	fin.	-1658.15	-6912	1.45	0	5075	6344	10943	3698	11419		1.65	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.944	SLV 1	Si
V_SLV	0.985	SLV 1	No
PF_SLU	4.904	SLU 82	Si
V_SLU	1.499	SLU 82	Si

Trave di accoppiamento 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	6.45	7.9	1.45	-9.443	-3.169	6.45	7.9	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	1370.99	-2968	-0.0002934	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.59	Si
SLU 78	fin.	-2136.92	-4630	-0.0004958	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.59	Si
SLU 73	ini.	1389.6	-2854	-0.000298	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.51	Si
SLU 73	fin.	-2151.26	-4528	-0.0004999	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.57	Si
SLU 74	ini.	1378.55	-2904	-0.0002953	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.56	Si
SLU 74	fin.	-2140.05	-4572	-0.0004967	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.58	Si
SLU 75	ini.	1387.4	-2924	-0.0002975	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.52	Si
SLU 75	fin.	-2153.44	-4601	-0.0005005	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.56	Si
SLU 81	ini.	1420.51	-2896	-0.0003057	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.39	Si
SLU 81	fin.	-2202.98	-4599	-0.0005145	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.48	Si
SLU 83	ini.	1404.11	-2941	-0.0003016	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.46	Si
SLU 83	fin.	-2186.46	-4628	-0.0005098	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.51	Si
SLU 84	ini.	1412.96	-2961	-0.0003038	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.42	Si
SLU 84	fin.	-2199.85	-4657	-0.0005136	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.49	Si
SLU 77	ini.	1362.14	-2949	-0.0002912	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.62	Si
SLU 77	fin.	-2123.53	-4601	-0.0004921	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.61	Si
SLU 82	ini.	1429.37	-2916	-0.0003079	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.36	Si
SLU 82	fin.	-2216.37	-4628	-0.0005183	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.46	Si
SLU 76	ini.	1373.19	-2898	-0.000294	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.58	Si
SLU 76	fin.	-2134.74	-4557	-0.0004952	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	1389.6	-4377	1.45	0	2819	7137	6079	3698	9776	No	2.23	Si
SLU 73	fin.	-2151.26	-6161	1.45	0	2819	7137	6079	3698	9776	No	1.59	Si
SLU 78	ini.	1370.99	-4330	1.45	0	2819	7137	6079	3698	9776	No	2.26	Si
SLU 78	fin.	-2136.92	-6114	1.45	0	2819	7137	6079	3698	9776	No	1.6	Si
SLU 83	ini.	1404.11	-4383	1.45	0	2819	7137	6079	3698	9776	No	2.23	Si
SLU 83	fin.	-2186.46	-6286	1.45	0	2819	7137	6079	3698	9776	No	1.56	Si
SLU 82	ini.	1429.37	-4464	1.45	0	2819	7137	6079	3698	9776	No	2.19	Si
SLU 82	fin.	-2216.37	-6367	1.45	0	2819	7137	6079	3698	9776	No	1.54	Si
SLU 81	ini.	1420.51	-4432	1.45	0	2819	7137	6079	3698	9776	No	2.21	Si
SLU 81	fin.	-2202.98	-6335	1.45	0	2819	7137	6079	3698	9776	No	1.54	Si
SLU 74	ini.	1378.55	-4346	1.45	0	2819	7137	6079	3698	9776	No	2.25	Si
SLU 74	fin.	-2140.05	-6131	1.45	0	2819	7137	6079	3698	9776	No	1.59	Si
SLU 76	ini.	1373.19	-4328	1.45	0	2819	7137	6079	3698	9776	No	2.26	Si
SLU 76	fin.	-2134.74	-6112	1.45	0	2819	7137	6079	3698	9776	No	1.6	Si
SLU 77	ini.	1362.14	-4298	1.45	0	2819	7137	6079	3698	9776	No	2.27	Si
SLU 77	fin.	-2123.53	-6082	1.45	0	2819	7137	6079	3698	9776	No	1.61	Si
SLU 75	ini.	1387.4	-4379	1.45	0	2819	7137	6079	3698	9776	No	2.23	Si
SLU 75	fin.	-2153.44	-6163	1.45	0	2819	7137	6079	3698	9776	No	1.59	Si
SLU 84	ini.	1412.96	-4415	1.45	0	2819	7137	6079	3698	9776	No	2.21	Si
SLU 84	fin.	-2199.85	-6318	1.45	0	2819	7137	6079	3698	9776	No	1.55	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	2760.36	-1445	-0.0006396	0.0002807	0.0035	1.45		7646.28	7646.28		2.77	Si
SLD 4	fin.	-3381.55	-4269	-0.0008249	0.0002807	0.0035	1.45		7655.81	7655.81		2.26	Si
SLV 1	ini.	3838.05	-2111	-0.0009746	0.0002807	0.0035	1.45		7646.28	7646.28		1.99	Si
SLV 1	fin.	-4667.98	-5986	-0.0012725	0.0002807	0.0035	1.45		7655.81	7655.81		1.64	Si
SLV 2	ini.	4365.49	-2147	-0.0011602	0.0002807	0.0035	1.45		7646.28	7646.28		1.75	Si
SLV 2	fin.	-5256.44	-6497	-0.0015157	0.0002807	0.0035	1.45		7655.81	7655.81		1.46	Si
SLV 3	ini.	3239.86	-1075	-0.0007821	0.0002807	0.0035	1.45		7646.28	7646.28		2.36	Si
SLV 3	fin.	-3851.49	-4345	-0.0009777	0.0002807	0.0035	1.45		7655.81	7655.81		1.99	Si
SLD 1	ini.	2795.59	-2067	-0.0006497	0.0002807	0.0035	1.45		7646.28	7646.28		2.74	Si
SLD 1	fin.	-3513.89	-4962	-0.0008668	0.0002807	0.0035	1.45		7655.81	7655.81		2.18	Si
SLV 6	ini.	2982.03	-3634	-0.0007042	0.0002807	0.0035	1.45		7646.28	7646.28		2.56	Si
SLV 6	fin.	-3959.48	-6760	-0.0010144	0.0002807	0.0035	1.45		7655.81	7655.81		1.93	Si
SLD 6	ini.	2232.12	-3022	-0.0004938	0.0002807	0.0035	1.45		7646.28	7646.28		3.43	Si
SLD 6	fin.	-3040.5	-5420	-0.0007205	0.0002807	0.0035	1.45		7655.81	7655.81		2.52	Si
SLV 5	ini.	2626.92	-3610	-0.0006016	0.0002807	0.0035	1.45		7646.28	7646.28		2.91	Si
SLV 5	fin.	-3563.29	-6415	-0.0008827	0.0002807	0.0035	1.45		7655.81	7655.81		2.15	Si
SLV 4	ini.	3767.3	-1111	-0.0009509	0.0002807	0.0035	1.45		7646.28	7646.28		2.03	Si
SLV 4	fin.	-4439.95	-4857	-0.0011859	0.0002807	0.0035	1.45		7655.81	7655.81		1.72	Si
SLD 2	ini.	3132.57	-2090	-0.0007493	0.0002807	0.0035	1.45		7646.28	7646.28		2.44	Si
SLD 2	fin.	-3889.86	-5289	-0.0009906	0.0002807	0.0035	1.45		7655.81	7655.81		1.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	3132.57	-9731	1.45	0	4229	7137	9118	3698	11366		1.17	Si
SLD 2	fin.	-3889.86	-10902	1.45	0	4229	7137	9118	3698	11366		1.04	Si
SLV 6	ini.	2982.03	-9590	1.45	0	4229	7137	9118	3698	11366		1.19	Si
SLV 6	fin.	-3959.48	-10723	1.45	0	4229	7137	9118	3698	11366		1.06	Si
SLV 2	ini.	4365.49	-13523	1.45	0	4229	7137	9118	3698	11366		0.84	No
SLV 2	fin.	-5256.44	-14690	1.45	0	4229	7137	9118	3698	11366		0.77	No
SLD 3	ini.	2423.39	-7421	1.45	0	4229	7137	9118	3698	11366		1.53	Si
SLD 3	fin.	-3005.58	-8607	1.45	0	4229	7137	9118	3698	11366		1.32	Si
SLD 4	ini.	2760.36	-8458	1.45	0	4229	7137	9118	3698	11366		1.34	Si
SLD 4	fin.	-3381.55	-9644	1.45	0	4229	7137	9118	3698	11366		1.18	Si
SLV 1	ini.	3838.05	-11900	1.45	0	4229	7137	9118	3698	11366		0.96	No
SLV 1	fin.	-4667.98	-13067	1.45	0	4229	7137	9118	3698	11366		0.87	No
SLD 1	ini.	2795.59	-8694	1.45	0	4229	7137	9118	3698	11366		1.31	Si
SLD 1	fin.	-3513.89	-9865	1.45	0	4229	7137	9118	3698	11366		1.15	Si
SLV 4	ini.	3767.3	-11477	1.45	0	4229	7137	9118	3698	11366		0.99	No
SLV 4	fin.	-4439.95	-12671	1.45	0	4229	7137	9118	3698	11366		0.9	No
SLV 3	ini.	3239.86	-9854	1.45	0	4229	7137	9118	3698	11366		1.15	Si
SLV 3	fin.	-3851.49	-11047	1.45	0	4229	7137	9118	3698	11366		1.03	Si
SLV 5	ini.	2626.92	-8497	1.45	0	4229	7137	9118	3698	11366		1.34	Si
SLV 5	fin.	-3563.29	-9630	1.45	0	4229	7137	9118	3698	11366		1.18	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.456	SLV 2	Si
V_SLV	0.774	SLV 2	No
PF_SLU	3.46	SLU 82	Si
V_SLU	1.535	SLU 82	Si

Trave di accoppiamento 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	4.35	6.35	2	-5.158	6.521	4.35	6.35	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 51	ini.	70.1	-1167	-0.000007	0.0001872	0.0035	2		14344.28	14344.28	No	204.62	Si
SLU 51	fin.	-554.88	-578	-0.0000561	0.0001872	0.0035	2		14357.01	14357.01	No	25.87	Si
SLU 69	ini.	99.75	-1264	-0.0000099	0.0001872	0.0035	2		14344.28	14344.28	No	143.81	Si
SLU 69	fin.	-577.11	-600	-0.0000584	0.0001872	0.0035	2		14357.01	14357.01	No	24.88	Si
SLU 72	ini.	97.44	-1240	-0.0000097	0.0001872	0.0035	2		14344.28	14344.28	No	147.21	Si
SLU 72	fin.	-565.68	-588	-0.0000572	0.0001872	0.0035	2		14357.01	14357.01	No	25.38	Si
SLU 70	ini.	100.42	-1230	-0.00001	0.0001872	0.0035	2		14344.28	14344.28	No	142.85	Si
SLU 70	fin.	-555.87	-577	-0.0000562	0.0001872	0.0035	2		14357.01	14357.01	No	25.83	Si
SLU 50	ini.	69.43	-1201	-0.0000069	0.0001872	0.0035	2		14344.28	14344.28	No	206.59	Si
SLU 50	fin.	-576.12	-601	-0.0000583	0.0001872	0.0035	2		14357.01	14357.01	No	24.92	Si
SLU 79	ini.	118.73	-1241	-0.0000118	0.0001872	0.0035	2		14344.28	14344.28	No	120.81	Si
SLU 79	fin.	-538.76	-559	-0.0000544	0.0001872	0.0035	2		14357.01	14357.01	No	26.65	Si
SLU 71	ini.	96.77	-1274	-0.0000096	0.0001872	0.0035	2		14344.28	14344.28	No	148.23	Si
SLU 71	fin.	-586.92	-611	-0.0000594	0.0001872	0.0035	2		14357.01	14357.01	No	24.46	Si
SLU 48	ini.	72.41	-1191	-0.0000072	0.0001872	0.0035	2		14344.28	14344.28	No	198.1	Si
SLU 48	fin.	-566.31	-590	-0.0000572	0.0001872	0.0035	2		14357.01	14357.01	No	25.35	Si
SLU 77	ini.	121.71	-1231	-0.0000121	0.0001872	0.0035	2		14344.28	14344.28	No	117.86	Si
SLU 77	fin.	-528.95	-548	-0.0000534	0.0001872	0.0035	2		14357.01	14357.01	No	27.14	Si
SLU 49	ini.	73.08	-1157	-0.0000072	0.0001872	0.0035	2		14344.28	14344.28	No	196.29	Si
SLU 49	fin.	-545.07	-567	-0.000055	0.0001872	0.0035	2		14357.01	14357.01	No	26.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	122.7	-4710	2	0	3889	3964	8384	5100	7853	No	1.67	Si
SLU 83	fin.	-466.51	-1681	2	0	3889	3964	8384	5100	7853	No	4.67	Si
SLU 69	ini.	99.75	-4830	2	0	3889	3964	8384	5100	7853	No	1.63	Si
SLU 69	fin.	-577.11	-1906	2	0	3889	3964	8384	5100	7853	No	4.12	Si
SLU 78	ini.	122.38	-4841	2	0	3889	3964	8384	5100	7853	No	1.62	Si
SLU 78	fin.	-507.71	-1779	2	0	3889	3964	8384	5100	7853	No	4.41	Si
SLU 70	ini.	100.42	-4736	2	0	3889	3964	8384	5100	7853	No	1.66	Si
SLU 70	fin.	-555.87	-1854	2	0	3889	3964	8384	5100	7853	No	4.24	Si
SLU 71	ini.	96.77	-4834	2	0	3889	3964	8384	5100	7853	No	1.62	Si
SLU 71	fin.	-586.92	-1923	2	0	3889	3964	8384	5100	7853	No	4.08	Si
SLU 79	ini.	118.73	-4939	2	0	3889	3964	8384	5100	7853	No	1.59	Si
SLU 79	fin.	-538.76	-1849	2	0	3889	3964	8384	5100	7853	No	4.25	Si
SLU 77	ini.	121.71	-4935	2	0	3889	3964	8384	5100	7853	No	1.59	Si
SLU 77	fin.	-528.95	-1832	2	0	3889	3964	8384	5100	7853	No	4.29	Si
SLU 74	ini.	116.26	-4660	2	0	3889	3964	8384	5100	7853	No	1.69	Si
SLU 74	fin.	-477.33	-1695	2	0	3889	3964	8384	5100	7853	No	4.63	Si
SLU 80	ini.	119.4	-4845	2	0	3889	3964	8384	5100	7853	No	1.62	Si
SLU 80	fin.	-517.52	-1796	2	0	3889	3964	8384	5100	7853	No	4.37	Si
SLU 72	ini.	97.44	-4740	2	0	3889	3964	8384	5100	7853	No	1.66	Si
SLU 72	fin.	-565.68	-1871	2	0	3889	3964	8384	5100	7853	No	4.2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-12.8	-3960	-0.0000013	0.0002807	0.0035	2		14215.41	14215.41		1110.78	Si
SLV 8	fin.	-2313.95	-2419	-0.0002466	0.0002807	0.0035	2		14215.41	14215.41		6.14	Si
SLV 11	ini.	60.5	-3038	-0.000006	0.0002807	0.0035	2		14202.07	14202.07		234.75	Si
SLV 11	fin.	-1684.42	-1743	-0.0001754	0.0002807	0.0035	2		14215.41	14215.41		8.44	Si
SLV 14	ini.	250.34	2679	-0.0000249	0.0002807	0.0035	2		14202.07	14202.07		56.73	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	fin.	1952.14	2095	-0.0002054	0.0002807	0.0035	2		14202.07	14202.07		7.28	Si
SLD 7	ini.	2.97	-3089	-0.0000003	0.0002807	0.0035	2		14202.07	14202.07		4779.95	Si
SLD 7	fin.	-1782.88	-1868	-0.0001863	0.0002807	0.0035	2		14215.41	14215.41		7.97	Si
SLV 4	ini.	-87.41	-3605	-0.0000087	0.0002807	0.0035	2		14215.41	14215.41		162.62	Si
SLV 4	fin.	-2191.86	-2325	-0.0002325	0.0002807	0.0035	2		14215.41	14215.41		6.49	Si
SLD 3	ini.	-51.29	-3047	-0.0000051	0.0002807	0.0035	2		14215.41	14215.41		277.15	Si
SLD 3	fin.	-1825.3	-1937	-0.000191	0.0002807	0.0035	2		14215.41	14215.41		7.79	Si
SLV 7	ini.	-33.18	-4441	-0.0000033	0.0002807	0.0035	2		14215.41	14215.41		428.42	Si
SLV 7	fin.	-2631.83	-2760	-0.0002841	0.0002807	0.0035	2		14215.41	14215.41		5.4	Si
SLV 1	ini.	-92.2	-2713	-0.0000091	0.0002807	0.0035	2		14215.41	14215.41		154.18	Si
SLV 1	fin.	-1678.06	-1804	-0.0001747	0.0002807	0.0035	2		14215.41	14215.41		8.47	Si
SLV 3	ini.	-117.69	-4320	-0.0000117	0.0002807	0.0035	2		14215.41	14215.41		120.79	Si
SLV 3	fin.	-2664.01	-2832	-0.000288	0.0002807	0.0035	2		14215.41	14215.41		5.34	Si
SLV 10	ini.	165.84	2800	-0.0000165	0.0002807	0.0035	2		14202.07	14202.07		85.64	Si
SLV 10	fin.	1919.97	2023	-0.0002018	0.0002807	0.0035	2		14202.07	14202.07		7.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-117.69	-11787	2	0	5833	3964	12577	5100	9797		0.83	No
SLV 3	fin.	-2664.01	-6657	2	0	5833	3964	12577	5100	9797		1.47	Si
SLD 7	ini.	2.97	-9343	2	0	5833	3964	12577	5100	9797		1.05	Si
SLD 7	fin.	-1782.88	-4777	2	0	5833	3964	12577	5100	9797		2.05	Si
SLD 3	ini.	-51.29	-8670	2	0	5833	3964	12577	5100	9797		1.13	Si
SLD 3	fin.	-1825.3	-4683	2	0	5833	3964	12577	5100	9797		2.09	Si
SLV 11	ini.	60.5	-9750	2	0	5833	3964	12577	5100	9797		1	Si
SLV 11	fin.	-1684.42	-4723	2	0	5833	3964	12577	5100	9797		2.07	Si
SLD 8	ini.	15.79	-8589	2	0	5833	3964	12577	5100	9797		1.14	Si
SLD 8	fin.	-1582.91	-4307	2	0	5833	3964	12577	5100	9797		2.27	Si
SLV 8	ini.	-12.8	-11797	2	0	5833	3964	12577	5100	9797		0.83	No
SLV 8	fin.	-2313.95	-6145	2	0	5833	3964	12577	5100	9797		1.59	Si
SLV 12	ini.	80.88	-8553	2	0	5833	3964	12577	5100	9797		1.15	Si
SLV 12	fin.	-1366.54	-3977	2	0	5833	3964	12577	5100	9797		2.46	Si
SLV 7	ini.	-33.18	-12994	2	0	5833	3964	12577	5100	9797		0.75	No
SLV 7	fin.	-2631.83	-6891	2	0	5833	3964	12577	5100	9797		1.42	Si
SLD 4	ini.	-31.95	-7534	2	0	5833	3964	12577	5100	9797		1.3	Si
SLD 4	fin.	-1523.65	-3975	2	0	5833	3964	12577	5100	9797		2.46	Si
SLV 4	ini.	-87.41	-10008	2	0	5833	3964	12577	5100	9797		0.98	No
SLV 4	fin.	-2191.86	-5549	2	0	5833	3964	12577	5100	9797		1.77	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.336	SLV 3	Si
V_SLV	0.754	SLV 7	No
PF_SLU	24.462	SLU 71	Si
V_SLU	1.59	SLU 79	Si

Trave di accoppiamento 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	7.15	7.9	0.75	-5.158	6.521	7.15	7.9	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-324.2	-1323	-0.0002533	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.4	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	195.56	-576	-0.0001457	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.58	Si
SLU 71	ini.	-322.28	-1354	-0.0002516	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.44	Si
SLU 71	fin.	193.77	-569	-0.0001443	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.68	Si
SLU 70	ini.	-323.56	-1355	-0.0002528	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.41	Si
SLU 70	fin.	194.49	-571	-0.0001448	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.64	Si
SLU 79	ini.	-336.8	-1399	-0.0002646	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.16	Si
SLU 79	fin.	203.24	-598	-0.0001518	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.18	Si
SLU 77	ini.	-339.01	-1405	-0.0002666	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.12	Si
SLU 77	fin.	204.5	-601	-0.0001528	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.12	Si
SLU 72	ini.	-321.35	-1349	-0.0002508	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.46	Si
SLU 72	fin.	193.23	-567	-0.0001438	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.71	Si
SLU 69	ini.	-324.49	-1360	-0.0002536	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.39	Si
SLU 69	fin.	195.03	-573	-0.0001453	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.61	Si
SLU 84	ini.	-323.26	-1317	-0.0002525	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.42	Si
SLU 84	fin.	195.02	-575	-0.0001452	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.61	Si
SLU 78	ini.	-338.07	-1400	-0.0002657	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.14	Si
SLU 78	fin.	203.95	-600	-0.0001524	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.15	Si
SLU 80	ini.	-335.87	-1394	-0.0002638	0.0001872	0.0035	0.75		2074.44	2074.44	No	6.18	Si
SLU 80	fin.	202.7	-596	-0.0001514	0.0001872	0.0035	0.75		2069.77	2069.77	No	10.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-335.87	2824	0.75	0	1458	3964	3144	1913	5057	No	1.79	Si
SLU 80	fin.	202.7	1063	0.75	0	1458	3964	3144	1913	5057	No	4.75	Si
SLU 69	ini.	-324.49	2765	0.75	0	1458	3964	3144	1913	5057	No	1.83	Si
SLU 69	fin.	195.03	1025	0.75	0	1458	3964	3144	1913	5057	No	4.93	Si
SLU 84	ini.	-323.26	2664	0.75	0	1458	3964	3144	1913	5057	No	1.9	Si
SLU 84	fin.	195.02	1017	0.75	0	1458	3964	3144	1913	5057	No	4.97	Si
SLU 70	ini.	-323.56	2751	0.75	0	1458	3964	3144	1913	5057	No	1.84	Si
SLU 70	fin.	194.49	1022	0.75	0	1458	3964	3144	1913	5057	No	4.95	Si
SLU 72	ini.	-321.35	2739	0.75	0	1458	3964	3144	1913	5057	No	1.85	Si
SLU 72	fin.	193.23	1016	0.75	0	1458	3964	3144	1913	5057	No	4.98	Si
SLU 77	ini.	-339.01	2851	0.75	0	1458	3964	3144	1913	5057	No	1.77	Si
SLU 77	fin.	204.5	1073	0.75	0	1458	3964	3144	1913	5057	No	4.71	Si
SLU 71	ini.	-322.28	2753	0.75	0	1458	3964	3144	1913	5057	No	1.84	Si
SLU 71	fin.	193.77	1018	0.75	0	1458	3964	3144	1913	5057	No	4.97	Si
SLU 83	ini.	-324.2	2679	0.75	0	1458	3964	3144	1913	5057	No	1.89	Si
SLU 83	fin.	195.56	1020	0.75	0	1458	3964	3144	1913	5057	No	4.96	Si
SLU 78	ini.	-338.07	2837	0.75	0	1458	3964	3144	1913	5057	No	1.78	Si
SLU 78	fin.	203.95	1070	0.75	0	1458	3964	3144	1913	5057	No	4.72	Si
SLU 79	ini.	-336.8	2838	0.75	0	1458	3964	3144	1913	5057	No	1.78	Si
SLU 79	fin.	203.24	1066	0.75	0	1458	3964	3144	1913	5057	No	4.74	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-319.65	-1457	-0.000241	0.0002807	0.0035	0.75		2090.82	2090.82		6.54	Si
SLV 15	fin.	191.04	-546	-0.0001398	0.0002807	0.0035	0.75		2085.94	2085.94		10.92	Si
SLD 8	ini.	-312.9	-1278	-0.0002355	0.0002807	0.0035	0.75		2090.82	2090.82		6.68	Si
SLD 8	fin.	177.05	-504	-0.0001291	0.0002807	0.0035	0.75		2085.94	2085.94		11.78	Si
SLV 16	ini.	-333.51	-1587	-0.0002524	0.0002807	0.0035	0.75		2090.82	2090.82		6.27	Si
SLV 16	fin.	201.69	-575	-0.0001479	0.0002807	0.0035	0.75		2085.94	2085.94		10.34	Si
SLV 11	ini.	-400.52	-1701	-0.0003091	0.0002807	0.0035	0.75		2090.82	2090.82		5.22	Si
SLV 11	fin.	224.93	-631	-0.0001659	0.0002807	0.0035	0.75		2085.94	2085.94		9.27	Si
SLV 12	ini.	-409.85	-1788	-0.0003172	0.0002807	0.0035	0.75		2090.82	2090.82		5.1	Si
SLV 12	fin.	232.1	-651	-0.0001715	0.0002807	0.0035	0.75		2085.94	2085.94		8.99	Si
SLD 12	ini.	-336.03	-1441	-0.0002545	0.0002807	0.0035	0.75		2090.82	2090.82		6.22	Si
SLD 12	fin.	192.77	-548	-0.0001411	0.0002807	0.0035	0.75		2085.94	2085.94		10.82	Si
SLD 11	ini.	-330.17	-1385	-0.0002497	0.0002807	0.0035	0.75		2090.82	2090.82		6.33	Si
SLD 11	fin.	188.26	-536	-0.0001376	0.0002807	0.0035	0.75		2085.94	2085.94		11.08	Si
SLV 7	ini.	-364.75	-1447	-0.0002785	0.0002807	0.0035	0.75		2090.82	2090.82		5.73	Si
SLV 7	fin.	200.15	-564	-0.0001467	0.0002807	0.0035	0.75		2085.94	2085.94		10.42	Si
SLD 7	ini.	-307.03	-1223	-0.0002307	0.0002807	0.0035	0.75		2090.82	2090.82		6.81	Si
SLD 7	fin.	172.54	-492	-0.0001257	0.0002807	0.0035	0.75		2085.94	2085.94		12.09	Si
SLV 8	ini.	-374.08	-1534	-0.0002864	0.0002807	0.0035	0.75		2090.82	2090.82		5.59	Si
SLV 8	fin.	207.32	-583	-0.0001523	0.0002807	0.0035	0.75		2085.94	2085.94		10.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-312.9	2793	0.75	0	2188	3964	4716	1913	6152		2.2	Si
SLD 8	fin.	177.05	935	0.75	0	2188	3964	4716	1913	6152		6.58	Si
SLD 12	ini.	-336.03	3094	0.75	0	2188	3964	4716	1913	6152		1.99	Si
SLD 12	fin.	192.77	1038	0.75	0	2188	3964	4716	1913	6152		5.93	Si
SLV 7	ini.	-364.75	3283	0.75	0	2188	3964	4716	1913	6152		1.87	Si
SLV 7	fin.	200.15	1053	0.75	0	2188	3964	4716	1913	6152		5.84	Si
SLD 7	ini.	-307.03	2702	0.75	0	2188	3964	4716	1913	6152		2.28	Si
SLD 7	fin.	172.54	902	0.75	0	2188	3964	4716	1913	6152		6.82	Si
SLV 15	ini.	-319.65	2994	0.75	0	2188	3964	4716	1913	6152		2.05	Si
SLV 15	fin.	191.04	1043	0.75	0	2188	3964	4716	1913	6152		5.9	Si
SLD 11	ini.	-330.17	3003	0.75	0	2188	3964	4716	1913	6152		2.05	Si
SLD 11	fin.	188.26	1005	0.75	0	2188	3964	4716	1913	6152		6.12	Si
SLV 11	ini.	-400.52	3752	0.75	0	2188	3964	4716	1913	6152		1.64	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	fin.	224.93	1213	0.75	0	2188	3964	4716	1913	6152		5.07	Si
SLV 16	ini.	-333.51	3210	0.75	0	2188	3964	4716	1913	6152		1.92	Si
SLV 16	fin.	201.69	1121	0.75	0	2188	3964	4716	1913	6152		5.49	Si
SLV 12	ini.	-409.85	3897	0.75	0	2188	3964	4716	1913	6152		1.58	Si
SLV 12	fin.	232.1	1265	0.75	0	2188	3964	4716	1913	6152		4.86	Si
SLV 8	ini.	-374.08	3429	0.75	0	2188	3964	4716	1913	6152		1.79	Si
SLV 8	fin.	207.32	1105	0.75	0	2188	3964	4716	1913	6152		5.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.101	SLV 12	Si
V_SLV	1.578	SLV 12	Si
PF_SLU	6.119	SLU 77	Si
V_SLU	1.774	SLU 77	Si

Trave di accoppiamento 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	4.35	5.25	0.9	-7.403	-3.169	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	336.9	-2597	-0.0001774	0.0001872	0.0035	0.9		2959	2959	No	8.78	Si
SLU 67	fin.	-265.98	-581	-0.0001373	0.0001872	0.0035	0.9		2964.67	2964.67	No	11.15	Si
SLU 75	ini.	340.94	-2700	-0.0001797	0.0001872	0.0035	0.9		2959	2959	No	8.68	Si
SLU 75	fin.	-247.13	-694	-0.000127	0.0001872	0.0035	0.9		2964.67	2964.67	No	12	Si
SLU 82	ini.	337.35	-2693	-0.0001776	0.0001872	0.0035	0.9		2959	2959	No	8.77	Si
SLU 82	fin.	-241.55	-714	-0.000124	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.27	Si
SLU 78	ini.	340.57	-2712	-0.0001795	0.0001872	0.0035	0.9		2959	2959	No	8.69	Si
SLU 78	fin.	-238.79	-722	-0.0001225	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.42	Si
SLU 84	ini.	336.97	-2705	-0.0001774	0.0001872	0.0035	0.9		2959	2959	No	8.78	Si
SLU 84	fin.	-233.21	-741	-0.0001195	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.71	Si
SLU 70	ini.	336.52	-2609	-0.0001772	0.0001872	0.0035	0.9		2959	2959	No	8.79	Si
SLU 70	fin.	-257.64	-609	-0.0001327	0.0001872	0.0035	0.9		2964.67	2964.67	No	11.51	Si
SLU 65	ini.	336.23	-2574	-0.000177	0.0001872	0.0035	0.9		2959	2959	No	8.8	Si
SLU 65	fin.	-272.7	-552	-0.000141	0.0001872	0.0035	0.9		2964.67	2964.67	No	10.87	Si
SLU 76	ini.	339.9	-2689	-0.0001791	0.0001872	0.0035	0.9		2959	2959	No	8.71	Si
SLU 76	fin.	-245.51	-693	-0.0001261	0.0001872	0.0035	0.9		2964.67	2964.67	No	12.08	Si
SLU 68	ini.	335.86	-2586	-0.0001768	0.0001872	0.0035	0.9		2959	2959	No	8.81	Si
SLU 68	fin.	-264.36	-579	-0.0001364	0.0001872	0.0035	0.9		2964.67	2964.67	No	11.21	Si
SLU 73	ini.	340.28	-2677	-0.0001793	0.0001872	0.0035	0.9		2959	2959	No	8.7	Si
SLU 73	fin.	-253.85	-665	-0.0001307	0.0001872	0.0035	0.9		2964.67	2964.67	No	11.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	336.97	-4779	0.9	0	1750	7137	3773	2295	6068	No	1.27	Si
SLU 84	fin.	-233.21	-246	0.9	0	1750	7137	3773	2295	6068	No	24.66	Si
SLU 80	ini.	334.86	-4712	0.9	0	1750	7137	3773	2295	6068	No	1.29	Si
SLU 80	fin.	-232.95	-262	0.9	0	1750	7137	3773	2295	6068	No	23.13	Si
SLU 75	ini.	340.94	-4760	0.9	0	1750	7137	3773	2295	6068	No	1.27	Si
SLU 75	fin.	-247.13	-312	0.9	0	1750	7137	3773	2295	6068	No	19.44	Si
SLU 78	ini.	340.57	-4781	0.9	0	1750	7137	3773	2295	6068	No	1.27	Si
SLU 78	fin.	-238.79	-275	0.9	0	1750	7137	3773	2295	6068	No	22.08	Si
SLU 77	ini.	333.58	-4721	0.9	0	1750	7137	3773	2295	6068	No	1.29	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-232.47	-252	0.9	0	1750	7137	3773	2295	6068	No	24.05	Si
SLU 83	ini.	329.98	-4719	0.9	0	1750	7137	3773	2295	6068	No	1.29	Si
SLU 83	fin.	-226.88	-224	0.9	0	1750	7137	3773	2295	6068	No	27.15	Si
SLU 76	ini.	339.9	-4730	0.9	0	1750	7137	3773	2295	6068	No	1.28	Si
SLU 76	fin.	-245.51	-315	0.9	0	1750	7137	3773	2295	6068	No	19.28	Si
SLU 82	ini.	337.35	-4758	0.9	0	1750	7137	3773	2295	6068	No	1.28	Si
SLU 82	fin.	-241.55	-283	0.9	0	1750	7137	3773	2295	6068	No	21.41	Si
SLU 73	ini.	340.28	-4709	0.9	0	1750	7137	3773	2295	6068	No	1.29	Si
SLU 73	fin.	-253.85	-352	0.9	0	1750	7137	3773	2295	6068	No	17.23	Si
SLU 74	ini.	333.95	-4700	0.9	0	1750	7137	3773	2295	6068	No	1.29	Si
SLU 74	fin.	-240.81	-290	0.9	0	1750	7137	3773	2295	6068	No	20.95	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1130.45	-5693	-0.0006909	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 1	fin.	-1816.05	2116	-0.0012909	0.0002807	0.0035	0.9		2995.37	2995.37		1.65	Si
SLV 4	ini.	891.61	-4309	-0.0005163	0.0002807	0.0035	0.9		2989.59	2989.59		3.35	Si
SLV 4	fin.	-1611.01	2160	-0.0010923	0.0002807	0.0035	0.9		2995.37	2995.37		1.86	Si
SLV 5	ini.	1091.78	-6095	-0.0006616	0.0002807	0.0035	0.9		2989.59	2989.59		2.74	Si
SLV 5	fin.	-1396.54	904	-0.000903	0.0002807	0.0035	0.9		2995.37	2995.37		2.14	Si
SLV 6	ini.	1203.74	-6583	-0.0007478	0.0002807	0.0035	0.9		2989.59	2989.59		2.48	Si
SLV 6	fin.	-1603.85	1232	-0.0010857	0.0002807	0.0035	0.9		2995.37	2995.37		1.87	Si
SLV 16	ini.	-646.95	1909	-0.0003535	0.0002807	0.0035	0.9		2995.37	2995.37		4.63	Si
SLV 16	fin.	1441.21	-3013	-0.0009433	0.0002807	0.0035	0.9		2989.59	2989.59		2.07	Si
SLD 2	ini.	913.77	-4772	-0.0005318	0.0002807	0.0035	0.9		2989.59	2989.59		3.27	Si
SLD 2	fin.	-1422.98	1502	-0.0009254	0.0002807	0.0035	0.9		2995.37	2995.37		2.11	Si
SLV 13	ini.	-408.12	525	-0.0002125	0.0002807	0.0035	0.9		2995.37	2995.37		7.34	Si
SLV 13	fin.	1236.17	-3056	-0.0007734	0.0002807	0.0035	0.9		2989.59	2989.59		2.42	Si
SLV 2	ini.	1296.75	-6418	-0.0008222	0.0002807	0.0035	0.9		2989.59	2989.59		2.31	Si
SLV 2	fin.	-2123.97	2604	-0.0016337	0.0002807	0.0035	0.9		2995.37	2995.37		1.41	Si
SLV 3	ini.	725.31	-3585	-0.0004043	0.0002807	0.0035	0.9		2989.59	2989.59		4.12	Si
SLV 3	fin.	-1303.09	1672	-0.0008254	0.0002807	0.0035	0.9		2995.37	2995.37		2.3	Si
SLV 15	ini.	-813.25	2634	-0.0004615	0.0002807	0.0035	0.9		2995.37	2995.37		3.68	Si
SLV 15	fin.	1749.13	-3500	-0.0012271	0.0002807	0.0035	0.9		2989.59	2989.59		1.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1203.74	-10754	0.9	0	2625	7137	5660	2295	7955		0.74	No
SLV 6	fin.	-1603.85	-5260	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLV 9	ini.	630.21	-7082	0.9	0	2625	7137	5660	2295	7955		1.12	Si
SLV 9	fin.	-480.87	-1070	0.9	0	2625	7137	5660	2295	7955		7.43	Si
SLD 1	ini.	807.52	-7100	0.9	0	2625	7137	5660	2295	7955		1.12	Si
SLD 1	fin.	-1226.25	-4129	0.9	0	2625	7137	5660	2295	7955		1.93	Si
SLV 2	ini.	1296.75	-10412	0.9	0	2625	7137	5660	2295	7955		0.76	No
SLV 2	fin.	-2123.97	-7432	0.9	0	2625	7137	5660	2295	7955		1.07	Si
SLV 1	ini.	1130.45	-9262	0.9	0	2625	7137	5660	2295	7955		0.86	No
SLV 1	fin.	-1816.05	-6309	0.9	0	2625	7137	5660	2295	7955		1.26	Si
SLD 6	ini.	845.17	-7981	0.9	0	2625	7137	5660	2295	7955		1	No
SLD 6	fin.	-1078.16	-3415	0.9	0	2625	7137	5660	2295	7955		2.33	Si
SLV 5	ini.	1091.78	-9979	0.9	0	2625	7137	5660	2295	7955		0.8	No
SLV 5	fin.	-1396.54	-4504	0.9	0	2625	7137	5660	2295	7955		1.77	Si
SLD 5	ini.	774.74	-7493	0.9	0	2625	7137	5660	2295	7955		1.06	Si
SLD 5	fin.	-947.75	-2939	0.9	0	2625	7137	5660	2295	7955		2.71	Si
SLV 10	ini.	742.18	-7857	0.9	0	2625	7137	5660	2295	7955		1.01	Si
SLV 10	fin.	-688.19	-1826	0.9	0	2625	7137	5660	2295	7955		4.36	Si
SLD 2	ini.	913.77	-7835	0.9	0	2625	7137	5660	2295	7955		1.02	Si
SLD 2	fin.	-1422.98	-4846	0.9	0	2625	7137	5660	2295	7955		1.64	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.41	SLV 2	Si
V_SLV	0.74	SLV 6	No
PF_SLU	8.679	SLU 75	Si
V_SLU	1.269	SLU 78	Si

Trave di accoppiamento 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	7.05	7.9	0.85	-7.403	-3.169	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	61.58	-682	-0.0000341	0.0001872	0.0035	0.85		2650.49	2650.49	No	43.04	Si
SLU 67	fin.	-378.53	-1277	-0.0002278	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.02	Si
SLU 68	ini.	61.76	-669	-0.0000342	0.0001872	0.0035	0.85		2650.49	2650.49	No	42.91	Si
SLU 68	fin.	-376.78	-1267	-0.0002266	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.05	Si
SLU 72	ini.	55.71	-700	-0.0000309	0.0001872	0.0035	0.85		2650.49	2650.49	No	47.57	Si
SLU 72	fin.	-373.24	-1271	-0.0002243	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.12	Si
SLU 66	ini.	59.36	-692	-0.0000329	0.0001872	0.0035	0.85		2650.49	2650.49	No	44.65	Si
SLU 66	fin.	-371.65	-1262	-0.0002232	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.15	Si
SLU 70	ini.	57.01	-708	-0.0000316	0.0001872	0.0035	0.85		2650.49	2650.49	No	46.49	Si
SLU 70	fin.	-379.57	-1292	-0.0002285	0.0001872	0.0035	0.85		2655.83	2655.83	No	7	Si
SLU 75	ini.	43.36	-878	-0.0000239	0.0001872	0.0035	0.85		2650.49	2650.49	No	61.13	Si
SLU 75	fin.	-369.84	-1340	-0.000222	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.18	Si
SLU 78	ini.	38.79	-903	-0.0000214	0.0001872	0.0035	0.85		2650.49	2650.49	No	68.33	Si
SLU 78	fin.	-370.89	-1355	-0.0002227	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.16	Si
SLU 76	ini.	43.54	-864	-0.000024	0.0001872	0.0035	0.85		2650.49	2650.49	No	60.87	Si
SLU 76	fin.	-368.09	-1329	-0.0002208	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.22	Si
SLU 69	ini.	54.79	-717	-0.0000303	0.0001872	0.0035	0.85		2650.49	2650.49	No	48.38	Si
SLU 69	fin.	-372.7	-1277	-0.0002239	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.13	Si
SLU 65	ini.	66.33	-643	-0.0000368	0.0001872	0.0035	0.85		2650.49	2650.49	No	39.96	Si
SLU 65	fin.	-375.74	-1252	-0.0002259	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	32.03	2710	0.85	0	1653	6740	3563	2168	5731	No	2.12	Si
SLU 83	fin.	-352.91	-2441	0.85	0	1653	6740	3563	2168	5731	No	2.35	Si
SLU 82	ini.	38.82	2658	0.85	0	1653	6740	3563	2168	5731	No	2.16	Si
SLU 82	fin.	-358.74	-2460	0.85	0	1653	6740	3563	2168	5731	No	2.33	Si
SLU 79	ini.	35.27	2567	0.85	0	1653	6740	3563	2168	5731	No	2.23	Si
SLU 79	fin.	-357.68	-2415	0.85	0	1653	6740	3563	2168	5731	No	2.37	Si
SLU 81	ini.	36.6	2666	0.85	0	1653	6740	3563	2168	5731	No	2.15	Si
SLU 81	fin.	-351.86	-2432	0.85	0	1653	6740	3563	2168	5731	No	2.36	Si
SLU 84	ini.	34.25	2702	0.85	0	1653	6740	3563	2168	5731	No	2.12	Si
SLU 84	fin.	-359.78	-2470	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 80	ini.	37.49	2559	0.85	0	1653	6740	3563	2168	5731	No	2.24	Si
SLU 80	fin.	-364.55	-2444	0.85	0	1653	6740	3563	2168	5731	No	2.35	Si
SLU 78	ini.	38.79	2586	0.85	0	1653	6740	3563	2168	5731	No	2.22	Si
SLU 78	fin.	-370.89	-2480	0.85	0	1653	6740	3563	2168	5731	No	2.31	Si
SLU 75	ini.	43.36	2543	0.85	0	1653	6740	3563	2168	5731	No	2.25	Si
SLU 75	fin.	-369.84	-2470	0.85	0	1653	6740	3563	2168	5731	No	2.32	Si
SLU 77	ini.	36.57	2594	0.85	0	1653	6740	3563	2168	5731	No	2.21	Si
SLU 77	fin.	-364.01	-2451	0.85	0	1653	6740	3563	2168	5731	No	2.34	Si
SLU 74	ini.	41.14	2551	0.85	0	1653	6740	3563	2168	5731	No	2.25	Si
SLU 74	fin.	-362.96	-2441	0.85	0	1653	6740	3563	2168	5731	No	2.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 5	ini.	388.89	937	-0.0002281	0.0002807	0.0035	0.85		2675.27	2675.27		6.88	Si
SLD 5	fin.	-874.01	-1988	-0.000576	0.0002807	0.0035	0.85		2680.73	2680.73		3.07	Si
SLV 10	ini.	254.89	375	-0.0001456	0.0002807	0.0035	0.85		2675.27	2675.27		10.5	Si
SLV 10	fin.	-908.48	-2356	-0.0006039	0.0002807	0.0035	0.85		2680.73	2680.73		2.95	Si
SLD 2	ini.	628.19	1905	-0.0003897	0.0002807	0.0035	0.85		2675.27	2675.27		4.26	Si
SLD 2	fin.	-955.93	-1760	-0.0006431	0.0002807	0.0035	0.85		2680.73	2680.73		2.8	Si
SLV 5	ini.	594.81	1809	-0.0003659	0.0002807	0.0035	0.85		2675.27	2675.27		4.5	Si
SLV 5	fin.	-1234.48	-2624	-0.0008897	0.0002807	0.0035	0.85		2680.73	2680.73		2.17	Si
SLV 15	ini.	-879.66	-4377	-0.0005805	0.0002807	0.0035	0.85		2680.73	2680.73		3.05	Si
SLV 15	fin.	808.23	378	-0.000525	0.0002807	0.0035	0.85		2675.27	2675.27		3.31	Si
SLV 4	ini.	731.19	2313	-0.0004657	0.0002807	0.0035	0.85		2675.27	2675.27		3.66	Si
SLV 4	fin.	-867.45	-1304	-0.0005707	0.0002807	0.0035	0.85		2680.73	2680.73		3.09	Si
SLV 6	ini.	693.96	2205	-0.0004378	0.0002807	0.0035	0.85		2675.27	2675.27		3.86	Si
SLV 6	fin.	-1356.72	-2788	-0.0010077	0.0002807	0.0035	0.85		2680.73	2680.73		1.98	Si
SLD 6	ini.	451.27	1186	-0.0002682	0.0002807	0.0035	0.85		2675.27	2675.27		5.93	Si
SLD 6	fin.	-950.91	-2091	-0.0006389	0.0002807	0.0035	0.85		2680.73	2680.73		2.82	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	961.54	3294	-0.0006494	0.0002807	0.0035	0.85		2675.27	2675.27		2.78	Si
SLV 2	fin.	-1348.31	-2240	-0.0009993	0.0002807	0.0035	0.85		2680.73	2680.73		1.99	Si
SLV 1	ini.	814.27	2706	-0.0005298	0.0002807	0.0035	0.85		2675.27	2675.27		3.29	Si
SLV 1	fin.	-1166.76	-1997	-0.000827	0.0002807	0.0035	0.85		2680.73	2680.73		2.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	814.27	-2635	0.85	0	2479	6740	5345	2168	7513		2.85	Si
SLV 1	fin.	-1166.76	-5434	0.85	0	2479	6740	5345	2168	7513		1.38	Si
SLV 16	ini.	-732.39	5882	0.85	0	2479	6740	5345	2168	7513		1.28	Si
SLV 16	fin.	626.68	1952	0.85	0	2479	6740	5345	2168	7513		3.85	Si
SLV 6	ini.	693.96	-2020	0.85	0	2479	6740	5345	2168	7513		3.72	Si
SLV 6	fin.	-1356.72	-6170	0.85	0	2479	6740	5345	2168	7513		1.22	Si
SLD 15	ini.	-546.31	4854	0.85	0	2479	6740	5345	2168	7513		1.55	Si
SLD 15	fin.	415.85	1074	0.85	0	2479	6740	5345	2168	7513		6.99	Si
SLV 11	ini.	-612.09	5267	0.85	0	2479	6740	5345	2168	7513		1.43	Si
SLV 11	fin.	816.64	2688	0.85	0	2479	6740	5345	2168	7513		2.79	Si
SLV 12	ini.	-512.94	4720	0.85	0	2479	6740	5345	2168	7513		1.59	Si
SLV 12	fin.	694.4	2195	0.85	0	2479	6740	5345	2168	7513		3.42	Si
SLV 5	ini.	594.81	-1474	0.85	0	2479	6740	5345	2168	7513		5.1	Si
SLV 5	fin.	-1234.48	-5677	0.85	0	2479	6740	5345	2168	7513		1.32	Si
SLV 2	ini.	961.54	-3446	0.85	0	2479	6740	5345	2168	7513		2.18	Si
SLV 2	fin.	-1348.31	-6166	0.85	0	2479	6740	5345	2168	7513		1.22	Si
SLV 15	ini.	-879.66	6693	0.85	0	2479	6740	5345	2168	7513		1.12	Si
SLV 15	fin.	808.23	2684	0.85	0	2479	6740	5345	2168	7513		2.8	Si
SLV 13	ini.	-649.32	5393	0.85	0	2479	6740	5345	2168	7513		1.39	Si
SLV 13	fin.	327.37	729	0.85	0	2479	6740	5345	2168	7513		10.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.976	SLV 6	Si
V_SLV	1.122	SLV 15	Si
PF_SLU	6.997	SLU 70	Si
V_SLU	2.115	SLU 83	Si

Trave di accoppiamento 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	4.35	6.35	2	-5.938	-3.169	4.35	6.35	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	441.31	-5343	-0.0000444	0.0001872	0.0035	2		14344.28	14344.28	No	32.5	Si
SLU 84	fin.	-393.62	-3373	-0.0000395	0.0001872	0.0035	2		14357.01	14357.01	No	36.47	Si
SLU 65	ini.	397.85	-4831	-0.00004	0.0001872	0.0035	2		14344.28	14344.28	No	36.05	Si
SLU 65	fin.	-441.09	-3102	-0.0000444	0.0001872	0.0035	2		14357.01	14357.01	No	32.55	Si
SLU 68	ini.	391.71	-4852	-0.0000393	0.0001872	0.0035	2		14344.28	14344.28	No	36.62	Si
SLU 68	fin.	-437.05	-3128	-0.0000439	0.0001872	0.0035	2		14357.01	14357.01	No	32.85	Si
SLU 77	ini.	435.24	-5255	-0.0000438	0.0001872	0.0035	2		14344.28	14344.28	No	32.96	Si
SLU 77	fin.	-392.89	-3321	-0.0000394	0.0001872	0.0035	2		14357.01	14357.01	No	36.54	Si
SLU 75	ini.	431.85	-5257	-0.0000434	0.0001872	0.0035	2		14344.28	14344.28	No	33.22	Si
SLU 75	fin.	-411.03	-3338	-0.0000413	0.0001872	0.0035	2		14357.01	14357.01	No	34.93	Si
SLU 81	ini.	456.97	-5298	-0.000046	0.0001872	0.0035	2		14344.28	14344.28	No	31.39	Si
SLU 81	fin.	-383.55	-3301	-0.0000385	0.0001872	0.0035	2		14357.01	14357.01	No	37.43	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	447.45	-5321	-0.000045	0.0001872	0.0035	2		14344.28	14344.28	No	32.06	Si
SLU 82	fin.	-397.66	-3346	-0.0000399	0.0001872	0.0035	2		14357.01	14357.01	No	36.1	Si
SLU 74	ini.	441.38	-5234	-0.0000444	0.0001872	0.0035	2		14344.28	14344.28	No	32.5	Si
SLU 74	fin.	-396.93	-3294	-0.0000398	0.0001872	0.0035	2		14357.01	14357.01	No	36.17	Si
SLU 67	ini.	401.58	-4903	-0.0000403	0.0001872	0.0035	2		14344.28	14344.28	No	35.72	Si
SLU 67	fin.	-434.85	-3146	-0.0000437	0.0001872	0.0035	2		14357.01	14357.01	No	33.02	Si
SLU 83	ini.	450.83	-5320	-0.0000454	0.0001872	0.0035	2		14344.28	14344.28	No	31.82	Si
SLU 83	fin.	-379.51	-3328	-0.0000381	0.0001872	0.0035	2		14357.01	14357.01	No	37.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	431.85	-8248	2	0	3889	3965	8384	5100	7854	No	0.95	No
SLU 75	fin.	-411.03	-2929	2	0	3889	3965	8384	5100	7854	No	2.68	Si
SLU 84	ini.	441.31	-8400	2	0	3889	3965	8384	5100	7854	No	0.93	No
SLU 84	fin.	-393.62	-2955	2	0	3889	3965	8384	5100	7854	No	2.66	Si
SLU 80	ini.	422.19	-8155	2	0	3889	3965	8384	5100	7854	No	0.96	No
SLU 80	fin.	-399.78	-2843	2	0	3889	3965	8384	5100	7854	No	2.76	Si
SLU 77	ini.	435.24	-8250	2	0	3889	3965	8384	5100	7854	No	0.95	No
SLU 77	fin.	-392.89	-2931	2	0	3889	3965	8384	5100	7854	No	2.68	Si
SLU 81	ini.	456.97	-8401	2	0	3889	3965	8384	5100	7854	No	0.93	No
SLU 81	fin.	-383.55	-3078	2	0	3889	3965	8384	5100	7854	No	2.55	Si
SLU 78	ini.	425.71	-8248	2	0	3889	3965	8384	5100	7854	No	0.95	No
SLU 78	fin.	-406.99	-2869	2	0	3889	3965	8384	5100	7854	No	2.74	Si
SLU 83	ini.	450.83	-8401	2	0	3889	3965	8384	5100	7854	No	0.93	No
SLU 83	fin.	-379.51	-3017	2	0	3889	3965	8384	5100	7854	No	2.6	Si
SLU 82	ini.	447.45	-8399	2	0	3889	3965	8384	5100	7854	No	0.94	No
SLU 82	fin.	-397.66	-3016	2	0	3889	3965	8384	5100	7854	No	2.6	Si
SLU 79	ini.	431.71	-8157	2	0	3889	3965	8384	5100	7854	No	0.96	No
SLU 79	fin.	-385.68	-2905	2	0	3889	3965	8384	5100	7854	No	2.7	Si
SLU 74	ini.	441.38	-8249	2	0	3889	3965	8384	5100	7854	No	0.95	No
SLU 74	fin.	-396.93	-2991	2	0	3889	3965	8384	5100	7854	No	2.63	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1188.08	-7997	-0.0001218	0.0002807	0.0035	2		14202.07	14202.07		11.95	Si
SLV 2	fin.	-2223.01	-5615	-0.0002361	0.0002807	0.0035	2		14215.41	14215.41		6.39	Si
SLV 11	ini.	41.54	763	-0.0000041	0.0002807	0.0035	2		14202.07	14202.07		341.88	Si
SLV 11	fin.	1328.26	1997	-0.0001368	0.0002807	0.0035	2		14202.07	14202.07		10.69	Si
SLV 6	ini.	593.54	-8091	-0.0000597	0.0002807	0.0035	2		14202.07	14202.07		23.93	Si
SLV 6	fin.	-1939.96	-6604	-0.0002039	0.0002807	0.0035	2		14215.41	14215.41		7.33	Si
SLV 15	ini.	-553	669	-0.0000555	0.0002807	0.0035	2		14215.41	14215.41		25.71	Si
SLV 15	fin.	1611.31	1008	-0.0001675	0.0002807	0.0035	2		14202.07	14202.07		8.81	Si
SLV 4	ini.	1202.21	-6032	-0.0001233	0.0002807	0.0035	2		14202.07	14202.07		11.81	Si
SLV 4	fin.	-1562.42	-3500	-0.000162	0.0002807	0.0035	2		14215.41	14215.41		9.1	Si
SLD 1	ini.	751.01	-5920	-0.0000759	0.0002807	0.0035	2		14202.07	14202.07		18.91	Si
SLD 1	fin.	-1331.25	-4066	-0.000137	0.0002807	0.0035	2		14215.41	14215.41		10.68	Si
SLV 5	ini.	462.73	-7563	-0.0000464	0.0002807	0.0035	2		14202.07	14202.07		30.69	Si
SLV 5	fin.	-1734.1	-6246	-0.0001809	0.0002807	0.0035	2		14215.41	14215.41		8.2	Si
SLD 2	ini.	875.14	-6421	-0.0000888	0.0002807	0.0035	2		14202.07	14202.07		16.23	Si
SLD 2	fin.	-1526.61	-4405	-0.0001581	0.0002807	0.0035	2		14215.41	14215.41		9.31	Si
SLV 1	ini.	993.79	-7213	-0.0001012	0.0002807	0.0035	2		14202.07	14202.07		14.29	Si
SLV 1	fin.	-1917.25	-5084	-0.0002013	0.0002807	0.0035	2		14215.41	14215.41		7.41	Si
SLD 6	ini.	494.64	-6437	-0.0000496	0.0002807	0.0035	2		14202.07	14202.07		28.71	Si
SLD 6	fin.	-1331.44	-4992	-0.000137	0.0002807	0.0035	2		14215.41	14215.41		10.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	593.54	-11074	2	0	5833	3965	12577	5100	9798		0.88	No
SLV 6	fin.	-1939.96	-5058	2	0	5833	3965	12577	5100	9798		1.94	Si
SLV 2	ini.	1188.08	-13449	2	0	5833	3965	12577	5100	9798		0.73	No
SLV 2	fin.	-2223.01	-10092	2	0	5833	3965	12577	5100	9798		0.97	No
SLD 6	ini.	494.64	-9120	2	0	5833	3965	12577	5100	9798		1.07	Si
SLD 6	fin.	-1331.44	-4025	2	0	5833	3965	12577	5100	9798		2.43	Si
SLD 2	ini.	875.14	-10678	2	0	5833	3965	12577	5100	9798		0.92	No
SLD 2	fin.	-1526.61	-7249	2	0	5833	3965	12577	5100	9798		1.35	Si
SLV 4	ini.	1202.21	-11673	2	0	5833	3965	12577	5100	9798		0.84	No
SLV 4	fin.	-1562.42	-9959	2	0	5833	3965	12577	5100	9798		0.98	No
SLD 4	ini.	883.52	-9572	2	0	5833	3965	12577	5100	9798		1.02	Si
SLD 4	fin.	-1115.23	-7165	2	0	5833	3965	12577	5100	9798		1.37	Si
SLV 5	ini.	462.73	-10067	2	0	5833	3965	12577	5100	9798		0.97	No
SLV 5	fin.	-1734.1	-4038	2	0	5833	3965	12577	5100	9798		2.43	Si
SLV 3	ini.	1007.91	-10177	2	0	5833	3965	12577	5100	9798		0.96	No
SLV 3	fin.	-1256.66	-8444	2	0	5833	3965	12577	5100	9798		1.16	Si
SLD 1	ini.	751.01	-9722	2	0	5833	3965	12577	5100	9798		1.01	Si
SLD 1	fin.	-1331.25	-6281	2	0	5833	3965	12577	5100	9798		1.56	Si
SLV 1	ini.	993.79	-11953	2	0	5833	3965	12577	5100	9798		0.82	No
SLV 1	fin.	-1917.25	-8577	2	0	5833	3965	12577	5100	9798		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.395	SLV 2	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.729	SLV 2	No
PF_SLU	31.39	SLU 81	Si
V_SLU	0.935	SLU 83	No

Trave di accoppiamento 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	7.15	7.9	0.75	-5.938	-3.169	7.15	7.9	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	358.83	-543	-0.0002853	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.77	Si
SLU 78	fin.	-183.16	-1132	-0.0001355	0.0001872	0.0035	0.75		2074.44	2074.44	No	11.33	Si
SLU 75	ini.	363.47	-522	-0.0002895	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.69	Si
SLU 75	fin.	-182.21	-1117	-0.0001348	0.0001872	0.0035	0.75		2074.44	2074.44	No	11.38	Si
SLU 84	ini.	366.21	-575	-0.0002921	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.65	Si
SLU 84	fin.	-191.89	-1185	-0.0001424	0.0001872	0.0035	0.75		2074.44	2074.44	No	10.81	Si
SLU 83	ini.	368.64	-576	-0.0002943	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.61	Si
SLU 83	fin.	-194.55	-1196	-0.0001445	0.0001872	0.0035	0.75		2074.44	2074.44	No	10.66	Si
SLU 74	ini.	365.9	-523	-0.0002918	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.66	Si
SLU 74	fin.	-184.87	-1129	-0.0001369	0.0001872	0.0035	0.75		2074.44	2074.44	No	11.22	Si
SLU 82	ini.	370.84	-553	-0.0002963	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.58	Si
SLU 82	fin.	-190.94	-1171	-0.0001417	0.0001872	0.0035	0.75		2074.44	2074.44	No	10.86	Si
SLU 76	ini.	357.86	-515	-0.0002844	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.78	Si
SLU 76	fin.	-179.19	-1100	-0.0001324	0.0001872	0.0035	0.75		2074.44	2074.44	No	11.58	Si
SLU 73	ini.	362.49	-494	-0.0002886	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.71	Si
SLU 73	fin.	-178.24	-1085	-0.0001317	0.0001872	0.0035	0.75		2074.44	2074.44	No	11.64	Si
SLU 81	ini.	373.27	-555	-0.0002986	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.54	Si
SLU 81	fin.	-193.6	-1182	-0.0001438	0.0001872	0.0035	0.75		2074.44	2074.44	No	10.72	Si
SLU 77	ini.	361.26	-545	-0.0002875	0.0001872	0.0035	0.75		2069.77	2069.77	No	5.73	Si
SLU 77	fin.	-185.82	-1143	-0.0001376	0.0001872	0.0035	0.75		2074.44	2074.44	No	11.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	366.21	-840	0.75	0	1458	3965	3144	1913	5057	No	6.02	Si
SLU 84	fin.	-191.89	-3985	0.75	0	1458	3965	3144	1913	5057	No	1.27	Si
SLU 83	ini.	368.64	-860	0.75	0	1458	3965	3144	1913	5057	No	5.88	Si
SLU 83	fin.	-194.55	-3992	0.75	0	1458	3965	3144	1913	5057	No	1.27	Si
SLU 74	ini.	365.9	-844	0.75	0	1458	3965	3144	1913	5057	No	5.99	Si
SLU 74	fin.	-184.87	-3886	0.75	0	1458	3965	3144	1913	5057	No	1.3	Si
SLU 78	ini.	358.83	-804	0.75	0	1458	3965	3144	1913	5057	No	6.29	Si
SLU 78	fin.	-183.16	-3890	0.75	0	1458	3965	3144	1913	5057	No	1.3	Si
SLU 82	ini.	370.84	-859	0.75	0	1458	3965	3144	1913	5057	No	5.89	Si
SLU 82	fin.	-190.94	-3975	0.75	0	1458	3965	3144	1913	5057	No	1.27	Si
SLU 75	ini.	363.47	-823	0.75	0	1458	3965	3144	1913	5057	No	6.14	Si
SLU 75	fin.	-182.21	-3880	0.75	0	1458	3965	3144	1913	5057	No	1.3	Si
SLU 80	ini.	354.84	-800	0.75	0	1458	3965	3144	1913	5057	No	6.32	Si
SLU 80	fin.	-181.91	-3841	0.75	0	1458	3965	3144	1913	5057	No	1.32	Si
SLU 79	ini.	357.27	-820	0.75	0	1458	3965	3144	1913	5057	No	6.16	Si
SLU 79	fin.	-184.57	-3848	0.75	0	1458	3965	3144	1913	5057	No	1.31	Si
SLU 77	ini.	361.26	-825	0.75	0	1458	3965	3144	1913	5057	No	6.13	Si
SLU 77	fin.	-185.82	-3896	0.75	0	1458	3965	3144	1913	5057	No	1.3	Si
SLU 81	ini.	373.27	-879	0.75	0	1458	3965	3144	1913	5057	No	5.75	Si
SLU 81	fin.	-193.6	-3982	0.75	0	1458	3965	3144	1913	5057	No	1.27	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	612.48	868	-0.0005075	0.0002807	0.0035	0.75		2085.94	2085.94		3.41	Si
SLD 3	fin.	-73.81	31	-0.0000525	0.0002807	0.0035	0.75		2090.82	2090.82		28.33	Si
SLV 6	ini.	636.43	1502	-0.0005315	0.0002807	0.0035	0.75		2085.94	2085.94		3.28	Si
SLV 6	fin.	101.77	1068	-0.000073	0.0002807	0.0035	0.75		2085.94	2085.94		20.5	Si
SLV 3	ini.	806.55	1515	-0.0007117	0.0002807	0.0035	0.75		2085.94	2085.94		2.59	Si
SLV 3	fin.	-46.2	450	-0.0000327	0.0002807	0.0035	0.75		2090.82	2090.82		45.26	Si
SLV 4	ini.	952	1961	-0.0008797	0.0002807	0.0035	0.75		2085.94	2085.94		2.19	Si
SLV 4	fin.	-27.25	745	-0.0000192	0.0002807	0.0035	0.75		2090.82	2090.82		76.72	Si
SLV 5	ini.	538.5	1201	-0.0004355	0.0002807	0.0035	0.75		2085.94	2085.94		3.87	Si
SLV 5	fin.	89.01	870	-0.0000636	0.0002807	0.0035	0.75		2085.94	2085.94		23.43	Si
SLD 4	ini.	705.41	1153	-0.0006026	0.0002807	0.0035	0.75		2085.94	2085.94		2.96	Si
SLD 4	fin.	-61.71	220	-0.0000438	0.0002807	0.0035	0.75		2090.82	2090.82		33.88	Si
SLD 2	ini.	752.47	1509	-0.0006526	0.0002807	0.0035	0.75		2085.94	2085.94		2.77	Si
SLD 2	fin.	4.63	667	-0.0000033	0.0002807	0.0035	0.75		2085.94	2085.94		450.53	Si
SLV 2	ini.	1027.54	2534	-0.0009724	0.0002807	0.0035	0.75		2085.94	2085.94		2.03	Si
SLV 2	fin.	79.19	1463	-0.0000565	0.0002807	0.0035	0.75		2085.94	2085.94		26.34	Si
SLV 1	ini.	882.09	2087	-0.0007973	0.0002807	0.0035	0.75		2085.94	2085.94		2.36	Si
SLV 1	fin.	60.25	1168	-0.0000428	0.0002807	0.0035	0.75		2085.94	2085.94		34.62	Si
SLD 1	ini.	659.55	1224	-0.000555	0.0002807	0.0035	0.75		2085.94	2085.94		3.16	Si
SLD 1	fin.	-7.48	479	-0.0000052	0.0002807	0.0035	0.75		2090.82	2090.82		279.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	806.55	-2144	0.75	0	2188	3965	4716	1913	6152		2.87	Si
SLV 3	fin.	-46.2	-3548	0.75	0	2188	3965	4716	1913	6152		1.73	Si
SLD 4	ini.	705.41	-1832	0.75	0	2188	3965	4716	1913	6152		3.36	Si
SLD 4	fin.	-61.71	-3450	0.75	0	2188	3965	4716	1913	6152		1.78	Si
SLD 2	ini.	752.47	-1653	0.75	0	2188	3965	4716	1913	6152		3.72	Si
SLD 2	fin.	4.63	-3534	0.75	0	2188	3965	4716	1913	6152		1.74	Si
SLD 1	ini.	659.55	-1414	0.75	0	2188	3965	4716	1913	6152		4.35	Si
SLD 1	fin.	-7.48	-3317	0.75	0	2188	3965	4716	1913	6152		1.85	Si
SLV 2	ini.	1027.54	-2228	0.75	0	2188	3965	4716	1913	6152		2.76	Si
SLV 2	fin.	79.19	-4026	0.75	0	2188	3965	4716	1913	6152		1.53	Si
SLD 3	ini.	612.48	-1593	0.75	0	2188	3965	4716	1913	6152		3.86	Si
SLD 3	fin.	-73.81	-3232	0.75	0	2188	3965	4716	1913	6152		1.9	Si
SLV 1	ini.	882.09	-1855	0.75	0	2188	3965	4716	1913	6152		3.32	Si
SLV 1	fin.	60.25	-3686	0.75	0	2188	3965	4716	1913	6152		1.67	Si
SLV 4	ini.	952	-2517	0.75	0	2188	3965	4716	1913	6152		2.44	Si
SLV 4	fin.	-27.25	-3888	0.75	0	2188	3965	4716	1913	6152		1.58	Si
SLV 5	ini.	538.5	-484	0.75	0	2188	3965	4716	1913	6152		12.72	Si
SLV 5	fin.	89.01	-3122	0.75	0	2188	3965	4716	1913	6152		1.97	Si
SLV 6	ini.	636.43	-735	0.75	0	2188	3965	4716	1913	6152		8.37	Si
SLV 6	fin.	101.77	-3351	0.75	0	2188	3965	4716	1913	6152		1.84	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.03	SLV 2	Si
V_SLV	1.528	SLV 2	Si
PF_SLU	5.545	SLU 81	Si
V_SLU	1.267	SLU 83	Si

Trave di accoppiamento 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	4.35	5.25	0.9	-3.113	-3.169	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	239.65	-1621	-0.0001232	0.0001872	0.0035	0.9		2959	2959	No	12.35	Si
SLU 83	fin.	326.99	-1794	-0.0001717	0.0001872	0.0035	0.9		2959	2959	No	9.05	Si
SLU 81	ini.	241.72	-1616	-0.0001243	0.0001872	0.0035	0.9		2959	2959	No	12.24	Si
SLU 81	fin.	320.93	-1774	-0.0001683	0.0001872	0.0035	0.9		2959	2959	No	9.22	Si
SLU 84	ini.	253.63	-1651	-0.0001308	0.0001872	0.0035	0.9		2959	2959	No	11.67	Si
SLU 84	fin.	316.91	-1781	-0.000166	0.0001872	0.0035	0.9		2959	2959	No	9.34	Si
SLU 82	ini.	255.7	-1646	-0.0001319	0.0001872	0.0035	0.9		2959	2959	No	11.57	Si
SLU 82	fin.	310.86	-1760	-0.0001626	0.0001872	0.0035	0.9		2959	2959	No	9.52	Si
SLU 77	ini.	247.86	-1617	-0.0001277	0.0001872	0.0035	0.9		2959	2959	No	11.94	Si
SLU 77	fin.	312.68	-1749	-0.0001636	0.0001872	0.0035	0.9		2959	2959	No	9.46	Si
SLU 74	ini.	249.94	-1611	-0.0001288	0.0001872	0.0035	0.9		2959	2959	No	11.84	Si
SLU 74	fin.	306.63	-1729	-0.0001602	0.0001872	0.0035	0.9		2959	2959	No	9.65	Si
SLU 41	ini.	174.36	-1325	-0.0000883	0.0001872	0.0035	0.9		2959	2959	No	16.97	Si
SLU 41	fin.	302.58	-1572	-0.0001579	0.0001872	0.0035	0.9		2959	2959	No	9.78	Si
SLU 78	ini.	261.84	-1646	-0.0001353	0.0001872	0.0035	0.9		2959	2959	No	11.3	Si
SLU 78	fin.	302.61	-1736	-0.0001579	0.0001872	0.0035	0.9		2959	2959	No	9.78	Si
SLU 79	ini.	246.01	-1599	-0.0001266	0.0001872	0.0035	0.9		2959	2959	No	12.03	Si
SLU 79	fin.	307.48	-1726	-0.0001607	0.0001872	0.0035	0.9		2959	2959	No	9.62	Si
SLU 44	ini.	299.24	-1463	-0.000156	0.0001872	0.0035	0.9		2959	2959	No	9.89	Si
SLU 44	fin.	158.28	-1213	-0.0000799	0.0001872	0.0035	0.9		2959	2959	No	18.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	253.63	-1083	0.9	0	1750	7137	3773	2295	6068	No	5.6	Si
SLU 84	fin.	316.91	1568	0.9	0	1750	7137	3773	2295	6068	No	3.87	Si
SLU 81	ini.	241.72	-1024	0.9	0	1750	7137	3773	2295	6068	No	5.93	Si
SLU 81	fin.	320.93	1567	0.9	0	1750	7137	3773	2295	6068	No	3.87	Si
SLU 74	ini.	249.94	-1068	0.9	0	1750	7137	3773	2295	6068	No	5.68	Si
SLU 74	fin.	306.63	1518	0.9	0	1750	7137	3773	2295	6068	No	4	Si
SLU 75	ini.	263.92	-1132	0.9	0	1750	7137	3773	2295	6068	No	5.36	Si
SLU 75	fin.	296.55	1488	0.9	0	1750	7137	3773	2295	6068	No	4.08	Si
SLU 79	ini.	246.01	-1051	0.9	0	1750	7137	3773	2295	6068	No	5.77	Si
SLU 79	fin.	307.48	1521	0.9	0	1750	7137	3773	2295	6068	No	3.99	Si
SLU 80	ini.	259.99	-1115	0.9	0	1750	7137	3773	2295	6068	No	5.44	Si
SLU 80	fin.	297.4	1490	0.9	0	1750	7137	3773	2295	6068	No	4.07	Si
SLU 83	ini.	239.65	-1020	0.9	0	1750	7137	3773	2295	6068	No	5.95	Si
SLU 83	fin.	326.99	1598	0.9	0	1750	7137	3773	2295	6068	No	3.8	Si
SLU 78	ini.	261.84	-1127	0.9	0	1750	7137	3773	2295	6068	No	5.38	Si
SLU 78	fin.	302.61	1519	0.9	0	1750	7137	3773	2295	6068	No	3.99	Si
SLU 77	ini.	247.86	-1064	0.9	0	1750	7137	3773	2295	6068	No	5.7	Si
SLU 77	fin.	312.68	1550	0.9	0	1750	7137	3773	2295	6068	No	3.92	Si
SLU 82	ini.	255.7	-1088	0.9	0	1750	7137	3773	2295	6068	No	5.58	Si
SLU 82	fin.	310.86	1536	0.9	0	1750	7137	3773	2295	6068	No	3.95	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1606.73	-3627	-0.0010911	0.0002807	0.0035	0.9		2989.59	2989.59		1.86	Si
SLV 2	fin.	-966.11	1095	-0.0005678	0.0002807	0.0035	0.9		2995.37	2995.37		3.1	Si
SLV 4	ini.	1148.56	-2565	-0.0007048	0.0002807	0.0035	0.9		2989.59	2989.59		2.6	Si
SLV 4	fin.	-709.3	841	-0.0003931	0.0002807	0.0035	0.9		2995.37	2995.37		4.22	Si
SLV 15	ini.	-1200.16	1292	-0.0007432	0.0002807	0.0035	0.9		2995.37	2995.37		2.5	Si
SLV 15	fin.	1336.18	-3378	-0.0008546	0.0002807	0.0035	0.9		2989.59	2989.59		2.24	Si
SLD 2	ini.	1097.14	-2732	-0.0006656	0.0002807	0.0035	0.9		2989.59	2989.59		2.72	Si
SLD 2	fin.	-550.03	287	-0.0002944	0.0002807	0.0035	0.9		2995.37	2995.37		5.45	Si
SLV 13	ini.	-741.98	230	-0.0004143	0.0002807	0.0035	0.9		2995.37	2995.37		4.04	Si
SLV 13	fin.	1079.37	-3124	-0.0006522	0.0002807	0.0035	0.9		2989.59	2989.59		2.77	Si
SLV 1	ini.	1309.24	-3092	-0.0008324	0.0002807	0.0035	0.9		2989.59	2989.59		2.28	Si
SLV 1	fin.	-721.91	633	-0.0004012	0.0002807	0.0035	0.9		2995.37	2995.37		4.15	Si
SLV 11	ini.	-968.16	1281	-0.0005692	0.0002807	0.0035	0.9		2995.37	2995.37		3.09	Si
SLV 11	fin.	965.44	-2284	-0.0005686	0.0002807	0.0035	0.9		2989.59	2989.59		3.1	Si
SLV 16	ini.	-902.66	757	-0.0005229	0.0002807	0.0035	0.9		2995.37	2995.37		3.32	Si
SLV 16	fin.	1091.98	-2917	-0.0006617	0.0002807	0.0035	0.9		2989.59	2989.59		2.74	Si
SLV 5	ini.	1174.45	-3256	-0.0007249	0.0002807	0.0035	0.9		2989.59	2989.59		2.55	Si
SLV 5	fin.	-430.96	-310	-0.0002253	0.0002807	0.0035	0.9		2995.37	2995.37		6.95	Si
SLV 6	ini.	1374.74	-3616	-0.0008868	0.0002807	0.0035	0.9		2989.59	2989.59		2.17	Si
SLV 6	fin.	-595.37	0	-0.0003217	0.0002807	0.0035	0.9		2995.37	2995.37		5.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-741.98	2638	0.9	0	2625	7137	5660	2295	7955		3.02	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	fin.	1079.37	5032	0.9	0	2625	7137	5660	2295	7955		1.58	Si
SLV 5	ini.	1174.45	-4852	0.9	0	2625	7137	5660	2295	7955		1.64	Si
SLV 5	fin.	-430.96	-1357	0.9	0	2625	7137	5660	2295	7955		5.86	Si
SLD 15	ini.	-690.56	2600	0.9	0	2625	7137	5660	2295	7955		3.06	Si
SLD 15	fin.	920.1	4104	0.9	0	2625	7137	5660	2295	7955		1.94	Si
SLV 1	ini.	1309.24	-5116	0.9	0	2625	7137	5660	2295	7955		1.55	Si
SLV 1	fin.	-721.91	-2991	0.9	0	2625	7137	5660	2295	7955		2.66	Si
SLV 15	ini.	-1200.16	4572	0.9	0	2625	7137	5660	2295	7955		1.74	Si
SLV 15	fin.	1336.18	5895	0.9	0	2625	7137	5660	2295	7955		1.35	Si
SLV 2	ini.	1606.73	-6295	0.9	0	2625	7137	5660	2295	7955		1.26	Si
SLV 2	fin.	-966.11	-4017	0.9	0	2625	7137	5660	2295	7955		1.98	Si
SLV 4	ini.	1148.56	-4361	0.9	0	2625	7137	5660	2295	7955		1.82	Si
SLV 4	fin.	-709.3	-3154	0.9	0	2625	7137	5660	2295	7955		2.52	Si
SLV 6	ini.	1374.74	-5645	0.9	0	2625	7137	5660	2295	7955		1.41	Si
SLV 6	fin.	-595.37	-2048	0.9	0	2625	7137	5660	2295	7955		3.88	Si
SLV 16	ini.	-902.66	3394	0.9	0	2625	7137	5660	2295	7955		2.34	Si
SLV 16	fin.	1091.98	4868	0.9	0	2625	7137	5660	2295	7955		1.63	Si
SLD 2	ini.	1097.14	-4323	0.9	0	2625	7137	5660	2295	7955		1.84	Si
SLD 2	fin.	-550.03	-2226	0.9	0	2625	7137	5660	2295	7955		3.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.861	SLV 2	Si
V_SLV	1.264	SLV 2	Si
PF_SLU	9.049	SLU 83	Si
V_SLU	3.797	SLU 83	Si

Trave di accoppiamento 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	7.05	7.9	0.85	-3.113	-3.169	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-75.03	-1184	-0.0000416	0.0001872	0.0035	0.85		2655.83	2655.83	No	35.4	Si
SLU 84	fin.	-386.61	-2208	-0.0002333	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.87	Si
SLU 65	ini.	17.14	-899	-0.0000094	0.0001872	0.0035	0.85		2650.49	2650.49	No	154.68	Si
SLU 65	fin.	-378.7	-2064	-0.0002279	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.01	Si
SLU 73	ini.	-37.77	-1080	-0.0000208	0.0001872	0.0035	0.85		2655.83	2655.83	No	70.31	Si
SLU 73	fin.	-387.92	-2176	-0.0002342	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.85	Si
SLU 77	ini.	-73.07	-1158	-0.0000405	0.0001872	0.0035	0.85		2655.83	2655.83	No	36.35	Si
SLU 77	fin.	-378.53	-2158	-0.0002278	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.02	Si
SLU 78	ini.	-59.23	-1141	-0.0000328	0.0001872	0.0035	0.85		2655.83	2655.83	No	44.84	Si
SLU 78	fin.	-387.17	-2193	-0.0002337	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.86	Si
SLU 75	ini.	-54.73	-1127	-0.0000302	0.0001872	0.0035	0.85		2655.83	2655.83	No	48.53	Si
SLU 75	fin.	-386.67	-2186	-0.0002333	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.87	Si
SLU 80	ini.	-56	-1121	-0.0000309	0.0001872	0.0035	0.85		2655.83	2655.83	No	47.43	Si
SLU 80	fin.	-383.16	-2167	-0.000231	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.93	Si
SLU 82	ini.	-70.53	-1169	-0.0000391	0.0001872	0.0035	0.85		2655.83	2655.83	No	37.65	Si
SLU 82	fin.	-386.11	-2200	-0.000233	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.88	Si
SLU 68	ini.	12.64	-914	-0.0000069	0.0001872	0.0035	0.85		2650.49	2650.49	No	209.72	Si
SLU 68	fin.	-379.2	-2071	-0.0002283	0.0001872	0.0035	0.85		2655.83	2655.83	No	7	Si
SLU 76	ini.	-42.27	-1095	-0.0000233	0.0001872	0.0035	0.85		2655.83	2655.83	No	62.83	Si
SLU 76	fin.	-388.42	-2183	-0.0002345	0.0001872	0.0035	0.85		2655.83	2655.83	No	6.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-42.27	783	0.85	0	1653	6740	3563	2168	5731	No	7.32	Si
SLU 76	fin.	-388.42	-3501	0.85	0	1653	6740	3563	2168	5731	No	1.64	Si
SLU 73	ini.	-37.77	765	0.85	0	1653	6740	3563	2168	5731	No	7.5	Si
SLU 73	fin.	-387.92	-3492	0.85	0	1653	6740	3563	2168	5731	No	1.64	Si
SLU 82	ini.	-70.53	904	0.85	0	1653	6740	3563	2168	5731	No	6.34	Si
SLU 82	fin.	-386.11	-3540	0.85	0	1653	6740	3563	2168	5731	No	1.62	Si
SLU 80	ini.	-56	830	0.85	0	1653	6740	3563	2168	5731	No	6.9	Si
SLU 80	fin.	-383.16	-3471	0.85	0	1653	6740	3563	2168	5731	No	1.65	Si
SLU 83	ini.	-88.87	966	0.85	0	1653	6740	3563	2168	5731	No	5.93	Si
SLU 83	fin.	-377.97	-3490	0.85	0	1653	6740	3563	2168	5731	No	1.64	Si
SLU 75	ini.	-54.73	830	0.85	0	1653	6740	3563	2168	5731	No	6.9	Si
SLU 75	fin.	-386.67	-3502	0.85	0	1653	6740	3563	2168	5731	No	1.64	Si
SLU 84	ini.	-75.03	922	0.85	0	1653	6740	3563	2168	5731	No	6.22	Si
SLU 84	fin.	-386.61	-3550	0.85	0	1653	6740	3563	2168	5731	No	1.61	Si
SLU 81	ini.	-84.37	948	0.85	0	1653	6740	3563	2168	5731	No	6.05	Si
SLU 81	fin.	-377.47	-3481	0.85	0	1653	6740	3563	2168	5731	No	1.65	Si
SLU 77	ini.	-73.07	892	0.85	0	1653	6740	3563	2168	5731	No	6.42	Si
SLU 77	fin.	-378.53	-3452	0.85	0	1653	6740	3563	2168	5731	No	1.66	Si
SLU 78	ini.	-59.23	848	0.85	0	1653	6740	3563	2168	5731	No	6.76	Si
SLU 78	fin.	-387.17	-3512	0.85	0	1653	6740	3563	2168	5731	No	1.63	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-947.41	-1648	-0.000636	0.0002807	0.0035	0.85		2680.73	2680.73		2.83	Si
SLV 12	fin.	399.71	1235	-0.0002349	0.0002807	0.0035	0.85		2675.27	2675.27		6.69	Si
SLV 16	ini.	-1102.28	-2116	-0.000769	0.0002807	0.0035	0.85		2680.73	2680.73		2.43	Si
SLV 16	fin.	404.47	1094	-0.000238	0.0002807	0.0035	0.85		2675.27	2675.27		6.61	Si
SLV 2	ini.	1390.03	1061	-0.0010437	0.0002807	0.0035	0.85		2675.27	2675.27		1.92	Si
SLV 2	fin.	-1149.32	-4896	-0.0008111	0.0002807	0.0035	0.85		2680.73	2680.73		2.33	Si
SLV 1	ini.	1082.69	672	-0.0007536	0.0002807	0.0035	0.85		2675.27	2675.27		2.47	Si
SLV 1	fin.	-959.54	-4161	-0.0006461	0.0002807	0.0035	0.85		2680.73	2680.73		2.79	Si
SLV 15	ini.	-1409.61	-2505	-0.0010608	0.0002807	0.0035	0.85		2680.73	2680.73		1.9	Si
SLV 15	fin.	594.25	1829	-0.0003655	0.0002807	0.0035	0.85		2675.27	2675.27		4.5	Si
SLV 6	ini.	1134.75	466	-0.0008	0.0002807	0.0035	0.85		2675.27	2675.27		2.36	Si
SLV 6	fin.	-1082.55	-4797	-0.0007516	0.0002807	0.0035	0.85		2680.73	2680.73		2.48	Si
SLV 4	ini.	950.09	678	-0.0006398	0.0002807	0.0035	0.85		2675.27	2675.27		2.82	Si
SLV 4	fin.	-814.33	-3500	-0.0005286	0.0002807	0.0035	0.85		2680.73	2680.73		3.29	Si
SLV 11	ini.	-1154.33	-1910	-0.0008157	0.0002807	0.0035	0.85		2680.73	2680.73		2.32	Si
SLV 11	fin.	527.48	1730	-0.0003191	0.0002807	0.0035	0.85		2675.27	2675.27		5.07	Si
SLV 13	ini.	-969.68	-2122	-0.0006546	0.0002807	0.0035	0.85		2680.73	2680.73		2.76	Si
SLV 13	fin.	259.26	432	-0.0001482	0.0002807	0.0035	0.85		2675.27	2675.27		10.32	Si
SLV 5	ini.	927.83	204	-0.0006213	0.0002807	0.0035	0.85		2675.27	2675.27		2.88	Si
SLV 5	fin.	-954.78	-4303	-0.0006421	0.0002807	0.0035	0.85		2680.73	2680.73		2.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1390.03	-4427	0.85	0	2479	6740	5345	2168	7513		1.7	Si
SLV 2	fin.	-1149.32	-7536	0.85	0	2479	6740	5345	2168	7513		1	No
SLD 5	ini.	578.85	-1541	0.85	0	2479	6740	5345	2168	7513		4.87	Si
SLD 5	fin.	-701.95	-5025	0.85	0	2479	6740	5345	2168	7513		1.49	Si
SLV 10	ini.	519.04	-1285	0.85	0	2479	6740	5345	2168	7513		5.85	Si
SLV 10	fin.	-716.91	-5208	0.85	0	2479	6740	5345	2168	7513		1.44	Si
SLD 6	ini.	709.02	-1993	0.85	0	2479	6740	5345	2168	7513		3.77	Si
SLD 6	fin.	-782.32	-5494	0.85	0	2479	6740	5345	2168	7513		1.37	Si
SLV 4	ini.	950.09	-2940	0.85	0	2479	6740	5345	2168	7513		2.56	Si
SLV 4	fin.	-814.33	-5467	0.85	0	2479	6740	5345	2168	7513		1.37	Si
SLV 6	ini.	1134.75	-3455	0.85	0	2479	6740	5345	2168	7513		2.17	Si
SLV 6	fin.	-1082.55	-7314	0.85	0	2479	6740	5345	2168	7513		1.03	Si
SLV 1	ini.	1082.69	-3360	0.85	0	2479	6740	5345	2168	7513		2.24	Si
SLV 1	fin.	-959.54	-6430	0.85	0	2479	6740	5345	2168	7513		1.17	Si
SLV 5	ini.	927.83	-2737	0.85	0	2479	6740	5345	2168	7513		2.75	Si
SLV 5	fin.	-954.78	-6569	0.85	0	2479	6740	5345	2168	7513		1.14	Si
SLV 15	ini.	-1409.61	5362	0.85	0	2479	6740	5345	2168	7513		1.4	Si
SLV 15	fin.	594.25	2658	0.85	0	2479	6740	5345	2168	7513		2.83	Si
SLD 2	ini.	881.77	-2649	0.85	0	2479	6740	5345	2168	7513		2.84	Si
SLD 2	fin.	-832.26	-5678	0.85	0	2479	6740	5345	2168	7513		1.32	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.902	SLV 15	Si
V_SLV	0.997	SLV 2	No
PF_SLU	6.838	SLU 76	Si
V_SLU	1.614	SLU 84	Si

Trave di accoppiamento 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	4.35	5.25	0.9	-2.853	5.951	4.35	5.25	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	374.24	-1857	-0.000199	0.0001872	0.0035	0.9		2959	2959	No	7.91	Si
SLU 69	fin.	-35.31	-748	-0.0000174	0.0001872	0.0035	0.9		2964.67	2964.67	No	83.95	Si
SLU 66	ini.	369.37	-1818	-0.0001962	0.0001872	0.0035	0.9		2959	2959	No	8.01	Si
SLU 66	fin.	-42.66	-675	-0.000021	0.0001872	0.0035	0.9		2964.67	2964.67	No	69.49	Si
SLU 78	ini.	369.04	-1855	-0.000196	0.0001872	0.0035	0.9		2959	2959	No	8.02	Si
SLU 78	fin.	-13.18	-856	-0.0000065	0.0001872	0.0035	0.9		2964.67	2964.67	No	224.89	Si
SLU 70	ini.	367.05	-1827	-0.0001948	0.0001872	0.0035	0.9		2959	2959	No	8.06	Si
SLU 70	fin.	-30.77	-758	-0.0000151	0.0001872	0.0035	0.9		2964.67	2964.67	No	96.34	Si
SLU 74	ini.	371.36	-1846	-0.0001973	0.0001872	0.0035	0.9		2959	2959	No	7.97	Si
SLU 74	fin.	-25.07	-773	-0.0000123	0.0001872	0.0035	0.9		2964.67	2964.67	No	118.25	Si
SLU 71	ini.	372.59	-1845	-0.0001981	0.0001872	0.0035	0.9		2959	2959	No	7.94	Si
SLU 71	fin.	-35.18	-739	-0.0000173	0.0001872	0.0035	0.9		2964.67	2964.67	No	84.27	Si
SLU 83	ini.	370.57	-1846	-0.0001969	0.0001872	0.0035	0.9		2959	2959	No	7.99	Si
SLU 83	fin.	-17.4	-806	-0.0000085	0.0001872	0.0035	0.9		2964.67	2964.67	No	170.38	Si
SLU 77	ini.	376.23	-1885	-0.0002002	0.0001872	0.0035	0.9		2959	2959	No	7.86	Si
SLU 77	fin.	-17.72	-846	-0.0000087	0.0001872	0.0035	0.9		2964.67	2964.67	No	167.27	Si
SLU 79	ini.	374.58	-1873	-0.0001992	0.0001872	0.0035	0.9		2959	2959	No	7.9	Si
SLU 79	fin.	-17.59	-837	-0.0000086	0.0001872	0.0035	0.9		2964.67	2964.67	No	168.54	Si
SLU 80	ini.	367.39	-1844	-0.000195	0.0001872	0.0035	0.9		2959	2959	No	8.05	Si
SLU 80	fin.	-13.05	-847	-0.0000064	0.0001872	0.0035	0.9		2964.67	2964.67	No	227.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	374.24	-3086	0.9	0	1750	7137	3773	2295	6068	No	1.97	Si
SLU 69	fin.	-35.31	1855	0.9	0	1750	7137	3773	2295	6068	No	3.27	Si
SLU 74	ini.	371.36	-3054	0.9	0	1750	7137	3773	2295	6068	No	1.99	Si
SLU 74	fin.	-25.07	1899	0.9	0	1750	7137	3773	2295	6068	No	3.2	Si
SLU 83	ini.	370.57	-3038	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 83	fin.	-17.4	1944	0.9	0	1750	7137	3773	2295	6068	No	3.12	Si
SLU 80	ini.	367.39	-3035	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 80	fin.	-13.05	2007	0.9	0	1750	7137	3773	2295	6068	No	3.02	Si
SLU 77	ini.	376.23	-3114	0.9	0	1750	7137	3773	2295	6068	No	1.95	Si
SLU 77	fin.	-17.72	2028	0.9	0	1750	7137	3773	2295	6068	No	2.99	Si
SLU 71	ini.	372.59	-3057	0.9	0	1750	7137	3773	2295	6068	No	1.98	Si
SLU 71	fin.	-35.18	1825	0.9	0	1750	7137	3773	2295	6068	No	3.32	Si
SLU 70	ini.	367.05	-3035	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 70	fin.	-30.77	1863	0.9	0	1750	7137	3773	2295	6068	No	3.26	Si
SLU 79	ini.	374.58	-3085	0.9	0	1750	7137	3773	2295	6068	No	1.97	Si
SLU 79	fin.	-17.59	1999	0.9	0	1750	7137	3773	2295	6068	No	3.04	Si
SLU 78	ini.	369.04	-3063	0.9	0	1750	7137	3773	2295	6068	No	1.98	Si
SLU 78	fin.	-13.18	2036	0.9	0	1750	7137	3773	2295	6068	No	2.98	Si
SLU 66	ini.	369.37	-3026	0.9	0	1750	7137	3773	2295	6068	No	2.01	Si
SLU 66	fin.	-42.66	1725	0.9	0	1750	7137	3773	2295	6068	No	3.52	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	781.91	-2854	-0.0004415	0.0002807	0.0035	0.9		2989.59	2989.59		3.82	Si
SLV 1	fin.	-450.95	1794	-0.0002367	0.0002807	0.0035	0.9		2995.37	2995.37		6.64	Si
SLV 4	ini.	879.86	-3473	-0.0005081	0.0002807	0.0035	0.9		2989.59	2989.59		3.4	Si
SLV 4	fin.	-444.41	1375	-0.0002329	0.0002807	0.0035	0.9		2995.37	2995.37		6.74	Si
SLD 8	ini.	649.17	-2918	-0.0003557	0.0002807	0.0035	0.9		2989.59	2989.59		4.61	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	fin.	-232.58	16	-0.0001175	0.0002807	0.0035	0.9		2995.37	2995.37		12.88	Si
SLV 3	ini.	1079.46	-4179	-0.0006523	0.0002807	0.0035	0.9		2989.59	2989.59		2.77	Si
SLV 3	fin.	-592.23	1998	-0.0003198	0.0002807	0.0035	0.9		2995.37	2995.37		5.06	Si
SLD 7	ini.	733.71	-3217	-0.0004097	0.0002807	0.0035	0.9		2989.59	2989.59		4.07	Si
SLD 7	fin.	-295.19	280	-0.0001507	0.0002807	0.0035	0.9		2995.37	2995.37		10.15	Si
SLD 3	ini.	787.27	-3145	-0.0004451	0.0002807	0.0035	0.9		2989.59	2989.59		3.8	Si
SLD 3	fin.	-391.12	1112	-0.000203	0.0002807	0.0035	0.9		2995.37	2995.37		7.66	Si
SLV 8	ini.	870.91	-3859	-0.0005019	0.0002807	0.0035	0.9		2989.59	2989.59		3.43	Si
SLV 8	fin.	-346.1	292	-0.0001782	0.0002807	0.0035	0.9		2995.37	2995.37		8.65	Si
SLD 4	ini.	659.74	-2693	-0.0003623	0.0002807	0.0035	0.9		2989.59	2989.59		4.53	Si
SLD 4	fin.	-296.68	713	-0.0001515	0.0002807	0.0035	0.9		2995.37	2995.37		10.1	Si
SLV 11	ini.	672.12	-3241	-0.0003701	0.0002807	0.0035	0.9		2989.59	2989.59		4.45	Si
SLV 11	fin.	-199.37	-507	-0.0001002	0.0002807	0.0035	0.9		2995.37	2995.37		15.02	Si
SLV 7	ini.	1005.3	-4335	-0.0005974	0.0002807	0.0035	0.9		2989.59	2989.59		2.97	Si
SLV 7	fin.	-445.62	713	-0.0002336	0.0002807	0.0035	0.9		2995.37	2995.37		6.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1079.46	-6693	0.9	0	2625	7137	5660	2295	7955		1.19	Si
SLV 3	fin.	-592.23	-2453	0.9	0	2625	7137	5660	2295	7955		3.24	Si
SLD 8	ini.	649.17	-4820	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLD 8	fin.	-232.58	884	0.9	0	2625	7137	5660	2295	7955		9	Si
SLD 3	ini.	787.27	-5064	0.9	0	2625	7137	5660	2295	7955		1.57	Si
SLD 3	fin.	-391.12	-1145	0.9	0	2625	7137	5660	2295	7955		6.95	Si
SLV 8	ini.	870.91	-6368	0.9	0	2625	7137	5660	2295	7955		1.25	Si
SLV 8	fin.	-346.1	743	0.9	0	2625	7137	5660	2295	7955		10.7	Si
SLD 7	ini.	733.71	-5315	0.9	0	2625	7137	5660	2295	7955		1.5	Si
SLD 7	fin.	-295.19	508	0.9	0	2625	7137	5660	2295	7955		15.65	Si
SLV 14	ini.	-528.29	2240	0.9	0	2625	7137	5660	2295	7955		3.55	Si
SLV 14	fin.	517.69	4829	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 16	ini.	-230.73	17	0.9	0	2625	7137	5660	2295	7955		455.57	Si
SLV 16	fin.	376.41	4972	0.9	0	2625	7137	5660	2295	7955		1.6	Si
SLV 4	ini.	879.86	-5524	0.9	0	2625	7137	5660	2295	7955		1.44	Si
SLV 4	fin.	-444.41	-1566	0.9	0	2625	7137	5660	2295	7955		5.08	Si
SLV 11	ini.	672.12	-5492	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 11	fin.	-199.37	2107	0.9	0	2625	7137	5660	2295	7955		3.78	Si
SLV 7	ini.	1005.3	-7155	0.9	0	2625	7137	5660	2295	7955		1.11	Si
SLV 7	fin.	-445.62	146	0.9	0	2625	7137	5660	2295	7955		54.62	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.77	SLV 3	Si
V_SLV	1.112	SLV 7	Si
PF_SLU	7.865	SLU 77	Si
V_SLU	1.949	SLU 77	Si

Trave di accoppiamento 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	7.05	7.9	0.85	-2.853	5.951	7.05	7.9	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	21.13	-425	-0.0000116	0.0001872	0.0035	0.85		2650.49	2650.49	No	125.42	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	fin.	-190.82	-2065	-0.0001088	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.92	Si
SLU 70	ini.	-3.85	-608	-0.0000021	0.0001872	0.0035	0.85		2655.83	2655.83	No	690.24	Si
SLU 70	fin.	-192.02	-2268	-0.0001096	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.83	Si
SLU 71	ini.	2.31	-580	-0.0000013	0.0001872	0.0035	0.85		2650.49	2650.49	No	1147.33	Si
SLU 71	fin.	-197.07	-2284	-0.0001126	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.48	Si
SLU 72	ini.	-2.35	-596	-0.0000013	0.0001872	0.0035	0.85		2655.83	2655.83	No	1130.59	Si
SLU 72	fin.	-191.83	-2255	-0.0001094	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.84	Si
SLU 69	ini.	0.81	-591	-0.0000004	0.0001872	0.0035	0.85		2650.49	2650.49	No	3266.04	Si
SLU 69	fin.	-197.26	-2297	-0.0001127	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.46	Si
SLU 51	ini.	22.63	-414	-0.0000124	0.0001872	0.0035	0.85		2650.49	2650.49	No	117.12	Si
SLU 51	fin.	-190.63	-2052	-0.0001087	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.93	Si
SLU 50	ini.	27.29	-397	-0.000015	0.0001872	0.0035	0.85		2650.49	2650.49	No	97.12	Si
SLU 50	fin.	-195.87	-2081	-0.0001119	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.56	Si
SLU 48	ini.	25.79	-408	-0.0000142	0.0001872	0.0035	0.85		2650.49	2650.49	No	102.77	Si
SLU 48	fin.	-196.06	-2094	-0.000112	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.55	Si
SLU 66	ini.	10.27	-535	-0.0000056	0.0001872	0.0035	0.85		2650.49	2650.49	No	257.99	Si
SLU 66	fin.	-193.64	-2235	-0.0001105	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.72	Si
SLU 45	ini.	35.25	-352	-0.0000194	0.0001872	0.0035	0.85		2650.49	2650.49	No	75.18	Si
SLU 45	fin.	-192.43	-2032	-0.0001098	0.0001872	0.0035	0.85		2655.83	2655.83	No	13.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-12.06	1820	0.85	0	1653	6740	3563	2168	5731	No	3.15	Si
SLU 74	fin.	-183.21	-4767	0.85	0	1653	6740	3563	2168	5731	No	1.2	Si
SLU 78	ini.	-26.18	1934	0.85	0	1653	6740	3563	2168	5731	No	2.96	Si
SLU 78	fin.	-181.59	-4834	0.85	0	1653	6740	3563	2168	5731	No	1.19	Si
SLU 75	ini.	-16.71	1848	0.85	0	1653	6740	3563	2168	5731	No	3.1	Si
SLU 75	fin.	-177.97	-4722	0.85	0	1653	6740	3563	2168	5731	No	1.21	Si
SLU 81	ini.	-10.66	1855	0.85	0	1653	6740	3563	2168	5731	No	3.09	Si
SLU 81	fin.	-174.93	-4750	0.85	0	1653	6740	3563	2168	5731	No	1.21	Si
SLU 84	ini.	-24.79	1969	0.85	0	1653	6740	3563	2168	5731	No	2.91	Si
SLU 84	fin.	-173.31	-4817	0.85	0	1653	6740	3563	2168	5731	No	1.19	Si
SLU 82	ini.	-15.32	1883	0.85	0	1653	6740	3563	2168	5731	No	3.04	Si
SLU 82	fin.	-169.68	-4706	0.85	0	1653	6740	3563	2168	5731	No	1.22	Si
SLU 77	ini.	-21.52	1906	0.85	0	1653	6740	3563	2168	5731	No	3.01	Si
SLU 77	fin.	-186.84	-4878	0.85	0	1653	6740	3563	2168	5731	No	1.17	Si
SLU 83	ini.	-20.13	1941	0.85	0	1653	6740	3563	2168	5731	No	2.95	Si
SLU 83	fin.	-178.55	-4862	0.85	0	1653	6740	3563	2168	5731	No	1.18	Si
SLU 79	ini.	-20.02	1880	0.85	0	1653	6740	3563	2168	5731	No	3.05	Si
SLU 79	fin.	-186.65	-4843	0.85	0	1653	6740	3563	2168	5731	No	1.18	Si
SLU 80	ini.	-24.68	1907	0.85	0	1653	6740	3563	2168	5731	No	3.01	Si
SLU 80	fin.	-181.4	-4798	0.85	0	1653	6740	3563	2168	5731	No	1.19	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	450.72	1119	-0.0002679	0.0002807	0.0035	0.85		2675.27	2675.27		5.94	Si
SLV 4	fin.	-575.49	-3989	-0.0003515	0.0002807	0.0035	0.85		2680.73	2680.73		4.66	Si
SLV 7	ini.	481.23	1152	-0.000288	0.0002807	0.0035	0.85		2675.27	2675.27		5.56	Si
SLV 7	fin.	-693.68	-4806	-0.0004366	0.0002807	0.0035	0.85		2680.73	2680.73		3.86	Si
SLV 1	ini.	444.66	1190	-0.0002639	0.0002807	0.0035	0.85		2675.27	2675.27		6.02	Si
SLV 1	fin.	-493.52	-3451	-0.0002955	0.0002807	0.0035	0.85		2680.73	2680.73		5.43	Si
SLV 3	ini.	613.46	1707	-0.0003791	0.0002807	0.0035	0.85		2675.27	2675.27		4.36	Si
SLV 3	fin.	-723.64	-4809	-0.0004589	0.0002807	0.0035	0.85		2680.73	2680.73		3.7	Si
SLV 8	ini.	371.66	756	-0.0002172	0.0002807	0.0035	0.85		2675.27	2675.27		7.2	Si
SLV 8	fin.	-593.94	-4253	-0.0003644	0.0002807	0.0035	0.85		2680.73	2680.73		4.51	Si
SLD 7	ini.	307.22	591	-0.0001772	0.0002807	0.0035	0.85		2675.27	2675.27		8.71	Si
SLD 7	fin.	-488.28	-3625	-0.000292	0.0002807	0.0035	0.85		2680.73	2680.73		5.49	Si
SLD 3	ini.	395.96	956	-0.0002326	0.0002807	0.0035	0.85		2675.27	2675.27		6.76	Si
SLD 3	fin.	-512.28	-3656	-0.0003081	0.0002807	0.0035	0.85		2680.73	2680.73		5.23	Si
SLV 10	ini.	-450.34	-1875	-0.0002671	0.0002807	0.0035	0.85		2680.73	2680.73		5.95	Si
SLV 10	fin.	408.14	1521	-0.0002403	0.0002807	0.0035	0.85		2675.27	2675.27		6.55	Si
SLV 11	ini.	221.88	242	-0.000126	0.0002807	0.0035	0.85		2675.27	2675.27		12.06	Si
SLV 11	fin.	-458.64	-3559	-0.0002725	0.0002807	0.0035	0.85		2680.73	2680.73		5.84	Si
SLV 14	ini.	-582.57	-2430	-0.0003564	0.0002807	0.0035	0.85		2680.73	2680.73		4.6	Si
SLV 14	fin.	438.09	1525	-0.0002596	0.0002807	0.0035	0.85		2675.27	2675.27		6.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	221.88	-96	0.85	0	2479	6740	5345	2168	7513		78.33	Si
SLV 11	fin.	-458.64	-6189	0.85	0	2479	6740	5345	2168	7513		1.21	Si
SLV 1	ini.	444.66	-1603	0.85	0	2479	6740	5345	2168	7513		4.69	Si
SLV 1	fin.	-493.52	-5690	0.85	0	2479	6740	5345	2168	7513		1.32	Si
SLV 3	ini.	613.46	-2580	0.85	0	2479	6740	5345	2168	7513		2.91	Si
SLV 3	fin.	-723.64	-7694	0.85	0	2479	6740	5345	2168	7513		0.98	No
SLD 3	ini.	395.96	-1255	0.85	0	2479	6740	5345	2168	7513		5.99	Si
SLD 3	fin.	-512.28	-6090	0.85	0	2479	6740	5345	2168	7513		1.23	Si
SLV 12	ini.	112.31	552	0.85	0	2479	6740	5345	2168	7513		13.6	Si
SLV 12	fin.	-358.9	-5395	0.85	0	2479	6740	5345	2168	7513		1.39	Si
SLV 8	ini.	371.66	-1048	0.85	0	2479	6740	5345	2168	7513		7.17	Si
SLV 8	fin.	-593.94	-7080	0.85	0	2479	6740	5345	2168	7513		1.06	Si
SLD 8	ini.	238.29	-251	0.85	0	2479	6740	5345	2168	7513		29.98	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	fin.	-425.53	-5665	0.85	0	2479	6740	5345	2168	7513		1.33	Si
SLV 7	ini.	481.23	-1696	0.85	0	2479	6740	5345	2168	7513		4.43	Si
SLV 7	fin.	-693.68	-7874	0.85	0	2479	6740	5345	2168	7513		0.95	No
SLV 4	ini.	450.72	-1617	0.85	0	2479	6740	5345	2168	7513		4.65	Si
SLV 4	fin.	-575.49	-6514	0.85	0	2479	6740	5345	2168	7513		1.15	Si
SLD 7	ini.	307.22	-658	0.85	0	2479	6740	5345	2168	7513		11.41	Si
SLD 7	fin.	-488.28	-6164	0.85	0	2479	6740	5345	2168	7513		1.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.705	SLV 3	Si
V_SLV	0.954	SLV 7	No
PF_SLU	13.464	SLU 69	Si
V_SLU	1.175	SLU 77	Si

Trave di accoppiamento 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	7.9	8.8	0.9	-22.778	5.951	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	66.09	-938	-0.0000327	0.0001872	0.0035	0.9		2959	2959	No	44.78	Si
SLU 70	fin.	183.82	-1107	-0.0000933	0.0001872	0.0035	0.9		2959	2959	No	16.1	Si
SLU 43	ini.	24.79	-668	-0.0000122	0.0001872	0.0035	0.9		2959	2959	No	119.36	Si
SLU 43	fin.	185.7	-1047	-0.0000943	0.0001872	0.0035	0.9		2959	2959	No	15.93	Si
SLU 50	ini.	27.89	-709	-0.0000137	0.0001872	0.0035	0.9		2959	2959	No	106.11	Si
SLU 50	fin.	187.17	-1082	-0.0000951	0.0001872	0.0035	0.9		2959	2959	No	15.81	Si
SLU 77	ini.	89.31	-1058	-0.0000444	0.0001872	0.0035	0.9		2959	2959	No	33.13	Si
SLU 77	fin.	184.03	-1113	-0.0000934	0.0001872	0.0035	0.9		2959	2959	No	16.08	Si
SLU 71	ini.	57.78	-892	-0.0000286	0.0001872	0.0035	0.9		2959	2959	No	51.21	Si
SLU 71	fin.	188.62	-1119	-0.0000958	0.0001872	0.0035	0.9		2959	2959	No	15.69	Si
SLU 48	ini.	30.83	-736	-0.0000152	0.0001872	0.0035	0.9		2959	2959	No	95.97	Si
SLU 48	fin.	187.92	-1093	-0.0000955	0.0001872	0.0035	0.9		2959	2959	No	15.75	Si
SLU 69	ini.	60.72	-919	-0.0000301	0.0001872	0.0035	0.9		2959	2959	No	48.73	Si
SLU 69	fin.	189.37	-1130	-0.0000962	0.0001872	0.0035	0.9		2959	2959	No	15.63	Si
SLU 45	ini.	29.29	-715	-0.0000144	0.0001872	0.0035	0.9		2959	2959	No	101.04	Si
SLU 45	fin.	187.19	-1075	-0.0000951	0.0001872	0.0035	0.9		2959	2959	No	15.81	Si
SLU 64	ini.	54.68	-851	-0.000027	0.0001872	0.0035	0.9		2959	2959	No	54.11	Si
SLU 64	fin.	187.15	-1084	-0.0000951	0.0001872	0.0035	0.9		2959	2959	No	15.81	Si
SLU 66	ini.	59.18	-898	-0.0000293	0.0001872	0.0035	0.9		2959	2959	No	50	Si
SLU 66	fin.	188.63	-1113	-0.0000958	0.0001872	0.0035	0.9		2959	2959	No	15.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	89.31	-1762	0.9	0	1750	7137	3773	2295	6068	No	3.44	Si
SLU 77	fin.	184.03	1581	0.9	0	1750	7137	3773	2295	6068	No	3.84	Si
SLU 76	ini.	93.76	-1680	0.9	0	1750	7137	3773	2295	6068	No	3.61	Si
SLU 76	fin.	173.31	1436	0.9	0	1750	7137	3773	2295	6068	No	4.23	Si
SLU 69	ini.	60.72	-1605	0.9	0	1750	7137	3773	2295	6068	No	3.78	Si
SLU 69	fin.	189.37	1685	0.9	0	1750	7137	3773	2295	6068	No	3.6	Si
SLU 79	ini.	86.37	-1710	0.9	0	1750	7137	3773	2295	6068	No	3.55	Si
SLU 79	fin.	183.29	1558	0.9	0	1750	7137	3773	2295	6068	No	3.89	Si
SLU 75	ini.	93.13	-1718	0.9	0	1750	7137	3773	2295	6068	No	3.53	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	fin.	177.76	1485	0.9	0	1750	7137	3773	2295	6068	No	4.09	Si
SLU 80	ini.	91.73	-1731	0.9	0	1750	7137	3773	2295	6068	No	3.5	Si
SLU 80	fin.	177.74	1519	0.9	0	1750	7137	3773	2295	6068	No	4	Si
SLU 84	ini.	102.43	-1733	0.9	0	1750	7137	3773	2295	6068	No	3.5	Si
SLU 84	fin.	174.72	1417	0.9	0	1750	7137	3773	2295	6068	No	4.28	Si
SLU 83	ini.	97.07	-1712	0.9	0	1750	7137	3773	2295	6068	No	3.55	Si
SLU 83	fin.	180.27	1457	0.9	0	1750	7137	3773	2295	6068	No	4.17	Si
SLU 78	ini.	94.68	-1784	0.9	0	1750	7137	3773	2295	6068	No	3.4	Si
SLU 78	fin.	178.49	1541	0.9	0	1750	7137	3773	2295	6068	No	3.94	Si
SLU 74	ini.	87.77	-1697	0.9	0	1750	7137	3773	2295	6068	No	3.58	Si
SLU 74	fin.	183.3	1524	0.9	0	1750	7137	3773	2295	6068	No	3.98	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	563.13	-2481	-0.0003028	0.0002807	0.0035	0.9		2989.59	2989.59		5.31	Si
SLV 5	fin.	-434.39	1604	-0.0002273	0.0002807	0.0035	0.9		2995.37	2995.37		6.9	Si
SLV 16	ini.	-414.61	1112	-0.0002161	0.0002807	0.0035	0.9		2995.37	2995.37		7.22	Si
SLV 16	fin.	694.81	-3019	-0.0003846	0.0002807	0.0035	0.9		2989.59	2989.59		4.3	Si
SLV 6	ini.	474.6	-2153	-0.0002507	0.0002807	0.0035	0.9		2989.59	2989.59		6.3	Si
SLV 6	fin.	-324.59	1178	-0.0001665	0.0002807	0.0035	0.9		2995.37	2995.37		9.23	Si
SLV 1	ini.	501.94	-2421	-0.0002666	0.0002807	0.0035	0.9		2989.59	2989.59		5.96	Si
SLV 1	fin.	-410.57	1377	-0.0002139	0.0002807	0.0035	0.9		2995.37	2995.37		7.3	Si
SLV 12	ini.	-475.81	1173	-0.0002509	0.0002807	0.0035	0.9		2995.37	2995.37		6.3	Si
SLV 12	fin.	718.63	-3246	-0.0004	0.0002807	0.0035	0.9		2989.59	2989.59		4.16	Si
SLV 15	ini.	-283.12	626	-0.0001443	0.0002807	0.0035	0.9		2995.37	2995.37		10.58	Si
SLV 15	fin.	531.72	-2386	-0.0002841	0.0002807	0.0035	0.9		2989.59	2989.59		5.62	Si
SLD 16	ini.	-246.43	466	-0.0001248	0.0002807	0.0035	0.9		2995.37	2995.37		12.15	Si
SLD 16	fin.	492.29	-2213	-0.0002609	0.0002807	0.0035	0.9		2989.59	2989.59		6.07	Si
SLD 12	ini.	-281.05	489	-0.0001432	0.0002807	0.0035	0.9		2995.37	2995.37		10.66	Si
SLD 12	fin.	502.93	-2337	-0.0002671	0.0002807	0.0035	0.9		2989.59	2989.59		5.94	Si
SLV 8	ini.	-310.99	497	-0.0001592	0.0002807	0.0035	0.9		2995.37	2995.37		9.63	Si
SLV 8	fin.	511.16	-2443	-0.000272	0.0002807	0.0035	0.9		2989.59	2989.59		5.85	Si
SLV 11	ini.	-387.28	845	-0.0002009	0.0002807	0.0035	0.9		2995.37	2995.37		7.73	Si
SLV 11	fin.	608.83	-2820	-0.0003306	0.0002807	0.0035	0.9		2989.59	2989.59		4.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-222.46	-489	0.9	0	2625	7137	5660	2295	7955		16.26	Si
SLV 7	fin.	401.36	3469	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 1	ini.	501.94	-3723	0.9	0	2625	7137	5660	2295	7955		2.14	Si
SLV 1	fin.	-410.57	-2217	0.9	0	2625	7137	5660	2295	7955		3.59	Si
SLD 12	ini.	-281.05	302	0.9	0	2625	7137	5660	2295	7955		26.37	Si
SLD 12	fin.	502.93	3730	0.9	0	2625	7137	5660	2295	7955		2.13	Si
SLV 11	ini.	-387.28	620	0.9	0	2625	7137	5660	2295	7955		12.82	Si
SLV 11	fin.	608.83	4632	0.9	0	2625	7137	5660	2295	7955		1.72	Si
SLD 16	ini.	-246.43	596	0.9	0	2625	7137	5660	2295	7955		13.35	Si
SLD 16	fin.	492.29	3296	0.9	0	2625	7137	5660	2295	7955		2.41	Si
SLV 12	ini.	-475.81	1126	0.9	0	2625	7137	5660	2295	7955		7.07	Si
SLV 12	fin.	718.63	5272	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLV 16	ini.	-414.61	1564	0.9	0	2625	7137	5660	2295	7955		5.08	Si
SLV 16	fin.	694.81	4536	0.9	0	2625	7137	5660	2295	7955		1.75	Si
SLV 8	ini.	-310.99	16	0.9	0	2625	7137	5660	2295	7955		500.75	Si
SLV 8	fin.	511.16	4110	0.9	0	2625	7137	5660	2295	7955		1.94	Si
SLV 15	ini.	-283.12	814	0.9	0	2625	7137	5660	2295	7955		9.77	Si
SLV 15	fin.	531.72	3585	0.9	0	2625	7137	5660	2295	7955		2.22	Si
SLD 11	ini.	-225.36	-16	0.9	0	2625	7137	5660	2295	7955		492.62	Si
SLD 11	fin.	433.86	3327	0.9	0	2625	7137	5660	2295	7955		2.39	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.16	SLV 12	Si
V_SLV	1.509	SLV 12	Si
PF_SLU	15.626	SLU 69	Si
V_SLU	3.402	SLU 78	Si

Trave di accoppiamento 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	10.6	11.45	0.85	-22.778	5.951	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-86.02	-830	-0.0000479	0.0001872	0.0035	0.85		2655.83	2655.83	No	30.87	Si
SLU 49	fin.	-24.33	-382	-0.0000134	0.0001872	0.0035	0.85		2655.83	2655.83	No	109.14	Si
SLU 47	ini.	-84.34	-794	-0.0000469	0.0001872	0.0035	0.85		2655.83	2655.83	No	31.49	Si
SLU 47	fin.	-20.17	-345	-0.0000111	0.0001872	0.0035	0.85		2655.83	2655.83	No	131.68	Si
SLU 43	ini.	-91.53	-814	-0.000051	0.0001872	0.0035	0.85		2655.83	2655.83	No	29.02	Si
SLU 43	fin.	-9.49	-285	-0.0000052	0.0001872	0.0035	0.85		2655.83	2655.83	No	279.85	Si
SLU 46	ini.	-86.08	-818	-0.0000479	0.0001872	0.0035	0.85		2655.83	2655.83	No	30.85	Si
SLU 46	fin.	-21.57	-356	-0.0000118	0.0001872	0.0035	0.85		2655.83	2655.83	No	123.13	Si
SLU 50	ini.	-91.41	-839	-0.0000509	0.0001872	0.0035	0.85		2655.83	2655.83	No	29.05	Si
SLU 50	fin.	-15.02	-336	-0.0000082	0.0001872	0.0035	0.85		2655.83	2655.83	No	176.8	Si
SLU 42	ini.	-37.41	-720	-0.0000206	0.0001872	0.0035	0.85		2655.83	2655.83	No	70.99	Si
SLU 42	fin.	-83.91	-697	-0.0000467	0.0001872	0.0035	0.85		2655.83	2655.83	No	31.65	Si
SLU 51	ini.	-87.13	-819	-0.0000485	0.0001872	0.0035	0.85		2655.83	2655.83	No	30.48	Si
SLU 51	fin.	-19.77	-357	-0.0000108	0.0001872	0.0035	0.85		2655.83	2655.83	No	134.34	Si
SLU 44	ini.	-84.4	-781	-0.0000469	0.0001872	0.0035	0.85		2655.83	2655.83	No	31.47	Si
SLU 44	fin.	-17.4	-320	-0.0000095	0.0001872	0.0035	0.85		2655.83	2655.83	No	152.61	Si
SLU 45	ini.	-90.37	-837	-0.0000503	0.0001872	0.0035	0.85		2655.83	2655.83	No	29.39	Si
SLU 45	fin.	-16.82	-335	-0.0000092	0.0001872	0.0035	0.85		2655.83	2655.83	No	157.89	Si
SLU 48	ini.	-90.31	-850	-0.0000503	0.0001872	0.0035	0.85		2655.83	2655.83	No	29.41	Si
SLU 48	fin.	-19.59	-361	-0.0000107	0.0001872	0.0035	0.85		2655.83	2655.83	No	135.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-61.08	2305	0.85	0	1653	6740	3563	2168	5731	No	2.49	Si
SLU 82	fin.	-75.94	-1825	0.85	0	1653	6740	3563	2168	5731	No	3.14	Si
SLU 74	ini.	-69.22	2376	0.85	0	1653	6740	3563	2168	5731	No	2.41	Si
SLU 74	fin.	-68.43	-1779	0.85	0	1653	6740	3563	2168	5731	No	3.22	Si
SLU 78	ini.	-64.87	2404	0.85	0	1653	6740	3563	2168	5731	No	2.38	Si
SLU 78	fin.	-75.94	-1879	0.85	0	1653	6740	3563	2168	5731	No	3.05	Si
SLU 77	ini.	-69.16	2434	0.85	0	1653	6740	3563	2168	5731	No	2.35	Si
SLU 77	fin.	-71.19	-1850	0.85	0	1653	6740	3563	2168	5731	No	3.1	Si
SLU 81	ini.	-65.37	2335	0.85	0	1653	6740	3563	2168	5731	No	2.45	Si
SLU 81	fin.	-71.2	-1795	0.85	0	1653	6740	3563	2168	5731	No	3.19	Si
SLU 83	ini.	-65.31	2394	0.85	0	1653	6740	3563	2168	5731	No	2.39	Si
SLU 83	fin.	-73.96	-1866	0.85	0	1653	6740	3563	2168	5731	No	3.07	Si
SLU 84	ini.	-61.02	2364	0.85	0	1653	6740	3563	2168	5731	No	2.42	Si
SLU 84	fin.	-78.71	-1896	0.85	0	1653	6740	3563	2168	5731	No	3.02	Si
SLU 80	ini.	-65.98	2367	0.85	0	1653	6740	3563	2168	5731	No	2.42	Si
SLU 80	fin.	-71.38	-1836	0.85	0	1653	6740	3563	2168	5731	No	3.12	Si
SLU 75	ini.	-64.93	2345	0.85	0	1653	6740	3563	2168	5731	No	2.44	Si
SLU 75	fin.	-73.17	-1809	0.85	0	1653	6740	3563	2168	5731	No	3.17	Si
SLU 79	ini.	-70.26	2397	0.85	0	1653	6740	3563	2168	5731	No	2.39	Si
SLU 79	fin.	-66.63	-1806	0.85	0	1653	6740	3563	2168	5731	No	3.17	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-424.15	-2350	-0.0002501	0.0002807	0.0035	0.85		2680.73	2680.73		6.32	Si
SLV 11	fin.	350.94	1274	-0.0002042	0.0002807	0.0035	0.85		2675.27	2675.27		7.62	Si
SLV 5	ini.	392.9	1446	-0.0002306	0.0002807	0.0035	0.85		2675.27	2675.27		6.81	Si
SLV 5	fin.	-496.55	-2362	-0.0002976	0.0002807	0.0035	0.85		2680.73	2680.73		5.4	Si
SLD 12	ini.	-345.76	-1980	-0.0002006	0.0002807	0.0035	0.85		2680.73	2680.73		7.75	Si
SLD 12	fin.	262.07	892	-0.0001499	0.0002807	0.0035	0.85		2675.27	2675.27		10.21	Si
SLV 1	ini.	347.31	1189	-0.000202	0.0002807	0.0035	0.85		2675.27	2675.27		7.7	Si
SLV 1	fin.	-419.09	-1966	-0.0002468	0.0002807	0.0035	0.85		2680.73	2680.73		6.4	Si
SLV 8	ini.	-372.97	-2134	-0.0002176	0.0002807	0.0035	0.85		2680.73	2680.73		7.19	Si
SLV 8	fin.	307.05	1127	-0.0001771	0.0002807	0.0035	0.85		2675.27	2675.27		8.71	Si
SLV 9	ini.	249.21	806	-0.0001422	0.0002807	0.0035	0.85		2675.27	2675.27		10.73	Si
SLV 9	fin.	-365.93	-1843	-0.0002131	0.0002807	0.0035	0.85		2680.73	2680.73		7.33	Si
SLV 6	ini.	300.39	1022	-0.0001731	0.0002807	0.0035	0.85		2675.27	2675.27		8.91	Si
SLV 6	fin.	-409.82	-1990	-0.0002409	0.0002807	0.0035	0.85		2680.73	2680.73		6.54	Si
SLV 16	ini.	-471.06	-2517	-0.0002806	0.0002807	0.0035	0.85		2680.73	2680.73		5.69	Si
SLV 16	fin.	360.21	1250	-0.00021	0.0002807	0.0035	0.85		2675.27	2675.27		7.43	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-333.66	-1888	-0.0001931	0.0002807	0.0035	0.85		2680.73	2680.73		8.03	Si
SLV 15	fin.	231.38	698	-0.0001316	0.0002807	0.0035	0.85		2675.27	2675.27		11.56	Si
SLV 12	ini.	-516.65	-2773	-0.0003111	0.0002807	0.0035	0.85		2680.73	2680.73		5.19	Si
SLV 12	fin.	437.67	1646	-0.0002594	0.0002807	0.0035	0.85		2675.27	2675.27		6.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-345.76	3631	0.85	0	2479	6740	5345	2168	7513		2.07	Si
SLD 12	fin.	262.07	731	0.85	0	2479	6740	5345	2168	7513		10.28	Si
SLV 16	ini.	-471.06	4191	0.85	0	2479	6740	5345	2168	7513		1.79	Si
SLV 16	fin.	360.21	1536	0.85	0	2479	6740	5345	2168	7513		4.89	Si
SLV 6	ini.	300.39	-998	0.85	0	2479	6740	5345	2168	7513		7.53	Si
SLV 6	fin.	-409.82	-3299	0.85	0	2479	6740	5345	2168	7513		2.28	Si
SLV 11	ini.	-424.15	4269	0.85	0	2479	6740	5345	2168	7513		1.76	Si
SLV 11	fin.	350.94	1205	0.85	0	2479	6740	5345	2168	7513		6.23	Si
SLV 1	ini.	347.31	-920	0.85	0	2479	6740	5345	2168	7513		8.17	Si
SLV 1	fin.	-419.09	-3629	0.85	0	2479	6740	5345	2168	7513		2.07	Si
SLV 5	ini.	392.9	-1562	0.85	0	2479	6740	5345	2168	7513		4.81	Si
SLV 5	fin.	-496.55	-3895	0.85	0	2479	6740	5345	2168	7513		1.93	Si
SLV 8	ini.	-372.97	4001	0.85	0	2479	6740	5345	2168	7513		1.88	Si
SLV 8	fin.	307.05	895	0.85	0	2479	6740	5345	2168	7513		8.4	Si
SLV 7	ini.	-280.46	3437	0.85	0	2479	6740	5345	2168	7513		2.19	Si
SLV 7	fin.	220.31	299	0.85	0	2479	6740	5345	2168	7513		25.15	Si
SLV 12	ini.	-516.65	4833	0.85	0	2479	6740	5345	2168	7513		1.55	Si
SLV 12	fin.	437.67	1801	0.85	0	2479	6740	5345	2168	7513		4.17	Si
SLV 15	ini.	-333.66	3353	0.85	0	2479	6740	5345	2168	7513		2.24	Si
SLV 15	fin.	231.38	651	0.85	0	2479	6740	5345	2168	7513		11.54	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.189	SLV 12	Si
V_SLV	1.554	SLV 12	Si
PF_SLU	29.015	SLU 43	Si
V_SLU	2.354	SLU 77	Si

Trave di accoppiamento 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	7.9	8.8	0.9	-22.478	-3.169	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 39	ini.	258.1	-1091	-0.0001332	0.0001872	0.0035	0.9		2959	2959	No	11.46	Si
SLU 39	fin.	67.01	-652	-0.0000332	0.0001872	0.0035	0.9		2959	2959	No	44.16	Si
SLU 83	ini.	260.03	-1266	-0.0001343	0.0001872	0.0035	0.9		2959	2959	No	11.38	Si
SLU 83	fin.	119.83	-912	-0.00006	0.0001872	0.0035	0.9		2959	2959	No	24.69	Si
SLU 77	ini.	237.83	-1251	-0.0001222	0.0001872	0.0035	0.9		2959	2959	No	12.44	Si
SLU 77	fin.	139.97	-981	-0.0000704	0.0001872	0.0035	0.9		2959	2959	No	21.14	Si
SLU 82	ini.	256.38	-1244	-0.0001323	0.0001872	0.0035	0.9		2959	2959	No	11.54	Si
SLU 82	fin.	115.45	-887	-0.0000578	0.0001872	0.0035	0.9		2959	2959	No	25.63	Si
SLU 74	ini.	246.02	-1243	-0.0001266	0.0001872	0.0035	0.9		2959	2959	No	12.03	Si
SLU 74	fin.	127.75	-933	-0.0000641	0.0001872	0.0035	0.9		2959	2959	No	23.16	Si
SLU 84	ini.	248.18	-1253	-0.0001278	0.0001872	0.0035	0.9		2959	2959	No	11.92	Si
SLU 84	fin.	127.66	-935	-0.000064	0.0001872	0.0035	0.9		2959	2959	No	23.18	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 40	ini.	246.25	-1078	-0.0001268	0.0001872	0.0035	0.9		2959	2959	No	12.02	Si
SLU 40	fin.	74.84	-675	-0.0000371	0.0001872	0.0035	0.9		2959	2959	No	39.54	Si
SLU 81	ini.	268.23	-1258	-0.0001388	0.0001872	0.0035	0.9		2959	2959	No	11.03	Si
SLU 81	fin.	107.62	-863	-0.0000538	0.0001872	0.0035	0.9		2959	2959	No	27.5	Si
SLU 41	ini.	249.91	-1099	-0.0001288	0.0001872	0.0035	0.9		2959	2959	No	11.84	Si
SLU 41	fin.	79.22	-700	-0.0000393	0.0001872	0.0035	0.9		2959	2959	No	37.35	Si
SLU 42	ini.	238.06	-1086	-0.0001223	0.0001872	0.0035	0.9		2959	2959	No	12.43	Si
SLU 42	fin.	87.05	-723	-0.0000433	0.0001872	0.0035	0.9		2959	2959	No	33.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 46	ini.	109.63	-389	0.9	0	1750	7137	3773	2295	6068	No	15.59	Si
SLU 46	fin.	175.56	1114	0.9	0	1750	7137	3773	2295	6068	No	5.45	Si
SLU 48	ini.	113.28	-403	0.9	0	1750	7137	3773	2295	6068	No	15.06	Si
SLU 48	fin.	179.94	1146	0.9	0	1750	7137	3773	2295	6068	No	5.29	Si
SLU 44	ini.	98.42	-341	0.9	0	1750	7137	3773	2295	6068	No	17.8	Si
SLU 44	fin.	171.03	1069	0.9	0	1750	7137	3773	2295	6068	No	5.68	Si
SLU 49	ini.	101.43	-368	0.9	0	1750	7137	3773	2295	6068	No	16.49	Si
SLU 49	fin.	187.77	1194	0.9	0	1750	7137	3773	2295	6068	No	5.08	Si
SLU 72	ini.	154.94	-542	0.9	0	1750	7137	3773	2295	6068	No	11.2	Si
SLU 72	fin.	174.5	1103	0.9	0	1750	7137	3773	2295	6068	No	5.5	Si
SLU 45	ini.	121.48	-424	0.9	0	1750	7137	3773	2295	6068	No	14.31	Si
SLU 45	fin.	167.73	1066	0.9	0	1750	7137	3773	2295	6068	No	5.69	Si
SLU 50	ini.	101.77	-357	0.9	0	1750	7137	3773	2295	6068	No	17.01	Si
SLU 50	fin.	182.4	1149	0.9	0	1750	7137	3773	2295	6068	No	5.28	Si
SLU 47	ini.	90.22	-320	0.9	0	1750	7137	3773	2295	6068	No	18.97	Si
SLU 47	fin.	183.24	1149	0.9	0	1750	7137	3773	2295	6068	No	5.28	Si
SLU 51	ini.	89.93	-322	0.9	0	1750	7137	3773	2295	6068	No	18.85	Si
SLU 51	fin.	190.23	1197	0.9	0	1750	7137	3773	2295	6068	No	5.07	Si
SLU 70	ini.	166.44	-588	0.9	0	1750	7137	3773	2295	6068	No	10.32	Si
SLU 70	fin.	172.04	1100	0.9	0	1750	7137	3773	2295	6068	No	5.52	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	985.11	-1603	-0.0005827	0.0002807	0.0035	0.9		2989.59	2989.59		3.03	Si
SLV 7	fin.	-549.55	1332	-0.0002941	0.0002807	0.0035	0.9		2995.37	2995.37		5.45	Si
SLV 3	ini.	972.66	-1735	-0.0005737	0.0002807	0.0035	0.9		2989.59	2989.59		3.07	Si
SLV 3	fin.	-486.7	1026	-0.0002572	0.0002807	0.0035	0.9		2995.37	2995.37		6.15	Si
SLD 4	ini.	837.02	-1591	-0.0004787	0.0002807	0.0035	0.9		2989.59	2989.59		3.57	Si
SLD 4	fin.	-388.01	742	-0.0002013	0.0002807	0.0035	0.9		2995.37	2995.37		7.72	Si
SLV 8	ini.	1162.26	-1800	-0.0007154	0.0002807	0.0035	0.9		2989.59	2989.59		2.57	Si
SLV 8	fin.	-675.13	1700	-0.0003713	0.0002807	0.0035	0.9		2995.37	2995.37		4.44	Si
SLD 8	ini.	781.68	-1439	-0.0004414	0.0002807	0.0035	0.9		2989.59	2989.59		3.82	Si
SLD 8	fin.	-382.01	801	-0.000198	0.0002807	0.0035	0.9		2995.37	2995.37		7.84	Si
SLV 4	ini.	1235.78	-2028	-0.0007731	0.0002807	0.0035	0.9		2989.59	2989.59		2.42	Si
SLV 4	fin.	-673.22	1573	-0.0003701	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si
SLV 10	ini.	-697.85	-57	-0.0003857	0.0002807	0.0035	0.9		2995.37	2995.37		4.29	Si
SLV 10	fin.	761.46	-2728	-0.000428	0.0002807	0.0035	0.9		2989.59	2989.59		3.93	Si
SLV 13	ini.	-948.52	369	-0.0005552	0.0002807	0.0035	0.9		2995.37	2995.37		3.16	Si
SLV 13	fin.	885.13	-2969	-0.0005118	0.0002807	0.0035	0.9		2989.59	2989.59		3.38	Si
SLV 2	ini.	812.56	-1662	-0.0004621	0.0002807	0.0035	0.9		2989.59	2989.59		3.68	Si
SLV 2	fin.	-335.3	508	-0.0001723	0.0002807	0.0035	0.9		2995.37	2995.37		8.93	Si
SLV 9	ini.	-875	141	-0.0005037	0.0002807	0.0035	0.9		2995.37	2995.37		3.42	Si
SLV 9	fin.	887.04	-3096	-0.0005131	0.0002807	0.0035	0.9		2989.59	2989.59		3.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-948.52	3339	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLV 13	fin.	885.13	4539	0.9	0	2625	7137	5660	2295	7955		1.75	Si
SLV 8	ini.	1162.26	-3848	0.9	0	2625	7137	5660	2295	7955		2.07	Si
SLV 8	fin.	-675.13	-3636	0.9	0	2625	7137	5660	2295	7955		2.19	Si
SLV 14	ini.	-685.4	2433	0.9	0	2625	7137	5660	2295	7955		3.27	Si
SLV 14	fin.	698.61	3596	0.9	0	2625	7137	5660	2295	7955		2.21	Si
SLV 10	ini.	-697.85	2273	0.9	0	2625	7137	5660	2295	7955		3.5	Si
SLV 10	fin.	761.46	4332	0.9	0	2625	7137	5660	2295	7955		1.84	Si
SLV 7	ini.	985.11	-3239	0.9	0	2625	7137	5660	2295	7955		2.46	Si
SLV 7	fin.	-549.55	-3001	0.9	0	2625	7137	5660	2295	7955		2.65	Si
SLV 9	ini.	-875	2883	0.9	0	2625	7137	5660	2295	7955		2.76	Si
SLV 9	fin.	887.04	4966	0.9	0	2625	7137	5660	2295	7955		1.6	Si
SLD 9	ini.	-494.42	1625	0.9	0	2625	7137	5660	2295	7955		4.9	Si
SLD 9	fin.	593.92	3349	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLV 5	ini.	-425.61	1267	0.9	0	2625	7137	5660	2295	7955		6.28	Si
SLV 5	fin.	576.87	3511	0.9	0	2625	7137	5660	2295	7955		2.27	Si
SLV 3	ini.	972.66	-3399	0.9	0	2625	7137	5660	2295	7955		2.34	Si
SLV 3	fin.	-486.7	-2265	0.9	0	2625	7137	5660	2295	7955		3.51	Si
SLV 4	ini.	1235.78	-4304	0.9	0	2625	7137	5660	2295	7955		1.85	Si
SLV 4	fin.	-673.22	-3208	0.9	0	2625	7137	5660	2295	7955		2.48	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.419	SLV 4	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.602	SLV 9	Si
PF_SLU	11.032	SLU 81	Si
V_SLU	5.068	SLU 51	Si

Trave di accoppiamento 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	10.6	11.45	0.85	-22.478	-3.169	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 46	ini.	-246.6	-785	-0.0001427	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.77	Si
SLU 46	fin.	-53.3	-446	-0.0000294	0.0001872	0.0035	0.85		2655.83	2655.83	No	49.83	Si
SLU 48	ini.	-257.77	-817	-0.0001496	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.3	Si
SLU 48	fin.	-53.66	-462	-0.0000296	0.0001872	0.0035	0.85		2655.83	2655.83	No	49.49	Si
SLU 47	ini.	-259.19	-782	-0.0001505	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.25	Si
SLU 47	fin.	-39.66	-391	-0.0000218	0.0001872	0.0035	0.85		2655.83	2655.83	No	66.96	Si
SLU 50	ini.	-262.65	-806	-0.0001527	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.11	Si
SLU 50	fin.	-45.17	-426	-0.0000249	0.0001872	0.0035	0.85		2655.83	2655.83	No	58.8	Si
SLU 70	ini.	-250.47	-890	-0.0001451	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.6	Si
SLU 70	fin.	-90.17	-634	-0.0000502	0.0001872	0.0035	0.85		2655.83	2655.83	No	29.45	Si
SLU 59	ini.	-241.18	-830	-0.0001394	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.01	Si
SLU 59	fin.	-78.72	-572	-0.0000437	0.0001872	0.0035	0.85		2655.83	2655.83	No	33.74	Si
SLU 72	ini.	-255.35	-879	-0.0001481	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.4	Si
SLU 72	fin.	-81.68	-598	-0.0000454	0.0001872	0.0035	0.85		2655.83	2655.83	No	32.52	Si
SLU 71	ini.	-243.79	-867	-0.000141	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.89	Si
SLU 71	fin.	-89.39	-626	-0.0000498	0.0001872	0.0035	0.85		2655.83	2655.83	No	29.71	Si
SLU 49	ini.	-269.33	-830	-0.0001569	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.86	Si
SLU 49	fin.	-45.94	-434	-0.0000253	0.0001872	0.0035	0.85		2655.83	2655.83	No	57.81	Si
SLU 51	ini.	-274.21	-819	-0.0001599	0.0001872	0.0035	0.85		2655.83	2655.83	No	9.69	Si
SLU 51	fin.	-37.45	-398	-0.0000206	0.0001872	0.0035	0.85		2655.83	2655.83	No	70.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-185.43	1179	0.85	0	1653	6740	3563	2168	5731	No	4.86	Si
SLU 84	fin.	-147.99	-1613	0.85	0	1653	6740	3563	2168	5731	No	3.55	Si
SLU 77	ini.	-205.88	1238	0.85	0	1653	6740	3563	2168	5731	No	4.63	Si
SLU 77	fin.	-139.15	-1557	0.85	0	1653	6740	3563	2168	5731	No	3.68	Si
SLU 41	ini.	-118.77	875	0.85	0	1653	6740	3563	2168	5731	No	6.55	Si
SLU 41	fin.	-153.55	-1546	0.85	0	1653	6740	3563	2168	5731	No	3.71	Si
SLU 81	ini.	-151.13	1052	0.85	0	1653	6740	3563	2168	5731	No	5.45	Si
SLU 81	fin.	-163.06	-1663	0.85	0	1653	6740	3563	2168	5731	No	3.45	Si
SLU 82	ini.	-162.7	1095	0.85	0	1653	6740	3563	2168	5731	No	5.23	Si
SLU 82	fin.	-155.35	-1627	0.85	0	1653	6740	3563	2168	5731	No	3.52	Si
SLU 83	ini.	-173.87	1135	0.85	0	1653	6740	3563	2168	5731	No	5.05	Si
SLU 83	fin.	-155.71	-1648	0.85	0	1653	6740	3563	2168	5731	No	3.48	Si
SLU 75	ini.	-194.71	1198	0.85	0	1653	6740	3563	2168	5731	No	4.78	Si
SLU 75	fin.	-138.79	-1536	0.85	0	1653	6740	3563	2168	5731	No	3.73	Si
SLU 39	ini.	-96.04	792	0.85	0	1653	6740	3563	2168	5731	No	7.24	Si
SLU 39	fin.	-160.91	-1561	0.85	0	1653	6740	3563	2168	5731	No	3.67	Si
SLU 74	ini.	-183.14	1155	0.85	0	1653	6740	3563	2168	5731	No	4.96	Si
SLU 74	fin.	-146.51	-1571	0.85	0	1653	6740	3563	2168	5731	No	3.65	Si
SLU 40	ini.	-107.6	835	0.85	0	1653	6740	3563	2168	5731	No	6.86	Si
SLU 40	fin.	-153.19	-1525	0.85	0	1653	6740	3563	2168	5731	No	3.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-765.49	-1385	-0.0004907	0.0002807	0.0035	0.85		2680.73	2680.73		3.5	Si
SLD 13	fin.	284.53	735	-0.0001634	0.0002807	0.0035	0.85		2675.27	2675.27		9.4	Si
SLV 8	ini.	927.3	811	-0.0006209	0.0002807	0.0035	0.85		2675.27	2675.27		2.89	Si
SLV 8	fin.	-706.91	-2638	-0.0004464	0.0002807	0.0035	0.85		2680.73	2680.73		3.79	Si
SLV 10	ini.	-1043.69	-1767	-0.0007177	0.0002807	0.0035	0.85		2680.73	2680.73		2.57	Si
SLV 10	fin.	435.14	1259	-0.0002577	0.0002807	0.0035	0.85		2675.27	2675.27		6.15	Si
SLD 9	ini.	-818.35	-1461	-0.0005317	0.0002807	0.0035	0.85		2680.73	2680.73		3.28	Si
SLD 9	fin.	308.2	829	-0.0001778	0.0002807	0.0035	0.85		2675.27	2675.27		8.68	Si
SLV 7	ini.	749.16	591	-0.0004793	0.0002807	0.0035	0.85		2675.27	2675.27		3.57	Si
SLV 7	fin.	-599.45	-2268	-0.0003683	0.0002807	0.0035	0.85		2680.73	2680.73		4.47	Si
SLV 9	ini.	-1221.83	-1986	-0.0008778	0.0002807	0.0035	0.85		2680.73	2680.73		2.19	Si
SLV 9	fin.	542.6	1629	-0.0003295	0.0002807	0.0035	0.85		2675.27	2675.27		4.93	Si
SLV 14	ini.	-861.41	-1523	-0.0005659	0.0002807	0.0035	0.85		2680.73	2680.73		3.11	Si
SLV 14	fin.	338.64	909	-0.0001966	0.0002807	0.0035	0.85		2675.27	2675.27		7.9	Si
SLV 13	ini.	-1126	-1849	-0.0007901	0.0002807	0.0035	0.85		2680.73	2680.73		2.38	Si
SLV 13	fin.	498.25	1459	-0.0002993	0.0002807	0.0035	0.85		2675.27	2675.27		5.37	Si
SLV 4	ini.	831.48	673	-0.0005433	0.0002807	0.0035	0.85		2675.27	2675.27		3.22	Si
SLV 4	fin.	-662.56	-2468	-0.0004137	0.0002807	0.0035	0.85		2680.73	2680.73		4.05	Si
SLV 5	ini.	-858.67	-1517	-0.0005637	0.0002807	0.0035	0.85		2680.73	2680.73		3.12	Si
SLV 5	fin.	325.49	902	-0.0001884	0.0002807	0.0035	0.85		2675.27	2675.27		8.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1221.83	4545	0.85	0	2479	6740	5345	2168	7513		1.65	Si
SLV 9	fin.	542.6	2377	0.85	0	2479	6740	5345	2168	7513		3.16	Si
SLV 7	ini.	749.16	-2235	0.85	0	2479	6740	5345	2168	7513		3.36	Si
SLV 7	fin.	-599.45	-3676	0.85	0	2479	6740	5345	2168	7513		2.04	Si
SLV 8	ini.	927.3	-2832	0.85	0	2479	6740	5345	2168	7513		2.65	Si
SLV 8	fin.	-706.91	-4268	0.85	0	2479	6740	5345	2168	7513		1.76	Si
SLD 9	ini.	-818.35	3159	0.85	0	2479	6740	5345	2168	7513		2.38	Si
SLD 9	fin.	308.2	1131	0.85	0	2479	6740	5345	2168	7513		6.64	Si
SLV 14	ini.	-861.41	3223	0.85	0	2479	6740	5345	2168	7513		2.33	Si
SLV 14	fin.	338.64	1398	0.85	0	2479	6740	5345	2168	7513		5.38	Si
SLV 3	ini.	566.88	-1510	0.85	0	2479	6740	5345	2168	7513		4.97	Si
SLV 3	fin.	-502.95	-3288	0.85	0	2479	6740	5345	2168	7513		2.28	Si
SLV 10	ini.	-1043.69	3948	0.85	0	2479	6740	5345	2168	7513		1.9	Si
SLV 10	fin.	435.14	1785	0.85	0	2479	6740	5345	2168	7513		4.21	Si
SLV 5	ini.	-858.67	3363	0.85	0	2479	6740	5345	2168	7513		2.23	Si
SLV 5	fin.	325.49	1141	0.85	0	2479	6740	5345	2168	7513		6.58	Si
SLV 13	ini.	-1126	4110	0.85	0	2479	6740	5345	2168	7513		1.83	Si
SLV 13	fin.	498.25	2276	0.85	0	2479	6740	5345	2168	7513		3.3	Si
SLV 4	ini.	831.48	-2397	0.85	0	2479	6740	5345	2168	7513		3.13	Si
SLV 4	fin.	-662.56	-4167	0.85	0	2479	6740	5345	2168	7513		1.8	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.194	SLV 9	Si
V_SLV	1.653	SLV 9	Si
PF_SLU	9.685	SLU 51	Si
V_SLU	3.446	SLU 81	Si

Trave di accoppiamento 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	7.9	9.9	2	-19.293	-3.169	7.9	9.9	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-408.69	-2301	-0.000041	0.0001872	0.0035	2		14357.01	14357.01	No	35.13	Si
SLU 70	fin.	155.11	-3223	-0.0000154	0.0001872	0.0035	2		14344.28	14344.28	No	92.48	Si
SLU 72	ini.	-404.44	-2250	-0.0000406	0.0001872	0.0035	2		14357.01	14357.01	No	35.5	Si
SLU 72	fin.	155.75	-3162	-0.0000155	0.0001872	0.0035	2		14344.28	14344.28	No	92.1	Si
SLU 68	ini.	-407.98	-2220	-0.000041	0.0001872	0.0035	2		14357.01	14357.01	No	35.19	Si
SLU 68	fin.	153.67	-3124	-0.0000153	0.0001872	0.0035	2		14344.28	14344.28	No	93.34	Si
SLU 69	ini.	-402.74	-2285	-0.0000404	0.0001872	0.0035	2		14357.01	14357.01	No	35.65	Si
SLU 69	fin.	155.49	-3210	-0.0000155	0.0001872	0.0035	2		14344.28	14344.28	No	92.25	Si
SLU 49	ini.	-382.22	-2081	-0.0000383	0.0001872	0.0035	2		14357.01	14357.01	No	37.56	Si
SLU 49	fin.	141.71	-2902	-0.0000141	0.0001872	0.0035	2		14344.28	14344.28	No	101.23	Si
SLU 65	ini.	-407.55	-2179	-0.0000409	0.0001872	0.0035	2		14357.01	14357.01	No	35.23	Si
SLU 65	fin.	151.86	-3078	-0.0000151	0.0001872	0.0035	2		14344.28	14344.28	No	94.46	Si
SLU 67	ini.	-408.26	-2261	-0.000041	0.0001872	0.0035	2		14357.01	14357.01	No	35.17	Si
SLU 67	fin.	153.29	-3177	-0.0000153	0.0001872	0.0035	2		14344.28	14344.28	No	93.58	Si
SLU 66	ini.	-402.31	-2244	-0.0000404	0.0001872	0.0035	2		14357.01	14357.01	No	35.69	Si
SLU 66	fin.	153.68	-3164	-0.0000153	0.0001872	0.0035	2		14344.28	14344.28	No	93.34	Si
SLU 64	ini.	-397.63	-2152	-0.0000399	0.0001872	0.0035	2		14357.01	14357.01	No	36.11	Si
SLU 64	fin.	152.5	-3057	-0.0000152	0.0001872	0.0035	2		14344.28	14344.28	No	94.06	Si
SLU 71	ini.	-398.49	-2233	-0.00004	0.0001872	0.0035	2		14357.01	14357.01	No	36.03	Si
SLU 71	fin.	156.13	-3149	-0.0000155	0.0001872	0.0035	2		14344.28	14344.28	No	91.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-361.69	1787	2	0	3889	3965	8384	5100	7854	No	4.39	Si
SLU 84	fin.	161.51	4659	2	0	3889	3965	8384	5100	7854	No	1.69	Si
SLU 78	ini.	-379.06	1748	2	0	3889	3965	8384	5100	7854	No	4.49	Si
SLU 78	fin.	160.41	4686	2	0	3889	3965	8384	5100	7854	No	1.68	Si
SLU 74	ini.	-372.68	1771	2	0	3889	3965	8384	5100	7854	No	4.44	Si
SLU 74	fin.	158.98	4617	2	0	3889	3965	8384	5100	7854	No	1.7	Si
SLU 80	ini.	-374.82	1755	2	0	3889	3965	8384	5100	7854	No	4.47	Si
SLU 80	fin.	161.05	4618	2	0	3889	3965	8384	5100	7854	No	1.7	Si
SLU 77	ini.	-373.11	1758	2	0	3889	3965	8384	5100	7854	No	4.47	Si
SLU 77	fin.	160.8	4667	2	0	3889	3965	8384	5100	7854	No	1.68	Si
SLU 75	ini.	-378.63	1761	2	0	3889	3965	8384	5100	7854	No	4.46	Si
SLU 75	fin.	158.6	4637	2	0	3889	3965	8384	5100	7854	No	1.69	Si
SLU 83	ini.	-355.74	1797	2	0	3889	3965	8384	5100	7854	No	4.37	Si
SLU 83	fin.	161.9	4639	2	0	3889	3965	8384	5100	7854	No	1.69	Si
SLU 81	ini.	-355.31	1810	2	0	3889	3965	8384	5100	7854	No	4.34	Si
SLU 81	fin.	160.08	4590	2	0	3889	3965	8384	5100	7854	No	1.71	Si
SLU 82	ini.	-361.26	1800	2	0	3889	3965	8384	5100	7854	No	4.36	Si
SLU 82	fin.	159.7	4609	2	0	3889	3965	8384	5100	7854	No	1.7	Si
SLU 79	ini.	-368.87	1765	2	0	3889	3965	8384	5100	7854	No	4.45	Si
SLU 79	fin.	161.44	4599	2	0	3889	3965	8384	5100	7854	No	1.71	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-1118.52	-2904	-0.0001143	0.0002807	0.0035	2		14215.41	14215.41		12.71	Si
SLD 13	fin.	544.81	-4137	-0.0000547	0.0002807	0.0035	2		14202.07	14202.07		26.07	Si
SLD 14	ini.	-938.14	-2635	-0.0000953	0.0002807	0.0035	2		14215.41	14215.41		15.15	Si
SLD 14	fin.	437.98	-3731	-0.0000439	0.0002807	0.0035	2		14202.07	14202.07		32.43	Si
SLV 16	ini.	-950.44	-2206	-0.0000966	0.0002807	0.0035	2		14215.41	14215.41		14.96	Si
SLV 16	fin.	533.09	-3570	-0.0000536	0.0002807	0.0035	2		14202.07	14202.07		26.64	Si
SLV 15	ini.	-1232.77	-2627	-0.0001265	0.0002807	0.0035	2		14215.41	14215.41		11.53	Si
SLV 15	fin.	700.29	-4205	-0.0000707	0.0002807	0.0035	2		14202.07	14202.07		20.28	Si
SLV 9	ini.	-1281.28	-3848	-0.0001316	0.0002807	0.0035	2		14215.41	14215.41		11.09	Si
SLV 9	fin.	484.25	-4777	-0.0000486	0.0002807	0.0035	2		14202.07	14202.07		29.33	Si
SLV 14	ini.	-1310.8	-3223	-0.0001348	0.0002807	0.0035	2		14215.41	14215.41		10.84	Si
SLV 14	fin.	622.18	-4547	-0.0000627	0.0002807	0.0035	2		14202.07	14202.07		22.83	Si
SLD 9	ini.	-911.86	-3011	-0.0000926	0.0002807	0.0035	2		14215.41	14215.41		15.59	Si
SLD 9	fin.	348.73	-3857	-0.0000348	0.0002807	0.0035	2		14202.07	14202.07		40.72	Si
SLV 10	ini.	-1091.21	-3565	-0.0001114	0.0002807	0.0035	2		14215.41	14215.41		13.03	Si
SLV 10	fin.	371.68	-4349	-0.0000372	0.0002807	0.0035	2		14202.07	14202.07		38.21	Si
SLV 13	ini.	-1593.13	-3644	-0.0001654	0.0002807	0.0035	2		14215.41	14215.41		8.92	Si
SLV 13	fin.	789.38	-5182	-0.0000799	0.0002807	0.0035	2		14202.07	14202.07		17.99	Si
SLV 4	ini.	1009.95	407	-0.0001029	0.0002807	0.0035	2		14202.07	14202.07		14.06	Si
SLV 4	fin.	-557.62	550	-0.000056	0.0002807	0.0035	2		14215.41	14215.41		25.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-911.86	3080	2	0	5833	3965	12577	5100	9798		3.18	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	fin.	348.73	5635	2	0	5833	3965	12577	5100	9798		1.74	Si
SLV 13	ini.	-1593.13	7446	2	0	5833	3965	12577	5100	9798		1.32	Si
SLV 13	fin.	789.38	8751	2	0	5833	3965	12577	5100	9798		1.12	Si
SLV 15	ini.	-1232.77	6991	2	0	5833	3965	12577	5100	9798		1.4	Si
SLV 15	fin.	700.29	7500	2	0	5833	3965	12577	5100	9798		1.31	Si
SLV 16	ini.	-950.44	5635	2	0	5833	3965	12577	5100	9798		1.74	Si
SLV 16	fin.	533.09	6242	2	0	5833	3965	12577	5100	9798		1.57	Si
SLV 10	ini.	-1091.21	3189	2	0	5833	3965	12577	5100	9798		3.07	Si
SLV 10	fin.	371.68	6196	2	0	5833	3965	12577	5100	9798		1.58	Si
SLD 15	ini.	-894.7	4938	2	0	5833	3965	12577	5100	9798		1.98	Si
SLD 15	fin.	488.9	5965	2	0	5833	3965	12577	5100	9798		1.64	Si
SLD 13	ini.	-1118.52	5222	2	0	5833	3965	12577	5100	9798		1.88	Si
SLD 13	fin.	544.81	6744	2	0	5833	3965	12577	5100	9798		1.45	Si
SLD 14	ini.	-938.14	4356	2	0	5833	3965	12577	5100	9798		2.25	Si
SLD 14	fin.	437.98	5940	2	0	5833	3965	12577	5100	9798		1.65	Si
SLV 14	ini.	-1310.8	6090	2	0	5833	3965	12577	5100	9798		1.61	Si
SLV 14	fin.	622.18	7493	2	0	5833	3965	12577	5100	9798		1.31	Si
SLV 9	ini.	-1281.28	4102	2	0	5833	3965	12577	5100	9798		2.39	Si
SLV 9	fin.	484.25	7043	2	0	5833	3965	12577	5100	9798		1.39	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.923	SLV 13	Si
V_SLV	1.12	SLV 13	Si
PF_SLU	35.129	SLU 70	Si
V_SLU	1.676	SLU 78	Si

Trave di accoppiamento 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	10.7	11.45	0.75	-19.293	-3.169	10.7	11.45	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-35.46	-268	-0.0000251	0.0001872	0.0035	0.75		2074.44	2074.44	No	58.5	Si
SLU 70	fin.	160.35	92	-0.000118	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.91	Si
SLU 74	ini.	-43.93	-345	-0.0000311	0.0001872	0.0035	0.75		2074.44	2074.44	No	47.23	Si
SLU 74	fin.	161.84	48	-0.0001192	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.79	Si
SLU 65	ini.	-31.2	-223	-0.000022	0.0001872	0.0035	0.75		2074.44	2074.44	No	66.48	Si
SLU 65	fin.	161.68	147	-0.0001191	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.8	Si
SLU 64	ini.	-30.3	-215	-0.0000214	0.0001872	0.0035	0.75		2074.44	2074.44	No	68.45	Si
SLU 64	fin.	161.44	150	-0.0001189	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.82	Si
SLU 67	ini.	-33.66	-252	-0.0000238	0.0001872	0.0035	0.75		2074.44	2074.44	No	61.63	Si
SLU 67	fin.	162	113	-0.0001193	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.78	Si
SLU 75	ini.	-44.47	-349	-0.0000315	0.0001872	0.0035	0.75		2074.44	2074.44	No	46.65	Si
SLU 75	fin.	161.98	46	-0.0001193	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.78	Si
SLU 66	ini.	-33.12	-247	-0.0000234	0.0001872	0.0035	0.75		2074.44	2074.44	No	62.63	Si
SLU 66	fin.	161.85	115	-0.0001192	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.79	Si
SLU 73	ini.	-42.01	-321	-0.0000298	0.0001872	0.0035	0.75		2074.44	2074.44	No	49.38	Si
SLU 73	fin.	161.66	80	-0.000119	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.8	Si
SLU 81	ini.	-45.74	-355	-0.0000324	0.0001872	0.0035	0.75		2074.44	2074.44	No	45.35	Si
SLU 81	fin.	161.41	54	-0.0001189	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.82	Si
SLU 82	ini.	-46.28	-360	-0.0000328	0.0001872	0.0035	0.75		2074.44	2074.44	No	44.82	Si
SLU 82	fin.	161.56	52	-0.000119	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-43.93	2020	0.75	0	1458	3965	3144	1913	5057	No	2.5	Si
SLU 74	fin.	161.84	-907	0.75	0	1458	3965	3144	1913	5057	No	5.58	Si
SLU 82	ini.	-46.28	2040	0.75	0	1458	3965	3144	1913	5057	No	2.48	Si
SLU 82	fin.	161.56	-885	0.75	0	1458	3965	3144	1913	5057	No	5.71	Si
SLU 83	ini.	-47.54	2047	0.75	0	1458	3965	3144	1913	5057	No	2.47	Si
SLU 83	fin.	159.77	-908	0.75	0	1458	3965	3144	1913	5057	No	5.57	Si
SLU 75	ini.	-44.47	2027	0.75	0	1458	3965	3144	1913	5057	No	2.49	Si
SLU 75	fin.	161.98	-906	0.75	0	1458	3965	3144	1913	5057	No	5.58	Si
SLU 81	ini.	-45.74	2033	0.75	0	1458	3965	3144	1913	5057	No	2.49	Si
SLU 81	fin.	161.41	-886	0.75	0	1458	3965	3144	1913	5057	No	5.71	Si
SLU 79	ini.	-44.71	1987	0.75	0	1458	3965	3144	1913	5057	No	2.54	Si
SLU 79	fin.	158.14	-883	0.75	0	1458	3965	3144	1913	5057	No	5.73	Si
SLU 84	ini.	-48.08	2054	0.75	0	1458	3965	3144	1913	5057	No	2.46	Si
SLU 84	fin.	159.92	-908	0.75	0	1458	3965	3144	1913	5057	No	5.57	Si
SLU 78	ini.	-46.27	2042	0.75	0	1458	3965	3144	1913	5057	No	2.48	Si
SLU 78	fin.	160.34	-929	0.75	0	1458	3965	3144	1913	5057	No	5.44	Si
SLU 80	ini.	-45.25	1995	0.75	0	1458	3965	3144	1913	5057	No	2.54	Si
SLU 80	fin.	158.28	-883	0.75	0	1458	3965	3144	1913	5057	No	5.73	Si
SLU 77	ini.	-45.73	2034	0.75	0	1458	3965	3144	1913	5057	No	2.49	Si
SLU 77	fin.	160.19	-929	0.75	0	1458	3965	3144	1913	5057	No	5.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	83.24	1077	-0.0000594	0.0002807	0.0035	0.75		2085.94	2085.94		25.06	Si
SLV 13	fin.	533.14	2299	-0.0004304	0.0002807	0.0035	0.75		2085.94	2085.94		3.91	Si
SLV 4	ini.	-134.18	-1441	-0.0000967	0.0002807	0.0035	0.75		2090.82	2090.82		15.58	Si
SLV 4	fin.	-292.06	-2095	-0.0002186	0.0002807	0.0035	0.75		2090.82	2090.82		7.16	Si
SLD 14	ini.	30.94	453	-0.0000219	0.0002807	0.0035	0.75		2085.94	2085.94		67.42	Si
SLD 14	fin.	322.04	1180	-0.0002436	0.0002807	0.0035	0.75		2085.94	2085.94		6.48	Si
SLD 15	ini.	26.4	509	-0.0000186	0.0002807	0.0035	0.75		2085.94	2085.94		79.01	Si
SLD 15	fin.	343.61	1315	-0.0002614	0.0002807	0.0035	0.75		2085.94	2085.94		6.07	Si
SLV 16	ini.	38.68	636	-0.0000274	0.0002807	0.0035	0.75		2085.94	2085.94		53.93	Si
SLV 16	fin.	373.51	1502	-0.0002866	0.0002807	0.0035	0.75		2085.94	2085.94		5.58	Si
SLV 9	ini.	50.99	518	-0.0000362	0.0002807	0.0035	0.75		2085.94	2085.94		40.91	Si
SLV 9	fin.	358.43	1307	-0.0002739	0.0002807	0.0035	0.75		2085.94	2085.94		5.82	Si
SLV 15	ini.	56.52	897	-0.0000401	0.0002807	0.0035	0.75		2085.94	2085.94		36.91	Si
SLV 15	fin.	469.74	2000	-0.0003714	0.0002807	0.0035	0.75		2085.94	2085.94		4.44	Si
SLV 10	ini.	38.98	342	-0.0000276	0.0002807	0.0035	0.75		2085.94	2085.94		53.52	Si
SLV 10	fin.	293.64	972	-0.0002204	0.0002807	0.0035	0.75		2085.94	2085.94		7.1	Si
SLV 14	ini.	65.4	816	-0.0000465	0.0002807	0.0035	0.75		2085.94	2085.94		31.9	Si
SLV 14	fin.	436.9	1801	-0.0003419	0.0002807	0.0035	0.75		2085.94	2085.94		4.77	Si
SLD 13	ini.	42.34	619	-0.00003	0.0002807	0.0035	0.75		2085.94	2085.94		49.27	Si
SLD 13	fin.	383.52	1499	-0.0002952	0.0002807	0.0035	0.75		2085.94	2085.94		5.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	26.4	1868	0.75	0	2188	3965	4716	1913	6152		3.29	Si
SLD 15	fin.	343.61	505	0.75	0	2188	3965	4716	1913	6152		12.18	Si
SLV 2	ini.	-107.47	583	0.75	0	2188	3965	4716	1913	6152		10.55	Si
SLV 2	fin.	-228.66	-2215	0.75	0	2188	3965	4716	1913	6152		2.78	Si
SLV 4	ini.	-134.18	324	0.75	0	2188	3965	4716	1913	6152		18.98	Si
SLV 4	fin.	-292.06	-2266	0.75	0	2188	3965	4716	1913	6152		2.71	Si
SLV 15	ini.	56.52	2155	0.75	0	2188	3965	4716	1913	6152		2.85	Si
SLV 15	fin.	469.74	1107	0.75	0	2188	3965	4716	1913	6152		5.56	Si
SLV 13	ini.	83.24	2414	0.75	0	2188	3965	4716	1913	6152		2.55	Si
SLV 13	fin.	533.14	1158	0.75	0	2188	3965	4716	1913	6152		5.31	Si
SLV 10	ini.	38.98	1931	0.75	0	2188	3965	4716	1913	6152		3.19	Si
SLV 10	fin.	293.64	-161	0.75	0	2188	3965	4716	1913	6152		38.14	Si
SLV 9	ini.	50.99	2130	0.75	0	2188	3965	4716	1913	6152		2.89	Si
SLV 9	fin.	358.43	114	0.75	0	2188	3965	4716	1913	6152		53.74	Si
SLV 16	ini.	38.68	1860	0.75	0	2188	3965	4716	1913	6152		3.31	Si
SLV 16	fin.	373.51	697	0.75	0	2188	3965	4716	1913	6152		8.83	Si
SLD 13	ini.	42.34	2030	0.75	0	2188	3965	4716	1913	6152		3.03	Si
SLD 13	fin.	383.52	540	0.75	0	2188	3965	4716	1913	6152		11.4	Si
SLV 14	ini.	65.4	2119	0.75	0	2188	3965	4716	1913	6152		2.9	Si
SLV 14	fin.	436.9	749	0.75	0	2188	3965	4716	1913	6152		8.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.913	SLV 13	Si
V_SLV	2.549	SLV 13	Si
PF_SLU	12.777	SLU 67	Si
V_SLU	2.462	SLU 84	Si

Trave di accoppiamento 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	7.9	8.8	0.9	-18.213	-3.169	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-306.24	-110	-0.0001597	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.68	Si
SLU 78	fin.	328.41	-2026	-0.0001725	0.0001872	0.0035	0.9		2959	2959	No	9.01	Si
SLU 66	ini.	-313.59	-22	-0.0001638	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.45	Si
SLU 66	fin.	327.91	-1983	-0.0001722	0.0001872	0.0035	0.9		2959	2959	No	9.02	Si
SLU 72	ini.	-306.4	-42	-0.0001597	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.68	Si
SLU 72	fin.	327.24	-1990	-0.0001719	0.0001872	0.0035	0.9		2959	2959	No	9.04	Si
SLU 75	ini.	-310.34	-88	-0.000162	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.55	Si
SLU 75	fin.	325.33	-1997	-0.0001708	0.0001872	0.0035	0.9		2959	2959	No	9.1	Si
SLU 70	ini.	-310.16	-46	-0.0001619	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.56	Si
SLU 70	fin.	332.75	-2028	-0.000175	0.0001872	0.0035	0.9		2959	2959	No	8.89	Si
SLU 67	ini.	-314.26	-25	-0.0001642	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.43	Si
SLU 67	fin.	329.68	-1999	-0.0001732	0.0001872	0.0035	0.9		2959	2959	No	8.98	Si
SLU 71	ini.	-305.72	-39	-0.0001594	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.7	Si
SLU 71	fin.	325.47	-1973	-0.0001709	0.0001872	0.0035	0.9		2959	2959	No	9.09	Si
SLU 77	ini.	-305.56	-107	-0.0001593	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.7	Si
SLU 77	fin.	326.64	-2009	-0.0001715	0.0001872	0.0035	0.9		2959	2959	No	9.06	Si
SLU 69	ini.	-309.49	-43	-0.0001615	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.58	Si
SLU 69	fin.	330.98	-2012	-0.000174	0.0001872	0.0035	0.9		2959	2959	No	8.94	Si
SLU 68	ini.	-310.95	-22	-0.0001623	0.0001872	0.0035	0.9		2964.67	2964.67	No	9.53	Si
SLU 68	fin.	325.34	-1972	-0.0001708	0.0001872	0.0035	0.9		2959	2959	No	9.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-302.47	1011	0.9	0	1750	7137	3773	2295	6068	No	6	Si
SLU 80	fin.	322.9	3029	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 67	ini.	-314.26	1083	0.9	0	1750	7137	3773	2295	6068	No	5.6	Si
SLU 67	fin.	329.68	3059	0.9	0	1750	7137	3773	2295	6068	No	1.98	Si
SLU 75	ini.	-310.34	1035	0.9	0	1750	7137	3773	2295	6068	No	5.86	Si
SLU 75	fin.	325.33	3054	0.9	0	1750	7137	3773	2295	6068	No	1.99	Si
SLU 74	ini.	-309.66	1034	0.9	0	1750	7137	3773	2295	6068	No	5.87	Si
SLU 74	fin.	323.57	3028	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 77	ini.	-305.56	1013	0.9	0	1750	7137	3773	2295	6068	No	5.99	Si
SLU 77	fin.	326.64	3069	0.9	0	1750	7137	3773	2295	6068	No	1.98	Si
SLU 66	ini.	-313.59	1082	0.9	0	1750	7137	3773	2295	6068	No	5.61	Si
SLU 66	fin.	327.91	3033	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 70	ini.	-310.16	1062	0.9	0	1750	7137	3773	2295	6068	No	5.71	Si
SLU 70	fin.	332.75	3099	0.9	0	1750	7137	3773	2295	6068	No	1.96	Si
SLU 78	ini.	-306.24	1014	0.9	0	1750	7137	3773	2295	6068	No	5.98	Si
SLU 78	fin.	328.41	3095	0.9	0	1750	7137	3773	2295	6068	No	1.96	Si
SLU 72	ini.	-306.4	1059	0.9	0	1750	7137	3773	2295	6068	No	5.73	Si
SLU 72	fin.	327.24	3034	0.9	0	1750	7137	3773	2295	6068	No	2	Si
SLU 69	ini.	-309.49	1061	0.9	0	1750	7137	3773	2295	6068	No	5.72	Si
SLU 69	fin.	330.98	3073	0.9	0	1750	7137	3773	2295	6068	No	1.97	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-741.95	652	-0.0004142	0.0002807	0.0035	0.9		2995.37	2995.37		4.04	Si
SLV 10	fin.	688.15	-3688	-0.0003803	0.0002807	0.0035	0.9		2989.59	2989.59		4.34	Si
SLV 14	ini.	-1133.25	1624	-0.0006915	0.0002807	0.0035	0.9		2995.37	2995.37		2.64	Si
SLV 14	fin.	813.95	-3853	-0.000463	0.0002807	0.0035	0.9		2989.59	2989.59		3.67	Si
SLV 16	ini.	-945.37	1452	-0.000553	0.0002807	0.0035	0.9		2995.37	2995.37		3.17	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	fin.	612.18	-2767	-0.0003327	0.0002807	0.0035	0.9		2989.59	2989.59		4.88	Si
SLD 15	ini.	-845.61	1215	-0.0004835	0.0002807	0.0035	0.9		2995.37	2995.37		3.54	Si
SLD 15	fin.	575	-2699	-0.00031	0.0002807	0.0035	0.9		2989.59	2989.59		5.2	Si
SLV 4	ini.	912.72	-2116	-0.0005311	0.0002807	0.0035	0.9		2989.59	2989.59		3.28	Si
SLV 4	fin.	-489.97	1617	-0.0002591	0.0002807	0.0035	0.9		2995.37	2995.37		6.11	Si
SLV 9	ini.	-906.07	959	-0.0005253	0.0002807	0.0035	0.9		2995.37	2995.37		3.31	Si
SLV 9	fin.	789.38	-4113	-0.0004465	0.0002807	0.0035	0.9		2989.59	2989.59		3.79	Si
SLV 15	ini.	-1189.13	1908	-0.0007346	0.0002807	0.0035	0.9		2995.37	2995.37		2.52	Si
SLV 15	fin.	762.53	-3398	-0.0004287	0.0002807	0.0035	0.9		2989.59	2989.59		3.92	Si
SLD 14	ini.	-806.64	1031	-0.0004571	0.0002807	0.0035	0.9		2995.37	2995.37		3.71	Si
SLD 14	fin.	604.31	-2971	-0.0003278	0.0002807	0.0035	0.9		2989.59	2989.59		4.95	Si
SLD 13	ini.	-962.39	1322	-0.0005651	0.0002807	0.0035	0.9		2995.37	2995.37		3.11	Si
SLD 13	fin.	700.37	-3374	-0.0003882	0.0002807	0.0035	0.9		2989.59	2989.59		4.27	Si
SLV 13	ini.	-1377.02	2081	-0.0008866	0.0002807	0.0035	0.9		2995.37	2995.37		2.18	Si
SLV 13	fin.	964.3	-4484	-0.0005677	0.0002807	0.0035	0.9		2989.59	2989.59		3.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-906.07	3516	0.9	0	2625	7137	5660	2295	7955		2.26	Si
SLV 9	fin.	789.38	6035	0.9	0	2625	7137	5660	2295	7955		1.32	Si
SLV 10	ini.	-741.95	2836	0.9	0	2625	7137	5660	2295	7955		2.8	Si
SLV 10	fin.	688.15	5428	0.9	0	2625	7137	5660	2295	7955		1.47	Si
SLD 9	ini.	-656.59	2514	0.9	0	2625	7137	5660	2295	7955		3.16	Si
SLD 9	fin.	583.7	4597	0.9	0	2625	7137	5660	2295	7955		1.73	Si
SLV 15	ini.	-1189.13	4913	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 15	fin.	762.53	4873	0.9	0	2625	7137	5660	2295	7955		1.63	Si
SLV 13	ini.	-1377.02	5624	0.9	0	2625	7137	5660	2295	7955		1.41	Si
SLV 13	fin.	964.3	6453	0.9	0	2625	7137	5660	2295	7955		1.23	Si
SLD 14	ini.	-806.64	3235	0.9	0	2625	7137	5660	2295	7955		2.46	Si
SLD 14	fin.	604.31	4322	0.9	0	2625	7137	5660	2295	7955		1.84	Si
SLV 5	ini.	-348.65	1140	0.9	0	2625	7137	5660	2295	7955		6.98	Si
SLV 5	fin.	458.73	4223	0.9	0	2625	7137	5660	2295	7955		1.88	Si
SLD 10	ini.	-553.34	2086	0.9	0	2625	7137	5660	2295	7955		3.81	Si
SLD 10	fin.	520.03	4215	0.9	0	2625	7137	5660	2295	7955		1.89	Si
SLD 13	ini.	-962.39	3880	0.9	0	2625	7137	5660	2295	7955		2.05	Si
SLD 13	fin.	700.37	4898	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 14	ini.	-1133.25	4614	0.9	0	2625	7137	5660	2295	7955		1.72	Si
SLV 14	fin.	813.95	5551	0.9	0	2625	7137	5660	2295	7955		1.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.175	SLV 13	Si
V_SLV	1.233	SLV 13	Si
PF_SLU	8.893	SLU 70	Si
V_SLU	1.958	SLU 70	Si

Trave di accoppiamento 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	10.6	11.45	0.85	-18.213	-3.169	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-220.57	-587	-0.0001268	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.04	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	fin.	118.56	60	-0.0000666	0.0001872	0.0035	0.85		2650.49	2650.49	No	22.36	Si
SLU 70	ini.	-223.77	-600	-0.0001287	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.87	Si
SLU 70	fin.	118.06	45	-0.0000663	0.0001872	0.0035	0.85		2650.49	2650.49	No	22.45	Si
SLU 66	ini.	-217.41	-574	-0.0001249	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.22	Si
SLU 66	fin.	121.74	72	-0.0000684	0.0001872	0.0035	0.85		2650.49	2650.49	No	21.77	Si
SLU 71	ini.	-218.79	-583	-0.0001257	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.14	Si
SLU 71	fin.	118.91	66	-0.0000668	0.0001872	0.0035	0.85		2650.49	2650.49	No	22.29	Si
SLU 68	ini.	-217.18	-569	-0.0001247	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.23	Si
SLU 68	fin.	121.65	78	-0.0000684	0.0001872	0.0035	0.85		2650.49	2650.49	No	21.79	Si
SLU 49	ini.	-211.33	-558	-0.0001212	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.57	Si
SLU 49	fin.	104.97	68	-0.0000588	0.0001872	0.0035	0.85		2650.49	2650.49	No	25.25	Si
SLU 67	ini.	-219.19	-578	-0.0001259	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.12	Si
SLU 67	fin.	121.39	66	-0.0000682	0.0001872	0.0035	0.85		2650.49	2650.49	No	21.84	Si
SLU 64	ini.	-209.63	-540	-0.0001201	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.67	Si
SLU 64	fin.	125.58	109	-0.0000706	0.0001872	0.0035	0.85		2650.49	2650.49	No	21.11	Si
SLU 65	ini.	-212.6	-548	-0.0001219	0.0001872	0.0035	0.85		2655.83	2655.83	No	12.49	Si
SLU 65	fin.	124.98	100	-0.0000703	0.0001872	0.0035	0.85		2650.49	2650.49	No	21.21	Si
SLU 69	ini.	-221.98	-595	-0.0001276	0.0001872	0.0035	0.85		2655.83	2655.83	No	11.96	Si
SLU 69	fin.	118.41	50	-0.0000665	0.0001872	0.0035	0.85		2650.49	2650.49	No	22.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-219.19	1773	0.85	0	1653	6740	3563	2168	5731	No	3.23	Si
SLU 67	fin.	121.39	-897	0.85	0	1653	6740	3563	2168	5731	No	6.39	Si
SLU 80	ini.	-201.79	1769	0.85	0	1653	6740	3563	2168	5731	No	3.24	Si
SLU 80	fin.	110.86	-1145	0.85	0	1653	6740	3563	2168	5731	No	5.01	Si
SLU 66	ini.	-217.41	1769	0.85	0	1653	6740	3563	2168	5731	No	3.24	Si
SLU 66	fin.	121.74	-893	0.85	0	1653	6740	3563	2168	5731	No	6.42	Si
SLU 69	ini.	-221.98	1784	0.85	0	1653	6740	3563	2168	5731	No	3.21	Si
SLU 69	fin.	118.41	-916	0.85	0	1653	6740	3563	2168	5731	No	6.26	Si
SLU 78	ini.	-204.99	1802	0.85	0	1653	6740	3563	2168	5731	No	3.18	Si
SLU 78	fin.	110.35	-1191	0.85	0	1653	6740	3563	2168	5731	No	4.81	Si
SLU 75	ini.	-200.41	1787	0.85	0	1653	6740	3563	2168	5731	No	3.21	Si
SLU 75	fin.	113.69	-1168	0.85	0	1653	6740	3563	2168	5731	No	4.91	Si
SLU 70	ini.	-223.77	1789	0.85	0	1653	6740	3563	2168	5731	No	3.2	Si
SLU 70	fin.	118.06	-920	0.85	0	1653	6740	3563	2168	5731	No	6.23	Si
SLU 74	ini.	-198.63	1782	0.85	0	1653	6740	3563	2168	5731	No	3.22	Si
SLU 74	fin.	114.04	-1164	0.85	0	1653	6740	3563	2168	5731	No	4.92	Si
SLU 79	ini.	-200.01	1765	0.85	0	1653	6740	3563	2168	5731	No	3.25	Si
SLU 79	fin.	111.21	-1141	0.85	0	1653	6740	3563	2168	5731	No	5.02	Si
SLU 77	ini.	-203.21	1798	0.85	0	1653	6740	3563	2168	5731	No	3.19	Si
SLU 77	fin.	110.71	-1187	0.85	0	1653	6740	3563	2168	5731	No	4.83	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-657.39	-1464	-0.0004099	0.0002807	0.0035	0.85		2680.73	2680.73		4.08	Si
SLV 9	fin.	430.75	1398	-0.0002549	0.0002807	0.0035	0.85		2675.27	2675.27		6.21	Si
SLV 4	ini.	378.51	420	-0.0002215	0.0002807	0.0035	0.85		2675.27	2675.27		7.07	Si
SLV 4	fin.	-501.88	-2382	-0.0003011	0.0002807	0.0035	0.85		2680.73	2680.73		5.34	Si
SLV 10	ini.	-572.12	-1316	-0.0003491	0.0002807	0.0035	0.85		2680.73	2680.73		4.69	Si
SLV 10	fin.	341.25	1026	-0.0001982	0.0002807	0.0035	0.85		2675.27	2675.27		7.84	Si
SLV 15	ini.	-473.1	-699	-0.000282	0.0002807	0.0035	0.85		2680.73	2680.73		5.67	Si
SLV 15	fin.	594.99	2170	-0.000366	0.0002807	0.0035	0.85		2675.27	2675.27		4.5	Si
SLV 16	ini.	-346.45	-481	-0.000201	0.0002807	0.0035	0.85		2680.73	2680.73		7.74	Si
SLV 16	fin.	462.05	1618	-0.0002753	0.0002807	0.0035	0.85		2675.27	2675.27		5.79	Si
SLD 13	ini.	-490.57	-913	-0.0002936	0.0002807	0.0035	0.85		2680.73	2680.73		5.46	Si
SLD 13	fin.	469.78	1617	-0.0002804	0.0002807	0.0035	0.85		2675.27	2675.27		5.69	Si
SLV 13	ini.	-684.82	-1214	-0.00043	0.0002807	0.0035	0.85		2680.73	2680.73		3.91	Si
SLV 13	fin.	684.92	2501	-0.0004311	0.0002807	0.0035	0.85		2675.27	2675.27		3.91	Si
SLV 5	ini.	-439.9	-1193	-0.0002603	0.0002807	0.0035	0.85		2680.73	2680.73		6.09	Si
SLV 5	fin.	141.57	198	-0.0000793	0.0002807	0.0035	0.85		2675.27	2675.27		18.9	Si
SLD 9	ini.	-468.51	-1062	-0.000279	0.0002807	0.0035	0.85		2680.73	2680.73		5.72	Si
SLD 9	fin.	305.16	903	-0.000176	0.0002807	0.0035	0.85		2675.27	2675.27		8.77	Si
SLV 14	ini.	-558.16	-995	-0.0003395	0.0002807	0.0035	0.85		2680.73	2680.73		4.8	Si
SLV 14	fin.	551.98	1949	-0.0003359	0.0002807	0.0035	0.85		2675.27	2675.27		4.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	378.51	-1312	0.85	0	2479	6740	5345	2168	7513		5.73	Si
SLV 4	fin.	-501.88	-3800	0.85	0	2479	6740	5345	2168	7513		1.98	Si
SLV 14	ini.	-558.16	3276	0.85	0	2479	6740	5345	2168	7513		2.29	Si
SLV 14	fin.	551.98	1741	0.85	0	2479	6740	5345	2168	7513		4.31	Si
SLD 9	ini.	-468.51	2670	0.85	0	2479	6740	5345	2168	7513		2.81	Si
SLD 9	fin.	305.16	573	0.85	0	2479	6740	5345	2168	7513		13.1	Si
SLV 13	ini.	-684.82	3885	0.85	0	2479	6740	5345	2168	7513		1.93	Si
SLV 13	fin.	684.92	2469	0.85	0	2479	6740	5345	2168	7513		3.04	Si
SLV 15	ini.	-473.1	3017	0.85	0	2479	6740	5345	2168	7513		2.49	Si
SLV 15	fin.	594.99	1880	0.85	0	2479	6740	5345	2168	7513		4	Si
SLV 9	ini.	-657.39	3496	0.85	0	2479	6740	5345	2168	7513		2.15	Si
SLV 9	fin.	430.75	1304	0.85	0	2479	6740	5345	2168	7513		5.76	Si
SLD 13	ini.	-490.57	2937	0.85	0	2479	6740	5345	2168	7513		2.56	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	fin.	469.78	1332	0.85	0	2479	6740	5345	2168	7513		5.64	Si
SLV 2	ini.	166.79	-444	0.85	0	2479	6740	5345	2168	7513		16.92	Si
SLV 2	fin.	-411.95	-3210	0.85	0	2479	6740	5345	2168	7513		2.34	Si
SLV 3	ini.	251.85	-703	0.85	0	2479	6740	5345	2168	7513		10.69	Si
SLV 3	fin.	-368.94	-3072	0.85	0	2479	6740	5345	2168	7513		2.45	Si
SLV 10	ini.	-572.12	3086	0.85	0	2479	6740	5345	2168	7513		2.43	Si
SLV 10	fin.	341.25	814	0.85	0	2479	6740	5345	2168	7513		9.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.906	SLV 13	Si
V_SLV	1.934	SLV 13	Si
PF_SLU	11.869	SLU 70	Si
V_SLU	3.179	SLU 78	Si

Trave di accoppiamento 114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	10	11.45	1.45	-18.498	0.841	10	11.45	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 48	ini.	554.3	145	-0.0001083	0.0002246	0.0035	1.45		7949.58	7949.58	No	14.34	Si
SLU 48	fin.	38.42	-144	-0.0000073	0.0002246	0.0035	1.45		7949.58	7949.58	No	206.9	Si
SLU 66	ini.	570.13	105	-0.0001116	0.0002246	0.0035	1.45		7949.58	7949.58	No	13.94	Si
SLU 66	fin.	46.9	-197	-0.0000089	0.0002246	0.0035	1.45		7949.58	7949.58	No	169.51	Si
SLU 47	ini.	554.02	190	-0.0001083	0.0002246	0.0035	1.45		7949.58	7949.58	No	14.35	Si
SLU 47	fin.	17.8	-117	-0.0000034	0.0002246	0.0035	1.45		7949.58	7949.58	No	446.66	Si
SLU 64	ini.	610.03	206	-0.0001197	0.0002246	0.0035	1.45		7949.58	7949.58	No	13.03	Si
SLU 64	fin.	16.26	-142	-0.0000031	0.0002246	0.0035	1.45		7949.58	7949.58	No	488.83	Si
SLU 60	ini.	556.82	148	-0.0001088	0.0002246	0.0035	1.45		7949.58	7949.58	No	14.28	Si
SLU 60	fin.	24.82	-169	-0.0000047	0.0002246	0.0035	1.45		7949.58	7949.58	No	320.25	Si
SLU 65	ini.	569.85	150	-0.0001115	0.0002246	0.0035	1.45		7949.58	7949.58	No	13.95	Si
SLU 65	fin.	26.27	-170	-0.000005	0.0002246	0.0035	1.45		7949.58	7949.58	No	302.56	Si
SLU 46	ini.	572.32	199	-0.000112	0.0002246	0.0035	1.45		7949.58	7949.58	No	13.89	Si
SLU 46	fin.	17.95	-116	-0.0000034	0.0002246	0.0035	1.45		7949.58	7949.58	No	442.79	Si
SLU 43	ini.	636.33	333	-0.0001251	0.0002246	0.0035	1.45		7949.58	7949.58	No	12.49	Si
SLU 43	fin.	-18.69	-45	-0.0000035	0.0002246	0.0035	1.45		7958.5	7958.5	No	425.81	Si
SLU 45	ini.	596.43	233	-0.0001169	0.0002246	0.0035	1.45		7949.58	7949.58	No	13.33	Si
SLU 45	fin.	11.95	-99	-0.0000023	0.0002246	0.0035	1.45		7949.58	7949.58	No	665.45	Si
SLU 44	ini.	596.15	277	-0.0001169	0.0002246	0.0035	1.45		7949.58	7949.58	No	13.33	Si
SLU 44	fin.	-8.68	-73	-0.0000016	0.0002246	0.0035	1.45		7958.5	7958.5	No	917.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 46	ini.	572.32	-785	1.45	0	1692	6344	3648	3698	7345	No	9.36	Si
SLU 46	fin.	17.95	-1161	1.45	0	1692	6344	3648	3698	7345	No	6.33	Si
SLU 47	ini.	554.02	-754	1.45	0	1692	6344	3648	3698	7345	No	9.74	Si
SLU 47	fin.	17.8	-1130	1.45	0	1692	6344	3648	3698	7345	No	6.5	Si
SLU 65	ini.	569.85	-765	1.45	0	1692	6344	3648	3698	7345	No	9.61	Si
SLU 65	fin.	26.27	-1165	1.45	0	1692	6344	3648	3698	7345	No	6.3	Si
SLU 43	ini.	636.33	-967	1.45	0	1692	6344	3648	3698	7345	No	7.6	Si
SLU 43	fin.	-18.69	-1343	1.45	0	1692	6344	3648	3698	7345	No	5.47	Si
SLU 66	ini.	570.13	-723	1.45	0	1692	6344	3648	3698	7345	No	10.16	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 66	fin.	46.9	-1124	1.45	0	1692	6344	3648	3698	7345	No	6.54	Si
SLU 60	ini.	556.82	-759	1.45	0	1692	6344	3648	3698	7345	No	9.68	Si
SLU 60	fin.	24.82	-1135	1.45	0	1692	6344	3648	3698	7345	No	6.47	Si
SLU 45	ini.	596.43	-837	1.45	0	1692	6344	3648	3698	7345	No	8.77	Si
SLU 45	fin.	11.95	-1214	1.45	0	1692	6344	3648	3698	7345	No	6.05	Si
SLU 52	ini.	540.49	-733	1.45	0	1692	6344	3648	3698	7345	No	10.02	Si
SLU 52	fin.	21.78	-1110	1.45	0	1692	6344	3648	3698	7345	No	6.62	Si
SLU 44	ini.	596.15	-879	1.45	0	1692	6344	3648	3698	7345	No	8.36	Si
SLU 44	fin.	-8.68	-1255	1.45	0	1692	6344	3648	3698	7345	No	5.85	Si
SLU 64	ini.	610.03	-853	1.45	0	1692	6344	3648	3698	7345	No	8.62	Si
SLU 64	fin.	16.26	-1253	1.45	0	1692	6344	3648	3698	7345	No	5.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	2523.63	3318	-0.0005584	0.0003369	0.0035	1.45		8142.56	8142.56		3.23	Si
SLV 11	fin.	-257.91	1665	-0.0000491	0.0003369	0.0035	1.45		8151.83	8151.83		31.61	Si
SLV 12	ini.	2520.2	3316	-0.0005575	0.0003369	0.0035	1.45		8142.56	8142.56		3.23	Si
SLV 12	fin.	-260.26	1669	-0.0000496	0.0003369	0.0035	1.45		8151.83	8151.83		31.32	Si
SLD 8	ini.	1599.23	1968	-0.0003295	0.0003369	0.0035	1.45		8142.56	8142.56		5.09	Si
SLD 8	fin.	-71.39	968	-0.0000135	0.0003369	0.0035	1.45		8151.83	8151.83		114.19	Si
SLV 6	ini.	-1605.37	-3020	-0.0003305	0.0003369	0.0035	1.45		8151.83	8151.83		5.08	Si
SLV 6	fin.	284.97	-1890	-0.0000544	0.0003369	0.0035	1.45		8142.56	8142.56		28.57	Si
SLV 7	ini.	2302.06	3085	-0.0005004	0.0003369	0.0035	1.45		8142.56	8142.56		3.54	Si
SLV 7	fin.	-124.12	1621	-0.0000235	0.0003369	0.0035	1.45		8151.83	8151.83		65.68	Si
SLD 12	ini.	1740.89	2117	-0.0003624	0.0003369	0.0035	1.45		8142.56	8142.56		4.68	Si
SLD 12	fin.	-156.86	995	-0.0000297	0.0003369	0.0035	1.45		8151.83	8151.83		51.97	Si
SLV 5	ini.	-1601.94	-3017	-0.0003298	0.0003369	0.0035	1.45		8151.83	8151.83		5.09	Si
SLV 5	fin.	287.33	-1894	-0.0000549	0.0003369	0.0035	1.45		8142.56	8142.56		28.34	Si
SLD 11	ini.	1743.05	2119	-0.0003629	0.0003369	0.0035	1.45		8142.56	8142.56		4.67	Si
SLD 11	fin.	-155.37	993	-0.0000294	0.0003369	0.0035	1.45		8151.83	8151.83		52.47	Si
SLV 8	ini.	2298.62	3083	-0.0004995	0.0003369	0.0035	1.45		8142.56	8142.56		3.54	Si
SLV 8	fin.	-126.48	1626	-0.0000239	0.0003369	0.0035	1.45		8151.83	8151.83		64.45	Si
SLD 7	ini.	1601.39	1970	-0.00033	0.0003369	0.0035	1.45		8142.56	8142.56		5.08	Si
SLD 7	fin.	-69.9	965	-0.0000132	0.0003369	0.0035	1.45		8151.83	8151.83		116.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	1740.89	-3260	1.45	0	2538	6344	5471	3698	8881		2.72	Si
SLD 12	fin.	-156.86	-3561	1.45	0	2538	6344	5471	3698	8881		2.49	Si
SLV 6	ini.	-1605.37	3580	1.45	0	2538	6344	5471	3698	8881		2.48	Si
SLV 6	fin.	284.97	3272	1.45	0	2538	6344	5471	3698	8881		2.71	Si
SLV 12	ini.	2520.2	-4852	1.45	0	2538	6344	5471	3698	8881		1.83	Si
SLV 12	fin.	-260.26	-5150	1.45	0	2538	6344	5471	3698	8881		1.72	Si
SLD 7	ini.	1601.39	-2872	1.45	0	2538	6344	5471	3698	8881		3.09	Si
SLD 7	fin.	-69.9	-3172	1.45	0	2538	6344	5471	3698	8881		2.8	Si
SLV 11	ini.	2523.63	-4859	1.45	0	2538	6344	5471	3698	8881		1.83	Si
SLV 11	fin.	-257.91	-5157	1.45	0	2538	6344	5471	3698	8881		1.72	Si
SLD 11	ini.	1743.05	-3264	1.45	0	2538	6344	5471	3698	8881		2.72	Si
SLD 11	fin.	-155.37	-3565	1.45	0	2538	6344	5471	3698	8881		2.49	Si
SLV 5	ini.	-1601.94	3573	1.45	0	2538	6344	5471	3698	8881		2.49	Si
SLV 5	fin.	287.33	3265	1.45	0	2538	6344	5471	3698	8881		2.72	Si
SLV 7	ini.	2302.06	-4245	1.45	0	2538	6344	5471	3698	8881		2.09	Si
SLV 7	fin.	-124.12	-4542	1.45	0	2538	6344	5471	3698	8881		1.96	Si
SLD 8	ini.	1599.23	-2868	1.45	0	2538	6344	5471	3698	8881		3.1	Si
SLD 8	fin.	-71.39	-3168	1.45	0	2538	6344	5471	3698	8881		2.8	Si
SLV 8	ini.	2298.62	-4238	1.45	0	2538	6344	5471	3698	8881		2.1	Si
SLV 8	fin.	-126.48	-4535	1.45	0	2538	6344	5471	3698	8881		1.96	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.227	SLV 11	Si
V_SLV	1.722	SLV 11	Si
PF_SLU	12.493	SLU 43	Si
V_SLU	5.468	SLU 43	Si

Trave di accoppiamento 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.363	-3.169	10	11.45	1.45	-16.263	-3.169	10	11.45	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-1793	-3637	-0.0004015	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.28	Si
SLU 76	fin.	653.16	-262	-0.0001296	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.73	Si
SLU 77	ini.	-1811.21	-3717	-0.0004064	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.23	Si
SLU 77	fin.	651.05	-307	-0.0001291	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.77	Si
SLU 74	ini.	-1820.91	-3704	-0.000409	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.21	Si
SLU 74	fin.	662.79	-267	-0.0001316	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.56	Si
SLU 75	ini.	-1822.53	-3712	-0.0004094	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.21	Si
SLU 75	fin.	661.98	-273	-0.0001314	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.57	Si
SLU 83	ini.	-1834.38	-3685	-0.0004126	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.18	Si
SLU 83	fin.	682.04	-215	-0.0001357	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.23	Si
SLU 84	ini.	-1836.01	-3694	-0.000413	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.18	Si
SLU 84	fin.	681.23	-221	-0.0001355	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.24	Si
SLU 81	ini.	-1844.07	-3672	-0.0004152	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.16	Si
SLU 81	fin.	693.77	-176	-0.0001381	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.04	Si
SLU 82	ini.	-1845.7	-3680	-0.0004156	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.16	Si
SLU 82	fin.	692.97	-181	-0.000138	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.05	Si
SLU 73	ini.	-1802.7	-3623	-0.0004041	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.25	Si
SLU 73	fin.	664.9	-223	-0.000132	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.52	Si
SLU 78	ini.	-1812.84	-3725	-0.0004068	0.0001872	0.0035	1.45		7669.58	7669.58	No	4.23	Si
SLU 78	fin.	650.25	-312	-0.000129	0.0001872	0.0035	1.45		7660.24	7660.24	No	11.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1845.7	7164	1.45	0	2819	7137	6079	3698	9776	No	1.36	Si
SLU 82	fin.	692.97	2430	1.45	0	2819	7137	6079	3698	9776	No	4.02	Si
SLU 74	ini.	-1820.91	6965	1.45	0	2819	7137	6079	3698	9776	No	1.4	Si
SLU 74	fin.	662.79	2422	1.45	0	2819	7137	6079	3698	9776	No	4.04	Si
SLU 75	ini.	-1822.53	6969	1.45	0	2819	7137	6079	3698	9776	No	1.4	Si
SLU 75	fin.	661.98	2419	1.45	0	2819	7137	6079	3698	9776	No	4.04	Si
SLU 73	ini.	-1802.7	6913	1.45	0	2819	7137	6079	3698	9776	No	1.41	Si
SLU 73	fin.	664.9	2429	1.45	0	2819	7137	6079	3698	9776	No	4.02	Si
SLU 81	ini.	-1844.07	7161	1.45	0	2819	7137	6079	3698	9776	No	1.37	Si
SLU 81	fin.	693.77	2433	1.45	0	2819	7137	6079	3698	9776	No	4.02	Si
SLU 84	ini.	-1836.01	7119	1.45	0	2819	7137	6079	3698	9776	No	1.37	Si
SLU 84	fin.	681.23	2383	1.45	0	2819	7137	6079	3698	9776	No	4.1	Si
SLU 76	ini.	-1793	6869	1.45	0	2819	7137	6079	3698	9776	No	1.42	Si
SLU 76	fin.	653.16	2382	1.45	0	2819	7137	6079	3698	9776	No	4.1	Si
SLU 78	ini.	-1812.84	6924	1.45	0	2819	7137	6079	3698	9776	No	1.41	Si
SLU 78	fin.	650.25	2372	1.45	0	2819	7137	6079	3698	9776	No	4.12	Si
SLU 83	ini.	-1834.38	7116	1.45	0	2819	7137	6079	3698	9776	No	1.37	Si
SLU 83	fin.	682.04	2386	1.45	0	2819	7137	6079	3698	9776	No	4.1	Si
SLU 77	ini.	-1811.21	6920	1.45	0	2819	7137	6079	3698	9776	No	1.41	Si
SLU 77	fin.	651.05	2375	1.45	0	2819	7137	6079	3698	9776	No	4.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1957.99	-4079	-0.0004222	0.0002807	0.0035	1.45		7655.81	7655.81		3.91	Si
SLV 10	fin.	828.25	-696	-0.0001637	0.0002807	0.0035	1.45		7646.28	7646.28		9.23	Si
SLV 16	ini.	-2454.98	-3730	-0.0005531	0.0002807	0.0035	1.45		7655.81	7655.81		3.12	Si
SLV 16	fin.	1490.77	954	-0.0003092	0.0002807	0.0035	1.45		7646.28	7646.28		5.13	Si
SLD 13	ini.	-2440.04	-4121	-0.000549	0.0002807	0.0035	1.45		7655.81	7655.81		3.14	Si
SLD 13	fin.	1345.06	364	-0.0002758	0.0002807	0.0035	1.45		7646.28	7646.28		5.68	Si
SLV 13	ini.	-3101.33	-4997	-0.0007388	0.0002807	0.0035	1.45		7655.81	7655.81		2.47	Si
SLV 13	fin.	1847.16	678	-0.000395	0.0002807	0.0035	1.45		7646.28	7646.28		4.14	Si
SLD 16	ini.	-2031.22	-3324	-0.0004408	0.0002807	0.0035	1.45		7655.81	7655.81		3.77	Si
SLD 16	fin.	1118.47	532	-0.0002255	0.0002807	0.0035	1.45		7646.28	7646.28		6.84	Si
SLV 9	ini.	-2242.86	-4469	-0.000496	0.0002807	0.0035	1.45		7655.81	7655.81		3.41	Si
SLV 9	fin.	1025.07	-583	-0.0002053	0.0002807	0.0035	1.45		7646.28	7646.28		7.46	Si
SLV 14	ini.	-2678.22	-4417	-0.0006152	0.0002807	0.0035	1.45		7655.81	7655.81		2.86	Si
SLV 14	fin.	1554.83	511	-0.0003242	0.0002807	0.0035	1.45		7646.28	7646.28		4.92	Si
SLV 15	ini.	-2878.08	-4309	-0.0006726	0.0002807	0.0035	1.45		7655.81	7655.81		2.66	Si
SLV 15	fin.	1783.1	1120	-0.0003792	0.0002807	0.0035	1.45		7646.28	7646.28		4.29	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-2301.54	-3694	-0.0005116	0.0002807	0.0035	1.45		7655.81	7655.81		3.33	Si
SLD 15	fin.	1305.24	639	-0.0002668	0.0002807	0.0035	1.45		7646.28	7646.28		5.86	Si
SLD 14	ini.	-2169.71	-3751	-0.0004767	0.0002807	0.0035	1.45		7655.81	7655.81		3.53	Si
SLD 14	fin.	1158.29	257	-0.0002342	0.0002807	0.0035	1.45		7646.28	7646.28		6.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-2878.08	10440	1.45	0	4229	7137	9118	3698	11366		1.09	Si
SLV 15	fin.	1783.1	6766	1.45	0	4229	7137	9118	3698	11366		1.68	Si
SLV 10	ini.	-1957.99	6740	1.45	0	4229	7137	9118	3698	11366		1.69	Si
SLV 10	fin.	828.25	3348	1.45	0	4229	7137	9118	3698	11366		3.4	Si
SLD 16	ini.	-2031.22	7503	1.45	0	4229	7137	9118	3698	11366		1.51	Si
SLD 16	fin.	1118.47	4203	1.45	0	4229	7137	9118	3698	11366		2.7	Si
SLV 9	ini.	-2242.86	7690	1.45	0	4229	7137	9118	3698	11366		1.48	Si
SLV 9	fin.	1025.07	4164	1.45	0	4229	7137	9118	3698	11366		2.73	Si
SLD 14	ini.	-2169.71	7823	1.45	0	4229	7137	9118	3698	11366		1.45	Si
SLD 14	fin.	1158.29	4424	1.45	0	4229	7137	9118	3698	11366		2.57	Si
SLD 15	ini.	-2301.54	8405	1.45	0	4229	7137	9118	3698	11366		1.35	Si
SLD 15	fin.	1305.24	4977	1.45	0	4229	7137	9118	3698	11366		2.28	Si
SLV 16	ini.	-2454.98	9028	1.45	0	4229	7137	9118	3698	11366		1.26	Si
SLV 16	fin.	1490.77	5555	1.45	0	4229	7137	9118	3698	11366		2.05	Si
SLV 13	ini.	-3101.33	10956	1.45	0	4229	7137	9118	3698	11366		1.04	Si
SLV 13	fin.	1847.16	7123	1.45	0	4229	7137	9118	3698	11366		1.6	Si
SLD 13	ini.	-2440.04	8725	1.45	0	4229	7137	9118	3698	11366		1.3	Si
SLD 13	fin.	1345.06	5199	1.45	0	4229	7137	9118	3698	11366		2.19	Si
SLV 14	ini.	-2678.22	9544	1.45	0	4229	7137	9118	3698	11366		1.19	Si
SLV 14	fin.	1554.83	5911	1.45	0	4229	7137	9118	3698	11366		1.92	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.469	SLV 13	Si
V_SLV	1.037	SLV 13	Si
PF_SLU	4.155	SLU 82	Si
V_SLU	1.365	SLU 82	Si

Trave di accoppiamento 118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	10	11.45	1.45	-15.058	2.206	10	11.45	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 41	ini.	662.41	-1474	-0.0001305	0.0002246	0.0035	1.45		7949.58	7949.58	No	12	Si
SLU 41	fin.	-1462.83	-2605	-0.0003091	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.44	Si
SLU 78	ini.	735.39	-1617	-0.0001457	0.0002246	0.0035	1.45		7949.58	7949.58	No	10.81	Si
SLU 78	fin.	-1532.63	-2828	-0.0003261	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.19	Si
SLU 83	ini.	741.76	-1636	-0.000147	0.0002246	0.0035	1.45		7949.58	7949.58	No	10.72	Si
SLU 83	fin.	-1585.25	-2874	-0.0003391	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.02	Si
SLU 35	ini.	669.49	-1489	-0.000132	0.0002246	0.0035	1.45		7949.58	7949.58	No	11.87	Si
SLU 35	fin.	-1461.94	-2629	-0.0003089	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.44	Si
SLU 81	ini.	708.38	-1557	-0.0001401	0.0002246	0.0035	1.45		7949.58	7949.58	No	11.22	Si
SLU 81	fin.	-1500.41	-2727	-0.0003182	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.3	Si
SLU 77	ini.	748.85	-1651	-0.0001485	0.0002246	0.0035	1.45		7949.58	7949.58	No	10.62	Si
SLU 77	fin.	-1584.35	-2897	-0.0003389	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.02	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	736.83	-1624	-0.000146	0.0002246	0.0035	1.45		7949.58	7949.58	No	10.79	Si
SLU 79	fin.	-1558.19	-2849	-0.0003324	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.11	Si
SLU 84	ini.	728.31	-1603	-0.0001442	0.0002246	0.0035	1.45		7949.58	7949.58	No	10.92	Si
SLU 84	fin.	-1533.53	-2804	-0.0003263	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.19	Si
SLU 80	ini.	723.38	-1590	-0.0001432	0.0002246	0.0035	1.45		7949.58	7949.58	No	10.99	Si
SLU 80	fin.	-1506.48	-2779	-0.0003197	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.28	Si
SLU 74	ini.	715.46	-1572	-0.0001415	0.0002246	0.0035	1.45		7949.58	7949.58	No	11.11	Si
SLU 74	fin.	-1499.52	-2751	-0.000318	0.0002246	0.0035	1.45		7958.5	7958.5	No	5.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	741.76	-3832	1.45	0	1692	6344	3648	3698	7345	No	1.92	Si
SLU 83	fin.	-1585.25	-4238	1.45	0	1692	6344	3648	3698	7345	No	1.73	Si
SLU 79	ini.	736.83	-3781	1.45	0	1692	6344	3648	3698	7345	No	1.94	Si
SLU 79	fin.	-1558.19	-4187	1.45	0	1692	6344	3648	3698	7345	No	1.75	Si
SLU 81	ini.	708.38	-3623	1.45	0	1692	6344	3648	3698	7345	No	2.03	Si
SLU 81	fin.	-1500.41	-4030	1.45	0	1692	6344	3648	3698	7345	No	1.82	Si
SLU 77	ini.	748.85	-3848	1.45	0	1692	6344	3648	3698	7345	No	1.91	Si
SLU 77	fin.	-1584.35	-4254	1.45	0	1692	6344	3648	3698	7345	No	1.73	Si
SLU 82	ini.	694.93	-3509	1.45	0	1692	6344	3648	3698	7345	No	2.09	Si
SLU 82	fin.	-1448.7	-3915	1.45	0	1692	6344	3648	3698	7345	No	1.88	Si
SLU 75	ini.	702.01	-3525	1.45	0	1692	6344	3648	3698	7345	No	2.08	Si
SLU 75	fin.	-1447.8	-3932	1.45	0	1692	6344	3648	3698	7345	No	1.87	Si
SLU 84	ini.	728.31	-3717	1.45	0	1692	6344	3648	3698	7345	No	1.98	Si
SLU 84	fin.	-1533.53	-4124	1.45	0	1692	6344	3648	3698	7345	No	1.78	Si
SLU 80	ini.	723.38	-3666	1.45	0	1692	6344	3648	3698	7345	No	2	Si
SLU 80	fin.	-1506.48	-4073	1.45	0	1692	6344	3648	3698	7345	No	1.8	Si
SLU 78	ini.	735.39	-3734	1.45	0	1692	6344	3648	3698	7345	No	1.97	Si
SLU 78	fin.	-1532.63	-4140	1.45	0	1692	6344	3648	3698	7345	No	1.77	Si
SLU 74	ini.	715.46	-3639	1.45	0	1692	6344	3648	3698	7345	No	2.02	Si
SLU 74	fin.	-1499.52	-4046	1.45	0	1692	6344	3648	3698	7345	No	1.82	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	1199.53	-4191	-0.0002408	0.0003369	0.0035	1.45		8142.56	8142.56		6.79	Si
SLV 12	fin.	-5194.04	-7829	-0.0014389	0.0003369	0.0035	1.45		8151.83	8151.83		1.57	Si
SLV 6	ini.	-294.34	2232	-0.0000562	0.0003369	0.0035	1.45		8151.83	8151.83		27.7	Si
SLV 6	fin.	3398.97	4440	-0.0008078	0.0003369	0.0035	1.45		8142.56	8142.56		2.4	Si
SLV 5	ini.	-303.69	2255	-0.000058	0.0003369	0.0035	1.45		8151.83	8151.83		26.84	Si
SLV 5	fin.	3432.76	4486	-0.0008181	0.0003369	0.0035	1.45		8142.56	8142.56		2.37	Si
SLV 7	ini.	1117.16	-4138	-0.0002232	0.0003369	0.0035	1.45		8142.56	8142.56		7.29	Si
SLV 7	fin.	-4989.91	-7579	-0.001356	0.0003369	0.0035	1.45		8151.83	8151.83		1.63	Si
SLD 8	ini.	868	-2957	-0.0001709	0.0003369	0.0035	1.45		8142.56	8142.56		9.38	Si
SLD 8	fin.	-3457.39	-5374	-0.0008244	0.0003369	0.0035	1.45		8151.83	8151.83		2.36	Si
SLD 11	ini.	908.8	-2961	-0.0001793	0.0003369	0.0035	1.45		8142.56	8142.56		8.96	Si
SLD 11	fin.	-3544.84	-5476	-0.0008513	0.0003369	0.0035	1.45		8151.83	8151.83		2.3	Si
SLD 12	ini.	914.68	-2976	-0.0001806	0.0003369	0.0035	1.45		8142.56	8142.56		8.9	Si
SLD 12	fin.	-3566.09	-5504	-0.0008579	0.0003369	0.0035	1.45		8151.83	8151.83		2.29	Si
SLV 8	ini.	1126.51	-4161	-0.0002252	0.0003369	0.0035	1.45		8142.56	8142.56		7.23	Si
SLV 8	fin.	-5023.7	-7624	-0.0013695	0.0003369	0.0035	1.45		8151.83	8151.83		1.62	Si
SLD 7	ini.	862.12	-2943	-0.0001697	0.0003369	0.0035	1.45		8142.56	8142.56		9.44	Si
SLD 7	fin.	-3436.14	-5345	-0.0008179	0.0003369	0.0035	1.45		8151.83	8151.83		2.37	Si
SLV 11	ini.	1190.19	-4168	-0.0002388	0.0003369	0.0035	1.45		8142.56	8142.56		6.84	Si
SLV 11	fin.	-5160.25	-7783	-0.0014249	0.0003369	0.0035	1.45		8151.83	8151.83		1.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	908.8	-7724	1.45	0	2538	6344	5471	3698	8881		1.15	Si
SLD 11	fin.	-3544.84	-8019	1.45	16250	2538	6344	5471	3698	8881		1.11	Si
SLV 7	ini.	1117.16	-10722	1.45	0	2538	6344	5471	3698	8881		0.83	No
SLV 7	fin.	-4989.91	-11030	1.45	16250	2538	6344	5471	3698	8881		0.81	No
SLD 12	ini.	914.68	-7771	1.45	0	2538	6344	5471	3698	8881		1.14	Si
SLD 12	fin.	-3566.09	-8066	1.45	16250	2538	6344	5471	3698	8881		1.1	Si
SLV 11	ini.	1190.19	-11105	1.45	0	2538	6344	5471	3698	8881		0.8	No
SLV 11	fin.	-5160.25	-11392	1.45	16250	2538	6344	5471	3698	8881		0.78	No
SLV 8	ini.	1126.51	-10796	1.45	0	2538	6344	5471	3698	8881		0.82	No
SLV 8	fin.	-5023.7	-11105	1.45	16250	2538	6344	5471	3698	8881		0.8	No
SLD 8	ini.	868	-7527	1.45	0	2538	6344	5471	3698	8881		1.18	Si
SLD 8	fin.	-3457.39	-7835	1.45	16250	2538	6344	5471	3698	8881		1.13	Si
SLD 7	ini.	862.12	-7480	1.45	0	2538	6344	5471	3698	8881		1.19	Si
SLD 7	fin.	-3436.14	-7788	1.45	16250	2538	6344	5471	3698	8881		1.14	Si
SLV 5	ini.	-303.69	6882	1.45	0	2538	6344	5471	3698	8881		1.29	Si
SLV 5	fin.	3432.76	6553	1.45	16250	2538	6344	5471	3698	8881		1.36	Si
SLV 6	ini.	-294.34	6808	1.45	0	2538	6344	5471	3698	8881		1.3	Si
SLV 6	fin.	3398.97	6478	1.45	16250	2538	6344	5471	3698	8881		1.37	Si
SLV 12	ini.	1199.53	-11179	1.45	0	2538	6344	5471	3698	8881		0.79	No
SLV 12	fin.	-5194.04	-11466	1.45	16250	2538	6344	5471	3698	8881		0.77	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.569	SLV 12	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.775	SLV 12	No
PF_SLU	5.02	SLU 83	Si
V_SLU	1.726	SLU 77	Si

Trave di accoppiamento 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	7.9	8.8	0.9	-16.843	6.661	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	304.79	-1843	-0.0001591	0.0001872	0.0035	0.9		2959	2959	No	9.71	Si
SLU 77	fin.	173.46	-2093	-0.0000878	0.0001872	0.0035	0.9		2959	2959	No	17.06	Si
SLU 78	ini.	302.14	-1836	-0.0001577	0.0001872	0.0035	0.9		2959	2959	No	9.79	Si
SLU 78	fin.	175.8	-2101	-0.0000891	0.0001872	0.0035	0.9		2959	2959	No	16.83	Si
SLU 75	ini.	298.93	-1791	-0.0001559	0.0001872	0.0035	0.9		2959	2959	No	9.9	Si
SLU 75	fin.	164.5	-2000	-0.0000831	0.0001872	0.0035	0.9		2959	2959	No	17.99	Si
SLU 81	ini.	300.98	-1773	-0.000157	0.0001872	0.0035	0.9		2959	2959	No	9.83	Si
SLU 81	fin.	156.82	-1920	-0.0000791	0.0001872	0.0035	0.9		2959	2959	No	18.87	Si
SLU 82	ini.	298.33	-1766	-0.0001555	0.0001872	0.0035	0.9		2959	2959	No	9.92	Si
SLU 82	fin.	159.16	-1928	-0.0000804	0.0001872	0.0035	0.9		2959	2959	No	18.59	Si
SLU 74	ini.	301.57	-1798	-0.0001573	0.0001872	0.0035	0.9		2959	2959	No	9.81	Si
SLU 74	fin.	162.16	-1992	-0.0000819	0.0001872	0.0035	0.9		2959	2959	No	18.25	Si
SLU 79	ini.	300.04	-1811	-0.0001565	0.0001872	0.0035	0.9		2959	2959	No	9.86	Si
SLU 79	fin.	169.38	-2048	-0.0000857	0.0001872	0.0035	0.9		2959	2959	No	17.47	Si
SLU 80	ini.	297.4	-1804	-0.000155	0.0001872	0.0035	0.9		2959	2959	No	9.95	Si
SLU 80	fin.	171.72	-2055	-0.0000869	0.0001872	0.0035	0.9		2959	2959	No	17.23	Si
SLU 84	ini.	301.54	-1810	-0.0001573	0.0001872	0.0035	0.9		2959	2959	No	9.81	Si
SLU 84	fin.	170.46	-2029	-0.0000863	0.0001872	0.0035	0.9		2959	2959	No	17.36	Si
SLU 83	ini.	304.19	-1818	-0.0001588	0.0001872	0.0035	0.9		2959	2959	No	9.73	Si
SLU 83	fin.	168.13	-2021	-0.000085	0.0001872	0.0035	0.9		2959	2959	No	17.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	301.54	-1828	0.9	0	1750	7137	3773	2295	6068	No	3.32	Si
SLU 84	fin.	170.46	2902	0.9	0	1750	7137	3773	2295	6068	No	2.09	Si
SLU 70	ini.	284.97	-1834	0.9	0	1750	7137	3773	2295	6068	No	3.31	Si
SLU 70	fin.	152.36	2860	0.9	0	1750	7137	3773	2295	6068	No	2.12	Si
SLU 75	ini.	298.93	-1842	0.9	0	1750	7137	3773	2295	6068	No	3.29	Si
SLU 75	fin.	164.5	2889	0.9	0	1750	7137	3773	2295	6068	No	2.1	Si
SLU 69	ini.	287.62	-1851	0.9	0	1750	7137	3773	2295	6068	No	3.28	Si
SLU 69	fin.	150.02	2854	0.9	0	1750	7137	3773	2295	6068	No	2.13	Si
SLU 83	ini.	304.19	-1845	0.9	0	1750	7137	3773	2295	6068	No	3.29	Si
SLU 83	fin.	168.13	2896	0.9	0	1750	7137	3773	2295	6068	No	2.1	Si
SLU 74	ini.	301.57	-1859	0.9	0	1750	7137	3773	2295	6068	No	3.26	Si
SLU 74	fin.	162.16	2883	0.9	0	1750	7137	3773	2295	6068	No	2.1	Si
SLU 78	ini.	302.14	-1888	0.9	0	1750	7137	3773	2295	6068	No	3.21	Si
SLU 78	fin.	175.8	3053	0.9	0	1750	7137	3773	2295	6068	No	1.99	Si
SLU 77	ini.	304.79	-1905	0.9	0	1750	7137	3773	2295	6068	No	3.19	Si
SLU 77	fin.	173.46	3047	0.9	0	1750	7137	3773	2295	6068	No	1.99	Si
SLU 79	ini.	300.04	-1868	0.9	0	1750	7137	3773	2295	6068	No	3.25	Si
SLU 79	fin.	169.38	2977	0.9	0	1750	7137	3773	2295	6068	No	2.04	Si
SLU 80	ini.	297.4	-1851	0.9	0	1750	7137	3773	2295	6068	No	3.28	Si
SLU 80	fin.	171.72	2983	0.9	0	1750	7137	3773	2295	6068	No	2.03	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-624.42	867	-0.0003395	0.0002807	0.0035	0.9		2995.37	2995.37		4.8	Si
SLV 1	fin.	797.79	-4676	-0.0004521	0.0002807	0.0035	0.9		2989.59	2989.59		3.75	Si
SLD 16	ini.	744.61	-2555	-0.0004169	0.0002807	0.0035	0.9		2989.59	2989.59		4.01	Si
SLD 16	fin.	-354.59	901	-0.0001829	0.0002807	0.0035	0.9		2995.37	2995.37		8.45	Si
SLD 14	ini.	662.64	-2316	-0.0003641	0.0002807	0.0035	0.9		2989.59	2989.59		4.51	Si
SLD 14	fin.	-283.36	668	-0.0001444	0.0002807	0.0035	0.9		2995.37	2995.37		10.57	Si
SLV 14	ini.	915.49	-2927	-0.000533	0.0002807	0.0035	0.9		2989.59	2989.59		3.27	Si
SLV 14	fin.	-495.2	1758	-0.0002621	0.0002807	0.0035	0.9		2995.37	2995.37		6.05	Si
SLV 2	ini.	-462.58	481	-0.0002433	0.0002807	0.0035	0.9		2995.37	2995.37		6.48	Si
SLV 2	fin.	656.01	-3982	-0.00036	0.0002807	0.0035	0.9		2989.59	2989.59		4.56	Si
SLV 12	ini.	691.95	-2504	-0.0003828	0.0002807	0.0035	0.9		2989.59	2989.59		4.32	Si
SLV 12	fin.	-317.13	449	-0.0001625	0.0002807	0.0035	0.9		2995.37	2995.37		9.45	Si
SLV 3	ini.	-492.78	483	-0.0002607	0.0002807	0.0035	0.9		2995.37	2995.37		6.08	Si
SLV 3	fin.	683.32	-4301	-0.0003773	0.0002807	0.0035	0.9		2989.59	2989.59		4.38	Si
SLV 15	ini.	885.29	-2925	-0.0005119	0.0002807	0.0035	0.9		2989.59	2989.59		3.38	Si
SLV 15	fin.	-467.89	1440	-0.0002463	0.0002807	0.0035	0.9		2995.37	2995.37		6.4	Si
SLV 13	ini.	753.66	-2540	-0.0004228	0.0002807	0.0035	0.9		2989.59	2989.59		3.97	Si
SLV 13	fin.	-353.42	1065	-0.0001822	0.0002807	0.0035	0.9		2995.37	2995.37		8.48	Si
SLV 16	ini.	1047.13	-3311	-0.0006282	0.0002807	0.0035	0.9		2989.59	2989.59		2.86	Si
SLV 16	fin.	-609.67	2133	-0.0003304	0.0002807	0.0035	0.9		2995.37	2995.37		4.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-239.92	794	0.9	0	2625	7137	5660	2295	7955		10.02	Si
SLD 3	fin.	471.48	4719	0.9	0	2625	7137	5660	2295	7955		1.69	Si
SLD 2	ini.	-218.49	837	0.9	0	2625	7137	5660	2295	7955		9.51	Si
SLD 2	fin.	452.12	4280	0.9	0	2625	7137	5660	2295	7955		1.86	Si
SLV 2	ini.	-462.58	2057	0.9	0	2625	7137	5660	2295	7955		3.87	Si
SLV 2	fin.	656.01	5657	0.9	0	2625	7137	5660	2295	7955		1.41	Si
SLV 4	ini.	-330.94	1182	0.9	0	2625	7137	5660	2295	7955		6.73	Si
SLV 4	fin.	541.54	5362	0.9	0	2625	7137	5660	2295	7955		1.48	Si
SLV 14	ini.	915.49	-4579	0.9	0	2625	7137	5660	2295	7955		1.74	Si
SLV 14	fin.	-495.2	-2624	0.9	0	2625	7137	5660	2295	7955		3.03	Si
SLD 1	ini.	-321.89	1338	0.9	0	2625	7137	5660	2295	7955		5.94	Si
SLD 1	fin.	542.71	4903	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 16	ini.	1047.13	-5453	0.9	0	2625	7137	5660	2295	7955		1.46	Si
SLV 16	fin.	-609.67	-2919	0.9	0	2625	7137	5660	2295	7955		2.73	Si
SLV 15	ini.	885.29	-4669	0.9	0	2625	7137	5660	2295	7955		1.7	Si
SLV 15	fin.	-467.89	-1943	0.9	0	2625	7137	5660	2295	7955		4.09	Si
SLV 3	ini.	-492.78	1966	0.9	0	2625	7137	5660	2295	7955		4.05	Si
SLV 3	fin.	683.32	6339	0.9	0	2625	7137	5660	2295	7955		1.25	Si
SLV 1	ini.	-624.42	2841	0.9	0	2625	7137	5660	2295	7955		2.8	Si
SLV 1	fin.	797.79	6634	0.9	0	2625	7137	5660	2295	7955		1.2	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.855	SLV 16	Si
V_SLV	1.199	SLV 1	Si
PF_SLU	9.708	SLU 77	Si
V_SLU	1.987	SLU 78	Si

Trave di accoppiamento 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	10.6	11.45	0.85	-16.843	6.661	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-181.52	-1139	-0.0001033	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.63	Si
SLU 80	fin.	-243.03	-1557	-0.0001405	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.93	Si
SLU 84	ini.	-172.5	-1120	-0.0000979	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.4	Si
SLU 84	fin.	-245.97	-1565	-0.0001423	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.8	Si
SLU 83	ini.	-168.09	-1115	-0.0000953	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.8	Si
SLU 83	fin.	-248.44	-1576	-0.0001439	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.69	Si
SLU 79	ini.	-177.12	-1135	-0.0001007	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.99	Si
SLU 79	fin.	-245.5	-1567	-0.000142	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.82	Si
SLU 74	ini.	-160.36	-1096	-0.0000908	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.56	Si
SLU 74	fin.	-247.86	-1562	-0.0001435	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.72	Si
SLU 77	ini.	-181.56	-1165	-0.0001033	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.63	Si
SLU 77	fin.	-251.27	-1604	-0.0001456	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.57	Si
SLU 81	ini.	-146.89	-1046	-0.0000829	0.0001872	0.0035	0.85		2655.83	2655.83	No	18.08	Si
SLU 81	fin.	-245.03	-1534	-0.0001418	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.84	Si
SLU 78	ini.	-185.96	-1169	-0.0001059	0.0001872	0.0035	0.85		2655.83	2655.83	No	14.28	Si
SLU 78	fin.	-248.8	-1594	-0.0001441	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.67	Si
SLU 82	ini.	-151.3	-1051	-0.0000855	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.55	Si
SLU 82	fin.	-242.55	-1523	-0.0001402	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.95	Si
SLU 75	ini.	-164.76	-1100	-0.0000934	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.12	Si
SLU 75	fin.	-245.38	-1552	-0.000142	0.0001872	0.0035	0.85		2655.83	2655.83	No	10.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-146.89	1073	0.85	0	1653	6740	3563	2168	5731	No	5.34	Si
SLU 81	fin.	-245.03	-2682	0.85	0	1653	6740	3563	2168	5731	No	2.14	Si
SLU 80	ini.	-181.52	1199	0.85	0	1653	6740	3563	2168	5731	No	4.78	Si
SLU 80	fin.	-243.03	-2716	0.85	0	1653	6740	3563	2168	5731	No	2.11	Si
SLU 82	ini.	-151.3	1086	0.85	0	1653	6740	3563	2168	5731	No	5.28	Si
SLU 82	fin.	-242.55	-2665	0.85	0	1653	6740	3563	2168	5731	No	2.15	Si
SLU 75	ini.	-164.76	1134	0.85	0	1653	6740	3563	2168	5731	No	5.06	Si
SLU 75	fin.	-245.38	-2697	0.85	0	1653	6740	3563	2168	5731	No	2.12	Si
SLU 74	ini.	-160.36	1121	0.85	0	1653	6740	3563	2168	5731	No	5.11	Si
SLU 74	fin.	-247.86	-2715	0.85	0	1653	6740	3563	2168	5731	No	2.11	Si
SLU 84	ini.	-172.5	1174	0.85	0	1653	6740	3563	2168	5731	No	4.88	Si
SLU 84	fin.	-245.97	-2739	0.85	0	1653	6740	3563	2168	5731	No	2.09	Si
SLU 83	ini.	-168.09	1162	0.85	0	1653	6740	3563	2168	5731	No	4.93	Si
SLU 83	fin.	-248.44	-2757	0.85	0	1653	6740	3563	2168	5731	No	2.08	Si
SLU 77	ini.	-181.56	1209	0.85	0	1653	6740	3563	2168	5731	No	4.74	Si
SLU 77	fin.	-251.27	-2789	0.85	0	1653	6740	3563	2168	5731	No	2.05	Si
SLU 79	ini.	-177.12	1187	0.85	0	1653	6740	3563	2168	5731	No	4.83	Si
SLU 79	fin.	-245.5	-2734	0.85	0	1653	6740	3563	2168	5731	No	2.1	Si
SLU 78	ini.	-185.96	1222	0.85	0	1653	6740	3563	2168	5731	No	4.69	Si
SLU 78	fin.	-248.8	-2771	0.85	0	1653	6740	3563	2168	5731	No	2.07	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1105.53	734	-0.0007738	0.0002807	0.0035	0.85		2675.27	2675.27		2.42	Si
SLV 16	fin.	-821.11	-3611	-0.0005339	0.0002807	0.0035	0.85		2680.73	2680.73		3.26	Si
SLV 2	ini.	-1009.97	-1755	-0.0006887	0.0002807	0.0035	0.85		2680.73	2680.73		2.65	Si
SLV 2	fin.	345.45	998	-0.0002008	0.0002807	0.0035	0.85		2675.27	2675.27		7.74	Si
SLV 1	ini.	-1266.49	-2070	-0.0009199	0.0002807	0.0035	0.85		2680.73	2680.73		2.12	Si
SLV 1	fin.	480.22	1532	-0.0002873	0.0002807	0.0035	0.85		2675.27	2675.27		5.57	Si
SLV 5	ini.	-828.62	-1490	-0.0005398	0.0002807	0.0035	0.85		2680.73	2680.73		3.24	Si
SLV 5	fin.	248.16	658	-0.0001416	0.0002807	0.0035	0.85		2675.27	2675.27		10.78	Si
SLV 15	ini.	849.01	419	-0.0005573	0.0002807	0.0035	0.85		2675.27	2675.27		3.15	Si
SLV 15	fin.	-686.34	-3078	-0.0004311	0.0002807	0.0035	0.85		2680.73	2680.73		3.91	Si
SLD 3	ini.	-694.06	-1420	-0.0004368	0.0002807	0.0035	0.85		2680.73	2680.73		3.86	Si
SLD 3	fin.	162.54	258	-0.0000913	0.0002807	0.0035	0.85		2675.27	2675.27		16.46	Si
SLD 1	ini.	-835.37	-1561	-0.0005451	0.0002807	0.0035	0.85		2680.73	2680.73		3.21	Si
SLD 1	fin.	243.86	597	-0.000139	0.0002807	0.0035	0.85		2675.27	2675.27		10.97	Si
SLV 3	ini.	-1039.37	-1845	-0.0007139	0.0002807	0.0035	0.85		2680.73	2680.73		2.58	Si
SLV 3	fin.	349.51	987	-0.0002033	0.0002807	0.0035	0.85		2675.27	2675.27		7.65	Si
SLV 14	ini.	878.41	508	-0.0005809	0.0002807	0.0035	0.85		2675.27	2675.27		3.05	Si
SLV 14	fin.	-690.4	-3066	-0.0004341	0.0002807	0.0035	0.85		2680.73	2680.73		3.88	Si
SLV 4	ini.	-782.86	-1529	-0.0005041	0.0002807	0.0035	0.85		2680.73	2680.73		3.42	Si
SLV 4	fin.	214.73	453	-0.0001218	0.0002807	0.0035	0.85		2675.27	2675.27		12.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1266.49	4487	0.85	0	2479	6740	5345	2168	7513		1.67	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	fin.	480.22	2238	0.85	0	2479	6740	5345	2168	7513		3.36	Si
SLV 3	ini.	-1039.37	3829	0.85	0	2479	6740	5345	2168	7513		1.96	Si
SLV 3	fin.	349.51	1308	0.85	0	2479	6740	5345	2168	7513		5.74	Si
SLV 13	ini.	621.9	-1679	0.85	0	2479	6740	5345	2168	7513		4.48	Si
SLV 13	fin.	-555.62	-4075	0.85	0	2479	6740	5345	2168	7513		1.84	Si
SLD 15	ini.	510.52	-1247	0.85	0	2479	6740	5345	2168	7513		6.03	Si
SLD 15	fin.	-498.64	-3836	0.85	0	2479	6740	5345	2168	7513		1.96	Si
SLV 16	ini.	1105.53	-3173	0.85	0	2479	6740	5345	2168	7513		2.37	Si
SLV 16	fin.	-821.11	-5836	0.85	0	2479	6740	5345	2168	7513		1.29	Si
SLD 16	ini.	674.4	-1781	0.85	0	2479	6740	5345	2168	7513		4.22	Si
SLD 16	fin.	-584.75	-4368	0.85	0	2479	6740	5345	2168	7513		1.72	Si
SLV 15	ini.	849.01	-2336	0.85	0	2479	6740	5345	2168	7513		3.22	Si
SLV 15	fin.	-686.34	-5004	0.85	0	2479	6740	5345	2168	7513		1.5	Si
SLV 14	ini.	878.41	-2515	0.85	0	2479	6740	5345	2168	7513		2.99	Si
SLV 14	fin.	-690.4	-4907	0.85	0	2479	6740	5345	2168	7513		1.53	Si
SLV 12	ini.	667.66	-1645	0.85	0	2479	6740	5345	2168	7513		4.57	Si
SLV 12	fin.	-589.05	-4575	0.85	0	2479	6740	5345	2168	7513		1.64	Si
SLV 11	ini.	494.95	-1082	0.85	0	2479	6740	5345	2168	7513		6.94	Si
SLV 11	fin.	-498.31	-4015	0.85	0	2479	6740	5345	2168	7513		1.87	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.117	SLV 1	Si
V_SLV	1.287	SLV 16	Si
PF_SLU	10.57	SLU 77	Si
V_SLU	2.055	SLU 77	Si

Trave di accoppiamento 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	7.9	8.8	0.9	-11.918	6.661	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	264.87	-1884	-0.000137	0.0001872	0.0035	0.9		2959	2959	No	11.17	Si
SLU 81	fin.	549.59	-2510	-0.0003076	0.0001872	0.0035	0.9		2959	2959	No	5.38	Si
SLU 83	ini.	279.99	-1959	-0.0001453	0.0001872	0.0035	0.9		2959	2959	No	10.57	Si
SLU 83	fin.	559.93	-2572	-0.0003143	0.0001872	0.0035	0.9		2959	2959	No	5.28	Si
SLU 80	ini.	287.09	-1971	-0.0001493	0.0001872	0.0035	0.9		2959	2959	No	10.31	Si
SLU 80	fin.	550	-2543	-0.0003078	0.0001872	0.0035	0.9		2959	2959	No	5.38	Si
SLU 79	ini.	285.25	-1969	-0.0001482	0.0001872	0.0035	0.9		2959	2959	No	10.37	Si
SLU 79	fin.	552.71	-2550	-0.0003096	0.0001872	0.0035	0.9		2959	2959	No	5.35	Si
SLU 74	ini.	277.44	-1938	-0.0001439	0.0001872	0.0035	0.9		2959	2959	No	10.67	Si
SLU 74	fin.	553.73	-2542	-0.0003103	0.0001872	0.0035	0.9		2959	2959	No	5.34	Si
SLU 78	ini.	294.4	-2016	-0.0001533	0.0001872	0.0035	0.9		2959	2959	No	10.05	Si
SLU 78	fin.	561.36	-2597	-0.0003153	0.0001872	0.0035	0.9		2959	2959	No	5.27	Si
SLU 82	ini.	266.7	-1887	-0.000138	0.0001872	0.0035	0.9		2959	2959	No	11.09	Si
SLU 82	fin.	546.89	-2504	-0.0003058	0.0001872	0.0035	0.9		2959	2959	No	5.41	Si
SLU 84	ini.	281.83	-1962	-0.0001463	0.0001872	0.0035	0.9		2959	2959	No	10.5	Si
SLU 84	fin.	557.22	-2565	-0.0003125	0.0001872	0.0035	0.9		2959	2959	No	5.31	Si
SLU 77	ini.	292.56	-2013	-0.0001523	0.0001872	0.0035	0.9		2959	2959	No	10.11	Si
SLU 77	fin.	564.06	-2603	-0.000317	0.0001872	0.0035	0.9		2959	2959	No	5.25	Si
SLU 75	ini.	279.27	-1941	-0.0001449	0.0001872	0.0035	0.9		2959	2959	No	10.6	Si
SLU 75	fin.	551.02	-2535	-0.0003085	0.0001872	0.0035	0.9		2959	2959	No	5.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	281.83	-1388	0.9	0	1750	7137	3773	2295	6068	No	4.37	Si
SLU 84	fin.	557.22	2383	0.9	0	1750	7137	3773	2295	6068	No	2.55	Si
SLU 78	ini.	294.4	-1481	0.9	0	1750	7137	3773	2295	6068	No	4.1	Si
SLU 78	fin.	561.36	2427	0.9	0	1750	7137	3773	2295	6068	No	2.5	Si
SLU 77	ini.	292.56	-1476	0.9	0	1750	7137	3773	2295	6068	No	4.11	Si
SLU 77	fin.	564.06	2441	0.9	0	1750	7137	3773	2295	6068	No	2.49	Si
SLU 82	ini.	266.7	-1300	0.9	0	1750	7137	3773	2295	6068	No	4.67	Si
SLU 82	fin.	546.89	2328	0.9	0	1750	7137	3773	2295	6068	No	2.61	Si
SLU 83	ini.	279.99	-1383	0.9	0	1750	7137	3773	2295	6068	No	4.39	Si
SLU 83	fin.	559.93	2397	0.9	0	1750	7137	3773	2295	6068	No	2.53	Si
SLU 74	ini.	277.44	-1388	0.9	0	1750	7137	3773	2295	6068	No	4.37	Si
SLU 74	fin.	553.73	2386	0.9	0	1750	7137	3773	2295	6068	No	2.54	Si
SLU 80	ini.	287.09	-1441	0.9	0	1750	7137	3773	2295	6068	No	4.21	Si
SLU 80	fin.	550	2373	0.9	0	1750	7137	3773	2295	6068	No	2.56	Si
SLU 79	ini.	285.25	-1436	0.9	0	1750	7137	3773	2295	6068	No	4.23	Si
SLU 79	fin.	552.71	2387	0.9	0	1750	7137	3773	2295	6068	No	2.54	Si
SLU 81	ini.	264.87	-1295	0.9	0	1750	7137	3773	2295	6068	No	4.69	Si
SLU 81	fin.	549.59	2342	0.9	0	1750	7137	3773	2295	6068	No	2.59	Si
SLU 75	ini.	279.27	-1393	0.9	0	1750	7137	3773	2295	6068	No	4.36	Si
SLU 75	fin.	551.02	2372	0.9	0	1750	7137	3773	2295	6068	No	2.56	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-578.02	519	-0.0003112	0.0002807	0.0035	0.9		2995.37	2995.37		5.18	Si
SLD 1	fin.	1162.73	-3230	-0.0007158	0.0002807	0.0035	0.9		2989.59	2989.59		2.57	Si
SLV 3	ini.	-1062.17	1616	-0.0006379	0.0002807	0.0035	0.9		2995.37	2995.37		2.82	Si
SLV 3	fin.	1709.61	-4345	-0.0011885	0.0002807	0.0035	0.9		2989.59	2989.59		1.75	Si
SLV 14	ini.	1416.2	-4155	-0.0009219	0.0002807	0.0035	0.9		2989.59	2989.59		2.11	Si
SLV 14	fin.	-962.17	945	-0.0005649	0.0002807	0.0035	0.9		2995.37	2995.37		3.11	Si
SLV 2	ini.	-766.64	970	-0.0004305	0.0002807	0.0035	0.9		2995.37	2995.37		3.91	Si
SLV 2	fin.	1356.47	-3601	-0.0008715	0.0002807	0.0035	0.9		2989.59	2989.59		2.2	Si
SLV 1	ini.	-1003.11	1527	-0.0005945	0.0002807	0.0035	0.9		2995.37	2995.37		2.99	Si
SLV 1	fin.	1606.16	-4090	-0.0010906	0.0002807	0.0035	0.9		2989.59	2989.59		1.86	Si
SLV 13	ini.	1179.73	-3598	-0.000729	0.0002807	0.0035	0.9		2989.59	2989.59		2.53	Si
SLV 13	fin.	-712.47	456	-0.0003951	0.0002807	0.0035	0.9		2995.37	2995.37		4.2	Si
SLV 4	ini.	-825.69	1059	-0.0004699	0.0002807	0.0035	0.9		2995.37	2995.37		3.63	Si
SLV 4	fin.	1459.92	-3856	-0.0009595	0.0002807	0.0035	0.9		2989.59	2989.59		2.05	Si
SLD 3	ini.	-614.9	574	-0.0003337	0.0002807	0.0035	0.9		2995.37	2995.37		4.87	Si
SLD 3	fin.	1227.17	-3390	-0.0007663	0.0002807	0.0035	0.9		2989.59	2989.59		2.44	Si
SLV 15	ini.	1120.68	-3509	-0.0006835	0.0002807	0.0035	0.9		2989.59	2989.59		2.67	Si
SLV 15	fin.	-609.02	201	-0.0003301	0.0002807	0.0035	0.9		2995.37	2995.37		4.92	Si
SLV 16	ini.	1357.15	-4066	-0.000872	0.0002807	0.0035	0.9		2989.59	2989.59		2.2	Si
SLV 16	fin.	-858.72	690	-0.0004924	0.0002807	0.0035	0.9		2995.37	2995.37		3.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1179.73	-5460	0.9	0	2625	7137	5660	2295	7955		1.46	Si
SLV 13	fin.	-712.47	-2996	0.9	0	2625	7137	5660	2295	7955		2.65	Si
SLV 14	ini.	1416.2	-6551	0.9	0	2625	7137	5660	2295	7955		1.21	Si
SLV 14	fin.	-962.17	-4041	0.9	0	2625	7137	5660	2295	7955		1.97	Si
SLD 1	ini.	-578.02	2672	0.9	0	2625	7137	5660	2295	7955		2.98	Si
SLD 1	fin.	1162.73	4874	0.9	0	2625	7137	5660	2295	7955		1.63	Si
SLD 3	ini.	-614.9	2721	0.9	0	2625	7137	5660	2295	7955		2.92	Si
SLD 3	fin.	1227.17	5222	0.9	0	2625	7137	5660	2295	7955		1.52	Si
SLV 15	ini.	1120.68	-5385	0.9	0	2625	7137	5660	2295	7955		1.48	Si
SLV 15	fin.	-609.02	-2439	0.9	0	2625	7137	5660	2295	7955		3.26	Si
SLV 16	ini.	1357.15	-6475	0.9	0	2625	7137	5660	2295	7955		1.23	Si
SLV 16	fin.	-858.72	-3484	0.9	0	2625	7137	5660	2295	7955		2.28	Si
SLV 2	ini.	-766.64	3596	0.9	0	2625	7137	5660	2295	7955		2.21	Si
SLV 2	fin.	1356.47	5663	0.9	0	2625	7137	5660	2295	7955		1.4	Si
SLV 4	ini.	-825.69	3672	0.9	0	2625	7137	5660	2295	7955		2.17	Si
SLV 4	fin.	1459.92	6220	0.9	0	2625	7137	5660	2295	7955		1.28	Si
SLV 1	ini.	-1003.11	4686	0.9	0	2625	7137	5660	2295	7955		1.7	Si
SLV 1	fin.	1606.16	6708	0.9	0	2625	7137	5660	2295	7955		1.19	Si
SLV 3	ini.	-1062.17	4762	0.9	0	2625	7137	5660	2295	7955		1.67	Si
SLV 3	fin.	1709.61	7265	0.9	0	2625	7137	5660	2295	7955		1.09	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.749	SLV 3	Si
V_SLV	1.095	SLV 3	Si
PF_SLU	5.246	SLU 77	Si
V_SLU	2.486	SLU 77	Si

Trave di accoppiamento 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	10.6	11.45	0.85	-11.918	6.661	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-485.14	-1989	-0.0003024	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.47	Si
SLU 81	fin.	-145.22	-1356	-0.0000819	0.0001872	0.0035	0.85		2655.83	2655.83	No	18.29	Si
SLU 80	ini.	-490.82	-2036	-0.0003065	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.41	Si
SLU 80	fin.	-162.57	-1430	-0.0000921	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.34	Si
SLU 84	ini.	-496.03	-2048	-0.0003103	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.35	Si
SLU 84	fin.	-159.21	-1425	-0.0000901	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.68	Si
SLU 77	ini.	-503.6	-2090	-0.0003158	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.27	Si
SLU 77	fin.	-166.58	-1468	-0.0000944	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.94	Si
SLU 78	ini.	-501.55	-2085	-0.0003143	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.3	Si
SLU 78	fin.	-168.79	-1472	-0.0000957	0.0001872	0.0035	0.85		2655.83	2655.83	No	15.73	Si
SLU 82	ini.	-483.09	-1983	-0.0003009	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.5	Si
SLU 82	fin.	-147.43	-1360	-0.0000832	0.0001872	0.0035	0.85		2655.83	2655.83	No	18.01	Si
SLU 79	ini.	-492.87	-2042	-0.000308	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.39	Si
SLU 79	fin.	-160.35	-1426	-0.0000908	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.56	Si
SLU 75	ini.	-488.61	-2020	-0.0003049	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.44	Si
SLU 75	fin.	-157.01	-1407	-0.0000888	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.92	Si
SLU 74	ini.	-490.67	-2025	-0.0003064	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.41	Si
SLU 74	fin.	-154.8	-1403	-0.0000875	0.0001872	0.0035	0.85		2655.83	2655.83	No	17.16	Si
SLU 83	ini.	-498.08	-2054	-0.0003118	0.0001872	0.0035	0.85		2655.83	2655.83	No	5.33	Si
SLU 83	fin.	-157	-1421	-0.0000888	0.0001872	0.0035	0.85		2655.83	2655.83	No	16.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-483.09	2742	0.85	0	1653	6740	3563	2168	5731	No	2.09	Si
SLU 82	fin.	-147.43	-1345	0.85	0	1653	6740	3563	2168	5731	No	4.26	Si
SLU 84	ini.	-496.03	2822	0.85	0	1653	6740	3563	2168	5731	No	2.03	Si
SLU 84	fin.	-159.21	-1416	0.85	0	1653	6740	3563	2168	5731	No	4.05	Si
SLU 75	ini.	-488.61	2770	0.85	0	1653	6740	3563	2168	5731	No	2.07	Si
SLU 75	fin.	-157.01	-1388	0.85	0	1653	6740	3563	2168	5731	No	4.13	Si
SLU 80	ini.	-490.82	2793	0.85	0	1653	6740	3563	2168	5731	No	2.05	Si
SLU 80	fin.	-162.57	-1421	0.85	0	1653	6740	3563	2168	5731	No	4.03	Si
SLU 77	ini.	-503.6	2861	0.85	0	1653	6740	3563	2168	5731	No	2	Si
SLU 77	fin.	-166.58	-1451	0.85	0	1653	6740	3563	2168	5731	No	3.95	Si
SLU 81	ini.	-485.14	2753	0.85	0	1653	6740	3563	2168	5731	No	2.08	Si
SLU 81	fin.	-145.22	-1337	0.85	0	1653	6740	3563	2168	5731	No	4.29	Si
SLU 83	ini.	-498.08	2833	0.85	0	1653	6740	3563	2168	5731	No	2.02	Si
SLU 83	fin.	-157	-1408	0.85	0	1653	6740	3563	2168	5731	No	4.07	Si
SLU 79	ini.	-492.87	2803	0.85	0	1653	6740	3563	2168	5731	No	2.04	Si
SLU 79	fin.	-160.35	-1412	0.85	0	1653	6740	3563	2168	5731	No	4.06	Si
SLU 78	ini.	-501.55	2850	0.85	0	1653	6740	3563	2168	5731	No	2.01	Si
SLU 78	fin.	-168.79	-1459	0.85	0	1653	6740	3563	2168	5731	No	3.93	Si
SLU 74	ini.	-490.67	2780	0.85	0	1653	6740	3563	2168	5731	No	2.06	Si
SLU 74	fin.	-154.8	-1380	0.85	0	1653	6740	3563	2168	5731	No	4.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	403.61	623	-0.0002374	0.0002807	0.0035	0.85		2675.27	2675.27		6.63	Si
SLV 15	fin.	-981.08	-2632	-0.0006642	0.0002807	0.0035	0.85		2680.73	2680.73		2.73	Si
SLD 1	ini.	-918.8	-2907	-0.0006124	0.0002807	0.0035	0.85		2680.73	2680.73		2.92	Si
SLD 1	fin.	640.47	556	-0.0003985	0.0002807	0.0035	0.85		2675.27	2675.27		4.18	Si
SLV 14	ini.	685.51	1395	-0.0004315	0.0002807	0.0035	0.85		2675.27	2675.27		3.9	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	fin.	-1309.69	-3249	-0.0009615	0.0002807	0.0035	0.85		2680.73	2680.73		2.05	Si
SLD 3	ini.	-966.52	-3048	-0.000652	0.0002807	0.0035	0.85		2680.73	2680.73		2.77	Si
SLD 3	fin.	688.78	635	-0.0004339	0.0002807	0.0035	0.85		2675.27	2675.27		3.88	Si
SLV 1	ini.	-1255.01	-3804	-0.000909	0.0002807	0.0035	0.85		2680.73	2680.73		2.14	Si
SLV 1	fin.	1052.72	1366	-0.0007273	0.0002807	0.0035	0.85		2675.27	2675.27		2.54	Si
SLV 16	ini.	608.88	1169	-0.0003758	0.0002807	0.0035	0.85		2675.27	2675.27		4.39	Si
SLV 16	fin.	-1232.02	-3122	-0.0008874	0.0002807	0.0035	0.85		2680.73	2680.73		2.18	Si
SLV 2	ini.	-1049.74	-3258	-0.0007229	0.0002807	0.0035	0.85		2680.73	2680.73		2.55	Si
SLV 2	fin.	801.79	876	-0.00052	0.0002807	0.0035	0.85		2675.27	2675.27		3.34	Si
SLV 4	ini.	-1126.38	-3484	-0.0007905	0.0002807	0.0035	0.85		2680.73	2680.73		2.38	Si
SLV 4	fin.	879.46	1003	-0.0005817	0.0002807	0.0035	0.85		2675.27	2675.27		3.04	Si
SLV 3	ini.	-1331.64	-4030	-0.0009829	0.0002807	0.0035	0.85		2680.73	2680.73		2.01	Si
SLV 3	fin.	1130.39	1493	-0.0007961	0.0002807	0.0035	0.85		2675.27	2675.27		2.37	Si
SLV 13	ini.	480.25	849	-0.0002873	0.0002807	0.0035	0.85		2675.27	2675.27		5.57	Si
SLV 13	fin.	-1058.75	-2760	-0.0007307	0.0002807	0.0035	0.85		2680.73	2680.73		2.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	403.61	-1609	0.85	0	2479	6740	5345	2168	7513		4.67	Si
SLV 15	fin.	-981.08	-4475	0.85	0	2479	6740	5345	2168	7513		1.68	Si
SLD 1	ini.	-918.8	4633	0.85	0	2479	6740	5345	2168	7513		1.62	Si
SLD 1	fin.	640.47	2107	0.85	0	2479	6740	5345	2168	7513		3.56	Si
SLV 1	ini.	-1255.01	6221	0.85	0	2479	6740	5345	2168	7513		1.21	Si
SLV 1	fin.	1052.72	3781	0.85	0	2479	6740	5345	2168	7513		1.99	Si
SLV 3	ini.	-1331.64	6612	0.85	0	2479	6740	5345	2168	7513		1.14	Si
SLV 3	fin.	1130.39	4073	0.85	0	2479	6740	5345	2168	7513		1.84	Si
SLV 13	ini.	480.25	-2000	0.85	0	2479	6740	5345	2168	7513		3.76	Si
SLV 13	fin.	-1058.75	-4768	0.85	0	2479	6740	5345	2168	7513		1.58	Si
SLV 16	ini.	608.88	-2585	0.85	0	2479	6740	5345	2168	7513		2.91	Si
SLV 16	fin.	-1232.02	-5490	0.85	0	2479	6740	5345	2168	7513		1.37	Si
SLD 3	ini.	-966.52	4877	0.85	0	2479	6740	5345	2168	7513		1.54	Si
SLD 3	fin.	688.78	2289	0.85	0	2479	6740	5345	2168	7513		3.28	Si
SLV 2	ini.	-1049.74	5245	0.85	0	2479	6740	5345	2168	7513		1.43	Si
SLV 2	fin.	801.79	2766	0.85	0	2479	6740	5345	2168	7513		2.72	Si
SLV 14	ini.	685.51	-2976	0.85	0	2479	6740	5345	2168	7513		2.52	Si
SLV 14	fin.	-1309.69	-5782	0.85	0	2479	6740	5345	2168	7513		1.3	Si
SLV 4	ini.	-1126.38	5636	0.85	0	2479	6740	5345	2168	7513		1.33	Si
SLV 4	fin.	879.46	3059	0.85	0	2479	6740	5345	2168	7513		2.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.013	SLV 3	Si
V_SLV	1.136	SLV 3	Si
PF_SLU	5.274	SLU 77	Si
V_SLU	2.003	SLU 77	Si

Trave di accoppiamento 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	7.9	8.8	0.9	-7.013	6.661	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-107.45	-1243	-0.0000536	0.0001872	0.0035	0.9		2964.67	2964.67	No	27.59	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	fin.	478.42	-2062	-0.0002622	0.0001872	0.0035	0.9		2959	2959	No	6.18	Si
SLU 79	ini.	-90.13	-1246	-0.0000448	0.0001872	0.0035	0.9		2964.67	2964.67	No	32.89	Si
SLU 79	fin.	462.02	-2010	-0.000252	0.0001872	0.0035	0.9		2959	2959	No	6.4	Si
SLU 78	ini.	-84.03	-1285	-0.0000417	0.0001872	0.0035	0.9		2964.67	2964.67	No	35.28	Si
SLU 78	fin.	468.71	-2048	-0.0002561	0.0001872	0.0035	0.9		2959	2959	No	6.31	Si
SLU 74	ini.	-101.86	-1235	-0.0000507	0.0001872	0.0035	0.9		2964.67	2964.67	No	29.1	Si
SLU 74	fin.	471.34	-2038	-0.0002578	0.0001872	0.0035	0.9		2959	2959	No	6.28	Si
SLU 77	ini.	-86.52	-1282	-0.000043	0.0001872	0.0035	0.9		2964.67	2964.67	No	34.27	Si
SLU 77	fin.	470.28	-2052	-0.0002571	0.0001872	0.0035	0.9		2959	2959	No	6.29	Si
SLU 73	ini.	-116.69	-1156	-0.0000583	0.0001872	0.0035	0.9		2964.67	2964.67	No	25.41	Si
SLU 73	fin.	461.5	-1975	-0.0002516	0.0001872	0.0035	0.9		2959	2959	No	6.41	Si
SLU 82	ini.	-120.32	-1199	-0.0000601	0.0001872	0.0035	0.9		2964.67	2964.67	No	24.64	Si
SLU 82	fin.	477.9	-2044	-0.0002618	0.0001872	0.0035	0.9		2959	2959	No	6.19	Si
SLU 81	ini.	-122.8	-1196	-0.0000614	0.0001872	0.0035	0.9		2964.67	2964.67	No	24.14	Si
SLU 81	fin.	479.48	-2048	-0.0002628	0.0001872	0.0035	0.9		2959	2959	No	6.17	Si
SLU 75	ini.	-99.38	-1238	-0.0000495	0.0001872	0.0035	0.9		2964.67	2964.67	No	29.83	Si
SLU 75	fin.	469.76	-2034	-0.0002568	0.0001872	0.0035	0.9		2959	2959	No	6.3	Si
SLU 84	ini.	-104.97	-1246	-0.0000523	0.0001872	0.0035	0.9		2964.67	2964.67	No	28.24	Si
SLU 84	fin.	476.84	-2058	-0.0002612	0.0001872	0.0035	0.9		2959	2959	No	6.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-90.13	203	0.9	0	1750	7137	3773	2295	6068	No	29.92	Si
SLU 79	fin.	462.02	2358	0.9	0	1750	7137	3773	2295	6068	No	2.57	Si
SLU 78	ini.	-84.03	172	0.9	0	1750	7137	3773	2295	6068	No	35.22	Si
SLU 78	fin.	468.71	2407	0.9	0	1750	7137	3773	2295	6068	No	2.52	Si
SLU 77	ini.	-86.52	180	0.9	0	1750	7137	3773	2295	6068	No	33.72	Si
SLU 77	fin.	470.28	2415	0.9	0	1750	7137	3773	2295	6068	No	2.51	Si
SLU 74	ini.	-101.86	236	0.9	0	1750	7137	3773	2295	6068	No	25.74	Si
SLU 74	fin.	471.34	2422	0.9	0	1750	7137	3773	2295	6068	No	2.51	Si
SLU 82	ini.	-120.32	316	0.9	0	1750	7137	3773	2295	6068	No	19.23	Si
SLU 82	fin.	477.9	2426	0.9	0	1750	7137	3773	2295	6068	No	2.5	Si
SLU 84	ini.	-104.97	260	0.9	0	1750	7137	3773	2295	6068	No	23.36	Si
SLU 84	fin.	476.84	2419	0.9	0	1750	7137	3773	2295	6068	No	2.51	Si
SLU 81	ini.	-122.8	323	0.9	0	1750	7137	3773	2295	6068	No	18.77	Si
SLU 81	fin.	479.48	2434	0.9	0	1750	7137	3773	2295	6068	No	2.49	Si
SLU 83	ini.	-107.45	267	0.9	0	1750	7137	3773	2295	6068	No	22.69	Si
SLU 83	fin.	478.42	2427	0.9	0	1750	7137	3773	2295	6068	No	2.5	Si
SLU 73	ini.	-116.69	302	0.9	0	1750	7137	3773	2295	6068	No	20.12	Si
SLU 73	fin.	461.5	2357	0.9	0	1750	7137	3773	2295	6068	No	2.57	Si
SLU 75	ini.	-99.38	228	0.9	0	1750	7137	3773	2295	6068	No	26.6	Si
SLU 75	fin.	469.76	2413	0.9	0	1750	7137	3773	2295	6068	No	2.51	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-918.44	276	-0.0005339	0.0002807	0.0035	0.9		2995.37	2995.37		3.26	Si
SLV 2	fin.	842.6	-2589	-0.0004825	0.0002807	0.0035	0.9		2989.59	2989.59		3.55	Si
SLV 3	ini.	-1253.72	698	-0.0007856	0.0002807	0.0035	0.9		2995.37	2995.37		2.39	Si
SLV 3	fin.	1054.6	-3110	-0.0006337	0.0002807	0.0035	0.9		2989.59	2989.59		2.83	Si
SLV 14	ini.	1074	-2295	-0.0006482	0.0002807	0.0035	0.9		2989.59	2989.59		2.78	Si
SLV 14	fin.	-399.86	320	-0.0002079	0.0002807	0.0035	0.9		2995.37	2995.37		7.49	Si
SLV 13	ini.	836.61	-1972	-0.0004784	0.0002807	0.0035	0.9		2989.59	2989.59		3.57	Si
SLV 13	fin.	-253.48	-12	-0.0001285	0.0002807	0.0035	0.9		2995.37	2995.37		11.82	Si
SLV 15	ini.	738.72	-1873	-0.000413	0.0002807	0.0035	0.9		2989.59	2989.59		4.05	Si
SLV 15	fin.	-187.87	-200	-0.0000943	0.0002807	0.0035	0.9		2995.37	2995.37		15.94	Si
SLD 3	ini.	-832.87	156	-0.0004748	0.0002807	0.0035	0.9		2995.37	2995.37		3.6	Si
SLD 3	fin.	791.96	-2491	-0.0004482	0.0002807	0.0035	0.9		2989.59	2989.59		3.77	Si
SLD 1	ini.	-771.69	94	-0.0004338	0.0002807	0.0035	0.9		2995.37	2995.37		3.88	Si
SLD 1	fin.	750.91	-2372	-0.000421	0.0002807	0.0035	0.9		2989.59	2989.59		3.98	Si
SLV 16	ini.	976.11	-2195	-0.0005762	0.0002807	0.0035	0.9		2989.59	2989.59		3.06	Si
SLV 16	fin.	-334.24	132	-0.0001718	0.0002807	0.0035	0.9		2995.37	2995.37		8.96	Si
SLV 4	ini.	-1016.33	375	-0.0006041	0.0002807	0.0035	0.9		2995.37	2995.37		2.95	Si
SLV 4	fin.	908.22	-2778	-0.0005279	0.0002807	0.0035	0.9		2989.59	2989.59		3.29	Si
SLV 1	ini.	-1155.83	598	-0.0007088	0.0002807	0.0035	0.9		2995.37	2995.37		2.59	Si
SLV 1	fin.	988.98	-2921	-0.0005855	0.0002807	0.0035	0.9		2989.59	2989.59		3.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1016.33	3520	0.9	0	2625	7137	5660	2295	7955		2.26	Si
SLV 4	fin.	908.22	4265	0.9	0	2625	7137	5660	2295	7955		1.87	Si
SLD 4	ini.	-681.2	2326	0.9	0	2625	7137	5660	2295	7955		3.42	Si
SLD 4	fin.	698.44	3336	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLD 3	ini.	-832.87	2856	0.9	0	2625	7137	5660	2295	7955		2.79	Si
SLD 3	fin.	791.96	3737	0.9	0	2625	7137	5660	2295	7955		2.13	Si
SLV 2	ini.	-918.44	3228	0.9	0	2625	7137	5660	2295	7955		2.46	Si
SLV 2	fin.	842.6	3888	0.9	0	2625	7137	5660	2295	7955		2.05	Si
SLV 1	ini.	-1155.83	4057	0.9	0	2625	7137	5660	2295	7955		1.96	Si
SLV 1	fin.	988.98	4516	0.9	0	2625	7137	5660	2295	7955		1.76	Si
SLV 3	ini.	-1253.72	4349	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLV 3	fin.	1054.6	4893	0.9	0	2625	7137	5660	2295	7955		1.63	Si
SLV 16	ini.	976.11	-3594	0.9	0	2625	7137	5660	2295	7955		2.21	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	fin.	-334.24	-1129	0.9	0	2625	7137	5660	2295	7955		7.04	Si
SLD 1	ini.	-771.69	2674	0.9	0	2625	7137	5660	2295	7955		2.98	Si
SLD 1	fin.	750.91	3502	0.9	0	2625	7137	5660	2295	7955		2.27	Si
SLV 14	ini.	1074	-3886	0.9	0	2625	7137	5660	2295	7955		2.05	Si
SLV 14	fin.	-399.86	-1506	0.9	0	2625	7137	5660	2295	7955		5.28	Si
SLV 7	ini.	-631.79	2064	0.9	0	2625	7137	5660	2295	7955		3.85	Si
SLV 7	fin.	672.37	3342	0.9	0	2625	7137	5660	2295	7955		2.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.389	SLV 3	Si
V_SLV	1.626	SLV 3	Si
PF_SLU	6.171	SLU 81	Si
V_SLU	2.493	SLU 81	Si

Trave di accoppiamento 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	10.6	11.45	0.85	-7.013	6.661	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-347.9	-2062	-0.0002074	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.63	Si
SLU 79	fin.	154.22	-656	-0.0000873	0.0001872	0.0035	0.85		2650.49	2650.49	No	17.19	Si
SLU 75	ini.	-357.49	-2103	-0.0002137	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.43	Si
SLU 75	fin.	171.95	-642	-0.0000978	0.0001872	0.0035	0.85		2650.49	2650.49	No	15.41	Si
SLU 81	ini.	-364.48	-2128	-0.0002184	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.29	Si
SLU 81	fin.	196.69	-596	-0.0001126	0.0001872	0.0035	0.85		2650.49	2650.49	No	13.48	Si
SLU 77	ini.	-356.71	-2116	-0.0002132	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.45	Si
SLU 77	fin.	155.16	-684	-0.0000879	0.0001872	0.0035	0.85		2650.49	2650.49	No	17.08	Si
SLU 84	ini.	-361.16	-2130	-0.0002162	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.35	Si
SLU 84	fin.	175.23	-643	-0.0000998	0.0001872	0.0035	0.85		2650.49	2650.49	No	15.13	Si
SLU 82	ini.	-363.21	-2122	-0.0002175	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.31	Si
SLU 82	fin.	194.35	-598	-0.0001112	0.0001872	0.0035	0.85		2650.49	2650.49	No	13.64	Si
SLU 73	ini.	-349.87	-2037	-0.0002087	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.59	Si
SLU 73	fin.	188.56	-571	-0.0001077	0.0001872	0.0035	0.85		2650.49	2650.49	No	14.06	Si
SLU 78	ini.	-355.44	-2111	-0.0002124	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.47	Si
SLU 78	fin.	152.83	-687	-0.0000865	0.0001872	0.0035	0.85		2650.49	2650.49	No	17.34	Si
SLU 74	ini.	-358.76	-2109	-0.0002146	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.4	Si
SLU 74	fin.	174.28	-640	-0.0000992	0.0001872	0.0035	0.85		2650.49	2650.49	No	15.21	Si
SLU 83	ini.	-362.44	-2135	-0.000217	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.33	Si
SLU 83	fin.	177.57	-641	-0.0001012	0.0001872	0.0035	0.85		2650.49	2650.49	No	14.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-357.49	3518	0.85	0	1653	6740	3563	2168	5731	No	1.63	Si
SLU 75	fin.	171.95	45	0.85	0	1653	6740	3563	2168	5731	No	126.83	Si
SLU 79	ini.	-347.9	3433	0.85	0	1653	6740	3563	2168	5731	No	1.67	Si
SLU 79	fin.	154.22	7	0.85	0	1653	6740	3563	2168	5731	No	866.16	Si
SLU 74	ini.	-358.76	3526	0.85	0	1653	6740	3563	2168	5731	No	1.63	Si
SLU 74	fin.	174.28	52	0.85	0	1653	6740	3563	2168	5731	No	109.72	Si
SLU 77	ini.	-356.71	3523	0.85	0	1653	6740	3563	2168	5731	No	1.63	Si
SLU 77	fin.	155.16	-3	0.85	0	1653	6740	3563	2168	5731	No	2004.19	Si
SLU 78	ini.	-355.44	3514	0.85	0	1653	6740	3563	2168	5731	No	1.63	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	152.83	-10	0.85	0	1653	6740	3563	2168	5731	No	578.61	Si
SLU 73	ini.	-349.87	3427	0.85	0	1653	6740	3563	2168	5731	No	1.67	Si
SLU 73	fin.	188.56	105	0.85	0	1653	6740	3563	2168	5731	No	54.55	Si
SLU 81	ini.	-364.48	3591	0.85	0	1653	6740	3563	2168	5731	No	1.6	Si
SLU 81	fin.	196.69	106	0.85	0	1653	6740	3563	2168	5731	No	53.88	Si
SLU 83	ini.	-362.44	3588	0.85	0	1653	6740	3563	2168	5731	No	1.6	Si
SLU 83	fin.	177.57	51	0.85	0	1653	6740	3563	2168	5731	No	111.79	Si
SLU 82	ini.	-363.21	3583	0.85	0	1653	6740	3563	2168	5731	No	1.6	Si
SLU 82	fin.	194.35	99	0.85	0	1653	6740	3563	2168	5731	No	57.71	Si
SLU 84	ini.	-361.16	3579	0.85	0	1653	6740	3563	2168	5731	No	1.6	Si
SLU 84	fin.	175.23	44	0.85	0	1653	6740	3563	2168	5731	No	129.6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-622.18	-2990	-0.0003845	0.0002807	0.0035	0.85		2680.73	2680.73		4.31	Si
SLV 4	fin.	828.67	312	-0.0005411	0.0002807	0.0035	0.85		2675.27	2675.27		3.23	Si
SLV 16	ini.	177.37	343	-0.0000999	0.0002807	0.0035	0.85		2675.27	2675.27		15.08	Si
SLV 16	fin.	-654.35	-1213	-0.0004077	0.0002807	0.0035	0.85		2680.73	2680.73		4.1	Si
SLD 3	ini.	-552.76	-2702	-0.0003357	0.0002807	0.0035	0.85		2680.73	2680.73		4.85	Si
SLD 3	fin.	709.07	200	-0.000449	0.0002807	0.0035	0.85		2675.27	2675.27		3.77	Si
SLV 2	ini.	-565.09	-2733	-0.0003443	0.0002807	0.0035	0.85		2680.73	2680.73		4.74	Si
SLV 2	fin.	730.25	240	-0.000465	0.0002807	0.0035	0.85		2675.27	2675.27		3.66	Si
SLV 14	ini.	234.46	600	-0.0001334	0.0002807	0.0035	0.85		2675.27	2675.27		11.41	Si
SLV 14	fin.	-752.77	-1286	-0.000481	0.0002807	0.0035	0.85		2680.73	2680.73		3.56	Si
SLD 4	ini.	-485.75	-2419	-0.0002904	0.0002807	0.0035	0.85		2680.73	2680.73		5.52	Si
SLD 4	fin.	578.25	60	-0.0003542	0.0002807	0.0035	0.85		2675.27	2675.27		4.63	Si
SLV 7	ini.	-496.69	-2494	-0.0002977	0.0002807	0.0035	0.85		2680.73	2680.73		5.4	Si
SLV 7	fin.	595.74	45	-0.0003665	0.0002807	0.0035	0.85		2675.27	2675.27		4.49	Si
SLV 3	ini.	-727.07	-3433	-0.0004615	0.0002807	0.0035	0.85		2680.73	2680.73		3.69	Si
SLV 3	fin.	1033.42	530	-0.0007105	0.0002807	0.0035	0.85		2675.27	2675.27		2.59	Si
SLV 1	ini.	-669.98	-3176	-0.0004191	0.0002807	0.0035	0.85		2680.73	2680.73		4	Si
SLV 1	fin.	935	458	-0.0006272	0.0002807	0.0035	0.85		2675.27	2675.27		2.86	Si
SLD 1	ini.	-517.08	-2541	-0.0003114	0.0002807	0.0035	0.85		2680.73	2680.73		5.18	Si
SLD 1	fin.	647.55	155	-0.0004037	0.0002807	0.0035	0.85		2675.27	2675.27		4.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-565.09	4288	0.85	0	2479	6740	5345	2168	7513		1.75	Si
SLV 2	fin.	730.25	2018	0.85	0	2479	6740	5345	2168	7513		3.72	Si
SLV 1	ini.	-669.98	4938	0.85	0	2479	6740	5345	2168	7513		1.52	Si
SLV 1	fin.	935	2675	0.85	0	2479	6740	5345	2168	7513		2.81	Si
SLV 7	ini.	-496.69	3970	0.85	0	2479	6740	5345	2168	7513		1.89	Si
SLV 7	fin.	595.74	1526	0.85	0	2479	6740	5345	2168	7513		4.92	Si
SLV 3	ini.	-727.07	5330	0.85	0	2479	6740	5345	2168	7513		1.41	Si
SLV 3	fin.	1033.42	2965	0.85	0	2479	6740	5345	2168	7513		2.53	Si
SLD 1	ini.	-517.08	4008	0.85	0	2479	6740	5345	2168	7513		1.87	Si
SLD 1	fin.	647.55	1747	0.85	0	2479	6740	5345	2168	7513		4.3	Si
SLD 2	ini.	-450.06	3593	0.85	0	2479	6740	5345	2168	7513		2.09	Si
SLD 2	fin.	516.73	1327	0.85	0	2479	6740	5345	2168	7513		5.66	Si
SLD 4	ini.	-485.75	3838	0.85	0	2479	6740	5345	2168	7513		1.96	Si
SLD 4	fin.	578.25	1507	0.85	0	2479	6740	5345	2168	7513		4.99	Si
SLV 8	ini.	-426.07	3533	0.85	0	2479	6740	5345	2168	7513		2.13	Si
SLV 8	fin.	457.89	1084	0.85	0	2479	6740	5345	2168	7513		6.93	Si
SLD 3	ini.	-552.76	4254	0.85	0	2479	6740	5345	2168	7513		1.77	Si
SLD 3	fin.	709.07	1927	0.85	0	2479	6740	5345	2168	7513		3.9	Si
SLV 4	ini.	-622.18	4680	0.85	0	2479	6740	5345	2168	7513		1.61	Si
SLV 4	fin.	828.67	2307	0.85	0	2479	6740	5345	2168	7513		3.26	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.589	SLV 3	Si
V_SLV	1.409	SLV 3	Si
PF_SLU	7.287	SLU 81	Si
V_SLU	1.596	SLU 81	Si

Trave di accoppiamento 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.623	1.141	10	11.45	1.45	-19.423	1.141	10	11.45	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1149.91	-4083	-0.0002357	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.84	Si
SLU 82	fin.	383.5	-3265	-0.000074	0.0002246	0.0035	1.45		7855.43	7855.43	No	20.48	Si
SLU 81	ini.	-1119.68	-4067	-0.0002289	0.0002246	0.0035	1.45		7864.45	7864.45	No	7.02	Si
SLU 81	fin.	354.9	-3281	-0.0000684	0.0002246	0.0035	1.45		7855.43	7855.43	No	22.13	Si
SLU 65	ini.	-1150.54	-3768	-0.0002358	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.84	Si
SLU 65	fin.	468.01	-2908	-0.0000909	0.0002246	0.0035	1.45		7855.43	7855.43	No	16.78	Si
SLU 68	ini.	-1096.89	-3896	-0.0002237	0.0002246	0.0035	1.45		7864.45	7864.45	No	7.17	Si
SLU 68	fin.	403.71	-3100	-0.0000781	0.0002246	0.0035	1.45		7855.43	7855.43	No	19.46	Si
SLU 75	ini.	-1104.19	-4202	-0.0002254	0.0002246	0.0035	1.45		7864.45	7864.45	No	7.12	Si
SLU 75	fin.	341.88	-3433	-0.0000658	0.0002246	0.0035	1.45		7855.43	7855.43	No	22.98	Si
SLU 64	ini.	-1100.17	-3742	-0.0002245	0.0002246	0.0035	1.45		7864.45	7864.45	No	7.15	Si
SLU 64	fin.	420.34	-2935	-0.0000814	0.0002246	0.0035	1.45		7855.43	7855.43	No	18.69	Si
SLU 73	ini.	-1164.2	-3995	-0.0002389	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.76	Si
SLU 73	fin.	422.2	-3151	-0.0000817	0.0002246	0.0035	1.45		7855.43	7855.43	No	18.61	Si
SLU 52	ini.	-1100.77	-3529	-0.0002246	0.0002246	0.0035	1.45		7864.45	7864.45	No	7.14	Si
SLU 52	fin.	448.09	-2706	-0.0000869	0.0002246	0.0035	1.45		7855.43	7855.43	No	17.53	Si
SLU 84	ini.	-1096.26	-4211	-0.0002236	0.0002246	0.0035	1.45		7864.45	7864.45	No	7.17	Si
SLU 84	fin.	319.2	-3456	-0.0000614	0.0002246	0.0035	1.45		7855.43	7855.43	No	24.61	Si
SLU 76	ini.	-1110.55	-4123	-0.0002268	0.0002246	0.0035	1.45		7864.45	7864.45	No	7.08	Si
SLU 76	fin.	357.9	-3342	-0.000069	0.0002246	0.0035	1.45		7855.43	7855.43	No	21.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-1150.54	3735	1.45	0	3383	6344	7295	3698	9727	No	2.6	Si
SLU 65	fin.	468.01	1937	1.45	0	3383	6344	7295	3698	9727	No	5.02	Si
SLU 61	ini.	-1086.48	3605	1.45	0	3383	6344	7295	3698	9727	No	2.7	Si
SLU 61	fin.	409.39	1647	1.45	0	3383	6344	7295	3698	9727	No	5.91	Si
SLU 83	ini.	-1066.03	3579	1.45	0	3383	6344	7295	3698	9727	No	2.72	Si
SLU 83	fin.	290.6	1191	1.45	0	3383	6344	7295	3698	9727	No	8.17	Si
SLU 52	ini.	-1100.77	3607	1.45	0	3383	6344	7295	3698	9727	No	2.7	Si
SLU 52	fin.	448.09	1826	1.45	0	3383	6344	7295	3698	9727	No	5.33	Si
SLU 81	ini.	-1119.68	3784	1.45	0	3383	6344	7295	3698	9727	No	2.57	Si
SLU 81	fin.	354.9	1396	1.45	0	3383	6344	7295	3698	9727	No	6.97	Si
SLU 75	ini.	-1104.19	3644	1.45	0	3383	6344	7295	3698	9727	No	2.67	Si
SLU 75	fin.	341.88	1434	1.45	0	3383	6344	7295	3698	9727	No	6.79	Si
SLU 73	ini.	-1164.2	3888	1.45	0	3383	6344	7295	3698	9727	No	2.5	Si
SLU 73	fin.	422.2	1677	1.45	0	3383	6344	7295	3698	9727	No	5.8	Si
SLU 82	ini.	-1149.91	3886	1.45	0	3383	6344	7295	3698	9727	No	2.5	Si
SLU 82	fin.	383.5	1498	1.45	0	3383	6344	7295	3698	9727	No	6.49	Si
SLU 84	ini.	-1096.26	3681	1.45	0	3383	6344	7295	3698	9727	No	2.64	Si
SLU 84	fin.	319.2	1293	1.45	0	3383	6344	7295	3698	9727	No	7.52	Si
SLU 76	ini.	-1110.55	3683	1.45	0	3383	6344	7295	3698	9727	No	2.64	Si
SLU 76	fin.	357.9	1472	1.45	0	3383	6344	7295	3698	9727	No	6.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	2005.75	-1719	-0.0004259	0.0003369	0.0035	1.45		7577.35	7577.35		3.78	Si
SLV 3	fin.	-2616.65	-4189	-0.0005826	0.0003369	0.0035	1.45		7587.09	7587.09		2.9	Si
SLD 13	ini.	-2646.56	-3552	-0.0005907	0.0003369	0.0035	1.45		7587.09	7587.09		2.87	Si
SLD 13	fin.	2180.2	-981	-0.0004693	0.0003369	0.0035	1.45		7577.35	7577.35		3.48	Si
SLV 9	ini.	-3788.9	-4287	-0.0009283	0.0003369	0.0035	1.45		7587.09	7587.09		2	Si
SLV 9	fin.	3195.69	-552	-0.000747	0.0003369	0.0035	1.45		7577.35	7577.35		2.37	Si
SLD 9	ini.	-2683.86	-3744	-0.0006008	0.0003369	0.0035	1.45		7587.09	7587.09		2.83	Si
SLD 9	fin.	2118.34	-1178	-0.0004538	0.0003369	0.0035	1.45		7577.35	7577.35		3.58	Si
SLD 14	ini.	-2638.05	-3549	-0.0005884	0.0003369	0.0035	1.45		7587.09	7587.09		2.88	Si
SLD 14	fin.	2176.09	-983	-0.0004683	0.0003369	0.0035	1.45		7577.35	7577.35		3.48	Si
SLD 10	ini.	-2678.22	-3742	-0.0005993	0.0003369	0.0035	1.45		7587.09	7587.09		2.83	Si
SLD 10	fin.	2115.61	-1180	-0.0004531	0.0003369	0.0035	1.45		7577.35	7577.35		3.58	Si
SLV 10	ini.	-3779.93	-4283	-0.0009254	0.0003369	0.0035	1.45		7587.09	7587.09		2.01	Si
SLV 10	fin.	3191.35	-554	-0.0007456	0.0003369	0.0035	1.45		7577.35	7577.35		2.37	Si
SLV 4	ini.	2019.07	-1714	-0.0004292	0.0003369	0.0035	1.45		7577.35	7577.35		3.75	Si
SLV 4	fin.	-2623.1	-4193	-0.0005843	0.0003369	0.0035	1.45		7587.09	7587.09		2.89	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-3678.24	-3962	-0.000893	0.0003369	0.0035	1.45		7587.09	7587.09		2.06	Si
SLV 14	fin.	3248.53	-269	-0.0007626	0.0003369	0.0035	1.45		7577.35	7577.35		2.33	Si
SLV 13	ini.	-3691.56	-3968	-0.0008972	0.0003369	0.0035	1.45		7587.09	7587.09		2.06	Si
SLV 13	fin.	3254.98	-265	-0.0007645	0.0003369	0.0035	1.45		7577.35	7577.35		2.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-3788.9	12809	1.45	0	5075	6344	10943	3698	11419		0.89	No
SLV 9	fin.	3195.69	11404	1.45	0	5075	6344	10943	3698	11419		1	Si
SLV 13	ini.	-3691.56	12643	1.45	0	5075	6344	10943	3698	11419		0.9	No
SLV 13	fin.	3254.98	11242	1.45	0	5075	6344	10943	3698	11419		1.02	Si
SLD 14	ini.	-2638.05	8992	1.45	0	5075	6344	10943	3698	11419		1.27	Si
SLD 14	fin.	2176.09	7589	1.45	0	5075	6344	10943	3698	11419		1.5	Si
SLD 13	ini.	-2646.56	9013	1.45	0	5075	6344	10943	3698	11419		1.27	Si
SLD 13	fin.	2180.2	7610	1.45	0	5075	6344	10943	3698	11419		1.5	Si
SLV 8	ini.	2116.41	-7360	1.45	0	5075	6344	10943	3698	11419		1.55	Si
SLV 8	fin.	-2563.81	-8768	1.45	0	5075	6344	10943	3698	11419		1.3	Si
SLV 14	ini.	-3678.24	12610	1.45	0	5075	6344	10943	3698	11419		0.91	No
SLV 14	fin.	3248.53	11209	1.45	0	5075	6344	10943	3698	11419		1.02	Si
SLD 10	ini.	-2678.22	9021	1.45	0	5075	6344	10943	3698	11419		1.27	Si
SLD 10	fin.	2115.61	7615	1.45	0	5075	6344	10943	3698	11419		1.5	Si
SLV 7	ini.	2107.44	-7338	1.45	0	5075	6344	10943	3698	11419		1.56	Si
SLV 7	fin.	-2559.47	-8746	1.45	0	5075	6344	10943	3698	11419		1.31	Si
SLD 9	ini.	-2683.86	9035	1.45	0	5075	6344	10943	3698	11419		1.26	Si
SLD 9	fin.	2118.34	7629	1.45	0	5075	6344	10943	3698	11419		1.5	Si
SLV 10	ini.	-3779.93	12787	1.45	0	5075	6344	10943	3698	11419		0.89	No
SLV 10	fin.	3191.35	11382	1.45	0	5075	6344	10943	3698	11419		1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.002	SLV 9	Si
V_SLV	0.891	SLV 9	No
PF_SLU	6.755	SLU 73	Si
V_SLU	2.502	SLU 73	Si

Trave di accoppiamento 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	10.4	11.45	1.05	-12.263	1.141	10.4	11.45	1.05	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1127.49	-3421	-0.0004863	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.66	Si
SLU 82	fin.	203.78	-1765	-0.0000751	0.0002246	0.0035	1.05		4125.57	4125.57	No	20.25	Si
SLU 74	ini.	-1094.27	-3461	-0.0004691	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.78	Si
SLU 74	fin.	191.65	-1871	-0.0000705	0.0002246	0.0035	1.05		4125.57	4125.57	No	21.53	Si
SLU 77	ini.	-1116.22	-3575	-0.0004805	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.7	Si
SLU 77	fin.	196.96	-1956	-0.0000725	0.0002246	0.0035	1.05		4125.57	4125.57	No	20.95	Si
SLU 84	ini.	-1149.43	-3536	-0.0004978	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.59	Si
SLU 84	fin.	209.08	-1850	-0.0000771	0.0002246	0.0035	1.05		4125.57	4125.57	No	19.73	Si
SLU 83	ini.	-1137.51	-3490	-0.0004915	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.63	Si
SLU 83	fin.	211.25	-1818	-0.0000779	0.0002246	0.0035	1.05		4125.57	4125.57	No	19.53	Si
SLU 79	ini.	-1095.65	-3509	-0.0004698	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.77	Si
SLU 79	fin.	185.07	-1928	-0.000068	0.0002246	0.0035	1.05		4125.57	4125.57	No	22.29	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-1106.19	-3506	-0.0004753	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.74	Si
SLU 75	fin.	189.49	-1903	-0.0000697	0.0002246	0.0035	1.05		4125.57	4125.57	No	21.77	Si
SLU 81	ini.	-1115.56	-3376	-0.0004801	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.7	Si
SLU 81	fin.	205.94	-1733	-0.0000759	0.0002246	0.0035	1.05		4125.57	4125.57	No	20.03	Si
SLU 78	ini.	-1128.14	-3621	-0.0004866	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.66	Si
SLU 78	fin.	194.79	-1987	-0.0000717	0.0002246	0.0035	1.05		4125.57	4125.57	No	21.18	Si
SLU 80	ini.	-1107.57	-3554	-0.000476	0.0002246	0.0035	1.05		4132.15	4132.15	No	3.73	Si
SLU 80	fin.	182.9	-1960	-0.0000672	0.0002246	0.0035	1.05		4125.57	4125.57	No	22.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-1094.27	3256	1.05	0	2450	8326	5283	2678	7960	No	2.44	Si
SLU 74	fin.	191.65	531	1.05	0	2450	8326	5283	2678	7960	No	14.99	Si
SLU 80	ini.	-1107.57	3262	1.05	0	2450	8326	5283	2678	7960	No	2.44	Si
SLU 80	fin.	182.9	537	1.05	0	2450	8326	5283	2678	7960	No	14.82	Si
SLU 75	ini.	-1106.19	3271	1.05	0	2450	8326	5283	2678	7960	No	2.43	Si
SLU 75	fin.	189.49	546	1.05	0	2450	8326	5283	2678	7960	No	14.58	Si
SLU 77	ini.	-1116.22	3294	1.05	0	2450	8326	5283	2678	7960	No	2.42	Si
SLU 77	fin.	196.96	569	1.05	0	2450	8326	5283	2678	7960	No	13.98	Si
SLU 78	ini.	-1128.14	3309	1.05	0	2450	8326	5283	2678	7960	No	2.41	Si
SLU 78	fin.	194.79	584	1.05	0	2450	8326	5283	2678	7960	No	13.62	Si
SLU 83	ini.	-1137.51	3486	1.05	0	2450	8326	5283	2678	7960	No	2.28	Si
SLU 83	fin.	211.25	490	1.05	0	2450	8326	5283	2678	7960	No	16.23	Si
SLU 82	ini.	-1127.49	3462	1.05	0	2450	8326	5283	2678	7960	No	2.3	Si
SLU 82	fin.	203.78	467	1.05	0	2450	8326	5283	2678	7960	No	17.04	Si
SLU 42	ini.	-1050.94	3264	1.05	0	2450	8326	5283	2678	7960	No	2.44	Si
SLU 42	fin.	223.04	500	1.05	0	2450	8326	5283	2678	7960	No	15.93	Si
SLU 81	ini.	-1115.56	3447	1.05	0	2450	8326	5283	2678	7960	No	2.31	Si
SLU 81	fin.	205.94	452	1.05	0	2450	8326	5283	2678	7960	No	17.61	Si
SLU 84	ini.	-1149.43	3501	1.05	0	2450	8326	5283	2678	7960	No	2.27	Si
SLU 84	fin.	209.08	505	1.05	0	2450	8326	5283	2678	7960	No	15.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	381.38	-4274	-0.0001421	0.0003369	0.0035	1.05		4079.77	4079.77		10.7	Si
SLV 2	fin.	-2818.51	-8232	-0.0015154	0.0003369	0.0035	1.05		4086.9	4086.9		1.45	Si
SLV 4	ini.	1017.54	-2051	-0.0004101	0.0003369	0.0035	1.05		4079.77	4079.77		4.01	Si
SLV 4	fin.	-2727.74	-6693	-0.0014419	0.0003369	0.0035	1.05		4086.9	4086.9		1.5	Si
SLV 15	ini.	-1757.83	-307	-0.0007923	0.0003369	0.0035	1.05		4086.9	4086.9		2.32	Si
SLV 15	fin.	2982.74	5552	-0.0016611	0.0003369	0.0035	1.05		4079.77	4079.77		1.37	Si
SLV 9	ini.	-2165.09	-5732	-0.0010404	0.0003369	0.0035	1.05		4086.9	4086.9		1.89	Si
SLV 9	fin.	789.14	-2064	-0.0003082	0.0003369	0.0035	1.05		4079.77	4079.77		5.17	Si
SLV 13	ini.	-2393.99	-2530	-0.0011941	0.0003369	0.0035	1.05		4086.9	4086.9		1.71	Si
SLV 13	fin.	2891.97	4014	-0.0015811	0.0003369	0.0035	1.05		4079.77	4079.77		1.41	Si
SLV 16	ini.	-1756.27	-314	-0.0007914	0.0003369	0.0035	1.05		4086.9	4086.9		2.33	Si
SLV 16	fin.	2973.4	5531	-0.0016527	0.0003369	0.0035	1.05		4079.77	4079.77		1.37	Si
SLV 14	ini.	-2392.43	-2537	-0.001193	0.0003369	0.0035	1.05		4086.9	4086.9		1.71	Si
SLV 14	fin.	2882.63	3992	-0.0015731	0.0003369	0.0035	1.05		4079.77	4079.77		1.42	Si
SLV 10	ini.	-2164.03	-5737	-0.0010398	0.0003369	0.0035	1.05		4086.9	4086.9		1.89	Si
SLV 10	fin.	782.85	-2078	-0.0003055	0.0003369	0.0035	1.05		4079.77	4079.77		5.21	Si
SLV 3	ini.	1015.98	-2044	-0.0004094	0.0003369	0.0035	1.05		4079.77	4079.77		4.02	Si
SLV 3	fin.	-2718.41	-6672	-0.0014345	0.0003369	0.0035	1.05		4086.9	4086.9		1.5	Si
SLV 1	ini.	379.82	-4267	-0.0001415	0.0003369	0.0035	1.05		4079.77	4079.77		10.74	Si
SLV 1	fin.	-2809.18	-8210	-0.0015077	0.0003369	0.0035	1.05		4086.9	4086.9		1.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-1773.03	6179	1.05	0	2855	8326	7924	2678	10602		1.72	Si
SLD 14	fin.	1874.68	4502	1.05	0	2855	8326	7924	2678	10602		2.35	Si
SLV 14	ini.	-2392.43	8557	1.05	0	2855	8326	7924	2678	10602		1.24	Si
SLV 14	fin.	2882.63	6882	1.05	0	2855	8326	7924	2678	10602		1.54	Si
SLV 4	ini.	1017.54	-4627	1.05	0	2855	8326	7924	2678	10602		2.29	Si
SLV 4	fin.	-2727.74	-6311	1.05	0	2855	8326	7924	2678	10602		1.68	Si
SLV 16	ini.	-1756.27	7749	1.05	0	2855	8326	7924	2678	10602		1.37	Si
SLV 16	fin.	2973.4	6061	1.05	0	2855	8326	7924	2678	10602		1.75	Si
SLD 13	ini.	-1774.03	6190	1.05	0	2855	8326	7924	2678	10602		1.71	Si
SLD 13	fin.	1880.65	4513	1.05	0	2855	8326	7924	2678	10602		2.35	Si
SLV 13	ini.	-2393.99	8573	1.05	0	2855	8326	7924	2678	10602		1.24	Si
SLV 13	fin.	2891.97	6899	1.05	0	2855	8326	7924	2678	10602		1.54	Si
SLD 16	ini.	-1378.16	5676	1.05	0	2855	8326	7924	2678	10602		1.87	Si
SLD 16	fin.	1931.26	3992	1.05	0	2855	8326	7924	2678	10602		2.66	Si
SLV 15	ini.	-1757.83	7766	1.05	0	2855	8326	7924	2678	10602		1.37	Si
SLV 15	fin.	2982.74	6078	1.05	0	2855	8326	7924	2678	10602		1.74	Si
SLV 3	ini.	1015.98	-4611	1.05	0	2855	8326	7924	2678	10602		2.3	Si
SLV 3	fin.	-2718.41	-6295	1.05	0	2855	8326	7924	2678	10602		1.68	Si
SLD 15	ini.	-1379.16	5687	1.05	0	2855	8326	7924	2678	10602		1.86	Si
SLD 15	fin.	1937.23	4003	1.05	0	2855	8326	7924	2678	10602		2.65	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.368	SLV 15	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.237	SLV 13	Si
PF_SLU	3.595	SLU 84	Si
V_SLU	2.274	SLU 84	Si

Trave di accoppiamento 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	10.4	11.45	1.05	-10.466	1.141	10.4	11.45	1.05	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	799.02	-3343	-0.0003245	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.16	Si
SLU 77	fin.	-820.89	-4541	-0.0003342	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.03	Si
SLU 74	ini.	757.58	-3232	-0.0003052	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.45	Si
SLU 74	fin.	-807.12	-4389	-0.0003277	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.12	Si
SLU 76	ini.	767.26	-3097	-0.0003097	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.38	Si
SLU 76	fin.	-838.38	-4333	-0.0003424	0.0002246	0.0035	1.05		4132.15	4132.15	No	4.93	Si
SLU 73	ini.	725.82	-2985	-0.0002907	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.68	Si
SLU 73	fin.	-824.61	-4182	-0.0003359	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.01	Si
SLU 84	ini.	788.35	-3317	-0.0003195	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.23	Si
SLU 84	fin.	-845.29	-4520	-0.0003457	0.0002246	0.0035	1.05		4132.15	4132.15	No	4.89	Si
SLU 80	ini.	799.2	-3243	-0.0003246	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.16	Si
SLU 80	fin.	-833.72	-4476	-0.0003402	0.0002246	0.0035	1.05		4132.15	4132.15	No	4.96	Si
SLU 82	ini.	746.91	-3206	-0.0003003	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.52	Si
SLU 82	fin.	-831.52	-4369	-0.0003392	0.0002246	0.0035	1.05		4132.15	4132.15	No	4.97	Si
SLU 83	ini.	774.1	-3369	-0.0003129	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.33	Si
SLU 83	fin.	-817.65	-4507	-0.0003326	0.0002246	0.0035	1.05		4132.15	4132.15	No	5.05	Si
SLU 78	ini.	813.27	-3291	-0.0003312	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.07	Si
SLU 78	fin.	-848.53	-4553	-0.0003472	0.0002246	0.0035	1.05		4132.15	4132.15	No	4.87	Si
SLU 75	ini.	771.83	-3180	-0.0003118	0.0002246	0.0035	1.05		4125.57	4125.57	No	5.35	Si
SLU 75	fin.	-834.76	-4402	-0.0003407	0.0002246	0.0035	1.05		4132.15	4132.15	No	4.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	774.1	-6224	1.05	0	2450	8326	5283	2678	7960	No	1.28	Si
SLU 83	fin.	-817.65	-1140	1.05	0	2450	8326	5283	2678	7960	No	6.98	Si
SLU 84	ini.	788.35	-6209	1.05	0	2450	8326	5283	2678	7960	No	1.28	Si
SLU 84	fin.	-845.29	-1250	1.05	0	2450	8326	5283	2678	7960	No	6.37	Si
SLU 74	ini.	757.58	-5996	1.05	0	2450	8326	5283	2678	7960	No	1.33	Si
SLU 74	fin.	-807.12	-1157	1.05	0	2450	8326	5283	2678	7960	No	6.88	Si
SLU 82	ini.	746.91	-5916	1.05	0	2450	8326	5283	2678	7960	No	1.35	Si
SLU 82	fin.	-831.52	-1279	1.05	0	2450	8326	5283	2678	7960	No	6.22	Si
SLU 77	ini.	799.02	-6288	1.05	0	2450	8326	5283	2678	7960	No	1.27	Si
SLU 77	fin.	-820.89	-1128	1.05	0	2450	8326	5283	2678	7960	No	7.06	Si
SLU 81	ini.	732.66	-5931	1.05	0	2450	8326	5283	2678	7960	No	1.34	Si
SLU 81	fin.	-803.88	-1170	1.05	0	2450	8326	5283	2678	7960	No	6.8	Si
SLU 79	ini.	784.96	-6189	1.05	0	2450	8326	5283	2678	7960	No	1.29	Si
SLU 79	fin.	-806.08	-1112	1.05	0	2450	8326	5283	2678	7960	No	7.16	Si
SLU 75	ini.	771.83	-5981	1.05	0	2450	8326	5283	2678	7960	No	1.33	Si
SLU 75	fin.	-834.76	-1267	1.05	0	2450	8326	5283	2678	7960	No	6.28	Si
SLU 80	ini.	799.2	-6174	1.05	0	2450	8326	5283	2678	7960	No	1.29	Si
SLU 80	fin.	-833.72	-1221	1.05	0	2450	8326	5283	2678	7960	No	6.52	Si
SLU 78	ini.	813.27	-6273	1.05	0	2450	8326	5283	2678	7960	No	1.27	Si
SLU 78	fin.	-848.53	-1237	1.05	0	2450	8326	5283	2678	7960	No	6.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	2069.8	953	-0.0009818	0.0003369	0.0035	1.05		4079.77	4079.77		1.97	Si
SLV 3	fin.	-411.96	-1120	-0.0001538	0.0003369	0.0035	1.05		4086.9	4086.9		9.92	Si
SLV 5	ini.	2240.18	3610	-0.001092	0.0003369	0.0035	1.05		4079.77	4079.77		1.82	Si
SLV 5	fin.	-3004.34	-3458	-0.0016764	0.0003369	0.0035	1.05		4086.9	4086.9		1.36	Si
SLV 4	ini.	2056.45	1045	-0.0009734	0.0003369	0.0035	1.05		4079.77	4079.77		1.98	Si
SLV 4	fin.	-429.77	-1065	-0.0001607	0.0003369	0.0035	1.05		4086.9	4086.9		9.51	Si
SLD 5	ini.	1578.93	1486	-0.0006935	0.0003369	0.0035	1.05		4079.77	4079.77		2.58	Si
SLD 5	fin.	-2072.43	-3210	-0.0009813	0.0003369	0.0035	1.05		4086.9	4086.9		1.97	Si
SLV 1	ini.	2781.68	3587	-0.0014888	0.0003369	0.0035	1.05		4079.77	4079.77		1.47	Si
SLV 1	fin.	-1794.7	-1746	-0.0008136	0.0003369	0.0035	1.05		4086.9	4086.9		2.28	Si
SLV 10	ini.	1057.03	1044	-0.0004285	0.0003369	0.0035	1.05		4079.77	4079.77		3.86	Si
SLV 10	fin.	-2667.92	-4272	-0.0013951	0.0003369	0.0035	1.05		4086.9	4086.9		1.53	Si
SLD 6	ini.	1573.28	1525	-0.0006904	0.0003369	0.0035	1.05		4079.77	4079.77		2.59	Si
SLD 6	fin.	-2079.97	-3187	-0.0009861	0.0003369	0.0035	1.05		4086.9	4086.9		1.96	Si
SLV 9	ini.	1066.01	982	-0.0004327	0.0003369	0.0035	1.05		4079.77	4079.77		3.83	Si
SLV 9	fin.	-2655.93	-4309	-0.0013858	0.0003369	0.0035	1.05		4086.9	4086.9		1.54	Si
SLV 6	ini.	2231.19	3672	-0.001086	0.0003369	0.0035	1.05		4079.77	4079.77		1.83	Si
SLV 6	fin.	-3016.33	-3421	-0.0016874	0.0003369	0.0035	1.05		4086.9	4086.9		1.35	Si
SLV 2	ini.	2768.34	3680	-0.0014779	0.0003369	0.0035	1.05		4079.77	4079.77		1.47	Si
SLV 2	fin.	-1812.51	-1691	-0.000824	0.0003369	0.0035	1.05		4086.9	4086.9		2.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-1315.92	-3438	1.05	0	2961	8326	7924	2678	10602		3.08	Si
SLV 12	fin.	1941.22	9215	1.05	0	2961	8326	7924	2678	10602		1.15	Si
SLV 2	ini.	2768.34	-7617	1.05	0	2961	8326	7924	2678	10602		1.39	Si
SLV 2	fin.	-1812.51	-6795	1.05	0	2961	8326	7924	2678	10602		1.56	Si
SLV 10	ini.	1057.03	-1124	1.05	0	2961	8326	7924	2678	10602		9.43	Si
SLV 10	fin.	-2667.92	-9070	1.05	0	2961	8326	7924	2678	10602		1.17	Si
SLV 9	ini.	1066.01	-1265	1.05	0	2961	8326	7924	2678	10602		8.38	Si
SLV 9	fin.	-2655.93	-8983	1.05	0	2961	8326	7924	2678	10602		1.18	Si
SLV 1	ini.	2781.68	-7826	1.05	0	2961	8326	7924	2678	10602		1.35	Si
SLV 1	fin.	-1794.7	-6666	1.05	0	2961	8326	7924	2678	10602		1.59	Si
SLV 4	ini.	2056.45	-8311	1.05	0	2961	8326	7924	2678	10602		1.28	Si
SLV 4	fin.	-429.77	-1310	1.05	0	2961	8326	7924	2678	10602		8.09	Si
SLV 5	ini.	2240.18	-3904	1.05	0	2961	8326	7924	2678	10602		2.72	Si
SLV 5	fin.	-3004.34	-10877	1.05	0	2961	8326	7924	2678	10602		0.97	No
SLV 3	ini.	2069.8	-8521	1.05	0	2961	8326	7924	2678	10602		1.24	Si
SLV 3	fin.	-411.96	-1181	1.05	0	2961	8326	7924	2678	10602		8.98	Si
SLV 6	ini.	2231.19	-3763	1.05	0	2961	8326	7924	2678	10602		2.82	Si
SLV 6	fin.	-3016.33	-10964	1.05	0	2961	8326	7924	2678	10602		0.97	No
SLV 11	ini.	-1306.93	-3579	1.05	0	2961	8326	7924	2678	10602		2.96	Si
SLV 11	fin.	1953.21	9302	1.05	0	2961	8326	7924	2678	10602		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.355	SLV 6	Si
V_SLV	0.967	SLV 6	No
PF_SLU	4.87	SLU 78	Si
V_SLU	1.266	SLU 77	Si

Trave di accoppiamento 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	10	11.45	1.45	-7.443	1.141	10	11.45	1.45	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	675.21	-1710	-0.0001332	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.63	Si
SLU 73	fin.	-1204.7	-3359	-0.0002482	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.53	Si
SLU 75	ini.	685.84	-1841	-0.0001354	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.45	Si
SLU 75	fin.	-1203.49	-3499	-0.0002479	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.53	Si
SLU 74	ini.	682.11	-1854	-0.0001346	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.52	Si
SLU 74	fin.	-1204.94	-3511	-0.0002482	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.53	Si
SLU 77	ini.	696.1	-1920	-0.0001375	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.28	Si
SLU 77	fin.	-1197.32	-3585	-0.0002465	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.57	Si
SLU 84	ini.	676.75	-1868	-0.0001335	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.61	Si
SLU 84	fin.	-1211.13	-3516	-0.0002497	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.49	Si
SLU 76	ini.	689.19	-1776	-0.0001361	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.4	Si
SLU 76	fin.	-1197.08	-3432	-0.0002464	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.57	Si
SLU 83	ini.	673.02	-1881	-0.0001327	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.67	Si
SLU 83	fin.	-1212.58	-3528	-0.00025	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.49	Si
SLU 82	ini.	662.76	-1802	-0.0001306	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.85	Si
SLU 82	fin.	-1218.75	-3443	-0.0002514	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.45	Si
SLU 81	ini.	659.03	-1815	-0.0001298	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.92	Si
SLU 81	fin.	-1220.21	-3455	-0.0002518	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.45	Si
SLU 78	ini.	699.83	-1907	-0.0001383	0.0002246	0.0035	1.45		7855.43	7855.43	No	11.22	Si
SLU 78	fin.	-1195.86	-3572	-0.0002462	0.0002246	0.0035	1.45		7864.45	7864.45	No	6.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	662.76	-1072	1.45	0	3383	7930	7295	3698	10993	No	10.26	Si
SLU 82	fin.	-1218.75	-5072	1.45	0	3383	7930	7295	3698	10993	No	2.17	Si
SLU 75	ini.	685.84	-1258	1.45	0	3383	7930	7295	3698	10993	No	8.74	Si
SLU 75	fin.	-1203.49	-4927	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 78	ini.	699.83	-1270	1.45	0	3383	7930	7295	3698	10993	No	8.66	Si
SLU 78	fin.	-1195.86	-4938	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 74	ini.	682.11	-1256	1.45	0	3383	7930	7295	3698	10993	No	8.75	Si
SLU 74	fin.	-1204.94	-4924	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 81	ini.	659.03	-1070	1.45	0	3383	7930	7295	3698	10993	No	10.28	Si
SLU 81	fin.	-1220.21	-5070	1.45	0	3383	7930	7295	3698	10993	No	2.17	Si
SLU 84	ini.	676.75	-1084	1.45	0	3383	7930	7295	3698	10993	No	10.14	Si
SLU 84	fin.	-1211.13	-5084	1.45	0	3383	7930	7295	3698	10993	No	2.16	Si
SLU 79	ini.	696.96	-1261	1.45	0	3383	7930	7295	3698	10993	No	8.72	Si
SLU 79	fin.	-1191.88	-4930	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 77	ini.	696.1	-1267	1.45	0	3383	7930	7295	3698	10993	No	8.67	Si
SLU 77	fin.	-1197.32	-4936	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 80	ini.	700.69	-1263	1.45	0	3383	7930	7295	3698	10993	No	8.7	Si
SLU 80	fin.	-1190.43	-4932	1.45	0	3383	7930	7295	3698	10993	No	2.23	Si
SLU 83	ini.	673.02	-1081	1.45	0	3383	7930	7295	3698	10993	No	10.17	Si
SLU 83	fin.	-1212.58	-5082	1.45	0	3383	7930	7295	3698	10993	No	2.16	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	756.87	-1408	-0.0001481	0.0003369	0.0035	1.45		7577.35	7577.35		10.01	Si
SLV 8	fin.	-1430.96	-3466	-0.0002912	0.0003369	0.0035	1.45		7587.09	7587.09		5.3	Si
SLV 2	ini.	2412.71	1448	-0.0005291	0.0003369	0.0035	1.45		7577.35	7577.35		3.14	Si
SLV 2	fin.	-2483.93	-2699	-0.0005471	0.0003369	0.0035	1.45		7587.09	7587.09		3.05	Si
SLV 1	ini.	2450.13	1452	-0.0005389	0.0003369	0.0035	1.45		7577.35	7577.35		3.09	Si
SLV 1	fin.	-2545.75	-2785	-0.0005636	0.0003369	0.0035	1.45		7587.09	7587.09		2.98	Si
SLD 3	ini.	1639.72	151	-0.0003388	0.0003369	0.0035	1.45		7577.35	7577.35		4.62	Si
SLD 3	fin.	-1972.13	-2989	-0.0004171	0.0003369	0.0035	1.45		7587.09	7587.09		3.85	Si
SLD 2	ini.	1725.46	494	-0.0003588	0.0003369	0.0035	1.45		7577.35	7577.35		4.39	Si
SLD 2	fin.	-1908.02	-2606	-0.0004016	0.0003369	0.0035	1.45		7587.09	7587.09		3.98	Si
SLD 1	ini.	1749.37	496	-0.0003644	0.0003369	0.0035	1.45		7577.35	7577.35		4.33	Si
SLD 1	fin.	-1947.52	-2661	-0.0004111	0.0003369	0.0035	1.45		7587.09	7587.09		3.9	Si
SLV 4	ini.	2236.91	893	-0.0004837	0.0003369	0.0035	1.45		7577.35	7577.35		3.39	Si
SLV 4	fin.	-2523.8	-3229	-0.0005577	0.0003369	0.0035	1.45		7587.09	7587.09		3.01	Si
SLV 7	ini.	782.06	-1406	-0.0001532	0.0003369	0.0035	1.45		7577.35	7577.35		9.69	Si
SLV 7	fin.	-1472.59	-3524	-0.0003005	0.0003369	0.0035	1.45		7587.09	7587.09		5.15	Si
SLV 3	ini.	2274.33	897	-0.0004932	0.0003369	0.0035	1.45		7577.35	7577.35		3.33	Si
SLV 3	fin.	-2585.63	-3315	-0.0005742	0.0003369	0.0035	1.45		7587.09	7587.09		2.93	Si
SLD 4	ini.	1615.81	149	-0.0003333	0.0003369	0.0035	1.45		7577.35	7577.35		4.69	Si
SLD 4	fin.	-1932.63	-2934	-0.0004075	0.0003369	0.0035	1.45		7587.09	7587.09		3.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	2274.33	-6623	1.45	0	4598	7930	10943	3698	12527		1.89	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	fin.	-2585.63	-8901	1.45	0	4598	7930	10943	3698	12527		1.41	Si
SLD 3	ini.	1639.72	-4655	1.45	0	4598	7930	10943	3698	12527		2.69	Si
SLD 3	fin.	-1972.13	-6931	1.45	0	4598	7930	10943	3698	12527		1.81	Si
SLV 5	ini.	1368.07	-3187	1.45	0	4598	7930	10943	3698	12527		3.93	Si
SLV 5	fin.	-1339.67	-5418	1.45	0	4598	7930	10943	3698	12527		2.31	Si
SLV 1	ini.	2450.13	-6813	1.45	0	4598	7930	10943	3698	12527		1.84	Si
SLV 1	fin.	-2545.75	-9067	1.45	0	4598	7930	10943	3698	12527		1.38	Si
SLV 6	ini.	1342.88	-3076	1.45	0	4598	7930	10943	3698	12527		4.07	Si
SLV 6	fin.	-1298.05	-5308	1.45	0	4598	7930	10943	3698	12527		2.36	Si
SLD 4	ini.	1615.81	-4550	1.45	0	4598	7930	10943	3698	12527		2.75	Si
SLD 4	fin.	-1932.63	-6826	1.45	0	4598	7930	10943	3698	12527		1.84	Si
SLD 2	ini.	1725.46	-4667	1.45	0	4598	7930	10943	3698	12527		2.68	Si
SLD 2	fin.	-1908.02	-6929	1.45	0	4598	7930	10943	3698	12527		1.81	Si
SLV 4	ini.	2236.91	-6459	1.45	0	4598	7930	10943	3698	12527		1.94	Si
SLV 4	fin.	-2523.8	-8737	1.45	0	4598	7930	10943	3698	12527		1.43	Si
SLD 1	ini.	1749.37	-4772	1.45	0	4598	7930	10943	3698	12527		2.63	Si
SLD 1	fin.	-1947.52	-7034	1.45	0	4598	7930	10943	3698	12527		1.78	Si
SLV 2	ini.	2412.71	-6649	1.45	0	4598	7930	10943	3698	12527		1.88	Si
SLV 2	fin.	-2483.93	-8902	1.45	0	4598	7930	10943	3698	12527		1.41	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.934	SLV 3	Si
V_SLV	1.382	SLV 1	Si
PF_SLU	6.445	SLU 81	Si
V_SLU	2.162	SLU 84	Si

Trave di accoppiamento 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	10	11.45	1.45	-4.893	1.141	10	11.45	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	1003.38	-1355	-0.0002032	0.0002246	0.0035	1.45		7855.43	7855.43	No	7.83	Si
SLU 82	fin.	-964.46	-2307	-0.0001945	0.0002246	0.0035	1.45		7864.45	7864.45	No	8.15	Si
SLU 75	ini.	940	-1482	-0.0001894	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.36	Si
SLU 75	fin.	-887.05	-2359	-0.0001777	0.0002246	0.0035	1.45		7864.45	7864.45	No	8.87	Si
SLU 84	ini.	945.73	-1492	-0.0001906	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.31	Si
SLU 84	fin.	-912.74	-2384	-0.0001832	0.0002246	0.0035	1.45		7864.45	7864.45	No	8.62	Si
SLU 73	ini.	977.42	-1294	-0.0001975	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.04	Si
SLU 73	fin.	-922.96	-2212	-0.0001854	0.0002246	0.0035	1.45		7864.45	7864.45	No	8.52	Si
SLU 64	ini.	907.77	-1164	-0.0001824	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.65	Si
SLU 64	fin.	-816.26	-1992	-0.0001626	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.63	Si
SLU 74	ini.	937.18	-1486	-0.0001888	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.38	Si
SLU 74	fin.	-883.99	-2360	-0.000177	0.0002246	0.0035	1.45		7864.45	7864.45	No	8.9	Si
SLU 76	ini.	919.77	-1431	-0.000185	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.54	Si
SLU 76	fin.	-871.23	-2288	-0.0001743	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.03	Si
SLU 81	ini.	1000.56	-1359	-0.0002026	0.0002246	0.0035	1.45		7855.43	7855.43	No	7.85	Si
SLU 81	fin.	-961.41	-2308	-0.0001938	0.0002246	0.0035	1.45		7864.45	7864.45	No	8.18	Si
SLU 83	ini.	942.91	-1496	-0.00019	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.33	Si
SLU 83	fin.	-909.68	-2385	-0.0001826	0.0002246	0.0035	1.45		7864.45	7864.45	No	8.65	Si
SLU 65	ini.	912.47	-1157	-0.0001834	0.0002246	0.0035	1.45		7855.43	7855.43	No	8.61	Si
SLU 65	fin.	-821.36	-1991	-0.0001637	0.0002246	0.0035	1.45		7864.45	7864.45	No	9.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	882.35	-1815	1.45	0	3383	6344	7295	3698	9727	No	5.36	Si
SLU 78	fin.	-835.33	-3924	1.45	0	3383	6344	7295	3698	9727	No	2.48	Si
SLU 83	ini.	942.91	-1967	1.45	0	3383	6344	7295	3698	9727	No	4.95	Si
SLU 83	fin.	-909.68	-4240	1.45	0	3383	6344	7295	3698	9727	No	2.29	Si
SLU 84	ini.	945.73	-1977	1.45	0	3383	6344	7295	3698	9727	No	4.92	Si
SLU 84	fin.	-912.74	-4250	1.45	0	3383	6344	7295	3698	9727	No	2.29	Si
SLU 76	ini.	919.77	-1943	1.45	0	3383	6344	7295	3698	9727	No	5.01	Si
SLU 76	fin.	-871.23	-4052	1.45	0	3383	6344	7295	3698	9727	No	2.4	Si
SLU 73	ini.	977.42	-2135	1.45	0	3383	6344	7295	3698	9727	No	4.56	Si
SLU 73	fin.	-922.96	-4243	1.45	0	3383	6344	7295	3698	9727	No	2.29	Si
SLU 81	ini.	1000.56	-2158	1.45	0	3383	6344	7295	3698	9727	No	4.51	Si
SLU 81	fin.	-961.41	-4431	1.45	0	3383	6344	7295	3698	9727	No	2.2	Si
SLU 74	ini.	937.18	-1996	1.45	0	3383	6344	7295	3698	9727	No	4.87	Si
SLU 74	fin.	-883.99	-4105	1.45	0	3383	6344	7295	3698	9727	No	2.37	Si
SLU 75	ini.	940	-2006	1.45	0	3383	6344	7295	3698	9727	No	4.85	Si
SLU 75	fin.	-887.05	-4115	1.45	0	3383	6344	7295	3698	9727	No	2.36	Si
SLU 82	ini.	1003.38	-2168	1.45	0	3383	6344	7295	3698	9727	No	4.49	Si
SLU 82	fin.	-964.46	-4441	1.45	0	3383	6344	7295	3698	9727	No	2.19	Si
SLU 77	ini.	879.53	-1805	1.45	0	3383	6344	7295	3698	9727	No	5.39	Si
SLU 77	fin.	-832.27	-3914	1.45	0	3383	6344	7295	3698	9727	No	2.49	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	1933.64	957	-0.0004083	0.0003369	0.0035	1.45		7577.35	7577.35		3.92	Si
SLD 2	fin.	-1231.43	-569	-0.0002474	0.0003369	0.0035	1.45		7587.09	7587.09		6.16	Si
SLV 6	ini.	1501.24	286	-0.0003073	0.0003369	0.0035	1.45		7577.35	7577.35		5.05	Si
SLV 6	fin.	-1110.52	-981	-0.0002215	0.0003369	0.0035	1.45		7587.09	7587.09		6.83	Si
SLV 1	ini.	2714.55	2085	-0.0006101	0.0003369	0.0035	1.45		7577.35	7577.35		2.79	Si
SLV 1	fin.	-1611.52	-8	-0.0003319	0.0003369	0.0035	1.45		7587.09	7587.09		4.71	Si
SLD 4	ini.	1837.52	825	-0.0003852	0.0003369	0.0035	1.45		7577.35	7577.35		4.12	Si
SLD 4	fin.	-1149.85	-613	-0.0002299	0.0003369	0.0035	1.45		7587.09	7587.09		6.6	Si
SLV 2	ini.	2643.86	2004	-0.0005908	0.0003369	0.0035	1.45		7577.35	7577.35		2.87	Si
SLV 2	fin.	-1578.05	-38	-0.0003243	0.0003369	0.0035	1.45		7587.09	7587.09		4.81	Si
SLV 4	ini.	2489.4	1793	-0.0005493	0.0003369	0.0035	1.45		7577.35	7577.35		3.04	Si
SLV 4	fin.	-1446.7	-107	-0.0002947	0.0003369	0.0035	1.45		7587.09	7587.09		5.24	Si
SLD 3	ini.	1882.68	877	-0.000396	0.0003369	0.0035	1.45		7577.35	7577.35		4.02	Si
SLD 3	fin.	-1171.23	-593	-0.0002344	0.0003369	0.0035	1.45		7587.09	7587.09		6.48	Si
SLV 3	ini.	2560.08	1874	-0.0005682	0.0003369	0.0035	1.45		7577.35	7577.35		2.96	Si
SLV 3	fin.	-1480.17	-77	-0.0003022	0.0003369	0.0035	1.45		7587.09	7587.09		5.13	Si
SLD 1	ini.	1978.8	1008	-0.0004193	0.0003369	0.0035	1.45		7577.35	7577.35		3.83	Si
SLD 1	fin.	-1252.82	-550	-0.000252	0.0003369	0.0035	1.45		7587.09	7587.09		6.06	Si
SLV 5	ini.	1548.83	340	-0.0003181	0.0003369	0.0035	1.45		7577.35	7577.35		4.89	Si
SLV 5	fin.	-1133.05	-960	-0.0002263	0.0003369	0.0035	1.45		7587.09	7587.09		6.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	2643.86	-6311	1.45	0	5075	6344	10943	3698	11419		1.81	Si
SLV 2	fin.	-1578.05	-7639	1.45	0	5075	6344	10943	3698	11419		1.49	Si
SLD 2	ini.	1933.64	-4570	1.45	0	5075	6344	10943	3698	11419		2.5	Si
SLD 2	fin.	-1231.43	-5908	1.45	0	5075	6344	10943	3698	11419		1.93	Si
SLD 1	ini.	1978.8	-4682	1.45	0	5075	6344	10943	3698	11419		2.44	Si
SLD 1	fin.	-1252.82	-6020	1.45	0	5075	6344	10943	3698	11419		1.9	Si
SLD 3	ini.	1882.68	-4380	1.45	0	5075	6344	10943	3698	11419		2.61	Si
SLD 3	fin.	-1171.23	-5718	1.45	0	5075	6344	10943	3698	11419		2	Si
SLD 4	ini.	1837.52	-4268	1.45	0	5075	6344	10943	3698	11419		2.68	Si
SLD 4	fin.	-1149.85	-5606	1.45	0	5075	6344	10943	3698	11419		2.04	Si
SLV 3	ini.	2560.08	-6002	1.45	0	5075	6344	10943	3698	11419		1.9	Si
SLV 3	fin.	-1480.17	-7330	1.45	0	5075	6344	10943	3698	11419		1.56	Si
SLV 6	ini.	1501.24	-3682	1.45	0	5075	6344	10943	3698	11419		3.1	Si
SLV 6	fin.	-1110.52	-5026	1.45	0	5075	6344	10943	3698	11419		2.27	Si
SLV 5	ini.	1548.83	-3800	1.45	0	5075	6344	10943	3698	11419		3	Si
SLV 5	fin.	-1133.05	-5144	1.45	0	5075	6344	10943	3698	11419		2.22	Si
SLV 4	ini.	2489.4	-5827	1.45	0	5075	6344	10943	3698	11419		1.96	Si
SLV 4	fin.	-1446.7	-7154	1.45	0	5075	6344	10943	3698	11419		1.6	Si
SLV 1	ini.	2714.55	-6486	1.45	0	5075	6344	10943	3698	11419		1.76	Si
SLV 1	fin.	-1611.52	-7814	1.45	0	5075	6344	10943	3698	11419		1.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.791	SLV 1	Si
V_SLV	1.461	SLV 1	Si
PF_SLU	7.829	SLU 82	Si
V_SLU	2.19	SLU 82	Si

Trave di accoppiamento 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	10	11.45	1.45	-9.443	-3.169	10	11.45	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	1364.58	-1562	-0.0002918	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.61	Si
SLU 75	fin.	-2041.52	-3226	-0.0004692	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.76	Si
SLU 74	ini.	1352.53	-1553	-0.0002889	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.66	Si
SLU 74	fin.	-2026.6	-3205	-0.000465	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.78	Si
SLU 77	ini.	1328.69	-1588	-0.000283	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.77	Si
SLU 77	fin.	-2001.96	-3217	-0.0004582	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.83	Si
SLU 82	ini.	1400.77	-1481	-0.0003008	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.47	Si
SLU 82	fin.	-2084.01	-3188	-0.000481	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.68	Si
SLU 76	ini.	1341.73	-1527	-0.0002862	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.71	Si
SLU 76	fin.	-2012.4	-3164	-0.0004611	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.81	Si
SLU 73	ini.	1365.57	-1492	-0.0002921	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.61	Si
SLU 73	fin.	-2037.04	-3152	-0.0004679	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.77	Si
SLU 84	ini.	1376.93	-1517	-0.0002949	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.56	Si
SLU 84	fin.	-2059.37	-3200	-0.0004741	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.72	Si
SLU 78	ini.	1340.74	-1597	-0.0002859	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.71	Si
SLU 78	fin.	-2016.89	-3238	-0.0004623	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.8	Si
SLU 81	ini.	1388.72	-1472	-0.0002978	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.52	Si
SLU 81	fin.	-2069.08	-3167	-0.0004768	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.71	Si
SLU 83	ini.	1364.88	-1508	-0.0002919	0.0001872	0.0035	1.45		7660.24	7660.24	No	5.61	Si
SLU 83	fin.	-2044.45	-3179	-0.00047	0.0001872	0.0035	1.45		7669.58	7669.58	No	3.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	1352.53	-4195	1.45	0	2819	7137	6079	3698	9776	No	2.33	Si
SLU 74	fin.	-2026.6	-5993	1.45	0	2819	7137	6079	3698	9776	No	1.63	Si
SLU 75	ini.	1364.58	-4234	1.45	0	2819	7137	6079	3698	9776	No	2.31	Si
SLU 75	fin.	-2041.52	-6033	1.45	0	2819	7137	6079	3698	9776	No	1.62	Si
SLU 83	ini.	1364.88	-4185	1.45	0	2819	7137	6079	3698	9776	No	2.34	Si
SLU 83	fin.	-2044.45	-6101	1.45	0	2819	7137	6079	3698	9776	No	1.6	Si
SLU 77	ini.	1328.69	-4122	1.45	0	2819	7137	6079	3698	9776	No	2.37	Si
SLU 77	fin.	-2001.96	-5920	1.45	0	2819	7137	6079	3698	9776	No	1.65	Si
SLU 84	ini.	1376.93	-4224	1.45	0	2819	7137	6079	3698	9776	No	2.31	Si
SLU 84	fin.	-2059.37	-6140	1.45	0	2819	7137	6079	3698	9776	No	1.59	Si
SLU 76	ini.	1341.73	-4154	1.45	0	2819	7137	6079	3698	9776	No	2.35	Si
SLU 76	fin.	-2012.4	-5952	1.45	0	2819	7137	6079	3698	9776	No	1.64	Si
SLU 73	ini.	1365.57	-4227	1.45	0	2819	7137	6079	3698	9776	No	2.31	Si
SLU 73	fin.	-2037.04	-6025	1.45	0	2819	7137	6079	3698	9776	No	1.62	Si
SLU 81	ini.	1388.72	-4257	1.45	0	2819	7137	6079	3698	9776	No	2.3	Si
SLU 81	fin.	-2069.08	-6174	1.45	0	2819	7137	6079	3698	9776	No	1.58	Si
SLU 82	ini.	1400.77	-4297	1.45	0	2819	7137	6079	3698	9776	No	2.28	Si
SLU 82	fin.	-2084.01	-6213	1.45	0	2819	7137	6079	3698	9776	No	1.57	Si
SLU 78	ini.	1340.74	-4162	1.45	0	2819	7137	6079	3698	9776	No	2.35	Si
SLU 78	fin.	-2016.89	-5960	1.45	0	2819	7137	6079	3698	9776	No	1.64	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	2639.51	-428	-0.0006052	0.0002807	0.0035	1.45		7646.28	7646.28		2.9	Si
SLV 3	fin.	-3088.76	-3115	-0.000735	0.0002807	0.0035	1.45		7655.81	7655.81		2.48	Si
SLD 4	ini.	2310.07	-680	-0.0005146	0.0002807	0.0035	1.45		7646.28	7646.28		3.31	Si
SLD 4	fin.	-2797.78	-3061	-0.0006494	0.0002807	0.0035	1.45		7655.81	7655.81		2.74	Si
SLD 1	ini.	2411.63	-1043	-0.000542	0.0002807	0.0035	1.45		7646.28	7646.28		3.17	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	fin.	-2995.95	-3533	-0.0007073	0.0002807	0.0035	1.45		7655.81	7655.81		2.56	Si
SLV 5	ini.	2479.59	-1975	-0.0005606	0.0002807	0.0035	1.45		7646.28	7646.28		3.08	Si
SLV 5	fin.	-3304.61	-4550	-0.0008009	0.0002807	0.0035	1.45		7655.81	7655.81		2.32	Si
SLD 2	ini.	2692.98	-1047	-0.0006203	0.0002807	0.0035	1.45		7646.28	7646.28		2.84	Si
SLD 2	fin.	-3305.7	-3787	-0.0008012	0.0002807	0.0035	1.45		7655.81	7655.81		2.32	Si
SLV 1	ini.	3254.51	-1019	-0.0007866	0.0002807	0.0035	1.45		7646.28	7646.28		2.35	Si
SLV 1	fin.	-3904.67	-4281	-0.0009957	0.0002807	0.0035	1.45		7655.81	7655.81		1.96	Si
SLV 6	ini.	2776.07	-1979	-0.0006441	0.0002807	0.0035	1.45		7646.28	7646.28		2.75	Si
SLV 6	fin.	-3631.02	-4817	-0.0009046	0.0002807	0.0035	1.45		7655.81	7655.81		2.11	Si
SLV 4	ini.	3079.88	-435	-0.0007334	0.0002807	0.0035	1.45		7646.28	7646.28		2.48	Si
SLV 4	fin.	-3573.58	-3512	-0.000886	0.0002807	0.0035	1.45		7655.81	7655.81		2.14	Si
SLD 6	ini.	2092.37	-1648	-0.0004572	0.0002807	0.0035	1.45		7646.28	7646.28		3.65	Si
SLD 6	fin.	-2804.49	-3854	-0.0006513	0.0002807	0.0035	1.45		7655.81	7655.81		2.73	Si
SLV 2	ini.	3694.87	-1025	-0.0009269	0.0002807	0.0035	1.45		7646.28	7646.28		2.07	Si
SLV 2	fin.	-4389.49	-4678	-0.0011672	0.0002807	0.0035	1.45		7655.81	7655.81		1.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	ini.	2310.07	-6923	1.45	0	4229	7137	9118	3698	11366		1.64	Si
SLD 4	fin.	-2797.78	-8107	1.45	0	4229	7137	9118	3698	11366		1.4	Si
SLD 1	ini.	2411.63	-7344	1.45	0	4229	7137	9118	3698	11366		1.55	Si
SLD 1	fin.	-2995.95	-8531	1.45	0	4229	7137	9118	3698	11366		1.33	Si
SLV 3	ini.	2639.51	-7812	1.45	0	4229	7137	9118	3698	11366		1.45	Si
SLV 3	fin.	-3088.76	-8994	1.45	0	4229	7137	9118	3698	11366		1.26	Si
SLD 6	ini.	2092.37	-6605	1.45	0	4229	7137	9118	3698	11366		1.72	Si
SLD 6	fin.	-2804.49	-7798	1.45	0	4229	7137	9118	3698	11366		1.46	Si
SLV 5	ini.	2479.59	-7874	1.45	0	4229	7137	9118	3698	11366		1.44	Si
SLV 5	fin.	-3304.61	-9070	1.45	0	4229	7137	9118	3698	11366		1.25	Si
SLV 2	ini.	3694.87	-11208	1.45	0	4229	7137	9118	3698	11366		1.01	Si
SLV 2	fin.	-4389.49	-12395	1.45	0	4229	7137	9118	3698	11366		0.92	No
SLD 2	ini.	2692.98	-8201	1.45	0	4229	7137	9118	3698	11366		1.39	Si
SLD 2	fin.	-3305.7	-9389	1.45	0	4229	7137	9118	3698	11366		1.21	Si
SLV 1	ini.	3254.51	-9866	1.45	0	4229	7137	9118	3698	11366		1.15	Si
SLV 1	fin.	-3904.67	-11053	1.45	0	4229	7137	9118	3698	11366		1.03	Si
SLV 4	ini.	3079.88	-9155	1.45	0	4229	7137	9118	3698	11366		1.24	Si
SLV 4	fin.	-3573.58	-10336	1.45	0	4229	7137	9118	3698	11366		1.1	Si
SLV 6	ini.	2776.07	-8778	1.45	0	4229	7137	9118	3698	11366		1.29	Si
SLV 6	fin.	-3631.02	-9974	1.45	0	4229	7137	9118	3698	11366		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.744	SLV 2	Si
V_SLV	0.917	SLV 2	No
PF_SLU	3.68	SLU 82	Si
V_SLU	1.573	SLU 82	Si

Trave di accoppiamento 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	7.9	9.9	2	-5.158	6.521	7.9	9.9	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-110.71	-699	-0.000011	0.0001872	0.0035	2		14357.01	14357.01	No	129.68	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-345.3	-366	-0.0000346	0.0001872	0.0035	2		14357.01	14357.01	No	41.58	Si
SLU 75	ini.	-112.07	-697	-0.0000111	0.0001872	0.0035	2		14357.01	14357.01	No	128.11	Si
SLU 75	fin.	-344.75	-365	-0.0000345	0.0001872	0.0035	2		14357.01	14357.01	No	41.64	Si
SLU 78	ini.	-90.48	-730	-0.000009	0.0001872	0.0035	2		14357.01	14357.01	No	158.68	Si
SLU 78	fin.	-364.22	-385	-0.0000365	0.0001872	0.0035	2		14357.01	14357.01	No	39.42	Si
SLU 79	ini.	-85.36	-724	-0.0000085	0.0001872	0.0035	2		14357.01	14357.01	No	168.19	Si
SLU 79	fin.	-361.65	-383	-0.0000362	0.0001872	0.0035	2		14357.01	14357.01	No	39.7	Si
SLU 84	ini.	-116.61	-711	-0.0000116	0.0001872	0.0035	2		14357.01	14357.01	No	123.12	Si
SLU 84	fin.	-350.24	-371	-0.0000351	0.0001872	0.0035	2		14357.01	14357.01	No	40.99	Si
SLU 80	ini.	-86.72	-722	-0.0000086	0.0001872	0.0035	2		14357.01	14357.01	No	165.56	Si
SLU 80	fin.	-361.11	-382	-0.0000362	0.0001872	0.0035	2		14357.01	14357.01	No	39.76	Si
SLU 70	ini.	-71.11	-680	-0.000007	0.0001872	0.0035	2		14357.01	14357.01	No	201.89	Si
SLU 70	fin.	-344.15	-364	-0.0000345	0.0001872	0.0035	2		14357.01	14357.01	No	41.72	Si
SLU 69	ini.	-69.76	-681	-0.0000069	0.0001872	0.0035	2		14357.01	14357.01	No	205.82	Si
SLU 69	fin.	-344.69	-364	-0.0000345	0.0001872	0.0035	2		14357.01	14357.01	No	41.65	Si
SLU 77	ini.	-89.12	-732	-0.0000088	0.0001872	0.0035	2		14357.01	14357.01	No	161.1	Si
SLU 77	fin.	-364.76	-386	-0.0000366	0.0001872	0.0035	2		14357.01	14357.01	No	39.36	Si
SLU 83	ini.	-115.25	-712	-0.0000114	0.0001872	0.0035	2		14357.01	14357.01	No	124.57	Si
SLU 83	fin.	-350.79	-371	-0.0000351	0.0001872	0.0035	2		14357.01	14357.01	No	40.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-66	-2014	2	0	3889	3964	8384	5100	7853	No	3.9	Si
SLU 71	fin.	-341.58	-1003	2	0	3889	3964	8384	5100	7853	No	7.83	Si
SLU 79	ini.	-85.36	-2099	2	0	3889	3964	8384	5100	7853	No	3.74	Si
SLU 79	fin.	-361.65	-1050	2	0	3889	3964	8384	5100	7853	No	7.48	Si
SLU 83	ini.	-115.25	-1940	2	0	3889	3964	8384	5100	7853	No	4.05	Si
SLU 83	fin.	-350.79	-1004	2	0	3889	3964	8384	5100	7853	No	7.82	Si
SLU 80	ini.	-86.72	-2085	2	0	3889	3964	8384	5100	7853	No	3.77	Si
SLU 80	fin.	-361.11	-1048	2	0	3889	3964	8384	5100	7853	No	7.49	Si
SLU 72	ini.	-67.36	-2000	2	0	3889	3964	8384	5100	7853	No	3.93	Si
SLU 72	fin.	-341.04	-1000	2	0	3889	3964	8384	5100	7853	No	7.85	Si
SLU 78	ini.	-90.48	-2098	2	0	3889	3964	8384	5100	7853	No	3.74	Si
SLU 78	fin.	-364.22	-1055	2	0	3889	3964	8384	5100	7853	No	7.44	Si
SLU 69	ini.	-69.76	-2026	2	0	3889	3964	8384	5100	7853	No	3.88	Si
SLU 69	fin.	-344.69	-1009	2	0	3889	3964	8384	5100	7853	No	7.78	Si
SLU 77	ini.	-89.12	-2112	2	0	3889	3964	8384	5100	7853	No	3.72	Si
SLU 77	fin.	-364.76	-1057	2	0	3889	3964	8384	5100	7853	No	7.43	Si
SLU 84	ini.	-116.61	-1926	2	0	3889	3964	8384	5100	7853	No	4.08	Si
SLU 84	fin.	-350.24	-1002	2	0	3889	3964	8384	5100	7853	No	7.84	Si
SLU 70	ini.	-71.11	-2012	2	0	3889	3964	8384	5100	7853	No	3.9	Si
SLU 70	fin.	-344.15	-1007	2	0	3889	3964	8384	5100	7853	No	7.8	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 11	ini.	25.3	-594	-0.0000025	0.0002807	0.0035	2		14202.07	14202.07		561.44	Si
SLD 11	fin.	-331.66	-325	-0.0000331	0.0002807	0.0035	2		14215.41	14215.41		42.86	Si
SLV 7	ini.	27.94	-613	-0.0000028	0.0002807	0.0035	2		14202.07	14202.07		508.33	Si
SLV 7	fin.	-354.12	-336	-0.0000354	0.0002807	0.0035	2		14215.41	14215.41		40.14	Si
SLD 8	ini.	-0.53	-562	-0.0000001	0.0002807	0.0035	2		14215.41	14215.41		27059.93	Si
SLD 8	fin.	-313.13	-307	-0.0000312	0.0002807	0.0035	2		14215.41	14215.41		45.4	Si
SLD 16	ini.	26.06	-574	-0.0000026	0.0002807	0.0035	2		14202.07	14202.07		545	Si
SLD 16	fin.	-306.07	-314	-0.0000305	0.0002807	0.0035	2		14215.41	14215.41		46.44	Si
SLV 8	ini.	54.53	-629	-0.0000054	0.0002807	0.0035	2		14202.07	14202.07		260.46	Si
SLV 8	fin.	-365.88	-348	-0.0000365	0.0002807	0.0035	2		14215.41	14215.41		38.85	Si
SLD 12	ini.	42.02	-604	-0.0000042	0.0002807	0.0035	2		14202.07	14202.07		337.97	Si
SLD 12	fin.	-339.05	-333	-0.0000338	0.0002807	0.0035	2		14215.41	14215.41		41.93	Si
SLV 12	ini.	121.21	-695	-0.000012	0.0002807	0.0035	2		14202.07	14202.07		117.17	Si
SLV 12	fin.	-406.03	-389	-0.0000406	0.0002807	0.0035	2		14215.41	14215.41		35.01	Si
SLV 11	ini.	94.62	-679	-0.0000094	0.0002807	0.0035	2		14202.07	14202.07		150.1	Si
SLV 11	fin.	-394.27	-377	-0.0000394	0.0002807	0.0035	2		14215.41	14215.41		36.06	Si
SLV 16	ini.	92.07	-641	-0.0000091	0.0002807	0.0035	2		14202.07	14202.07		154.26	Si
SLV 16	fin.	-350.24	-356	-0.000035	0.0002807	0.0035	2		14215.41	14215.41		40.59	Si
SLV 15	ini.	52.57	-618	-0.0000052	0.0002807	0.0035	2		14202.07	14202.07		270.13	Si
SLV 15	fin.	-332.78	-339	-0.0000332	0.0002807	0.0035	2		14215.41	14215.41		42.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	42.02	-2531	2	0	5833	3964	12577	5100	9797		3.87	Si
SLD 12	fin.	-339.05	-1028	2	0	5833	3964	12577	5100	9797		9.53	Si
SLV 16	ini.	92.07	-2662	2	0	5833	3964	12577	5100	9797		3.68	Si
SLV 16	fin.	-350.24	-1112	2	0	5833	3964	12577	5100	9797		8.81	Si
SLD 7	ini.	-17.25	-2133	2	0	5833	3964	12577	5100	9797		4.59	Si
SLD 7	fin.	-305.73	-892	2	0	5833	3964	12577	5100	9797		10.98	Si
SLV 12	ini.	121.21	-3336	2	0	5833	3964	12577	5100	9797		2.94	Si
SLV 12	fin.	-406.03	-1255	2	0	5833	3964	12577	5100	9797		7.81	Si
SLV 15	ini.	52.57	-2447	2	0	5833	3964	12577	5100	9797		4	Si
SLV 15	fin.	-332.78	-1034	2	0	5833	3964	12577	5100	9797		9.47	Si
SLV 7	ini.	27.94	-2712	2	0	5833	3964	12577	5100	9797		3.61	Si
SLV 7	fin.	-354.12	-1042	2	0	5833	3964	12577	5100	9797		9.4	Si
SLD 8	ini.	-0.53	-2224	2	0	5833	3964	12577	5100	9797		4.41	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	fin.	-313.13	-925	2	0	5833	3964	12577	5100	9797		10.59	Si
SLD 11	ini.	25.3	-2439	2	0	5833	3964	12577	5100	9797		4.02	Si
SLD 11	fin.	-331.66	-995	2	0	5833	3964	12577	5100	9797		9.85	Si
SLV 8	ini.	54.53	-2857	2	0	5833	3964	12577	5100	9797		3.43	Si
SLV 8	fin.	-365.88	-1094	2	0	5833	3964	12577	5100	9797		8.95	Si
SLV 11	ini.	94.62	-3191	2	0	5833	3964	12577	5100	9797		3.07	Si
SLV 11	fin.	-394.27	-1203	2	0	5833	3964	12577	5100	9797		8.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	35.011	SLV 12	Si
V_SLV	2.937	SLV 12	Si
PF_SLU	39.36	SLU 77	Si
V_SLU	3.718	SLU 77	Si

Trave di accoppiamento 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	10.7	11.45	0.75	-5.158	6.521	10.7	11.45	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-282.94	-1252	-0.0002173	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.33	Si
SLU 69	fin.	157.12	-448	-0.0001155	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.17	Si
SLU 70	ini.	-283.8	-1256	-0.0002181	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.31	Si
SLU 70	fin.	157.67	-449	-0.000116	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.13	Si
SLU 72	ini.	-284.12	-1256	-0.0002184	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.3	Si
SLU 72	fin.	157.57	-449	-0.0001159	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.14	Si
SLU 79	ini.	-292.02	-1294	-0.0002252	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.1	Si
SLU 79	fin.	162.54	-463	-0.0001197	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.73	Si
SLU 78	ini.	-292.57	-1297	-0.0002256	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.09	Si
SLU 78	fin.	163.2	-465	-0.0001202	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.68	Si
SLU 83	ini.	-269.01	-1197	-0.0002055	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.71	Si
SLU 83	fin.	150.5	-430	-0.0001104	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.75	Si
SLU 80	ini.	-292.88	-1298	-0.0002259	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.08	Si
SLU 80	fin.	163.09	-465	-0.0001202	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.69	Si
SLU 84	ini.	-269.88	-1201	-0.0002062	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.69	Si
SLU 84	fin.	151.06	-431	-0.0001109	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.7	Si
SLU 71	ini.	-283.25	-1252	-0.0002176	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.32	Si
SLU 71	fin.	157.01	-447	-0.0001154	0.0001872	0.0035	0.75		2069.77	2069.77	No	13.18	Si
SLU 77	ini.	-291.7	-1293	-0.0002249	0.0001872	0.0035	0.75		2074.44	2074.44	No	7.11	Si
SLU 77	fin.	162.64	-464	-0.0001198	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-292.02	2748	0.75	0	1458	3964	3144	1913	5057	No	1.84	Si
SLU 79	fin.	162.54	899	0.75	0	1458	3964	3144	1913	5057	No	5.62	Si
SLU 77	ini.	-291.7	2745	0.75	0	1458	3964	3144	1913	5057	No	1.84	Si
SLU 77	fin.	162.64	899	0.75	0	1458	3964	3144	1913	5057	No	5.63	Si
SLU 80	ini.	-292.88	2755	0.75	0	1458	3964	3144	1913	5057	No	1.84	Si
SLU 80	fin.	163.09	903	0.75	0	1458	3964	3144	1913	5057	No	5.6	Si
SLU 70	ini.	-283.8	2665	0.75	0	1458	3964	3144	1913	5057	No	1.9	Si
SLU 70	fin.	157.67	872	0.75	0	1458	3964	3144	1913	5057	No	5.8	Si
SLU 83	ini.	-269.01	2531	0.75	0	1458	3964	3144	1913	5057	No	2	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	150.5	826	0.75	0	1458	3964	3144	1913	5057	No	6.12	Si
SLU 69	ini.	-282.94	2658	0.75	0	1458	3964	3144	1913	5057	No	1.9	Si
SLU 69	fin.	157.12	868	0.75	0	1458	3964	3144	1913	5057	No	5.82	Si
SLU 78	ini.	-292.57	2752	0.75	0	1458	3964	3144	1913	5057	No	1.84	Si
SLU 78	fin.	163.2	902	0.75	0	1458	3964	3144	1913	5057	No	5.6	Si
SLU 71	ini.	-283.25	2662	0.75	0	1458	3964	3144	1913	5057	No	1.9	Si
SLU 71	fin.	157.01	868	0.75	0	1458	3964	3144	1913	5057	No	5.82	Si
SLU 72	ini.	-284.12	2669	0.75	0	1458	3964	3144	1913	5057	No	1.89	Si
SLU 72	fin.	157.57	872	0.75	0	1458	3964	3144	1913	5057	No	5.8	Si
SLU 84	ini.	-269.88	2538	0.75	0	1458	3964	3144	1913	5057	No	1.99	Si
SLU 84	fin.	151.06	830	0.75	0	1458	3964	3144	1913	5057	No	6.09	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-182.05	-859	-0.0001326	0.0002807	0.0035	0.75		2090.82	2090.82		11.48	Si
SLD 10	fin.	104.91	-313	-0.0000753	0.0002807	0.0035	0.75		2085.94	2085.94		19.88	Si
SLV 13	ini.	-187.3	-850	-0.0001366	0.0002807	0.0035	0.75		2090.82	2090.82		11.16	Si
SLV 13	fin.	106.1	-311	-0.0000761	0.0002807	0.0035	0.75		2085.94	2085.94		19.66	Si
SLV 14	ini.	-197.28	-889	-0.0001442	0.0002807	0.0035	0.75		2090.82	2090.82		10.6	Si
SLV 14	fin.	112.06	-328	-0.0000805	0.0002807	0.0035	0.75		2085.94	2085.94		18.61	Si
SLV 10	ini.	-186.88	-910	-0.0001363	0.0002807	0.0035	0.75		2090.82	2090.82		11.19	Si
SLV 10	fin.	109.73	-335	-0.0000788	0.0002807	0.0035	0.75		2085.94	2085.94		19.01	Si
SLD 13	ini.	-182.33	-822	-0.0001328	0.0002807	0.0035	0.75		2090.82	2090.82		11.47	Si
SLD 13	fin.	102.72	-298	-0.0000737	0.0002807	0.0035	0.75		2085.94	2085.94		20.31	Si
SLD 14	ini.	-188.71	-847	-0.0001377	0.0002807	0.0035	0.75		2090.82	2090.82		11.08	Si
SLD 14	fin.	106.54	-309	-0.0000765	0.0002807	0.0035	0.75		2085.94	2085.94		19.58	Si
SLV 15	ini.	-184.39	-787	-0.0001344	0.0002807	0.0035	0.75		2090.82	2090.82		11.34	Si
SLV 15	fin.	101.36	-284	-0.0000727	0.0002807	0.0035	0.75		2085.94	2085.94		20.58	Si
SLV 16	ini.	-194.37	-827	-0.000142	0.0002807	0.0035	0.75		2090.82	2090.82		10.76	Si
SLV 16	fin.	107.33	-302	-0.000077	0.0002807	0.0035	0.75		2085.94	2085.94		19.44	Si
SLD 16	ini.	-186.82	-808	-0.0001362	0.0002807	0.0035	0.75		2090.82	2090.82		11.19	Si
SLD 16	fin.	103.62	-293	-0.0000743	0.0002807	0.0035	0.75		2085.94	2085.94		20.13	Si
SLD 15	ini.	-180.45	-783	-0.0001314	0.0002807	0.0035	0.75		2090.82	2090.82		11.59	Si
SLD 15	fin.	99.8	-282	-0.0000715	0.0002807	0.0035	0.75		2085.94	2085.94		20.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-188.71	1793	0.75	0	2188	3964	4716	1913	6152		3.43	Si
SLD 14	fin.	106.54	571	0.75	0	2188	3964	4716	1913	6152		10.77	Si
SLV 12	ini.	-177.18	1725	0.75	0	2188	3964	4716	1913	6152		3.57	Si
SLV 12	fin.	93.95	471	0.75	0	2188	3964	4716	1913	6152		13.05	Si
SLD 15	ini.	-180.45	1733	0.75	0	2188	3964	4716	1913	6152		3.55	Si
SLD 15	fin.	99.8	524	0.75	0	2188	3964	4716	1913	6152		11.73	Si
SLV 16	ini.	-194.37	1887	0.75	0	2188	3964	4716	1913	6152		3.26	Si
SLV 16	fin.	107.33	553	0.75	0	2188	3964	4716	1913	6152		11.12	Si
SLV 13	ini.	-187.3	1792	0.75	0	2188	3964	4716	1913	6152		3.43	Si
SLV 13	fin.	106.1	568	0.75	0	2188	3964	4716	1913	6152		10.83	Si
SLV 14	ini.	-197.28	1885	0.75	0	2188	3964	4716	1913	6152		3.26	Si
SLV 14	fin.	112.06	598	0.75	0	2188	3964	4716	1913	6152		10.29	Si
SLD 13	ini.	-182.33	1734	0.75	0	2188	3964	4716	1913	6152		3.55	Si
SLD 13	fin.	102.72	552	0.75	0	2188	3964	4716	1913	6152		11.14	Si
SLD 16	ini.	-186.82	1793	0.75	0	2188	3964	4716	1913	6152		3.43	Si
SLD 16	fin.	103.62	543	0.75	0	2188	3964	4716	1913	6152		11.32	Si
SLV 10	ini.	-186.88	1720	0.75	0	2188	3964	4716	1913	6152		3.58	Si
SLV 10	fin.	109.73	621	0.75	0	2188	3964	4716	1913	6152		9.91	Si
SLV 15	ini.	-184.39	1794	0.75	0	2188	3964	4716	1913	6152		3.43	Si
SLV 15	fin.	101.36	523	0.75	0	2188	3964	4716	1913	6152		11.75	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	10.598	SLV 14	Si
V_SLV	3.261	SLV 16	Si
PF_SLU	7.083	SLU 80	Si
V_SLU	1.835	SLU 80	Si

Trave di accoppiamento 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	7.9	8.8	0.9	-7.403	-3.169	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	323.09	-2126	-0.0001695	0.0001872	0.0035	0.9		2959	2959	No	9.16	Si
SLU 82	fin.	-390.25	-275	-0.000208	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.6	Si
SLU 70	ini.	327.44	-2147	-0.000172	0.0001872	0.0035	0.9		2959	2959	No	9.04	Si
SLU 70	fin.	-391.72	-258	-0.0002089	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.57	Si
SLU 75	ini.	328.88	-2169	-0.0001728	0.0001872	0.0035	0.9		2959	2959	No	9	Si
SLU 75	fin.	-392.83	-283	-0.0002096	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.55	Si
SLU 76	ini.	326	-2145	-0.0001712	0.0001872	0.0035	0.9		2959	2959	No	9.08	Si
SLU 76	fin.	-390.02	-276	-0.0002079	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.6	Si
SLU 73	ini.	326.69	-2134	-0.0001715	0.0001872	0.0035	0.9		2959	2959	No	9.06	Si
SLU 73	fin.	-399.16	-248	-0.0002133	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.43	Si
SLU 67	ini.	328.13	-2136	-0.0001724	0.0001872	0.0035	0.9		2959	2959	No	9.02	Si
SLU 67	fin.	-400.86	-230	-0.0002143	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.4	Si
SLU 64	ini.	316.15	-2046	-0.0001656	0.0001872	0.0035	0.9		2959	2959	No	9.36	Si
SLU 64	fin.	-393.5	-203	-0.00021	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.53	Si
SLU 68	ini.	325.26	-2111	-0.0001707	0.0001872	0.0035	0.9		2959	2959	No	9.1	Si
SLU 68	fin.	-398.05	-223	-0.0002127	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.45	Si
SLU 66	ini.	322.25	-2103	-0.000169	0.0001872	0.0035	0.9		2959	2959	No	9.18	Si
SLU 66	fin.	-392.65	-235	-0.0002095	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.55	Si
SLU 65	ini.	325.95	-2101	-0.0001711	0.0001872	0.0035	0.9		2959	2959	No	9.08	Si
SLU 65	fin.	-407.19	-194	-0.0002181	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	323	-3463	0.9	0	1750	7137	3773	2295	6068	No	1.75	Si
SLU 74	fin.	-384.62	-1036	0.9	0	1750	7137	3773	2295	6068	No	5.86	Si
SLU 80	ini.	321.39	-3447	0.9	0	1750	7137	3773	2295	6068	No	1.76	Si
SLU 80	fin.	-375.41	-1008	0.9	0	1750	7137	3773	2295	6068	No	6.02	Si
SLU 77	ini.	322.31	-3478	0.9	0	1750	7137	3773	2295	6068	No	1.74	Si
SLU 77	fin.	-375.48	-998	0.9	0	1750	7137	3773	2295	6068	No	6.08	Si
SLU 67	ini.	328.13	-3462	0.9	0	1750	7137	3773	2295	6068	No	1.75	Si
SLU 67	fin.	-400.86	-1101	0.9	0	1750	7137	3773	2295	6068	No	5.51	Si
SLU 75	ini.	328.88	-3512	0.9	0	1750	7137	3773	2295	6068	No	1.73	Si
SLU 75	fin.	-392.83	-1064	0.9	0	1750	7137	3773	2295	6068	No	5.7	Si
SLU 84	ini.	322.4	-3453	0.9	0	1750	7137	3773	2295	6068	No	1.76	Si
SLU 84	fin.	-381.11	-1031	0.9	0	1750	7137	3773	2295	6068	No	5.88	Si
SLU 70	ini.	327.44	-3477	0.9	0	1750	7137	3773	2295	6068	No	1.75	Si
SLU 70	fin.	-391.72	-1062	0.9	0	1750	7137	3773	2295	6068	No	5.71	Si
SLU 78	ini.	328.19	-3527	0.9	0	1750	7137	3773	2295	6068	No	1.72	Si
SLU 78	fin.	-383.69	-1026	0.9	0	1750	7137	3773	2295	6068	No	5.92	Si
SLU 73	ini.	326.69	-3449	0.9	0	1750	7137	3773	2295	6068	No	1.76	Si
SLU 73	fin.	-399.16	-1104	0.9	0	1750	7137	3773	2295	6068	No	5.5	Si
SLU 76	ini.	326	-3464	0.9	0	1750	7137	3773	2295	6068	No	1.75	Si
SLU 76	fin.	-390.02	-1065	0.9	0	1750	7137	3773	2295	6068	No	5.7	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1160.3	-5292	-0.0007139	0.0002807	0.0035	0.9		2989.59	2989.59		2.58	Si
SLV 2	fin.	-2012.54	2263	-0.001502	0.0002807	0.0035	0.9		2995.37	2995.37		1.49	Si
SLD 2	ini.	823.26	-3921	-0.0004693	0.0002807	0.0035	0.9		2989.59	2989.59		3.63	Si
SLD 2	fin.	-1385.55	1379	-0.0008937	0.0002807	0.0035	0.9		2995.37	2995.37		2.16	Si
SLV 1	ini.	1014.25	-4697	-0.0006039	0.0002807	0.0035	0.9		2989.59	2989.59		2.95	Si
SLV 1	fin.	-1735.19	1863	-0.0012103	0.0002807	0.0035	0.9		2995.37	2995.37		1.73	Si
SLV 4	ini.	791.58	-3544	-0.000448	0.0002807	0.0035	0.9		2989.59	2989.59		3.78	Si
SLV 4	fin.	-1470.61	1753	-0.0009665	0.0002807	0.0035	0.9		2995.37	2995.37		2.04	Si
SLV 5	ini.	1000.13	-5022	-0.0005936	0.0002807	0.0035	0.9		2989.59	2989.59		2.99	Si
SLV 5	fin.	-1491.6	1136	-0.0009848	0.0002807	0.0035	0.9		2995.37	2995.37		2.01	Si
SLV 15	ini.	-692.06	2227	-0.000382	0.0002807	0.0035	0.9		2995.37	2995.37		4.33	Si
SLV 15	fin.	1438.58	-2613	-0.0009411	0.0002807	0.0035	0.9		2989.59	2989.59		2.08	Si
SLV 6	ini.	1098.46	-5423	-0.0006666	0.0002807	0.0035	0.9		2989.59	2989.59		2.72	Si
SLV 6	fin.	-1678.34	1405	-0.0011555	0.0002807	0.0035	0.9		2995.37	2995.37		1.78	Si
SLD 1	ini.	729.95	-3541	-0.0004073	0.0002807	0.0035	0.9		2989.59	2989.59		4.1	Si
SLD 1	fin.	-1208.35	1123	-0.0007496	0.0002807	0.0035	0.9		2995.37	2995.37		2.48	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-546.01	1632	-0.000292	0.0002807	0.0035	0.9		2995.37	2995.37		5.49	Si
SLV 16	fin.	1161.23	-2213	-0.0007146	0.0002807	0.0035	0.9		2989.59	2989.59		2.57	Si
SLV 3	ini.	645.53	-2949	-0.0003534	0.0002807	0.0035	0.9		2989.59	2989.59		4.63	Si
SLV 3	fin.	-1193.26	1352	-0.0007378	0.0002807	0.0035	0.9		2995.37	2995.37		2.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1160.3	-8183	0.9	0	2625	7137	5660	2295	7955		0.97	No
SLV 2	fin.	-2012.54	-7048	0.9	0	2625	7137	5660	2295	7955		1.13	Si
SLV 10	ini.	697.18	-5948	0.9	0	2625	7137	5660	2295	7955		1.34	Si
SLV 10	fin.	-888.78	-2793	0.9	0	2625	7137	5660	2295	7955		2.85	Si
SLD 5	ini.	713.99	-5744	0.9	0	2625	7137	5660	2295	7955		1.38	Si
SLD 5	fin.	-1042.87	-3445	0.9	0	2625	7137	5660	2295	7955		2.31	Si
SLD 1	ini.	729.95	-5518	0.9	0	2625	7137	5660	2295	7955		1.44	Si
SLD 1	fin.	-1208.35	-4141	0.9	0	2625	7137	5660	2295	7955		1.92	Si
SLV 6	ini.	1098.46	-8311	0.9	0	2625	7137	5660	2295	7955		0.96	No
SLV 6	fin.	-1678.34	-5689	0.9	0	2625	7137	5660	2295	7955		1.4	Si
SLV 5	ini.	1000.13	-7695	0.9	0	2625	7137	5660	2295	7955		1.03	Si
SLV 5	fin.	-1491.6	-5020	0.9	0	2625	7137	5660	2295	7955		1.58	Si
SLD 2	ini.	823.26	-6103	0.9	0	2625	7137	5660	2295	7955		1.3	Si
SLD 2	fin.	-1385.55	-4776	0.9	0	2625	7137	5660	2295	7955		1.67	Si
SLV 4	ini.	791.58	-5581	0.9	0	2625	7137	5660	2295	7955		1.43	Si
SLV 4	fin.	-1470.61	-5178	0.9	0	2625	7137	5660	2295	7955		1.54	Si
SLV 1	ini.	1014.25	-7268	0.9	0	2625	7137	5660	2295	7955		1.09	Si
SLV 1	fin.	-1735.19	-6054	0.9	0	2625	7137	5660	2295	7955		1.31	Si
SLD 6	ini.	775.85	-6132	0.9	0	2625	7137	5660	2295	7955		1.3	Si
SLD 6	fin.	-1160.34	-3866	0.9	0	2625	7137	5660	2295	7955		2.06	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.488	SLV 2	Si
V_SLV	0.957	SLV 6	No
PF_SLU	7.281	SLU 65	Si
V_SLU	1.721	SLU 78	Si

Trave di accoppiamento 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	10.6	11.45	0.85	-7.403	-3.169	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 68	ini.	146.26	18	-0.0000827	0.0001872	0.0035	0.85		2650.49	2650.49	No	18.12	Si
SLU 68	fin.	-308.11	-786	-0.0001814	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.62	Si
SLU 67	ini.	145.01	-1	-0.0000819	0.0001872	0.0035	0.85		2650.49	2650.49	No	18.28	Si
SLU 67	fin.	-309.71	-801	-0.0001825	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.58	Si
SLU 69	ini.	135.87	-34	-0.0000766	0.0001872	0.0035	0.85		2650.49	2650.49	No	19.51	Si
SLU 69	fin.	-305.11	-805	-0.0001795	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.7	Si
SLU 70	ini.	138.96	-22	-0.0000784	0.0001872	0.0035	0.85		2650.49	2650.49	No	19.07	Si
SLU 70	fin.	-310.37	-815	-0.0001829	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.56	Si
SLU 65	ini.	152.3	39	-0.0000862	0.0001872	0.0035	0.85		2650.49	2650.49	No	17.4	Si
SLU 65	fin.	-307.44	-773	-0.000181	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.64	Si
SLU 66	ini.	141.91	-13	-0.0000801	0.0001872	0.0035	0.85		2650.49	2650.49	No	18.68	Si
SLU 66	fin.	-304.44	-791	-0.0001791	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.72	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	131.77	-108	-0.0000742	0.0001872	0.0035	0.85		2650.49	2650.49	No	20.11	Si
SLU 78	fin.	-302.11	-817	-0.0001776	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.79	Si
SLU 72	ini.	138.15	-11	-0.0000779	0.0001872	0.0035	0.85		2650.49	2650.49	No	19.19	Si
SLU 72	fin.	-305.27	-794	-0.0001796	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.7	Si
SLU 75	ini.	137.82	-87	-0.0000778	0.0001872	0.0035	0.85		2650.49	2650.49	No	19.23	Si
SLU 75	fin.	-301.44	-804	-0.0001772	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.81	Si
SLU 71	ini.	135.05	-23	-0.0000761	0.0001872	0.0035	0.85		2650.49	2650.49	No	19.63	Si
SLU 71	fin.	-300.01	-784	-0.0001762	0.0001872	0.0035	0.85		2655.83	2655.83	No	8.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	139.07	1091	0.85	0	1653	6740	3563	2168	5731	No	5.25	Si
SLU 76	fin.	-299.84	-2041	0.85	0	1653	6740	3563	2168	5731	No	2.81	Si
SLU 84	ini.	133.93	1212	0.85	0	1653	6740	3563	2168	5731	No	4.73	Si
SLU 84	fin.	-292.79	-2051	0.85	0	1653	6740	3563	2168	5731	No	2.79	Si
SLU 74	ini.	134.72	1157	0.85	0	1653	6740	3563	2168	5731	No	4.95	Si
SLU 74	fin.	-296.18	-2045	0.85	0	1653	6740	3563	2168	5731	No	2.8	Si
SLU 80	ini.	130.96	1133	0.85	0	1653	6740	3563	2168	5731	No	5.06	Si
SLU 80	fin.	-297	-2030	0.85	0	1653	6740	3563	2168	5731	No	2.82	Si
SLU 78	ini.	131.77	1172	0.85	0	1653	6740	3563	2168	5731	No	4.89	Si
SLU 78	fin.	-302.11	-2070	0.85	0	1653	6740	3563	2168	5731	No	2.77	Si
SLU 82	ini.	139.97	1180	0.85	0	1653	6740	3563	2168	5731	No	4.86	Si
SLU 82	fin.	-292.13	-2047	0.85	0	1653	6740	3563	2168	5731	No	2.8	Si
SLU 73	ini.	145.12	1060	0.85	0	1653	6740	3563	2168	5731	No	5.41	Si
SLU 73	fin.	-299.18	-2037	0.85	0	1653	6740	3563	2168	5731	No	2.81	Si
SLU 77	ini.	128.68	1188	0.85	0	1653	6740	3563	2168	5731	No	4.82	Si
SLU 77	fin.	-296.85	-2049	0.85	0	1653	6740	3563	2168	5731	No	2.8	Si
SLU 83	ini.	130.83	1228	0.85	0	1653	6740	3563	2168	5731	No	4.67	Si
SLU 83	fin.	-287.53	-2029	0.85	0	1653	6740	3563	2168	5731	No	2.82	Si
SLU 75	ini.	137.82	1141	0.85	0	1653	6740	3563	2168	5731	No	5.02	Si
SLU 75	fin.	-301.44	-2067	0.85	0	1653	6740	3563	2168	5731	No	2.77	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	372.56	1166	-0.0002178	0.0002807	0.0035	0.85		2675.27	2675.27		7.18	Si
SLV 10	fin.	-773.14	-1602	-0.0004966	0.0002807	0.0035	0.85		2680.73	2680.73		3.47	Si
SLV 2	ini.	973.83	3218	-0.0006597	0.0002807	0.0035	0.85		2675.27	2675.27		2.75	Si
SLV 2	fin.	-1084.68	-1449	-0.0007534	0.0002807	0.0035	0.85		2680.73	2680.73		2.47	Si
SLD 6	ini.	525.36	1650	-0.0003177	0.0002807	0.0035	0.85		2675.27	2675.27		5.09	Si
SLD 6	fin.	-785.89	-1384	-0.0005064	0.0002807	0.0035	0.85		2680.73	2680.73		3.41	Si
SLV 4	ini.	723.38	2174	-0.0004598	0.0002807	0.0035	0.85		2675.27	2675.27		3.7	Si
SLV 4	fin.	-678.66	-780	-0.0004255	0.0002807	0.0035	0.85		2680.73	2680.73		3.95	Si
SLV 15	ini.	-761.73	-3242	-0.0004878	0.0002807	0.0035	0.85		2680.73	2680.73		3.52	Si
SLV 15	fin.	644.52	321	-0.0004015	0.0002807	0.0035	0.85		2675.27	2675.27		4.15	Si
SLD 2	ini.	658.31	2044	-0.0004115	0.0002807	0.0035	0.85		2675.27	2675.27		4.06	Si
SLD 2	fin.	-768.8	-1123	-0.0004932	0.0002807	0.0035	0.85		2680.73	2680.73		3.49	Si
SLV 5	ini.	674.35	2291	-0.0004233	0.0002807	0.0035	0.85		2675.27	2675.27		3.97	Si
SLV 5	fin.	-1020.45	-1756	-0.0006976	0.0002807	0.0035	0.85		2680.73	2680.73		2.63	Si
SLD 5	ini.	462.81	1432	-0.0002758	0.0002807	0.0035	0.85		2675.27	2675.27		5.78	Si
SLD 5	fin.	-720.78	-1307	-0.0004568	0.0002807	0.0035	0.85		2680.73	2680.73		3.72	Si
SLV 1	ini.	826.14	2705	-0.0005391	0.0002807	0.0035	0.85		2675.27	2675.27		3.24	Si
SLV 1	fin.	-930.93	-1268	-0.0006224	0.0002807	0.0035	0.85		2680.73	2680.73		2.88	Si
SLV 6	ini.	773.79	2637	-0.0004982	0.0002807	0.0035	0.85		2675.27	2675.27		3.46	Si
SLV 6	fin.	-1123.96	-1878	-0.0007883	0.0002807	0.0035	0.85		2680.73	2680.73		2.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-462.26	3765	0.85	0	2479	6740	5345	2168	7513		2	Si
SLV 12	fin.	580.28	1823	0.85	0	2479	6740	5345	2168	7513		4.12	Si
SLD 6	ini.	525.36	-1563	0.85	0	2479	6740	5345	2168	7513		4.81	Si
SLD 6	fin.	-785.89	-3775	0.85	0	2479	6740	5345	2168	7513		1.99	Si
SLV 6	ini.	773.79	-2894	0.85	0	2479	6740	5345	2168	7513		2.6	Si
SLV 6	fin.	-1123.96	-5161	0.85	0	2479	6740	5345	2168	7513		1.46	Si
SLD 2	ini.	658.31	-1994	0.85	0	2479	6740	5345	2168	7513		3.77	Si
SLD 2	fin.	-768.8	-3795	0.85	0	2479	6740	5345	2168	7513		1.98	Si
SLV 2	ini.	973.83	-3523	0.85	0	2479	6740	5345	2168	7513		2.13	Si
SLV 2	fin.	-1084.68	-5140	0.85	0	2479	6740	5345	2168	7513		1.46	Si
SLV 1	ini.	826.14	-2805	0.85	0	2479	6740	5345	2168	7513		2.68	Si
SLV 1	fin.	-930.93	-4507	0.85	0	2479	6740	5345	2168	7513		1.67	Si
SLV 11	ini.	-561.69	4248	0.85	0	2479	6740	5345	2168	7513		1.77	Si
SLV 11	fin.	683.8	2250	0.85	0	2479	6740	5345	2168	7513		3.34	Si
SLV 16	ini.	-614.04	4160	0.85	0	2479	6740	5345	2168	7513		1.81	Si
SLV 16	fin.	490.76	1596	0.85	0	2479	6740	5345	2168	7513		4.71	Si
SLV 5	ini.	674.35	-2411	0.85	0	2479	6740	5345	2168	7513		3.12	Si
SLV 5	fin.	-1020.45	-4734	0.85	0	2479	6740	5345	2168	7513		1.59	Si
SLV 15	ini.	-761.73	4877	0.85	0	2479	6740	5345	2168	7513		1.54	Si
SLV 15	fin.	644.52	2229	0.85	0	2479	6740	5345	2168	7513		3.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.385	SLV 6	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.456	SLV 6	Si
PF_SLU	8.557	SLU 70	Si
V_SLU	2.768	SLU 78	Si

Trave di accoppiamento 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	7.9	9.9	2	-5.938	-3.169	7.9	9.9	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	611.18	-3185	-0.0000619	0.0001872	0.0035	2		14344.28	14344.28	No	23.47	Si
SLU 82	fin.	-396.22	-2452	-0.0000398	0.0001872	0.0035	2		14357.01	14357.01	No	36.24	Si
SLU 74	ini.	589.14	-3188	-0.0000596	0.0001872	0.0035	2		14344.28	14344.28	No	24.35	Si
SLU 74	fin.	-394.96	-2473	-0.0000396	0.0001872	0.0035	2		14357.01	14357.01	No	36.35	Si
SLU 75	ini.	582.28	-3213	-0.0000589	0.0001872	0.0035	2		14344.28	14344.28	No	24.63	Si
SLU 75	fin.	-406.77	-2503	-0.0000408	0.0001872	0.0035	2		14357.01	14357.01	No	35.3	Si
SLU 81	ini.	618.04	-3160	-0.0000627	0.0001872	0.0035	2		14344.28	14344.28	No	23.21	Si
SLU 81	fin.	-384.41	-2422	-0.0000386	0.0001872	0.0035	2		14357.01	14357.01	No	37.35	Si
SLU 77	ini.	571.71	-3203	-0.0000578	0.0001872	0.0035	2		14344.28	14344.28	No	25.09	Si
SLU 77	fin.	-389.37	-2498	-0.0000391	0.0001872	0.0035	2		14357.01	14357.01	No	36.87	Si
SLU 83	ini.	600.61	-3175	-0.0000608	0.0001872	0.0035	2		14344.28	14344.28	No	23.88	Si
SLU 83	fin.	-378.82	-2447	-0.000038	0.0001872	0.0035	2		14357.01	14357.01	No	37.9	Si
SLU 84	ini.	593.75	-3200	-0.0000601	0.0001872	0.0035	2		14344.28	14344.28	No	24.16	Si
SLU 84	fin.	-390.63	-2477	-0.0000392	0.0001872	0.0035	2		14357.01	14357.01	No	36.75	Si
SLU 76	ini.	570.52	-3161	-0.0000577	0.0001872	0.0035	2		14344.28	14344.28	No	25.14	Si
SLU 76	fin.	-407.88	-2464	-0.000041	0.0001872	0.0035	2		14357.01	14357.01	No	35.2	Si
SLU 78	ini.	564.85	-3228	-0.0000571	0.0001872	0.0035	2		14344.28	14344.28	No	25.4	Si
SLU 78	fin.	-401.18	-2528	-0.0000403	0.0001872	0.0035	2		14357.01	14357.01	No	35.79	Si
SLU 73	ini.	587.95	-3145	-0.0000595	0.0001872	0.0035	2		14344.28	14344.28	No	24.4	Si
SLU 73	fin.	-413.48	-2439	-0.0000415	0.0001872	0.0035	2		14357.01	14357.01	No	34.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	587.95	-3531	2	0	3889	3965	8384	5100	7854	No	2.22	Si
SLU 73	fin.	-413.48	-2001	2	0	3889	3965	8384	5100	7854	No	3.93	Si
SLU 84	ini.	593.75	-3546	2	0	3889	3965	8384	5100	7854	No	2.21	Si
SLU 84	fin.	-390.63	-1947	2	0	3889	3965	8384	5100	7854	No	4.03	Si
SLU 81	ini.	618.04	-3603	2	0	3889	3965	8384	5100	7854	No	2.18	Si
SLU 81	fin.	-384.41	-2047	2	0	3889	3965	8384	5100	7854	No	3.84	Si
SLU 74	ini.	589.14	-3526	2	0	3889	3965	8384	5100	7854	No	2.23	Si
SLU 74	fin.	-394.96	-1946	2	0	3889	3965	8384	5100	7854	No	4.04	Si
SLU 78	ini.	564.85	-3469	2	0	3889	3965	8384	5100	7854	No	2.26	Si
SLU 78	fin.	-401.18	-1846	2	0	3889	3965	8384	5100	7854	No	4.25	Si
SLU 77	ini.	571.71	-3466	2	0	3889	3965	8384	5100	7854	No	2.27	Si
SLU 77	fin.	-389.37	-1857	2	0	3889	3965	8384	5100	7854	No	4.23	Si
SLU 83	ini.	600.61	-3543	2	0	3889	3965	8384	5100	7854	No	2.22	Si
SLU 83	fin.	-378.82	-1959	2	0	3889	3965	8384	5100	7854	No	4.01	Si
SLU 75	ini.	582.28	-3529	2	0	3889	3965	8384	5100	7854	No	2.23	Si
SLU 75	fin.	-406.77	-1935	2	0	3889	3965	8384	5100	7854	No	4.06	Si
SLU 76	ini.	570.52	-3472	2	0	3889	3965	8384	5100	7854	No	2.26	Si
SLU 76	fin.	-407.88	-1912	2	0	3889	3965	8384	5100	7854	No	4.11	Si
SLU 82	ini.	611.18	-3606	2	0	3889	3965	8384	5100	7854	No	2.18	Si
SLU 82	fin.	-396.22	-2036	2	0	3889	3965	8384	5100	7854	No	3.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	405.17	-5202	-0.0000405	0.0002807	0.0035	2		14202.07	14202.07		35.05	Si
SLV 5	fin.	-1607.26	-4749	-0.0001669	0.0002807	0.0035	2		14215.41	14215.41		8.84	Si
SLV 6	ini.	560.33	-5568	-0.0000563	0.0002807	0.0035	2		14202.07	14202.07		25.35	Si
SLV 6	fin.	-1793.5	-5024	-0.0001875	0.0002807	0.0035	2		14215.41	14215.41		7.93	Si
SLD 2	ini.	999.07	-4250	-0.0001018	0.0002807	0.0035	2		14202.07	14202.07		14.22	Si
SLD 2	fin.	-1358.46	-3437	-0.0001399	0.0002807	0.0035	2		14215.41	14215.41		10.46	Si
SLV 4	ini.	1442.28	-3900	-0.0001491	0.0002807	0.0035	2		14202.07	14202.07		9.85	Si
SLV 4	fin.	-1345.27	-2831	-0.0001385	0.0002807	0.0035	2		14215.41	14215.41		10.57	Si
SLV 2	ini.	1324	-5399	-0.0001363	0.0002807	0.0035	2		14202.07	14202.07		10.73	Si
SLV 2	fin.	-1964.86	-4416	-0.0002067	0.0002807	0.0035	2		14215.41	14215.41		7.23	Si
SLD 6	ini.	515.39	-4325	-0.0000517	0.0002807	0.0035	2		14202.07	14202.07		27.56	Si
SLD 6	fin.	-1237.09	-3791	-0.0001269	0.0002807	0.0035	2		14215.41	14215.41		11.49	Si
SLV 11	ini.	295.42	1071	-0.0000295	0.0002807	0.0035	2		14202.07	14202.07		48.07	Si
SLV 11	fin.	1185.81	1539	-0.0001216	0.0002807	0.0035	2		14202.07	14202.07		11.98	Si
SLV 15	ini.	-468.25	901	-0.0000469	0.0002807	0.0035	2		14215.41	14215.41		30.36	Si
SLV 15	fin.	1357.18	932	-0.0001399	0.0002807	0.0035	2		14202.07	14202.07		10.46	Si
SLV 1	ini.	1093.53	-4855	-0.0001118	0.0002807	0.0035	2		14202.07	14202.07		12.99	Si
SLV 1	fin.	-1688.24	-4009	-0.0001759	0.0002807	0.0035	2		14215.41	14215.41		8.42	Si
SLV 3	ini.	1211.82	-3356	-0.0001243	0.0002807	0.0035	2		14202.07	14202.07		11.72	Si
SLV 3	fin.	-1068.65	-2424	-0.000109	0.0002807	0.0035	2		14215.41	14215.41		13.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	999.07	-6439	2	0	5833	3965	12577	5100	9798		1.52	Si
SLD 2	fin.	-1358.46	-5651	2	0	5833	3965	12577	5100	9798		1.73	Si
SLV 3	ini.	1211.82	-6516	2	0	5833	3965	12577	5100	9798		1.5	Si
SLV 3	fin.	-1068.65	-6203	2	0	5833	3965	12577	5100	9798		1.58	Si
SLV 1	ini.	1093.53	-7373	2	0	5833	3965	12577	5100	9798		1.33	Si
SLV 1	fin.	-1688.24	-6720	2	0	5833	3965	12577	5100	9798		1.46	Si
SLV 15	ini.	-468.25	3570	2	0	5833	3965	12577	5100	9798		2.74	Si
SLV 15	fin.	1357.18	5082	2	0	5833	3965	12577	5100	9798		1.93	Si
SLD 1	ini.	851.83	-5620	2	0	5833	3965	12577	5100	9798		1.74	Si
SLD 1	fin.	-1181.73	-4811	2	0	5833	3965	12577	5100	9798		2.04	Si
SLV 4	ini.	1442.28	-7797	2	0	5833	3965	12577	5100	9798		1.26	Si
SLV 4	fin.	-1345.27	-7518	2	0	5833	3965	12577	5100	9798		1.3	Si
SLD 3	ini.	924.72	-5082	2	0	5833	3965	12577	5100	9798		1.93	Si
SLD 3	fin.	-796.16	-4487	2	0	5833	3965	12577	5100	9798		2.18	Si
SLV 2	ini.	1324	-8654	2	0	5833	3965	12577	5100	9798		1.13	Si
SLV 2	fin.	-1964.86	-8035	2	0	5833	3965	12577	5100	9798		1.22	Si
SLV 6	ini.	560.33	-5914	2	0	5833	3965	12577	5100	9798		1.66	Si
SLV 6	fin.	-1793.5	-4473	2	0	5833	3965	12577	5100	9798		2.19	Si
SLD 4	ini.	1071.97	-5901	2	0	5833	3965	12577	5100	9798		1.66	Si
SLD 4	fin.	-972.89	-5327	2	0	5833	3965	12577	5100	9798		1.84	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.235	SLV 2	Si
V_SLV	1.132	SLV 2	Si
PF_SLU	23.209	SLU 81	Si
V_SLU	2.178	SLU 82	Si

Trave di accoppiamento 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	10.7	11.45	0.75	-5.938	-3.169	10.7	11.45	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	171.57	114	-0.0001268	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.06	Si
SLU 81	fin.	-68.24	-292	-0.0000487	0.0001872	0.0035	0.75		2074.44	2074.44	No	30.4	Si
SLU 73	ini.	173.82	147	-0.0001285	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.91	Si
SLU 73	fin.	-61.13	-243	-0.0000436	0.0001872	0.0035	0.75		2074.44	2074.44	No	33.93	Si
SLU 67	ini.	170.01	164	-0.0001255	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.17	Si
SLU 67	fin.	-52.09	-190	-0.000037	0.0001872	0.0035	0.75		2074.44	2074.44	No	39.82	Si
SLU 64	ini.	169.76	198	-0.0001253	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.19	Si
SLU 64	fin.	-51.82	-182	-0.0000368	0.0001872	0.0035	0.75		2074.44	2074.44	No	40.03	Si
SLU 75	ini.	171.27	105	-0.0001265	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.08	Si
SLU 75	fin.	-63.58	-267	-0.0000453	0.0001872	0.0035	0.75		2074.44	2074.44	No	32.62	Si
SLU 74	ini.	169.6	100	-0.0001252	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.2	Si
SLU 74	fin.	-64.89	-276	-0.0000463	0.0001872	0.0035	0.75		2074.44	2074.44	No	31.97	Si
SLU 65	ini.	172.56	206	-0.0001275	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.99	Si
SLU 65	fin.	-49.64	-166	-0.0000353	0.0001872	0.0035	0.75		2074.44	2074.44	No	41.79	Si
SLU 76	ini.	169.46	117	-0.0001251	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.21	Si
SLU 76	fin.	-61.24	-250	-0.0000436	0.0001872	0.0035	0.75		2074.44	2074.44	No	33.88	Si
SLU 84	ini.	168.89	89	-0.0001247	0.0001872	0.0035	0.75		2069.77	2069.77	No	12.26	Si
SLU 84	fin.	-67.03	-290	-0.0000478	0.0001872	0.0035	0.75		2074.44	2074.44	No	30.95	Si
SLU 82	ini.	173.24	118	-0.0001281	0.0001872	0.0035	0.75		2069.77	2069.77	No	11.95	Si
SLU 82	fin.	-66.93	-283	-0.0000478	0.0001872	0.0035	0.75		2074.44	2074.44	No	30.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	169.46	846	0.75	0	1458	3965	3144	1913	5057	No	5.98	Si
SLU 76	fin.	-61.24	-1990	0.75	0	1458	3965	3144	1913	5057	No	2.54	Si
SLU 78	ini.	166.92	926	0.75	0	1458	3965	3144	1913	5057	No	5.46	Si
SLU 78	fin.	-63.69	-2028	0.75	0	1458	3965	3144	1913	5057	No	2.49	Si
SLU 77	ini.	165.24	921	0.75	0	1458	3965	3144	1913	5057	No	5.49	Si
SLU 77	fin.	-64.99	-2029	0.75	0	1458	3965	3144	1913	5057	No	2.49	Si
SLU 84	ini.	168.89	892	0.75	0	1458	3965	3144	1913	5057	No	5.67	Si
SLU 84	fin.	-67.03	-2062	0.75	0	1458	3965	3144	1913	5057	No	2.45	Si
SLU 82	ini.	173.24	850	0.75	0	1458	3965	3144	1913	5057	No	5.95	Si
SLU 82	fin.	-66.93	-2073	0.75	0	1458	3965	3144	1913	5057	No	2.44	Si
SLU 75	ini.	171.27	884	0.75	0	1458	3965	3144	1913	5057	No	5.72	Si
SLU 75	fin.	-63.58	-2040	0.75	0	1458	3965	3144	1913	5057	No	2.48	Si
SLU 81	ini.	171.57	845	0.75	0	1458	3965	3144	1913	5057	No	5.99	Si
SLU 81	fin.	-68.24	-2074	0.75	0	1458	3965	3144	1913	5057	No	2.44	Si
SLU 74	ini.	169.6	879	0.75	0	1458	3965	3144	1913	5057	No	5.75	Si
SLU 74	fin.	-64.89	-2041	0.75	0	1458	3965	3144	1913	5057	No	2.48	Si
SLU 83	ini.	167.21	887	0.75	0	1458	3965	3144	1913	5057	No	5.7	Si
SLU 83	fin.	-68.34	-2063	0.75	0	1458	3965	3144	1913	5057	No	2.45	Si
SLU 73	ini.	173.82	804	0.75	0	1458	3965	3144	1913	5057	No	6.29	Si
SLU 73	fin.	-61.13	-2001	0.75	0	1458	3965	3144	1913	5057	No	2.53	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	379.31	1196	-0.0002916	0.0002807	0.0035	0.75		2085.94	2085.94		5.5	Si
SLD 6	fin.	78.29	955	-0.0000559	0.0002807	0.0035	0.75		2085.94	2085.94		26.64	Si
SLD 2	ini.	468.15	1771	-0.00037	0.0002807	0.0035	0.75		2085.94	2085.94		4.46	Si
SLD 2	fin.	66.13	1062	-0.0000471	0.0002807	0.0035	0.75		2085.94	2085.94		31.55	Si
SLV 15	ini.	-411.23	-2435	-0.0003184	0.0002807	0.0035	0.75		2090.82	2090.82		5.08	Si
SLV 15	fin.	-212.32	-2080	-0.0001558	0.0002807	0.0035	0.75		2090.82	2090.82		9.85	Si
SLV 6	ini.	530.35	1820	-0.0004277	0.0002807	0.0035	0.75		2085.94	2085.94		3.93	Si
SLV 6	fin.	150.38	1620	-0.000109	0.0002807	0.0035	0.75		2085.94	2085.94		13.87	Si
SLV 4	ini.	515.6	2164	-0.0004138	0.0002807	0.0035	0.75		2085.94	2085.94		4.05	Si
SLV 4	fin.	36.35	1002	-0.0000257	0.0002807	0.0035	0.75		2085.94	2085.94		57.38	Si
SLV 3	ini.	417.29	1682	-0.0003245	0.0002807	0.0035	0.75		2085.94	2085.94		5	Si
SLV 3	fin.	17.77	743	-0.0000125	0.0002807	0.0035	0.75		2085.94	2085.94		117.4	Si
SLV 2	ini.	663.66	2706	-0.0005593	0.0002807	0.0035	0.75		2085.94	2085.94		3.14	Si
SLV 2	fin.	127.55	1763	-0.000092	0.0002807	0.0035	0.75		2085.94	2085.94		16.35	Si
SLV 1	ini.	565.35	2225	-0.0004613	0.0002807	0.0035	0.75		2085.94	2085.94		3.69	Si
SLV 1	fin.	108.97	1504	-0.0000783	0.0002807	0.0035	0.75		2085.94	2085.94		19.14	Si
SLD 1	ini.	405.34	1463	-0.0003141	0.0002807	0.0035	0.75		2085.94	2085.94		5.15	Si
SLD 1	fin.	54.25	897	-0.0000385	0.0002807	0.0035	0.75		2085.94	2085.94		38.45	Si
SLV 5	ini.	464.16	1495	-0.0003664	0.0002807	0.0035	0.75		2085.94	2085.94		4.49	Si
SLV 5	fin.	137.87	1446	-0.0000996	0.0002807	0.0035	0.75		2085.94	2085.94		15.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	468.15	-457	0.75	0	2188	3965	4716	1913	6152		13.45	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	fin.	66.13	-1905	0.75	0	2188	3965	4716	1913	6152		3.23	Si
SLV 8	ini.	36.83	-460	0.75	0	2188	3965	4716	1913	6152		13.36	Si
SLV 8	fin.	-153.62	-1791	0.75	0	2188	3965	4716	1913	6152		3.44	Si
SLV 15	ini.	-411.23	2037	0.75	0	2188	3965	4716	1913	6152		3.02	Si
SLV 15	fin.	-212.32	-615	0.75	0	2188	3965	4716	1913	6152		10	Si
SLD 4	ini.	376.43	-604	0.75	0	2188	3965	4716	1913	6152		10.19	Si
SLD 4	fin.	9.45	-1937	0.75	0	2188	3965	4716	1913	6152		3.18	Si
SLV 2	ini.	663.66	-1002	0.75	0	2188	3965	4716	1913	6152		6.14	Si
SLV 2	fin.	127.55	-2199	0.75	0	2188	3965	4716	1913	6152		2.8	Si
SLV 14	ini.	-164.86	1891	0.75	0	2188	3965	4716	1913	6152		3.25	Si
SLV 14	fin.	-102.54	-815	0.75	0	2188	3965	4716	1913	6152		7.55	Si
SLV 4	ini.	515.6	-1249	0.75	0	2188	3965	4716	1913	6152		4.93	Si
SLV 4	fin.	36.35	-2253	0.75	0	2188	3965	4716	1913	6152		2.73	Si
SLV 13	ini.	-263.17	2284	0.75	0	2188	3965	4716	1913	6152		2.69	Si
SLV 13	fin.	-121.12	-561	0.75	0	2188	3965	4716	1913	6152		10.97	Si
SLV 3	ini.	417.29	-856	0.75	0	2188	3965	4716	1913	6152		7.18	Si
SLV 3	fin.	17.77	-1999	0.75	0	2188	3965	4716	1913	6152		3.08	Si
SLV 1	ini.	565.35	-609	0.75	0	2188	3965	4716	1913	6152		10.1	Si
SLV 1	fin.	108.97	-1944	0.75	0	2188	3965	4716	1913	6152		3.16	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.143	SLV 2	Si
V_SLV	2.694	SLV 13	Si
PF_SLU	11.908	SLU 73	Si
V_SLU	2.438	SLU 81	Si

Trave di accoppiamento 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	7.9	8.8	0.9	-3.113	-3.169	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 44	ini.	274.69	-1107	-0.0001424	0.0001872	0.0035	0.9		2959	2959	No	10.77	Si
SLU 44	fin.	68.09	-732	-0.0000337	0.0001872	0.0035	0.9		2959	2959	No	43.46	Si
SLU 68	ini.	255.42	-1179	-0.0001318	0.0001872	0.0035	0.9		2959	2959	No	11.58	Si
SLU 68	fin.	114.31	-937	-0.0000572	0.0001872	0.0035	0.9		2959	2959	No	25.89	Si
SLU 43	ini.	256.91	-1084	-0.0001326	0.0001872	0.0035	0.9		2959	2959	No	11.52	Si
SLU 43	fin.	79.97	-764	-0.0000397	0.0001872	0.0035	0.9		2959	2959	No	37	Si
SLU 51	ini.	264.52	-1110	-0.0001368	0.0001872	0.0035	0.9		2959	2959	No	11.19	Si
SLU 51	fin.	80.31	-781	-0.0000399	0.0001872	0.0035	0.9		2959	2959	No	36.84	Si
SLU 50	ini.	253.85	-1095	-0.0001309	0.0001872	0.0035	0.9		2959	2959	No	11.66	Si
SLU 50	fin.	87.44	-800	-0.0000435	0.0001872	0.0035	0.9		2959	2959	No	33.84	Si
SLU 45	ini.	255.23	-1106	-0.0001317	0.0001872	0.0035	0.9		2959	2959	No	11.59	Si
SLU 45	fin.	90.11	-815	-0.0000449	0.0001872	0.0035	0.9		2959	2959	No	32.84	Si
SLU 47	ini.	273.16	-1113	-0.0001415	0.0001872	0.0035	0.9		2959	2959	No	10.83	Si
SLU 47	fin.	71.83	-750	-0.0000356	0.0001872	0.0035	0.9		2959	2959	No	41.2	Si
SLU 46	ini.	265.9	-1121	-0.0001375	0.0001872	0.0035	0.9		2959	2959	No	11.13	Si
SLU 46	fin.	82.99	-796	-0.0000412	0.0001872	0.0035	0.9		2959	2959	No	35.66	Si
SLU 49	ini.	264.37	-1126	-0.0001367	0.0001872	0.0035	0.9		2959	2959	No	11.19	Si
SLU 49	fin.	86.72	-814	-0.0000431	0.0001872	0.0035	0.9		2959	2959	No	34.12	Si
SLU 65	ini.	256.95	-1173	-0.0001326	0.0001872	0.0035	0.9		2959	2959	No	11.52	Si
SLU 65	fin.	110.58	-919	-0.0000553	0.0001872	0.0035	0.9		2959	2959	No	26.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	217.55	-721	0.9	0	1750	7137	3773	2295	6068	No	8.42	Si
SLU 75	fin.	165.02	1214	0.9	0	1750	7137	3773	2295	6068	No	5	Si
SLU 80	ini.	216.18	-713	0.9	0	1750	7137	3773	2295	6068	No	8.51	Si
SLU 80	fin.	162.34	1191	0.9	0	1750	7137	3773	2295	6068	No	5.09	Si
SLU 84	ini.	204.58	-663	0.9	0	1750	7137	3773	2295	6068	No	9.15	Si
SLU 84	fin.	175.56	1243	0.9	0	1750	7137	3773	2295	6068	No	4.88	Si
SLU 74	ini.	206.88	-679	0.9	0	1750	7137	3773	2295	6068	No	8.94	Si
SLU 74	fin.	172.15	1241	0.9	0	1750	7137	3773	2295	6068	No	4.89	Si
SLU 79	ini.	205.51	-671	0.9	0	1750	7137	3773	2295	6068	No	9.04	Si
SLU 79	fin.	169.47	1218	0.9	0	1750	7137	3773	2295	6068	No	4.98	Si
SLU 82	ini.	206.11	-665	0.9	0	1750	7137	3773	2295	6068	No	9.13	Si
SLU 82	fin.	171.83	1214	0.9	0	1750	7137	3773	2295	6068	No	5	Si
SLU 77	ini.	205.35	-677	0.9	0	1750	7137	3773	2295	6068	No	8.96	Si
SLU 77	fin.	175.88	1270	0.9	0	1750	7137	3773	2295	6068	No	4.78	Si
SLU 83	ini.	193.91	-621	0.9	0	1750	7137	3773	2295	6068	No	9.77	Si
SLU 83	fin.	182.69	1270	0.9	0	1750	7137	3773	2295	6068	No	4.78	Si
SLU 81	ini.	195.44	-623	0.9	0	1750	7137	3773	2295	6068	No	9.74	Si
SLU 81	fin.	178.96	1241	0.9	0	1750	7137	3773	2295	6068	No	4.89	Si
SLU 78	ini.	216.02	-719	0.9	0	1750	7137	3773	2295	6068	No	8.44	Si
SLU 78	fin.	168.76	1244	0.9	0	1750	7137	3773	2295	6068	No	4.88	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	903.86	-1764	-0.0005249	0.0002807	0.0035	0.9		2989.59	2989.59		3.31	Si
SLV 4	fin.	-363.54	765	-0.0001878	0.0002807	0.0035	0.9		2995.37	2995.37		8.24	Si
SLV 10	ini.	795.35	-1905	-0.0004505	0.0002807	0.0035	0.9		2989.59	2989.59		3.76	Si
SLV 10	fin.	-239.68	40	-0.0001213	0.0002807	0.0035	0.9		2995.37	2995.37		12.5	Si
SLV 1	ini.	1099.84	-2142	-0.0006676	0.0002807	0.0035	0.9		2989.59	2989.59		2.72	Si
SLV 1	fin.	-455.03	911	-0.000239	0.0002807	0.0035	0.9		2995.37	2995.37		6.58	Si
SLV 6	ini.	1288.98	-2552	-0.0008159	0.0002807	0.0035	0.9		2989.59	2989.59		2.32	Si
SLV 6	fin.	-542.95	983	-0.0002902	0.0002807	0.0035	0.9		2995.37	2995.37		5.52	Si
SLD 2	ini.	934.03	-1909	-0.0005461	0.0002807	0.0035	0.9		2989.59	2989.59		3.2	Si
SLD 2	fin.	-360	630	-0.0001858	0.0002807	0.0035	0.9		2995.37	2995.37		8.32	Si
SLV 11	ini.	-930.72	802	-0.0005426	0.0002807	0.0035	0.9		2995.37	2995.37		3.22	Si
SLV 11	fin.	735.26	-2451	-0.0004108	0.0002807	0.0035	0.9		2989.59	2989.59		4.07	Si
SLV 5	ini.	1108.71	-2309	-0.0006744	0.0002807	0.0035	0.9		2989.59	2989.59		2.7	Si
SLV 5	fin.	-430.37	647	-0.000225	0.0002807	0.0035	0.9		2995.37	2995.37		6.96	Si
SLD 6	ini.	874.6	-1924	-0.0005045	0.0002807	0.0035	0.9		2989.59	2989.59		3.42	Si
SLD 6	fin.	-304.19	344	-0.0001555	0.0002807	0.0035	0.9		2995.37	2995.37		9.85	Si
SLV 2	ini.	1367.59	-2504	-0.0008808	0.0002807	0.0035	0.9		2989.59	2989.59		2.19	Si
SLV 2	fin.	-622.25	1411	-0.0003382	0.0002807	0.0035	0.9		2995.37	2995.37		4.81	Si
SLV 15	ini.	-1009.34	754	-0.000599	0.0002807	0.0035	0.9		2995.37	2995.37		2.97	Si
SLV 15	fin.	814.57	-2879	-0.0004634	0.0002807	0.0035	0.9		2989.59	2989.59		3.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	1108.71	-3950	0.9	0	2625	7137	5660	2295	7955		2.01	Si
SLV 5	fin.	-430.37	-1735	0.9	0	2625	7137	5660	2295	7955		4.58	Si
SLV 2	ini.	1367.59	-4663	0.9	0	2625	7137	5660	2295	7955		1.71	Si
SLV 2	fin.	-622.25	-3209	0.9	0	2625	7137	5660	2295	7955		2.48	Si
SLV 12	ini.	-750.45	2766	0.9	0	2625	7137	5660	2295	7955		2.88	Si
SLV 12	fin.	622.68	3234	0.9	0	2625	7137	5660	2295	7955		2.46	Si
SLV 11	ini.	-930.72	3392	0.9	0	2625	7137	5660	2295	7955		2.35	Si
SLV 11	fin.	735.26	3833	0.9	0	2625	7137	5660	2295	7955		2.08	Si
SLV 16	ini.	-741.58	2549	0.9	0	2625	7137	5660	2295	7955		3.12	Si
SLV 16	fin.	647.35	3817	0.9	0	2625	7137	5660	2295	7955		2.08	Si
SLV 6	ini.	1288.98	-4576	0.9	0	2625	7137	5660	2295	7955		1.74	Si
SLV 6	fin.	-542.95	-2335	0.9	0	2625	7137	5660	2295	7955		3.41	Si
SLV 13	ini.	-545.6	1771	0.9	0	2625	7137	5660	2295	7955		4.49	Si
SLV 13	fin.	555.86	3567	0.9	0	2625	7137	5660	2295	7955		2.23	Si
SLV 15	ini.	-1009.34	3478	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 15	fin.	814.57	4708	0.9	0	2625	7137	5660	2295	7955		1.69	Si
SLD 15	ini.	-575.78	1993	0.9	0	2625	7137	5660	2295	7955		3.99	Si
SLD 15	fin.	552.32	3264	0.9	0	2625	7137	5660	2295	7955		2.44	Si
SLV 1	ini.	1099.84	-3733	0.9	0	2625	7137	5660	2295	7955		2.13	Si
SLV 1	fin.	-455.03	-2319	0.9	0	2625	7137	5660	2295	7955		3.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.186	SLV 2	Si
V_SLV	1.69	SLV 15	Si
PF_SLU	10.772	SLU 44	Si
V_SLU	4.777	SLU 77	Si

Trave di accoppiamento 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	10.6	11.45	0.85	-3.113	-3.169	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-10.85	-481	-0.0000059	0.0001872	0.0035	0.85		2655.83	2655.83	No	244.73	Si
SLU 70	fin.	-359.29	-1060	-0.0002149	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.39	Si
SLU 49	ini.	26.6	-317	-0.0000146	0.0001872	0.0035	0.85		2650.49	2650.49	No	99.66	Si
SLU 49	fin.	-353.33	-977	-0.000211	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.52	Si
SLU 47	ini.	40.23	-262	-0.0000222	0.0001872	0.0035	0.85		2650.49	2650.49	No	65.89	Si
SLU 47	fin.	-356.39	-958	-0.000213	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.45	Si
SLU 65	ini.	5.32	-415	-0.0000029	0.0001872	0.0035	0.85		2650.49	2650.49	No	497.88	Si
SLU 65	fin.	-361.83	-1035	-0.0002166	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.34	Si
SLU 44	ini.	42.77	-250	-0.0000236	0.0001872	0.0035	0.85		2650.49	2650.49	No	61.97	Si
SLU 44	fin.	-355.87	-952	-0.0002126	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.46	Si
SLU 67	ini.	-8.31	-470	-0.0000045	0.0001872	0.0035	0.85		2655.83	2655.83	No	319.69	Si
SLU 67	fin.	-358.77	-1054	-0.0002146	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.4	Si
SLU 46	ini.	29.14	-305	-0.000016	0.0001872	0.0035	0.85		2650.49	2650.49	No	90.95	Si
SLU 46	fin.	-352.81	-970	-0.0002106	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.53	Si
SLU 68	ini.	2.78	-426	-0.0000015	0.0001872	0.0035	0.85		2650.49	2650.49	No	953.8	Si
SLU 68	fin.	-362.36	-1042	-0.000217	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.33	Si
SLU 72	ini.	-5.28	-453	-0.0000029	0.0001872	0.0035	0.85		2655.83	2655.83	No	503.01	Si
SLU 72	fin.	-356.28	-1039	-0.0002129	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.45	Si
SLU 51	ini.	32.17	-288	-0.0000177	0.0001872	0.0035	0.85		2650.49	2650.49	No	82.39	Si
SLU 51	fin.	-350.31	-956	-0.000209	0.0001872	0.0035	0.85		2655.83	2655.83	No	7.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-33.11	902	0.85	0	1653	6740	3563	2168	5731	No	6.35	Si
SLU 73	fin.	-349.06	-1740	0.85	0	1653	6740	3563	2168	5731	No	3.29	Si
SLU 80	ini.	-43.71	957	0.85	0	1653	6740	3563	2168	5731	No	5.99	Si
SLU 80	fin.	-343.51	-1720	0.85	0	1653	6740	3563	2168	5731	No	3.33	Si
SLU 78	ini.	-49.29	999	0.85	0	1653	6740	3563	2168	5731	No	5.74	Si
SLU 78	fin.	-346.52	-1741	0.85	0	1653	6740	3563	2168	5731	No	3.29	Si
SLU 65	ini.	5.32	640	0.85	0	1653	6740	3563	2168	5731	No	8.96	Si
SLU 65	fin.	-361.83	-1735	0.85	0	1653	6740	3563	2168	5731	No	3.3	Si
SLU 67	ini.	-8.31	720	0.85	0	1653	6740	3563	2168	5731	No	7.96	Si
SLU 67	fin.	-358.77	-1734	0.85	0	1653	6740	3563	2168	5731	No	3.31	Si
SLU 76	ini.	-35.66	919	0.85	0	1653	6740	3563	2168	5731	No	6.24	Si
SLU 76	fin.	-349.58	-1743	0.85	0	1653	6740	3563	2168	5731	No	3.29	Si
SLU 84	ini.	-57.64	1054	0.85	0	1653	6740	3563	2168	5731	No	5.44	Si
SLU 84	fin.	-337.51	-1718	0.85	0	1653	6740	3563	2168	5731	No	3.34	Si
SLU 68	ini.	2.78	656	0.85	0	1653	6740	3563	2168	5731	No	8.74	Si
SLU 68	fin.	-362.36	-1739	0.85	0	1653	6740	3563	2168	5731	No	3.3	Si
SLU 70	ini.	-10.85	736	0.85	0	1653	6740	3563	2168	5731	No	7.79	Si
SLU 70	fin.	-359.29	-1737	0.85	0	1653	6740	3563	2168	5731	No	3.3	Si
SLU 75	ini.	-46.74	983	0.85	0	1653	6740	3563	2168	5731	No	5.83	Si
SLU 75	fin.	-346	-1738	0.85	0	1653	6740	3563	2168	5731	No	3.3	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	689.58	1391	-0.0004345	0.0002807	0.0035	0.85		2675.27	2675.27		3.88	Si
SLV 2	fin.	-1203.6	-2294	-0.0008609	0.0002807	0.0035	0.85		2680.73	2680.73		2.23	Si
SLV 10	ini.	436.62	774	-0.0002587	0.0002807	0.0035	0.85		2675.27	2675.27		6.13	Si
SLV 10	fin.	-878.42	-1777	-0.0005795	0.0002807	0.0035	0.85		2680.73	2680.73		3.05	Si
SLV 6	ini.	708.05	1446	-0.0004483	0.0002807	0.0035	0.85		2675.27	2675.27		3.78	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	fin.	-1243.95	-2371	-0.0008986	0.0002807	0.0035	0.85		2680.73	2680.73		2.16	Si
SLV 1	ini.	509.22	925	-0.0003067	0.0002807	0.0035	0.85		2675.27	2675.27		5.25	Si
SLV 1	fin.	-969.15	-1932	-0.0006542	0.0002807	0.0035	0.85		2680.73	2680.73		2.77	Si
SLD 5	ini.	363.3	575	-0.0002119	0.0002807	0.0035	0.85		2675.27	2675.27		7.36	Si
SLD 5	fin.	-776.46	-1617	-0.0004991	0.0002807	0.0035	0.85		2680.73	2680.73		3.45	Si
SLD 2	ini.	432.88	750	-0.0002563	0.0002807	0.0035	0.85		2675.27	2675.27		6.18	Si
SLD 2	fin.	-857.41	-1734	-0.0005627	0.0002807	0.0035	0.85		2680.73	2680.73		3.13	Si
SLV 4	ini.	377.05	607	-0.0002206	0.0002807	0.0035	0.85		2675.27	2675.27		7.1	Si
SLV 4	fin.	-770.65	-1585	-0.0004947	0.0002807	0.0035	0.85		2680.73	2680.73		3.48	Si
SLV 11	ini.	-726.57	-2154	-0.0004611	0.0002807	0.0035	0.85		2680.73	2680.73		3.69	Si
SLV 11	fin.	722.57	833	-0.0004592	0.0002807	0.0035	0.85		2675.27	2675.27		3.7	Si
SLD 6	ini.	439.68	773	-0.0002607	0.0002807	0.0035	0.85		2675.27	2675.27		6.08	Si
SLD 6	fin.	-875.76	-1770	-0.0005774	0.0002807	0.0035	0.85		2680.73	2680.73		3.06	Si
SLV 5	ini.	586.62	1132	-0.0003601	0.0002807	0.0035	0.85		2675.27	2675.27		4.56	Si
SLV 5	fin.	-1086.11	-2127	-0.0007547	0.0002807	0.0035	0.85		2680.73	2680.73		2.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-726.57	3913	0.85	0	2479	6740	5345	2168	7513		1.92	Si
SLV 11	fin.	722.57	2358	0.85	0	2479	6740	5345	2168	7513		3.19	Si
SLV 6	ini.	708.05	-2815	0.85	0	2479	6740	5345	2168	7513		2.67	Si
SLV 6	fin.	-1243.95	-4888	0.85	0	2479	6740	5345	2168	7513		1.54	Si
SLV 10	ini.	436.62	-1476	0.85	0	2479	6740	5345	2168	7513		5.09	Si
SLV 10	fin.	-878.42	-3611	0.85	0	2479	6740	5345	2168	7513		2.08	Si
SLV 15	ini.	-708.1	3937	0.85	0	2479	6740	5345	2168	7513		1.91	Si
SLV 15	fin.	682.22	2096	0.85	0	2479	6740	5345	2168	7513		3.58	Si
SLD 2	ini.	432.88	-1595	0.85	0	2479	6740	5345	2168	7513		4.71	Si
SLD 2	fin.	-857.41	-3391	0.85	0	2479	6740	5345	2168	7513		2.22	Si
SLD 6	ini.	439.68	-1556	0.85	0	2479	6740	5345	2168	7513		4.83	Si
SLD 6	fin.	-875.76	-3531	0.85	0	2479	6740	5345	2168	7513		2.13	Si
SLV 12	ini.	-605.14	3326	0.85	0	2479	6740	5345	2168	7513		2.26	Si
SLV 12	fin.	564.73	1789	0.85	0	2479	6740	5345	2168	7513		4.2	Si
SLV 1	ini.	509.22	-1966	0.85	0	2479	6740	5345	2168	7513		3.82	Si
SLV 1	fin.	-969.15	-3781	0.85	0	2479	6740	5345	2168	7513		1.99	Si
SLV 5	ini.	586.62	-2227	0.85	0	2479	6740	5345	2168	7513		3.37	Si
SLV 5	fin.	-1086.11	-4320	0.85	0	2479	6740	5345	2168	7513		1.74	Si
SLV 2	ini.	689.58	-2839	0.85	0	2479	6740	5345	2168	7513		2.65	Si
SLV 2	fin.	-1203.6	-4626	0.85	0	2479	6740	5345	2168	7513		1.62	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.155	SLV 6	Si
V_SLV	1.537	SLV 6	Si
PF_SLU	7.329	SLU 68	Si
V_SLU	3.287	SLU 76	Si

Trave di accoppiamento 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	7.9	8.8	0.9	-2.853	5.951	7.9	8.8	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	ini.	224.68	-1175	-0.0001151	0.0001872	0.0035	0.9		2959	2959	No	13.17	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	fin.	10.94	-786	-0.0000054	0.0001872	0.0035	0.9		2959	2959	No	270.54	Si
SLU 48	ini.	221.97	-1177	-0.0001136	0.0001872	0.0035	0.9		2959	2959	No	13.33	Si
SLU 48	fin.	-4.29	-743	-0.0000021	0.0001872	0.0035	0.9		2964.67	2964.67	No	691.46	Si
SLU 43	ini.	222.54	-1132	-0.0001139	0.0001872	0.0035	0.9		2959	2959	No	13.3	Si
SLU 43	fin.	-15.1	-606	-0.0000074	0.0001872	0.0035	0.9		2964.67	2964.67	No	196.33	Si
SLU 67	ini.	220.23	-1186	-0.0001127	0.0001872	0.0035	0.9		2959	2959	No	13.44	Si
SLU 67	fin.	21.8	-882	-0.0000107	0.0001872	0.0035	0.9		2959	2959	No	135.7	Si
SLU 45	ini.	222.55	-1159	-0.0001139	0.0001872	0.0035	0.9		2959	2959	No	13.3	Si
SLU 45	fin.	-8.69	-686	-0.0000043	0.0001872	0.0035	0.9		2964.67	2964.67	No	341.05	Si
SLU 69	ini.	224.11	-1221	-0.0001148	0.0001872	0.0035	0.9		2959	2959	No	13.2	Si
SLU 69	fin.	21.75	-924	-0.0000107	0.0001872	0.0035	0.9		2959	2959	No	136.04	Si
SLU 71	ini.	223.53	-1212	-0.0001145	0.0001872	0.0035	0.9		2959	2959	No	13.24	Si
SLU 71	fin.	19.75	-901	-0.0000097	0.0001872	0.0035	0.9		2959	2959	No	149.84	Si
SLU 70	ini.	219.65	-1204	-0.0001124	0.0001872	0.0035	0.9		2959	2959	No	13.47	Si
SLU 70	fin.	26.21	-940	-0.0000129	0.0001872	0.0035	0.9		2959	2959	No	112.9	Si
SLU 66	ini.	224.69	-1202	-0.0001151	0.0001872	0.0035	0.9		2959	2959	No	13.17	Si
SLU 66	fin.	17.35	-866	-0.0000085	0.0001872	0.0035	0.9		2959	2959	No	170.59	Si
SLU 50	ini.	221.39	-1168	-0.0001133	0.0001872	0.0035	0.9		2959	2959	No	13.37	Si
SLU 50	fin.	-6.29	-721	-0.0000031	0.0001872	0.0035	0.9		2964.67	2964.67	No	471.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	216.74	-1683	0.9	0	1750	7137	3773	2295	6068	No	3.61	Si
SLU 77	fin.	49.27	1945	0.9	0	1750	7137	3773	2295	6068	No	3.12	Si
SLU 78	ini.	212.28	-1651	0.9	0	1750	7137	3773	2295	6068	No	3.67	Si
SLU 78	fin.	53.73	1959	0.9	0	1750	7137	3773	2295	6068	No	3.1	Si
SLU 83	ini.	213.58	-1559	0.9	0	1750	7137	3773	2295	6068	No	3.89	Si
SLU 83	fin.	54.65	1821	0.9	0	1750	7137	3773	2295	6068	No	3.33	Si
SLU 70	ini.	219.65	-1766	0.9	0	1750	7137	3773	2295	6068	No	3.44	Si
SLU 70	fin.	26.21	1817	0.9	0	1750	7137	3773	2295	6068	No	3.34	Si
SLU 74	ini.	217.32	-1626	0.9	0	1750	7137	3773	2295	6068	No	3.73	Si
SLU 74	fin.	44.86	1804	0.9	0	1750	7137	3773	2295	6068	No	3.36	Si
SLU 69	ini.	224.11	-1798	0.9	0	1750	7137	3773	2295	6068	No	3.38	Si
SLU 69	fin.	21.75	1803	0.9	0	1750	7137	3773	2295	6068	No	3.37	Si
SLU 79	ini.	216.16	-1665	0.9	0	1750	7137	3773	2295	6068	No	3.64	Si
SLU 79	fin.	47.26	1900	0.9	0	1750	7137	3773	2295	6068	No	3.19	Si
SLU 84	ini.	209.12	-1527	0.9	0	1750	7137	3773	2295	6068	No	3.97	Si
SLU 84	fin.	59.11	1835	0.9	0	1750	7137	3773	2295	6068	No	3.31	Si
SLU 80	ini.	211.7	-1633	0.9	0	1750	7137	3773	2295	6068	No	3.71	Si
SLU 80	fin.	51.72	1915	0.9	0	1750	7137	3773	2295	6068	No	3.17	Si
SLU 75	ini.	212.86	-1594	0.9	0	1750	7137	3773	2295	6068	No	3.81	Si
SLU 75	fin.	49.32	1819	0.9	0	1750	7137	3773	2295	6068	No	3.34	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	657.34	-2772	-0.0003608	0.0002807	0.0035	0.9		2989.59	2989.59		4.55	Si
SLV 7	fin.	-436.73	1016	-0.0002286	0.0002807	0.0035	0.9		2995.37	2995.37		6.86	Si
SLV 10	ini.	-316.82	994	-0.0001623	0.0002807	0.0035	0.9		2995.37	2995.37		9.45	Si
SLV 10	fin.	457.83	-2223	-0.0002411	0.0002807	0.0035	0.9		2989.59	2989.59		6.53	Si
SLV 11	ini.	436.33	-1996	-0.0002288	0.0002807	0.0035	0.9		2989.59	2989.59		6.85	Si
SLV 11	fin.	-267.38	272	-0.0001359	0.0002807	0.0035	0.9		2995.37	2995.37		11.2	Si
SLD 3	ini.	516.93	-2140	-0.0002754	0.0002807	0.0035	0.9		2989.59	2989.59		5.78	Si
SLD 3	fin.	-269.84	549	-0.0001372	0.0002807	0.0035	0.9		2995.37	2995.37		11.1	Si
SLV 4	ini.	553.65	-2287	-0.0002971	0.0002807	0.0035	0.9		2989.59	2989.59		5.4	Si
SLV 4	fin.	-303.39	708	-0.0001551	0.0002807	0.0035	0.9		2995.37	2995.37		9.87	Si
SLV 3	ini.	716.59	-2861	-0.0003986	0.0002807	0.0035	0.9		2989.59	2989.59		4.17	Si
SLV 3	fin.	-431.66	1210	-0.0002257	0.0002807	0.0035	0.9		2995.37	2995.37		6.94	Si
SLV 1	ini.	523.56	-2080	-0.0002793	0.0002807	0.0035	0.9		2989.59	2989.59		5.71	Si
SLV 1	fin.	-240	563	-0.0001214	0.0002807	0.0035	0.9		2995.37	2995.37		12.48	Si
SLV 8	ini.	547.63	-2386	-0.0002935	0.0002807	0.0035	0.9		2989.59	2989.59		5.46	Si
SLV 8	fin.	-350.37	678	-0.0001806	0.0002807	0.0035	0.9		2995.37	2995.37		8.55	Si
SLV 14	ini.	-376.08	1082	-0.0001947	0.0002807	0.0035	0.9		2995.37	2995.37		7.96	Si
SLV 14	fin.	452.76	-2417	-0.0002382	0.0002807	0.0035	0.9		2989.59	2989.59		6.6	Si
SLD 7	ini.	475.74	-2068	-0.0002514	0.0002807	0.0035	0.9		2989.59	2989.59		6.28	Si
SLD 7	fin.	-269.56	412	-0.000137	0.0002807	0.0035	0.9		2995.37	2995.37		11.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	553.65	-3502	0.9	0	2625	7137	5660	2295	7955		2.27	Si
SLV 4	fin.	-303.39	-536	0.9	0	2625	7137	5660	2295	7955		14.85	Si
SLD 8	ini.	406.73	-3044	0.9	0	2625	7137	5660	2295	7955		2.61	Si
SLD 8	fin.	-215.23	482	0.9	0	2625	7137	5660	2295	7955		16.49	Si
SLV 3	ini.	716.59	-4411	0.9	0	2625	7137	5660	2295	7955		1.8	Si
SLV 3	fin.	-431.66	-1228	0.9	0	2625	7137	5660	2295	7955		6.48	Si
SLV 14	ini.	-376.08	1920	0.9	0	2625	7137	5660	2295	7955		4.14	Si
SLV 14	fin.	452.76	3463	0.9	0	2625	7137	5660	2295	7955		2.3	Si
SLV 11	ini.	436.33	-3577	0.9	0	2625	7137	5660	2295	7955		2.22	Si
SLV 11	fin.	-267.38	723	0.9	0	2625	7137	5660	2295	7955		11	Si
SLV 7	ini.	657.34	-4734	0.9	0	2625	7137	5660	2295	7955		1.68	Si
SLV 7	fin.	-436.73	-351	0.9	0	2625	7137	5660	2295	7955		22.67	Si
SLD 3	ini.	516.93	-3252	0.9	0	2625	7137	5660	2295	7955		2.45	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	fin.	-269.84	-376	0.9	0	2625	7137	5660	2295	7955		21.16	Si
SLV 16	ini.	-183.04	358	0.9	0	2625	7137	5660	2295	7955		22.23	Si
SLV 16	fin.	261.11	3044	0.9	0	2625	7137	5660	2295	7955		2.61	Si
SLV 8	ini.	547.63	-4122	0.9	0	2625	7137	5660	2295	7955		1.93	Si
SLV 8	fin.	-350.37	115	0.9	0	2625	7137	5660	2295	7955		68.87	Si
SLD 7	ini.	475.74	-3429	0.9	0	2625	7137	5660	2295	7955		2.32	Si
SLD 7	fin.	-269.56	189	0.9	0	2625	7137	5660	2295	7955		42.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.172	SLV 3	Si
V_SLV	1.68	SLV 7	Si
PF_SLU	13.169	SLU 66	Si
V_SLU	3.097	SLU 78	Si

Trave di accoppiamento 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	10.6	11.45	0.85	-2.853	5.951	10.6	11.45	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 46	ini.	-14.78	-352	-0.0000081	0.0001872	0.0035	0.85		2655.83	2655.83	No	179.69	Si
SLU 46	fin.	-83.08	-987	-0.0000462	0.0001872	0.0035	0.85		2655.83	2655.83	No	31.97	Si
SLU 43	ini.	4.14	-257	-0.0000023	0.0001872	0.0035	0.85		2650.49	2650.49	No	640.39	Si
SLU 43	fin.	-91.18	-977	-0.0000508	0.0001872	0.0035	0.85		2655.83	2655.83	No	29.13	Si
SLU 41	ini.	-83.6	-678	-0.0000465	0.0001872	0.0035	0.85		2655.83	2655.83	No	31.77	Si
SLU 41	fin.	-30.94	-886	-0.000017	0.0001872	0.0035	0.85		2655.83	2655.83	No	85.85	Si
SLU 38	ini.	-88	-694	-0.000049	0.0001872	0.0035	0.85		2655.83	2655.83	No	30.18	Si
SLU 38	fin.	-29.21	-875	-0.000016	0.0001872	0.0035	0.85		2655.83	2655.83	No	90.93	Si
SLU 35	ini.	-87.5	-697	-0.0000487	0.0001872	0.0035	0.85		2655.83	2655.83	No	30.35	Si
SLU 35	fin.	-31.58	-901	-0.0000174	0.0001872	0.0035	0.85		2655.83	2655.83	No	84.11	Si
SLU 42	ini.	-87.59	-694	-0.0000487	0.0001872	0.0035	0.85		2655.83	2655.83	No	30.32	Si
SLU 42	fin.	-28.16	-872	-0.0000155	0.0001872	0.0035	0.85		2655.83	2655.83	No	94.3	Si
SLU 37	ini.	-84.01	-678	-0.0000467	0.0001872	0.0035	0.85		2655.83	2655.83	No	31.61	Si
SLU 37	fin.	-31.98	-889	-0.0000176	0.0001872	0.0035	0.85		2655.83	2655.83	No	83.05	Si
SLU 44	ini.	-2.51	-283	-0.0000014	0.0001872	0.0035	0.85		2655.83	2655.83	No	1056.93	Si
SLU 44	fin.	-86.56	-954	-0.0000482	0.0001872	0.0035	0.85		2655.83	2655.83	No	30.68	Si
SLU 36	ini.	-91.49	-713	-0.000051	0.0001872	0.0035	0.85		2655.83	2655.83	No	29.03	Si
SLU 36	fin.	-28.8	-887	-0.0000158	0.0001872	0.0035	0.85		2655.83	2655.83	No	92.2	Si
SLU 45	ini.	-10.79	-336	-0.0000059	0.0001872	0.0035	0.85		2655.83	2655.83	No	246.17	Si
SLU 45	fin.	-85.85	-1001	-0.0000478	0.0001872	0.0035	0.85		2655.83	2655.83	No	30.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-63.15	1646	0.85	0	1653	6740	3563	2168	5731	No	3.48	Si
SLU 81	fin.	-59.9	-2652	0.85	0	1653	6740	3563	2168	5731	No	2.16	Si
SLU 83	ini.	-74.59	1769	0.85	0	1653	6740	3563	2168	5731	No	3.24	Si
SLU 83	fin.	-54.98	-2731	0.85	0	1653	6740	3563	2168	5731	No	2.1	Si
SLU 69	ini.	-52.77	1520	0.85	0	1653	6740	3563	2168	5731	No	3.77	Si
SLU 69	fin.	-69.54	-2648	0.85	0	1653	6740	3563	2168	5731	No	2.16	Si
SLU 79	ini.	-75	1769	0.85	0	1653	6740	3563	2168	5731	No	3.24	Si
SLU 79	fin.	-56.02	-2752	0.85	0	1653	6740	3563	2168	5731	No	2.08	Si
SLU 74	ini.	-67.05	1684	0.85	0	1653	6740	3563	2168	5731	No	3.4	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-60.54	-2706	0.85	0	1653	6740	3563	2168	5731	No	2.12	Si
SLU 80	ini.	-78.99	1791	0.85	0	1653	6740	3563	2168	5731	No	3.2	Si
SLU 80	fin.	-53.25	-2728	0.85	0	1653	6740	3563	2168	5731	No	2.1	Si
SLU 75	ini.	-71.04	1706	0.85	0	1653	6740	3563	2168	5731	No	3.36	Si
SLU 75	fin.	-57.77	-2682	0.85	0	1653	6740	3563	2168	5731	No	2.14	Si
SLU 77	ini.	-78.49	1807	0.85	0	1653	6740	3563	2168	5731	No	3.17	Si
SLU 77	fin.	-55.62	-2784	0.85	0	1653	6740	3563	2168	5731	No	2.06	Si
SLU 84	ini.	-78.58	1791	0.85	0	1653	6740	3563	2168	5731	No	3.2	Si
SLU 84	fin.	-52.21	-2707	0.85	0	1653	6740	3563	2168	5731	No	2.12	Si
SLU 78	ini.	-82.48	1829	0.85	0	1653	6740	3563	2168	5731	No	3.13	Si
SLU 78	fin.	-52.85	-2761	0.85	0	1653	6740	3563	2168	5731	No	2.08	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	371.18	1084	-0.0002169	0.0002807	0.0035	0.85		2675.27	2675.27		7.21	Si
SLV 3	fin.	-398.2	-2438	-0.0002335	0.0002807	0.0035	0.85		2680.73	2680.73		6.73	Si
SLV 14	ini.	-413.06	-1752	-0.000243	0.0002807	0.0035	0.85		2680.73	2680.73		6.49	Si
SLV 14	fin.	278.39	843	-0.0001597	0.0002807	0.0035	0.85		2675.27	2675.27		9.61	Si
SLV 7	ini.	383.23	1211	-0.0002245	0.0002807	0.0035	0.85		2675.27	2675.27		6.98	Si
SLV 7	fin.	-370.44	-2376	-0.000216	0.0002807	0.0035	0.85		2680.73	2680.73		7.24	Si
SLV 4	ini.	239.27	590	-0.0001363	0.0002807	0.0035	0.85		2675.27	2675.27		11.18	Si
SLV 4	fin.	-283.66	-1865	-0.0001626	0.0002807	0.0035	0.85		2680.73	2680.73		9.45	Si
SLV 10	ini.	-425.12	-1879	-0.0002507	0.0002807	0.0035	0.85		2680.73	2680.73		6.31	Si
SLV 10	fin.	250.63	780	-0.0001431	0.0002807	0.0035	0.85		2675.27	2675.27		10.67	Si
SLV 1	ini.	198.48	407	-0.0001122	0.0002807	0.0035	0.85		2675.27	2675.27		13.48	Si
SLV 1	fin.	-274.46	-1793	-0.000157	0.0002807	0.0035	0.85		2680.73	2680.73		9.77	Si
SLV 8	ini.	294.42	878	-0.0001694	0.0002807	0.0035	0.85		2675.27	2675.27		9.09	Si
SLV 8	fin.	-293.32	-1990	-0.0001684	0.0002807	0.0035	0.85		2680.73	2680.73		9.14	Si
SLV 13	ini.	-281.16	-1257	-0.0001611	0.0002807	0.0035	0.85		2680.73	2680.73		9.53	Si
SLV 13	fin.	163.86	269	-0.0000921	0.0002807	0.0035	0.85		2675.27	2675.27		16.33	Si
SLV 6	ini.	-281.23	-1380	-0.0001611	0.0002807	0.0035	0.85		2680.73	2680.73		9.53	Si
SLV 6	fin.	119.14	161	-0.0000665	0.0002807	0.0035	0.85		2675.27	2675.27		22.46	Si
SLV 9	ini.	-336.31	-1546	-0.0001947	0.0002807	0.0035	0.85		2680.73	2680.73		7.97	Si
SLV 9	fin.	173.52	394	-0.0000977	0.0002807	0.0035	0.85		2675.27	2675.27		15.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	239.27	-562	0.85	0	2479	6740	5345	2168	7513		13.37	Si
SLV 4	fin.	-283.66	-3467	0.85	0	2479	6740	5345	2168	7513		2.17	Si
SLV 1	ini.	198.48	-532	0.85	0	2479	6740	5345	2168	7513		14.13	Si
SLV 1	fin.	-274.46	-3115	0.85	0	2479	6740	5345	2168	7513		2.41	Si
SLV 7	ini.	383.23	-1185	0.85	0	2479	6740	5345	2168	7513		6.34	Si
SLV 7	fin.	-370.44	-4499	0.85	0	2479	6740	5345	2168	7513		1.67	Si
SLD 7	ini.	231.71	-387	0.85	0	2479	6740	5345	2168	7513		19.41	Si
SLD 7	fin.	-254.11	-3511	0.85	0	2479	6740	5345	2168	7513		2.14	Si
SLV 3	ini.	371.18	-1378	0.85	0	2479	6740	5345	2168	7513		5.45	Si
SLV 3	fin.	-398.2	-4275	0.85	0	2479	6740	5345	2168	7513		1.76	Si
SLV 8	ini.	294.42	-635	0.85	0	2479	6740	5345	2168	7513		11.82	Si
SLV 8	fin.	-293.32	-3955	0.85	0	2479	6740	5345	2168	7513		1.9	Si
SLD 3	ini.	226.51	-520	0.85	0	2479	6740	5345	2168	7513		14.45	Si
SLD 3	fin.	-273.54	-3384	0.85	0	2479	6740	5345	2168	7513		2.22	Si
SLV 11	ini.	239.34	-287	0.85	0	2479	6740	5345	2168	7513		26.16	Si
SLV 11	fin.	-238.94	-3646	0.85	0	2479	6740	5345	2168	7513		2.06	Si
SLV 14	ini.	-413.06	3278	0.85	0	2479	6740	5345	2168	7513		2.29	Si
SLV 14	fin.	278.39	538	0.85	0	2479	6740	5345	2168	7513		13.96	Si
SLD 8	ini.	175.84	-41	0.85	0	2479	6740	5345	2168	7513		181.8	Si
SLD 8	fin.	-205.6	-3168	0.85	0	2479	6740	5345	2168	7513		2.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.306	SLV 10	Si
V_SLV	1.67	SLV 7	Si
PF_SLU	29.029	SLU 36	Si
V_SLU	2.058	SLU 77	Si

Trave di accoppiamento 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	11.45	12.35	0.9	-22.778	5.951	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 48	ini.	-1.76	-187	-0.0000009	0.0001872	0.0035	0.9		2964.67	2964.67	No	1684	Si
SLU 48	fin.	44.61	-556	-0.000022	0.0001872	0.0035	0.9		2959	2959	No	66.33	Si
SLU 42	ini.	41.46	-427	-0.0000204	0.0001872	0.0035	0.9		2959	2959	No	71.38	Si
SLU 42	fin.	0.16	-202	-0.0000001	0.0001872	0.0035	0.9		2959	2959	No	18202.42	Si
SLU 43	ini.	-0.95	-120	-0.0000005	0.0001872	0.0035	0.9		2964.67	2964.67	No	3117.94	Si
SLU 43	fin.	49.9	-481	-0.0000246	0.0001872	0.0035	0.9		2959	2959	No	59.29	Si
SLU 50	ini.	0.4	-167	-0.0000002	0.0001872	0.0035	0.9		2959	2959	No	7440.02	Si
SLU 50	fin.	52.03	-571	-0.0000257	0.0001872	0.0035	0.9		2959	2959	No	56.87	Si
SLU 47	ini.	3.54	-177	-0.0000017	0.0001872	0.0035	0.9		2959	2959	No	835.15	Si
SLU 47	fin.	44.94	-502	-0.0000222	0.0001872	0.0035	0.9		2959	2959	No	65.85	Si
SLU 44	ini.	2.87	-153	-0.0000014	0.0001872	0.0035	0.9		2959	2959	No	1031.45	Si
SLU 44	fin.	43.87	-457	-0.0000216	0.0001872	0.0035	0.9		2959	2959	No	67.44	Si
SLU 45	ini.	-2.43	-164	-0.0000012	0.0001872	0.0035	0.9		2964.67	2964.67	No	1217.64	Si
SLU 45	fin.	43.55	-512	-0.0000215	0.0001872	0.0035	0.9		2959	2959	No	67.95	Si
SLU 49	ini.	0.53	-208	-0.0000003	0.0001872	0.0035	0.9		2959	2959	No	5569.54	Si
SLU 49	fin.	40.99	-542	-0.0000202	0.0001872	0.0035	0.9		2959	2959	No	72.19	Si
SLU 40	ini.	40.78	-403	-0.0000201	0.0001872	0.0035	0.9		2959	2959	No	72.56	Si
SLU 40	fin.	-0.9	-157	-0.0000004	0.0001872	0.0035	0.9		2964.67	2964.67	No	3294.06	Si
SLU 51	ini.	2.69	-187	-0.0000013	0.0001872	0.0035	0.9		2959	2959	No	1100.21	Si
SLU 51	fin.	48.41	-556	-0.0000239	0.0001872	0.0035	0.9		2959	2959	No	61.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 50	ini.	0.4	-325	0.9	0	1750	7137	3773	2295	6068	No	18.68	Si
SLU 50	fin.	52.03	779	0.9	0	1750	7137	3773	2295	6068	No	7.79	Si
SLU 49	ini.	0.53	-422	0.9	0	1750	7137	3773	2295	6068	No	14.39	Si
SLU 49	fin.	40.99	763	0.9	0	1750	7137	3773	2295	6068	No	7.95	Si
SLU 51	ini.	2.69	-348	0.9	0	1750	7137	3773	2295	6068	No	17.44	Si
SLU 51	fin.	48.41	755	0.9	0	1750	7137	3773	2295	6068	No	8.03	Si
SLU 69	ini.	10.87	-542	0.9	0	1750	7137	3773	2295	6068	No	11.19	Si
SLU 69	fin.	29.19	660	0.9	0	1750	7137	3773	2295	6068	No	9.19	Si
SLU 46	ini.	-0.14	-364	0.9	0	1750	7137	3773	2295	6068	No	16.66	Si
SLU 46	fin.	39.93	690	0.9	0	1750	7137	3773	2295	6068	No	8.79	Si
SLU 45	ini.	-2.43	-341	0.9	0	1750	7137	3773	2295	6068	No	17.79	Si
SLU 45	fin.	43.55	714	0.9	0	1750	7137	3773	2295	6068	No	8.5	Si
SLU 48	ini.	-1.76	-398	0.9	0	1750	7137	3773	2295	6068	No	15.23	Si
SLU 48	fin.	44.61	786	0.9	0	1750	7137	3773	2295	6068	No	7.72	Si
SLU 71	ini.	13.03	-469	0.9	0	1750	7137	3773	2295	6068	No	12.95	Si
SLU 71	fin.	36.61	653	0.9	0	1750	7137	3773	2295	6068	No	9.3	Si
SLU 70	ini.	13.16	-565	0.9	0	1750	7137	3773	2295	6068	No	10.73	Si
SLU 70	fin.	25.57	636	0.9	0	1750	7137	3773	2295	6068	No	9.53	Si
SLU 47	ini.	3.54	-306	0.9	0	1750	7137	3773	2295	6068	No	19.83	Si
SLU 47	fin.	44.94	667	0.9	0	1750	7137	3773	2295	6068	No	9.1	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	178.47	-1609	-0.0000896	0.0002807	0.0035	0.9		2989.59	2989.59		16.75	Si
SLV 9	fin.	-298.32	1094	-0.0001524	0.0002807	0.0035	0.9		2995.37	2995.37		10.04	Si
SLV 6	ini.	178.22	-1633	-0.0000895	0.0002807	0.0035	0.9		2989.59	2989.59		16.77	Si
SLV 6	fin.	-282.03	1057	-0.0001437	0.0002807	0.0035	0.9		2995.37	2995.37		10.62	Si
SLV 8	ini.	-156.75	1234	-0.0000783	0.0002807	0.0035	0.9		2995.37	2995.37		19.11	Si
SLV 8	fin.	351.67	-1722	-0.0001816	0.0002807	0.0035	0.9		2989.59	2989.59		8.5	Si
SLV 16	ini.	-156.44	1333	-0.0000781	0.0002807	0.0035	0.9		2995.37	2995.37		19.15	Si
SLV 16	fin.	229.8	-1256	-0.0001163	0.0002807	0.0035	0.9		2989.59	2989.59		13.01	Si
SLV 11	ini.	-156.5	1258	-0.0000782	0.0002807	0.0035	0.9		2995.37	2995.37		19.14	Si
SLV 11	fin.	335.39	-1685	-0.0001727	0.0002807	0.0035	0.9		2989.59	2989.59		8.91	Si
SLV 5	ini.	226.98	-2069	-0.0001148	0.0002807	0.0035	0.9		2989.59	2989.59		13.17	Si
SLV 5	fin.	-338.15	1301	-0.0001739	0.0002807	0.0035	0.9		2995.37	2995.37		8.86	Si
SLD 12	ini.	-123.65	984	-0.0000615	0.0002807	0.0035	0.9		2995.37	2995.37		24.22	Si
SLD 12	fin.	253.15	-1315	-0.0001286	0.0002807	0.0035	0.9		2989.59	2989.59		11.81	Si
SLV 12	ini.	-205.25	1694	-0.0001033	0.0002807	0.0035	0.9		2995.37	2995.37		14.59	Si
SLV 12	fin.	391.51	-1928	-0.0002036	0.0002807	0.0035	0.9		2989.59	2989.59		7.64	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-107.99	798	-0.0000536	0.0002807	0.0035	0.9		2995.37	2995.37		27.74	Si
SLV 7	fin.	295.56	-1478	-0.0001512	0.0002807	0.0035	0.9		2989.59	2989.59		10.12	Si
SLV 10	ini.	129.72	-1173	-0.0000646	0.0002807	0.0035	0.9		2989.59	2989.59		23.05	Si
SLV 10	fin.	-242.2	851	-0.0001226	0.0002807	0.0035	0.9		2995.37	2995.37		12.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-107.99	995	0.9	0	2625	7137	5660	2295	7955		8	Si
SLV 7	fin.	295.56	2067	0.9	0	2625	7137	5660	2295	7955		3.85	Si
SLV 16	ini.	-156.44	1340	0.9	0	2625	7137	5660	2295	7955		5.94	Si
SLV 16	fin.	229.8	1958	0.9	0	2625	7137	5660	2295	7955		4.06	Si
SLV 11	ini.	-156.5	1434	0.9	0	2625	7137	5660	2295	7955		5.55	Si
SLV 11	fin.	335.39	2452	0.9	0	2625	7137	5660	2295	7955		3.24	Si
SLV 8	ini.	-156.75	1461	0.9	0	2625	7137	5660	2295	7955		5.44	Si
SLV 8	fin.	351.67	2502	0.9	0	2625	7137	5660	2295	7955		3.18	Si
SLD 12	ini.	-123.65	1088	0.9	0	2625	7137	5660	2295	7955		7.31	Si
SLD 12	fin.	253.15	1928	0.9	0	2625	7137	5660	2295	7955		4.13	Si
SLV 6	ini.	178.22	-1932	0.9	0	2625	7137	5660	2295	7955		4.12	Si
SLV 6	fin.	-282.03	-1735	0.9	0	2625	7137	5660	2295	7955		4.58	Si
SLV 12	ini.	-205.25	1901	0.9	0	2625	7137	5660	2295	7955		4.18	Si
SLV 12	fin.	391.51	2887	0.9	0	2625	7137	5660	2295	7955		2.76	Si
SLV 1	ini.	178.16	-1837	0.9	0	2625	7137	5660	2295	7955		4.33	Si
SLV 1	fin.	-176.44	-1242	0.9	0	2625	7137	5660	2295	7955		6.41	Si
SLV 9	ini.	178.47	-1959	0.9	0	2625	7137	5660	2295	7955		4.06	Si
SLV 9	fin.	-298.32	-1785	0.9	0	2625	7137	5660	2295	7955		4.46	Si
SLV 5	ini.	226.98	-2399	0.9	0	2625	7137	5660	2295	7955		3.32	Si
SLV 5	fin.	-338.15	-2170	0.9	0	2625	7137	5660	2295	7955		3.67	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.636	SLV 12	Si
V_SLV	2.756	SLV 12	Si
PF_SLU	56.872	SLU 50	Si
V_SLU	7.717	SLU 48	Si

Trave di accoppiamento 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.878	5.951	14.15	14.6	0.45	-22.778	5.951	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-20.65	66	-0.0000408	0.0001872	0.0035	0.45		748.52	748.52	No	36.25	Si
SLU 84	fin.	-89.38	-48	-0.000188	0.0001872	0.0035	0.45		748.52	748.52	No	8.37	Si
SLU 75	ini.	-31.2	64	-0.0000621	0.0001872	0.0035	0.45		748.52	748.52	No	23.99	Si
SLU 75	fin.	-88.64	-29	-0.0001863	0.0001872	0.0035	0.45		748.52	748.52	No	8.44	Si
SLU 33	ini.	-14.39	79	-0.0000283	0.0001872	0.0035	0.45		748.52	748.52	No	52.03	Si
SLU 33	fin.	-93.03	-60	-0.0001964	0.0001872	0.0035	0.45		748.52	748.52	No	8.05	Si
SLU 32	ini.	-17.8	73	-0.0000351	0.0001872	0.0035	0.45		748.52	748.52	No	42.05	Si
SLU 32	fin.	-89.52	-52	-0.0001883	0.0001872	0.0035	0.45		748.52	748.52	No	8.36	Si
SLU 35	ini.	-26.15	55	-0.0000519	0.0001872	0.0035	0.45		748.52	748.52	No	28.63	Si
SLU 35	fin.	-92.25	-51	-0.0001946	0.0001872	0.0035	0.45		748.52	748.52	No	8.11	Si
SLU 36	ini.	-22.73	62	-0.000045	0.0001872	0.0035	0.45		748.52	748.52	No	32.93	Si
SLU 36	fin.	-95.77	-58	-0.0002028	0.0001872	0.0035	0.45		748.52	748.52	No	7.82	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 41	ini.	-7.26	75	-0.0000142	0.0001872	0.0035	0.45		748.52	748.52	No	103.15	Si
SLU 41	fin.	-90.25	-71	-0.00019	0.0001872	0.0035	0.45		748.52	748.52	No	8.29	Si
SLU 42	ini.	-3.84	81	-0.0000075	0.0001872	0.0035	0.45		748.52	748.52	No	194.9	Si
SLU 42	fin.	-93.77	-79	-0.0001981	0.0001872	0.0035	0.45		748.52	748.52	No	7.98	Si
SLU 40	ini.	4.5	99	-0.0000088	0.0001872	0.0035	0.45		745.72	745.72	No	165.59	Si
SLU 40	fin.	-91.03	-80	-0.0001918	0.0001872	0.0035	0.45		748.52	748.52	No	8.22	Si
SLU 78	ini.	-39.54	47	-0.0000793	0.0001872	0.0035	0.45		748.52	748.52	No	18.93	Si
SLU 78	fin.	-91.38	-28	-0.0001926	0.0001872	0.0035	0.45		748.52	748.52	No	8.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-31.2	320	0.45	0	799	3568	1887	1148	3034	No	9.48	Si
SLU 75	fin.	-88.64	-492	0.45	0	799	3568	1887	1148	3034	No	6.16	Si
SLU 36	ini.	-22.73	273	0.45	0	799	3568	1887	1148	3034	No	11.11	Si
SLU 36	fin.	-95.77	-493	0.45	0	799	3568	1887	1148	3034	No	6.16	Si
SLU 35	ini.	-26.15	284	0.45	0	799	3568	1887	1148	3034	No	10.68	Si
SLU 35	fin.	-92.25	-482	0.45	0	799	3568	1887	1148	3034	No	6.3	Si
SLU 33	ini.	-14.39	234	0.45	0	799	3568	1887	1148	3034	No	12.96	Si
SLU 33	fin.	-93.03	-475	0.45	0	799	3568	1887	1148	3034	No	6.39	Si
SLU 78	ini.	-39.54	359	0.45	0	799	3568	1887	1148	3034	No	8.45	Si
SLU 78	fin.	-91.38	-510	0.45	0	799	3568	1887	1148	3034	No	5.95	Si
SLU 84	ini.	-20.65	270	0.45	0	799	3568	1887	1148	3034	No	11.23	Si
SLU 84	fin.	-89.38	-478	0.45	0	799	3568	1887	1148	3034	No	6.35	Si
SLU 80	ini.	-38.4	340	0.45	0	799	3568	1887	1148	3034	No	8.94	Si
SLU 80	fin.	-82.21	-465	0.45	0	799	3568	1887	1148	3034	No	6.53	Si
SLU 77	ini.	-42.96	370	0.45	0	799	3568	1887	1148	3034	No	8.2	Si
SLU 77	fin.	-87.87	-499	0.45	0	799	3568	1887	1148	3034	No	6.08	Si
SLU 83	ini.	-24.07	281	0.45	0	799	3568	1887	1148	3034	No	10.79	Si
SLU 83	fin.	-85.86	-467	0.45	0	799	3568	1887	1148	3034	No	6.5	Si
SLU 74	ini.	-34.61	331	0.45	0	799	3568	1887	1148	3034	No	9.17	Si
SLU 74	fin.	-85.13	-481	0.45	0	799	3568	1887	1148	3034	No	6.3	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-285.25	-512	-0.0006935	0.0002807	0.0035	0.45		754.83	754.83		2.65	Si
SLV 11	fin.	209.22	491	-0.0004771	0.0002807	0.0035	0.45		751.86	751.86		3.59	Si
SLD 8	ini.	-243.48	-402	-0.0005703	0.0002807	0.0035	0.45		754.83	754.83		3.1	Si
SLD 8	fin.	173.94	446	-0.000384	0.0002807	0.0035	0.45		751.86	751.86		4.32	Si
SLV 9	ini.	306.63	694	-0.0007632	0.0002807	0.0035	0.45		751.86	751.86		2.45	Si
SLV 9	fin.	-379	-667	-0.0010004	0.0002807	0.0035	0.45		754.83	754.83		1.99	Si
SLV 6	ini.	220.1	549	-0.0005069	0.0002807	0.0035	0.45		751.86	751.86		3.42	Si
SLV 6	fin.	-285.31	-452	-0.0006937	0.0002807	0.0035	0.45		754.83	754.83		2.65	Si
SLV 5	ini.	271.73	627	-0.0006557	0.0002807	0.0035	0.45		751.86	751.86		2.77	Si
SLV 5	fin.	-342.29	-590	-0.0008749	0.0002807	0.0035	0.45		754.83	754.83		2.21	Si
SLV 10	ini.	254.99	616	-0.0006062	0.0002807	0.0035	0.45		751.86	751.86		2.95	Si
SLV 10	fin.	-322.02	-529	-0.0008086	0.0002807	0.0035	0.45		754.83	754.83		2.34	Si
SLV 12	ini.	-336.88	-590	-0.000857	0.0002807	0.0035	0.45		754.83	754.83		2.24	Si
SLV 12	fin.	266.2	629	-0.0006392	0.0002807	0.0035	0.45		751.86	751.86		2.82	Si
SLD 9	ini.	178.33	439	-0.0003953	0.0002807	0.0035	0.45		751.86	751.86		4.22	Si
SLD 9	fin.	-250.04	-407	-0.0005891	0.0002807	0.0035	0.45		754.83	754.83		3.02	Si
SLV 7	ini.	-320.15	-579	-0.0008026	0.0002807	0.0035	0.45		754.83	754.83		2.36	Si
SLV 7	fin.	245.92	568	-0.0005798	0.0002807	0.0035	0.45		751.86	751.86		3.06	Si
SLV 8	ini.	-371.78	-658	-0.0009751	0.0002807	0.0035	0.45		754.83	754.83		2.03	Si
SLV 8	fin.	302.91	706	-0.0007514	0.0002807	0.0035	0.45		751.86	751.86		2.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	152.71	-428	0.45	0	1113	3568	2830	1148	3977		9.29	Si
SLV 13	fin.	-229.78	-942	0.45	0	1113	3568	2830	1148	3977		4.22	Si
SLD 9	ini.	178.33	-434	0.45	0	1113	3568	2830	1148	3977		9.16	Si
SLD 9	fin.	-250.04	-944	0.45	0	1113	3568	2830	1148	3977		4.21	Si
SLV 7	ini.	-320.15	1174	0.45	0	1113	3568	2830	1148	3977		3.39	Si
SLV 7	fin.	245.92	671	0.45	0	1113	3568	2830	1148	3977		5.93	Si
SLV 11	ini.	-285.25	1012	0.45	0	1113	3568	2830	1148	3977		3.93	Si
SLV 11	fin.	209.22	506	0.45	0	1113	3568	2830	1148	3977		7.86	Si
SLV 9	ini.	306.63	-850	0.45	0	1113	3568	2830	1148	3977		4.68	Si
SLV 9	fin.	-379	-1362	0.45	0	1113	3568	2830	1148	3977		2.92	Si
SLV 8	ini.	-371.78	1344	0.45	0	1113	3568	2830	1148	3977		2.96	Si
SLV 8	fin.	302.91	843	0.45	0	1113	3568	2830	1148	3977		4.72	Si
SLV 10	ini.	254.99	-680	0.45	0	1113	3568	2830	1148	3977		5.85	Si
SLV 10	fin.	-322.02	-1189	0.45	0	1113	3568	2830	1148	3977		3.34	Si
SLV 5	ini.	271.73	-688	0.45	0	1113	3568	2830	1148	3977		5.78	Si
SLV 5	fin.	-342.29	-1197	0.45	0	1113	3568	2830	1148	3977		3.32	Si
SLV 12	ini.	-336.88	1182	0.45	0	1113	3568	2830	1148	3977		3.36	Si
SLV 12	fin.	266.2	679	0.45	0	1113	3568	2830	1148	3977		5.86	Si
SLV 6	ini.	220.1	-518	0.45	0	1113	3568	2830	1148	3977		7.68	Si
SLV 6	fin.	-285.31	-1024	0.45	0	1113	3568	2830	1148	3977		3.88	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.992	SLV 9	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	2.921	SLV 9	Si
PF_SLU	7.816	SLU 36	Si
V_SLU	5.945	SLU 78	Si

Trave di accoppiamento 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	11.45	12.35	0.9	-22.478	-3.169	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 59	ini.	-8.76	-484	-0.0000043	0.0001872	0.0035	0.9		2964.67	2964.67	No	338.6	Si
SLU 59	fin.	150.16	-721	-0.0000757	0.0001872	0.0035	0.9		2959	2959	No	19.71	Si
SLU 72	ini.	-3.43	-530	-0.0000017	0.0001872	0.0035	0.9		2964.67	2964.67	No	864.65	Si
SLU 72	fin.	159.72	-770	-0.0000806	0.0001872	0.0035	0.9		2959	2959	No	18.53	Si
SLU 46	ini.	-11.11	-468	-0.0000054	0.0001872	0.0035	0.9		2964.67	2964.67	No	266.86	Si
SLU 46	fin.	147.06	-701	-0.0000741	0.0001872	0.0035	0.9		2959	2959	No	20.12	Si
SLU 50	ini.	-43.56	-432	-0.0000214	0.0001872	0.0035	0.9		2964.67	2964.67	No	68.07	Si
SLU 50	fin.	171.11	-782	-0.0000866	0.0001872	0.0035	0.9		2959	2959	No	17.29	Si
SLU 48	ini.	-26.47	-468	-0.000013	0.0001872	0.0035	0.9		2964.67	2964.67	No	112.02	Si
SLU 48	fin.	164.13	-768	-0.000083	0.0001872	0.0035	0.9		2959	2959	No	18.03	Si
SLU 47	ini.	-34.03	-429	-0.0000167	0.0001872	0.0035	0.9		2964.67	2964.67	No	87.12	Si
SLU 47	fin.	159.3	-730	-0.0000804	0.0001872	0.0035	0.9		2959	2959	No	18.58	Si
SLU 70	ini.	13.66	-565	-0.0000067	0.0001872	0.0035	0.9		2959	2959	No	216.59	Si
SLU 70	fin.	152.73	-756	-0.000077	0.0001872	0.0035	0.9		2959	2959	No	19.37	Si
SLU 71	ini.	5.31	-536	-0.0000026	0.0001872	0.0035	0.9		2959	2959	No	556.8	Si
SLU 71	fin.	151.83	-747	-0.0000765	0.0001872	0.0035	0.9		2959	2959	No	19.49	Si
SLU 51	ini.	-52.3	-426	-0.0000258	0.0001872	0.0035	0.9		2964.67	2964.67	No	56.69	Si
SLU 51	fin.	179	-806	-0.0000908	0.0001872	0.0035	0.9		2959	2959	No	16.53	Si
SLU 49	ini.	-35.21	-461	-0.0000173	0.0001872	0.0035	0.9		2964.67	2964.67	No	84.2	Si
SLU 49	fin.	172.02	-792	-0.0000871	0.0001872	0.0035	0.9		2959	2959	No	17.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 48	ini.	-26.47	205	0.9	0	1750	7137	3773	2295	6068	No	29.67	Si
SLU 48	fin.	164.13	856	0.9	0	1750	7137	3773	2295	6068	No	7.09	Si
SLU 51	ini.	-52.3	307	0.9	0	1750	7137	3773	2295	6068	No	19.77	Si
SLU 51	fin.	179	915	0.9	0	1750	7137	3773	2295	6068	No	6.63	Si
SLU 47	ini.	-34.03	247	0.9	0	1750	7137	3773	2295	6068	No	24.55	Si
SLU 47	fin.	159.3	791	0.9	0	1750	7137	3773	2295	6068	No	7.67	Si
SLU 71	ini.	5.31	136	0.9	0	1750	7137	3773	2295	6068	No	44.62	Si
SLU 71	fin.	151.83	723	0.9	0	1750	7137	3773	2295	6068	No	8.39	Si
SLU 50	ini.	-43.56	277	0.9	0	1750	7137	3773	2295	6068	No	21.94	Si
SLU 50	fin.	171.11	877	0.9	0	1750	7137	3773	2295	6068	No	6.92	Si
SLU 9	ini.	-40.48	243	0.9	0	1750	7137	3773	2295	6068	No	24.97	Si
SLU 9	fin.	145.95	741	0.9	0	1750	7137	3773	2295	6068	No	8.19	Si
SLU 72	ini.	-3.43	166	0.9	0	1750	7137	3773	2295	6068	No	36.46	Si
SLU 72	fin.	159.72	761	0.9	0	1750	7137	3773	2295	6068	No	7.97	Si
SLU 70	ini.	13.66	94	0.9	0	1750	7137	3773	2295	6068	No	64.26	Si
SLU 70	fin.	152.73	740	0.9	0	1750	7137	3773	2295	6068	No	8.2	Si
SLU 46	ini.	-11.11	155	0.9	0	1750	7137	3773	2295	6068	No	39.17	Si
SLU 46	fin.	147.06	745	0.9	0	1750	7137	3773	2295	6068	No	8.14	Si
SLU 49	ini.	-35.21	235	0.9	0	1750	7137	3773	2295	6068	No	25.83	Si
SLU 49	fin.	172.02	894	0.9	0	1750	7137	3773	2295	6068	No	6.79	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	734.25	-1074	-0.0004101	0.0002807	0.0035	0.9		2989.59	2989.59		4.07	Si
SLV 7	fin.	-459.8	1214	-0.0002417	0.0002807	0.0035	0.9		2995.37	2995.37		6.51	Si
SLD 8	ini.	558.8	-920	-0.0003002	0.0002807	0.0035	0.9		2989.59	2989.59		5.35	Si
SLD 8	fin.	-319.37	776	-0.0001637	0.0002807	0.0035	0.9		2995.37	2995.37		9.38	Si
SLV 4	ini.	633.7	-991	-0.000346	0.0002807	0.0035	0.9		2989.59	2989.59		4.72	Si
SLV 4	fin.	-371.69	931	-0.0001923	0.0002807	0.0035	0.9		2995.37	2995.37		8.06	Si
SLV 8	ini.	871.37	-1225	-0.0005023	0.0002807	0.0035	0.9		2989.59	2989.59		3.43	Si
SLV 8	fin.	-558.37	1500	-0.0002994	0.0002807	0.0035	0.9		2995.37	2995.37		5.36	Si
SLV 11	ini.	562.15	-914	-0.0003022	0.0002807	0.0035	0.9		2989.59	2989.59		5.32	Si
SLV 11	fin.	-329.36	816	-0.0001691	0.0002807	0.0035	0.9		2995.37	2995.37		9.09	Si
SLV 9	ini.	-785.65	391	-0.0004431	0.0002807	0.0035	0.9		2995.37	2995.37		3.81	Si
SLV 9	fin.	707.15	-2335	-0.0003925	0.0002807	0.0035	0.9		2989.59	2989.59		4.23	Si
SLV 5	ini.	-613.55	232	-0.0003328	0.0002807	0.0035	0.9		2995.37	2995.37		4.88	Si
SLV 5	fin.	576.71	-1937	-0.000311	0.0002807	0.0035	0.9		2989.59	2989.59		5.18	Si
SLV 13	ini.	-547.97	157	-0.0002931	0.0002807	0.0035	0.9		2995.37	2995.37		5.47	Si
SLV 13	fin.	520.47	-1766	-0.0002774	0.0002807	0.0035	0.9		2989.59	2989.59		5.74	Si
SLV 12	ini.	699.28	-1065	-0.0003875	0.0002807	0.0035	0.9		2989.59	2989.59		4.28	Si
SLV 12	fin.	-427.93	1102	-0.0002236	0.0002807	0.0035	0.9		2995.37	2995.37		7	Si
SLV 10	ini.	-648.52	241	-0.0003545	0.0002807	0.0035	0.9		2995.37	2995.37		4.62	Si
SLV 10	fin.	608.58	-2049	-0.0003305	0.0002807	0.0035	0.9		2989.59	2989.59		4.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	699.28	-2220	0.9	0	2625	7137	5660	2295	7955		3.58	Si
SLV 12	fin.	-427.93	-2349	0.9	0	2625	7137	5660	2295	7955		3.39	Si
SLV 9	ini.	-785.65	2839	0.9	0	2625	7137	5660	2295	7955		2.8	Si
SLV 9	fin.	707.15	3536	0.9	0	2625	7137	5660	2295	7955		2.25	Si
SLV 13	ini.	-547.97	2118	0.9	0	2625	7137	5660	2295	7955		3.76	Si
SLV 13	fin.	520.47	2455	0.9	0	2625	7137	5660	2295	7955		3.24	Si
SLV 8	ini.	871.37	-2876	0.9	0	2625	7137	5660	2295	7955		2.77	Si
SLV 8	fin.	-558.37	-2942	0.9	0	2625	7137	5660	2295	7955		2.7	Si
SLV 10	ini.	-648.52	2360	0.9	0	2625	7137	5660	2295	7955		3.37	Si
SLV 10	fin.	608.58	3052	0.9	0	2625	7137	5660	2295	7955		2.61	Si
SLV 6	ini.	-476.42	1704	0.9	0	2625	7137	5660	2295	7955		4.67	Si
SLV 6	fin.	478.14	2459	0.9	0	2625	7137	5660	2295	7955		3.24	Si
SLV 5	ini.	-613.55	2183	0.9	0	2625	7137	5660	2295	7955		3.64	Si
SLV 5	fin.	576.71	2943	0.9	0	2625	7137	5660	2295	7955		2.7	Si
SLD 9	ini.	-473.07	1761	0.9	0	2625	7137	5660	2295	7955		4.52	Si
SLD 9	fin.	468.15	2311	0.9	0	2625	7137	5660	2295	7955		3.44	Si
SLV 4	ini.	633.7	-2155	0.9	0	2625	7137	5660	2295	7955		3.69	Si
SLV 4	fin.	-371.69	-1861	0.9	0	2625	7137	5660	2295	7955		4.28	Si
SLV 7	ini.	734.25	-2397	0.9	0	2625	7137	5660	2295	7955		3.32	Si
SLV 7	fin.	-459.8	-2457	0.9	0	2625	7137	5660	2295	7955		3.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.431	SLV 8	Si
V_SLV	2.25	SLV 9	Si
PF_SLU	16.531	SLU 51	Si
V_SLU	6.632	SLU 51	Si

Trave di accoppiamento 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-21.578	-3.169	14.15	14.6	0.45	-22.478	-3.169	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-108.73	-397	-0.0002337	0.0001872	0.0035	0.45		748.52	748.52	No	6.88	Si
SLU 72	fin.	14.22	45	-0.0000281	0.0001872	0.0035	0.45		745.72	745.72	No	52.44	Si
SLU 46	ini.	-106.56	-353	-0.0002284	0.0001872	0.0035	0.45		748.52	748.52	No	7.02	Si
SLU 46	fin.	17.11	64	-0.0000338	0.0001872	0.0035	0.45		745.72	745.72	No	43.58	Si
SLU 71	ini.	-104.78	-350	-0.0002241	0.0001872	0.0035	0.45		748.52	748.52	No	7.14	Si
SLU 71	fin.	12.13	42	-0.0000239	0.0001872	0.0035	0.45		745.72	745.72	No	61.48	Si
SLU 50	ini.	-112.96	-391	-0.0002439	0.0001872	0.0035	0.45		748.52	748.52	No	6.63	Si
SLU 50	fin.	31.28	169	-0.0000626	0.0001872	0.0035	0.45		745.72	745.72	No	23.84	Si
SLU 70	ini.	-111.28	-380	-0.0002398	0.0001872	0.0035	0.45		748.52	748.52	No	6.73	Si
SLU 70	fin.	6.99	-4	-0.0000137	0.0001872	0.0035	0.45		745.72	745.72	No	106.64	Si
SLU 69	ini.	-107.33	-332	-0.0002303	0.0001872	0.0035	0.45		748.52	748.52	No	6.97	Si
SLU 69	fin.	4.9	-8	-0.0000096	0.0001872	0.0035	0.45		745.72	745.72	No	152.15	Si
SLU 47	ini.	-106.65	-402	-0.0002286	0.0001872	0.0035	0.45		748.52	748.52	No	7.02	Si
SLU 47	fin.	25.73	116	-0.0000512	0.0001872	0.0035	0.45		745.72	745.72	No	28.98	Si
SLU 51	ini.	-116.91	-439	-0.0002536	0.0001872	0.0035	0.45		748.52	748.52	No	6.4	Si
SLU 51	fin.	33.37	173	-0.0000669	0.0001872	0.0035	0.45		745.72	745.72	No	22.34	Si
SLU 48	ini.	-115.51	-374	-0.0002502	0.0001872	0.0035	0.45		748.52	748.52	No	6.48	Si
SLU 48	fin.	24.06	119	-0.0000478	0.0001872	0.0035	0.45		745.72	745.72	No	31	Si
SLU 49	ini.	-119.46	-421	-0.0002599	0.0001872	0.0035	0.45		748.52	748.52	No	6.27	Si
SLU 49	fin.	26.15	123	-0.0000521	0.0001872	0.0035	0.45		745.72	745.72	No	28.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 48	ini.	-115.51	556	0.45	0	799	3568	1887	1148	3034	No	5.46	Si
SLU 48	fin.	24.06	-217	0.45	0	799	3568	1887	1148	3034	No	14	Si
SLU 69	ini.	-107.33	538	0.45	0	799	3568	1887	1148	3034	No	5.64	Si
SLU 69	fin.	4.9	-396	0.45	0	799	3568	1887	1148	3034	No	7.67	Si
SLU 49	ini.	-119.46	558	0.45	0	799	3568	1887	1148	3034	No	5.44	Si
SLU 49	fin.	26.15	-259	0.45	0	799	3568	1887	1148	3034	No	11.7	Si
SLU 70	ini.	-111.28	540	0.45	0	799	3568	1887	1148	3034	No	5.62	Si
SLU 70	fin.	6.99	-438	0.45	0	799	3568	1887	1148	3034	No	6.92	Si
SLU 82	ini.	-50.9	304	0.45	0	799	3568	1887	1148	3034	No	10	Si
SLU 82	fin.	-28.51	-548	0.45	0	799	3568	1887	1148	3034	No	5.54	Si
SLU 31	ini.	-40.87	235	0.45	0	799	3568	1887	1148	3034	No	12.89	Si
SLU 31	fin.	-27.82	-539	0.45	0	799	3568	1887	1148	3034	No	5.63	Si
SLU 33	ini.	-53.68	302	0.45	0	799	3568	1887	1148	3034	No	10.03	Si
SLU 33	fin.	-27.4	-571	0.45	0	799	3568	1887	1148	3034	No	5.31	Si
SLU 73	ini.	-63.14	343	0.45	0	799	3568	1887	1148	3034	No	8.84	Si
SLU 73	fin.	-19.72	-537	0.45	0	799	3568	1887	1148	3034	No	5.65	Si
SLU 40	ini.	-28.62	196	0.45	0	799	3568	1887	1148	3034	No	15.5	Si
SLU 40	fin.	-36.61	-551	0.45	0	799	3568	1887	1148	3034	No	5.51	Si
SLU 75	ini.	-75.95	410	0.45	0	799	3568	1887	1148	3034	No	7.39	Si
SLU 75	fin.	-19.3	-568	0.45	0	799	3568	1887	1148	3034	No	5.34	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	162.38	1014	-0.0003548	0.0002807	0.0035	0.45		751.86	751.86		4.63	Si
SLV 11	fin.	-340.63	-1105	-0.0008694	0.0002807	0.0035	0.45		754.83	754.83		2.22	Si
SLV 14	ini.	-318.43	-913	-0.0007971	0.0002807	0.0035	0.45		754.83	754.83		2.37	Si
SLV 14	fin.	95.49	556	-0.0001978	0.0002807	0.0035	0.45		751.86	751.86		7.87	Si
SLV 10	ini.	-406.05	-1627	-0.0010979	0.0002807	0.0035	0.45		754.83	754.83		1.86	Si
SLV 10	fin.	346.07	1249	-0.0008917	0.0002807	0.0035	0.45		751.86	751.86		2.17	Si
SLV 6	ini.	-274.68	-1317	-0.0006616	0.0002807	0.0035	0.45		754.83	754.83		2.75	Si
SLV 6	fin.	330.04	980	-0.0008385	0.0002807	0.0035	0.45		751.86	751.86		2.28	Si
SLV 7	ini.	293.74	1324	-0.0007228	0.0002807	0.0035	0.45		751.86	751.86		2.56	Si
SLV 7	fin.	-356.66	-1375	-0.0009232	0.0002807	0.0035	0.45		754.83	754.83		2.12	Si
SLV 12	ini.	233.13	1269	-0.0005433	0.0002807	0.0035	0.45		751.86	751.86		3.23	Si
SLV 12	fin.	-389.46	-1416	-0.0010376	0.0002807	0.0035	0.45		754.83	754.83		1.94	Si
SLV 13	ini.	-423.51	-1292	-0.0011633	0.0002807	0.0035	0.45		754.83	754.83		1.78	Si
SLV 13	fin.	168.01	1018	-0.000369	0.0002807	0.0035	0.45		751.86	751.86		4.47	Si
SLV 5	ini.	-345.43	-1573	-0.0008853	0.0002807	0.0035	0.45		754.83	754.83		2.19	Si
SLV 5	fin.	378.87	1291	-0.0010048	0.0002807	0.0035	0.45		751.86	751.86		1.98	Si
SLV 8	ini.	364.49	1579	-0.0009545	0.0002807	0.0035	0.45		751.86	751.86		2.06	Si
SLV 8	fin.	-405.49	-1686	-0.0010958	0.0002807	0.0035	0.45		754.83	754.83		1.86	Si
SLV 9	ini.	-476.8	-1882	-0.0013769	0.0002807	0.0035	0.45		754.83	754.83		1.58	Si
SLV 9	fin.	394.9	1560	-0.0010624	0.0002807	0.0035	0.45		751.86	751.86		1.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-318.06	1342	0.45	0	1113	3568	2830	1148	3977		2.96	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	fin.	245.05	761	0.45	0	1113	3568	2830	1148	3977		5.22	Si
SLV 14	ini.	-318.43	1353	0.45	0	1113	3568	2830	1148	3977		2.94	Si
SLV 14	fin.	95.49	573	0.45	0	1113	3568	2830	1148	3977		6.95	Si
SLV 7	ini.	293.74	-1066	0.45	0	1113	3568	2830	1148	3977		3.73	Si
SLV 7	fin.	-356.66	-1641	0.45	0	1113	3568	2830	1148	3977		2.42	Si
SLV 10	ini.	-406.05	1684	0.45	0	1113	3568	2830	1148	3977		2.36	Si
SLV 10	fin.	346.07	1094	0.45	0	1113	3568	2830	1148	3977		3.64	Si
SLV 9	ini.	-476.8	1957	0.45	0	1113	3568	2830	1148	3977		2.03	Si
SLV 9	fin.	394.9	1376	0.45	0	1113	3568	2830	1148	3977		2.89	Si
SLV 12	ini.	233.13	-816	0.45	0	1113	3568	2830	1148	3977		4.87	Si
SLV 12	fin.	-389.46	-1526	0.45	0	1113	3568	2830	1148	3977		2.61	Si
SLV 8	ini.	364.49	-1339	0.45	0	1113	3568	2830	1148	3977		2.97	Si
SLV 8	fin.	-405.49	-1924	0.45	0	1113	3568	2830	1148	3977		2.07	Si
SLV 5	ini.	-345.43	1433	0.45	0	1113	3568	2830	1148	3977		2.77	Si
SLV 5	fin.	378.87	978	0.45	0	1113	3568	2830	1148	3977		4.07	Si
SLV 4	ini.	311.21	-1142	0.45	0	1113	3568	2830	1148	3977		3.48	Si
SLV 4	fin.	-178.61	-1540	0.45	0	1113	3568	2830	1148	3977		2.58	Si
SLV 13	ini.	-423.51	1759	0.45	0	1113	3568	2830	1148	3977		2.26	Si
SLV 13	fin.	168.01	992	0.45	0	1113	3568	2830	1148	3977		4.01	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.583	SLV 9	Si
V_SLV	2.032	SLV 9	Si
PF_SLU	6.266	SLU 49	Si
V_SLU	5.314	SLU 33	Si

Trave di accoppiamento 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	11.45	13.45	2	-19.293	-3.169	11.45	13.45	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 64	ini.	-307.21	-1243	-0.0000307	0.0001872	0.0035	2		14357.01	14357.01	No	46.73	Si
SLU 64	fin.	208.15	-1852	-0.0000208	0.0001872	0.0035	2		14344.28	14344.28	No	68.91	Si
SLU 72	ini.	-318.4	-1260	-0.0000319	0.0001872	0.0035	2		14357.01	14357.01	No	45.09	Si
SLU 72	fin.	209.75	-1870	-0.0000209	0.0001872	0.0035	2		14344.28	14344.28	No	68.39	Si
SLU 71	ini.	-313.38	-1267	-0.0000314	0.0001872	0.0035	2		14357.01	14357.01	No	45.81	Si
SLU 71	fin.	208.77	-1872	-0.0000208	0.0001872	0.0035	2		14344.28	14344.28	No	68.71	Si
SLU 47	ini.	-301.57	-1129	-0.0000302	0.0001872	0.0035	2		14357.01	14357.01	No	47.61	Si
SLU 47	fin.	182.6	-1672	-0.0000182	0.0001872	0.0035	2		14344.28	14344.28	No	78.55	Si
SLU 65	ini.	-315.59	-1232	-0.0000316	0.0001872	0.0035	2		14357.01	14357.01	No	45.49	Si
SLU 65	fin.	209.79	-1848	-0.0000209	0.0001872	0.0035	2		14344.28	14344.28	No	68.37	Si
SLU 69	ini.	-303.42	-1337	-0.0000303	0.0001872	0.0035	2		14357.01	14357.01	No	47.32	Si
SLU 69	fin.	218.53	-1966	-0.0000218	0.0001872	0.0035	2		14344.28	14344.28	No	65.64	Si
SLU 68	ini.	-318.67	-1244	-0.0000319	0.0001872	0.0035	2		14357.01	14357.01	No	45.05	Si
SLU 68	fin.	210.1	-1858	-0.000021	0.0001872	0.0035	2		14344.28	14344.28	No	68.27	Si
SLU 51	ini.	-301.31	-1146	-0.0000301	0.0001872	0.0035	2		14357.01	14357.01	No	47.65	Si
SLU 51	fin.	182.25	-1683	-0.0000182	0.0001872	0.0035	2		14344.28	14344.28	No	78.7	Si
SLU 67	ini.	-305.36	-1319	-0.0000305	0.0001872	0.0035	2		14357.01	14357.01	No	47.02	Si
SLU 67	fin.	219.21	-1953	-0.0000219	0.0001872	0.0035	2		14344.28	14344.28	No	65.44	Si
SLU 70	ini.	-308.45	-1331	-0.0000309	0.0001872	0.0035	2		14357.01	14357.01	No	46.55	Si
SLU 70	fin.	219.52	-1963	-0.0000219	0.0001872	0.0035	2		14344.28	14344.28	No	65.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-285.87	1969	2	0	3889	3965	8384	5100	7854	No	3.99	Si
SLU 77	fin.	225.06	2835	2	0	3889	3965	8384	5100	7854	No	2.77	Si
SLU 67	ini.	-305.36	1892	2	0	3889	3965	8384	5100	7854	No	4.15	Si
SLU 67	fin.	219.21	2813	2	0	3889	3965	8384	5100	7854	No	2.79	Si
SLU 75	ini.	-287.81	2001	2	0	3889	3965	8384	5100	7854	No	3.93	Si
SLU 75	fin.	225.73	2837	2	0	3889	3965	8384	5100	7854	No	2.77	Si
SLU 74	ini.	-282.78	1984	2	0	3889	3965	8384	5100	7854	No	3.96	Si
SLU 74	fin.	224.75	2812	2	0	3889	3965	8384	5100	7854	No	2.79	Si
SLU 70	ini.	-308.45	1878	2	0	3889	3965	8384	5100	7854	No	4.18	Si
SLU 70	fin.	219.52	2836	2	0	3889	3965	8384	5100	7854	No	2.77	Si
SLU 66	ini.	-300.34	1875	2	0	3889	3965	8384	5100	7854	No	4.19	Si
SLU 66	fin.	218.22	2789	2	0	3889	3965	8384	5100	7854	No	2.82	Si
SLU 69	ini.	-303.42	1861	2	0	3889	3965	8384	5100	7854	No	4.22	Si
SLU 69	fin.	218.53	2811	2	0	3889	3965	8384	5100	7854	No	2.79	Si
SLU 76	ini.	-301.11	2007	2	0	3889	3965	8384	5100	7854	No	3.91	Si
SLU 76	fin.	216.63	2755	2	0	3889	3965	8384	5100	7854	No	2.85	Si
SLU 78	ini.	-290.89	1987	2	0	3889	3965	8384	5100	7854	No	3.95	Si
SLU 78	fin.	226.04	2859	2	0	3889	3965	8384	5100	7854	No	2.75	Si
SLU 80	ini.	-300.85	1982	2	0	3889	3965	8384	5100	7854	No	3.96	Si
SLU 80	fin.	216.28	2761	2	0	3889	3965	8384	5100	7854	No	2.84	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-684.42	-1801	-0.000069	0.0002807	0.0035	2		14215.41	14215.41		20.77	Si
SLV 15	fin.	310.88	-2465	-0.000031	0.0002807	0.0035	2		14202.07	14202.07		45.68	Si
SLV 14	ini.	-746.72	-1859	-0.0000754	0.0002807	0.0035	2		14215.41	14215.41		19.04	Si
SLV 14	fin.	308.52	-2434	-0.0000308	0.0002807	0.0035	2		14202.07	14202.07		46.03	Si
SLV 5	ini.	-642.99	-1400	-0.0000648	0.0002807	0.0035	2		14215.41	14215.41		22.11	Si
SLV 5	fin.	380.01	-2012	-0.000038	0.0002807	0.0035	2		14202.07	14202.07		37.37	Si
SLV 13	ini.	-975.36	-2195	-0.0000992	0.0002807	0.0035	2		14215.41	14215.41		14.57	Si
SLV 13	fin.	445.36	-2940	-0.0000446	0.0002807	0.0035	2		14202.07	14202.07		31.89	Si
SLD 13	ini.	-701.17	-1724	-0.0000707	0.0002807	0.0035	2		14215.41	14215.41		20.27	Si
SLD 13	fin.	338.16	-2365	-0.0000338	0.0002807	0.0035	2		14202.07	14202.07		42	Si
SLD 14	ini.	-555.1	-1510	-0.0000558	0.0002807	0.0035	2		14215.41	14215.41		25.61	Si
SLD 14	fin.	250.73	-2041	-0.000025	0.0002807	0.0035	2		14202.07	14202.07		56.64	Si
SLD 9	ini.	-669.93	-1560	-0.0000675	0.0002807	0.0035	2		14215.41	14215.41		21.22	Si
SLD 9	fin.	352.64	-2179	-0.0000352	0.0002807	0.0035	2		14202.07	14202.07		40.27	Si
SLD 10	ini.	-573.09	-1418	-0.0000576	0.0002807	0.0035	2		14215.41	14215.41		24.8	Si
SLD 10	fin.	294.68	-1965	-0.0000294	0.0002807	0.0035	2		14202.07	14202.07		48.19	Si
SLV 9	ini.	-935.81	-1954	-0.0000951	0.0002807	0.0035	2		14215.41	14215.41		15.19	Si
SLV 9	fin.	472.27	-2658	-0.0000474	0.0002807	0.0035	2		14202.07	14202.07		30.07	Si
SLV 10	ini.	-781.88	-1728	-0.0000791	0.0002807	0.0035	2		14215.41	14215.41		18.18	Si
SLV 10	fin.	380.13	-2318	-0.000038	0.0002807	0.0035	2		14202.07	14202.07		37.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-701.17	3537	2	0	5833	3965	12577	5100	9798		2.77	Si
SLD 13	fin.	338.16	3659	2	0	5833	3965	12577	5100	9798		2.68	Si
SLV 9	ini.	-935.81	4070	2	0	5833	3965	12577	5100	9798		2.41	Si
SLV 9	fin.	472.27	4704	2	0	5833	3965	12577	5100	9798		2.08	Si
SLD 5	ini.	-483.73	2215	2	0	5833	3965	12577	5100	9798		4.42	Si
SLD 5	fin.	294.49	3102	2	0	5833	3965	12577	5100	9798		3.16	Si
SLD 9	ini.	-669.93	3088	2	0	5833	3965	12577	5100	9798		3.17	Si
SLD 9	fin.	352.64	3691	2	0	5833	3965	12577	5100	9798		2.65	Si
SLV 15	ini.	-684.42	3810	2	0	5833	3965	12577	5100	9798		2.57	Si
SLV 15	fin.	310.88	3492	2	0	5833	3965	12577	5100	9798		2.81	Si
SLV 10	ini.	-781.88	3323	2	0	5833	3965	12577	5100	9798		2.95	Si
SLV 10	fin.	380.13	4033	2	0	5833	3965	12577	5100	9798		2.43	Si
SLD 10	ini.	-573.09	2617	2	0	5833	3965	12577	5100	9798		3.74	Si
SLD 10	fin.	294.68	3269	2	0	5833	3965	12577	5100	9798		3	Si
SLV 14	ini.	-746.72	3645	2	0	5833	3965	12577	5100	9798		2.69	Si
SLV 14	fin.	308.52	3634	2	0	5833	3965	12577	5100	9798		2.7	Si
SLV 5	ini.	-642.99	2693	2	0	5833	3965	12577	5100	9798		3.64	Si
SLV 5	fin.	380.01	3768	2	0	5833	3965	12577	5100	9798		2.6	Si
SLV 13	ini.	-975.36	4756	2	0	5833	3965	12577	5100	9798		2.06	Si
SLV 13	fin.	445.36	4630	2	0	5833	3965	12577	5100	9798		2.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	14.575	SLV 13	Si
V_SLV	2.06	SLV 13	Si
PF_SLU	45.053	SLU 68	Si
V_SLU	2.747	SLU 78	Si

Trave di accoppiamento 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.793	-3.169	14.25	14.6	0.35	-19.293	-3.169	14.25	14.6	0.35	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 44	ini.	-108.03	101	-0.0004141	0.0001872	0.0035	0.35		458.29	458.29	No	4.24	Si
SLU 44	fin.	126.86	101	-0.0005054	0.0001872	0.0035	0.35		456.13	456.13	No	3.6	Si
SLU 68	ini.	-115.13	97	-0.0004469	0.0001872	0.0035	0.35		458.29	458.29	No	3.98	Si
SLU 68	fin.	135.5	97	-0.0005477	0.0001872	0.0035	0.35		456.13	456.13	No	3.37	Si
SLU 73	ini.	-119.19	99	-0.000466	0.0001872	0.0035	0.35		458.29	458.29	No	3.84	Si
SLU 73	fin.	139.83	99	-0.0005692	0.0001872	0.0035	0.35		456.13	456.13	No	3.26	Si
SLU 31	ini.	-106.13	78	-0.0004054	0.0001872	0.0035	0.35		458.29	458.29	No	4.32	Si
SLU 31	fin.	123.4	78	-0.0004887	0.0001872	0.0035	0.35		456.13	456.13	No	3.7	Si
SLU 82	ini.	-103.59	94	-0.0003939	0.0001872	0.0035	0.35		458.29	458.29	No	4.42	Si
SLU 82	fin.	123.38	94	-0.0004886	0.0001872	0.0035	0.35		456.13	456.13	No	3.7	Si
SLU 65	ini.	-114.9	101	-0.0004458	0.0001872	0.0035	0.35		458.29	458.29	No	3.99	Si
SLU 65	fin.	135.76	101	-0.000549	0.0001872	0.0035	0.35		456.13	456.13	No	3.36	Si
SLU 55	ini.	-112.56	95	-0.0004349	0.0001872	0.0035	0.35		458.29	458.29	No	4.07	Si
SLU 55	fin.	130.67	95	-0.0005239	0.0001872	0.0035	0.35		456.13	456.13	No	3.49	Si
SLU 52	ini.	-112.33	99	-0.0004339	0.0001872	0.0035	0.35		458.29	458.29	No	4.08	Si
SLU 52	fin.	130.93	99	-0.0005252	0.0001872	0.0035	0.35		456.13	456.13	No	3.48	Si
SLU 76	ini.	-119.42	95	-0.000467	0.0001872	0.0035	0.35		458.29	458.29	No	3.84	Si
SLU 76	fin.	139.57	95	-0.0005679	0.0001872	0.0035	0.35		456.13	456.13	No	3.27	Si
SLU 47	ini.	-108.26	97	-0.0004151	0.0001872	0.0035	0.35		458.29	458.29	No	4.23	Si
SLU 47	fin.	126.6	97	-0.0005041	0.0001872	0.0035	0.35		456.13	456.13	No	3.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 52	ini.	-112.33	544	0.35	0	681	2775	1467	893	2360	No	4.34	Si
SLU 52	fin.	130.93	429	0.35	0	681	2775	1467	893	2360	No	5.5	Si
SLU 65	ini.	-114.9	559	0.35	0	681	2775	1467	893	2360	No	4.22	Si
SLU 65	fin.	135.76	444	0.35	0	681	2775	1467	893	2360	No	5.32	Si
SLU 47	ini.	-108.26	527	0.35	0	681	2775	1467	893	2360	No	4.48	Si
SLU 47	fin.	126.6	412	0.35	0	681	2775	1467	893	2360	No	5.72	Si
SLU 75	ini.	-104.71	513	0.35	0	681	2775	1467	893	2360	No	4.6	Si
SLU 75	fin.	123.15	398	0.35	0	681	2775	1467	893	2360	No	5.92	Si
SLU 73	ini.	-119.19	575	0.35	0	681	2775	1467	893	2360	No	4.1	Si
SLU 73	fin.	139.83	461	0.35	0	681	2775	1467	893	2360	No	5.12	Si
SLU 68	ini.	-115.13	559	0.35	0	681	2775	1467	893	2360	No	4.22	Si
SLU 68	fin.	135.5	444	0.35	0	681	2775	1467	893	2360	No	5.32	Si
SLU 44	ini.	-108.03	527	0.35	0	681	2775	1467	893	2360	No	4.48	Si
SLU 44	fin.	126.86	412	0.35	0	681	2775	1467	893	2360	No	5.72	Si
SLU 76	ini.	-119.42	575	0.35	0	681	2775	1467	893	2360	No	4.1	Si
SLU 76	fin.	139.57	461	0.35	0	681	2775	1467	893	2360	No	5.12	Si
SLU 78	ini.	-104.94	513	0.35	0	681	2775	1467	893	2360	No	4.6	Si
SLU 78	fin.	122.89	398	0.35	0	681	2775	1467	893	2360	No	5.92	Si
SLU 55	ini.	-112.56	544	0.35	0	681	2775	1467	893	2360	No	4.34	Si
SLU 55	fin.	130.67	429	0.35	0	681	2775	1467	893	2360	No	5.5	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-265.64	318	-0.0012174	0.0002807	0.0035	0.35		460.78	460.78		1.73	Si
SLD 9	fin.	310.56	342	-0.0015413	0.0002807	0.0035	0.35		458.5	458.5		1.48	Si
SLV 5	ini.	-439.07	251	-0.0029504	0.0002807	0.0035	0.35		460.78	460.78		1.05	Si
SLV 5	fin.	478.95	284	-0.0036131	0.0002807	0.0035	0.35		458.5	458.5		0.96	No
SLV 11	ini.	307.18	-18	-0.0015156	0.0002807	0.0035	0.35		458.5	458.5		1.49	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	fin.	-307.4	-51	-0.0015065	0.0002807	0.0035	0.35		460.78	460.78		1.5	Si
SLV 8	ini.	284.91	-331	-0.0013547	0.0002807	0.0035	0.35		458.5	458.5		1.61	Si
SLV 8	fin.	-320.04	-370	-0.0016037	0.0002807	0.0035	0.35		460.78	460.78		1.44	Si
SLD 6	ini.	-280.4	120	-0.0013147	0.0002807	0.0035	0.35		460.78	460.78		1.64	Si
SLD 6	fin.	302.99	142	-0.0014842	0.0002807	0.0035	0.35		458.5	458.5		1.51	Si
SLV 12	ini.	329.95	-114	-0.0016969	0.0002807	0.0035	0.35		458.5	458.5		1.39	Si
SLV 12	fin.	-341.68	-147	-0.0017847	0.0002807	0.0035	0.35		460.78	460.78		1.35	Si
SLV 6	ini.	-416.31	156	-0.002615	0.0002807	0.0035	0.35		460.78	460.78		1.11	Si
SLV 6	fin.	444.68	189	-0.0030729	0.0002807	0.0035	0.35		458.5	458.5		1.03	Si
SLV 10	ini.	-371.27	373	-0.0020708	0.0002807	0.0035	0.35		460.78	460.78		1.24	Si
SLV 10	fin.	423.04	412	-0.0027383	0.0002807	0.0035	0.35		458.5	458.5		1.08	Si
SLV 9	ini.	-394.04	468	-0.0023278	0.0002807	0.0035	0.35		460.78	460.78		1.17	Si
SLV 9	fin.	457.31	507	-0.0032768	0.0002807	0.0035	0.35		458.5	458.5		1	Si
SLD 5	ini.	-294.71	181	-0.0014139	0.0002807	0.0035	0.35		460.78	460.78		1.56	Si
SLD 5	fin.	324.55	202	-0.0016521	0.0002807	0.0035	0.35		458.5	458.5		1.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-280.4	1151	0.35	0	1021	2775	2201	893	3093		2.69	Si
SLD 6	fin.	302.99	1083	0.35	0	1021	2775	2201	893	3093		2.86	Si
SLV 11	ini.	307.18	-1092	0.35	0	1021	2775	2201	893	3093		2.83	Si
SLV 11	fin.	-307.4	-1212	0.35	0	1021	2775	2201	893	3093		2.55	Si
SLV 12	ini.	329.95	-1206	0.35	0	1021	2775	2201	893	3093		2.56	Si
SLV 12	fin.	-341.68	-1326	0.35	0	1021	2775	2201	893	3093		2.33	Si
SLD 5	ini.	-294.71	1223	0.35	0	1021	2775	2201	893	3093		2.53	Si
SLD 5	fin.	324.55	1155	0.35	0	1021	2775	2201	893	3093		2.68	Si
SLV 8	ini.	284.91	-1169	0.35	0	1021	2775	2201	893	3093		2.65	Si
SLV 8	fin.	-320.04	-1223	0.35	0	1021	2775	2201	893	3093		2.53	Si
SLV 9	ini.	-394.04	1750	0.35	0	1021	2775	2201	893	3093		1.77	Si
SLV 9	fin.	457.31	1627	0.35	0	1021	2775	2201	893	3093		1.9	Si
SLV 5	ini.	-439.07	1787	0.35	0	1021	2775	2201	893	3093		1.73	Si
SLV 5	fin.	478.95	1731	0.35	0	1021	2775	2201	893	3093		1.79	Si
SLV 6	ini.	-416.31	1673	0.35	0	1021	2775	2201	893	3093		1.85	Si
SLV 6	fin.	444.68	1617	0.35	0	1021	2775	2201	893	3093		1.91	Si
SLV 10	ini.	-371.27	1636	0.35	0	1021	2775	2201	893	3093		1.89	Si
SLV 10	fin.	423.04	1513	0.35	0	1021	2775	2201	893	3093		2.04	Si
SLD 9	ini.	-265.64	1198	0.35	0	1021	2775	2201	893	3093		2.58	Si
SLD 9	fin.	310.56	1088	0.35	0	1021	2775	2201	893	3093		2.84	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.957	SLV 5	No
V_SLV	1.731	SLV 5	Si
PF_SLU	3.262	SLU 73	Si
V_SLU	4.101	SLU 73	Si

Trave di accoppiamento 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	11.45	12.35	0.9	-18.213	-3.169	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 65	ini.	-405.89	322	-0.0002173	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.3	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 65	fin.	251.12	-1252	-0.0001294	0.0001872	0.0035	0.9		2959	2959	No	11.78	Si
SLU 84	ini.	-407.92	371	-0.0002185	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.27	Si
SLU 84	fin.	240.56	-1151	-0.0001237	0.0001872	0.0035	0.9		2959	2959	No	12.3	Si
SLU 64	ini.	-405.37	320	-0.000217	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.31	Si
SLU 64	fin.	253.66	-1252	-0.0001308	0.0001872	0.0035	0.9		2959	2959	No	11.67	Si
SLU 83	ini.	-407.61	370	-0.0002184	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.27	Si
SLU 83	fin.	242.08	-1152	-0.0001245	0.0001872	0.0035	0.9		2959	2959	No	12.22	Si
SLU 76	ini.	-406.12	352	-0.0002175	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.3	Si
SLU 76	fin.	242.87	-1184	-0.0001249	0.0001872	0.0035	0.9		2959	2959	No	12.18	Si
SLU 75	ini.	-407.26	330	-0.0002181	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.28	Si
SLU 75	fin.	248.56	-1226	-0.000128	0.0001872	0.0035	0.9		2959	2959	No	11.9	Si
SLU 82	ini.	-412.38	386	-0.0002212	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.19	Si
SLU 82	fin.	241.08	-1141	-0.000124	0.0001872	0.0035	0.9		2959	2959	No	12.27	Si
SLU 81	ini.	-412.07	385	-0.000221	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.19	Si
SLU 81	fin.	242.6	-1142	-0.0001248	0.0001872	0.0035	0.9		2959	2959	No	12.2	Si
SLU 74	ini.	-406.94	329	-0.000218	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.29	Si
SLU 74	fin.	250.08	-1226	-0.0001289	0.0001872	0.0035	0.9		2959	2959	No	11.83	Si
SLU 73	ini.	-410.58	367	-0.0002201	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.22	Si
SLU 73	fin.	243.38	-1174	-0.0001252	0.0001872	0.0035	0.9		2959	2959	No	12.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 64	ini.	-405.37	1540	0.9	0	1750	7137	3773	2295	6068	No	3.94	Si
SLU 64	fin.	253.66	1803	0.9	0	1750	7137	3773	2295	6068	No	3.37	Si
SLU 65	ini.	-405.89	1532	0.9	0	1750	7137	3773	2295	6068	No	3.96	Si
SLU 65	fin.	251.12	1810	0.9	0	1750	7137	3773	2295	6068	No	3.35	Si
SLU 71	ini.	-396.45	1495	0.9	0	1750	7137	3773	2295	6068	No	4.06	Si
SLU 71	fin.	252.63	1836	0.9	0	1750	7137	3773	2295	6068	No	3.31	Si
SLU 67	ini.	-402.57	1498	0.9	0	1750	7137	3773	2295	6068	No	4.05	Si
SLU 67	fin.	256.3	1888	0.9	0	1750	7137	3773	2295	6068	No	3.21	Si
SLU 72	ini.	-396.77	1490	0.9	0	1750	7137	3773	2295	6068	No	4.07	Si
SLU 72	fin.	251.11	1840	0.9	0	1750	7137	3773	2295	6068	No	3.3	Si
SLU 69	ini.	-397.8	1479	0.9	0	1750	7137	3773	2295	6068	No	4.1	Si
SLU 69	fin.	257.3	1900	0.9	0	1750	7137	3773	2295	6068	No	3.19	Si
SLU 70	ini.	-398.11	1475	0.9	0	1750	7137	3773	2295	6068	No	4.11	Si
SLU 70	fin.	255.78	1904	0.9	0	1750	7137	3773	2295	6068	No	3.19	Si
SLU 66	ini.	-402.25	1502	0.9	0	1750	7137	3773	2295	6068	No	4.04	Si
SLU 66	fin.	257.82	1884	0.9	0	1750	7137	3773	2295	6068	No	3.22	Si
SLU 68	ini.	-401.44	1510	0.9	0	1750	7137	3773	2295	6068	No	4.02	Si
SLU 68	fin.	250.61	1826	0.9	0	1750	7137	3773	2295	6068	No	3.32	Si
SLU 78	ini.	-402.8	1535	0.9	0	1750	7137	3773	2295	6068	No	3.95	Si
SLU 78	fin.	248.04	1783	0.9	0	1750	7137	3773	2295	6068	No	3.4	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-704.78	898	-0.0003902	0.0002807	0.0035	0.9		2995.37	2995.37		4.25	Si
SLD 15	fin.	423.19	-1787	-0.0002214	0.0002807	0.0035	0.9		2989.59	2989.59		7.06	Si
SLD 9	ini.	-647.55	714	-0.0003539	0.0002807	0.0035	0.9		2995.37	2995.37		4.63	Si
SLD 9	fin.	403.75	-1890	-0.0002105	0.0002807	0.0035	0.9		2989.59	2989.59		7.4	Si
SLD 13	ini.	-814.54	1026	-0.0004624	0.0002807	0.0035	0.9		2995.37	2995.37		3.68	Si
SLD 13	fin.	495.43	-2146	-0.0002628	0.0002807	0.0035	0.9		2989.59	2989.59		6.03	Si
SLD 14	ini.	-673.56	802	-0.0003703	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si
SLD 14	fin.	412.94	-1819	-0.0002156	0.0002807	0.0035	0.9		2989.59	2989.59		7.24	Si
SLV 14	ini.	-887.87	1124	-0.0005126	0.0002807	0.0035	0.9		2995.37	2995.37		3.37	Si
SLV 14	fin.	543.12	-2340	-0.0002909	0.0002807	0.0035	0.9		2989.59	2989.59		5.5	Si
SLV 13	ini.	-1108.53	1474	-0.0006727	0.0002807	0.0035	0.9		2995.37	2995.37		2.7	Si
SLV 13	fin.	672.23	-2852	-0.0003702	0.0002807	0.0035	0.9		2989.59	2989.59		4.45	Si
SLV 16	ini.	-711.2	917	-0.0003943	0.0002807	0.0035	0.9		2995.37	2995.37		4.21	Si
SLV 16	fin.	426.8	-1762	-0.0002234	0.0002807	0.0035	0.9		2989.59	2989.59		7	Si
SLV 15	ini.	-931.86	1267	-0.0005434	0.0002807	0.0035	0.9		2995.37	2995.37		3.21	Si
SLV 15	fin.	555.91	-2274	-0.0002985	0.0002807	0.0035	0.9		2989.59	2989.59		5.38	Si
SLV 9	ini.	-852.83	992	-0.0004884	0.0002807	0.0035	0.9		2995.37	2995.37		3.51	Si
SLV 9	fin.	532.78	-2470	-0.0002847	0.0002807	0.0035	0.9		2989.59	2989.59		5.61	Si
SLV 10	ini.	-704.26	756	-0.0003898	0.0002807	0.0035	0.9		2995.37	2995.37		4.25	Si
SLV 10	fin.	445.86	-2126	-0.0002342	0.0002807	0.0035	0.9		2989.59	2989.59		6.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-814.54	3201	0.9	0	2625	7137	5660	2295	7955		2.49	Si
SLD 13	fin.	495.43	3031	0.9	0	2625	7137	5660	2295	7955		2.62	Si
SLV 15	ini.	-931.86	3781	0.9	0	2625	7137	5660	2295	7955		2.1	Si
SLV 15	fin.	555.91	3153	0.9	0	2625	7137	5660	2295	7955		2.52	Si
SLV 16	ini.	-711.2	2918	0.9	0	2625	7137	5660	2295	7955		2.73	Si
SLV 16	fin.	426.8	2408	0.9	0	2625	7137	5660	2295	7955		3.3	Si
SLV 13	ini.	-1108.53	4371	0.9	0	2625	7137	5660	2295	7955		1.82	Si
SLV 13	fin.	672.23	4017	0.9	0	2625	7137	5660	2295	7955		1.98	Si
SLV 14	ini.	-887.87	3508	0.9	0	2625	7137	5660	2295	7955		2.27	Si
SLV 14	fin.	543.12	3272	0.9	0	2625	7137	5660	2295	7955		2.43	Si
SLD 9	ini.	-647.55	2423	0.9	0	2625	7137	5660	2295	7955		3.28	Si
SLD 9	fin.	403.75	2735	0.9	0	2625	7137	5660	2295	7955		2.91	Si
SLV 10	ini.	-704.26	2592	0.9	0	2625	7137	5660	2295	7955		3.07	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	fin.	445.86	3079	0.9	0	2625	7137	5660	2295	7955		2.58	Si
SLD 14	ini.	-673.56	2649	0.9	0	2625	7137	5660	2295	7955		3	Si
SLD 14	fin.	412.94	2555	0.9	0	2625	7137	5660	2295	7955		3.11	Si
SLD 15	ini.	-704.78	2834	0.9	0	2625	7137	5660	2295	7955		2.81	Si
SLD 15	fin.	423.19	2494	0.9	0	2625	7137	5660	2295	7955		3.19	Si
SLV 9	ini.	-852.83	3174	0.9	0	2625	7137	5660	2295	7955		2.51	Si
SLV 9	fin.	532.78	3581	0.9	0	2625	7137	5660	2295	7955		2.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.702	SLV 13	Si
V_SLV	1.82	SLV 13	Si
PF_SLU	7.189	SLU 82	Si
V_SLU	3.186	SLU 70	Si

Trave di accoppiamento 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.169	14.15	14.6	0.45	-18.213	-3.169	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-98.52	-147	-0.0002093	0.0001872	0.0035	0.45		748.52	748.52	No	7.6	Si
SLU 67	fin.	88.67	323	-0.0001871	0.0001872	0.0035	0.45		745.72	745.72	No	8.41	Si
SLU 83	ini.	-86.13	-110	-0.0001805	0.0001872	0.0035	0.45		748.52	748.52	No	8.69	Si
SLU 83	fin.	93.54	358	-0.0001984	0.0001872	0.0035	0.45		745.72	745.72	No	7.97	Si
SLU 81	ini.	-85.94	-106	-0.0001801	0.0001872	0.0035	0.45		748.52	748.52	No	8.71	Si
SLU 81	fin.	94.64	367	-0.000201	0.0001872	0.0035	0.45		745.72	745.72	No	7.88	Si
SLU 77	ini.	-93.71	-127	-0.000198	0.0001872	0.0035	0.45		748.52	748.52	No	7.99	Si
SLU 77	fin.	90.49	307	-0.0001913	0.0001872	0.0035	0.45		745.72	745.72	No	8.24	Si
SLU 64	ini.	-96.39	-169	-0.0002043	0.0001872	0.0035	0.45		748.52	748.52	No	7.77	Si
SLU 64	fin.	93.44	374	-0.0001982	0.0001872	0.0035	0.45		745.72	745.72	No	7.98	Si
SLU 71	ini.	-96.77	-177	-0.0002052	0.0001872	0.0035	0.45		748.52	748.52	No	7.73	Si
SLU 71	fin.	91.22	355	-0.000193	0.0001872	0.0035	0.45		745.72	745.72	No	8.17	Si
SLU 66	ini.	-100.83	-167	-0.0002147	0.0001872	0.0035	0.45		748.52	748.52	No	7.42	Si
SLU 66	fin.	90.75	322	-0.0001919	0.0001872	0.0035	0.45		745.72	745.72	No	8.22	Si
SLU 70	ini.	-98.72	-151	-0.0002097	0.0001872	0.0035	0.45		748.52	748.52	No	7.58	Si
SLU 70	fin.	87.57	313	-0.0001845	0.0001872	0.0035	0.45		745.72	745.72	No	8.52	Si
SLU 69	ini.	-101.02	-171	-0.0002152	0.0001872	0.0035	0.45		748.52	748.52	No	7.41	Si
SLU 69	fin.	89.65	312	-0.0001893	0.0001872	0.0035	0.45		745.72	745.72	No	8.32	Si
SLU 72	ini.	-94.47	-156	-0.0001998	0.0001872	0.0035	0.45		748.52	748.52	No	7.92	Si
SLU 72	fin.	89.14	356	-0.0001882	0.0001872	0.0035	0.45		745.72	745.72	No	8.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-98.72	720	0.45	0	799	3568	1887	1148	3034	No	4.22	Si
SLU 70	fin.	87.57	-261	0.45	0	799	3568	1887	1148	3034	No	11.61	Si
SLU 67	ini.	-98.52	721	0.45	0	799	3568	1887	1148	3034	No	4.21	Si
SLU 67	fin.	88.67	-260	0.45	0	799	3568	1887	1148	3034	No	11.67	Si
SLU 77	ini.	-93.71	699	0.45	0	799	3568	1887	1148	3034	No	4.34	Si
SLU 77	fin.	90.49	-289	0.45	0	799	3568	1887	1148	3034	No	10.5	Si
SLU 66	ini.	-100.83	722	0.45	0	799	3568	1887	1148	3034	No	4.2	Si
SLU 66	fin.	90.75	-268	0.45	0	799	3568	1887	1148	3034	No	11.3	Si
SLU 74	ini.	-93.52	700	0.45	0	799	3568	1887	1148	3034	No	4.34	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	fin.	91.6	-287	0.45	0	799	3568	1887	1148	3034	No	10.55	Si
SLU 69	ini.	-101.02	721	0.45	0	799	3568	1887	1148	3034	No	4.21	Si
SLU 69	fin.	89.65	-270	0.45	0	799	3568	1887	1148	3034	No	11.24	Si
SLU 78	ini.	-91.4	698	0.45	0	799	3568	1887	1148	3034	No	4.35	Si
SLU 78	fin.	88.41	-280	0.45	0	799	3568	1887	1148	3034	No	10.82	Si
SLU 75	ini.	-91.21	699	0.45	0	799	3568	1887	1148	3034	No	4.34	Si
SLU 75	fin.	89.52	-279	0.45	0	799	3568	1887	1148	3034	No	10.88	Si
SLU 64	ini.	-96.39	680	0.45	0	799	3568	1887	1148	3034	No	4.46	Si
SLU 64	fin.	93.44	-161	0.45	0	799	3568	1887	1148	3034	No	18.88	Si
SLU 65	ini.	-92.55	679	0.45	0	799	3568	1887	1148	3034	No	4.47	Si
SLU 65	fin.	89.97	-146	0.45	0	799	3568	1887	1148	3034	No	20.72	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-205.26	-574	-0.0004643	0.0002807	0.0035	0.45		754.83	754.83		3.68	Si
SLV 14	fin.	208.79	1266	-0.0004759	0.0002807	0.0035	0.45		751.86	751.86		3.6	Si
SLD 14	ini.	-155.34	-406	-0.0003359	0.0002807	0.0035	0.45		754.83	754.83		4.86	Si
SLD 14	fin.	157.76	905	-0.0003433	0.0002807	0.0035	0.45		751.86	751.86		4.77	Si
SLD 13	ini.	-199.07	-589	-0.0004478	0.0002807	0.0035	0.45		754.83	754.83		3.79	Si
SLD 13	fin.	199.84	1169	-0.0004518	0.0002807	0.0035	0.45		751.86	751.86		3.76	Si
SLV 16	ini.	-144.99	-371	-0.0003108	0.0002807	0.0035	0.45		754.83	754.83		5.21	Si
SLV 16	fin.	173.38	849	-0.0003826	0.0002807	0.0035	0.45		751.86	751.86		4.34	Si
SLV 9	ini.	-234.83	-700	-0.0005457	0.0002807	0.0035	0.45		754.83	754.83		3.21	Si
SLV 9	fin.	197.12	1409	-0.0004445	0.0002807	0.0035	0.45		751.86	751.86		3.81	Si
SLD 15	ini.	-161.5	-462	-0.0003512	0.0002807	0.0035	0.45		754.83	754.83		4.67	Si
SLD 15	fin.	177.91	910	-0.0003942	0.0002807	0.0035	0.45		751.86	751.86		4.23	Si
SLV 10	ini.	-188.74	-507	-0.0004206	0.0002807	0.0035	0.45		754.83	754.83		4	Si
SLV 10	fin.	152.77	1131	-0.000331	0.0002807	0.0035	0.45		751.86	751.86		4.92	Si
SLD 9	ini.	-173.15	-483	-0.0003804	0.0002807	0.0035	0.45		754.83	754.83		4.36	Si
SLD 9	fin.	149.57	988	-0.0003232	0.0002807	0.0035	0.45		751.86	751.86		5.03	Si
SLV 15	ini.	-213.44	-658	-0.0004865	0.0002807	0.0035	0.45		754.83	754.83		3.54	Si
SLV 15	fin.	239.25	1262	-0.0005607	0.0002807	0.0035	0.45		751.86	751.86		3.14	Si
SLV 13	ini.	-273.72	-861	-0.0006587	0.0002807	0.0035	0.45		754.83	754.83		2.76	Si
SLV 13	fin.	274.66	1679	-0.0006645	0.0002807	0.0035	0.45		751.86	751.86		2.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-273.72	1481	0.45	0	1113	3568	2830	1148	3977		2.68	Si
SLV 13	fin.	274.66	1018	0.45	0	1113	3568	2830	1148	3977		3.91	Si
SLV 4	ini.	135.12	-490	0.45	0	1113	3568	2830	1148	3977		8.12	Si
SLV 4	fin.	-135.44	-1240	0.45	0	1113	3568	2830	1148	3977		3.21	Si
SLV 15	ini.	-213.44	1201	0.45	0	1113	3568	2830	1148	3977		3.31	Si
SLV 15	fin.	239.25	590	0.45	0	1113	3568	2830	1148	3977		6.74	Si
SLD 9	ini.	-173.15	983	0.45	0	1113	3568	2830	1148	3977		4.05	Si
SLD 9	fin.	149.57	547	0.45	0	1113	3568	2830	1148	3977		7.27	Si
SLV 8	ini.	96.23	-283	0.45	0	1113	3568	2830	1148	3977		14.08	Si
SLV 8	fin.	-57.9	-1162	0.45	0	1113	3568	2830	1148	3977		3.42	Si
SLD 13	ini.	-199.07	1121	0.45	0	1113	3568	2830	1148	3977		3.55	Si
SLD 13	fin.	199.84	605	0.45	0	1113	3568	2830	1148	3977		6.58	Si
SLV 10	ini.	-188.74	1069	0.45	0	1113	3568	2830	1148	3977		3.72	Si
SLV 10	fin.	152.77	710	0.45	0	1113	3568	2830	1148	3977		5.6	Si
SLV 14	ini.	-205.26	1177	0.45	0	1113	3568	2830	1148	3977		3.38	Si
SLV 14	fin.	208.79	676	0.45	0	1113	3568	2830	1148	3977		5.89	Si
SLD 15	ini.	-161.5	947	0.45	0	1113	3568	2830	1148	3977		4.2	Si
SLD 15	fin.	177.91	338	0.45	0	1113	3568	2830	1148	3977		11.75	Si
SLV 9	ini.	-234.83	1274	0.45	0	1113	3568	2830	1148	3977		3.12	Si
SLV 9	fin.	197.12	940	0.45	0	1113	3568	2830	1148	3977		4.23	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.737	SLV 13	Si
V_SLV	2.685	SLV 13	Si
PF_SLU	7.41	SLU 69	Si
V_SLU	4.204	SLU 66	Si

Trave di accoppiamento 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.498	0.041	13.55	14.6	1.05	-18.498	0.841	13.55	14.6	1.05	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 29	ini.	-142.79	-483	-0.0000521	0.0002246	0.0035	1.05		4177	4177	No	29.25	Si
SLU 29	fin.	-48.86	-233	-0.0000176	0.0002246	0.0035	1.05		4177	4177	No	85.49	Si
SLU 38	ini.	-161.76	-519	-0.0000592	0.0002246	0.0035	1.05		4177	4177	No	25.82	Si
SLU 38	fin.	-44.42	-230	-0.000016	0.0002246	0.0035	1.05		4177	4177	No	94.04	Si
SLU 77	ini.	-143.11	-506	-0.0000522	0.0002246	0.0035	1.05		4177	4177	No	29.19	Si
SLU 77	fin.	-53.49	-261	-0.0000193	0.0002246	0.0035	1.05		4177	4177	No	78.09	Si
SLU 78	ini.	-148.85	-519	-0.0000544	0.0002246	0.0035	1.05		4177	4177	No	28.06	Si
SLU 78	fin.	-53.78	-263	-0.0000194	0.0002246	0.0035	1.05		4177	4177	No	77.67	Si
SLU 28	ini.	-160.46	-532	-0.0000587	0.0002246	0.0035	1.05		4177	4177	No	26.03	Si
SLU 28	fin.	-52.85	-246	-0.0000191	0.0002246	0.0035	1.05		4177	4177	No	79.03	Si
SLU 37	ini.	-156.03	-505	-0.000057	0.0002246	0.0035	1.05		4177	4177	No	26.77	Si
SLU 37	fin.	-44.13	-228	-0.0000159	0.0002246	0.0035	1.05		4177	4177	No	94.66	Si
SLU 27	ini.	-154.73	-519	-0.0000566	0.0002246	0.0035	1.05		4177	4177	No	27	Si
SLU 27	fin.	-52.56	-244	-0.000019	0.0002246	0.0035	1.05		4177	4177	No	79.46	Si
SLU 30	ini.	-148.52	-496	-0.0000542	0.0002246	0.0035	1.05		4177	4177	No	28.12	Si
SLU 30	fin.	-49.15	-235	-0.0000177	0.0002246	0.0035	1.05		4177	4177	No	84.99	Si
SLU 36	ini.	-173.71	-554	-0.0000637	0.0002246	0.0035	1.05		4177	4177	No	24.05	Si
SLU 36	fin.	-48.12	-241	-0.0000174	0.0002246	0.0035	1.05		4177	4177	No	86.8	Si
SLU 35	ini.	-167.97	-541	-0.0000615	0.0002246	0.0035	1.05		4177	4177	No	24.87	Si
SLU 35	fin.	-47.83	-239	-0.0000173	0.0002246	0.0035	1.05		4177	4177	No	87.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-173.71	498	1.05	0	1225	6344	2641	2678	5319	No	10.68	Si
SLU 36	fin.	-48.12	252	1.05	0	1225	6344	2641	2678	5319	No	21.12	Si
SLU 37	ini.	-156.03	457	1.05	0	1225	6344	2641	2678	5319	No	11.64	Si
SLU 37	fin.	-44.13	211	1.05	0	1225	6344	2641	2678	5319	No	25.2	Si
SLU 78	ini.	-148.85	457	1.05	0	1225	6344	2641	2678	5319	No	11.64	Si
SLU 78	fin.	-53.78	150	1.05	0	1225	6344	2641	2678	5319	No	35.56	Si
SLU 30	ini.	-148.52	431	1.05	0	1225	6344	2641	2678	5319	No	12.34	Si
SLU 30	fin.	-49.15	185	1.05	0	1225	6344	2641	2678	5319	No	28.76	Si
SLU 77	ini.	-143.11	443	1.05	0	1225	6344	2641	2678	5319	No	12.02	Si
SLU 77	fin.	-53.49	135	1.05	0	1225	6344	2641	2678	5319	No	39.32	Si
SLU 38	ini.	-161.76	471	1.05	0	1225	6344	2641	2678	5319	No	11.28	Si
SLU 38	fin.	-44.42	225	1.05	0	1225	6344	2641	2678	5319	No	23.61	Si
SLU 80	ini.	-136.9	430	1.05	0	1225	6344	2641	2678	5319	No	12.36	Si
SLU 80	fin.	-50.07	123	1.05	0	1225	6344	2641	2678	5319	No	43.24	Si
SLU 35	ini.	-167.97	484	1.05	0	1225	6344	2641	2678	5319	No	11	Si
SLU 35	fin.	-47.83	238	1.05	0	1225	6344	2641	2678	5319	No	22.39	Si
SLU 27	ini.	-154.73	443	1.05	0	1225	6344	2641	2678	5319	No	12	Si
SLU 27	fin.	-52.56	197	1.05	0	1225	6344	2641	2678	5319	No	26.97	Si
SLU 28	ini.	-160.46	457	1.05	0	1225	6344	2641	2678	5319	No	11.63	Si
SLU 28	fin.	-52.85	211	1.05	0	1225	6344	2641	2678	5319	No	25.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	619.31	1416	-0.0002369	0.0003369	0.0035	1.05		4278.98	4278.98		6.91	Si
SLV 8	fin.	425.89	-87	-0.0001595	0.0003369	0.0035	1.05		4278.98	4278.98		10.05	Si
SLD 12	ini.	449	955	-0.0001685	0.0003369	0.0035	1.05		4278.98	4278.98		9.53	Si
SLD 12	fin.	242.7	-127	-0.0000892	0.0003369	0.0035	1.05		4278.98	4278.98		17.63	Si
SLV 10	ini.	-600.48	-1558	-0.0002288	0.0003369	0.0035	1.05		4285.74	4285.74		7.14	Si
SLV 10	fin.	-475.76	-154	-0.0001788	0.0003369	0.0035	1.05		4285.74	4285.74		9.01	Si
SLV 7	ini.	641.74	1469	-0.0002462	0.0003369	0.0035	1.05		4278.98	4278.98		6.67	Si
SLV 7	fin.	427.98	-79	-0.0001603	0.0003369	0.0035	1.05		4278.98	4278.98		10	Si
SLV 11	ini.	731.78	1620	-0.0002838	0.0003369	0.0035	1.05		4278.98	4278.98		5.85	Si
SLV 11	fin.	401.9	-130	-0.0001501	0.0003369	0.0035	1.05		4278.98	4278.98		10.65	Si
SLV 6	ini.	-690.51	-1708	-0.000266	0.0003369	0.0035	1.05		4285.74	4285.74		6.21	Si
SLV 6	fin.	-449.69	-103	-0.0001685	0.0003369	0.0035	1.05		4285.74	4285.74		9.53	Si
SLD 11	ini.	463.11	989	-0.0001741	0.0003369	0.0035	1.05		4278.98	4278.98		9.24	Si
SLD 11	fin.	244.01	-122	-0.0000897	0.0003369	0.0035	1.05		4278.98	4278.98		17.54	Si
SLV 5	ini.	-668.08	-1655	-0.0002566	0.0003369	0.0035	1.05		4285.74	4285.74		6.41	Si
SLV 5	fin.	-447.6	-95	-0.0001677	0.0003369	0.0035	1.05		4285.74	4285.74		9.57	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-578.05	-1505	-0.0002197	0.0003369	0.0035	1.05		4285.74	4285.74		7.41	Si
SLV 9	fin.	-473.68	-146	-0.000178	0.0003369	0.0035	1.05		4285.74	4285.74		9.05	Si
SLV 12	ini.	709.35	1566	-0.0002743	0.0003369	0.0035	1.05		4278.98	4278.98		6.03	Si
SLV 12	fin.	399.81	-138	-0.0001493	0.0003369	0.0035	1.05		4278.98	4278.98		10.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	449	-974	1.05	0	1838	6344	3962	2678	6640		6.82	Si
SLD 12	fin.	242.7	-1297	1.05	0	1838	6344	3962	2678	6640		5.12	Si
SLD 11	ini.	463.11	-1009	1.05	0	1838	6344	3962	2678	6640		6.58	Si
SLD 11	fin.	244.01	-1331	1.05	0	1838	6344	3962	2678	6640		4.99	Si
SLV 12	ini.	709.35	-1584	1.05	0	1838	6344	3962	2678	6640		4.19	Si
SLV 12	fin.	399.81	-1954	1.05	0	1838	6344	3962	2678	6640		3.4	Si
SLV 10	ini.	-600.48	1426	1.05	0	1838	6344	3962	2678	6640		4.66	Si
SLV 10	fin.	-475.76	1337	1.05	0	1838	6344	3962	2678	6640		4.97	Si
SLV 8	ini.	619.31	-1318	1.05	0	1838	6344	3962	2678	6640		5.04	Si
SLV 8	fin.	425.89	-1694	1.05	0	1838	6344	3962	2678	6640		3.92	Si
SLV 5	ini.	-668.08	1636	1.05	0	1838	6344	3962	2678	6640		4.06	Si
SLV 5	fin.	-447.6	1542	1.05	0	1838	6344	3962	2678	6640		4.31	Si
SLV 7	ini.	641.74	-1374	1.05	0	1838	6344	3962	2678	6640		4.83	Si
SLV 7	fin.	427.98	-1749	1.05	0	1838	6344	3962	2678	6640		3.8	Si
SLV 6	ini.	-690.51	1691	1.05	0	1838	6344	3962	2678	6640		3.93	Si
SLV 6	fin.	-449.69	1597	1.05	0	1838	6344	3962	2678	6640		4.16	Si
SLV 11	ini.	731.78	-1639	1.05	0	1838	6344	3962	2678	6640		4.05	Si
SLV 11	fin.	401.9	-2009	1.05	0	1838	6344	3962	2678	6640		3.3	Si
SLV 9	ini.	-578.05	1370	1.05	0	1838	6344	3962	2678	6640		4.84	Si
SLV 9	fin.	-473.68	1282	1.05	0	1838	6344	3962	2678	6640		5.18	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.847	SLV 11	Si
V_SLV	3.304	SLV 11	Si
PF_SLU	24.046	SLU 36	Si
V_SLU	10.683	SLU 36	Si

Trave di accoppiamento 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.293	-3.169	13.55	14.6	1.05	-16.193	-3.169	13.55	14.6	1.05	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-582.04	-2256	-0.0002303	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.94	Si
SLU 77	fin.	465.05	1071	-0.00018	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.67	Si
SLU 75	ini.	-589.27	-2279	-0.0002335	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.85	Si
SLU 75	fin.	472.32	1091	-0.0001831	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.53	Si
SLU 73	ini.	-579.96	-2200	-0.0002294	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.96	Si
SLU 73	fin.	470.86	1128	-0.0001824	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.56	Si
SLU 78	ini.	-583.98	-2261	-0.0002312	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.91	Si
SLU 78	fin.	464.27	1070	-0.0001797	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.68	Si
SLU 82	ini.	-593.85	-2264	-0.0002356	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.8	Si
SLU 82	fin.	483.38	1174	-0.0001877	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.34	Si
SLU 84	ini.	-588.56	-2246	-0.0002332	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.86	Si
SLU 84	fin.	475.33	1153	-0.0001843	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.48	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-574.66	-2182	-0.000227	0.0001872	0.0035	1.05		4037.69	4037.69	No	7.03	Si
SLU 76	fin.	462.81	1106	-0.000179	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.71	Si
SLU 83	ini.	-586.62	-2241	-0.0002323	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.88	Si
SLU 83	fin.	476.11	1154	-0.0001847	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.47	Si
SLU 74	ini.	-587.33	-2274	-0.0002327	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.87	Si
SLU 74	fin.	473.1	1092	-0.0001834	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.52	Si
SLU 81	ini.	-591.91	-2259	-0.0002347	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.82	Si
SLU 81	fin.	484.16	1175	-0.0001881	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-582.04	3863	1.05	0	2042	7137	4402	2678	7079	No	1.83	Si
SLU 77	fin.	465.05	2142	1.05	0	2042	7137	4402	2678	7079	No	3.3	Si
SLU 75	ini.	-589.27	3905	1.05	0	2042	7137	4402	2678	7079	No	1.81	Si
SLU 75	fin.	472.32	2187	1.05	0	2042	7137	4402	2678	7079	No	3.24	Si
SLU 78	ini.	-583.98	3867	1.05	0	2042	7137	4402	2678	7079	No	1.83	Si
SLU 78	fin.	464.27	2148	1.05	0	2042	7137	4402	2678	7079	No	3.3	Si
SLU 73	ini.	-579.96	3780	1.05	0	2042	7137	4402	2678	7079	No	1.87	Si
SLU 73	fin.	470.86	2268	1.05	0	2042	7137	4402	2678	7079	No	3.12	Si
SLU 76	ini.	-574.66	3742	1.05	0	2042	7137	4402	2678	7079	No	1.89	Si
SLU 76	fin.	462.81	2229	1.05	0	2042	7137	4402	2678	7079	No	3.18	Si
SLU 81	ini.	-591.91	3867	1.05	0	2042	7137	4402	2678	7079	No	1.83	Si
SLU 81	fin.	484.16	2352	1.05	0	2042	7137	4402	2678	7079	No	3.01	Si
SLU 82	ini.	-593.85	3871	1.05	0	2042	7137	4402	2678	7079	No	1.83	Si
SLU 82	fin.	483.38	2358	1.05	0	2042	7137	4402	2678	7079	No	3	Si
SLU 84	ini.	-588.56	3833	1.05	0	2042	7137	4402	2678	7079	No	1.85	Si
SLU 84	fin.	475.33	2319	1.05	0	2042	7137	4402	2678	7079	No	3.05	Si
SLU 83	ini.	-586.62	3829	1.05	0	2042	7137	4402	2678	7079	No	1.85	Si
SLU 83	fin.	476.11	2313	1.05	0	2042	7137	4402	2678	7079	No	3.06	Si
SLU 74	ini.	-587.33	3901	1.05	0	2042	7137	4402	2678	7079	No	1.81	Si
SLU 74	fin.	473.1	2181	1.05	0	2042	7137	4402	2678	7079	No	3.25	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-603.2	-2589	-0.0002321	0.0002807	0.0035	1.05		4093.77	4093.77		6.79	Si
SLV 9	fin.	629.28	1202	-0.0002435	0.0002807	0.0035	1.05		4087.11	4087.11		6.49	Si
SLD 14	ini.	-592.17	-2153	-0.0002276	0.0002807	0.0035	1.05		4093.77	4093.77		6.91	Si
SLD 14	fin.	608.14	1299	-0.0002346	0.0002807	0.0035	1.05		4087.11	4087.11		6.72	Si
SLD 9	ini.	-530.3	-2196	-0.0002021	0.0002807	0.0035	1.05		4093.77	4093.77		7.72	Si
SLD 9	fin.	520.71	1050	-0.0001985	0.0002807	0.0035	1.05		4087.11	4087.11		7.85	Si
SLD 13	ini.	-674.81	-2421	-0.0002623	0.0002807	0.0035	1.05		4093.77	4093.77		6.07	Si
SLD 13	fin.	708.24	1511	-0.0002772	0.0002807	0.0035	1.05		4087.11	4087.11		5.77	Si
SLV 14	ini.	-698.03	-2510	-0.0002723	0.0002807	0.0035	1.05		4093.77	4093.77		5.86	Si
SLV 14	fin.	764.28	1591	-0.0003016	0.0002807	0.0035	1.05		4087.11	4087.11		5.35	Si
SLV 16	ini.	-667.76	-2140	-0.0002593	0.0002807	0.0035	1.05		4093.77	4093.77		6.13	Si
SLV 16	fin.	705.08	1582	-0.0002758	0.0002807	0.0035	1.05		4087.11	4087.11		5.8	Si
SLV 13	ini.	-827.38	-2929	-0.0003292	0.0002807	0.0035	1.05		4093.77	4093.77		4.95	Si
SLV 13	fin.	920.95	1923	-0.0003727	0.0002807	0.0035	1.05		4087.11	4087.11		4.44	Si
SLV 15	ini.	-797.11	-2559	-0.0003156	0.0002807	0.0035	1.05		4093.77	4093.77		5.14	Si
SLV 15	fin.	861.76	1913	-0.0003454	0.0002807	0.0035	1.05		4087.11	4087.11		4.74	Si
SLD 15	ini.	-656.4	-2190	-0.0002545	0.0002807	0.0035	1.05		4093.77	4093.77		6.24	Si
SLD 15	fin.	671.25	1504	-0.0002613	0.0002807	0.0035	1.05		4087.11	4087.11		6.09	Si
SLD 16	ini.	-573.76	-1923	-0.0002199	0.0002807	0.0035	1.05		4093.77	4093.77		7.13	Si
SLD 16	fin.	571.15	1292	-0.0002192	0.0002807	0.0035	1.05		4087.11	4087.11		7.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-674.81	4232	1.05	0	3063	7137	6603	2678	9280		2.19	Si
SLD 13	fin.	708.24	3016	1.05	0	3063	7137	6603	2678	9280		3.08	Si
SLV 16	ini.	-667.76	4022	1.05	0	3063	7137	6603	2678	9280		2.31	Si
SLV 16	fin.	705.08	3153	1.05	0	3063	7137	6603	2678	9280		2.94	Si
SLV 13	ini.	-827.38	5122	1.05	0	3063	7137	6603	2678	9280		1.81	Si
SLV 13	fin.	920.95	3842	1.05	0	3063	7137	6603	2678	9280		2.42	Si
SLV 10	ini.	-516.12	3582	1.05	0	3063	7137	6603	2678	9280		2.59	Si
SLV 10	fin.	523.8	1783	1.05	0	3063	7137	6603	2678	9280		5.21	Si
SLD 14	ini.	-592.17	3757	1.05	0	3063	7137	6603	2678	9280		2.47	Si
SLD 14	fin.	608.14	2535	1.05	0	3063	7137	6603	2678	9280		3.66	Si
SLD 9	ini.	-530.3	3560	1.05	0	3063	7137	6603	2678	9280		2.61	Si
SLD 9	fin.	520.71	2019	1.05	0	3063	7137	6603	2678	9280		4.6	Si
SLD 15	ini.	-656.4	4010	1.05	0	3063	7137	6603	2678	9280		2.31	Si
SLD 15	fin.	671.25	3058	1.05	0	3063	7137	6603	2678	9280		3.04	Si
SLV 14	ini.	-698.03	4379	1.05	0	3063	7137	6603	2678	9280		2.12	Si
SLV 14	fin.	764.28	3090	1.05	0	3063	7137	6603	2678	9280		3	Si
SLV 9	ini.	-603.2	4083	1.05	0	3063	7137	6603	2678	9280		2.27	Si
SLV 9	fin.	629.28	2289	1.05	0	3063	7137	6603	2678	9280		4.05	Si
SLV 15	ini.	-797.11	4766	1.05	0	3063	7137	6603	2678	9280		1.95	Si
SLV 15	fin.	861.76	3905	1.05	0	3063	7137	6603	2678	9280		2.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.438	SLV 13	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.812	SLV 13	Si
PF_SLU	6.799	SLU 82	Si
V_SLU	1.813	SLU 75	Si

Trave di accoppiamento 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	13.55	14.6	1.05	-15.058	2.206	13.55	14.6	1.05	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-39.87	-654	-0.0000144	0.0002246	0.0035	1.05		4177	4177	No	104.77	Si
SLU 78	fin.	-1178.82	-2919	-0.0005132	0.0002246	0.0035	1.05		4177	4177	No	3.54	Si
SLU 84	ini.	-32.07	-597	-0.0000115	0.0002246	0.0035	1.05		4177	4177	No	130.26	Si
SLU 84	fin.	-1124.06	-2761	-0.0004845	0.0002246	0.0035	1.05		4177	4177	No	3.72	Si
SLU 79	ini.	-37.88	-643	-0.0000136	0.0002246	0.0035	1.05		4177	4177	No	110.28	Si
SLU 79	fin.	-1168.57	-2887	-0.0005078	0.0002246	0.0035	1.05		4177	4177	No	3.57	Si
SLU 80	ini.	-37.18	-636	-0.0000134	0.0002246	0.0035	1.05		4177	4177	No	112.36	Si
SLU 80	fin.	-1149.57	-2843	-0.0004978	0.0002246	0.0035	1.05		4177	4177	No	3.63	Si
SLU 75	ini.	-34.38	-599	-0.0000124	0.0002246	0.0035	1.05		4177	4177	No	121.48	Si
SLU 75	fin.	-1098.55	-2711	-0.0004713	0.0002246	0.0035	1.05		4177	4177	No	3.8	Si
SLU 83	ini.	-32.77	-604	-0.0000118	0.0002246	0.0035	1.05		4177	4177	No	127.48	Si
SLU 83	fin.	-1143.07	-2805	-0.0004944	0.0002246	0.0035	1.05		4177	4177	No	3.65	Si
SLU 74	ini.	-35.08	-606	-0.0000126	0.0002246	0.0035	1.05		4177	4177	No	119.06	Si
SLU 74	fin.	-1117.55	-2756	-0.0004811	0.0002246	0.0035	1.05		4177	4177	No	3.74	Si
SLU 69	ini.	-39.69	-622	-0.0000143	0.0002246	0.0035	1.05		4177	4177	No	105.24	Si
SLU 69	fin.	-1070.04	-2669	-0.0004567	0.0002246	0.0035	1.05		4177	4177	No	3.9	Si
SLU 77	ini.	-40.57	-661	-0.0000146	0.0002246	0.0035	1.05		4177	4177	No	102.96	Si
SLU 77	fin.	-1197.83	-2964	-0.0005233	0.0002246	0.0035	1.05		4177	4177	No	3.49	Si
SLU 35	ini.	-37.7	-589	-0.0000136	0.0002246	0.0035	1.05		4177	4177	No	110.79	Si
SLU 35	fin.	-1082.92	-2675	-0.0004633	0.0002246	0.0035	1.05		4177	4177	No	3.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-35.08	-2630	1.05	0	1225	6344	2641	2678	5319	No	2.02	Si
SLU 74	fin.	-1117.55	-2930	1.05	10833	1225	6344	2641	2678	5319	No	1.82	Si
SLU 81	ini.	-27.28	-2505	1.05	0	1225	6344	2641	2678	5319	No	2.12	Si
SLU 81	fin.	-1062.79	-2805	1.05	10833	1225	6344	2641	2678	5319	No	1.9	Si
SLU 84	ini.	-32.07	-2651	1.05	0	1225	6344	2641	2678	5319	No	2.01	Si
SLU 84	fin.	-1124.06	-2951	1.05	10833	1225	6344	2641	2678	5319	No	1.8	Si
SLU 77	ini.	-40.57	-2823	1.05	0	1225	6344	2641	2678	5319	No	1.88	Si
SLU 77	fin.	-1197.83	-3124	1.05	10833	1225	6344	2641	2678	5319	No	1.7	Si
SLU 75	ini.	-34.38	-2582	1.05	0	1225	6344	2641	2678	5319	No	2.06	Si
SLU 75	fin.	-1098.55	-2883	1.05	10833	1225	6344	2641	2678	5319	No	1.85	Si
SLU 80	ini.	-37.18	-2705	1.05	0	1225	6344	2641	2678	5319	No	1.97	Si
SLU 80	fin.	-1149.57	-3005	1.05	10833	1225	6344	2641	2678	5319	No	1.77	Si
SLU 35	ini.	-37.7	-2567	1.05	0	1225	6344	2641	2678	5319	No	2.07	Si
SLU 35	fin.	-1082.92	-2807	1.05	10833	1225	6344	2641	2678	5319	No	1.9	Si
SLU 79	ini.	-37.88	-2752	1.05	0	1225	6344	2641	2678	5319	No	1.93	Si
SLU 79	fin.	-1168.57	-3053	1.05	10833	1225	6344	2641	2678	5319	No	1.74	Si
SLU 83	ini.	-32.77	-2698	1.05	0	1225	6344	2641	2678	5319	No	1.97	Si
SLU 83	fin.	-1143.07	-2999	1.05	10833	1225	6344	2641	2678	5319	No	1.77	Si
SLU 78	ini.	-39.87	-2776	1.05	0	1225	6344	2641	2678	5319	No	1.92	Si
SLU 78	fin.	-1178.82	-3076	1.05	10833	1225	6344	2641	2678	5319	No	1.73	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-91.29	-579	-0.000033	0.0003369	0.0035	1.05		4285.74	4285.74		46.95	Si
SLV 15	fin.	-1279.58	-3094	-0.0005355	0.0003369	0.0035	1.05		4285.74	4285.74		3.35	Si
SLV 8	ini.	-456.77	-1333	-0.0001713	0.0003369	0.0035	1.05		4285.74	4285.74		9.38	Si
SLV 8	fin.	-2311.29	-5627	-0.0011373	0.0003369	0.0035	1.05		4285.74	4285.74		1.85	Si
SLV 12	ini.	-424.3	-1290	-0.0001586	0.0003369	0.0035	1.05		4285.74	4285.74		10.1	Si
SLV 12	fin.	-2376.95	-5766	-0.0011823	0.0003369	0.0035	1.05		4285.74	4285.74		1.8	Si
SLV 7	ini.	-456.8	-1331	-0.0001713	0.0003369	0.0035	1.05		4285.74	4285.74		9.38	Si
SLV 7	fin.	-2305.49	-5614	-0.0011333	0.0003369	0.0035	1.05		4285.74	4285.74		1.86	Si
SLD 12	ini.	-272.94	-945	-0.0001004	0.0003369	0.0035	1.05		4285.74	4285.74		15.7	Si
SLD 12	fin.	-1734.21	-4216	-0.0007788	0.0003369	0.0035	1.05		4285.74	4285.74		2.47	Si
SLV 11	ini.	-424.33	-1288	-0.0001586	0.0003369	0.0035	1.05		4285.74	4285.74		10.1	Si
SLV 11	fin.	-2371.15	-5753	-0.0011783	0.0003369	0.0035	1.05		4285.74	4285.74		1.81	Si
SLD 8	ini.	-293.8	-973	-0.0001083	0.0003369	0.0035	1.05		4285.74	4285.74		14.59	Si
SLD 8	fin.	-1692.38	-4127	-0.0007551	0.0003369	0.0035	1.05		4285.74	4285.74		2.53	Si
SLD 11	ini.	-272.96	-944	-0.0001004	0.0003369	0.0035	1.05		4285.74	4285.74		15.7	Si
SLD 11	fin.	-1730.56	-4208	-0.0007767	0.0003369	0.0035	1.05		4285.74	4285.74		2.48	Si
SLV 16	ini.	-91.24	-582	-0.000033	0.0003369	0.0035	1.05		4285.74	4285.74		46.97	Si
SLV 16	fin.	-1288.19	-3114	-0.0005398	0.0003369	0.0035	1.05		4285.74	4285.74		3.33	Si
SLD 7	ini.	-293.82	-972	-0.0001083	0.0003369	0.0035	1.05		4285.74	4285.74		14.59	Si
SLD 7	fin.	-1688.74	-4119	-0.0007531	0.0003369	0.0035	1.05		4285.74	4285.74		2.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	-272.96	-4039	1.05	0	1838	6344	3962	2678	6640		1.64	Si
SLD 11	fin.	-1730.56	-4244	1.05	16250	1838	6344	3962	2678	6640		1.56	Si
SLV 11	ini.	-424.33	-5536	1.05	0	1838	6344	3962	2678	6640		1.2	Si
SLV 11	fin.	-2371.15	-5729	1.05	16250	1838	6344	3962	2678	6640		1.16	Si
SLV 15	ini.	-91.29	-3009	1.05	0	1838	6344	3962	2678	6640		2.21	Si
SLV 15	fin.	-1279.58	-3198	1.05	0	1838	6344	3962	2678	6640		2.08	Si
SLV 12	ini.	-424.3	-5551	1.05	0	1838	6344	3962	2678	6640		1.2	Si
SLV 12	fin.	-2376.95	-5744	1.05	16250	1838	6344	3962	2678	6640		1.16	Si
SLD 8	ini.	-293.8	-3939	1.05	0	1838	6344	3962	2678	6640		1.69	Si
SLD 8	fin.	-1692.38	-4156	1.05	16250	1838	6344	3962	2678	6640		1.6	Si
SLV 16	ini.	-91.24	-3031	1.05	0	1838	6344	3962	2678	6640		2.19	Si
SLV 16	fin.	-1288.19	-3220	1.05	0	1838	6344	3962	2678	6640		2.06	Si
SLV 8	ini.	-456.77	-5379	1.05	0	1838	6344	3962	2678	6640		1.23	Si
SLV 8	fin.	-2311.29	-5591	1.05	16250	1838	6344	3962	2678	6640		1.19	Si
SLD 12	ini.	-272.94	-4048	1.05	0	1838	6344	3962	2678	6640		1.64	Si
SLD 12	fin.	-1734.21	-4253	1.05	16250	1838	6344	3962	2678	6640		1.56	Si
SLD 7	ini.	-293.82	-3930	1.05	0	1838	6344	3962	2678	6640		1.69	Si
SLD 7	fin.	-1688.74	-4147	1.05	16250	1838	6344	3962	2678	6640		1.6	Si
SLV 7	ini.	-456.8	-5365	1.05	0	1838	6344	3962	2678	6640		1.24	Si
SLV 7	fin.	-2305.49	-5576	1.05	16250	1838	6344	3962	2678	6640		1.19	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.803	SLV 12	Si
V_SLV	1.156	SLV 12	Si
PF_SLU	3.487	SLU 77	Si
V_SLU	1.703	SLU 77	Si

Trave di accoppiamento 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	11.45	12.35	0.9	-16.843	6.661	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-180.67	-140	-0.0000915	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.41	Si
SLU 35	fin.	174.37	-946	-0.0000883	0.0001872	0.0035	0.9		2959	2959	No	16.97	Si
SLU 70	ini.	-152.63	-248	-0.0000768	0.0001872	0.0035	0.9		2964.67	2964.67	No	19.42	Si
SLU 70	fin.	177.71	-1039	-0.0000901	0.0001872	0.0035	0.9		2959	2959	No	16.65	Si
SLU 38	ini.	-184.5	-118	-0.0000935	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.07	Si
SLU 38	fin.	171.4	-914	-0.0000868	0.0001872	0.0035	0.9		2959	2959	No	17.26	Si
SLU 36	ini.	-186.98	-129	-0.0000948	0.0001872	0.0035	0.9		2964.67	2964.67	No	15.86	Si
SLU 36	fin.	176.36	-950	-0.0000894	0.0001872	0.0035	0.9		2959	2959	No	16.78	Si
SLU 77	ini.	-180.46	-206	-0.0000914	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.43	Si
SLU 77	fin.	187.84	-1058	-0.0000954	0.0001872	0.0035	0.9		2959	2959	No	15.75	Si
SLU 80	ini.	-184.29	-184	-0.0000934	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.09	Si
SLU 80	fin.	184.87	-1026	-0.0000939	0.0001872	0.0035	0.9		2959	2959	No	16.01	Si
SLU 69	ini.	-146.31	-259	-0.0000735	0.0001872	0.0035	0.9		2964.67	2964.67	No	20.26	Si
SLU 69	fin.	175.72	-1035	-0.000089	0.0001872	0.0035	0.9		2959	2959	No	16.84	Si
SLU 78	ini.	-186.78	-195	-0.0000947	0.0001872	0.0035	0.9		2964.67	2964.67	No	15.87	Si
SLU 78	fin.	189.83	-1062	-0.0000965	0.0001872	0.0035	0.9		2959	2959	No	15.59	Si
SLU 79	ini.	-177.97	-196	-0.0000901	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.66	Si
SLU 79	fin.	182.88	-1022	-0.0000928	0.0001872	0.0035	0.9		2959	2959	No	16.18	Si
SLU 37	ini.	-178.18	-130	-0.0000902	0.0001872	0.0035	0.9		2964.67	2964.67	No	16.64	Si
SLU 37	fin.	169.41	-910	-0.0000857	0.0001872	0.0035	0.9		2959	2959	No	17.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-186.98	586	0.9	0	1750	7137	3773	2295	6068	No	10.36	Si
SLU 36	fin.	176.36	1588	0.9	0	1750	7137	3773	2295	6068	No	3.82	Si
SLU 79	ini.	-177.97	589	0.9	0	1750	7137	3773	2295	6068	No	10.3	Si
SLU 79	fin.	182.88	1674	0.9	0	1750	7137	3773	2295	6068	No	3.63	Si
SLU 77	ini.	-180.46	583	0.9	0	1750	7137	3773	2295	6068	No	10.41	Si
SLU 77	fin.	187.84	1745	0.9	0	1750	7137	3773	2295	6068	No	3.48	Si
SLU 78	ini.	-186.78	602	0.9	0	1750	7137	3773	2295	6068	No	10.09	Si
SLU 78	fin.	189.83	1759	0.9	0	1750	7137	3773	2295	6068	No	3.45	Si
SLU 69	ini.	-146.31	451	0.9	0	1750	7137	3773	2295	6068	No	13.45	Si
SLU 69	fin.	175.72	1724	0.9	0	1750	7137	3773	2295	6068	No	3.52	Si
SLU 72	ini.	-150.14	477	0.9	0	1750	7137	3773	2295	6068	No	12.73	Si
SLU 72	fin.	172.74	1667	0.9	0	1750	7137	3773	2295	6068	No	3.64	Si
SLU 71	ini.	-143.82	458	0.9	0	1750	7137	3773	2295	6068	No	13.25	Si
SLU 71	fin.	170.76	1653	0.9	0	1750	7137	3773	2295	6068	No	3.67	Si
SLU 35	ini.	-180.67	567	0.9	0	1750	7137	3773	2295	6068	No	10.7	Si
SLU 35	fin.	174.37	1574	0.9	0	1750	7137	3773	2295	6068	No	3.85	Si
SLU 70	ini.	-152.63	470	0.9	0	1750	7137	3773	2295	6068	No	12.91	Si
SLU 70	fin.	177.71	1738	0.9	0	1750	7137	3773	2295	6068	No	3.49	Si
SLU 80	ini.	-184.29	608	0.9	0	1750	7137	3773	2295	6068	No	9.98	Si
SLU 80	fin.	184.87	1688	0.9	0	1750	7137	3773	2295	6068	No	3.6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-798.65	910	-0.0004517	0.0002807	0.0035	0.9		2995.37	2995.37		3.75	Si
SLD 1	fin.	391.43	-1448	-0.0002036	0.0002807	0.0035	0.9		2989.59	2989.59		7.64	Si
SLV 3	ini.	-868.36	899	-0.0004991	0.0002807	0.0035	0.9		2995.37	2995.37		3.45	Si
SLV 3	fin.	455.23	-1719	-0.0002396	0.0002807	0.0035	0.9		2989.59	2989.59		6.57	Si
SLV 5	ini.	-990.3	1369	-0.0005852	0.0002807	0.0035	0.9		2995.37	2995.37		3.02	Si
SLV 5	fin.	419.38	-1405	-0.0002192	0.0002807	0.0035	0.9		2989.59	2989.59		7.13	Si
SLV 6	ini.	-822.11	1133	-0.0004675	0.0002807	0.0035	0.9		2995.37	2995.37		3.64	Si
SLV 6	fin.	342.2	-1171	-0.0001764	0.0002807	0.0035	0.9		2989.59	2989.59		8.74	Si
SLV 12	ini.	849.2	-1728	-0.000487	0.0002807	0.0035	0.9		2989.59	2989.59		3.52	Si
SLV 12	fin.	-236.57	263	-0.0001196	0.0002807	0.0035	0.9		2995.37	2995.37		12.66	Si
SLV 15	ini.	826.33	-1546	-0.0004714	0.0002807	0.0035	0.9		2989.59	2989.59		3.62	Si
SLV 15	fin.	-266.46	465	-0.0001354	0.0002807	0.0035	0.9		2995.37	2995.37		11.24	Si
SLV 2	ini.	-967.42	1187	-0.0005687	0.0002807	0.0035	0.9		2995.37	2995.37		3.1	Si
SLV 2	fin.	449.27	-1606	-0.0002362	0.0002807	0.0035	0.9		2989.59	2989.59		6.65	Si
SLV 16	ini.	1076.13	-1897	-0.0006498	0.0002807	0.0035	0.9		2989.59	2989.59		2.78	Si
SLV 16	fin.	-381.1	811	-0.0001975	0.0002807	0.0035	0.9		2995.37	2995.37		7.86	Si
SLV 1	ini.	-1217.23	1537	-0.0007566	0.0002807	0.0035	0.9		2995.37	2995.37		2.46	Si
SLV 1	fin.	563.91	-1953	-0.0003033	0.0002807	0.0035	0.9		2989.59	2989.59		5.3	Si
SLV 14	ini.	727.26	-1259	-0.0004056	0.0002807	0.0035	0.9		2989.59	2989.59		4.11	Si
SLV 14	fin.	-272.42	577	-0.0001386	0.0002807	0.0035	0.9		2995.37	2995.37		11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-822.11	2536	0.9	0	2625	7137	5660	2295	7955		3.14	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	fin.	342.2	2679	0.9	0	2625	7137	5660	2295	7955		2.97	Si
SLV 5	ini.	-990.3	3043	0.9	0	2625	7137	5660	2295	7955		2.61	Si
SLV 5	fin.	419.38	3189	0.9	0	2625	7137	5660	2295	7955		2.49	Si
SLV 2	ini.	-967.42	2972	0.9	0	2625	7137	5660	2295	7955		2.68	Si
SLV 2	fin.	449.27	3397	0.9	0	2625	7137	5660	2295	7955		2.34	Si
SLD 1	ini.	-798.65	2466	0.9	0	2625	7137	5660	2295	7955		3.23	Si
SLD 1	fin.	391.43	2963	0.9	0	2625	7137	5660	2295	7955		2.68	Si
SLV 4	ini.	-618.55	1922	0.9	0	2625	7137	5660	2295	7955		4.14	Si
SLV 4	fin.	340.59	2620	0.9	0	2625	7137	5660	2295	7955		3.04	Si
SLV 16	ini.	1076.13	-3177	0.9	0	2625	7137	5660	2295	7955		2.5	Si
SLV 16	fin.	-381.1	-2371	0.9	0	2625	7137	5660	2295	7955		3.36	Si
SLV 1	ini.	-1217.23	3725	0.9	0	2625	7137	5660	2295	7955		2.14	Si
SLV 1	fin.	563.91	4154	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLV 12	ini.	849.2	-2495	0.9	0	2625	7137	5660	2295	7955		3.19	Si
SLV 12	fin.	-236.57	-1406	0.9	0	2625	7137	5660	2295	7955		5.66	Si
SLV 3	ini.	-868.36	2675	0.9	0	2625	7137	5660	2295	7955		2.97	Si
SLV 3	fin.	455.23	3378	0.9	0	2625	7137	5660	2295	7955		2.36	Si
SLD 3	ini.	-581.76	1813	0.9	0	2625	7137	5660	2295	7955		4.39	Si
SLD 3	fin.	323.83	2480	0.9	0	2625	7137	5660	2295	7955		3.21	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.461	SLV 1	Si
V_SLV	1.915	SLV 1	Si
PF_SLU	15.588	SLU 78	Si
V_SLU	3.449	SLU 78	Si

Trave di accoppiamento 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-17.743	6.661	14.15	14.6	0.45	-16.843	6.661	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-145.86	-20	-0.0003274	0.0001872	0.0035	0.45		748.52	748.52	No	5.13	Si
SLU 80	fin.	-40.43	268	-0.0000812	0.0001872	0.0035	0.45		748.52	748.52	No	18.51	Si
SLU 35	ini.	-141.79	-33	-0.0003167	0.0001872	0.0035	0.45		748.52	748.52	No	5.28	Si
SLU 35	fin.	-38.72	253	-0.0000776	0.0001872	0.0035	0.45		748.52	748.52	No	19.33	Si
SLU 37	ini.	-138.17	-43	-0.0003073	0.0001872	0.0035	0.45		748.52	748.52	No	5.42	Si
SLU 37	fin.	-30.24	257	-0.0000602	0.0001872	0.0035	0.45		748.52	748.52	No	24.76	Si
SLU 77	ini.	-148.13	-9	-0.0003333	0.0001872	0.0035	0.45		748.52	748.52	No	5.05	Si
SLU 77	fin.	-50.68	257	-0.0001027	0.0001872	0.0035	0.45		748.52	748.52	No	14.77	Si
SLU 38	ini.	-139.52	-44	-0.0003108	0.0001872	0.0035	0.45		748.52	748.52	No	5.37	Si
SLU 38	fin.	-28.47	264	-0.0000566	0.0001872	0.0035	0.45		748.52	748.52	No	26.29	Si
SLU 79	ini.	-144.51	-19	-0.0003238	0.0001872	0.0035	0.45		748.52	748.52	No	5.18	Si
SLU 79	fin.	-42.19	261	-0.0000848	0.0001872	0.0035	0.45		748.52	748.52	No	17.74	Si
SLU 70	ini.	-140.79	4	-0.0003141	0.0001872	0.0035	0.45		748.52	748.52	No	5.32	Si
SLU 70	fin.	-59.77	223	-0.0001221	0.0001872	0.0035	0.45		748.52	748.52	No	12.52	Si
SLU 78	ini.	-149.48	-11	-0.0003369	0.0001872	0.0035	0.45		748.52	748.52	No	5.01	Si
SLU 78	fin.	-48.91	264	-0.0000989	0.0001872	0.0035	0.45		748.52	748.52	No	15.3	Si
SLU 69	ini.	-139.44	6	-0.0003106	0.0001872	0.0035	0.45		748.52	748.52	No	5.37	Si
SLU 69	fin.	-61.53	215	-0.0001259	0.0001872	0.0035	0.45		748.52	748.52	No	12.16	Si
SLU 36	ini.	-143.14	-35	-0.0003202	0.0001872	0.0035	0.45		748.52	748.52	No	5.23	Si
SLU 36	fin.	-36.96	260	-0.000074	0.0001872	0.0035	0.45		748.52	748.52	No	20.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-141.79	732	0.45	0	799	3568	1887	1148	3034	No	4.15	Si
SLU 35	fin.	-38.72	-376	0.45	0	799	3568	1887	1148	3034	No	8.06	Si
SLU 36	ini.	-143.14	737	0.45	0	799	3568	1887	1148	3034	No	4.12	Si
SLU 36	fin.	-36.96	-371	0.45	0	799	3568	1887	1148	3034	No	8.18	Si
SLU 77	ini.	-148.13	786	0.45	0	799	3568	1887	1148	3034	No	3.86	Si
SLU 77	fin.	-50.68	-454	0.45	0	799	3568	1887	1148	3034	No	6.69	Si
SLU 80	ini.	-145.86	767	0.45	0	799	3568	1887	1148	3034	No	3.95	Si
SLU 80	fin.	-40.43	-407	0.45	0	799	3568	1887	1148	3034	No	7.45	Si
SLU 71	ini.	-135.82	727	0.45	0	799	3568	1887	1148	3034	No	4.17	Si
SLU 71	fin.	-53.05	-448	0.45	0	799	3568	1887	1148	3034	No	6.78	Si
SLU 70	ini.	-140.79	757	0.45	0	799	3568	1887	1148	3034	No	4.01	Si
SLU 70	fin.	-59.77	-483	0.45	0	799	3568	1887	1148	3034	No	6.28	Si
SLU 78	ini.	-149.48	792	0.45	0	799	3568	1887	1148	3034	No	3.83	Si
SLU 78	fin.	-48.91	-448	0.45	0	799	3568	1887	1148	3034	No	6.77	Si
SLU 69	ini.	-139.44	752	0.45	0	799	3568	1887	1148	3034	No	4.04	Si
SLU 69	fin.	-61.53	-489	0.45	0	799	3568	1887	1148	3034	No	6.21	Si
SLU 79	ini.	-144.51	762	0.45	0	799	3568	1887	1148	3034	No	3.98	Si
SLU 79	fin.	-42.19	-413	0.45	0	799	3568	1887	1148	3034	No	7.35	Si
SLU 72	ini.	-137.17	733	0.45	0	799	3568	1887	1148	3034	No	4.14	Si
SLU 72	fin.	-51.28	-442	0.45	0	799	3568	1887	1148	3034	No	6.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	144.56	453	-0.000311	0.0002807	0.0035	0.45		751.86	751.86		5.2	Si
SLV 15	fin.	-285.78	-825	-0.0006951	0.0002807	0.0035	0.45		754.83	754.83		2.64	Si
SLV 14	ini.	144.12	513	-0.00031	0.0002807	0.0035	0.45		751.86	751.86		5.22	Si
SLV 14	fin.	-273.15	-732	-0.000657	0.0002807	0.0035	0.45		754.83	754.83		2.76	Si
SLV 3	ini.	-265.82	-419	-0.0006352	0.0002807	0.0035	0.45		754.83	754.83		2.84	Si
SLV 3	fin.	196.65	936	-0.0004433	0.0002807	0.0035	0.45		751.86	751.86		3.82	Si
SLV 1	ini.	-345.17	-542	-0.0008845	0.0002807	0.0035	0.45		754.83	754.83		2.19	Si
SLV 1	fin.	297.99	1332	-0.0007361	0.0002807	0.0035	0.45		751.86	751.86		2.52	Si
SLV 5	ini.	-281.22	-351	-0.0006813	0.0002807	0.0035	0.45		754.83	754.83		2.68	Si
SLV 5	fin.	232.88	1129	-0.0005426	0.0002807	0.0035	0.45		751.86	751.86		3.23	Si
SLV 2	ini.	-266.26	-358	-0.0006365	0.0002807	0.0035	0.45		754.83	754.83		2.83	Si
SLV 2	fin.	209.29	1029	-0.0004773	0.0002807	0.0035	0.45		751.86	751.86		3.59	Si
SLV 16	ini.	223.47	637	-0.0005163	0.0002807	0.0035	0.45		751.86	751.86		3.36	Si
SLV 16	fin.	-374.49	-1129	-0.0009846	0.0002807	0.0035	0.45		754.83	754.83		2.02	Si
SLD 16	ini.	119.41	421	-0.0002517	0.0002807	0.0035	0.45		751.86	751.86		6.3	Si
SLD 16	fin.	-251.47	-679	-0.0005932	0.0002807	0.0035	0.45		754.83	754.83		3	Si
SLV 12	ini.	159.51	445	-0.0003477	0.0002807	0.0035	0.45		751.86	751.86		4.71	Si
SLV 12	fin.	-309.37	-925	-0.0007683	0.0002807	0.0035	0.45		754.83	754.83		2.44	Si
SLV 11	ini.	106.39	321	-0.0002221	0.0002807	0.0035	0.45		751.86	751.86		7.07	Si
SLV 11	fin.	-249.65	-721	-0.000588	0.0002807	0.0035	0.45		754.83	754.83		3.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	144.56	-431	0.45	0	1113	3568	2830	1148	3977		9.24	Si
SLV 15	fin.	-285.78	-1102	0.45	0	1113	3568	2830	1148	3977		3.61	Si
SLV 2	ini.	-266.26	1159	0.45	0	1113	3568	2830	1148	3977		3.43	Si
SLV 2	fin.	209.29	515	0.45	0	1113	3568	2830	1148	3977		7.72	Si
SLD 1	ini.	-241.11	1056	0.45	0	1113	3568	2830	1148	3977		3.77	Si
SLD 1	fin.	174.98	410	0.45	0	1113	3568	2830	1148	3977		9.7	Si
SLV 3	ini.	-265.82	1139	0.45	0	1113	3568	2830	1148	3977		3.49	Si
SLV 3	fin.	196.65	494	0.45	0	1113	3568	2830	1148	3977		8.06	Si
SLV 14	ini.	144.12	-411	0.45	0	1113	3568	2830	1148	3977		9.68	Si
SLV 14	fin.	-273.15	-1081	0.45	0	1113	3568	2830	1148	3977		3.68	Si
SLV 12	ini.	159.51	-499	0.45	0	1113	3568	2830	1148	3977		7.97	Si
SLV 12	fin.	-309.37	-1171	0.45	0	1113	3568	2830	1148	3977		3.4	Si
SLV 5	ini.	-281.22	1227	0.45	0	1113	3568	2830	1148	3977		3.24	Si
SLV 5	fin.	232.88	584	0.45	0	1113	3568	2830	1148	3977		6.81	Si
SLV 1	ini.	-345.17	1456	0.45	0	1113	3568	2830	1148	3977		2.73	Si
SLV 1	fin.	297.99	816	0.45	0	1113	3568	2830	1148	3977		4.87	Si
SLV 16	ini.	223.47	-728	0.45	0	1113	3568	2830	1148	3977		5.47	Si
SLV 16	fin.	-374.49	-1403	0.45	0	1113	3568	2830	1148	3977		2.83	Si
SLV 6	ini.	-228.09	1028	0.45	0	1113	3568	2830	1148	3977		3.87	Si
SLV 6	fin.	173.16	382	0.45	0	1113	3568	2830	1148	3977		10.42	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.016	SLV 16	Si
V_SLV	2.732	SLV 1	Si
PF_SLU	5.008	SLU 78	Si
V_SLU	3.833	SLU 78	Si

Trave di accoppiamento 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	11.45	12.35	0.9	-11.918	6.661	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	64.92	-790	-0.0000322	0.0001872	0.0035	0.9		2959	2959	No	45.58	Si
SLU 70	fin.	299.38	-1285	-0.0001561	0.0001872	0.0035	0.9		2959	2959	No	9.88	Si
SLU 69	ini.	63.21	-787	-0.0000313	0.0001872	0.0035	0.9		2959	2959	No	46.81	Si
SLU 69	fin.	301.36	-1289	-0.0001572	0.0001872	0.0035	0.9		2959	2959	No	9.82	Si
SLU 79	ini.	46.14	-729	-0.0000228	0.0001872	0.0035	0.9		2959	2959	No	64.13	Si
SLU 79	fin.	300.79	-1263	-0.0001569	0.0001872	0.0035	0.9		2959	2959	No	9.84	Si
SLU 80	ini.	47.85	-732	-0.0000236	0.0001872	0.0035	0.9		2959	2959	No	61.84	Si
SLU 80	fin.	298.81	-1259	-0.0001558	0.0001872	0.0035	0.9		2959	2959	No	9.9	Si
SLU 77	ini.	52.88	-770	-0.0000261	0.0001872	0.0035	0.9		2959	2959	No	55.96	Si
SLU 77	fin.	311.06	-1313	-0.0001627	0.0001872	0.0035	0.9		2959	2959	No	9.51	Si
SLU 84	ini.	26.56	-643	-0.0000131	0.0001872	0.0035	0.9		2959	2959	No	111.42	Si
SLU 84	fin.	292.19	-1200	-0.0001521	0.0001872	0.0035	0.9		2959	2959	No	10.13	Si
SLU 75	ini.	37.72	-691	-0.0000186	0.0001872	0.0035	0.9		2959	2959	No	78.44	Si
SLU 75	fin.	298.3	-1240	-0.0001555	0.0001872	0.0035	0.9		2959	2959	No	9.92	Si
SLU 74	ini.	36.02	-688	-0.0000177	0.0001872	0.0035	0.9		2959	2959	No	82.16	Si
SLU 74	fin.	300.29	-1244	-0.0001566	0.0001872	0.0035	0.9		2959	2959	No	9.85	Si
SLU 83	ini.	24.85	-640	-0.0000122	0.0001872	0.0035	0.9		2959	2959	No	119.08	Si
SLU 83	fin.	294.17	-1204	-0.0001532	0.0001872	0.0035	0.9		2959	2959	No	10.06	Si
SLU 78	ini.	54.58	-773	-0.000027	0.0001872	0.0035	0.9		2959	2959	No	54.21	Si
SLU 78	fin.	309.08	-1309	-0.0001616	0.0001872	0.0035	0.9		2959	2959	No	9.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	52.88	-243	0.9	0	1750	7137	3773	2295	6068	No	24.93	Si
SLU 77	fin.	311.06	1270	0.9	0	1750	7137	3773	2295	6068	No	4.78	Si
SLU 75	ini.	37.72	-158	0.9	0	1750	7137	3773	2295	6068	No	38.49	Si
SLU 75	fin.	298.3	1202	0.9	0	1750	7137	3773	2295	6068	No	5.05	Si
SLU 80	ini.	47.85	-209	0.9	0	1750	7137	3773	2295	6068	No	29.05	Si
SLU 80	fin.	298.81	1206	0.9	0	1750	7137	3773	2295	6068	No	5.03	Si
SLU 74	ini.	36.02	-151	0.9	0	1750	7137	3773	2295	6068	No	40.18	Si
SLU 74	fin.	300.29	1211	0.9	0	1750	7137	3773	2295	6068	No	5.01	Si
SLU 71	ini.	56.48	-285	0.9	0	1750	7137	3773	2295	6068	No	21.3	Si
SLU 71	fin.	291.09	1207	0.9	0	1750	7137	3773	2295	6068	No	5.03	Si
SLU 78	ini.	54.58	-250	0.9	0	1750	7137	3773	2295	6068	No	24.27	Si
SLU 78	fin.	309.08	1261	0.9	0	1750	7137	3773	2295	6068	No	4.81	Si
SLU 69	ini.	63.21	-326	0.9	0	1750	7137	3773	2295	6068	No	18.61	Si
SLU 69	fin.	301.36	1261	0.9	0	1750	7137	3773	2295	6068	No	4.81	Si
SLU 79	ini.	46.14	-202	0.9	0	1750	7137	3773	2295	6068	No	30	Si
SLU 79	fin.	300.79	1215	0.9	0	1750	7137	3773	2295	6068	No	5	Si
SLU 70	ini.	64.92	-333	0.9	0	1750	7137	3773	2295	6068	No	18.24	Si
SLU 70	fin.	299.38	1253	0.9	0	1750	7137	3773	2295	6068	No	4.84	Si
SLU 66	ini.	46.35	-234	0.9	0	1750	7137	3773	2295	6068	No	25.97	Si
SLU 66	fin.	290.59	1203	0.9	0	1750	7137	3773	2295	6068	No	5.05	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-748.48	1179	-0.0004185	0.0002807	0.0035	0.9		2995.37	2995.37		4	Si
SLV 1	fin.	1006.36	-2278	-0.0005982	0.0002807	0.0035	0.9		2989.59	2989.59		2.97	Si
SLV 14	ini.	834.42	-2137	-0.0004769	0.0002807	0.0035	0.9		2989.59	2989.59		3.58	Si
SLV 14	fin.	-672.65	779	-0.0003697	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si
SLV 2	ini.	-559.77	781	-0.0003002	0.0002807	0.0035	0.9		2995.37	2995.37		5.35	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	fin.	807.67	-1915	-0.0004588	0.0002807	0.0035	0.9		2989.59	2989.59		3.7	Si
SLD 1	ini.	-472.48	597	-0.000249	0.0002807	0.0035	0.9		2995.37	2995.37		6.34	Si
SLD 1	fin.	715.41	-1751	-0.0003979	0.0002807	0.0035	0.9		2989.59	2989.59		4.18	Si
SLD 4	ini.	-387.57	409	-0.0002011	0.0002807	0.0035	0.9		2995.37	2995.37		7.73	Si
SLD 4	fin.	632.36	-1610	-0.0003452	0.0002807	0.0035	0.9		2989.59	2989.59		4.73	Si
SLV 4	ini.	-617.1	886	-0.000335	0.0002807	0.0035	0.9		2995.37	2995.37		4.85	Si
SLV 4	fin.	878.21	-2060	-0.000507	0.0002807	0.0035	0.9		2989.59	2989.59		3.4	Si
SLV 16	ini.	777.08	-2032	-0.0004383	0.0002807	0.0035	0.9		2989.59	2989.59		3.85	Si
SLV 16	fin.	-602.1	634	-0.0003258	0.0002807	0.0035	0.9		2995.37	2995.37		4.97	Si
SLD 3	ini.	-508.14	663	-0.0002697	0.0002807	0.0035	0.9		2995.37	2995.37		5.89	Si
SLD 3	fin.	759.3	-1842	-0.0004265	0.0002807	0.0035	0.9		2989.59	2989.59		3.94	Si
SLV 3	ini.	-805.82	1283	-0.0004565	0.0002807	0.0035	0.9		2995.37	2995.37		3.72	Si
SLV 3	fin.	1076.91	-2423	-0.0006504	0.0002807	0.0035	0.9		2989.59	2989.59		2.78	Si
SLV 13	ini.	645.71	-1740	-0.0003535	0.0002807	0.0035	0.9		2989.59	2989.59		4.63	Si
SLV 13	fin.	-473.95	416	-0.0002498	0.0002807	0.0035	0.9		2995.37	2995.37		6.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	645.71	-2857	0.9	0	2625	7137	5660	2295	7955		2.78	Si
SLV 13	fin.	-473.95	-1906	0.9	0	2625	7137	5660	2295	7955		4.17	Si
SLD 3	ini.	-508.14	2260	0.9	0	2625	7137	5660	2295	7955		3.52	Si
SLD 3	fin.	759.3	3041	0.9	0	2625	7137	5660	2295	7955		2.62	Si
SLV 1	ini.	-748.48	3351	0.9	0	2625	7137	5660	2295	7955		2.37	Si
SLV 1	fin.	1006.36	3997	0.9	0	2625	7137	5660	2295	7955		1.99	Si
SLV 15	ini.	588.37	-2629	0.9	0	2625	7137	5660	2295	7955		3.03	Si
SLV 15	fin.	-403.41	-1588	0.9	0	2625	7137	5660	2295	7955		5.01	Si
SLV 14	ini.	834.42	-3688	0.9	0	2625	7137	5660	2295	7955		2.16	Si
SLV 14	fin.	-672.65	-2699	0.9	0	2625	7137	5660	2295	7955		2.95	Si
SLV 3	ini.	-805.82	3579	0.9	0	2625	7137	5660	2295	7955		2.22	Si
SLV 3	fin.	1076.91	4315	0.9	0	2625	7137	5660	2295	7955		1.84	Si
SLV 16	ini.	777.08	-3460	0.9	0	2625	7137	5660	2295	7955		2.3	Si
SLV 16	fin.	-602.1	-2380	0.9	0	2625	7137	5660	2295	7955		3.34	Si
SLV 2	ini.	-559.77	2520	0.9	0	2625	7137	5660	2295	7955		3.16	Si
SLV 2	fin.	807.67	3205	0.9	0	2625	7137	5660	2295	7955		2.48	Si
SLD 1	ini.	-472.48	2119	0.9	0	2625	7137	5660	2295	7955		3.75	Si
SLD 1	fin.	715.41	2843	0.9	0	2625	7137	5660	2295	7955		2.8	Si
SLV 4	ini.	-617.1	2748	0.9	0	2625	7137	5660	2295	7955		2.89	Si
SLV 4	fin.	878.21	3523	0.9	0	2625	7137	5660	2295	7955		2.26	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.776	SLV 3	Si
V_SLV	1.843	SLV 3	Si
PF_SLU	9.512	SLU 77	Si
V_SLU	4.78	SLU 77	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.818	6.661	14.15	14.6	0.45	-11.918	6.661	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-186.7	-355	-0.0004386	0.0001872	0.0035	0.45		748.52	748.52	No	4.01	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	fin.	-19.28	131	-0.000038	0.0001872	0.0035	0.45		748.52	748.52	No	38.82	Si
SLU 75	ini.	-187.06	-367	-0.0004396	0.0001872	0.0035	0.45		748.52	748.52	No	4	Si
SLU 75	fin.	-8.85	151	-0.0000173	0.0001872	0.0035	0.45		748.52	748.52	No	84.55	Si
SLU 70	ini.	-193.9	-363	-0.000459	0.0001872	0.0035	0.45		748.52	748.52	No	3.86	Si
SLU 70	fin.	-26.7	123	-0.000053	0.0001872	0.0035	0.45		748.52	748.52	No	28.03	Si
SLU 79	ini.	-193.08	-375	-0.0004567	0.0001872	0.0035	0.45		748.52	748.52	No	3.88	Si
SLU 79	fin.	-13.13	148	-0.0000258	0.0001872	0.0035	0.45		748.52	748.52	No	57	Si
SLU 80	ini.	-192.08	-372	-0.0004538	0.0001872	0.0035	0.45		748.52	748.52	No	3.9	Si
SLU 80	fin.	-14.14	145	-0.0000278	0.0001872	0.0035	0.45		748.52	748.52	No	52.92	Si
SLU 78	ini.	-200.28	-383	-0.0004773	0.0001872	0.0035	0.45		748.52	748.52	No	3.74	Si
SLU 78	fin.	-20.55	140	-0.0000406	0.0001872	0.0035	0.45		748.52	748.52	No	36.42	Si
SLU 69	ini.	-194.89	-366	-0.0004618	0.0001872	0.0035	0.45		748.52	748.52	No	3.84	Si
SLU 69	fin.	-25.69	126	-0.0000509	0.0001872	0.0035	0.45		748.52	748.52	No	29.14	Si
SLU 72	ini.	-185.7	-353	-0.0004358	0.0001872	0.0035	0.45		748.52	748.52	No	4.03	Si
SLU 72	fin.	-20.29	128	-0.0000401	0.0001872	0.0035	0.45		748.52	748.52	No	36.88	Si
SLU 77	ini.	-201.27	-386	-0.0004802	0.0001872	0.0035	0.45		748.52	748.52	No	3.72	Si
SLU 77	fin.	-19.54	143	-0.0000386	0.0001872	0.0035	0.45		748.52	748.52	No	38.31	Si
SLU 74	ini.	-188.06	-370	-0.0004424	0.0001872	0.0035	0.45		748.52	748.52	No	3.98	Si
SLU 74	fin.	-7.84	154	-0.0000153	0.0001872	0.0035	0.45		748.52	748.52	No	95.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-193.08	870	0.45	0	799	3568	1887	1148	3034	No	3.49	Si
SLU 79	fin.	-13.13	-229	0.45	0	799	3568	1887	1148	3034	No	13.28	Si
SLU 71	ini.	-186.7	848	0.45	0	799	3568	1887	1148	3034	No	3.58	Si
SLU 71	fin.	-19.28	-251	0.45	0	799	3568	1887	1148	3034	No	12.1	Si
SLU 80	ini.	-192.08	867	0.45	0	799	3568	1887	1148	3034	No	3.5	Si
SLU 80	fin.	-14.14	-232	0.45	0	799	3568	1887	1148	3034	No	13.07	Si
SLU 78	ini.	-200.28	904	0.45	0	799	3568	1887	1148	3034	No	3.35	Si
SLU 78	fin.	-20.55	-264	0.45	0	799	3568	1887	1148	3034	No	11.51	Si
SLU 77	ini.	-201.27	908	0.45	0	799	3568	1887	1148	3034	No	3.34	Si
SLU 77	fin.	-19.54	-260	0.45	0	799	3568	1887	1148	3034	No	11.67	Si
SLU 69	ini.	-194.89	886	0.45	0	799	3568	1887	1148	3034	No	3.43	Si
SLU 69	fin.	-25.69	-282	0.45	0	799	3568	1887	1148	3034	No	10.75	Si
SLU 72	ini.	-185.7	844	0.45	0	799	3568	1887	1148	3034	No	3.59	Si
SLU 72	fin.	-20.29	-254	0.45	0	799	3568	1887	1148	3034	No	11.93	Si
SLU 75	ini.	-187.06	842	0.45	0	799	3568	1887	1148	3034	No	3.6	Si
SLU 75	fin.	-8.85	-207	0.45	0	799	3568	1887	1148	3034	No	14.66	Si
SLU 74	ini.	-188.06	846	0.45	0	799	3568	1887	1148	3034	No	3.59	Si
SLU 74	fin.	-7.84	-203	0.45	0	799	3568	1887	1148	3034	No	14.92	Si
SLU 70	ini.	-193.9	882	0.45	0	799	3568	1887	1148	3034	No	3.44	Si
SLU 70	fin.	-26.7	-286	0.45	0	799	3568	1887	1148	3034	No	10.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-366.87	-971	-0.0009581	0.0002807	0.0035	0.45		754.83	754.83		2.06	Si
SLD 1	fin.	253.8	847	-0.0006027	0.0002807	0.0035	0.45		751.86	751.86		2.96	Si
SLD 3	ini.	-388.29	-1032	-0.0010334	0.0002807	0.0035	0.45		754.83	754.83		1.94	Si
SLD 3	fin.	275.6	912	-0.0006674	0.0002807	0.0035	0.45		751.86	751.86		2.73	Si
SLV 16	ini.	269.56	897	-0.0006492	0.0002807	0.0035	0.45		751.86	751.86		2.79	Si
SLV 16	fin.	-383.16	-1022	-0.0010151	0.0002807	0.0035	0.45		754.83	754.83		1.97	Si
SLV 1	ini.	-507.68	-1384	-0.0015125	0.0002807	0.0035	0.45		754.83	754.83		1.49	Si
SLV 1	fin.	394.73	1261	-0.0010618	0.0002807	0.0035	0.45		751.86	751.86		1.9	Si
SLV 3	ini.	-542.13	-1483	-0.0016772	0.0002807	0.0035	0.45		754.83	754.83		1.39	Si
SLV 3	fin.	429.79	1364	-0.0011934	0.0002807	0.0035	0.45		751.86	751.86		1.75	Si
SLV 4	ini.	-433.36	-1167	-0.0012011	0.0002807	0.0035	0.45		754.83	754.83		1.74	Si
SLV 4	fin.	320.83	1047	-0.0008086	0.0002807	0.0035	0.45		751.86	751.86		2.34	Si
SLD 4	ini.	-318.79	-830	-0.0007983	0.0002807	0.0035	0.45		754.83	754.83		2.37	Si
SLD 4	fin.	205.99	709	-0.0004683	0.0002807	0.0035	0.45		751.86	751.86		3.65	Si
SLV 2	ini.	-398.9	-1068	-0.0010717	0.0002807	0.0035	0.45		754.83	754.83		1.89	Si
SLV 2	fin.	285.77	944	-0.0006983	0.0002807	0.0035	0.45		751.86	751.86		2.63	Si
SLV 14	ini.	304.02	996	-0.000755	0.0002807	0.0035	0.45		751.86	751.86		2.47	Si
SLV 14	fin.	-418.22	-1126	-0.0011432	0.0002807	0.0035	0.45		754.83	754.83		1.8	Si
SLV 7	ini.	-318.54	-824	-0.0007975	0.0002807	0.0035	0.45		754.83	754.83		2.37	Si
SLV 7	fin.	206.5	709	-0.0004697	0.0002807	0.0035	0.45		751.86	751.86		3.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-388.29	1496	0.45	0	1113	3568	2830	1148	3977		2.66	Si
SLD 3	fin.	275.6	868	0.45	0	1113	3568	2830	1148	3977		4.58	Si
SLV 4	ini.	-433.36	1656	0.45	0	1113	3568	2830	1148	3977		2.4	Si
SLV 4	fin.	320.83	1028	0.45	0	1113	3568	2830	1148	3977		3.87	Si
SLD 1	ini.	-366.87	1420	0.45	0	1113	3568	2830	1148	3977		2.8	Si
SLD 1	fin.	253.8	791	0.45	0	1113	3568	2830	1148	3977		5.03	Si
SLV 2	ini.	-398.9	1533	0.45	0	1113	3568	2830	1148	3977		2.6	Si
SLV 2	fin.	285.77	904	0.45	0	1113	3568	2830	1148	3977		4.4	Si
SLD 4	ini.	-318.79	1248	0.45	0	1113	3568	2830	1148	3977		3.19	Si
SLD 4	fin.	205.99	620	0.45	0	1113	3568	2830	1148	3977		6.42	Si
SLV 7	ini.	-318.54	1249	0.45	0	1113	3568	2830	1148	3977		3.18	Si
SLV 7	fin.	206.5	622	0.45	0	1113	3568	2830	1148	3977		6.39	Si
SLV 16	ini.	269.56	-846	0.45	0	1113	3568	2830	1148	3977		4.7	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	fin.	-383.16	-1477	0.45	0	1113	3568	2830	1148	3977		2.69	Si
SLV 1	ini.	-507.68	1921	0.45	0	1113	3568	2830	1148	3977		2.07	Si
SLV 1	fin.	394.73	1292	0.45	0	1113	3568	2830	1148	3977		3.08	Si
SLV 3	ini.	-542.13	2044	0.45	0	1113	3568	2830	1148	3977		1.95	Si
SLV 3	fin.	429.79	1417	0.45	0	1113	3568	2830	1148	3977		2.81	Si
SLV 14	ini.	304.02	-969	0.45	0	1113	3568	2830	1148	3977		4.1	Si
SLV 14	fin.	-418.22	-1602	0.45	0	1113	3568	2830	1148	3977		2.48	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.392	SLV 3	Si
V_SLV	1.946	SLV 3	Si
PF_SLU	3.719	SLU 77	Si
V_SLU	3.341	SLU 77	Si

Trave di accoppiamento 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	11.45	12.35	0.9	-7.013	6.661	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-38.13	-123	-0.0000188	0.0001872	0.0035	0.9		2964.67	2964.67	No	77.76	Si
SLU 82	fin.	116.03	-380	-0.0000581	0.0001872	0.0035	0.9		2959	2959	No	25.5	Si
SLU 65	ini.	-30.71	-170	-0.0000151	0.0001872	0.0035	0.9		2964.67	2964.67	No	96.53	Si
SLU 65	fin.	108.01	-380	-0.000054	0.0001872	0.0035	0.9		2959	2959	No	27.4	Si
SLU 81	ini.	-39.47	-119	-0.0000194	0.0001872	0.0035	0.9		2964.67	2964.67	No	75.11	Si
SLU 81	fin.	119.89	-386	-0.00006	0.0001872	0.0035	0.9		2959	2959	No	24.68	Si
SLU 43	ini.	-34.77	-134	-0.0000171	0.0001872	0.0035	0.9		2964.67	2964.67	No	85.26	Si
SLU 43	fin.	112.78	-366	-0.0000564	0.0001872	0.0035	0.9		2959	2959	No	26.24	Si
SLU 73	ini.	-35.27	-139	-0.0000173	0.0001872	0.0035	0.9		2964.67	2964.67	No	84.05	Si
SLU 73	fin.	111.82	-377	-0.0000559	0.0001872	0.0035	0.9		2959	2959	No	26.46	Si
SLU 44	ini.	-32.53	-141	-0.000016	0.0001872	0.0035	0.9		2964.67	2964.67	No	91.14	Si
SLU 44	fin.	106.34	-356	-0.0000531	0.0001872	0.0035	0.9		2959	2959	No	27.83	Si
SLU 61	ini.	-39.94	-94	-0.0000197	0.0001872	0.0035	0.9		2964.67	2964.67	No	74.22	Si
SLU 61	fin.	114.35	-356	-0.0000572	0.0001872	0.0035	0.9		2959	2959	No	25.88	Si
SLU 60	ini.	-41.29	-90	-0.0000203	0.0001872	0.0035	0.9		2964.67	2964.67	No	71.8	Si
SLU 60	fin.	118.22	-362	-0.0000592	0.0001872	0.0035	0.9		2959	2959	No	25.03	Si
SLU 52	ini.	-37.09	-110	-0.0000182	0.0001872	0.0035	0.9		2964.67	2964.67	No	79.93	Si
SLU 52	fin.	110.15	-353	-0.000055	0.0001872	0.0035	0.9		2959	2959	No	26.86	Si
SLU 64	ini.	-32.96	-163	-0.0000162	0.0001872	0.0035	0.9		2964.67	2964.67	No	89.96	Si
SLU 64	fin.	114.45	-390	-0.0000572	0.0001872	0.0035	0.9		2959	2959	No	25.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 27	ini.	5.54	-703	0.9	0	1750	7137	3773	2295	6068	No	8.63	Si
SLU 27	fin.	-11.8	86	0.9	0	1750	7137	3773	2295	6068	No	70.33	Si
SLU 49	ini.	-3.44	-725	0.9	0	1750	7137	3773	2295	6068	No	8.37	Si
SLU 49	fin.	8.24	152	0.9	0	1750	7137	3773	2295	6068	No	40.04	Si
SLU 28	ini.	6.88	-713	0.9	0	1750	7137	3773	2295	6068	No	8.51	Si
SLU 28	fin.	-15.67	75	0.9	0	1750	7137	3773	2295	6068	No	81.2	Si
SLU 48	ini.	-4.78	-715	0.9	0	1750	7137	3773	2295	6068	No	8.49	Si
SLU 48	fin.	12.11	163	0.9	0	1750	7137	3773	2295	6068	No	37.21	Si
SLU 78	ini.	-6.18	-674	0.9	0	1750	7137	3773	2295	6068	No	9	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	13.72	146	0.9	0	1750	7137	3773	2295	6068	No	41.45	Si
SLU 70	ini.	-1.62	-767	0.9	0	1750	7137	3773	2295	6068	No	7.91	Si
SLU 70	fin.	9.92	163	0.9	0	1750	7137	3773	2295	6068	No	37.28	Si
SLU 72	ini.	-6.17	-705	0.9	0	1750	7137	3773	2295	6068	No	8.6	Si
SLU 72	fin.	2.23	126	0.9	0	1750	7137	3773	2295	6068	No	48.13	Si
SLU 71	ini.	-7.51	-695	0.9	0	1750	7137	3773	2295	6068	No	8.73	Si
SLU 71	fin.	6.1	138	0.9	0	1750	7137	3773	2295	6068	No	44.09	Si
SLU 69	ini.	-2.97	-757	0.9	0	1750	7137	3773	2295	6068	No	8.01	Si
SLU 69	fin.	13.78	174	0.9	0	1750	7137	3773	2295	6068	No	34.81	Si
SLU 7	ini.	5.07	-671	0.9	0	1750	7137	3773	2295	6068	No	9.04	Si
SLU 7	fin.	-17.34	64	0.9	0	1750	7137	3773	2295	6068	No	95.52	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-226.72	499	-0.0001145	0.0002807	0.0035	0.9		2995.37	2995.37		13.21	Si
SLV 7	fin.	669.34	-1228	-0.0003684	0.0002807	0.0035	0.9		2989.59	2989.59		4.47	Si
SLV 2	ini.	-205.99	523	-0.0001037	0.0002807	0.0035	0.9		2995.37	2995.37		14.54	Si
SLV 2	fin.	521.54	-846	-0.0002781	0.0002807	0.0035	0.9		2989.59	2989.59		5.73	Si
SLV 13	ini.	209.18	-896	-0.0001055	0.0002807	0.0035	0.9		2989.59	2989.59		14.29	Si
SLV 13	fin.	-540.55	614	-0.0002887	0.0002807	0.0035	0.9		2995.37	2995.37		5.54	Si
SLV 8	ini.	-168.76	302	-0.0000844	0.0002807	0.0035	0.9		2995.37	2995.37		17.75	Si
SLV 8	fin.	539.68	-1059	-0.0002888	0.0002807	0.0035	0.9		2989.59	2989.59		5.54	Si
SLV 3	ini.	-349.38	967	-0.00018	0.0002807	0.0035	0.9		2995.37	2995.37		8.57	Si
SLV 3	fin.	910.66	-1453	-0.0005296	0.0002807	0.0035	0.9		2989.59	2989.59		3.28	Si
SLV 16	ini.	237.97	-1036	-0.0001206	0.0002807	0.0035	0.9		2989.59	2989.59		12.56	Si
SLV 16	fin.	-536.61	509	-0.0002864	0.0002807	0.0035	0.9		2995.37	2995.37		5.58	Si
SLV 4	ini.	-263.28	676	-0.0001337	0.0002807	0.0035	0.9		2995.37	2995.37		11.38	Si
SLV 4	fin.	718.07	-1202	-0.0003996	0.0002807	0.0035	0.9		2989.59	2989.59		4.16	Si
SLV 1	ini.	-292.08	815	-0.000149	0.0002807	0.0035	0.9		2995.37	2995.37		10.26	Si
SLV 1	fin.	714.13	-1097	-0.000397	0.0002807	0.0035	0.9		2989.59	2989.59		4.19	Si
SLV 14	ini.	295.27	-1188	-0.000151	0.0002807	0.0035	0.9		2989.59	2989.59		10.12	Si
SLV 14	fin.	-733.14	865	-0.0004085	0.0002807	0.0035	0.9		2995.37	2995.37		4.09	Si
SLD 3	ini.	-231.5	573	-0.000117	0.0002807	0.0035	0.9		2995.37	2995.37		12.94	Si
SLD 3	fin.	610.95	-1031	-0.0003319	0.0002807	0.0035	0.9		2989.59	2989.59		4.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-231.5	1285	0.9	0	2625	7137	5660	2295	7955		6.19	Si
SLD 3	fin.	610.95	1868	0.9	0	2625	7137	5660	2295	7955		4.26	Si
SLV 4	ini.	-263.28	1561	0.9	0	2625	7137	5660	2295	7955		5.1	Si
SLV 4	fin.	718.07	2185	0.9	0	2625	7137	5660	2295	7955		3.64	Si
SLV 10	ini.	172.62	-1746	0.9	0	2625	7137	5660	2295	7955		4.56	Si
SLV 10	fin.	-491.82	-1421	0.9	0	2625	7137	5660	2295	7955		5.6	Si
SLV 14	ini.	295.27	-2576	0.9	0	2625	7137	5660	2295	7955		3.09	Si
SLV 14	fin.	-733.14	-2156	0.9	0	2625	7137	5660	2295	7955		3.69	Si
SLV 13	ini.	209.18	-1988	0.9	0	2625	7137	5660	2295	7955		4	Si
SLV 13	fin.	-540.55	-1576	0.9	0	2625	7137	5660	2295	7955		5.05	Si
SLD 14	ini.	177.39	-1713	0.9	0	2625	7137	5660	2295	7955		4.64	Si
SLD 14	fin.	-433.43	-1259	0.9	0	2625	7137	5660	2295	7955		6.32	Si
SLV 3	ini.	-349.38	2148	0.9	0	2625	7137	5660	2295	7955		3.7	Si
SLV 3	fin.	910.66	2765	0.9	0	2625	7137	5660	2295	7955		2.88	Si
SLV 7	ini.	-226.72	1318	0.9	0	2625	7137	5660	2295	7955		6.03	Si
SLV 7	fin.	669.34	2030	0.9	0	2625	7137	5660	2295	7955		3.92	Si
SLV 1	ini.	-292.08	1677	0.9	0	2625	7137	5660	2295	7955		4.74	Si
SLV 1	fin.	714.13	2186	0.9	0	2625	7137	5660	2295	7955		3.64	Si
SLV 16	ini.	237.97	-2105	0.9	0	2625	7137	5660	2295	7955		3.78	Si
SLV 16	fin.	-536.61	-1576	0.9	0	2625	7137	5660	2295	7955		5.05	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.283	SLV 3	Si
V_SLV	2.876	SLV 3	Si
PF_SLU	24.681	SLU 81	Si
V_SLU	7.908	SLU 70	Si

Trave di accoppiamento 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-7.913	6.661	14.15	14.6	0.45	-7.013	6.661	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-154.57	-335	-0.0003504	0.0001872	0.0035	0.45		748.52	748.52	No	4.84	Si
SLU 78	fin.	52.45	614	-0.0001068	0.0001872	0.0035	0.45		745.72	745.72	No	14.22	Si
SLU 66	ini.	-152	-368	-0.0003436	0.0001872	0.0035	0.45		748.52	748.52	No	4.92	Si
SLU 66	fin.	50.9	562	-0.0001035	0.0001872	0.0035	0.45		745.72	745.72	No	14.65	Si
SLU 75	ini.	-153.17	-369	-0.0003467	0.0001872	0.0035	0.45		748.52	748.52	No	4.89	Si
SLU 75	fin.	53.32	578	-0.0001087	0.0001872	0.0035	0.45		745.72	745.72	No	13.99	Si
SLU 83	ini.	-146.2	-357	-0.0003282	0.0001872	0.0035	0.45		748.52	748.52	No	5.12	Si
SLU 83	fin.	60.92	593	-0.000125	0.0001872	0.0035	0.45		745.72	745.72	No	12.24	Si
SLU 77	ini.	-155.63	-341	-0.0003532	0.0001872	0.0035	0.45		748.52	748.52	No	4.81	Si
SLU 77	fin.	53.27	617	-0.0001086	0.0001872	0.0035	0.45		745.72	745.72	No	14	Si
SLU 79	ini.	-146.65	-320	-0.0003294	0.0001872	0.0035	0.45		748.52	748.52	No	5.1	Si
SLU 79	fin.	58.67	620	-0.0001202	0.0001872	0.0035	0.45		745.72	745.72	No	12.71	Si
SLU 74	ini.	-154.23	-374	-0.0003495	0.0001872	0.0035	0.45		748.52	748.52	No	4.85	Si
SLU 74	fin.	54.14	581	-0.0001104	0.0001872	0.0035	0.45		745.72	745.72	No	13.77	Si
SLU 70	ini.	-152.35	-329	-0.0003445	0.0001872	0.0035	0.45		748.52	748.52	No	4.91	Si
SLU 70	fin.	49.22	595	-0.0001	0.0001872	0.0035	0.45		745.72	745.72	No	15.15	Si
SLU 69	ini.	-153.41	-335	-0.0003473	0.0001872	0.0035	0.45		748.52	748.52	No	4.88	Si
SLU 69	fin.	50.04	598	-0.0001017	0.0001872	0.0035	0.45		745.72	745.72	No	14.9	Si
SLU 67	ini.	-150.94	-362	-0.0003408	0.0001872	0.0035	0.45		748.52	748.52	No	4.96	Si
SLU 67	fin.	50.09	559	-0.0001018	0.0001872	0.0035	0.45		745.72	745.72	No	14.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-152.35	997	0.45	0	799	3568	1887	1148	3034	No	3.04	Si
SLU 70	fin.	49.22	-86	0.45	0	799	3568	1887	1148	3034	No	35.32	Si
SLU 66	ini.	-152	968	0.45	0	799	3568	1887	1148	3034	No	3.13	Si
SLU 66	fin.	50.9	-51	0.45	0	799	3568	1887	1148	3034	No	59.62	Si
SLU 80	ini.	-145.59	950	0.45	0	799	3568	1887	1148	3034	No	3.19	Si
SLU 80	fin.	57.86	-30	0.45	0	799	3568	1887	1148	3034	No	99.73	Si
SLU 75	ini.	-153.17	976	0.45	0	799	3568	1887	1148	3034	No	3.11	Si
SLU 75	fin.	53.32	-43	0.45	0	799	3568	1887	1148	3034	No	71.09	Si
SLU 69	ini.	-153.41	1001	0.45	0	799	3568	1887	1148	3034	No	3.03	Si
SLU 69	fin.	50.04	-82	0.45	0	799	3568	1887	1148	3034	No	37.14	Si
SLU 77	ini.	-155.63	1013	0.45	0	799	3568	1887	1148	3034	No	2.99	Si
SLU 77	fin.	53.27	-69	0.45	0	799	3568	1887	1148	3034	No	43.8	Si
SLU 79	ini.	-146.65	954	0.45	0	799	3568	1887	1148	3034	No	3.18	Si
SLU 79	fin.	58.67	-26	0.45	0	799	3568	1887	1148	3034	No	115.77	Si
SLU 67	ini.	-150.94	964	0.45	0	799	3568	1887	1148	3034	No	3.15	Si
SLU 67	fin.	50.09	-55	0.45	0	799	3568	1887	1148	3034	No	55.06	Si
SLU 74	ini.	-154.23	980	0.45	0	799	3568	1887	1148	3034	No	3.1	Si
SLU 74	fin.	54.14	-38	0.45	0	799	3568	1887	1148	3034	No	78.88	Si
SLU 78	ini.	-154.57	1009	0.45	0	799	3568	1887	1148	3034	No	3.01	Si
SLU 78	fin.	52.45	-73	0.45	0	799	3568	1887	1148	3034	No	41.29	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-188.65	-736	-0.0004203	0.0002807	0.0035	0.45		754.83	754.83		4	Si
SLV 2	fin.	113.97	667	-0.0002393	0.0002807	0.0035	0.45		751.86	751.86		6.6	Si
SLV 3	ini.	-293.44	-1302	-0.0007186	0.0002807	0.0035	0.45		754.83	754.83		2.57	Si
SLV 3	fin.	196.67	960	-0.0004433	0.0002807	0.0035	0.45		751.86	751.86		3.82	Si
SLV 7	ini.	-246.28	-1072	-0.0005783	0.0002807	0.0035	0.45		754.83	754.83		3.06	Si
SLV 7	fin.	151	753	-0.0003267	0.0002807	0.0035	0.45		751.86	751.86		4.98	Si
SLD 3	ini.	-224.54	-930	-0.000517	0.0002807	0.0035	0.45		754.83	754.83		3.36	Si
SLD 3	fin.	140.84	755	-0.0003021	0.0002807	0.0035	0.45		751.86	751.86		5.34	Si
SLV 1	ini.	-244.65	-1020	-0.0005736	0.0002807	0.0035	0.45		754.83	754.83		3.09	Si
SLV 1	fin.	162.76	863	-0.0003558	0.0002807	0.0035	0.45		751.86	751.86		4.62	Si
SLD 7	ini.	-193.83	-780	-0.0004339	0.0002807	0.0035	0.45		754.83	754.83		3.89	Si
SLD 7	fin.	111.45	622	-0.0002335	0.0002807	0.0035	0.45		751.86	751.86		6.75	Si
SLV 8	ini.	-208.58	-881	-0.0004733	0.0002807	0.0035	0.45		754.83	754.83		3.62	Si
SLV 8	fin.	118.15	621	-0.0002488	0.0002807	0.0035	0.45		751.86	751.86		6.36	Si
SLD 4	ini.	-188.77	-749	-0.0004206	0.0002807	0.0035	0.45		754.83	754.83		4	Si
SLD 4	fin.	109.67	629	-0.0002295	0.0002807	0.0035	0.45		751.86	751.86		6.86	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-237.44	-1018	-0.0005531	0.0002807	0.0035	0.45		754.83	754.83		3.18	Si
SLV 4	fin.	147.89	763	-0.0003191	0.0002807	0.0035	0.45		751.86	751.86		5.08	Si
SLD 1	ini.	-194.1	-755	-0.0004346	0.0002807	0.0035	0.45		754.83	754.83		3.89	Si
SLD 1	fin.	119.68	694	-0.0002523	0.0002807	0.0035	0.45		751.86	751.86		6.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-194.1	1022	0.45	0	1113	3568	2830	1148	3977		3.89	Si
SLD 1	fin.	119.68	394	0.45	0	1113	3568	2830	1148	3977		10.08	Si
SLD 3	ini.	-224.54	1141	0.45	0	1113	3568	2830	1148	3977		3.49	Si
SLD 3	fin.	140.84	510	0.45	0	1113	3568	2830	1148	3977		7.8	Si
SLV 3	ini.	-293.44	1425	0.45	0	1113	3568	2830	1148	3977		2.79	Si
SLV 3	fin.	196.67	788	0.45	0	1113	3568	2830	1148	3977		5.05	Si
SLV 8	ini.	-208.58	1056	0.45	0	1113	3568	2830	1148	3977		3.77	Si
SLV 8	fin.	118.15	423	0.45	0	1113	3568	2830	1148	3977		9.41	Si
SLD 7	ini.	-193.83	1006	0.45	0	1113	3568	2830	1148	3977		3.95	Si
SLD 7	fin.	111.45	376	0.45	0	1113	3568	2830	1148	3977		10.57	Si
SLD 4	ini.	-188.77	988	0.45	0	1113	3568	2830	1148	3977		4.03	Si
SLD 4	fin.	109.67	359	0.45	0	1113	3568	2830	1148	3977		11.09	Si
SLV 2	ini.	-188.65	994	0.45	0	1113	3568	2830	1148	3977		4	Si
SLV 2	fin.	113.97	367	0.45	0	1113	3568	2830	1148	3977		10.84	Si
SLV 4	ini.	-237.44	1186	0.45	0	1113	3568	2830	1148	3977		3.35	Si
SLV 4	fin.	147.89	552	0.45	0	1113	3568	2830	1148	3977		7.21	Si
SLV 1	ini.	-244.65	1234	0.45	0	1113	3568	2830	1148	3977		3.22	Si
SLV 1	fin.	162.76	603	0.45	0	1113	3568	2830	1148	3977		6.59	Si
SLV 7	ini.	-246.28	1217	0.45	0	1113	3568	2830	1148	3977		3.27	Si
SLV 7	fin.	151	582	0.45	0	1113	3568	2830	1148	3977		6.84	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.572	SLV 3	Si
V_SLV	2.791	SLV 3	Si
PF_SLU	4.81	SLU 77	Si
V_SLU	2.995	SLU 77	Si

Trave di accoppiamento 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-18.623	1.141	13.55	14.6	1.05	-19.423	1.141	13.55	14.6	1.05	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 43	ini.	-284.72	-1316	-0.0001059	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.51	Si
SLU 43	fin.	84.98	-505	-0.0000308	0.0002246	0.0035	1.05		4125.57	4125.57	No	48.55	Si
SLU 44	ini.	-298.54	-1343	-0.0001112	0.0002246	0.0035	1.05		4132.15	4132.15	No	13.84	Si
SLU 44	fin.	95.5	-474	-0.0000347	0.0002246	0.0035	1.05		4125.57	4125.57	No	43.2	Si
SLU 67	ini.	-287.05	-1622	-0.0001068	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.4	Si
SLU 67	fin.	64.91	-898	-0.0000235	0.0002246	0.0035	1.05		4125.57	4125.57	No	63.56	Si
SLU 82	ini.	-288.68	-1420	-0.0001074	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.31	Si
SLU 82	fin.	93.1	-606	-0.0000338	0.0002246	0.0035	1.05		4125.57	4125.57	No	44.31	Si
SLU 65	ini.	-310.32	-1488	-0.0001158	0.0002246	0.0035	1.05		4132.15	4132.15	No	13.32	Si
SLU 65	fin.	93.02	-619	-0.0000338	0.0002246	0.0035	1.05		4125.57	4125.57	No	44.35	Si
SLU 81	ini.	-280.39	-1404	-0.0001042	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.74	Si
SLU 81	fin.	86.79	-624	-0.0000315	0.0002246	0.0035	1.05		4125.57	4125.57	No	47.54	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 52	ini.	-287.27	-1302	-0.0001069	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.38	Si
SLU 52	fin.	98.51	-457	-0.0000358	0.0002246	0.0035	1.05		4125.57	4125.57	No	41.88	Si
SLU 73	ini.	-299.05	-1448	-0.0001114	0.0002246	0.0035	1.05		4132.15	4132.15	No	13.82	Si
SLU 73	fin.	96.02	-601	-0.0000349	0.0002246	0.0035	1.05		4125.57	4125.57	No	42.97	Si
SLU 64	ini.	-296.5	-1462	-0.0001105	0.0002246	0.0035	1.05		4132.15	4132.15	No	13.94	Si
SLU 64	fin.	82.5	-649	-0.0000299	0.0002246	0.0035	1.05		4125.57	4125.57	No	50.01	Si
SLU 68	ini.	-279.6	-1548	-0.0001039	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.78	Si
SLU 68	fin.	78.24	-807	-0.0000284	0.0002246	0.0035	1.05		4125.57	4125.57	No	52.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-287.05	3199	1.05	0	2450	6344	5283	2678	7960	No	2.49	Si
SLU 67	fin.	64.91	-1699	1.05	0	2450	6344	5283	2678	7960	No	4.69	Si
SLU 71	ini.	-235.06	3291	1.05	0	2450	6344	5283	2678	7960	No	2.42	Si
SLU 71	fin.	52.94	-2245	1.05	0	2450	6344	5283	2678	7960	No	3.55	Si
SLU 70	ini.	-256.33	3401	1.05	0	2450	6344	5283	2678	7960	No	2.34	Si
SLU 70	fin.	50.14	-2267	1.05	0	2450	6344	5283	2678	7960	No	3.51	Si
SLU 75	ini.	-275.78	3161	1.05	0	2450	6344	5283	2678	7960	No	2.52	Si
SLU 75	fin.	67.92	-1720	1.05	0	2450	6344	5283	2678	7960	No	4.63	Si
SLU 80	ini.	-232.08	3292	1.05	0	2450	6344	5283	2678	7960	No	2.42	Si
SLU 80	fin.	62.26	-2218	1.05	0	2450	6344	5283	2678	7960	No	3.59	Si
SLU 78	ini.	-245.06	3363	1.05	0	2450	6344	5283	2678	7960	No	2.37	Si
SLU 78	fin.	53.14	-2288	1.05	0	2450	6344	5283	2678	7960	No	3.48	Si
SLU 72	ini.	-243.36	3329	1.05	0	2450	6344	5283	2678	7960	No	2.39	Si
SLU 72	fin.	59.26	-2197	1.05	0	2450	6344	5283	2678	7960	No	3.62	Si
SLU 77	ini.	-236.76	3324	1.05	0	2450	6344	5283	2678	7960	No	2.39	Si
SLU 77	fin.	46.83	-2337	1.05	0	2450	6344	5283	2678	7960	No	3.41	Si
SLU 69	ini.	-248.04	3362	1.05	0	2450	6344	5283	2678	7960	No	2.37	Si
SLU 69	fin.	43.82	-2315	1.05	0	2450	6344	5283	2678	7960	No	3.44	Si
SLU 79	ini.	-223.79	3253	1.05	0	2450	6344	5283	2678	7960	No	2.45	Si
SLU 79	fin.	55.95	-2267	1.05	0	2450	6344	5283	2678	7960	No	3.51	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-909.21	-2382	-0.0003602	0.0003369	0.0035	1.05		4086.9	4086.9		4.49	Si
SLV 14	fin.	640.97	1145	-0.0002458	0.0003369	0.0035	1.05		4079.77	4079.77		6.37	Si
SLV 10	ini.	-1039.67	-2677	-0.0004196	0.0003369	0.0035	1.05		4086.9	4086.9		3.93	Si
SLV 10	fin.	693.82	1346	-0.0002678	0.0003369	0.0035	1.05		4079.77	4079.77		5.88	Si
SLV 6	ini.	-749.41	-2137	-0.0002907	0.0003369	0.0035	1.05		4086.9	4086.9		5.45	Si
SLV 6	fin.	439.35	647	-0.0001647	0.0003369	0.0035	1.05		4079.77	4079.77		9.29	Si
SLV 13	ini.	-905.47	-2373	-0.0003586	0.0003369	0.0035	1.05		4086.9	4086.9		4.51	Si
SLV 13	fin.	637.3	1133	-0.0002443	0.0003369	0.0035	1.05		4079.77	4079.77		6.4	Si
SLV 5	ini.	-746.89	-2131	-0.0002897	0.0003369	0.0035	1.05		4086.9	4086.9		5.47	Si
SLV 5	fin.	436.88	639	-0.0001638	0.0003369	0.0035	1.05		4079.77	4079.77		9.34	Si
SLD 9	ini.	-731.14	-2073	-0.000283	0.0003369	0.0035	1.05		4086.9	4086.9		5.59	Si
SLD 9	fin.	456.19	662	-0.0001714	0.0003369	0.0035	1.05		4079.77	4079.77		8.94	Si
SLD 10	ini.	-732.72	-2077	-0.0002837	0.0003369	0.0035	1.05		4086.9	4086.9		5.58	Si
SLD 10	fin.	457.75	667	-0.000172	0.0003369	0.0035	1.05		4079.77	4079.77		8.91	Si
SLD 13	ini.	-653.62	-1896	-0.0002506	0.0003369	0.0035	1.05		4086.9	4086.9		6.25	Si
SLD 13	fin.	426.83	546	-0.0001598	0.0003369	0.0035	1.05		4079.77	4079.77		9.56	Si
SLD 14	ini.	-656.01	-1902	-0.0002516	0.0003369	0.0035	1.05		4086.9	4086.9		6.23	Si
SLD 14	fin.	429.17	553	-0.0001607	0.0003369	0.0035	1.05		4079.77	4079.77		9.51	Si
SLV 9	ini.	-1037.15	-2670	-0.0004185	0.0003369	0.0035	1.05		4086.9	4086.9		3.94	Si
SLV 9	fin.	691.36	1338	-0.0002668	0.0003369	0.0035	1.05		4079.77	4079.77		5.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1039.67	5949	1.05	0	3675	6344	7924	2678	10019		1.68	Si
SLV 10	fin.	693.82	3971	1.05	0	3675	6344	7924	2678	10019		2.52	Si
SLV 6	ini.	-749.41	4538	1.05	0	3675	6344	7924	2678	10019		2.21	Si
SLV 6	fin.	439.35	2366	1.05	0	3675	6344	7924	2678	10019		4.23	Si
SLV 3	ini.	464.68	-1139	1.05	0	3675	6344	7924	2678	10019		8.79	Si
SLV 3	fin.	-511.24	-4665	1.05	0	3675	6344	7924	2678	10019		2.15	Si
SLV 9	ini.	-1037.15	5930	1.05	0	3675	6344	7924	2678	10019		1.69	Si
SLV 9	fin.	691.36	3956	1.05	0	3675	6344	7924	2678	10019		2.53	Si
SLV 8	ini.	592.62	-1628	1.05	0	3675	6344	7924	2678	10019		6.16	Si
SLV 8	fin.	-561.63	-5540	1.05	0	3675	6344	7924	2678	10019		1.81	Si
SLV 14	ini.	-909.21	5442	1.05	0	3675	6344	7924	2678	10019		1.84	Si
SLV 14	fin.	640.97	3080	1.05	0	3675	6344	7924	2678	10019		3.25	Si
SLV 13	ini.	-905.47	5414	1.05	0	3675	6344	7924	2678	10019		1.85	Si
SLV 13	fin.	637.3	3058	1.05	0	3675	6344	7924	2678	10019		3.28	Si
SLV 4	ini.	460.94	-1111	1.05	0	3675	6344	7924	2678	10019		9.02	Si
SLV 4	fin.	-507.57	-4642	1.05	0	3675	6344	7924	2678	10019		2.16	Si
SLV 7	ini.	595.14	-1646	1.05	0	3675	6344	7924	2678	10019		6.09	Si
SLV 7	fin.	-564.1	-5555	1.05	0	3675	6344	7924	2678	10019		1.8	Si
SLD 10	ini.	-732.72	4523	1.05	0	3675	6344	7924	2678	10019		2.22	Si
SLD 10	fin.	457.75	2181	1.05	0	3675	6344	7924	2678	10019		4.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.931	SLV 10	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.684	SLV 10	Si
PF_SLU	13.316	SLU 65	Si
V_SLU	2.341	SLU 70	Si

Trave di accoppiamento 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-11.143	1.141	13.95	14.6	0.65	-12.263	1.141	13.95	14.6	0.65	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-448.83	-2014	-0.0005091	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.53	Si
SLU 83	fin.	-90.08	-328	-0.0000868	0.0002246	0.0035	0.65		1585.6	1585.6	No	17.6	Si
SLU 77	ini.	-486.04	-2185	-0.0005609	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.26	Si
SLU 77	fin.	-127.34	-461	-0.0001244	0.0002246	0.0035	0.65		1585.6	1585.6	No	12.45	Si
SLU 75	ini.	-457.84	-2064	-0.0005215	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.46	Si
SLU 75	fin.	-107.87	-396	-0.0001046	0.0002246	0.0035	0.65		1585.6	1585.6	No	14.7	Si
SLU 79	ini.	-469.48	-2114	-0.0005377	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.38	Si
SLU 79	fin.	-123.87	-450	-0.0001208	0.0002246	0.0035	0.65		1585.6	1585.6	No	12.8	Si
SLU 84	ini.	-451.3	-2031	-0.0005125	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.51	Si
SLU 84	fin.	-92	-338	-0.0000887	0.0002246	0.0035	0.65		1585.6	1585.6	No	17.23	Si
SLU 69	ini.	-462.65	-2095	-0.0005282	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.43	Si
SLU 69	fin.	-156.3	-571	-0.0001544	0.0002246	0.0035	0.65		1585.6	1585.6	No	10.14	Si
SLU 70	ini.	-465.13	-2112	-0.0005316	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.41	Si
SLU 70	fin.	-158.22	-581	-0.0001564	0.0002246	0.0035	0.65		1585.6	1585.6	No	10.02	Si
SLU 78	ini.	-488.52	-2202	-0.0005645	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.25	Si
SLU 78	fin.	-129.26	-471	-0.0001264	0.0002246	0.0035	0.65		1585.6	1585.6	No	12.27	Si
SLU 80	ini.	-471.96	-2131	-0.0005411	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.36	Si
SLU 80	fin.	-125.8	-460	-0.0001228	0.0002246	0.0035	0.65		1585.6	1585.6	No	12.6	Si
SLU 74	ini.	-455.36	-2046	-0.0005181	0.0002246	0.0035	0.65		1585.6	1585.6	No	3.48	Si
SLU 74	fin.	-105.95	-386	-0.0001027	0.0002246	0.0035	0.65		1585.6	1585.6	No	14.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-446.08	3627	0.65	0	1392	5154	3270	1658	4928	No	1.36	Si
SLU 71	fin.	-152.83	-1577	0.65	0	1392	5154	3270	1658	4928	No	3.12	Si
SLU 75	ini.	-457.84	3640	0.65	0	1392	5154	3270	1658	4928	No	1.35	Si
SLU 75	fin.	-107.87	-1331	0.65	0	1392	5154	3270	1658	4928	No	3.7	Si
SLU 69	ini.	-462.65	3764	0.65	0	1392	5154	3270	1658	4928	No	1.31	Si
SLU 69	fin.	-156.3	-1632	0.65	0	1392	5154	3270	1658	4928	No	3.02	Si
SLU 70	ini.	-465.13	3779	0.65	0	1392	5154	3270	1658	4928	No	1.3	Si
SLU 70	fin.	-158.22	-1639	0.65	0	1392	5154	3270	1658	4928	No	3.01	Si
SLU 72	ini.	-448.56	3642	0.65	0	1392	5154	3270	1658	4928	No	1.35	Si
SLU 72	fin.	-154.76	-1584	0.65	0	1392	5154	3270	1658	4928	No	3.11	Si
SLU 77	ini.	-486.04	3907	0.65	0	1392	5154	3270	1658	4928	No	1.26	Si
SLU 77	fin.	-127.34	-1507	0.65	0	1392	5154	3270	1658	4928	No	3.27	Si
SLU 74	ini.	-455.36	3624	0.65	0	1392	5154	3270	1658	4928	No	1.36	Si
SLU 74	fin.	-105.95	-1324	0.65	0	1392	5154	3270	1658	4928	No	3.72	Si
SLU 79	ini.	-469.48	3769	0.65	0	1392	5154	3270	1658	4928	No	1.31	Si
SLU 79	fin.	-123.87	-1452	0.65	0	1392	5154	3270	1658	4928	No	3.39	Si
SLU 80	ini.	-471.96	3784	0.65	0	1392	5154	3270	1658	4928	No	1.3	Si
SLU 80	fin.	-125.8	-1459	0.65	0	1392	5154	3270	1658	4928	No	3.38	Si
SLU 78	ini.	-488.52	3922	0.65	0	1392	5154	3270	1658	4928	No	1.26	Si
SLU 78	fin.	-129.26	-1514	0.65	0	1392	5154	3270	1658	4928	No	3.25	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-120.3	-1380	-0.000116	0.0003369	0.0035	0.65		1565.67	1565.67		13.01	Si
SLV 2	fin.	-831.98	-3429	-0.0010439	0.0003369	0.0035	0.65		1565.67	1565.67		1.88	Si
SLV 15	ini.	-452.05	-1206	-0.0004861	0.0003369	0.0035	0.65		1565.67	1565.67		3.46	Si
SLV 15	fin.	678.05	2857	-0.0008013	0.0003369	0.0035	0.65		1561.4	1561.4		2.3	Si
SLV 13	ini.	-595.18	-2212	-0.0006779	0.0003369	0.0035	0.65		1565.67	1565.67		2.63	Si
SLV 13	fin.	582.03	2353	-0.0006615	0.0003369	0.0035	0.65		1561.4	1561.4		2.68	Si
SLV 1	ini.	-123.25	-1388	-0.0001189	0.0003369	0.0035	0.65		1565.67	1565.67		12.7	Si
SLV 1	fin.	-826.68	-3409	-0.001035	0.0003369	0.0035	0.65		1565.67	1565.67		1.89	Si
SLV 9	ini.	-596.5	-3097	-0.0006798	0.0003369	0.0035	0.65		1565.67	1565.67		2.62	Si
SLV 9	fin.	-23.91	-254	-0.0000225	0.0003369	0.0035	0.65		1565.67	1565.67		65.48	Si
SLV 16	ini.	-449.1	-1197	-0.0004823	0.0003369	0.0035	0.65		1565.67	1565.67		3.49	Si
SLV 16	fin.	672.75	2836	-0.0007933	0.0003369	0.0035	0.65		1561.4	1561.4		2.32	Si
SLV 3	ini.	19.88	-381	-0.0000187	0.0003369	0.0035	0.65		1561.4	1561.4		78.56	Si
SLV 3	fin.	-730.66	-2905	-0.0008793	0.0003369	0.0035	0.65		1565.67	1565.67		2.14	Si
SLV 14	ini.	-592.23	-2204	-0.0006738	0.0003369	0.0035	0.65		1565.67	1565.67		2.64	Si
SLV 14	fin.	576.73	2333	-0.0006541	0.0003369	0.0035	0.65		1561.4	1561.4		2.71	Si
SLV 4	ini.	22.83	-373	-0.0000215	0.0003369	0.0035	0.65		1561.4	1561.4		68.41	Si
SLV 4	fin.	-735.96	-2926	-0.0008876	0.0003369	0.0035	0.65		1565.67	1565.67		2.13	Si
SLV 10	ini.	-594.51	-3092	-0.000677	0.0003369	0.0035	0.65		1565.67	1565.67		2.63	Si
SLV 10	fin.	-27.48	-268	-0.0000259	0.0003369	0.0035	0.65		1565.67	1565.67		56.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-596.5	4213	0.65	0	1605	5154	4905	1658	6563		1.56	Si
SLV 9	fin.	-23.91	-605	0.65	0	1605	5154	4905	1658	6563		10.84	Si
SLD 9	ini.	-480.25	3486	0.65	0	1605	5154	4905	1658	6563		1.88	Si
SLD 9	fin.	-40.36	-693	0.65	0	1605	5154	4905	1658	6563		9.47	Si
SLD 10	ini.	-479	3479	0.65	0	1605	5154	4905	1658	6563		1.89	Si
SLD 10	fin.	-42.6	-703	0.65	0	1605	5154	4905	1658	6563		9.34	Si
SLV 4	ini.	22.83	444	0.65	0	1605	5154	4905	1658	6563		14.79	Si
SLV 4	fin.	-735.96	-3535	0.65	0	1605	5154	4905	1658	6563		1.86	Si
SLV 14	ini.	-592.23	4087	0.65	0	1605	5154	4905	1658	6563		1.61	Si
SLV 14	fin.	576.73	1760	0.65	0	1605	5154	4905	1658	6563		3.73	Si
SLV 1	ini.	-123.25	1374	0.65	0	1605	5154	4905	1658	6563		4.78	Si
SLV 1	fin.	-826.68	-3862	0.65	0	1605	5154	4905	1658	6563		1.7	Si
SLV 2	ini.	-120.3	1359	0.65	0	1605	5154	4905	1658	6563		4.83	Si
SLV 2	fin.	-831.98	-3886	0.65	0	1605	5154	4905	1658	6563		1.69	Si
SLV 10	ini.	-594.51	4203	0.65	0	1605	5154	4905	1658	6563		1.56	Si
SLV 10	fin.	-27.48	-621	0.65	0	1605	5154	4905	1658	6563		10.56	Si
SLV 3	ini.	19.88	459	0.65	0	1605	5154	4905	1658	6563		14.31	Si
SLV 3	fin.	-730.66	-3511	0.65	0	1605	5154	4905	1658	6563		1.87	Si
SLV 13	ini.	-595.18	4102	0.65	0	1605	5154	4905	1658	6563		1.6	Si
SLV 13	fin.	582.03	1784	0.65	0	1605	5154	4905	1658	6563		3.68	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.882	SLV 2	Si
V_SLV	1.558	SLV 9	Si
PF_SLU	3.246	SLU 78	Si
V_SLU	1.256	SLU 78	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-9.386	1.141	13.95	14.6	0.65	-10.466	1.141	13.95	14.6	0.65	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	75.89	-777	-0.000073	0.0002246	0.0035	0.65		1581.57	1581.57	No	20.84	Si
SLU 67	fin.	-281.35	-1857	-0.0002939	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.64	Si
SLU 75	ini.	95.38	-783	-0.0000923	0.0002246	0.0035	0.65		1581.57	1581.57	No	16.58	Si
SLU 75	fin.	-281.87	-1953	-0.0002945	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.63	Si
SLU 77	ini.	86.94	-914	-0.0000839	0.0002246	0.0035	0.65		1581.57	1581.57	No	18.19	Si
SLU 77	fin.	-283.75	-2062	-0.0002967	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.59	Si
SLU 76	ini.	98.53	-729	-0.0000955	0.0002246	0.0035	0.65		1581.57	1581.57	No	16.05	Si
SLU 76	fin.	-277.2	-1889	-0.0002889	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.72	Si
SLU 80	ini.	91.28	-853	-0.0000882	0.0002246	0.0035	0.65		1581.57	1581.57	No	17.33	Si
SLU 80	fin.	-281.75	-2002	-0.0002943	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.63	Si
SLU 68	ini.	79.05	-723	-0.0000761	0.0002246	0.0035	0.65		1581.57	1581.57	No	20.01	Si
SLU 68	fin.	-276.69	-1793	-0.0002883	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.73	Si
SLU 72	ini.	71.79	-847	-0.0000689	0.0002246	0.0035	0.65		1581.57	1581.57	No	22.03	Si
SLU 72	fin.	-281.23	-1906	-0.0002937	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.64	Si
SLU 69	ini.	67.45	-909	-0.0000647	0.0002246	0.0035	0.65		1581.57	1581.57	No	23.45	Si
SLU 69	fin.	-283.24	-1966	-0.0002961	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.6	Si
SLU 78	ini.	90.48	-893	-0.0000874	0.0002246	0.0035	0.65		1581.57	1581.57	No	17.48	Si
SLU 78	fin.	-291.73	-2072	-0.0003063	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.44	Si
SLU 70	ini.	71	-887	-0.0000681	0.0002246	0.0035	0.65		1581.57	1581.57	No	22.28	Si
SLU 70	fin.	-291.22	-1976	-0.0003057	0.0002246	0.0035	0.65		1585.6	1585.6	No	5.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	91.83	-2458	0.65	0	1443	5154	3270	1658	4928	No	2	Si
SLU 74	fin.	-273.89	-1218	0.65	0	1443	5154	3270	1658	4928	No	4.05	Si
SLU 80	ini.	91.28	-2495	0.65	0	1443	5154	3270	1658	4928	No	1.98	Si
SLU 80	fin.	-281.75	-1280	0.65	0	1443	5154	3270	1658	4928	No	3.85	Si
SLU 82	ini.	109.42	-2453	0.65	0	1443	5154	3270	1658	4928	No	2.01	Si
SLU 82	fin.	-262.24	-1138	0.65	0	1443	5154	3270	1658	4928	No	4.33	Si
SLU 83	ini.	100.98	-2534	0.65	0	1443	5154	3270	1658	4928	No	1.95	Si
SLU 83	fin.	-264.12	-1178	0.65	0	1443	5154	3270	1658	4928	No	4.18	Si
SLU 79	ini.	87.73	-2491	0.65	0	1443	5154	3270	1658	4928	No	1.98	Si
SLU 79	fin.	-273.77	-1252	0.65	0	1443	5154	3270	1658	4928	No	3.94	Si
SLU 84	ini.	104.52	-2537	0.65	0	1443	5154	3270	1658	4928	No	1.94	Si
SLU 84	fin.	-272.1	-1207	0.65	0	1443	5154	3270	1658	4928	No	4.08	Si
SLU 78	ini.	90.48	-2546	0.65	0	1443	5154	3270	1658	4928	No	1.94	Si
SLU 78	fin.	-291.73	-1316	0.65	0	1443	5154	3270	1658	4928	No	3.75	Si
SLU 81	ini.	105.87	-2449	0.65	0	1443	5154	3270	1658	4928	No	2.01	Si
SLU 81	fin.	-254.26	-1109	0.65	0	1443	5154	3270	1658	4928	No	4.44	Si
SLU 77	ini.	86.94	-2542	0.65	0	1443	5154	3270	1658	4928	No	1.94	Si
SLU 77	fin.	-283.75	-1287	0.65	0	1443	5154	3270	1658	4928	No	3.83	Si
SLU 75	ini.	95.38	-2462	0.65	0	1443	5154	3270	1658	4928	No	2	Si
SLU 75	fin.	-281.87	-1246	0.65	0	1443	5154	3270	1658	4928	No	3.95	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-388.14	-3084	-0.0004071	0.0003369	0.0035	0.65		1565.67	1565.67		4.03	Si
SLV 12	fin.	601.96	-386	-0.0006897	0.0003369	0.0035	0.65		1561.4	1561.4		2.59	Si
SLV 1	ini.	663.97	2312	-0.0007802	0.0003369	0.0035	0.65		1561.4	1561.4		2.35	Si
SLV 1	fin.	-598.59	-1255	-0.0006827	0.0003369	0.0035	0.65		1565.67	1565.67		2.62	Si
SLV 9	ini.	192.15	749	-0.0001894	0.0003369	0.0035	0.65		1561.4	1561.4		8.13	Si
SLV 9	fin.	-848.82	-2233	-0.0010726	0.0003369	0.0035	0.65		1565.67	1565.67		1.84	Si
SLV 2	ini.	663.26	2339	-0.0007791	0.0003369	0.0035	0.65		1561.4	1561.4		2.35	Si
SLV 2	fin.	-604.19	-1235	-0.0006907	0.0003369	0.0035	0.65		1565.67	1565.67		2.59	Si
SLV 10	ini.	191.67	768	-0.0001889	0.0003369	0.0035	0.65		1561.4	1561.4		8.15	Si
SLV 10	fin.	-852.59	-2220	-0.0010791	0.0003369	0.0035	0.65		1565.67	1565.67		1.84	Si
SLD 5	ini.	337.67	1127	-0.0003487	0.0003369	0.0035	0.65		1561.4	1561.4		4.62	Si
SLD 5	fin.	-672.64	-1756	-0.0007906	0.0003369	0.0035	0.65		1565.67	1565.67		2.33	Si
SLV 11	ini.	-387.66	-3102	-0.0004065	0.0003369	0.0035	0.65		1565.67	1565.67		4.04	Si
SLV 11	fin.	605.73	-400	-0.0006951	0.0003369	0.0035	0.65		1561.4	1561.4		2.58	Si
SLV 5	ini.	503.52	2095	-0.0005543	0.0003369	0.0035	0.65		1561.4	1561.4		3.1	Si
SLV 5	fin.	-968.72	-2077	-0.0012893	0.0003369	0.0035	0.65		1565.67	1565.67		1.62	Si
SLV 6	ini.	503.05	2113	-0.0005537	0.0003369	0.0035	0.65		1561.4	1561.4		3.1	Si
SLV 6	fin.	-972.49	-2063	-0.0012965	0.0003369	0.0035	0.65		1565.67	1565.67		1.61	Si
SLD 6	ini.	337.38	1138	-0.0003483	0.0003369	0.0035	0.65		1561.4	1561.4		4.63	Si
SLD 6	fin.	-675.01	-1747	-0.0007942	0.0003369	0.0035	0.65		1565.67	1565.67		2.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	503.52	-2310	0.65	0	1664	5154	4905	1658	6563		2.84	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	fin.	-968.72	-3704	0.65	0	1664	5154	4905	1658	6563		1.77	Si
SLV 3	ini.	490.02	-3293	0.65	0	1664	5154	4905	1658	6563		1.99	Si
SLV 3	fin.	-162.22	-807	0.65	0	1664	5154	4905	1658	6563		8.13	Si
SLV 4	ini.	489.32	-3240	0.65	0	1664	5154	4905	1658	6563		2.03	Si
SLV 4	fin.	-167.82	-832	0.65	0	1664	5154	4905	1658	6563		7.89	Si
SLD 1	ini.	443.69	-2741	0.65	0	1664	5154	4905	1658	6563		2.39	Si
SLD 1	fin.	-444.9	-1815	0.65	0	1664	5154	4905	1658	6563		3.62	Si
SLV 1	ini.	663.97	-3424	0.65	0	1664	5154	4905	1658	6563		1.92	Si
SLV 1	fin.	-598.59	-2401	0.65	0	1664	5154	4905	1658	6563		2.73	Si
SLV 10	ini.	191.67	-1196	0.65	0	1664	5154	4905	1658	6563		5.49	Si
SLV 10	fin.	-852.59	-3240	0.65	0	1664	5154	4905	1658	6563		2.03	Si
SLD 2	ini.	443.25	-2707	0.65	0	1664	5154	4905	1658	6563		2.42	Si
SLD 2	fin.	-448.47	-1831	0.65	0	1664	5154	4905	1658	6563		3.58	Si
SLV 9	ini.	192.15	-1232	0.65	0	1664	5154	4905	1658	6563		5.33	Si
SLV 9	fin.	-848.82	-3224	0.65	0	1664	5154	4905	1658	6563		2.04	Si
SLV 6	ini.	503.05	-2275	0.65	0	1664	5154	4905	1658	6563		2.89	Si
SLV 6	fin.	-972.49	-3721	0.65	0	1664	5154	4905	1658	6563		1.76	Si
SLV 2	ini.	663.26	-3371	0.65	0	1664	5154	4905	1658	6563		1.95	Si
SLV 2	fin.	-604.19	-2426	0.65	0	1664	5154	4905	1658	6563		2.71	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.61	SLV 6	Si
V_SLV	1.764	SLV 6	Si
PF_SLU	5.435	SLU 78	Si
V_SLU	1.935	SLU 78	Si

Trave di accoppiamento 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.443	1.141	13.55	14.6	1.05	-7.443	1.141	13.55	14.6	1.05	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	178.64	-356	-0.0000656	0.0002246	0.0035	1.05		4125.57	4125.57	No	23.09	Si
SLU 78	fin.	-423.47	-1933	-0.0001607	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.76	Si
SLU 84	ini.	200.23	-204	-0.0000737	0.0002246	0.0035	1.05		4125.57	4125.57	No	20.6	Si
SLU 84	fin.	-421.98	-1808	-0.0001601	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.79	Si
SLU 80	ini.	192.66	-275	-0.0000709	0.0002246	0.0035	1.05		4125.57	4125.57	No	21.41	Si
SLU 80	fin.	-420.27	-1886	-0.0001594	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.83	Si
SLU 75	ini.	182.04	-293	-0.0000669	0.0002246	0.0035	1.05		4125.57	4125.57	No	22.66	Si
SLU 75	fin.	-420.63	-1847	-0.0001596	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.82	Si
SLU 74	ini.	179.21	-302	-0.0000658	0.0002246	0.0035	1.05		4125.57	4125.57	No	23.02	Si
SLU 74	fin.	-419.84	-1850	-0.0001592	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.84	Si
SLU 77	ini.	175.81	-364	-0.0000645	0.0002246	0.0035	1.05		4125.57	4125.57	No	23.47	Si
SLU 77	fin.	-422.68	-1935	-0.0001604	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.78	Si
SLU 79	ini.	189.83	-283	-0.0000698	0.0002246	0.0035	1.05		4125.57	4125.57	No	21.73	Si
SLU 79	fin.	-419.48	-1889	-0.0001591	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.85	Si
SLU 82	ini.	203.63	-141	-0.000075	0.0002246	0.0035	1.05		4125.57	4125.57	No	20.26	Si
SLU 82	fin.	-419.14	-1723	-0.000159	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.86	Si
SLU 83	ini.	197.4	-213	-0.0000727	0.0002246	0.0035	1.05		4125.57	4125.57	No	20.9	Si
SLU 83	fin.	-421.2	-1811	-0.0001598	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.81	Si
SLU 81	ini.	200.8	-150	-0.000074	0.0002246	0.0035	1.05		4125.57	4125.57	No	20.55	Si
SLU 81	fin.	-418.36	-1725	-0.0001586	0.0002246	0.0035	1.05		4132.15	4132.15	No	9.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	179.21	822	1.05	0	2450	7930	5283	2678	7960	No	9.68	Si
SLU 74	fin.	-419.84	-4126	1.05	0	2450	7930	5283	2678	7960	No	1.93	Si
SLU 78	ini.	178.64	1065	1.05	0	2450	7930	5283	2678	7960	No	7.47	Si
SLU 78	fin.	-423.47	-4415	1.05	0	2450	7930	5283	2678	7960	No	1.8	Si
SLU 70	ini.	168.91	1131	1.05	0	2450	7930	5283	2678	7960	No	7.04	Si
SLU 70	fin.	-412.84	-4402	1.05	0	2450	7930	5283	2678	7960	No	1.81	Si
SLU 80	ini.	192.66	929	1.05	0	2450	7930	5283	2678	7960	No	8.56	Si
SLU 80	fin.	-420.27	-4324	1.05	0	2450	7930	5283	2678	7960	No	1.84	Si
SLU 72	ini.	182.92	995	1.05	0	2450	7930	5283	2678	7960	No	8	Si
SLU 72	fin.	-409.64	-4311	1.05	0	2450	7930	5283	2678	7960	No	1.85	Si
SLU 79	ini.	189.83	938	1.05	0	2450	7930	5283	2678	7960	No	8.48	Si
SLU 79	fin.	-419.48	-4319	1.05	0	2450	7930	5283	2678	7960	No	1.84	Si
SLU 77	ini.	175.81	1074	1.05	0	2450	7930	5283	2678	7960	No	7.41	Si
SLU 77	fin.	-422.68	-4410	1.05	0	2450	7930	5283	2678	7960	No	1.81	Si
SLU 71	ini.	180.09	1004	1.05	0	2450	7930	5283	2678	7960	No	7.93	Si
SLU 71	fin.	-408.86	-4306	1.05	0	2450	7930	5283	2678	7960	No	1.85	Si
SLU 69	ini.	166.08	1140	1.05	0	2450	7930	5283	2678	7960	No	6.98	Si
SLU 69	fin.	-412.06	-4397	1.05	0	2450	7930	5283	2678	7960	No	1.81	Si
SLU 75	ini.	182.04	813	1.05	0	2450	7930	5283	2678	7960	No	9.79	Si
SLU 75	fin.	-420.63	-4131	1.05	0	2450	7930	5283	2678	7960	No	1.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	776.55	1478	-0.0003028	0.0003369	0.0035	1.05		4079.77	4079.77		5.25	Si
SLV 2	fin.	-771.13	-1995	-0.0003	0.0003369	0.0035	1.05		4086.9	4086.9		5.3	Si
SLD 1	ini.	553.41	909	-0.0002101	0.0003369	0.0035	1.05		4079.77	4079.77		7.37	Si
SLD 1	fin.	-612.27	-1768	-0.0002336	0.0003369	0.0035	1.05		4086.9	4086.9		6.67	Si
SLD 3	ini.	471.71	662	-0.0001775	0.0003369	0.0035	1.05		4079.77	4079.77		8.65	Si
SLD 3	fin.	-594.36	-1846	-0.0002263	0.0003369	0.0035	1.05		4086.9	4086.9		6.88	Si
SLV 4	ini.	645.1	1080	-0.0002475	0.0003369	0.0035	1.05		4079.77	4079.77		6.32	Si
SLV 4	fin.	-742.23	-2121	-0.0002877	0.0003369	0.0035	1.05		4086.9	4086.9		5.51	Si
SLV 1	ini.	787.85	1496	-0.0003077	0.0003369	0.0035	1.05		4079.77	4079.77		5.18	Si
SLV 1	fin.	-788.8	-2051	-0.0003076	0.0003369	0.0035	1.05		4086.9	4086.9		5.18	Si
SLD 2	ini.	546.18	898	-0.0002072	0.0003369	0.0035	1.05		4079.77	4079.77		7.47	Si
SLD 2	fin.	-600.99	-1732	-0.000229	0.0003369	0.0035	1.05		4086.9	4086.9		6.8	Si
SLV 5	ini.	537.45	971	-0.0002037	0.0003369	0.0035	1.05		4079.77	4079.77		7.59	Si
SLV 5	fin.	-496.65	-1326	-0.0001871	0.0003369	0.0035	1.05		4086.9	4086.9		8.23	Si
SLV 3	ini.	656.41	1098	-0.0002522	0.0003369	0.0035	1.05		4079.77	4079.77		6.22	Si
SLV 3	fin.	-759.89	-2177	-0.0002952	0.0003369	0.0035	1.05		4086.9	4086.9		5.38	Si
SLV 6	ini.	529.83	959	-0.0002006	0.0003369	0.0035	1.05		4079.77	4079.77		7.7	Si
SLV 6	fin.	-484.76	-1288	-0.0001823	0.0003369	0.0035	1.05		4086.9	4086.9		8.43	Si
SLD 4	ini.	464.49	650	-0.0001746	0.0003369	0.0035	1.05		4079.77	4079.77		8.78	Si
SLD 4	fin.	-583.08	-1810	-0.0002218	0.0003369	0.0035	1.05		4086.9	4086.9		7.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	645.1	-1843	1.05	0	3198	7930	7924	2678	10602		5.75	Si
SLV 4	fin.	-742.23	-4698	1.05	0	3198	7930	7924	2678	10602		2.26	Si
SLD 2	ini.	546.18	-1286	1.05	0	3198	7930	7924	2678	10602		8.25	Si
SLD 2	fin.	-600.99	-4148	1.05	0	3198	7930	7924	2678	10602		2.56	Si
SLV 2	ini.	776.55	-2212	1.05	0	3198	7930	7924	2678	10602		4.79	Si
SLV 2	fin.	-771.13	-4925	1.05	0	3198	7930	7924	2678	10602		2.15	Si
SLD 4	ini.	464.49	-1056	1.05	0	3198	7930	7924	2678	10602		10.04	Si
SLD 4	fin.	-583.08	-4007	1.05	0	3198	7930	7924	2678	10602		2.65	Si
SLV 1	ini.	787.85	-2272	1.05	0	3198	7930	7924	2678	10602		4.67	Si
SLV 1	fin.	-788.8	-5010	1.05	0	3198	7930	7924	2678	10602		2.12	Si
SLV 3	ini.	656.41	-1903	1.05	0	3198	7930	7924	2678	10602		5.57	Si
SLV 3	fin.	-759.89	-4783	1.05	0	3198	7930	7924	2678	10602		2.22	Si
SLV 6	ini.	529.83	-975	1.05	0	3198	7930	7924	2678	10602		10.88	Si
SLV 6	fin.	-484.76	-3757	1.05	0	3198	7930	7924	2678	10602		2.82	Si
SLV 5	ini.	537.45	-1015	1.05	0	3198	7930	7924	2678	10602		10.44	Si
SLV 5	fin.	-496.65	-3814	1.05	0	3198	7930	7924	2678	10602		2.78	Si
SLD 1	ini.	553.41	-1324	1.05	0	3198	7930	7924	2678	10602		8.01	Si
SLD 1	fin.	-612.27	-4202	1.05	0	3198	7930	7924	2678	10602		2.52	Si
SLD 3	ini.	471.71	-1094	1.05	0	3198	7930	7924	2678	10602		9.69	Si
SLD 3	fin.	-594.36	-4061	1.05	0	3198	7930	7924	2678	10602		2.61	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.178	SLV 1	Si
V_SLV	2.116	SLV 1	Si
PF_SLU	9.758	SLU 78	Si
V_SLU	1.803	SLU 78	Si

Trave di accoppiamento 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-4.093	1.141	13.55	14.6	1.05	-4.893	1.141	13.55	14.6	1.05	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	176.4	41	-0.0000648	0.0002246	0.0035	1.05		4125.57	4125.57	No	23.39	Si
SLU 82	fin.	-287.8	-559	-0.0001071	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.36	Si
SLU 65	ini.	137.9	-74	-0.0000504	0.0002246	0.0035	1.05		4125.57	4125.57	No	29.92	Si
SLU 65	fin.	-251.99	-554	-0.0000933	0.0002246	0.0035	1.05		4132.15	4132.15	No	16.4	Si
SLU 61	ini.	153.04	69	-0.000056	0.0002246	0.0035	1.05		4125.57	4125.57	No	26.96	Si
SLU 61	fin.	-254.53	-465	-0.0000943	0.0002246	0.0035	1.05		4132.15	4132.15	No	16.23	Si
SLU 64	ini.	134.54	-85	-0.0000491	0.0002246	0.0035	1.05		4125.57	4125.57	No	30.66	Si
SLU 64	fin.	-248.41	-554	-0.0000919	0.0002246	0.0035	1.05		4132.15	4132.15	No	16.63	Si
SLU 60	ini.	151.03	63	-0.0000553	0.0002246	0.0035	1.05		4125.57	4125.57	No	27.32	Si
SLU 60	fin.	-252.38	-466	-0.0000934	0.0002246	0.0035	1.05		4132.15	4132.15	No	16.37	Si
SLU 40	ini.	156.91	47	-0.0000575	0.0002246	0.0035	1.05		4125.57	4125.57	No	26.29	Si
SLU 40	fin.	-246.92	-477	-0.0000914	0.0002246	0.0035	1.05		4132.15	4132.15	No	16.73	Si
SLU 73	ini.	165.79	9	-0.0000608	0.0002246	0.0035	1.05		4125.57	4125.57	No	24.88	Si
SLU 73	fin.	-278.06	-557	-0.0001033	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.86	Si
SLU 39	ini.	154.89	40	-0.0000567	0.0002246	0.0035	1.05		4125.57	4125.57	No	26.64	Si
SLU 39	fin.	-244.77	-477	-0.0000905	0.0002246	0.0035	1.05		4132.15	4132.15	No	16.88	Si
SLU 52	ini.	142.43	37	-0.0000521	0.0002246	0.0035	1.05		4125.57	4125.57	No	28.96	Si
SLU 52	fin.	-244.79	-464	-0.0000905	0.0002246	0.0035	1.05		4132.15	4132.15	No	16.88	Si
SLU 81	ini.	174.38	35	-0.000064	0.0002246	0.0035	1.05		4125.57	4125.57	No	23.66	Si
SLU 81	fin.	-285.65	-559	-0.0001063	0.0002246	0.0035	1.05		4132.15	4132.15	No	14.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	174.38	68	1.05	0	2450	6344	5283	2678	7960	No	117.29	Si
SLU 81	fin.	-285.65	-1889	1.05	0	2450	6344	5283	2678	7960	No	4.21	Si
SLU 64	ini.	134.54	269	1.05	0	2450	6344	5283	2678	7960	No	29.57	Si
SLU 64	fin.	-248.41	-1755	1.05	0	2450	6344	5283	2678	7960	No	4.53	Si
SLU 65	ini.	137.9	253	1.05	0	2450	6344	5283	2678	7960	No	31.42	Si
SLU 65	fin.	-251.99	-1770	1.05	0	2450	6344	5283	2678	7960	No	4.5	Si
SLU 74	ini.	112.06	580	1.05	0	2450	6344	5283	2678	7960	No	13.72	Si
SLU 74	fin.	-236.66	-1841	1.05	0	2450	6344	5283	2678	7960	No	4.32	Si
SLU 75	ini.	114.08	571	1.05	0	2450	6344	5283	2678	7960	No	13.95	Si
SLU 75	fin.	-238.81	-1850	1.05	0	2450	6344	5283	2678	7960	No	4.3	Si
SLU 67	ini.	86.19	711	1.05	0	2450	6344	5283	2678	7960	No	11.19	Si
SLU 67	fin.	-212.75	-1756	1.05	0	2450	6344	5283	2678	7960	No	4.53	Si
SLU 84	ini.	115.57	480	1.05	0	2450	6344	5283	2678	7960	No	16.59	Si
SLU 84	fin.	-216.14	-1729	1.05	0	2450	6344	5283	2678	7960	No	4.6	Si
SLU 82	ini.	176.4	58	1.05	0	2450	6344	5283	2678	7960	No	136.46	Si
SLU 82	fin.	-287.8	-1897	1.05	0	2450	6344	5283	2678	7960	No	4.2	Si
SLU 66	ini.	84.17	721	1.05	0	2450	6344	5283	2678	7960	No	11.04	Si
SLU 66	fin.	-210.6	-1748	1.05	0	2450	6344	5283	2678	7960	No	4.56	Si
SLU 73	ini.	165.79	112	1.05	0	2450	6344	5283	2678	7960	No	70.83	Si
SLU 73	fin.	-278.06	-1863	1.05	0	2450	6344	5283	2678	7960	No	4.27	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	663.41	1725	-0.0002551	0.0003369	0.0035	1.05		4079.77	4079.77		6.15	Si
SLV 1	fin.	-492.73	178	-0.0001855	0.0003369	0.0035	1.05		4086.9	4086.9		8.29	Si
SLV 5	ini.	430.9	1016	-0.0001614	0.0003369	0.0035	1.05		4079.77	4079.77		9.47	Si
SLV 5	fin.	-464.81	-257	-0.0001745	0.0003369	0.0035	1.05		4086.9	4086.9		8.79	Si
SLV 3	ini.	561.8	1387	-0.0002135	0.0003369	0.0035	1.05		4079.77	4079.77		7.26	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	fin.	-374.24	194	-0.0001391	0.0003369	0.0035	1.05		4086.9	4086.9		10.92	Si
SLV 15	ini.	-432.92	-1735	-0.0001619	0.0003369	0.0035	1.05		4086.9	4086.9		9.44	Si
SLV 15	fin.	91.93	-992	-0.0000333	0.0003369	0.0035	1.05		4079.77	4079.77		44.38	Si
SLV 6	ini.	418.88	976	-0.0001567	0.0003369	0.0035	1.05		4079.77	4079.77		9.74	Si
SLV 6	fin.	-452.46	-256	-0.0001696	0.0003369	0.0035	1.05		4086.9	4086.9		9.03	Si
SLD 1	ini.	458.08	1074	-0.0001721	0.0003369	0.0035	1.05		4079.77	4079.77		8.91	Si
SLD 1	fin.	-378.41	-33	-0.0001407	0.0003369	0.0035	1.05		4086.9	4086.9		10.8	Si
SLV 16	ini.	-450.76	-1795	-0.0001689	0.0003369	0.0035	1.05		4086.9	4086.9		9.07	Si
SLV 16	fin.	110.29	-991	-0.00004	0.0003369	0.0035	1.05		4079.77	4079.77		36.99	Si
SLV 4	ini.	543.96	1328	-0.0002063	0.0003369	0.0035	1.05		4079.77	4079.77		7.5	Si
SLV 4	fin.	-355.89	195	-0.0001321	0.0003369	0.0035	1.05		4086.9	4086.9		11.48	Si
SLD 2	ini.	446.68	1036	-0.0001676	0.0003369	0.0035	1.05		4079.77	4079.77		9.13	Si
SLD 2	fin.	-366.68	-33	-0.0001362	0.0003369	0.0035	1.05		4086.9	4086.9		11.15	Si
SLV 2	ini.	645.57	1665	-0.0002477	0.0003369	0.0035	1.05		4079.77	4079.77		6.32	Si
SLV 2	fin.	-474.38	179	-0.0001782	0.0003369	0.0035	1.05		4086.9	4086.9		8.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	561.8	-1129	1.05	0	3675	6344	7924	2678	10019		8.88	Si
SLV 3	fin.	-374.24	-2487	1.05	0	3675	6344	7924	2678	10019		4.03	Si
SLD 5	ini.	309.84	-719	1.05	0	3675	6344	7924	2678	10019		13.94	Si
SLD 5	fin.	-361.42	-2054	1.05	0	3675	6344	7924	2678	10019		4.88	Si
SLV 6	ini.	418.88	-1178	1.05	0	3675	6344	7924	2678	10019		8.51	Si
SLV 6	fin.	-452.46	-2445	1.05	0	3675	6344	7924	2678	10019		4.1	Si
SLV 4	ini.	543.96	-1036	1.05	0	3675	6344	7924	2678	10019		9.67	Si
SLV 4	fin.	-355.89	-2415	1.05	0	3675	6344	7924	2678	10019		4.15	Si
SLD 3	ini.	394.84	-653	1.05	0	3675	6344	7924	2678	10019		15.34	Si
SLD 3	fin.	-304.62	-2056	1.05	0	3675	6344	7924	2678	10019		4.87	Si
SLD 1	ini.	458.08	-991	1.05	0	3675	6344	7924	2678	10019		10.11	Si
SLD 1	fin.	-378.41	-2333	1.05	0	3675	6344	7924	2678	10019		4.29	Si
SLV 2	ini.	645.57	-1579	1.05	0	3675	6344	7924	2678	10019		6.35	Si
SLV 2	fin.	-474.38	-2860	1.05	0	3675	6344	7924	2678	10019		3.5	Si
SLV 5	ini.	430.9	-1240	1.05	0	3675	6344	7924	2678	10019		8.08	Si
SLV 5	fin.	-464.81	-2493	1.05	0	3675	6344	7924	2678	10019		4.02	Si
SLV 1	ini.	663.41	-1671	1.05	0	3675	6344	7924	2678	10019		5.99	Si
SLV 1	fin.	-492.73	-2932	1.05	0	3675	6344	7924	2678	10019		3.42	Si
SLD 2	ini.	446.68	-932	1.05	0	3675	6344	7924	2678	10019		10.75	Si
SLD 2	fin.	-366.68	-2287	1.05	0	3675	6344	7924	2678	10019		4.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.15	SLV 1	Si
V_SLV	3.417	SLV 1	Si
PF_SLU	14.358	SLU 82	Si
V_SLU	4.196	SLU 82	Si

Trave di accoppiamento 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-8.543	-3.169	13.55	14.6	1.05	-9.443	-3.169	13.55	14.6	1.05	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	493.69	885	-0.0001921	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.17	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	-586.33	-2180	-0.0002322	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.89	Si
SLU 74	ini.	489.65	876	-0.0001904	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.23	Si
SLU 74	fin.	-579.83	-2161	-0.0002293	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.96	Si
SLU 78	ini.	481.68	858	-0.000187	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.37	Si
SLU 78	fin.	-579.64	-2160	-0.0002292	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.97	Si
SLU 77	ini.	477.65	849	-0.0001853	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.44	Si
SLU 77	fin.	-573.15	-2142	-0.0002264	0.0001872	0.0035	1.05		4037.69	4037.69	No	7.04	Si
SLU 81	ini.	502.16	951	-0.0001958	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.03	Si
SLU 81	fin.	-579.24	-2131	-0.0002291	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.97	Si
SLU 73	ini.	494.79	926	-0.0001926	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.15	Si
SLU 73	fin.	-576.94	-2101	-0.000228	0.0001872	0.0035	1.05		4037.69	4037.69	No	7	Si
SLU 76	ini.	482.78	900	-0.0001875	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.35	Si
SLU 76	fin.	-570.25	-2081	-0.0002251	0.0001872	0.0035	1.05		4037.69	4037.69	No	7.08	Si
SLU 83	ini.	490.16	924	-0.0001906	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.22	Si
SLU 83	fin.	-572.55	-2111	-0.0002261	0.0001872	0.0035	1.05		4037.69	4037.69	No	7.05	Si
SLU 84	ini.	494.2	933	-0.0001924	0.0001872	0.0035	1.05		4031.14	4031.14	No	8.16	Si
SLU 84	fin.	-579.05	-2130	-0.000229	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.97	Si
SLU 82	ini.	506.2	959	-0.0001975	0.0001872	0.0035	1.05		4031.14	4031.14	No	7.96	Si
SLU 82	fin.	-585.73	-2149	-0.0002319	0.0001872	0.0035	1.05		4037.69	4037.69	No	6.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	477.65	-1962	1.05	0	2042	7137	4402	2678	7079	No	3.61	Si
SLU 77	fin.	-573.15	-3590	1.05	0	2042	7137	4402	2678	7079	No	1.97	Si
SLU 75	ini.	493.69	-2041	1.05	0	2042	7137	4402	2678	7079	No	3.47	Si
SLU 75	fin.	-586.33	-3665	1.05	0	2042	7137	4402	2678	7079	No	1.93	Si
SLU 73	ini.	494.79	-2126	1.05	0	2042	7137	4402	2678	7079	No	3.33	Si
SLU 73	fin.	-576.94	-3557	1.05	0	2042	7137	4402	2678	7079	No	1.99	Si
SLU 76	ini.	482.78	-2077	1.05	0	2042	7137	4402	2678	7079	No	3.41	Si
SLU 76	fin.	-570.25	-3509	1.05	0	2042	7137	4402	2678	7079	No	2.02	Si
SLU 84	ini.	494.2	-2144	1.05	0	2042	7137	4402	2678	7079	No	3.3	Si
SLU 84	fin.	-579.05	-3578	1.05	0	2042	7137	4402	2678	7079	No	1.98	Si
SLU 74	ini.	489.65	-2011	1.05	0	2042	7137	4402	2678	7079	No	3.52	Si
SLU 74	fin.	-579.83	-3638	1.05	0	2042	7137	4402	2678	7079	No	1.95	Si
SLU 82	ini.	506.2	-2193	1.05	0	2042	7137	4402	2678	7079	No	3.23	Si
SLU 82	fin.	-585.73	-3625	1.05	0	2042	7137	4402	2678	7079	No	1.95	Si
SLU 78	ini.	481.68	-1992	1.05	0	2042	7137	4402	2678	7079	No	3.55	Si
SLU 78	fin.	-579.64	-3617	1.05	0	2042	7137	4402	2678	7079	No	1.96	Si
SLU 81	ini.	502.16	-2163	1.05	0	2042	7137	4402	2678	7079	No	3.27	Si
SLU 81	fin.	-579.24	-3598	1.05	0	2042	7137	4402	2678	7079	No	1.97	Si
SLU 83	ini.	490.16	-2114	1.05	0	2042	7137	4402	2678	7079	No	3.35	Si
SLU 83	fin.	-572.55	-3550	1.05	0	2042	7137	4402	2678	7079	No	1.99	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	969.26	1660	-0.0003954	0.0002807	0.0035	1.05		4087.11	4087.11		4.22	Si
SLD 2	fin.	-837.93	-2789	-0.000334	0.0002807	0.0035	1.05		4093.77	4093.77		4.89	Si
SLV 4	ini.	1034.6	1879	-0.0004268	0.0002807	0.0035	1.05		4087.11	4087.11		3.95	Si
SLV 4	fin.	-876.52	-2672	-0.0003515	0.0002807	0.0035	1.05		4093.77	4093.77		4.67	Si
SLV 3	ini.	868.35	1570	-0.0003484	0.0002807	0.0035	1.05		4087.11	4087.11		4.71	Si
SLV 3	fin.	-746.98	-2282	-0.0002935	0.0002807	0.0035	1.05		4093.77	4093.77		5.48	Si
SLV 2	ini.	1328.31	2249	-0.0005756	0.0002807	0.0035	1.05		4087.11	4087.11		3.08	Si
SLV 2	fin.	-1089.31	-3562	-0.0004526	0.0002807	0.0035	1.05		4093.77	4093.77		3.76	Si
SLV 5	ini.	1001.2	1523	-0.0004107	0.0002807	0.0035	1.05		4087.11	4087.11		4.08	Si
SLV 5	fin.	-865.65	-3238	-0.0003466	0.0002807	0.0035	1.05		4093.77	4093.77		4.73	Si
SLD 4	ini.	785.86	1429	-0.0003112	0.0002807	0.0035	1.05		4087.11	4087.11		5.2	Si
SLD 4	fin.	-705.63	-2234	-0.0002756	0.0002807	0.0035	1.05		4093.77	4093.77		5.8	Si
SLD 1	ini.	863.04	1462	-0.000346	0.0002807	0.0035	1.05		4087.11	4087.11		4.74	Si
SLD 1	fin.	-755.16	-2540	-0.0002971	0.0002807	0.0035	1.05		4093.77	4093.77		5.42	Si
SLV 6	ini.	1113.13	1731	-0.0004653	0.0002807	0.0035	1.05		4087.11	4087.11		3.67	Si
SLV 6	fin.	-952.87	-3500	-0.000387	0.0002807	0.0035	1.05		4093.77	4093.77		4.3	Si
SLD 6	ini.	826.36	1322	-0.0003293	0.0002807	0.0035	1.05		4087.11	4087.11		4.95	Si
SLD 6	fin.	-746.23	-2731	-0.0002932	0.0002807	0.0035	1.05		4093.77	4093.77		5.49	Si
SLV 1	ini.	1162.06	1939	-0.0004897	0.0002807	0.0035	1.05		4087.11	4087.11		3.52	Si
SLV 1	fin.	-959.76	-3173	-0.0003902	0.0002807	0.0035	1.05		4093.77	4093.77		4.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	1001.2	-3399	1.05	0	3063	7137	6603	2678	9280		2.73	Si
SLV 5	fin.	-865.65	-5262	1.05	0	3063	7137	6603	2678	9280		1.76	Si
SLV 2	ini.	1328.31	-5034	1.05	0	3063	7137	6603	2678	9280		1.84	Si
SLV 2	fin.	-1089.31	-6264	1.05	0	3063	7137	6603	2678	9280		1.48	Si
SLD 5	ini.	755.95	-2658	1.05	0	3063	7137	6603	2678	9280		3.49	Si
SLD 5	fin.	-691.37	-4221	1.05	0	3063	7137	6603	2678	9280		2.2	Si
SLD 2	ini.	969.26	-3720	1.05	0	3063	7137	6603	2678	9280		2.49	Si
SLD 2	fin.	-837.93	-4883	1.05	0	3063	7137	6603	2678	9280		1.9	Si
SLV 6	ini.	1113.13	-3890	1.05	0	3063	7137	6603	2678	9280		2.39	Si
SLV 6	fin.	-952.87	-5748	1.05	0	3063	7137	6603	2678	9280		1.61	Si
SLV 1	ini.	1162.06	-4306	1.05	0	3063	7137	6603	2678	9280		2.16	Si
SLV 1	fin.	-959.76	-5542	1.05	0	3063	7137	6603	2678	9280		1.67	Si
SLD 1	ini.	863.04	-3254	1.05	0	3063	7137	6603	2678	9280		2.85	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	fin.	-755.16	-4422	1.05	0	3063	7137	6603	2678	9280		2.1	Si
SLV 3	ini.	868.35	-3481	1.05	0	3063	7137	6603	2678	9280		2.67	Si
SLV 3	fin.	-746.98	-4220	1.05	0	3063	7137	6603	2678	9280		2.2	Si
SLV 4	ini.	1034.6	-4210	1.05	0	3063	7137	6603	2678	9280		2.2	Si
SLV 4	fin.	-876.52	-4942	1.05	0	3063	7137	6603	2678	9280		1.88	Si
SLD 6	ini.	826.36	-2967	1.05	0	3063	7137	6603	2678	9280		3.13	Si
SLD 6	fin.	-746.23	-4527	1.05	0	3063	7137	6603	2678	9280		2.05	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.077	SLV 2	Si
V_SLV	1.481	SLV 2	Si
PF_SLU	6.886	SLU 75	Si
V_SLU	1.932	SLU 75	Si

Trave di accoppiamento 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	11.45	13.45	2	-5.158	6.521	11.45	13.45	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	217.42	-337	-0.0000217	0.0001872	0.0035	2		14344.28	14344.28	No	65.97	Si
SLU 77	fin.	-220.13	-231	-0.0000219	0.0001872	0.0035	2		14357.01	14357.01	No	65.22	Si
SLU 69	ini.	207.08	-323	-0.0000206	0.0001872	0.0035	2		14344.28	14344.28	No	69.27	Si
SLU 69	fin.	-210.82	-222	-0.000021	0.0001872	0.0035	2		14357.01	14357.01	No	68.1	Si
SLU 70	ini.	208.09	-324	-0.0000207	0.0001872	0.0035	2		14344.28	14344.28	No	68.93	Si
SLU 70	fin.	-211.9	-223	-0.0000211	0.0001872	0.0035	2		14357.01	14357.01	No	67.75	Si
SLU 84	ini.	183.48	-314	-0.0000183	0.0001872	0.0035	2		14344.28	14344.28	No	78.18	Si
SLU 84	fin.	-206.01	-217	-0.0000205	0.0001872	0.0035	2		14357.01	14357.01	No	69.69	Si
SLU 80	ini.	223.78	-333	-0.0000223	0.0001872	0.0035	2		14344.28	14344.28	No	64.1	Si
SLU 80	fin.	-219.62	-231	-0.0000219	0.0001872	0.0035	2		14357.01	14357.01	No	65.37	Si
SLU 79	ini.	222.77	-332	-0.0000222	0.0001872	0.0035	2		14344.28	14344.28	No	64.39	Si
SLU 79	fin.	-218.53	-230	-0.0000218	0.0001872	0.0035	2		14357.01	14357.01	No	65.7	Si
SLU 38	ini.	206.34	-292	-0.0000206	0.0001872	0.0035	2		14344.28	14344.28	No	69.52	Si
SLU 38	fin.	-191.22	-201	-0.000019	0.0001872	0.0035	2		14357.01	14357.01	No	75.08	Si
SLU 78	ini.	218.43	-338	-0.0000218	0.0001872	0.0035	2		14344.28	14344.28	No	65.67	Si
SLU 78	fin.	-221.22	-233	-0.0000221	0.0001872	0.0035	2		14357.01	14357.01	No	64.9	Si
SLU 72	ini.	213.44	-319	-0.0000213	0.0001872	0.0035	2		14344.28	14344.28	No	67.21	Si
SLU 72	fin.	-210.3	-221	-0.000021	0.0001872	0.0035	2		14357.01	14357.01	No	68.27	Si
SLU 71	ini.	212.42	-318	-0.0000212	0.0001872	0.0035	2		14344.28	14344.28	No	67.53	Si
SLU 71	fin.	-209.22	-220	-0.0000208	0.0001872	0.0035	2		14357.01	14357.01	No	68.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	207.08	-1924	2	0	3889	3964	8384	5100	7853	No	4.08	Si
SLU 69	fin.	-210.82	-853	2	0	3889	3964	8384	5100	7853	No	9.21	Si
SLU 70	ini.	208.09	-1931	2	0	3889	3964	8384	5100	7853	No	4.07	Si
SLU 70	fin.	-211.9	-857	2	0	3889	3964	8384	5100	7853	No	9.17	Si
SLU 77	ini.	217.42	-2011	2	0	3889	3964	8384	5100	7853	No	3.91	Si
SLU 77	fin.	-220.13	-884	2	0	3889	3964	8384	5100	7853	No	8.89	Si
SLU 80	ini.	223.78	-2021	2	0	3889	3964	8384	5100	7853	No	3.89	Si
SLU 80	fin.	-219.62	-887	2	0	3889	3964	8384	5100	7853	No	8.85	Si
SLU 38	ini.	206.34	-1806	2	0	3889	3964	8384	5100	7853	No	4.35	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 38	fin.	-191.22	-770	2	0	3889	3964	8384	5100	7853	No	10.2	Si
SLU 71	ini.	212.42	-1928	2	0	3889	3964	8384	5100	7853	No	4.07	Si
SLU 71	fin.	-209.22	-853	2	0	3889	3964	8384	5100	7853	No	9.21	Si
SLU 78	ini.	218.43	-2018	2	0	3889	3964	8384	5100	7853	No	3.89	Si
SLU 78	fin.	-221.22	-887	2	0	3889	3964	8384	5100	7853	No	8.85	Si
SLU 79	ini.	222.77	-2014	2	0	3889	3964	8384	5100	7853	No	3.9	Si
SLU 79	fin.	-218.53	-884	2	0	3889	3964	8384	5100	7853	No	8.89	Si
SLU 72	ini.	213.44	-1935	2	0	3889	3964	8384	5100	7853	No	4.06	Si
SLU 72	fin.	-210.3	-857	2	0	3889	3964	8384	5100	7853	No	9.17	Si
SLU 84	ini.	183.48	-1804	2	0	3889	3964	8384	5100	7853	No	4.35	Si
SLU 84	fin.	-206.01	-815	2	0	3889	3964	8384	5100	7853	No	9.64	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	174.53	-228	-0.0000174	0.0002807	0.0035	2		14202.07	14202.07		81.37	Si
SLV 14	fin.	-147.14	-173	-0.0000146	0.0002807	0.0035	2		14215.41	14215.41		96.61	Si
SLD 6	ini.	163.72	-240	-0.0000163	0.0002807	0.0035	2		14202.07	14202.07		86.74	Si
SLD 6	fin.	-135.8	-179	-0.0000135	0.0002807	0.0035	2		14215.41	14215.41		104.68	Si
SLV 5	ini.	204.09	-250	-0.0000203	0.0002807	0.0035	2		14202.07	14202.07		69.59	Si
SLV 5	fin.	-132.1	-197	-0.0000131	0.0002807	0.0035	2		14215.41	14215.41		107.61	Si
SLD 10	ini.	179.65	-240	-0.0000179	0.0002807	0.0035	2		14202.07	14202.07		79.05	Si
SLD 10	fin.	-139.37	-183	-0.0000138	0.0002807	0.0035	2		14215.41	14215.41		102	Si
SLV 13	ini.	168.98	-208	-0.0000168	0.0002807	0.0035	2		14202.07	14202.07		84.04	Si
SLV 13	fin.	-136.72	-162	-0.0000136	0.0002807	0.0035	2		14215.41	14215.41		103.97	Si
SLD 5	ini.	161.37	-232	-0.000016	0.0002807	0.0035	2		14202.07	14202.07		88.01	Si
SLD 5	fin.	-131.39	-174	-0.000013	0.0002807	0.0035	2		14215.41	14215.41		108.19	Si
SLD 9	ini.	177.3	-232	-0.0000176	0.0002807	0.0035	2		14202.07	14202.07		80.1	Si
SLD 9	fin.	-134.96	-178	-0.0000134	0.0002807	0.0035	2		14215.41	14215.41		105.33	Si
SLV 10	ini.	232.64	-263	-0.0000232	0.0002807	0.0035	2		14202.07	14202.07		61.05	Si
SLV 10	fin.	-144.25	-210	-0.0000143	0.0002807	0.0035	2		14215.41	14215.41		98.55	Si
SLV 6	ini.	207.82	-263	-0.0000207	0.0002807	0.0035	2		14202.07	14202.07		68.34	Si
SLV 6	fin.	-139.11	-204	-0.0000138	0.0002807	0.0035	2		14215.41	14215.41		102.19	Si
SLV 9	ini.	228.91	-250	-0.0000228	0.0002807	0.0035	2		14202.07	14202.07		62.04	Si
SLV 9	fin.	-137.24	-203	-0.0000136	0.0002807	0.0035	2		14215.41	14215.41		103.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-18.73	-1143	2	0	5833	3964	12577	5100	9797		8.57	Si
SLV 12	fin.	-130.51	-461	2	0	5833	3964	12577	5100	9797		21.26	Si
SLV 13	ini.	168.98	-1238	2	0	5833	3964	12577	5100	9797		7.91	Si
SLV 13	fin.	-136.72	-557	2	0	5833	3964	12577	5100	9797		17.58	Si
SLV 10	ini.	232.64	-1181	2	0	5833	3964	12577	5100	9797		8.3	Si
SLV 10	fin.	-144.25	-611	2	0	5833	3964	12577	5100	9797		16.04	Si
SLV 16	ini.	99.12	-1320	2	0	5833	3964	12577	5100	9797		7.42	Si
SLV 16	fin.	-143.02	-542	2	0	5833	3964	12577	5100	9797		18.08	Si
SLV 15	ini.	93.57	-1227	2	0	5833	3964	12577	5100	9797		7.99	Si
SLV 15	fin.	-132.6	-512	2	0	5833	3964	12577	5100	9797		19.13	Si
SLD 13	ini.	140.81	-1177	2	0	5833	3964	12577	5100	9797		8.32	Si
SLD 13	fin.	-135.15	-542	2	0	5833	3964	12577	5100	9797		18.09	Si
SLV 14	ini.	174.53	-1331	2	0	5833	3964	12577	5100	9797		7.36	Si
SLV 14	fin.	-147.14	-587	2	0	5833	3964	12577	5100	9797		16.69	Si
SLD 14	ini.	144.35	-1236	2	0	5833	3964	12577	5100	9797		7.92	Si
SLD 14	fin.	-141.81	-561	2	0	5833	3964	12577	5100	9797		17.48	Si
SLD 15	ini.	94.11	-1169	2	0	5833	3964	12577	5100	9797		8.38	Si
SLD 15	fin.	-132.7	-514	2	0	5833	3964	12577	5100	9797		19.07	Si
SLD 16	ini.	97.65	-1228	2	0	5833	3964	12577	5100	9797		7.98	Si
SLD 16	fin.	-139.36	-533	2	0	5833	3964	12577	5100	9797		18.39	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	61.046	SLV 10	Si
V_SLV	7.361	SLV 14	Si
PF_SLU	64.101	SLU 80	Si
V_SLU	3.885	SLU 80	Si

Trave di accoppiamento 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.158	6.021	14.25	14.6	0.35	-5.158	6.521	14.25	14.6	0.35	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 48	ini.	232.68	2792	-0.0010917	0.0001872	0.0035	0.35		456.13	456.13	No	1.96	Si
SLU 48	fin.	-294.58	3491	-0.0015159	0.0001872	0.0035	0.35		458.29	458.29	No	1.56	Si
SLU 70	ini.	204.75	2647	-0.0009213	0.0001872	0.0035	0.35		456.13	456.13	No	2.23	Si
SLU 70	fin.	-278.03	3508	-0.0013912	0.0001872	0.0035	0.35		458.29	458.29	No	1.65	Si
SLU 49	ini.	226.59	2744	-0.0010534	0.0001872	0.0035	0.35		456.13	456.13	No	2.01	Si
SLU 49	fin.	-289.86	3461	-0.0014795	0.0001872	0.0035	0.35		458.29	458.29	No	1.58	Si
SLU 51	ini.	250.6	2953	-0.0012084	0.0001872	0.0035	0.35		456.13	456.13	No	1.82	Si
SLU 51	fin.	-312.48	3663	-0.0016611	0.0001872	0.0035	0.35		458.29	458.29	No	1.47	Si
SLU 58	ini.	206.53	2619	-0.0009318	0.0001872	0.0035	0.35		456.13	456.13	No	2.21	Si
SLU 58	fin.	-275.21	3435	-0.0013708	0.0001872	0.0035	0.35		458.29	458.29	No	1.67	Si
SLU 69	ini.	210.84	2695	-0.0009573	0.0001872	0.0035	0.35		456.13	456.13	No	2.16	Si
SLU 69	fin.	-282.75	3538	-0.0014259	0.0001872	0.0035	0.35		458.29	458.29	No	1.62	Si
SLU 8	ini.	226.84	2640	-0.001055	0.0001872	0.0035	0.35		456.13	456.13	No	2.01	Si
SLU 8	fin.	-278.99	3262	-0.0013982	0.0001872	0.0035	0.35		458.29	458.29	No	1.64	Si
SLU 50	ini.	256.69	3001	-0.0012496	0.0001872	0.0035	0.35		456.13	456.13	No	1.78	Si
SLU 50	fin.	-317.2	3692	-0.0017016	0.0001872	0.0035	0.35		458.29	458.29	No	1.44	Si
SLU 71	ini.	234.85	2905	-0.0011055	0.0001872	0.0035	0.35		456.13	456.13	No	1.94	Si
SLU 71	fin.	-305.36	3739	-0.0016019	0.0001872	0.0035	0.35		458.29	458.29	No	1.5	Si
SLU 72	ini.	228.76	2857	-0.001067	0.0001872	0.0035	0.35		456.13	456.13	No	1.99	Si
SLU 72	fin.	-300.64	3710	-0.0015637	0.0001872	0.0035	0.35		458.29	458.29	No	1.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	87.04	1398	0.35	0	681	2775	1467	893	2360	No	1.69	Si
SLU 83	fin.	-162.82	-178	0.35	0	681	2775	1467	893	2360	No	13.28	Si
SLU 42	ini.	51.1	1344	0.35	0	681	2775	1467	893	2360	No	1.76	Si
SLU 42	fin.	-119.89	-51	0.35	0	681	2775	1467	893	2360	No	46.39	Si
SLU 74	ini.	84.52	1341	0.35	0	681	2775	1467	893	2360	No	1.76	Si
SLU 74	fin.	-158.19	-184	0.35	0	681	2775	1467	893	2360	No	12.83	Si
SLU 82	ini.	4.79	1420	0.35	0	681	2775	1467	893	2360	No	1.66	Si
SLU 82	fin.	-75.53	66	0.35	0	681	2775	1467	893	2360	No	35.62	Si
SLU 75	ini.	78.43	1373	0.35	0	681	2775	1467	893	2360	No	1.72	Si
SLU 75	fin.	-153.47	-159	0.35	0	681	2775	1467	893	2360	No	14.82	Si
SLU 78	ini.	154.59	1384	0.35	0	681	2775	1467	893	2360	No	1.71	Si
SLU 78	fin.	-236.04	-379	0.35	0	681	2775	1467	893	2360	No	6.23	Si
SLU 81	ini.	10.88	1387	0.35	0	681	2775	1467	893	2360	No	1.7	Si
SLU 81	fin.	-80.24	42	0.35	0	681	2775	1467	893	2360	No	56.64	Si
SLU 84	ini.	80.95	1430	0.35	0	681	2775	1467	893	2360	No	1.65	Si
SLU 84	fin.	-158.1	-153	0.35	0	681	2775	1467	893	2360	No	15.42	Si
SLU 40	ini.	-25.05	1333	0.35	0	681	2775	1467	893	2360	No	1.77	Si
SLU 40	fin.	-37.32	168	0.35	0	681	2775	1467	893	2360	No	14.01	Si
SLU 77	ini.	160.68	1352	0.35	0	681	2775	1467	893	2360	No	1.75	Si
SLU 77	fin.	-240.76	-403	0.35	0	681	2775	1467	893	2360	No	5.85	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	655.7	5977	-0.0058711	0.0002807	0.0035	0.35		458.5	458.5		0.7	No
SLV 8	fin.	-609.82	4690	-0.0052943	0.0002807	0.0035	0.35		460.78	460.78		0.76	No
SLV 13	ini.	-515.08	-3727	-0.0040941	0.0002807	0.0035	0.35		460.78	460.78		0.89	No
SLV 13	fin.	418.91	-1788	-0.0026789	0.0002807	0.0035	0.35		458.5	458.5		1.09	Si
SLV 7	ini.	758.07	6818	-0.0070436	0.0002807	0.0035	0.35		458.5	458.5		0.6	No
SLV 7	fin.	-706.84	5289	-0.0064252	0.0002807	0.0035	0.35		460.78	460.78		0.65	No
SLV 3	ini.	775.06	6891	-0.0072334	0.0002807	0.0035	0.35		458.5	458.5		0.59	No
SLV 3	fin.	-759.95	5537	-0.0070249	0.0002807	0.0035	0.35		460.78	460.78		0.61	No
SLV 14	ini.	-667.14	-4977	-0.0059677	0.0002807	0.0035	0.35		460.78	460.78		0.69	No
SLV 14	fin.	563.01	-2678	-0.0047531	0.0002807	0.0035	0.35		458.5	458.5		0.81	No
SLV 9	ini.	-547.78	-4062	-0.004526	0.0002807	0.0035	0.35		460.78	460.78		0.84	No
SLV 9	fin.	412.88	-1832	-0.0025947	0.0002807	0.0035	0.35		458.5	458.5		1.11	Si
SLV 4	ini.	623.01	5642	-0.0054865	0.0002807	0.0035	0.35		458.5	458.5		0.74	No
SLV 4	fin.	-615.85	4647	-0.0053664	0.0002807	0.0035	0.35		460.78	460.78		0.75	No
SLV 1	ini.	472.15	4355	-0.00351	0.0002807	0.0035	0.35		458.5	458.5		0.97	No
SLV 1	fin.	-507.4	3914	-0.0039886	0.0002807	0.0035	0.35		460.78	460.78		0.91	No

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	513.2	4728	-0.0041014	0.0002807	0.0035	0.35		458.5	458.5		0.89	No
SLD 3	fin.	-519.05	4040	-0.0041479	0.0002807	0.0035	0.35		460.78	460.78		0.89	No
SLV 10	ini.	-650.15	-4903	-0.0057708	0.0002807	0.0035	0.35		460.78	460.78		0.71	No
SLV 10	fin.	509.9	-2431	-0.0040561	0.0002807	0.0035	0.35		458.5	458.5		0.9	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-547.78	4204	0.35	0	1021	2775	2201	893	3093		0.74	No
SLV 9	fin.	412.88	2410	0.35	0	1021	2775	2201	893	3093		1.28	Si
SLV 14	ini.	-667.14	4567	0.35	0	1021	2775	2201	893	3093		0.68	No
SLV 14	fin.	563.01	3002	0.35	0	1021	2775	2201	893	3093		1.03	Si
SLD 14	ini.	-405.28	3176	0.35	0	1021	2775	2201	893	3093		0.97	No
SLD 14	fin.	322.11	1854	0.35	0	1021	2775	2201	893	3093		1.67	Si
SLV 3	ini.	775.06	-3029	0.35	0	1021	2775	2201	893	3093		1.02	Si
SLV 3	fin.	-759.95	-3293	0.35	0	1021	2775	2201	893	3093		0.94	No
SLV 10	ini.	-650.15	4680	0.35	0	1021	2775	2201	893	3093		0.66	No
SLV 10	fin.	509.9	2871	0.35	0	1021	2775	2201	893	3093		1.08	Si
SLV 13	ini.	-515.08	3859	0.35	0	1021	2775	2201	893	3093		0.8	No
SLV 13	fin.	418.91	2318	0.35	0	1021	2775	2201	893	3093		1.33	Si
SLD 10	ini.	-387.38	3211	0.35	0	1021	2775	2201	893	3093		0.96	No
SLD 10	fin.	282.68	1744	0.35	0	1021	2775	2201	893	3093		1.77	Si
SLV 6	ini.	-353.98	3136	0.35	0	1021	2775	2201	893	3093		0.99	No
SLV 6	fin.	232.01	1572	0.35	0	1021	2775	2201	893	3093		1.97	Si
SLD 9	ini.	-322.98	2911	0.35	0	1021	2775	2201	893	3093		1.06	Si
SLD 9	fin.	221.64	1455	0.35	0	1021	2775	2201	893	3093		2.13	Si
SLV 7	ini.	758.07	-3142	0.35	0	1021	2775	2201	893	3093		0.98	No
SLV 7	fin.	-706.84	-3162	0.35	0	1021	2775	2201	893	3093		0.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.592	SLV 3	No
V_SLV	0.661	SLV 10	No
PF_SLU	1.445	SLU 50	Si
V_SLU	1.65	SLU 84	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	11.45	12.35	0.9	-7.403	-3.169	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 65	ini.	248.97	-1353	-0.0001283	0.0001872	0.0035	0.9		2959	2959	No	11.88	Si
SLU 65	fin.	-392.62	356	-0.0002094	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.55	Si
SLU 78	ini.	244.69	-1342	-0.0001259	0.0001872	0.0035	0.9		2959	2959	No	12.09	Si
SLU 78	fin.	-384.22	329	-0.0002045	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.72	Si
SLU 76	ini.	242.92	-1304	-0.000125	0.0001872	0.0035	0.9		2959	2959	No	12.18	Si
SLU 76	fin.	-392.66	367	-0.0002095	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.55	Si
SLU 75	ini.	247.14	-1342	-0.0001273	0.0001872	0.0035	0.9		2959	2959	No	11.97	Si
SLU 75	fin.	-392.96	350	-0.0002096	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.54	Si
SLU 74	ini.	244.34	-1326	-0.0001257	0.0001872	0.0035	0.9		2959	2959	No	12.11	Si
SLU 74	fin.	-386.43	339	-0.0002058	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.67	Si
SLU 81	ini.	239.16	-1257	-0.0001229	0.0001872	0.0035	0.9		2959	2959	No	12.37	Si
SLU 81	fin.	-394.29	383	-0.0002104	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.52	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	241.97	-1273	-0.0001244	0.0001872	0.0035	0.9		2959	2959	No	12.23	Si
SLU 82	fin.	-400.82	394	-0.0002143	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.4	Si
SLU 83	ini.	236.71	-1256	-0.0001216	0.0001872	0.0035	0.9		2959	2959	No	12.5	Si
SLU 83	fin.	-385.55	362	-0.0002053	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.69	Si
SLU 84	ini.	239.51	-1273	-0.0001231	0.0001872	0.0035	0.9		2959	2959	No	12.35	Si
SLU 84	fin.	-392.08	373	-0.0002091	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.56	Si
SLU 73	ini.	245.38	-1305	-0.0001263	0.0001872	0.0035	0.9		2959	2959	No	12.06	Si
SLU 73	fin.	-401.4	387	-0.0002147	0.0001872	0.0035	0.9		2964.67	2964.67	No	7.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	248.28	-2156	0.9	0	1750	7137	3773	2295	6068	No	2.81	Si
SLU 70	fin.	-375.44	-1424	0.9	0	1750	7137	3773	2295	6068	No	4.26	Si
SLU 69	ini.	245.48	-2129	0.9	0	1750	7137	3773	2295	6068	No	2.85	Si
SLU 69	fin.	-368.91	-1402	0.9	0	1750	7137	3773	2295	6068	No	4.33	Si
SLU 72	ini.	242.2	-2074	0.9	0	1750	7137	3773	2295	6068	No	2.93	Si
SLU 72	fin.	-370.79	-1421	0.9	0	1750	7137	3773	2295	6068	No	4.27	Si
SLU 66	ini.	247.93	-2130	0.9	0	1750	7137	3773	2295	6068	No	2.85	Si
SLU 66	fin.	-377.65	-1439	0.9	0	1750	7137	3773	2295	6068	No	4.22	Si
SLU 64	ini.	244.3	-2049	0.9	0	1750	7137	3773	2295	6068	No	2.96	Si
SLU 64	fin.	-381.74	-1472	0.9	0	1750	7137	3773	2295	6068	No	4.12	Si
SLU 65	ini.	248.97	-2095	0.9	0	1750	7137	3773	2295	6068	No	2.9	Si
SLU 65	fin.	-392.62	-1508	0.9	0	1750	7137	3773	2295	6068	No	4.02	Si
SLU 78	ini.	244.69	-2075	0.9	0	1750	7137	3773	2295	6068	No	2.92	Si
SLU 78	fin.	-384.22	-1478	0.9	0	1750	7137	3773	2295	6068	No	4.11	Si
SLU 68	ini.	246.52	-2094	0.9	0	1750	7137	3773	2295	6068	No	2.9	Si
SLU 68	fin.	-383.88	-1472	0.9	0	1750	7137	3773	2295	6068	No	4.12	Si
SLU 67	ini.	250.74	-2157	0.9	0	1750	7137	3773	2295	6068	No	2.81	Si
SLU 67	fin.	-384.18	-1460	0.9	0	1750	7137	3773	2295	6068	No	4.16	Si
SLU 75	ini.	247.14	-2076	0.9	0	1750	7137	3773	2295	6068	No	2.92	Si
SLU 75	fin.	-392.96	-1514	0.9	0	1750	7137	3773	2295	6068	No	4.01	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	622.4	-2745	-0.000339	0.0002807	0.0035	0.9		2989.59	2989.59		4.8	Si
SLD 2	fin.	-1012.95	1375	-0.0006016	0.0002807	0.0035	0.9		2995.37	2995.37		2.96	Si
SLV 6	ini.	864.03	-3889	-0.0004972	0.0002807	0.0035	0.9		2989.59	2989.59		3.46	Si
SLV 6	fin.	-1345.38	1786	-0.0008602	0.0002807	0.0035	0.9		2995.37	2995.37		2.23	Si
SLV 1	ini.	755.72	-3281	-0.0004242	0.0002807	0.0035	0.9		2989.59	2989.59		3.96	Si
SLV 1	fin.	-1221.12	1680	-0.0007597	0.0002807	0.0035	0.9		2995.37	2995.37		2.45	Si
SLV 5	ini.	782.05	-3562	-0.0004416	0.0002807	0.0035	0.9		2989.59	2989.59		3.82	Si
SLV 5	fin.	-1202.56	1556	-0.0007451	0.0002807	0.0035	0.9		2995.37	2995.37		2.49	Si
SLD 5	ini.	556.26	-2591	-0.0002987	0.0002807	0.0035	0.9		2989.59	2989.59		5.37	Si
SLD 5	fin.	-858.23	1067	-0.0004921	0.0002807	0.0035	0.9		2995.37	2995.37		3.49	Si
SLV 15	ini.	-520.37	1825	-0.0002768	0.0002807	0.0035	0.9		2995.37	2995.37		5.76	Si
SLV 15	fin.	870.79	-1528	-0.0005019	0.0002807	0.0035	0.9		2989.59	2989.59		3.43	Si
SLD 6	ini.	607.84	-2797	-0.00033	0.0002807	0.0035	0.9		2989.59	2989.59		4.92	Si
SLD 6	fin.	-948.08	1212	-0.0005549	0.0002807	0.0035	0.9		2995.37	2995.37		3.16	Si
SLD 1	ini.	544.61	-2435	-0.0002917	0.0002807	0.0035	0.9		2989.59	2989.59		5.49	Si
SLD 1	fin.	-877.42	1157	-0.0005053	0.0002807	0.0035	0.9		2995.37	2995.37		3.41	Si
SLV 4	ini.	578.75	-2456	-0.0003123	0.0002807	0.0035	0.9		2989.59	2989.59		5.17	Si
SLV 4	fin.	-985.6	1401	-0.0005818	0.0002807	0.0035	0.9		2995.37	2995.37		3.04	Si
SLV 2	ini.	877.48	-3767	-0.0005065	0.0002807	0.0035	0.9		2989.59	2989.59		3.41	Si
SLV 2	fin.	-1433.26	2023	-0.0009342	0.0002807	0.0035	0.9		2995.37	2995.37		2.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	782.05	-5222	0.9	0	2625	7137	5660	2295	7955		1.52	Si
SLV 5	fin.	-1202.56	-4637	0.9	0	2625	7137	5660	2295	7955		1.72	Si
SLV 2	ini.	877.48	-5534	0.9	0	2625	7137	5660	2295	7955		1.44	Si
SLV 2	fin.	-1433.26	-5631	0.9	0	2625	7137	5660	2295	7955		1.41	Si
SLD 2	ini.	622.4	-4059	0.9	0	2625	7137	5660	2295	7955		1.96	Si
SLD 2	fin.	-1012.95	-3975	0.9	0	2625	7137	5660	2295	7955		2	Si
SLD 6	ini.	607.84	-4138	0.9	0	2625	7137	5660	2295	7955		1.92	Si
SLD 6	fin.	-948.08	-3656	0.9	0	2625	7137	5660	2295	7955		2.18	Si
SLV 4	ini.	578.75	-3645	0.9	0	2625	7137	5660	2295	7955		2.18	Si
SLV 4	fin.	-985.6	-3929	0.9	0	2625	7137	5660	2295	7955		2.02	Si
SLD 1	ini.	544.61	-3592	0.9	0	2625	7137	5660	2295	7955		2.21	Si
SLD 1	fin.	-877.42	-3454	0.9	0	2625	7137	5660	2295	7955		2.3	Si
SLV 10	ini.	570.82	-4082	0.9	0	2625	7137	5660	2295	7955		1.95	Si
SLV 10	fin.	-852.11	-3215	0.9	0	2625	7137	5660	2295	7955		2.47	Si
SLV 1	ini.	755.72	-4803	0.9	0	2625	7137	5660	2295	7955		1.66	Si
SLV 1	fin.	-1221.12	-4816	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 6	ini.	864.03	-5714	0.9	0	2625	7137	5660	2295	7955		1.39	Si
SLV 6	fin.	-1345.38	-5185	0.9	0	2625	7137	5660	2295	7955		1.53	Si
SLD 5	ini.	556.26	-3829	0.9	0	2625	7137	5660	2295	7955		2.08	Si
SLD 5	fin.	-858.23	-3311	0.9	0	2625	7137	5660	2295	7955		2.4	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.09	SLV 2	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.392	SLV 6	Si
PF_SLU	7.386	SLU 73	Si
V_SLU	2.813	SLU 67	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-6.503	-3.169	14.15	14.6	0.45	-7.403	-3.169	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	84.76	371	-0.0001781	0.0001872	0.0035	0.45		745.72	745.72	No	8.8	Si
SLU 74	fin.	-98.29	-273	-0.0002087	0.0001872	0.0035	0.45		748.52	748.52	No	7.62	Si
SLU 75	ini.	84.8	386	-0.0001782	0.0001872	0.0035	0.45		745.72	745.72	No	8.79	Si
SLU 75	fin.	-97.97	-262	-0.000208	0.0001872	0.0035	0.45		748.52	748.52	No	7.64	Si
SLU 66	ini.	82.84	363	-0.0001737	0.0001872	0.0035	0.45		745.72	745.72	No	9	Si
SLU 66	fin.	-102.03	-303	-0.0002176	0.0001872	0.0035	0.45		748.52	748.52	No	7.34	Si
SLU 70	ini.	80.32	365	-0.000168	0.0001872	0.0035	0.45		745.72	745.72	No	9.28	Si
SLU 70	fin.	-100.63	-287	-0.0002143	0.0001872	0.0035	0.45		748.52	748.52	No	7.44	Si
SLU 64	ini.	87.11	408	-0.0001835	0.0001872	0.0035	0.45		745.72	745.72	No	8.56	Si
SLU 64	fin.	-98.03	-305	-0.0002081	0.0001872	0.0035	0.45		748.52	748.52	No	7.64	Si
SLU 77	ini.	82.21	359	-0.0001723	0.0001872	0.0035	0.45		745.72	745.72	No	9.07	Si
SLU 77	fin.	-97.21	-269	-0.0002062	0.0001872	0.0035	0.45		748.52	748.52	No	7.7	Si
SLU 65	ini.	87.17	433	-0.0001836	0.0001872	0.0035	0.45		745.72	745.72	No	8.55	Si
SLU 65	fin.	-97.49	-286	-0.0002068	0.0001872	0.0035	0.45		748.52	748.52	No	7.68	Si
SLU 69	ini.	80.29	350	-0.0001679	0.0001872	0.0035	0.45		745.72	745.72	No	9.29	Si
SLU 69	fin.	-100.95	-299	-0.000215	0.0001872	0.0035	0.45		748.52	748.52	No	7.41	Si
SLU 67	ini.	82.88	378	-0.0001738	0.0001872	0.0035	0.45		745.72	745.72	No	9	Si
SLU 67	fin.	-101.71	-292	-0.0002168	0.0001872	0.0035	0.45		748.52	748.52	No	7.36	Si
SLU 78	ini.	82.24	373	-0.0001723	0.0001872	0.0035	0.45		745.72	745.72	No	9.07	Si
SLU 78	fin.	-96.88	-257	-0.0002054	0.0001872	0.0035	0.45		748.52	748.52	No	7.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	82.88	193	0.45	0	799	3568	1887	1148	3034	No	15.7	Si
SLU 67	fin.	-101.71	-850	0.45	0	799	3568	1887	1148	3034	No	3.57	Si
SLU 65	ini.	87.17	77	0.45	0	799	3568	1887	1148	3034	No	39.47	Si
SLU 65	fin.	-97.49	-806	0.45	0	799	3568	1887	1148	3034	No	3.76	Si
SLU 75	ini.	84.8	201	0.45	0	799	3568	1887	1148	3034	No	15.1	Si
SLU 75	fin.	-97.97	-842	0.45	0	799	3568	1887	1148	3034	No	3.6	Si
SLU 74	ini.	84.76	219	0.45	0	799	3568	1887	1148	3034	No	13.87	Si
SLU 74	fin.	-98.29	-831	0.45	0	799	3568	1887	1148	3034	No	3.65	Si
SLU 78	ini.	82.24	209	0.45	0	799	3568	1887	1148	3034	No	14.53	Si
SLU 78	fin.	-96.88	-836	0.45	0	799	3568	1887	1148	3034	No	3.63	Si
SLU 66	ini.	82.84	211	0.45	0	799	3568	1887	1148	3034	No	14.37	Si
SLU 66	fin.	-102.03	-840	0.45	0	799	3568	1887	1148	3034	No	3.61	Si
SLU 70	ini.	80.32	201	0.45	0	799	3568	1887	1148	3034	No	15.09	Si
SLU 70	fin.	-100.63	-844	0.45	0	799	3568	1887	1148	3034	No	3.6	Si
SLU 77	ini.	82.21	227	0.45	0	799	3568	1887	1148	3034	No	13.39	Si
SLU 77	fin.	-97.21	-825	0.45	0	799	3568	1887	1148	3034	No	3.68	Si
SLU 69	ini.	80.29	219	0.45	0	799	3568	1887	1148	3034	No	13.86	Si
SLU 69	fin.	-100.95	-833	0.45	0	799	3568	1887	1148	3034	No	3.64	Si
SLU 68	ini.	84.61	85	0.45	0	799	3568	1887	1148	3034	No	35.82	Si
SLU 68	fin.	-96.41	-800	0.45	0	799	3568	1887	1148	3034	No	3.79	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	348.69	2455	-0.0009006	0.0002807	0.0035	0.45		751.86	751.86		2.16	Si
SLV 6	fin.	-376.93	-1621	-0.0009931	0.0002807	0.0035	0.45		754.83	754.83		2	Si
SLV 1	ini.	308.78	1976	-0.00077	0.0002807	0.0035	0.45		751.86	751.86		2.43	Si
SLV 1	fin.	-307.61	-1280	-0.0007627	0.0002807	0.0035	0.45		754.83	754.83		2.45	Si
SLV 5	ini.	306.74	2194	-0.0007636	0.0002807	0.0035	0.45		751.86	751.86		2.45	Si
SLV 5	fin.	-336.76	-1413	-0.0008566	0.0002807	0.0035	0.45		754.83	754.83		2.24	Si
SLV 2	ini.	371.09	2363	-0.0009775	0.0002807	0.0035	0.45		751.86	751.86		2.03	Si
SLV 2	fin.	-367.28	-1589	-0.0009596	0.0002807	0.0035	0.45		754.83	754.83		2.06	Si
SLV 10	ini.	219.14	1623	-0.0005042	0.0002807	0.0035	0.45		751.86	751.86		3.43	Si
SLV 10	fin.	-257.56	-1075	-0.0006109	0.0002807	0.0035	0.45		754.83	754.83		2.93	Si
SLD 2	ini.	258.8	1609	-0.0006173	0.0002807	0.0035	0.45		751.86	751.86		2.91	Si
SLD 2	fin.	-258.69	-1087	-0.0006142	0.0002807	0.0035	0.45		754.83	754.83		2.92	Si
SLD 5	ini.	215.92	1485	-0.0004954	0.0002807	0.0035	0.45		751.86	751.86		3.48	Si
SLD 5	fin.	-237.07	-965	-0.000552	0.0002807	0.0035	0.45		754.83	754.83		3.18	Si
SLV 4	ini.	252	1398	-0.0005974	0.0002807	0.0035	0.45		751.86	751.86		2.98	Si
SLV 4	fin.	-231.28	-972	-0.0005358	0.0002807	0.0035	0.45		754.83	754.83		3.26	Si
SLV 15	ini.	-242.17	-1761	-0.0005665	0.0002807	0.0035	0.45		754.83	754.83		3.12	Si
SLV 15	fin.	226.31	1158	-0.0005242	0.0002807	0.0035	0.45		751.86	751.86		3.32	Si
SLD 6	ini.	242.31	1649	-0.0005694	0.0002807	0.0035	0.45		751.86	751.86		3.1	Si
SLD 6	fin.	-262.34	-1096	-0.000625	0.0002807	0.0035	0.45		754.83	754.83		2.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-219.78	1883	0.45	0	1113	3568	2830	1148	3977		2.11	Si
SLV 11	fin.	235.96	970	0.45	0	1113	3568	2830	1148	3977		4.1	Si
SLV 6	ini.	348.69	-1737	0.45	0	1113	3568	2830	1148	3977		2.29	Si
SLV 6	fin.	-376.93	-2118	0.45	0	1113	3568	2830	1148	3977		1.88	Si
SLD 6	ini.	242.31	-1059	0.45	0	1113	3568	2830	1148	3977		3.76	Si
SLD 6	fin.	-262.34	-1540	0.45	0	1113	3568	2830	1148	3977		2.58	Si
SLV 12	ini.	-177.83	1666	0.45	0	1113	3568	2830	1148	3977		2.39	Si
SLV 12	fin.	195.78	773	0.45	0	1113	3568	2830	1148	3977		5.14	Si
SLD 2	ini.	258.8	-940	0.45	0	1113	3568	2830	1148	3977		4.23	Si
SLD 2	fin.	-258.69	-1480	0.45	0	1113	3568	2830	1148	3977		2.69	Si
SLV 15	ini.	-242.17	1672	0.45	0	1113	3568	2830	1148	3977		2.38	Si
SLV 15	fin.	226.31	854	0.45	0	1113	3568	2830	1148	3977		4.66	Si
SLV 2	ini.	371.09	-1526	0.45	0	1113	3568	2830	1148	3977		2.61	Si
SLV 2	fin.	-367.28	-2002	0.45	0	1113	3568	2830	1148	3977		1.99	Si
SLV 10	ini.	219.14	-1125	0.45	0	1113	3568	2830	1148	3977		3.53	Si
SLV 10	fin.	-257.56	-1559	0.45	0	1113	3568	2830	1148	3977		2.55	Si
SLV 1	ini.	308.78	-1204	0.45	0	1113	3568	2830	1148	3977		3.3	Si
SLV 1	fin.	-307.61	-1710	0.45	0	1113	3568	2830	1148	3977		2.33	Si
SLV 5	ini.	306.74	-1520	0.45	0	1113	3568	2830	1148	3977		2.62	Si
SLV 5	fin.	-336.76	-1922	0.45	0	1113	3568	2830	1148	3977		2.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.003	SLV 6	Si
V_SLV	1.878	SLV 6	Si
PF_SLU	7.336	SLU 66	Si
V_SLU	3.57	SLU 67	Si

Trave di accoppiamento 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	11.45	13.45	2	-5.938	-3.169	11.45	13.45	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	177.53	-1901	-0.0000177	0.0001872	0.0035	2		14344.28	14344.28	No	80.8	Si
SLU 72	fin.	-334.2	-1353	-0.0000335	0.0001872	0.0035	2		14357.01	14357.01	No	42.96	Si
SLU 82	ini.	209.58	-1906	-0.0000209	0.0001872	0.0035	2		14344.28	14344.28	No	68.44	Si
SLU 82	fin.	-324.11	-1258	-0.0000324	0.0001872	0.0035	2		14357.01	14357.01	No	44.3	Si
SLU 68	ini.	187.59	-1920	-0.0000187	0.0001872	0.0035	2		14344.28	14344.28	No	76.47	Si
SLU 68	fin.	-345.37	-1350	-0.0000346	0.0001872	0.0035	2		14357.01	14357.01	No	41.57	Si
SLU 76	ini.	194.26	-1903	-0.0000194	0.0001872	0.0035	2		14344.28	14344.28	No	73.84	Si
SLU 76	fin.	-333.69	-1295	-0.0000334	0.0001872	0.0035	2		14357.01	14357.01	No	43.02	Si
SLU 80	ini.	184.2	-1884	-0.0000184	0.0001872	0.0035	2		14344.28	14344.28	No	77.87	Si
SLU 80	fin.	-322.53	-1298	-0.0000323	0.0001872	0.0035	2		14357.01	14357.01	No	44.51	Si
SLU 64	ini.	201.87	-1923	-0.0000201	0.0001872	0.0035	2		14344.28	14344.28	No	71.06	Si
SLU 64	fin.	-328.97	-1328	-0.0000329	0.0001872	0.0035	2		14357.01	14357.01	No	43.64	Si
SLU 65	ini.	198.85	-1935	-0.0000198	0.0001872	0.0035	2		14344.28	14344.28	No	72.13	Si
SLU 65	fin.	-348.66	-1341	-0.0000349	0.0001872	0.0035	2		14357.01	14357.01	No	41.18	Si
SLU 70	ini.	188.26	-2002	-0.0000188	0.0001872	0.0035	2		14344.28	14344.28	No	76.19	Si
SLU 70	fin.	-328.55	-1429	-0.0000329	0.0001872	0.0035	2		14357.01	14357.01	No	43.7	Si
SLU 73	ini.	205.52	-1918	-0.0000205	0.0001872	0.0035	2		14344.28	14344.28	No	69.79	Si
SLU 73	fin.	-336.99	-1286	-0.0000337	0.0001872	0.0035	2		14357.01	14357.01	No	42.6	Si
SLU 67	ini.	199.52	-2017	-0.0000199	0.0001872	0.0035	2		14344.28	14344.28	No	71.89	Si
SLU 67	fin.	-331.84	-1420	-0.0000332	0.0001872	0.0035	2		14357.01	14357.01	No	43.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	209.58	-2818	2	0	3889	3965	8384	5100	7854	No	2.79	Si
SLU 82	fin.	-324.11	-2012	2	0	3889	3965	8384	5100	7854	No	3.9	Si
SLU 66	ini.	201.33	-2818	2	0	3889	3965	8384	5100	7854	No	2.79	Si
SLU 66	fin.	-320.03	-1786	2	0	3889	3965	8384	5100	7854	No	4.4	Si
SLU 81	ini.	211.39	-2797	2	0	3889	3965	8384	5100	7854	No	2.81	Si
SLU 81	fin.	-312.3	-1995	2	0	3889	3965	8384	5100	7854	No	3.94	Si
SLU 67	ini.	199.52	-2840	2	0	3889	3965	8384	5100	7854	No	2.77	Si
SLU 67	fin.	-331.84	-1803	2	0	3889	3965	8384	5100	7854	No	4.36	Si
SLU 65	ini.	198.85	-2798	2	0	3889	3965	8384	5100	7854	No	2.81	Si
SLU 65	fin.	-348.66	-1884	2	0	3889	3965	8384	5100	7854	No	4.17	Si
SLU 75	ini.	206.19	-2864	2	0	3889	3965	8384	5100	7854	No	2.74	Si
SLU 75	fin.	-320.17	-1901	2	0	3889	3965	8384	5100	7854	No	4.13	Si
SLU 73	ini.	205.52	-2822	2	0	3889	3965	8384	5100	7854	No	2.78	Si
SLU 73	fin.	-336.99	-1982	2	0	3889	3965	8384	5100	7854	No	3.96	Si
SLU 74	ini.	208	-2842	2	0	3889	3965	8384	5100	7854	No	2.76	Si
SLU 74	fin.	-308.36	-1884	2	0	3889	3965	8384	5100	7854	No	4.17	Si
SLU 77	ini.	196.73	-2783	2	0	3889	3965	8384	5100	7854	No	2.82	Si
SLU 77	fin.	-305.06	-1794	2	0	3889	3965	8384	5100	7854	No	4.38	Si
SLU 78	ini.	194.93	-2804	2	0	3889	3965	8384	5100	7854	No	2.8	Si
SLU 78	fin.	-316.87	-1811	2	0	3889	3965	8384	5100	7854	No	4.34	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-58.39	695	-0.0000058	0.0002807	0.0035	2		14215.41	14215.41		243.45	Si
SLV 11	fin.	966.2	1331	-0.0000984	0.0002807	0.0035	2		14202.07	14202.07		14.7	Si
SLV 1	ini.	315.46	-3076	-0.0000315	0.0002807	0.0035	2		14202.07	14202.07		45.02	Si
SLV 1	fin.	-1106.73	-2737	-0.0001131	0.0002807	0.0035	2		14215.41	14215.41		12.84	Si
SLD 5	ini.	228.82	-2546	-0.0000228	0.0002807	0.0035	2		14202.07	14202.07		62.07	Si
SLD 5	fin.	-905.56	-2266	-0.0000919	0.0002807	0.0035	2		14215.41	14215.41		15.7	Si
SLD 2	ini.	335.43	-2781	-0.0000335	0.0002807	0.0035	2		14202.07	14202.07		42.34	Si
SLD 2	fin.	-922.82	-2298	-0.0000937	0.0002807	0.0035	2		14215.41	14215.41		15.4	Si
SLV 9	ini.	157.65	-2355	-0.0000157	0.0002807	0.0035	2		14202.07	14202.07		90.08	Si
SLV 9	fin.	-893.83	-2210	-0.0000907	0.0002807	0.0035	2		14215.41	14215.41		15.9	Si
SLV 10	ini.	244.38	-2684	-0.0000243	0.0002807	0.0035	2		14202.07	14202.07		58.11	Si
SLV 10	fin.	-1036.75	-2432	-0.0001057	0.0002807	0.0035	2		14215.41	14215.41		13.71	Si
SLD 6	ini.	283.37	-2753	-0.0000283	0.0002807	0.0035	2		14202.07	14202.07		50.12	Si
SLD 6	fin.	-995.47	-2405	-0.0001013	0.0002807	0.0035	2		14215.41	14215.41		14.28	Si
SLV 6	ini.	361.83	-3547	-0.0000362	0.0002807	0.0035	2		14202.07	14202.07		39.25	Si
SLV 6	fin.	-1451.48	-3272	-0.00015	0.0002807	0.0035	2		14215.41	14215.41		9.79	Si
SLV 5	ini.	275.1	-3217	-0.0000274	0.0002807	0.0035	2		14202.07	14202.07		51.63	Si
SLV 5	fin.	-1308.56	-3050	-0.0001346	0.0002807	0.0035	2		14215.41	14215.41		10.86	Si
SLV 2	ini.	444.27	-3566	-0.0000445	0.0002807	0.0035	2		14202.07	14202.07		31.97	Si
SLV 2	fin.	-1319.01	-3067	-0.0001357	0.0002807	0.0035	2		14215.41	14215.41		10.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	444.27	-4755	2	0	5833	3965	12577	5100	9798		2.06	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	fin.	-1319.01	-5054	2	0	5833	3965	12577	5100	9798		1.94	Si
SLV 5	ini.	275.1	-4021	2	0	5833	3965	12577	5100	9798		2.44	Si
SLV 5	fin.	-1308.56	-3419	2	0	5833	3965	12577	5100	9798		2.87	Si
SLD 1	ini.	253.13	-3175	2	0	5833	3965	12577	5100	9798		3.09	Si
SLD 1	fin.	-787.19	-3039	2	0	5833	3965	12577	5100	9798		3.22	Si
SLV 1	ini.	315.46	-3827	2	0	5833	3965	12577	5100	9798		2.56	Si
SLV 1	fin.	-1106.73	-3993	2	0	5833	3965	12577	5100	9798		2.45	Si
SLD 6	ini.	283.37	-3685	2	0	5833	3965	12577	5100	9798		2.66	Si
SLD 6	fin.	-995.47	-3119	2	0	5833	3965	12577	5100	9798		3.14	Si
SLV 10	ini.	244.38	-3632	2	0	5833	3965	12577	5100	9798		2.7	Si
SLV 10	fin.	-1036.75	-2548	2	0	5833	3965	12577	5100	9798		3.85	Si
SLD 2	ini.	335.43	-3768	2	0	5833	3965	12577	5100	9798		2.6	Si
SLD 2	fin.	-922.82	-3717	2	0	5833	3965	12577	5100	9798		2.64	Si
SLV 6	ini.	361.83	-4646	2	0	5833	3965	12577	5100	9798		2.11	Si
SLV 6	fin.	-1451.48	-4133	2	0	5833	3965	12577	5100	9798		2.37	Si
SLD 5	ini.	228.82	-3292	2	0	5833	3965	12577	5100	9798		2.98	Si
SLD 5	fin.	-905.56	-2670	2	0	5833	3965	12577	5100	9798		3.67	Si
SLV 4	ini.	379.46	-3705	2	0	5833	3965	12577	5100	9798		2.64	Si
SLV 4	fin.	-761	-4109	2	0	5833	3965	12577	5100	9798		2.38	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	9.794	SLV 6	Si
V_SLV	1.939	SLV 2	Si
PF_SLU	41.177	SLU 65	Si
V_SLU	2.743	SLU 75	Si

Trave di accoppiamento 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-5.438	-3.169	14.25	14.6	0.35	-5.938	-3.169	14.25	14.6	0.35	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	137.68	140	-0.0005585	0.0001872	0.0035	0.35		456.13	456.13	No	3.31	Si
SLU 76	fin.	-112.01	140	-0.0004324	0.0001872	0.0035	0.35		458.29	458.29	No	4.09	Si
SLU 82	ini.	124.06	137	-0.0004919	0.0001872	0.0035	0.35		456.13	456.13	No	3.68	Si
SLU 82	fin.	-99.16	137	-0.000374	0.0001872	0.0035	0.35		458.29	458.29	No	4.62	Si
SLU 55	ini.	130.3	126	-0.0005221	0.0001872	0.0035	0.35		456.13	456.13	No	3.5	Si
SLU 55	fin.	-108.32	126	-0.0004154	0.0001872	0.0035	0.35		458.29	458.29	No	4.23	Si
SLU 65	ini.	138.91	144	-0.0005647	0.0001872	0.0035	0.35		456.13	456.13	No	3.28	Si
SLU 65	fin.	-112.8	144	-0.000436	0.0001872	0.0035	0.35		458.29	458.29	No	4.06	Si
SLU 44	ini.	131.53	130	-0.0005282	0.0001872	0.0035	0.35		456.13	456.13	No	3.47	Si
SLU 44	fin.	-109.11	130	-0.000419	0.0001872	0.0035	0.35		458.29	458.29	No	4.2	Si
SLU 68	ini.	134.76	138	-0.000544	0.0001872	0.0035	0.35		456.13	456.13	No	3.38	Si
SLU 68	fin.	-109.3	138	-0.0004199	0.0001872	0.0035	0.35		458.29	458.29	No	4.19	Si
SLU 52	ini.	134.46	131	-0.0005426	0.0001872	0.0035	0.35		456.13	456.13	No	3.39	Si
SLU 52	fin.	-111.82	131	-0.0004315	0.0001872	0.0035	0.35		458.29	458.29	No	4.1	Si
SLU 47	ini.	127.37	124	-0.0005079	0.0001872	0.0035	0.35		456.13	456.13	No	3.58	Si
SLU 47	fin.	-105.61	124	-0.000403	0.0001872	0.0035	0.35		458.29	458.29	No	4.34	Si
SLU 31	ini.	124.42	125	-0.0004936	0.0001872	0.0035	0.35		456.13	456.13	No	3.67	Si
SLU 31	fin.	-101.41	125	-0.000384	0.0001872	0.0035	0.35		458.29	458.29	No	4.52	Si
SLU 73	ini.	141.84	146	-0.0005793	0.0001872	0.0035	0.35		456.13	456.13	No	3.22	Si
SLU 73	fin.	-115.51	146	-0.0004487	0.0001872	0.0035	0.35		458.29	458.29	No	3.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	137.68	-442	0.35	0	681	2775	1467	893	2360	No	5.34	Si
SLU 76	fin.	-112.01	-557	0.35	0	681	2775	1467	893	2360	No	4.24	Si
SLU 52	ini.	134.46	-435	0.35	0	681	2775	1467	893	2360	No	5.42	Si
SLU 52	fin.	-111.82	-550	0.35	0	681	2775	1467	893	2360	No	4.29	Si
SLU 68	ini.	134.76	-431	0.35	0	681	2775	1467	893	2360	No	5.48	Si
SLU 68	fin.	-109.3	-545	0.35	0	681	2775	1467	893	2360	No	4.33	Si
SLU 47	ini.	127.37	-409	0.35	0	681	2775	1467	893	2360	No	5.77	Si
SLU 47	fin.	-105.61	-523	0.35	0	681	2775	1467	893	2360	No	4.51	Si
SLU 55	ini.	130.3	-420	0.35	0	681	2775	1467	893	2360	No	5.62	Si
SLU 55	fin.	-108.32	-535	0.35	0	681	2775	1467	893	2360	No	4.41	Si
SLU 73	ini.	141.84	-457	0.35	0	681	2775	1467	893	2360	No	5.16	Si
SLU 73	fin.	-115.51	-572	0.35	0	681	2775	1467	893	2360	No	4.13	Si
SLU 82	ini.	124.06	-389	0.35	0	681	2775	1467	893	2360	No	6.06	Si
SLU 82	fin.	-99.16	-504	0.35	0	681	2775	1467	893	2360	No	4.68	Si
SLU 44	ini.	131.53	-424	0.35	0	681	2775	1467	893	2360	No	5.57	Si
SLU 44	fin.	-109.11	-539	0.35	0	681	2775	1467	893	2360	No	4.38	Si
SLU 31	ini.	124.42	-408	0.35	0	681	2775	1467	893	2360	No	5.79	Si
SLU 31	fin.	-101.41	-496	0.35	0	681	2775	1467	893	2360	No	4.76	Si
SLU 65	ini.	138.91	-446	0.35	0	681	2775	1467	893	2360	No	5.29	Si
SLU 65	fin.	-112.8	-561	0.35	0	681	2775	1467	893	2360	No	4.21	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	298.14	648	-0.0014486	0.0002807	0.0035	0.35		458.5	458.5		1.54	Si
SLD 6	fin.	-212.06	646	-0.0008984	0.0002807	0.0035	0.35		460.78	460.78		2.17	Si
SLV 5	ini.	402.88	885	-0.0024616	0.0002807	0.0035	0.35		458.5	458.5		1.14	Si
SLV 5	fin.	-287.32	882	-0.0013621	0.0002807	0.0035	0.35		460.78	460.78		1.6	Si
SLV 6	ini.	436.68	985	-0.0029451	0.0002807	0.0035	0.35		458.5	458.5		1.05	Si
SLV 6	fin.	-309.06	982	-0.0015189	0.0002807	0.0035	0.35		460.78	460.78		1.49	Si
SLV 10	ini.	451.07	666	-0.003176	0.0002807	0.0035	0.35		458.5	458.5		1.02	Si
SLV 10	fin.	-358.73	664	-0.0019435	0.0002807	0.0035	0.35		460.78	460.78		1.28	Si
SLD 10	ini.	307.46	445	-0.0015177	0.0002807	0.0035	0.35		458.5	458.5		1.49	Si
SLD 10	fin.	-243.98	444	-0.0010826	0.0002807	0.0035	0.35		460.78	460.78		1.89	Si
SLV 8	ini.	-278.36	-388	-0.001301	0.0002807	0.0035	0.35		460.78	460.78		1.66	Si
SLV 8	fin.	230.88	-386	-0.0010113	0.0002807	0.0035	0.35		458.5	458.5		1.99	Si
SLV 9	ini.	417.27	566	-0.0026557	0.0002807	0.0035	0.35		458.5	458.5		1.1	Si
SLV 9	fin.	-337	564	-0.0017437	0.0002807	0.0035	0.35		460.78	460.78		1.37	Si
SLD 9	ini.	286.19	382	-0.0013636	0.0002807	0.0035	0.35		458.5	458.5		1.6	Si
SLD 9	fin.	-230.31	381	-0.0010017	0.0002807	0.0035	0.35		460.78	460.78		2	Si
SLV 11	ini.	-297.77	-807	-0.0014358	0.0002807	0.0035	0.35		460.78	460.78		1.55	Si
SLV 11	fin.	202.94	-804	-0.0008537	0.0002807	0.0035	0.35		458.5	458.5		2.26	Si
SLV 7	ini.	-312.16	-488	-0.0015424	0.0002807	0.0035	0.35		460.78	460.78		1.48	Si
SLV 7	fin.	252.62	-486	-0.0011427	0.0002807	0.0035	0.35		458.5	458.5		1.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-278.36	1039	0.35	0	1021	2775	2201	893	3093		2.98	Si
SLV 8	fin.	230.88	932	0.35	0	1021	2775	2201	893	3093		3.32	Si
SLV 7	ini.	-312.16	1150	0.35	0	1021	2775	2201	893	3093		2.69	Si
SLV 7	fin.	252.62	1043	0.35	0	1021	2775	2201	893	3093		2.97	Si
SLV 11	ini.	-297.77	1070	0.35	0	1021	2775	2201	893	3093		2.89	Si
SLV 11	fin.	202.94	1014	0.35	0	1021	2775	2201	893	3093		3.05	Si
SLD 6	ini.	298.14	-991	0.35	0	1021	2775	2201	893	3093		3.12	Si
SLD 6	fin.	-212.06	-1100	0.35	0	1021	2775	2201	893	3093		2.81	Si
SLV 5	ini.	402.88	-1361	0.35	0	1021	2775	2201	893	3093		2.27	Si
SLV 5	fin.	-287.32	-1482	0.35	0	1021	2775	2201	893	3093		2.09	Si
SLD 10	ini.	307.46	-1042	0.35	0	1021	2775	2201	893	3093		2.97	Si
SLD 10	fin.	-243.98	-1120	0.35	0	1021	2775	2201	893	3093		2.76	Si
SLV 6	ini.	436.68	-1472	0.35	0	1021	2775	2201	893	3093		2.1	Si
SLV 6	fin.	-309.06	-1593	0.35	0	1021	2775	2201	893	3093		1.94	Si
SLV 10	ini.	451.07	-1552	0.35	0	1021	2775	2201	893	3093		1.99	Si
SLV 10	fin.	-358.73	-1621	0.35	0	1021	2775	2201	893	3093		1.91	Si
SLD 9	ini.	286.19	-973	0.35	0	1021	2775	2201	893	3093		3.18	Si
SLD 9	fin.	-230.31	-1050	0.35	0	1021	2775	2201	893	3093		2.95	Si
SLV 9	ini.	417.27	-1441	0.35	0	1021	2775	2201	893	3093		2.15	Si
SLV 9	fin.	-337	-1510	0.35	0	1021	2775	2201	893	3093		2.05	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.016	SLV 10	Si
V_SLV	1.908	SLV 10	Si
PF_SLU	3.216	SLU 73	Si
V_SLU	4.125	SLU 73	Si

Trave di accoppiamento 172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	11.45	12.35	0.9	-3.113	-3.169	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 50	ini.	187.42	-713	-0.0000952	0.0001872	0.0035	0.9		2959	2959	No	15.79	Si
SLU 50	fin.	-59.78	-321	-0.0000295	0.0001872	0.0035	0.9		2964.67	2964.67	No	49.59	Si
SLU 68	ini.	182.37	-728	-0.0000925	0.0001872	0.0035	0.9		2959	2959	No	16.22	Si
SLU 68	fin.	-33.19	-407	-0.0000163	0.0001872	0.0035	0.9		2964.67	2964.67	No	89.31	Si
SLU 51	ini.	195.81	-735	-0.0000997	0.0001872	0.0035	0.9		2959	2959	No	15.11	Si
SLU 51	fin.	-67.09	-315	-0.0000332	0.0001872	0.0035	0.9		2964.67	2964.67	No	44.19	Si
SLU 44	ini.	197.87	-735	-0.0001007	0.0001872	0.0035	0.9		2959	2959	No	14.95	Si
SLU 44	fin.	-72.34	-303	-0.0000358	0.0001872	0.0035	0.9		2964.67	2964.67	No	40.98	Si
SLU 49	ini.	193.64	-741	-0.0000985	0.0001872	0.0035	0.9		2959	2959	No	15.28	Si
SLU 49	fin.	-55.87	-350	-0.0000276	0.0001872	0.0035	0.9		2964.67	2964.67	No	53.06	Si
SLU 46	ini.	191.87	-733	-0.0000976	0.0001872	0.0035	0.9		2959	2959	No	15.42	Si
SLU 46	fin.	-56.06	-346	-0.0000277	0.0001872	0.0035	0.9		2964.67	2964.67	No	52.88	Si
SLU 47	ini.	199.63	-742	-0.0001017	0.0001872	0.0035	0.9		2959	2959	No	14.82	Si
SLU 47	fin.	-72.15	-307	-0.0000357	0.0001872	0.0035	0.9		2964.67	2964.67	No	41.09	Si
SLU 45	ini.	183.48	-712	-0.0000931	0.0001872	0.0035	0.9		2959	2959	No	16.13	Si
SLU 45	fin.	-48.76	-352	-0.000024	0.0001872	0.0035	0.9		2964.67	2964.67	No	60.81	Si
SLU 48	ini.	185.25	-719	-0.0000941	0.0001872	0.0035	0.9		2959	2959	No	15.97	Si
SLU 48	fin.	-48.57	-356	-0.0000239	0.0001872	0.0035	0.9		2964.67	2964.67	No	61.04	Si
SLU 43	ini.	183.88	-698	-0.0000933	0.0001872	0.0035	0.9		2959	2959	No	16.09	Si
SLU 43	fin.	-60.16	-313	-0.0000297	0.0001872	0.0035	0.9		2964.67	2964.67	No	49.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 45	ini.	183.48	-790	0.9	0	1750	7137	3773	2295	6068	No	7.68	Si
SLU 45	fin.	-48.76	-296	0.9	0	1750	7137	3773	2295	6068	No	20.5	Si
SLU 44	ini.	197.87	-827	0.9	0	1750	7137	3773	2295	6068	No	7.33	Si
SLU 44	fin.	-72.34	-405	0.9	0	1750	7137	3773	2295	6068	No	14.98	Si
SLU 48	ini.	185.25	-805	0.9	0	1750	7137	3773	2295	6068	No	7.54	Si
SLU 48	fin.	-48.57	-291	0.9	0	1750	7137	3773	2295	6068	No	20.83	Si
SLU 68	ini.	182.37	-717	0.9	0	1750	7137	3773	2295	6068	No	8.46	Si
SLU 68	fin.	-33.19	-286	0.9	0	1750	7137	3773	2295	6068	No	21.21	Si
SLU 47	ini.	199.63	-842	0.9	0	1750	7137	3773	2295	6068	No	7.2	Si
SLU 47	fin.	-72.15	-400	0.9	0	1750	7137	3773	2295	6068	No	15.16	Si
SLU 50	ini.	187.42	-799	0.9	0	1750	7137	3773	2295	6068	No	7.59	Si
SLU 50	fin.	-59.78	-348	0.9	0	1750	7137	3773	2295	6068	No	17.43	Si
SLU 51	ini.	195.81	-834	0.9	0	1750	7137	3773	2295	6068	No	7.28	Si
SLU 51	fin.	-67.09	-377	0.9	0	1750	7137	3773	2295	6068	No	16.12	Si
SLU 49	ini.	193.64	-840	0.9	0	1750	7137	3773	2295	6068	No	7.22	Si
SLU 49	fin.	-55.87	-320	0.9	0	1750	7137	3773	2295	6068	No	18.99	Si
SLU 43	ini.	183.88	-770	0.9	0	1750	7137	3773	2295	6068	No	7.88	Si
SLU 43	fin.	-60.16	-358	0.9	0	1750	7137	3773	2295	6068	No	16.96	Si
SLU 46	ini.	191.87	-825	0.9	0	1750	7137	3773	2295	6068	No	7.35	Si
SLU 46	fin.	-56.06	-324	0.9	0	1750	7137	3773	2295	6068	No	18.71	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-591.32	1295	-0.0003192	0.0002807	0.0035	0.9		2995.37	2995.37		5.07	Si
SLV 11	fin.	733.73	-1186	-0.0004098	0.0002807	0.0035	0.9		2989.59	2989.59		4.07	Si
SLV 9	ini.	555.76	-1609	-0.0002984	0.0002807	0.0035	0.9		2989.59	2989.59		5.38	Si
SLV 9	fin.	-455.1	184	-0.000239	0.0002807	0.0035	0.9		2995.37	2995.37		6.58	Si
SLV 15	ini.	-420.95	871	-0.0002197	0.0002807	0.0035	0.9		2995.37	2995.37		7.12	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	fin.	561.37	-986	-0.0003018	0.0002807	0.0035	0.9		2989.59	2989.59		5.33	Si
SLV 2	ini.	669.69	-1898	-0.0003686	0.0002807	0.0035	0.9		2989.59	2989.59		4.46	Si
SLV 2	fin.	-591.95	362	-0.0003196	0.0002807	0.0035	0.9		2995.37	2995.37		5.06	Si
SLD 6	ini.	570.8	-1642	-0.0003074	0.0002807	0.0035	0.9		2989.59	2989.59		5.24	Si
SLD 6	fin.	-482.73	233	-0.0002549	0.0002807	0.0035	0.9		2995.37	2995.37		6.21	Si
SLV 12	ini.	-482.49	1037	-0.0002548	0.0002807	0.0035	0.9		2995.37	2995.37		6.21	Si
SLV 12	fin.	607.1	-1011	-0.0003296	0.0002807	0.0035	0.9		2989.59	2989.59		4.92	Si
SLV 10	ini.	664.6	-1867	-0.0003654	0.0002807	0.0035	0.9		2989.59	2989.59		4.5	Si
SLV 10	fin.	-581.73	358	-0.0003134	0.0002807	0.0035	0.9		2995.37	2995.37		5.15	Si
SLV 5	ini.	731.23	-2064	-0.0004081	0.0002807	0.0035	0.9		2989.59	2989.59		4.09	Si
SLV 5	fin.	-637.68	387	-0.0003478	0.0002807	0.0035	0.9		2995.37	2995.37		4.7	Si
SLV 7	ini.	-415.86	840	-0.0002168	0.0002807	0.0035	0.9		2995.37	2995.37		7.2	Si
SLV 7	fin.	551.15	-982	-0.0002956	0.0002807	0.0035	0.9		2989.59	2989.59		5.42	Si
SLV 6	ini.	840.06	-2321	-0.0004807	0.0002807	0.0035	0.9		2989.59	2989.59		3.56	Si
SLV 6	fin.	-764.31	561	-0.0004289	0.0002807	0.0035	0.9		2995.37	2995.37		3.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-420.95	1805	0.9	0	2625	7137	5660	2295	7955		4.41	Si
SLV 15	fin.	561.37	2101	0.9	0	2625	7137	5660	2295	7955		3.79	Si
SLV 6	ini.	840.06	-3592	0.9	0	2625	7137	5660	2295	7955		2.21	Si
SLV 6	fin.	-764.31	-3037	0.9	0	2625	7137	5660	2295	7955		2.62	Si
SLD 6	ini.	570.8	-2417	0.9	0	2625	7137	5660	2295	7955		3.29	Si
SLD 6	fin.	-482.73	-1967	0.9	0	2625	7137	5660	2295	7955		4.04	Si
SLV 9	ini.	555.76	-2426	0.9	0	2625	7137	5660	2295	7955		3.28	Si
SLV 9	fin.	-455.1	-1795	0.9	0	2625	7137	5660	2295	7955		4.43	Si
SLV 10	ini.	664.6	-2890	0.9	0	2625	7137	5660	2295	7955		2.75	Si
SLV 10	fin.	-581.73	-2278	0.9	0	2625	7137	5660	2295	7955		3.49	Si
SLV 12	ini.	-482.49	2185	0.9	0	2625	7137	5660	2295	7955		3.64	Si
SLV 12	fin.	607.1	2174	0.9	0	2625	7137	5660	2295	7955		3.66	Si
SLV 2	ini.	669.69	-2748	0.9	0	2625	7137	5660	2295	7955		2.89	Si
SLV 2	fin.	-591.95	-2481	0.9	0	2625	7137	5660	2295	7955		3.21	Si
SLV 11	ini.	-591.32	2649	0.9	0	2625	7137	5660	2295	7955		3	Si
SLV 11	fin.	733.73	2657	0.9	0	2625	7137	5660	2295	7955		2.99	Si
SLD 5	ini.	502.33	-2125	0.9	0	2625	7137	5660	2295	7955		3.74	Si
SLD 5	fin.	-403.08	-1663	0.9	0	2625	7137	5660	2295	7955		4.78	Si
SLV 5	ini.	731.23	-3128	0.9	0	2625	7137	5660	2295	7955		2.54	Si
SLV 5	fin.	-637.68	-2554	0.9	0	2625	7137	5660	2295	7955		3.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.559	SLV 6	Si
V_SLV	2.214	SLV 6	Si
PF_SLU	14.822	SLU 47	Si
V_SLU	7.204	SLU 47	Si

Trave di accoppiamento 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-2.213	-3.169	14.15	14.6	0.45	-3.113	-3.169	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 44	ini.	31.66	246	-0.0000633	0.0001872	0.0035	0.45		745.72	745.72	No	23.56	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 44	fin.	-93.12	-664	-0.0001966	0.0001872	0.0035	0.45		748.52	748.52	No	8.04	Si
SLU 68	ini.	5.7	188	-0.0000112	0.0001872	0.0035	0.45		745.72	745.72	No	130.94	Si
SLU 68	fin.	-91.08	-659	-0.0001919	0.0001872	0.0035	0.45		748.52	748.52	No	8.22	Si
SLU 67	ini.	-1.12	183	-0.0000022	0.0001872	0.0035	0.45		748.52	748.52	No	667.25	Si
SLU 67	fin.	-90.82	-649	-0.0001913	0.0001872	0.0035	0.45		748.52	748.52	No	8.24	Si
SLU 51	ini.	35.21	253	-0.0000706	0.0001872	0.0035	0.45		745.72	745.72	No	21.18	Si
SLU 51	fin.	-91.29	-638	-0.0001924	0.0001872	0.0035	0.45		748.52	748.52	No	8.2	Si
SLU 49	ini.	24.58	245	-0.0000489	0.0001872	0.0035	0.45		745.72	745.72	No	30.34	Si
SLU 49	fin.	-94.64	-662	-0.0002001	0.0001872	0.0035	0.45		748.52	748.52	No	7.91	Si
SLU 65	ini.	5.83	186	-0.0000114	0.0001872	0.0035	0.45		745.72	745.72	No	127.98	Si
SLU 65	fin.	-90.19	-655	-0.0001898	0.0001872	0.0035	0.45		748.52	748.52	No	8.3	Si
SLU 47	ini.	31.52	248	-0.0000631	0.0001872	0.0035	0.45		745.72	745.72	No	23.65	Si
SLU 47	fin.	-94	-668	-0.0001987	0.0001872	0.0035	0.45		748.52	748.52	No	7.96	Si
SLU 46	ini.	24.71	243	-0.0000491	0.0001872	0.0035	0.45		745.72	745.72	No	30.18	Si
SLU 46	fin.	-93.75	-658	-0.0001981	0.0001872	0.0035	0.45		748.52	748.52	No	7.98	Si
SLU 70	ini.	-1.25	185	-0.0000024	0.0001872	0.0035	0.45		748.52	748.52	No	597.08	Si
SLU 70	fin.	-91.71	-653	-0.0001933	0.0001872	0.0035	0.45		748.52	748.52	No	8.16	Si
SLU 48	ini.	30.3	251	-0.0000605	0.0001872	0.0035	0.45		745.72	745.72	No	24.61	Si
SLU 48	fin.	-89.24	-611	-0.0001876	0.0001872	0.0035	0.45		748.52	748.52	No	8.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	4.47	170	0.45	0	799	3568	1887	1148	3034	No	17.86	Si
SLU 69	fin.	-86.31	-876	0.45	0	799	3568	1887	1148	3034	No	3.46	Si
SLU 49	ini.	24.58	83	0.45	0	799	3568	1887	1148	3034	No	36.6	Si
SLU 49	fin.	-94.64	-839	0.45	0	799	3568	1887	1148	3034	No	3.62	Si
SLU 75	ini.	-20.04	264	0.45	0	799	3568	1887	1148	3034	No	11.51	Si
SLU 75	fin.	-77.63	-822	0.45	0	799	3568	1887	1148	3034	No	3.69	Si
SLU 65	ini.	5.83	156	0.45	0	799	3568	1887	1148	3034	No	19.45	Si
SLU 65	fin.	-90.19	-826	0.45	0	799	3568	1887	1148	3034	No	3.67	Si
SLU 67	ini.	-1.12	193	0.45	0	799	3568	1887	1148	3034	No	15.71	Si
SLU 67	fin.	-90.82	-896	0.45	0	799	3568	1887	1148	3034	No	3.39	Si
SLU 78	ini.	-20.17	264	0.45	0	799	3568	1887	1148	3034	No	11.5	Si
SLU 78	fin.	-78.52	-822	0.45	0	799	3568	1887	1148	3034	No	3.69	Si
SLU 70	ini.	-1.25	193	0.45	0	799	3568	1887	1148	3034	No	15.69	Si
SLU 70	fin.	-91.71	-896	0.45	0	799	3568	1887	1148	3034	No	3.38	Si
SLU 46	ini.	24.71	83	0.45	0	799	3568	1887	1148	3034	No	36.75	Si
SLU 46	fin.	-93.75	-838	0.45	0	799	3568	1887	1148	3034	No	3.62	Si
SLU 66	ini.	4.6	170	0.45	0	799	3568	1887	1148	3034	No	17.89	Si
SLU 66	fin.	-85.42	-876	0.45	0	799	3568	1887	1148	3034	No	3.46	Si
SLU 68	ini.	5.7	156	0.45	0	799	3568	1887	1148	3034	No	19.42	Si
SLU 68	fin.	-91.08	-826	0.45	0	799	3568	1887	1148	3034	No	3.67	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	174.48	887	-0.0003854	0.0002807	0.0035	0.45		751.86	751.86		4.31	Si
SLD 6	fin.	-284.58	-1808	-0.0006915	0.0002807	0.0035	0.45		754.83	754.83		2.65	Si
SLV 15	ini.	-305.66	-729	-0.0007566	0.0002807	0.0035	0.45		754.83	754.83		2.47	Si
SLV 15	fin.	51.81	1032	-0.0001042	0.0002807	0.0035	0.45		751.86	751.86		14.51	Si
SLV 2	ini.	329.85	1017	-0.0008379	0.0002807	0.0035	0.45		751.86	751.86		2.28	Si
SLV 2	fin.	-170.47	-1868	-0.0003736	0.0002807	0.0035	0.45		754.83	754.83		4.43	Si
SLV 7	ini.	-115.9	-793	-0.0002427	0.0002807	0.0035	0.45		754.83	754.83		6.51	Si
SLV 7	fin.	319.3	1423	-0.0008037	0.0002807	0.0035	0.45		751.86	751.86		2.35	Si
SLV 11	ini.	-248.19	-1046	-0.0005838	0.0002807	0.0035	0.45		754.83	754.83		3.04	Si
SLV 11	fin.	301.37	1814	-0.0007466	0.0002807	0.0035	0.45		751.86	751.86		2.49	Si
SLV 9	ini.	74.25	858	-0.0001516	0.0002807	0.0035	0.45		751.86	751.86		10.13	Si
SLV 9	fin.	-387.14	-1944	-0.0010293	0.0002807	0.0035	0.45		754.83	754.83		1.95	Si
SLV 5	ini.	206.55	1111	-0.0004698	0.0002807	0.0035	0.45		751.86	751.86		3.64	Si
SLV 5	fin.	-369.22	-2335	-0.0009662	0.0002807	0.0035	0.45		754.83	754.83		2.04	Si
SLV 6	ini.	272.38	1334	-0.0006577	0.0002807	0.0035	0.45		751.86	751.86		2.76	Si
SLV 6	fin.	-420.03	-2650	-0.0011501	0.0002807	0.0035	0.45		754.83	754.83		1.8	Si
SLV 10	ini.	140.09	1081	-0.0003003	0.0002807	0.0035	0.45		751.86	751.86		5.37	Si
SLV 10	fin.	-437.96	-2259	-0.001219	0.0002807	0.0035	0.45		754.83	754.83		1.72	Si
SLD 10	ini.	91.05	729	-0.000188	0.0002807	0.0035	0.45		751.86	751.86		8.26	Si
SLD 10	fin.	-296.89	-1563	-0.0007293	0.0002807	0.0035	0.45		754.83	754.83		2.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	174.48	-727	0.45	0	1113	3568	2830	1148	3977		5.47	Si
SLD 6	fin.	-284.58	-1740	0.45	0	1113	3568	2830	1148	3977		2.29	Si
SLD 2	ini.	212.37	-851	0.45	0	1113	3568	2830	1148	3977		4.67	Si
SLD 2	fin.	-127.55	-1512	0.45	0	1113	3568	2830	1148	3977		2.63	Si
SLV 1	ini.	232.06	-1014	0.45	0	1113	3568	2830	1148	3977		3.92	Si
SLV 1	fin.	-94.99	-1659	0.45	0	1113	3568	2830	1148	3977		2.4	Si
SLV 9	ini.	74.25	-336	0.45	0	1113	3568	2830	1148	3977		11.85	Si
SLV 9	fin.	-387.14	-1664	0.45	0	1113	3568	2830	1148	3977		2.39	Si
SLV 10	ini.	140.09	-590	0.45	0	1113	3568	2830	1148	3977		6.74	Si
SLV 10	fin.	-437.96	-1933	0.45	0	1113	3568	2830	1148	3977		2.06	Si
SLV 6	ini.	272.38	-1209	0.45	0	1113	3568	2830	1148	3977		3.29	Si
SLV 6	fin.	-420.03	-2438	0.45	0	1113	3568	2830	1148	3977		1.63	Si
SLD 5	ini.	133.07	-567	0.45	0	1113	3568	2830	1148	3977		7.02	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 5	fin.	-252.61	-1571	0.45	0	1113	3568	2830	1148	3977		2.53	Si
SLV 15	ini.	-305.66	1564	0.45	0	1113	3568	2830	1148	3977		2.54	Si
SLV 15	fin.	51.81	907	0.45	0	1113	3568	2830	1148	3977		4.38	Si
SLV 2	ini.	329.85	-1393	0.45	0	1113	3568	2830	1148	3977		2.86	Si
SLV 2	fin.	-170.47	-2059	0.45	0	1113	3568	2830	1148	3977		1.93	Si
SLV 5	ini.	206.55	-955	0.45	0	1113	3568	2830	1148	3977		4.17	Si
SLV 5	fin.	-369.22	-2168	0.45	0	1113	3568	2830	1148	3977		1.83	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.724	SLV 10	Si
V_SLV	1.632	SLV 6	Si
PF_SLU	7.91	SLU 49	Si
V_SLU	3.385	SLU 70	Si

Trave di accoppiamento 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	11.45	12.35	0.9	-2.853	5.951	11.45	12.35	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 44	ini.	79.59	-437	-0.0000395	0.0001872	0.0035	0.9		2959	2959	No	37.18	Si
SLU 44	fin.	-9.02	-205	-0.0000044	0.0001872	0.0035	0.9		2964.67	2964.67	No	328.77	Si
SLU 42	ini.	8.15	-165	-0.000004	0.0001872	0.0035	0.9		2959	2959	No	363.13	Si
SLU 42	fin.	77.44	-514	-0.0000385	0.0001872	0.0035	0.9		2959	2959	No	38.21	Si
SLU 41	ini.	11.28	-175	-0.0000055	0.0001872	0.0035	0.9		2959	2959	No	262.27	Si
SLU 41	fin.	74.24	-500	-0.0000368	0.0001872	0.0035	0.9		2959	2959	No	39.86	Si
SLU 45	ini.	74.44	-440	-0.0000369	0.0001872	0.0035	0.9		2959	2959	No	39.75	Si
SLU 45	fin.	-0.64	-299	-0.0000003	0.0001872	0.0035	0.9		2964.67	2964.67	No	4652.44	Si
SLU 38	ini.	9.16	-194	-0.0000045	0.0001872	0.0035	0.9		2959	2959	No	323.08	Si
SLU 38	fin.	80.25	-591	-0.0000399	0.0001872	0.0035	0.9		2959	2959	No	36.87	Si
SLU 35	ini.	8.41	-192	-0.0000041	0.0001872	0.0035	0.9		2959	2959	No	352.01	Si
SLU 35	fin.	76.99	-587	-0.0000382	0.0001872	0.0035	0.9		2959	2959	No	38.43	Si
SLU 37	ini.	12.29	-204	-0.000006	0.0001872	0.0035	0.9		2959	2959	No	240.72	Si
SLU 37	fin.	77.05	-578	-0.0000383	0.0001872	0.0035	0.9		2959	2959	No	38.4	Si
SLU 43	ini.	84.81	-454	-0.0000422	0.0001872	0.0035	0.9		2959	2959	No	34.89	Si
SLU 43	fin.	-14.36	-183	-0.000007	0.0001872	0.0035	0.9		2964.67	2964.67	No	206.48	Si
SLU 47	ini.	73.11	-436	-0.0000363	0.0001872	0.0035	0.9		2959	2959	No	40.48	Si
SLU 47	fin.	4.76	-312	-0.0000023	0.0001872	0.0035	0.9		2959	2959	No	621.11	Si
SLU 36	ini.	5.27	-182	-0.0000026	0.0001872	0.0035	0.9		2959	2959	No	561.23	Si
SLU 36	fin.	80.19	-600	-0.0000398	0.0001872	0.0035	0.9		2959	2959	No	36.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	33.43	-311	0.9	0	1750	7137	3773	2295	6068	No	19.51	Si
SLU 80	fin.	69.65	1052	0.9	0	1750	7137	3773	2295	6068	No	5.77	Si
SLU 72	ini.	50.9	-523	0.9	0	1750	7137	3773	2295	6068	No	11.6	Si
SLU 72	fin.	44.05	1038	0.9	0	1750	7137	3773	2295	6068	No	5.84	Si
SLU 36	ini.	5.27	-134	0.9	0	1750	7137	3773	2295	6068	No	45.44	Si
SLU 36	fin.	80.19	1045	0.9	0	1750	7137	3773	2295	6068	No	5.81	Si
SLU 28	ini.	22.75	-346	0.9	0	1750	7137	3773	2295	6068	No	17.56	Si
SLU 28	fin.	54.6	1031	0.9	0	1750	7137	3773	2295	6068	No	5.89	Si
SLU 77	ini.	32.68	-343	0.9	0	1750	7137	3773	2295	6068	No	17.67	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	66.39	1091	0.9	0	1750	7137	3773	2295	6068	No	5.56	Si
SLU 78	ini.	29.54	-325	0.9	0	1750	7137	3773	2295	6068	No	18.66	Si
SLU 78	fin.	69.59	1108	0.9	0	1750	7137	3773	2295	6068	No	5.48	Si
SLU 70	ini.	47.02	-537	0.9	0	1750	7137	3773	2295	6068	No	11.29	Si
SLU 70	fin.	43.99	1094	0.9	0	1750	7137	3773	2295	6068	No	5.55	Si
SLU 69	ini.	50.15	-556	0.9	0	1750	7137	3773	2295	6068	No	10.92	Si
SLU 69	fin.	40.79	1077	0.9	0	1750	7137	3773	2295	6068	No	5.63	Si
SLU 79	ini.	36.56	-329	0.9	0	1750	7137	3773	2295	6068	No	18.43	Si
SLU 79	fin.	66.45	1035	0.9	0	1750	7137	3773	2295	6068	No	5.86	Si
SLU 35	ini.	8.41	-152	0.9	0	1750	7137	3773	2295	6068	No	39.98	Si
SLU 35	fin.	76.99	1028	0.9	0	1750	7137	3773	2295	6068	No	5.9	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-215.93	644	-0.0001088	0.0002807	0.0035	0.9		2995.37	2995.37		13.87	Si
SLV 9	fin.	237.97	-1100	-0.0001206	0.0002807	0.0035	0.9		2989.59	2989.59		12.56	Si
SLV 6	ini.	-224.61	662	-0.0001134	0.0002807	0.0035	0.9		2995.37	2995.37		13.34	Si
SLV 6	fin.	234.92	-1019	-0.000119	0.0002807	0.0035	0.9		2989.59	2989.59		12.73	Si
SLV 3	ini.	267.1	-1014	-0.000136	0.0002807	0.0035	0.9		2989.59	2989.59		11.19	Si
SLV 3	fin.	-247.04	1016	-0.0001251	0.0002807	0.0035	0.9		2995.37	2995.37		12.13	Si
SLD 7	ini.	254.26	-1001	-0.0001292	0.0002807	0.0035	0.9		2989.59	2989.59		11.76	Si
SLD 7	fin.	-177.78	541	-0.0000891	0.0002807	0.0035	0.9		2995.37	2995.37		16.85	Si
SLV 8	ini.	316.84	-1240	-0.0001627	0.0002807	0.0035	0.9		2989.59	2989.59		9.44	Si
SLV 8	fin.	-215.05	646	-0.0001084	0.0002807	0.0035	0.9		2995.37	2995.37		13.93	Si
SLV 14	ini.	-166.19	418	-0.0000831	0.0002807	0.0035	0.9		2995.37	2995.37		18.02	Si
SLV 14	fin.	269.95	-1470	-0.0001375	0.0002807	0.0035	0.9		2989.59	2989.59		11.07	Si
SLV 11	ini.	325.52	-1258	-0.0001674	0.0002807	0.0035	0.9		2989.59	2989.59		9.18	Si
SLV 11	fin.	-212.01	565	-0.0001068	0.0002807	0.0035	0.9		2995.37	2995.37		14.13	Si
SLV 10	ini.	-278.15	835	-0.0001416	0.0002807	0.0035	0.9		2995.37	2995.37		10.77	Si
SLV 10	fin.	315.14	-1457	-0.0001617	0.0002807	0.0035	0.9		2989.59	2989.59		9.49	Si
SLV 7	ini.	379.06	-1431	-0.0001967	0.0002807	0.0035	0.9		2989.59	2989.59		7.89	Si
SLV 7	fin.	-292.22	1002	-0.0001491	0.0002807	0.0035	0.9		2995.37	2995.37		10.25	Si
SLV 12	ini.	263.31	-1067	-0.000134	0.0002807	0.0035	0.9		2989.59	2989.59		11.35	Si
SLV 12	fin.	-134.84	208	-0.0000671	0.0002807	0.0035	0.9		2995.37	2995.37		22.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-166.19	1126	0.9	0	2625	7137	5660	2295	7955		7.07	Si
SLV 14	fin.	269.95	1852	0.9	0	2625	7137	5660	2295	7955		4.29	Si
SLV 8	ini.	316.84	-2009	0.9	0	2625	7137	5660	2295	7955		3.96	Si
SLV 8	fin.	-215.05	-676	0.9	0	2625	7137	5660	2295	7955		11.77	Si
SLV 9	ini.	-215.93	1253	0.9	0	2625	7137	5660	2295	7955		6.35	Si
SLV 9	fin.	237.97	1579	0.9	0	2625	7137	5660	2295	7955		5.04	Si
SLV 7	ini.	379.06	-2412	0.9	0	2625	7137	5660	2295	7955		3.3	Si
SLV 7	fin.	-292.22	-1085	0.9	0	2625	7137	5660	2295	7955		7.33	Si
SLV 11	ini.	325.52	-1980	0.9	0	2625	7137	5660	2295	7955		4.02	Si
SLV 11	fin.	-212.01	-625	0.9	0	2625	7137	5660	2295	7955		12.74	Si
SLV 3	ini.	267.1	-1882	0.9	0	2625	7137	5660	2295	7955		4.23	Si
SLV 3	fin.	-247.04	-950	0.9	0	2625	7137	5660	2295	7955		8.38	Si
SLD 7	ini.	254.26	-1640	0.9	0	2625	7137	5660	2295	7955		4.85	Si
SLD 7	fin.	-177.78	-505	0.9	0	2625	7137	5660	2295	7955		15.75	Si
SLV 10	ini.	-278.15	1655	0.9	0	2625	7137	5660	2295	7955		4.8	Si
SLV 10	fin.	315.14	1988	0.9	0	2625	7137	5660	2295	7955		4	Si
SLV 6	ini.	-224.61	1224	0.9	0	2625	7137	5660	2295	7955		6.5	Si
SLV 6	fin.	234.92	1527	0.9	0	2625	7137	5660	2295	7955		5.21	Si
SLV 12	ini.	263.31	-1577	0.9	0	2625	7137	5660	2295	7955		5.04	Si
SLV 12	fin.	-134.84	-216	0.9	0	2625	7137	5660	2295	7955		36.86	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.887	SLV 7	Si
V_SLV	3.298	SLV 7	Si
PF_SLU	34.891	SLU 43	Si
V_SLU	5.476	SLU 78	Si

Trave di accoppiamento 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-1.953	5.951	14.15	14.6	0.45	-2.853	5.951	14.15	14.6	0.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-111.69	1	-0.0002408	0.0001872	0.0035	0.45		748.52	748.52	No	6.7	Si
SLU 77	fin.	-61.5	142	-0.0001258	0.0001872	0.0035	0.45		748.52	748.52	No	12.17	Si
SLU 38	ini.	-110.98	-58	-0.0002391	0.0001872	0.0035	0.45		748.52	748.52	No	6.74	Si
SLU 38	fin.	-37.05	152	-0.0000742	0.0001872	0.0035	0.45		748.52	748.52	No	20.2	Si
SLU 78	ini.	-114.28	-7	-0.0002472	0.0001872	0.0035	0.45		748.52	748.52	No	6.55	Si
SLU 78	fin.	-58.99	149	-0.0001204	0.0001872	0.0035	0.45		748.52	748.52	No	12.69	Si
SLU 79	ini.	-103.9	0	-0.000222	0.0001872	0.0035	0.45		748.52	748.52	No	7.2	Si
SLU 79	fin.	-59.41	124	-0.0001213	0.0001872	0.0035	0.45		748.52	748.52	No	12.6	Si
SLU 36	ini.	-118.77	-57	-0.0002582	0.0001872	0.0035	0.45		748.52	748.52	No	6.3	Si
SLU 36	fin.	-39.14	170	-0.0000785	0.0001872	0.0035	0.45		748.52	748.52	No	19.13	Si
SLU 80	ini.	-106.49	-8	-0.0002283	0.0001872	0.0035	0.45		748.52	748.52	No	7.03	Si
SLU 80	fin.	-56.91	131	-0.0001159	0.0001872	0.0035	0.45		748.52	748.52	No	13.15	Si
SLU 42	ini.	-104.85	-72	-0.0002243	0.0001872	0.0035	0.45		748.52	748.52	No	7.14	Si
SLU 42	fin.	-22.49	164	-0.0000445	0.0001872	0.0035	0.45		748.52	748.52	No	33.28	Si
SLU 37	ini.	-108.39	-50	-0.0002328	0.0001872	0.0035	0.45		748.52	748.52	No	6.91	Si
SLU 37	fin.	-39.56	145	-0.0000794	0.0001872	0.0035	0.45		748.52	748.52	No	18.92	Si
SLU 35	ini.	-116.18	-49	-0.0002518	0.0001872	0.0035	0.45		748.52	748.52	No	6.44	Si
SLU 35	fin.	-41.64	163	-0.0000837	0.0001872	0.0035	0.45		748.52	748.52	No	17.98	Si
SLU 33	ini.	-103.58	-43	-0.0002213	0.0001872	0.0035	0.45		748.52	748.52	No	7.23	Si
SLU 33	fin.	-33.12	159	-0.0000661	0.0001872	0.0035	0.45		748.52	748.52	No	22.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-93.15	561	0.45	0	799	3568	1887	1148	3034	No	5.41	Si
SLU 70	fin.	-78.93	-513	0.45	0	799	3568	1887	1148	3034	No	5.91	Si
SLU 79	ini.	-103.9	586	0.45	0	799	3568	1887	1148	3034	No	5.18	Si
SLU 79	fin.	-59.41	-430	0.45	0	799	3568	1887	1148	3034	No	7.05	Si
SLU 35	ini.	-116.18	610	0.45	0	799	3568	1887	1148	3034	No	4.97	Si
SLU 35	fin.	-41.64	-347	0.45	0	799	3568	1887	1148	3034	No	8.75	Si
SLU 80	ini.	-106.49	595	0.45	0	799	3568	1887	1148	3034	No	5.1	Si
SLU 80	fin.	-56.91	-421	0.45	0	799	3568	1887	1148	3034	No	7.2	Si
SLU 75	ini.	-99.09	564	0.45	0	799	3568	1887	1148	3034	No	5.38	Si
SLU 75	fin.	-52.98	-402	0.45	0	799	3568	1887	1148	3034	No	7.55	Si
SLU 77	ini.	-111.69	626	0.45	0	799	3568	1887	1148	3034	No	4.85	Si
SLU 77	fin.	-61.5	-450	0.45	0	799	3568	1887	1148	3034	No	6.75	Si
SLU 38	ini.	-110.98	579	0.45	0	799	3568	1887	1148	3034	No	5.24	Si
SLU 38	fin.	-37.05	-318	0.45	0	799	3568	1887	1148	3034	No	9.53	Si
SLU 78	ini.	-114.28	635	0.45	0	799	3568	1887	1148	3034	No	4.78	Si
SLU 78	fin.	-58.99	-441	0.45	0	799	3568	1887	1148	3034	No	6.89	Si
SLU 37	ini.	-108.39	570	0.45	0	799	3568	1887	1148	3034	No	5.32	Si
SLU 37	fin.	-39.56	-328	0.45	0	799	3568	1887	1148	3034	No	9.26	Si
SLU 36	ini.	-118.77	619	0.45	0	799	3568	1887	1148	3034	No	4.9	Si
SLU 36	fin.	-39.14	-338	0.45	0	799	3568	1887	1148	3034	No	8.99	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 11	ini.	121.69	531	-0.000257	0.0002807	0.0035	0.45		751.86	751.86		6.18	Si
SLD 11	fin.	-205.74	-445	-0.0004656	0.0002807	0.0035	0.45		754.83	754.83		3.67	Si
SLV 6	ini.	-297.42	-682	-0.0007309	0.0002807	0.0035	0.45		754.83	754.83		2.54	Si
SLV 6	fin.	205.64	816	-0.0004674	0.0002807	0.0035	0.45		751.86	751.86		3.66	Si
SLV 11	ini.	219.48	815	-0.0005052	0.0002807	0.0035	0.45		751.86	751.86		3.43	Si
SLV 11	fin.	-301.64	-740	-0.000744	0.0002807	0.0035	0.45		754.83	754.83		2.5	Si
SLV 5	ini.	-248.41	-515	-0.0005844	0.0002807	0.0035	0.45		754.83	754.83		3.04	Si
SLV 5	fin.	161.9	714	-0.0003536	0.0002807	0.0035	0.45		751.86	751.86		4.64	Si
SLV 12	ini.	170.46	647	-0.0003752	0.0002807	0.0035	0.45		751.86	751.86		4.41	Si
SLV 12	fin.	-257.91	-637	-0.000612	0.0002807	0.0035	0.45		754.83	754.83		2.93	Si
SLV 10	ini.	-265.08	-598	-0.000633	0.0002807	0.0035	0.45		754.83	754.83		2.85	Si
SLV 10	fin.	183.2	668	-0.0004079	0.0002807	0.0035	0.45		751.86	751.86		4.1	Si
SLD 6	ini.	-199.63	-399	-0.0004493	0.0002807	0.0035	0.45		754.83	754.83		3.78	Si
SLD 6	fin.	109.74	522	-0.0002297	0.0002807	0.0035	0.45		751.86	751.86		6.85	Si
SLV 9	ini.	-216.07	-430	-0.0004936	0.0002807	0.0035	0.45		754.83	754.83		3.49	Si
SLV 9	fin.	139.47	566	-0.0002988	0.0002807	0.0035	0.45		751.86	751.86		5.39	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	138.12	563	-0.0002956	0.0002807	0.0035	0.45		751.86	751.86		5.44	Si
SLV 8	fin.	-235.47	-489	-0.0005475	0.0002807	0.0035	0.45		754.83	754.83		3.21	Si
SLV 7	ini.	187.14	730	-0.0004182	0.0002807	0.0035	0.45		751.86	751.86		4.02	Si
SLV 7	fin.	-279.21	-592	-0.0006752	0.0002807	0.0035	0.45		754.83	754.83		2.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-297.42	1198	0.45	0	1113	3568	2830	1148	3977		3.32	Si
SLV 6	fin.	205.64	615	0.45	0	1113	3568	2830	1148	3977		6.47	Si
SLD 11	ini.	121.69	-297	0.45	0	1113	3568	2830	1148	3977		13.37	Si
SLD 11	fin.	-205.74	-883	0.45	0	1113	3568	2830	1148	3977		4.51	Si
SLV 11	ini.	219.48	-647	0.45	0	1113	3568	2830	1148	3977		6.15	Si
SLV 11	fin.	-301.64	-1232	0.45	0	1113	3568	2830	1148	3977		3.23	Si
SLV 15	ini.	116.66	-277	0.45	0	1113	3568	2830	1148	3977		14.38	Si
SLV 15	fin.	-184.05	-860	0.45	0	1113	3568	2830	1148	3977		4.63	Si
SLV 8	ini.	138.12	-363	0.45	0	1113	3568	2830	1148	3977		10.94	Si
SLV 8	fin.	-235.47	-951	0.45	0	1113	3568	2830	1148	3977		4.18	Si
SLV 10	ini.	-265.08	1081	0.45	0	1113	3568	2830	1148	3977		3.68	Si
SLV 10	fin.	183.2	499	0.45	0	1113	3568	2830	1148	3977		7.98	Si
SLV 12	ini.	170.46	-480	0.45	0	1113	3568	2830	1148	3977		8.28	Si
SLV 12	fin.	-257.91	-1067	0.45	0	1113	3568	2830	1148	3977		3.73	Si
SLV 7	ini.	187.14	-530	0.45	0	1113	3568	2830	1148	3977		7.5	Si
SLV 7	fin.	-279.21	-1116	0.45	0	1113	3568	2830	1148	3977		3.56	Si
SLV 5	ini.	-248.41	1032	0.45	0	1113	3568	2830	1148	3977		3.86	Si
SLV 5	fin.	161.9	450	0.45	0	1113	3568	2830	1148	3977		8.84	Si
SLV 9	ini.	-216.07	915	0.45	0	1113	3568	2830	1148	3977		4.35	Si
SLV 9	fin.	139.47	334	0.45	0	1113	3568	2830	1148	3977		11.91	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.502	SLV 11	Si
V_SLV	3.227	SLV 11	Si
PF_SLU	6.302	SLU 36	Si
V_SLU	4.779	SLU 78	Si

Trave di accoppiamento 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	2.71	3.66	0.95	-11.868	-4.685	2.71	3.66	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	1047.83	-4556	-0.000584	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.13	Si
SLU 83	fin.	-191.62	-1827	-0.0000868	0.0001872	0.0035	0.95		3287.74	3287.74	No	17.16	Si
SLU 80	ini.	1015.83	-4437	-0.0005621	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.23	Si
SLU 80	fin.	-176.3	-1810	-0.0000796	0.0001872	0.0035	0.95		3287.74	3287.74	No	18.65	Si
SLU 78	ini.	1022.25	-4464	-0.0005665	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.21	Si
SLU 78	fin.	-177.88	-1818	-0.0000804	0.0001872	0.0035	0.95		3287.74	3287.74	No	18.48	Si
SLU 81	ini.	1034.34	-4497	-0.0005747	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.17	Si
SLU 81	fin.	-188.58	-1807	-0.0000854	0.0001872	0.0035	0.95		3287.74	3287.74	No	17.43	Si
SLU 84	ini.	1051.55	-4579	-0.0005865	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.12	Si
SLU 84	fin.	-188.38	-1851	-0.0000853	0.0001872	0.0035	0.95		3287.74	3287.74	No	17.45	Si
SLU 82	ini.	1038.06	-4520	-0.0005773	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.16	Si
SLU 82	fin.	-185.34	-1831	-0.0000838	0.0001872	0.0035	0.95		3287.74	3287.74	No	17.74	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	1012.11	-4414	-0.0005596	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.24	Si
SLU 79	fin.	-179.54	-1786	-0.0000811	0.0001872	0.0035	0.95		3287.74	3287.74	No	18.31	Si
SLU 77	ini.	1018.53	-4441	-0.000564	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.22	Si
SLU 77	fin.	-181.12	-1794	-0.0000819	0.0001872	0.0035	0.95		3287.74	3287.74	No	18.15	Si
SLU 74	ini.	1005.04	-4381	-0.0005548	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.27	Si
SLU 74	fin.	-178.09	-1774	-0.0000805	0.0001872	0.0035	0.95		3287.74	3287.74	No	18.46	Si
SLU 75	ini.	1008.76	-4404	-0.0005573	0.0001872	0.0035	0.95		3281.68	3281.68	No	3.25	Si
SLU 75	fin.	-174.84	-1798	-0.0000789	0.0001872	0.0035	0.95		3287.74	3287.74	No	18.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	1008.76	-2967	0.95	0	1979	7533	4267	2423	6690	No	2.26	Si
SLU 75	fin.	-174.84	-1962	0.95	0	1979	7533	4267	2423	6690	No	3.41	Si
SLU 77	ini.	1018.53	-3003	0.95	0	1979	7533	4267	2423	6690	No	2.23	Si
SLU 77	fin.	-181.12	-1990	0.95	0	1979	7533	4267	2423	6690	No	3.36	Si
SLU 81	ini.	1034.34	-2997	0.95	0	1979	7533	4267	2423	6690	No	2.23	Si
SLU 81	fin.	-188.58	-2067	0.95	0	1979	7533	4267	2423	6690	No	3.24	Si
SLU 79	ini.	1012.11	-2979	0.95	0	1979	7533	4267	2423	6690	No	2.25	Si
SLU 79	fin.	-179.54	-1981	0.95	0	1979	7533	4267	2423	6690	No	3.38	Si
SLU 80	ini.	1015.83	-2989	0.95	0	1979	7533	4267	2423	6690	No	2.24	Si
SLU 80	fin.	-176.3	-1974	0.95	0	1979	7533	4267	2423	6690	No	3.39	Si
SLU 82	ini.	1038.06	-3007	0.95	0	1979	7533	4267	2423	6690	No	2.22	Si
SLU 82	fin.	-185.34	-2061	0.95	0	1979	7533	4267	2423	6690	No	3.25	Si
SLU 84	ini.	1051.55	-3054	0.95	0	1979	7533	4267	2423	6690	No	2.19	Si
SLU 84	fin.	-188.38	-2083	0.95	0	1979	7533	4267	2423	6690	No	3.21	Si
SLU 83	ini.	1047.83	-3044	0.95	0	1979	7533	4267	2423	6690	No	2.2	Si
SLU 83	fin.	-191.62	-2089	0.95	0	1979	7533	4267	2423	6690	No	3.2	Si
SLU 74	ini.	1005.04	-2956	0.95	0	1979	7533	4267	2423	6690	No	2.26	Si
SLU 74	fin.	-178.09	-1969	0.95	0	1979	7533	4267	2423	6690	No	3.4	Si
SLU 78	ini.	1022.25	-3014	0.95	0	1979	7533	4267	2423	6690	No	2.22	Si
SLU 78	fin.	-177.88	-1984	0.95	0	1979	7533	4267	2423	6690	No	3.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	1542.28	-5932	-0.0008932	0.0002807	0.0035	0.95		3302.53	3302.53		2.14	Si
SLD 15	fin.	-1356.89	1635	-0.0007559	0.0002807	0.0035	0.95		3308.64	3308.64		2.44	Si
SLV 1	ini.	-424.31	775	-0.000197	0.0002807	0.0035	0.95		3308.64	3308.64		7.8	Si
SLV 1	fin.	1505.65	-5012	-0.0008656	0.0002807	0.0035	0.95		3302.53	3302.53		2.19	Si
SLV 2	ini.	-673.61	1658	-0.0003269	0.0002807	0.0035	0.95		3308.64	3308.64		4.91	Si
SLV 2	fin.	1839.6	-5740	-0.0011304	0.0002807	0.0035	0.95		3302.53	3302.53		1.8	Si
SLD 14	ini.	1509.92	-5973	-0.0008688	0.0002807	0.0035	0.95		3302.53	3302.53		2.19	Si
SLD 14	fin.	-1095.46	662	-0.0005791	0.0002807	0.0035	0.95		3308.64	3308.64		3.02	Si
SLV 4	ini.	-877.53	2633	-0.0004437	0.0002807	0.0035	0.95		3308.64	3308.64		3.77	Si
SLV 4	fin.	1762.03	-4922	-0.0010659	0.0002807	0.0035	0.95		3302.53	3302.53		1.87	Si
SLV 13	ini.	2230.01	-8560	-0.0014905	0.0002807	0.0035	0.95		3302.53	3302.53		1.48	Si
SLV 13	fin.	-1981	2444	-0.0012503	0.0002807	0.0035	0.95		3308.64	3308.64		1.67	Si
SLV 14	ini.	1980.71	-7677	-0.0012531	0.0002807	0.0035	0.95		3302.53	3302.53		1.67	Si
SLV 14	fin.	-1647.05	1717	-0.0009715	0.0002807	0.0035	0.95		3308.64	3308.64		2.01	Si
SLV 16	ini.	1776.79	-6702	-0.001078	0.0002807	0.0035	0.95		3302.53	3302.53		1.86	Si
SLV 16	fin.	-1724.62	2535	-0.0010331	0.0002807	0.0035	0.95		3308.64	3308.64		1.92	Si
SLV 15	ini.	2026.09	-7586	-0.0012942	0.0002807	0.0035	0.95		3302.53	3302.53		1.63	Si
SLV 15	fin.	-2058.57	3262	-0.0013209	0.0002807	0.0035	0.95		3308.64	3308.64		1.61	Si
SLD 13	ini.	1669.2	-6538	-0.0009912	0.0002807	0.0035	0.95		3302.53	3302.53		1.98	Si
SLD 13	fin.	-1308.82	1127	-0.0007222	0.0002807	0.0035	0.95		3308.64	3308.64		2.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	1980.71	-8200	0.95	0	2790	7533	6401	2423	8823		1.08	Si
SLV 14	fin.	-1647.05	-6922	0.95	0	2790	7533	6401	2423	8823		1.27	Si
SLD 13	ini.	1669.2	-6748	0.95	0	2790	7533	6401	2423	8823		1.31	Si
SLD 13	fin.	-1308.82	-5667	0.95	0	2790	7533	6401	2423	8823		1.56	Si
SLV 13	ini.	2230.01	-9425	0.95	0	2790	7533	6401	2423	8823		0.94	No
SLV 13	fin.	-1981	-8128	0.95	0	2790	7533	6401	2423	8823		1.09	Si
SLV 2	ini.	-673.61	4717	0.95	0	2790	7533	6401	2423	8823		1.87	Si
SLV 2	fin.	1839.6	5716	0.95	0	2790	7533	6401	2423	8823		1.54	Si
SLV 16	ini.	1776.79	-7501	0.95	0	2790	7533	6401	2423	8823		1.18	Si
SLV 16	fin.	-1724.62	-7095	0.95	0	2790	7533	6401	2423	8823		1.24	Si
SLD 14	ini.	1509.92	-5966	0.95	0	2790	7533	6401	2423	8823		1.48	Si
SLD 14	fin.	-1095.46	-4897	0.95	0	2790	7533	6401	2423	8823		1.8	Si
SLD 16	ini.	1383	-5531	0.95	0	2790	7533	6401	2423	8823		1.6	Si
SLD 16	fin.	-1143.53	-5004	0.95	0	2790	7533	6401	2423	8823		1.76	Si
SLD 15	ini.	1542.28	-6313	0.95	0	2790	7533	6401	2423	8823		1.4	Si
SLD 15	fin.	-1356.89	-5774	0.95	0	2790	7533	6401	2423	8823		1.53	Si
SLV 15	ini.	2026.09	-8726	0.95	0	2790	7533	6401	2423	8823		1.01	Si
SLV 15	fin.	-2058.57	-8301	0.95	0	2790	7533	6401	2423	8823		1.06	Si
SLV 4	ini.	-877.53	5415	0.95	0	2790	7533	6401	2423	8823		1.63	Si
SLV 4	fin.	1762.03	5543	0.95	0	2790	7533	6401	2423	8823		1.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.481	SLV 13	Si

Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.936	SLV 13	No
PF_SLU	3.121	SLU 84	Si
V_SLU	2.19	SLU 84	Si

Trave di accoppiamento 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	5.66	6.11	0.45	-11.868	-4.685	5.66	6.11	0.45	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-123.77	-137	-0.0002707	0.0001872	0.0035	0.45		744.65	744.65	No	6.02	Si
SLU 79	fin.	-428.31	-1444	-0.0012641	0.0001872	0.0035	0.45		744.65	744.65	No	1.74	Si
SLU 83	ini.	-124.97	-127	-0.0002737	0.0001872	0.0035	0.45		744.65	744.65	No	5.96	Si
SLU 83	fin.	-443.31	-1494	-0.0013274	0.0001872	0.0035	0.45		744.65	744.65	No	1.68	Si
SLU 74	ini.	-124.03	-141	-0.0002714	0.0001872	0.0035	0.45		744.65	744.65	No	6	Si
SLU 74	fin.	-424.19	-1430	-0.0012471	0.0001872	0.0035	0.45		744.65	744.65	No	1.76	Si
SLU 78	ini.	-126.6	-147	-0.0002778	0.0001872	0.0035	0.45		744.65	744.65	No	5.88	Si
SLU 78	fin.	-432.13	-1459	-0.0012801	0.0001872	0.0035	0.45		744.65	744.65	No	1.72	Si
SLU 77	ini.	-124.57	-138	-0.0002727	0.0001872	0.0035	0.45		744.65	744.65	No	5.98	Si
SLU 77	fin.	-431.39	-1456	-0.0012769	0.0001872	0.0035	0.45		744.65	744.65	No	1.73	Si
SLU 81	ini.	-124.43	-129	-0.0002723	0.0001872	0.0035	0.45		744.65	744.65	No	5.98	Si
SLU 81	fin.	-436.11	-1468	-0.0012968	0.0001872	0.0035	0.45		744.65	744.65	No	1.71	Si
SLU 80	ini.	-125.79	-146	-0.0002758	0.0001872	0.0035	0.45		744.65	744.65	No	5.92	Si
SLU 80	fin.	-429.06	-1448	-0.0012672	0.0001872	0.0035	0.45		744.65	744.65	No	1.74	Si
SLU 75	ini.	-126.06	-150	-0.0002764	0.0001872	0.0035	0.45		744.65	744.65	No	5.91	Si
SLU 75	fin.	-424.94	-1433	-0.0012501	0.0001872	0.0035	0.45		744.65	744.65	No	1.75	Si
SLU 84	ini.	-126.99	-136	-0.0002788	0.0001872	0.0035	0.45		744.65	744.65	No	5.86	Si
SLU 84	fin.	-444.05	-1497	-0.0013306	0.0001872	0.0035	0.45		744.65	744.65	No	1.68	Si
SLU 82	ini.	-126.45	-138	-0.0002774	0.0001872	0.0035	0.45		744.65	744.65	No	5.89	Si
SLU 82	fin.	-436.86	-1471	-0.0012999	0.0001872	0.0035	0.45		744.65	744.65	No	1.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-123.77	969	0.45	0	770	3568	2021	1148	3169	No	3.27	Si
SLU 79	fin.	-428.31	-2275	0.45	0	770	3568	2021	1148	3169	No	1.39	Si
SLU 80	ini.	-125.79	979	0.45	0	770	3568	2021	1148	3169	No	3.24	Si
SLU 80	fin.	-429.06	-2279	0.45	0	770	3568	2021	1148	3169	No	1.39	Si
SLU 74	ini.	-124.03	967	0.45	0	770	3568	2021	1148	3169	No	3.28	Si
SLU 74	fin.	-424.19	-2254	0.45	0	770	3568	2021	1148	3169	No	1.41	Si
SLU 84	ini.	-126.99	997	0.45	0	770	3568	2021	1148	3169	No	3.18	Si
SLU 84	fin.	-444.05	-2356	0.45	0	770	3568	2021	1148	3169	No	1.34	Si
SLU 78	ini.	-126.6	984	0.45	0	770	3568	2021	1148	3169	No	3.22	Si
SLU 78	fin.	-432.13	-2294	0.45	0	770	3568	2021	1148	3169	No	1.38	Si
SLU 82	ini.	-126.45	989	0.45	0	770	3568	2021	1148	3169	No	3.2	Si
SLU 82	fin.	-436.86	-2320	0.45	0	770	3568	2021	1148	3169	No	1.37	Si
SLU 83	ini.	-124.97	988	0.45	0	770	3568	2021	1148	3169	No	3.21	Si
SLU 83	fin.	-443.31	-2352	0.45	0	770	3568	2021	1148	3169	No	1.35	Si
SLU 75	ini.	-126.06	977	0.45	0	770	3568	2021	1148	3169	No	3.24	Si
SLU 75	fin.	-424.94	-2258	0.45	0	770	3568	2021	1148	3169	No	1.4	Si
SLU 77	ini.	-124.57	975	0.45	0	770	3568	2021	1148	3169	No	3.25	Si
SLU 77	fin.	-431.39	-2290	0.45	0	770	3568	2021	1148	3169	No	1.38	Si
SLU 81	ini.	-124.43	980	0.45	0	770	3568	2021	1148	3169	No	3.23	Si
SLU 81	fin.	-436.11	-2316	0.45	0	770	3568	2021	1148	3169	No	1.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	327.11	1694	-0.0008289	0.0002807	0.0035	0.45		742.08	742.08		2.27	Si
SLD 14	fin.	-766.32	-3021	-0.0033683	0.0002807	0.0035	0.45		745.02	745.02		0.97	No
SLD 15	ini.	481.98	2327	-0.0014065	0.0002807	0.0035	0.45		742.08	742.08		1.54	Si
SLD 15	fin.	-831.34	-3334	-0.0039511	0.0002807	0.0035	0.45		745.02	745.02		0.9	No
SLV 4	ini.	-885.64	-3576	-0.004395	0.0002807	0.0035	0.45		745.02	745.02		0.84	No
SLV 4	fin.	620.08	2925	-0.0021413	0.0002807	0.0035	0.45		742.08	742.08		1.2	Si
SLV 15	ini.	805.22	3710	-0.0037514	0.0002807	0.0035	0.45		742.08	742.08		0.92	No
SLV 15	fin.	-1138.47	-4670	-0.0062454	0.0002807	0.0035	0.45		745.02	745.02		0.65	No
SLD 13	ini.	419.08	2089	-0.0011523	0.0002807	0.0035	0.45		742.08	742.08		1.77	Si
SLD 13	fin.	-860.36	-3427	-0.0041918	0.0002807	0.0035	0.45		745.02	745.02		0.87	No
SLV 2	ini.	-986.97	-3960	-0.0051661	0.0002807	0.0035	0.45		745.02	745.02		0.75	No
SLV 2	fin.	572.98	2773	-0.001852	0.0002807	0.0035	0.45		742.08	742.08		1.3	Si
SLV 1	ini.	-843.02	-3342	-0.0040491	0.0002807	0.0035	0.45		745.02	745.02		0.88	No
SLV 1	fin.	425.8	2137	-0.001178	0.0002807	0.0035	0.45		742.08	742.08		1.74	Si
SLV 13	ini.	703.89	3326	-0.0027949	0.0002807	0.0035	0.45		742.08	742.08		1.05	Si
SLV 13	fin.	-1185.58	-4822	-0.0065725	0.0002807	0.0035	0.45		745.02	745.02		0.63	No
SLV 14	ini.	559.94	2708	-0.0017802	0.0002807	0.0035	0.45		742.08	742.08		1.33	Si
SLV 14	fin.	-1038.4	-4186	-0.0055393	0.0002807	0.0035	0.45		745.02	745.02		0.72	No
SLV 16	ini.	661.27	3092	-0.0024379	0.0002807	0.0035	0.45		742.08	742.08		1.12	Si
SLV 16	fin.	-991.29	-4034	-0.0051978	0.0002807	0.0035	0.45		745.02	745.02		0.75	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	559.94	-2071	0.45	0	1040	3568	3032	1148	4179		2.02	Si
SLV 14	fin.	-1038.4	-4787	0.45	0	1040	3568	3032	1148	4179		0.87	No
SLD 14	ini.	327.11	-1084	0.45	0	1040	3568	3032	1148	4179		3.85	Si
SLD 14	fin.	-766.32	-3607	0.45	0	1040	3568	3032	1148	4179		1.16	Si
SLD 13	ini.	419.08	-1480	0.45	0	1040	3568	3032	1148	4179		2.82	Si
SLD 13	fin.	-860.36	-4008	0.45	0	1040	3568	3032	1148	4179		1.04	Si
SLV 15	ini.	805.22	-3198	0.45	0	1040	3568	3032	1148	4179		1.31	Si
SLV 15	fin.	-1138.47	-5139	0.45	0	1040	3568	3032	1148	4179		0.81	No
SLV 1	ini.	-843.02	3957	0.45	0	1040	3568	3032	1148	4179		1.06	Si
SLV 1	fin.	425.8	1486	0.45	0	1040	3568	3032	1148	4179		2.81	Si
SLV 13	ini.	703.89	-2691	0.45	0	1040	3568	3032	1148	4179		1.55	Si
SLV 13	fin.	-1185.58	-5415	0.45	0	1040	3568	3032	1148	4179		0.77	No
SLV 16	ini.	661.27	-2578	0.45	0	1040	3568	3032	1148	4179		1.62	Si
SLV 16	fin.	-991.29	-4511	0.45	0	1040	3568	3032	1148	4179		0.93	No
SLD 15	ini.	481.98	-1795	0.45	0	1040	3568	3032	1148	4179		2.33	Si
SLD 15	fin.	-831.34	-3838	0.45	0	1040	3568	3032	1148	4179		1.09	Si
SLV 4	ini.	-885.64	4069	0.45	0	1040	3568	3032	1148	4179		1.03	Si
SLV 4	fin.	620.08	2390	0.45	0	1040	3568	3032	1148	4179		1.75	Si
SLV 2	ini.	-986.97	4576	0.45	0	1040	3568	3032	1148	4179		0.91	No
SLV 2	fin.	572.98	2114	0.45	0	1040	3568	3032	1148	4179		1.98	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.628	SLV 13	No
V_SLV	0.772	SLV 13	No
PF_SLU	1.677	SLU 84	Si
V_SLU	1.345	SLU 84	Si

Trave di accoppiamento 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	6.11	7.06	0.95	-11.868	-4.685	6.11	7.06	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	715.04	-2852	-0.0003683	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.59	Si
SLU 75	fin.	-168.42	-1620	-0.0000759	0.0001872	0.0035	0.95		3287.74	3287.74	No	19.52	Si
SLU 79	ini.	726.37	-2886	-0.0003752	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.52	Si
SLU 79	fin.	-172.28	-1632	-0.0000777	0.0001872	0.0035	0.95		3287.74	3287.74	No	19.08	Si
SLU 83	ini.	748.96	-2956	-0.0003891	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.38	Si
SLU 83	fin.	-186.39	-1651	-0.0000843	0.0001872	0.0035	0.95		3287.74	3287.74	No	17.64	Si
SLU 82	ini.	732.31	-2905	-0.0003788	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.48	Si
SLU 82	fin.	-180.5	-1632	-0.0000816	0.0001872	0.0035	0.95		3287.74	3287.74	No	18.21	Si
SLU 80	ini.	725.5	-2890	-0.0003746	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.52	Si
SLU 80	fin.	-169.78	-1641	-0.0000766	0.0001872	0.0035	0.95		3287.74	3287.74	No	19.36	Si
SLU 77	ini.	731.69	-2903	-0.0003784	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.49	Si
SLU 77	fin.	-174.31	-1639	-0.0000787	0.0001872	0.0035	0.95		3287.74	3287.74	No	18.86	Si
SLU 74	ini.	715.91	-2848	-0.0003688	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.58	Si
SLU 74	fin.	-170.92	-1611	-0.0000771	0.0001872	0.0035	0.95		3287.74	3287.74	No	19.24	Si
SLU 84	ini.	748.09	-2960	-0.0003885	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.39	Si
SLU 84	fin.	-183.89	-1660	-0.0000832	0.0001872	0.0035	0.95		3287.74	3287.74	No	17.88	Si
SLU 78	ini.	730.82	-2907	-0.0003779	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.49	Si
SLU 78	fin.	-171.81	-1648	-0.0000775	0.0001872	0.0035	0.95		3287.74	3287.74	No	19.14	Si
SLU 81	ini.	733.18	-2901	-0.0003794	0.0001872	0.0035	0.95		3281.68	3281.68	No	4.48	Si
SLU 81	fin.	-183	-1623	-0.0000827	0.0001872	0.0035	0.95		3287.74	3287.74	No	17.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	733.18	-2418	0.95	0	1979	7533	4267	2422	6690	No	2.77	Si
SLU 81	fin.	-183	-542	0.95	0	1979	7533	4267	2422	6690	No	12.35	Si
SLU 84	ini.	748.09	-2472	0.95	0	1979	7533	4267	2422	6690	No	2.71	Si
SLU 84	fin.	-183.89	-539	0.95	0	1979	7533	4267	2422	6690	No	12.42	Si
SLU 78	ini.	730.82	-2431	0.95	0	1979	7533	4267	2422	6690	No	2.75	Si
SLU 78	fin.	-171.81	-487	0.95	0	1979	7533	4267	2422	6690	No	13.75	Si
SLU 77	ini.	731.69	-2429	0.95	0	1979	7533	4267	2422	6690	No	2.75	Si
SLU 77	fin.	-174.31	-499	0.95	0	1979	7533	4267	2422	6690	No	13.41	Si
SLU 80	ini.	725.5	-2408	0.95	0	1979	7533	4267	2422	6690	No	2.78	Si
SLU 80	fin.	-169.78	-485	0.95	0	1979	7533	4267	2422	6690	No	13.78	Si
SLU 83	ini.	748.96	-2471	0.95	0	1979	7533	4267	2422	6690	No	2.71	Si
SLU 83	fin.	-186.39	-551	0.95	0	1979	7533	4267	2422	6690	No	12.15	Si
SLU 82	ini.	732.31	-2420	0.95	0	1979	7533	4267	2422	6690	No	2.76	Si
SLU 82	fin.	-180.5	-530	0.95	0	1979	7533	4267	2422	6690	No	12.63	Si
SLU 75	ini.	715.04	-2378	0.95	0	1979	7533	4267	2422	6690	No	2.81	Si
SLU 75	fin.	-168.42	-478	0.95	0	1979	7533	4267	2422	6690	No	14.01	Si
SLU 74	ini.	715.91	-2377	0.95	0	1979	7533	4267	2422	6690	No	2.81	Si
SLU 74	fin.	-170.92	-490	0.95	0	1979	7533	4267	2422	6690	No	13.66	Si
SLU 79	ini.	726.37	-2407	0.95	0	1979	7533	4267	2422	6690	No	2.78	Si
SLU 79	fin.	-172.28	-498	0.95	0	1979	7533	4267	2422	6690	No	13.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	2722.76	-5256	-0.0020861	0.0002807	0.0035	0.95		3302.53	3302.53		1.21	Si
SLV 13	fin.	-2310.38	1736	-0.0015698	0.0002807	0.0035	0.95		3308.64	3308.64		1.43	Si
SLV 1	ini.	-1419.07	599	-0.0008003	0.0002807	0.0035	0.95		3308.64	3308.64		2.33	Si
SLV 1	fin.	1816.68	-3970	-0.0011111	0.0002807	0.0035	0.95		3302.53	3302.53		1.82	Si
SLV 15	ini.	2746.47	-4985	-0.002121	0.0002807	0.0035	0.95		3302.53	3302.53		1.2	Si
SLV 15	fin.	-2407.68	2273	-0.0016763	0.0002807	0.0035	0.95		3308.64	3308.64		1.37	Si
SLV 4	ini.	-1782.95	1416	-0.0010805	0.0002807	0.0035	0.95		3308.64	3308.64		1.86	Si
SLV 4	fin.	2108.11	-3982	-0.0013708	0.0002807	0.0035	0.95		3302.53	3302.53		1.57	Si
SLD 15	ini.	1928.06	-3887	-0.0012065	0.0002807	0.0035	0.95		3302.53	3302.53		1.71	Si
SLD 15	fin.	-1577.4	1046	-0.0009177	0.0002807	0.0035	0.95		3308.64	3308.64		2.1	Si
SLV 16	ini.	2358.89	-4438	-0.0016265	0.0002807	0.0035	0.95		3302.53	3302.53		1.4	Si
SLV 16	fin.	-2018.95	1724	-0.0012845	0.0002807	0.0035	0.95		3308.64	3308.64		1.64	Si
SLV 3	ini.	-1395.37	870	-0.0007832	0.0002807	0.0035	0.95		3308.64	3308.64		2.37	Si
SLV 3	fin.	1719.38	-3434	-0.0010313	0.0002807	0.0035	0.95		3302.53	3302.53		1.92	Si
SLV 14	ini.	2335.18	-4709	-0.0016007	0.0002807	0.0035	0.95		3302.53	3302.53		1.41	Si
SLV 14	fin.	-1921.65	1187	-0.0011979	0.0002807	0.0035	0.95		3308.64	3308.64		1.72	Si
SLV 2	ini.	-1806.66	1146	-0.0011001	0.0002807	0.0035	0.95		3308.64	3308.64		1.83	Si
SLV 2	fin.	2205.41	-4519	-0.0014657	0.0002807	0.0035	0.95		3302.53	3302.53		1.5	Si
SLD 13	ini.	1912.32	-4052	-0.0011927	0.0002807	0.0035	0.95		3302.53	3302.53		1.73	Si
SLD 13	fin.	-1516.76	713	-0.000872	0.0002807	0.0035	0.95		3308.64	3308.64		2.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	1664.7	-5508	0.95	0	2790	7533	6401	2422	8823		1.6	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	fin.	-1268.4	-3907	0.95	0	2790	7533	6401	2422	8823		2.26	Si
SLV 13	ini.	2722.76	-8974	0.95	0	2790	7533	6401	2422	8823		0.98	No
SLV 13	fin.	-2310.38	-7173	0.95	0	2790	7533	6401	2422	8823		1.23	Si
SLV 16	ini.	2358.89	-7572	0.95	0	2790	7533	6401	2422	8823		1.17	Si
SLV 16	fin.	-2018.95	-6563	0.95	0	2790	7533	6401	2422	8823		1.34	Si
SLV 1	ini.	-1419.07	4439	0.95	0	2790	7533	6401	2422	8823		1.99	Si
SLV 1	fin.	1816.68	5997	0.95	0	2790	7533	6401	2422	8823		1.47	Si
SLV 15	ini.	2746.47	-8822	0.95	0	2790	7533	6401	2422	8823		1	Si
SLV 15	fin.	-2407.68	-7805	0.95	0	2790	7533	6401	2422	8823		1.13	Si
SLV 2	ini.	-1806.66	5690	0.95	0	2790	7533	6401	2422	8823		1.55	Si
SLV 2	fin.	2205.41	7239	0.95	0	2790	7533	6401	2422	8823		1.22	Si
SLV 4	ini.	-1782.95	5842	0.95	0	2790	7533	6401	2422	8823		1.51	Si
SLV 4	fin.	2108.11	6607	0.95	0	2790	7533	6401	2422	8823		1.34	Si
SLD 13	ini.	1912.32	-6307	0.95	0	2790	7533	6401	2422	8823		1.4	Si
SLD 13	fin.	-1516.76	-4700	0.95	0	2790	7533	6401	2422	8823		1.88	Si
SLD 15	ini.	1928.06	-6215	0.95	0	2790	7533	6401	2422	8823		1.42	Si
SLD 15	fin.	-1577.4	-5094	0.95	0	2790	7533	6401	2422	8823		1.73	Si
SLV 14	ini.	2335.18	-7723	0.95	0	2790	7533	6401	2422	8823		1.14	Si
SLV 14	fin.	-1921.65	-5931	0.95	0	2790	7533	6401	2422	8823		1.49	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.202	SLV 15	Si
V_SLV	0.983	SLV 13	No
PF_SLU	4.382	SLU 83	Si
V_SLU	2.706	SLU 84	Si

Trave di accoppiamento 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	9.06	9.59	0.53	-11.868	-4.685	9.06	9.59	0.53	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-30.17	93	-0.000043	0.0001872	0.0035	0.53		1030.41	1030.41	No	34.15	Si
SLU 78	fin.	-395.14	-1269	-0.0007379	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.61	Si
SLU 74	ini.	-27.47	100	-0.0000391	0.0001872	0.0035	0.53		1030.41	1030.41	No	37.51	Si
SLU 74	fin.	-386.16	-1239	-0.0007169	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.67	Si
SLU 81	ini.	-22.09	126	-0.0000314	0.0001872	0.0035	0.53		1030.41	1030.41	No	46.64	Si
SLU 81	fin.	-393.01	-1258	-0.0007329	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.62	Si
SLU 84	ini.	-24.8	120	-0.0000353	0.0001872	0.0035	0.53		1030.41	1030.41	No	41.55	Si
SLU 84	fin.	-401.98	-1288	-0.0007542	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.56	Si
SLU 82	ini.	-23.62	120	-0.0000336	0.0001872	0.0035	0.53		1030.41	1030.41	No	43.62	Si
SLU 82	fin.	-392.33	-1257	-0.0007313	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.63	Si
SLU 77	ini.	-28.65	100	-0.0000408	0.0001872	0.0035	0.53		1030.41	1030.41	No	35.97	Si
SLU 77	fin.	-395.82	-1270	-0.0007396	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.6	Si
SLU 75	ini.	-28.99	93	-0.0000413	0.0001872	0.0035	0.53		1030.41	1030.41	No	35.54	Si
SLU 75	fin.	-385.48	-1238	-0.0007153	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.67	Si
SLU 79	ini.	-28.8	99	-0.000041	0.0001872	0.0035	0.53		1030.41	1030.41	No	35.78	Si
SLU 79	fin.	-392.62	-1259	-0.000732	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.62	Si
SLU 80	ini.	-30.33	92	-0.0000433	0.0001872	0.0035	0.53		1030.41	1030.41	No	33.97	Si
SLU 80	fin.	-391.94	-1257	-0.0007304	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.63	Si
SLU 83	ini.	-23.27	127	-0.0000331	0.0001872	0.0035	0.53		1030.41	1030.41	No	44.27	Si
SLU 83	fin.	-402.66	-1290	-0.0007558	0.0001872	0.0035	0.53		1030.41	1030.41	No	2.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-27.47	484	0.53	0	1053	4203	2381	1352	3732	No	7.71	Si
SLU 74	fin.	-386.16	-2010	0.53	0	1053	4203	2381	1352	3732	No	1.86	Si
SLU 84	ini.	-24.8	485	0.53	0	1053	4203	2381	1352	3732	No	7.69	Si
SLU 84	fin.	-401.98	-2089	0.53	0	1053	4203	2381	1352	3732	No	1.79	Si
SLU 80	ini.	-30.33	502	0.53	0	1053	4203	2381	1352	3732	No	7.43	Si
SLU 80	fin.	-391.94	-2040	0.53	0	1053	4203	2381	1352	3732	No	1.83	Si
SLU 82	ini.	-23.62	472	0.53	0	1053	4203	2381	1352	3732	No	7.91	Si
SLU 82	fin.	-392.33	-2040	0.53	0	1053	4203	2381	1352	3732	No	1.83	Si
SLU 78	ini.	-30.17	503	0.53	0	1053	4203	2381	1352	3732	No	7.41	Si
SLU 78	fin.	-395.14	-2055	0.53	0	1053	4203	2381	1352	3732	No	1.82	Si
SLU 83	ini.	-23.27	479	0.53	0	1053	4203	2381	1352	3732	No	7.79	Si
SLU 83	fin.	-402.66	-2093	0.53	0	1053	4203	2381	1352	3732	No	1.78	Si
SLU 77	ini.	-28.65	497	0.53	0	1053	4203	2381	1352	3732	No	7.5	Si
SLU 77	fin.	-395.82	-2059	0.53	0	1053	4203	2381	1352	3732	No	1.81	Si
SLU 79	ini.	-28.8	496	0.53	0	1053	4203	2381	1352	3732	No	7.52	Si
SLU 79	fin.	-392.62	-2044	0.53	0	1053	4203	2381	1352	3732	No	1.83	Si
SLU 75	ini.	-28.99	490	0.53	0	1053	4203	2381	1352	3732	No	7.61	Si
SLU 75	fin.	-385.48	-2006	0.53	0	1053	4203	2381	1352	3732	No	1.86	Si
SLU 81	ini.	-22.09	466	0.53	0	1053	4203	2381	1352	3732	No	8.01	Si
SLU 81	fin.	-393.01	-2044	0.53	0	1053	4203	2381	1352	3732	No	1.83	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	554.35	2237	-0.0010799	0.0002807	0.0035	0.53		1031.9	1031.9		1.86	Si
SLD 15	fin.	-841.73	-3013	-0.0020432	0.0002807	0.0035	0.53		1035.34	1035.34		1.23	Si
SLV 14	ini.	650.67	2592	-0.0013518	0.0002807	0.0035	0.53		1031.9	1031.9		1.59	Si
SLV 14	fin.	-985.77	-3571	-0.002837	0.0002807	0.0035	0.53		1035.34	1035.34		1.05	Si
SLV 2	ini.	-935.61	-3407	-0.0025265	0.0002807	0.0035	0.53		1035.34	1035.34		1.11	Si
SLV 2	fin.	663.29	2622	-0.0013904	0.0002807	0.0035	0.53		1031.9	1031.9		1.56	Si
SLV 16	ini.	727.57	2897	-0.0016004	0.0002807	0.0035	0.53		1031.9	1031.9		1.42	Si
SLV 16	fin.	-1014.31	-3659	-0.0030319	0.0002807	0.0035	0.53		1035.34	1035.34		1.02	Si
SLD 16	ini.	455.43	1864	-0.000833	0.0002807	0.0035	0.53		1031.9	1031.9		2.27	Si
SLD 16	fin.	-740.44	-2634	-0.0016375	0.0002807	0.0035	0.53		1035.34	1035.34		1.4	Si
SLV 15	ini.	882.4	3479	-0.0022521	0.0002807	0.0035	0.53		1031.9	1031.9		1.17	Si
SLV 15	fin.	-1172.85	-4252	-0.0040745	0.0002807	0.0035	0.53		1035.34	1035.34		0.88	No
SLV 1	ini.	-780.78	-2824	-0.001787	0.0002807	0.0035	0.53		1035.34	1035.34		1.33	Si
SLV 1	fin.	504.75	2029	-0.0009525	0.0002807	0.0035	0.53		1031.9	1031.9		2.04	Si
SLV 13	ini.	805.49	3175	-0.0018964	0.0002807	0.0035	0.53		1031.9	1031.9		1.28	Si
SLV 13	fin.	-1144.3	-4164	-0.0039013	0.0002807	0.0035	0.53		1035.34	1035.34		0.9	No
SLD 13	ini.	506.53	2047	-0.000957	0.0002807	0.0035	0.53		1031.9	1031.9		2.04	Si
SLD 13	fin.	-824.49	-2960	-0.0019666	0.0002807	0.0035	0.53		1035.34	1035.34		1.26	Si
SLV 4	ini.	-858.71	-3102	-0.0021221	0.0002807	0.0035	0.53		1035.34	1035.34		1.21	Si
SLV 4	fin.	634.74	2534	-0.0013043	0.0002807	0.0035	0.53		1031.9	1031.9		1.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	506.53	-1919	0.53	0	1320	4203	3571	1352	4922		2.57	Si
SLD 13	fin.	-824.49	-3794	0.53	0	1320	4203	3571	1352	4922		1.3	Si
SLV 13	ini.	805.49	-3201	0.53	0	1320	4203	3571	1352	4922		1.54	Si
SLV 13	fin.	-1144.3	-5180	0.53	0	1320	4203	3571	1352	4922		0.95	No
SLV 1	ini.	-780.78	3573	0.53	0	1320	4203	3571	1352	4922		1.38	Si
SLV 1	fin.	504.75	1837	0.53	0	1320	4203	3571	1352	4922		2.68	Si
SLV 15	ini.	882.4	-3504	0.53	0	1320	4203	3571	1352	4922		1.4	Si
SLV 15	fin.	-1172.85	-5184	0.53	0	1320	4203	3571	1352	4922		0.95	No
SLV 4	ini.	-858.71	3932	0.53	0	1320	4203	3571	1352	4922		1.25	Si
SLV 4	fin.	634.74	2507	0.53	0	1320	4203	3571	1352	4922		1.96	Si
SLD 16	ini.	455.43	-1685	0.53	0	1320	4203	3571	1352	4922		2.92	Si
SLD 16	fin.	-740.44	-3370	0.53	0	1320	4203	3571	1352	4922		1.46	Si
SLV 16	ini.	727.57	-2842	0.53	0	1320	4203	3571	1352	4922		1.73	Si
SLV 16	fin.	-1014.31	-4510	0.53	0	1320	4203	3571	1352	4922		1.09	Si
SLV 14	ini.	650.67	-2538	0.53	0	1320	4203	3571	1352	4922		1.94	Si
SLV 14	fin.	-985.77	-4507	0.53	0	1320	4203	3571	1352	4922		1.09	Si
SLD 15	ini.	554.35	-2108	0.53	0	1320	4203	3571	1352	4922		2.34	Si
SLD 15	fin.	-841.73	-3801	0.53	0	1320	4203	3571	1352	4922		1.3	Si
SLV 2	ini.	-935.61	4236	0.53	0	1320	4203	3571	1352	4922		1.16	Si
SLV 2	fin.	663.29	2511	0.53	0	1320	4203	3571	1352	4922		1.96	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.883	SLV 15	No
V_SLV	0.95	SLV 15	No
PF_SLU	2.559	SLU 83	Si
V_SLU	1.783	SLU 83	Si

Trave di accoppiamento 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	9.59	10.54	0.95	-11.868	-4.685	9.59	10.54	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	585.53	-2026	-0.0002916	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.6	Si
SLU 74	fin.	-207.88	-906	-0.0000945	0.0001872	0.0035	0.95		3287.74	3287.74	No	15.82	Si
SLU 82	ini.	591.93	-2020	-0.0002953	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.54	Si
SLU 82	fin.	-224.15	-872	-0.0001022	0.0001872	0.0035	0.95		3287.74	3287.74	No	14.67	Si
SLU 79	ini.	599.78	-2089	-0.0002998	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.47	Si
SLU 79	fin.	-204.08	-954	-0.0000927	0.0001872	0.0035	0.95		3287.74	3287.74	No	16.11	Si
SLU 78	ini.	601.61	-2094	-0.0003008	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.45	Si
SLU 78	fin.	-205.61	-954	-0.0000934	0.0001872	0.0035	0.95		3287.74	3287.74	No	15.99	Si
SLU 80	ini.	597.27	-2084	-0.0002983	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.49	Si
SLU 80	fin.	-202.09	-955	-0.0000917	0.0001872	0.0035	0.95		3287.74	3287.74	No	16.27	Si
SLU 83	ini.	613.03	-2097	-0.0003075	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.35	Si
SLU 83	fin.	-225.85	-916	-0.000103	0.0001872	0.0035	0.95		3287.74	3287.74	No	14.56	Si
SLU 75	ini.	583.02	-2022	-0.0002901	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.63	Si
SLU 75	fin.	-205.9	-908	-0.0000935	0.0001872	0.0035	0.95		3287.74	3287.74	No	15.97	Si
SLU 81	ini.	594.44	-2025	-0.0002967	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.52	Si
SLU 81	fin.	-226.13	-870	-0.0001031	0.0001872	0.0035	0.95		3287.74	3287.74	No	14.54	Si
SLU 77	ini.	604.12	-2098	-0.0003023	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.43	Si
SLU 77	fin.	-207.6	-952	-0.0000943	0.0001872	0.0035	0.95		3287.74	3287.74	No	15.84	Si
SLU 84	ini.	610.52	-2092	-0.000306	0.0001872	0.0035	0.95		3281.68	3281.68	No	5.38	Si
SLU 84	fin.	-223.87	-918	-0.000102	0.0001872	0.0035	0.95		3287.74	3287.74	No	14.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	597.27	-1878	0.95	0	1979	7533	4267	2423	6690	No	3.56	Si
SLU 80	fin.	-202.09	-822	0.95	0	1979	7533	4267	2423	6690	No	8.14	Si
SLU 74	ini.	585.53	-1844	0.95	0	1979	7533	4267	2423	6690	No	3.63	Si
SLU 74	fin.	-207.88	-837	0.95	0	1979	7533	4267	2423	6690	No	8	Si
SLU 75	ini.	583.02	-1838	0.95	0	1979	7533	4267	2423	6690	No	3.64	Si
SLU 75	fin.	-205.9	-828	0.95	0	1979	7533	4267	2423	6690	No	8.08	Si
SLU 82	ini.	591.93	-1845	0.95	0	1979	7533	4267	2423	6690	No	3.63	Si
SLU 82	fin.	-224.15	-905	0.95	0	1979	7533	4267	2423	6690	No	7.39	Si
SLU 84	ini.	610.52	-1906	0.95	0	1979	7533	4267	2423	6690	No	3.51	Si
SLU 84	fin.	-223.87	-904	0.95	0	1979	7533	4267	2423	6690	No	7.4	Si
SLU 83	ini.	613.03	-1912	0.95	0	1979	7533	4267	2423	6690	No	3.5	Si
SLU 83	fin.	-225.85	-912	0.95	0	1979	7533	4267	2423	6690	No	7.33	Si
SLU 81	ini.	594.44	-1851	0.95	0	1979	7533	4267	2423	6690	No	3.61	Si
SLU 81	fin.	-226.13	-913	0.95	0	1979	7533	4267	2423	6690	No	7.32	Si
SLU 79	ini.	599.78	-1884	0.95	0	1979	7533	4267	2423	6690	No	3.55	Si
SLU 79	fin.	-204.08	-831	0.95	0	1979	7533	4267	2423	6690	No	8.05	Si
SLU 78	ini.	601.61	-1899	0.95	0	1979	7533	4267	2423	6690	No	3.52	Si
SLU 78	fin.	-205.61	-827	0.95	0	1979	7533	4267	2423	6690	No	8.09	Si
SLU 77	ini.	604.12	-1905	0.95	0	1979	7533	4267	2423	6690	No	3.51	Si
SLU 77	fin.	-207.6	-835	0.95	0	1979	7533	4267	2423	6690	No	8.01	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	1574.26	-2986	-0.0009175	0.0002807	0.0035	0.95		3302.53	3302.53		2.1	Si
SLD 15	fin.	-1325.69	945	-0.0007339	0.0002807	0.0035	0.95		3308.64	3308.64		2.5	Si
SLV 1	ini.	-1164.51	755	-0.0006243	0.0002807	0.0035	0.95		3308.64	3308.64		2.84	Si
SLV 1	fin.	1422.17	-2666	-0.0008043	0.0002807	0.0035	0.95		3302.53	3302.53		2.32	Si
SLV 15	ini.	2249.3	-3910	-0.0015102	0.0002807	0.0035	0.95		3302.53	3302.53		1.47	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	fin.	-2003.51	1839	-0.0012705	0.0002807	0.0035	0.95		3308.64	3308.64		1.65	Si
SLD 13	ini.	1505.58	-2874	-0.0008656	0.0002807	0.0035	0.95		3302.53	3302.53		2.19	Si
SLD 13	fin.	-1266.57	883	-0.000693	0.0002807	0.0035	0.95		3308.64	3308.64		2.61	Si
SLV 16	ini.	1921.13	-3458	-0.0012004	0.0002807	0.0035	0.95		3302.53	3302.53		1.72	Si
SLV 16	fin.	-1671.7	1390	-0.0009909	0.0002807	0.0035	0.95		3308.64	3308.64		1.98	Si
SLV 4	ini.	-1382.38	1024	-0.000774	0.0002807	0.0035	0.95		3308.64	3308.64		2.39	Si
SLV 4	fin.	1658.72	-3015	-0.000983	0.0002807	0.0035	0.95		3302.53	3302.53		1.99	Si
SLV 2	ini.	-1492.68	1206	-0.0008541	0.0002807	0.0035	0.95		3308.64	3308.64		2.22	Si
SLV 2	fin.	1753.97	-3115	-0.0010593	0.0002807	0.0035	0.95		3302.53	3302.53		1.88	Si
SLV 14	ini.	1810.84	-3276	-0.0011063	0.0002807	0.0035	0.95		3302.53	3302.53		1.82	Si
SLV 14	fin.	-1576.45	1289	-0.000917	0.0002807	0.0035	0.95		3308.64	3308.64		2.1	Si
SLV 13	ini.	2139	-3728	-0.0014004	0.0002807	0.0035	0.95		3302.53	3302.53		1.54	Si
SLV 13	fin.	-1908.25	1738	-0.0011863	0.0002807	0.0035	0.95		3308.64	3308.64		1.73	Si
SLD 16	ini.	1364.59	-2698	-0.000763	0.0002807	0.0035	0.95		3302.53	3302.53		2.42	Si
SLD 16	fin.	-1113.7	658	-0.000591	0.0002807	0.0035	0.95		3308.64	3308.64		2.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	2139	-6979	0.95	0	2790	7533	6401	2423	8823		1.26	Si
SLV 13	fin.	-1908.25	-6027	0.95	0	2790	7533	6401	2423	8823		1.46	Si
SLV 14	ini.	1810.84	-5929	0.95	0	2790	7533	6401	2423	8823		1.49	Si
SLV 14	fin.	-1576.45	-4988	0.95	0	2790	7533	6401	2423	8823		1.77	Si
SLV 16	ini.	1921.13	-6038	0.95	0	2790	7533	6401	2423	8823		1.46	Si
SLV 16	fin.	-1671.7	-5410	0.95	0	2790	7533	6401	2423	8823		1.63	Si
SLV 1	ini.	-1164.51	3650	0.95	0	2790	7533	6401	2423	8823		2.42	Si
SLV 1	fin.	1422.17	4357	0.95	0	2790	7533	6401	2423	8823		2.02	Si
SLV 2	ini.	-1492.68	4701	0.95	0	2790	7533	6401	2423	8823		1.88	Si
SLV 2	fin.	1753.97	5396	0.95	0	2790	7533	6401	2423	8823		1.64	Si
SLD 15	ini.	1574.26	-4966	0.95	0	2790	7533	6401	2423	8823		1.78	Si
SLD 15	fin.	-1325.69	-4313	0.95	0	2790	7533	6401	2423	8823		2.05	Si
SLV 4	ini.	-1382.38	4592	0.95	0	2790	7533	6401	2423	8823		1.92	Si
SLV 4	fin.	1658.72	4974	0.95	0	2790	7533	6401	2423	8823		1.77	Si
SLD 13	ini.	1505.58	-4892	0.95	0	2790	7533	6401	2423	8823		1.8	Si
SLD 13	fin.	-1266.57	-4048	0.95	0	2790	7533	6401	2423	8823		2.18	Si
SLV 15	ini.	2249.3	-7088	0.95	0	2790	7533	6401	2423	8823		1.24	Si
SLV 15	fin.	-2003.51	-6449	0.95	0	2790	7533	6401	2423	8823		1.37	Si
SLD 16	ini.	1364.59	-4295	0.95	0	2790	7533	6401	2423	8823		2.05	Si
SLD 16	fin.	-1113.7	-3649	0.95	0	2790	7533	6401	2423	8823		2.42	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.468	SLV 15	Si
V_SLV	1.245	SLV 15	Si
PF_SLU	5.353	SLU 83	Si
V_SLU	3.499	SLU 83	Si

Trave di accoppiamento 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup	H fin.	Luce	Spessore	R. Trazione
-12.868	-4.685	12.54	13.966	1.426	-11.868	-4.685	12.54	13.966	1.426	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo un lato_Corti

fb_	fhk	fvk0	fhmedio	τ0	fv0	μ	ϕ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									εlim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	εlim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-176.75	-493	-0.0000348	0.0001872	0.0035	1.4264		7337.69	7337.69	No	41.51	Si

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	fin.	-697.83	-1033	-0.0001437	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10.53	Si
SLU 78	ini.	-115.53	-414	-0.0000226	0.0001872	0.0035	1.4264		7337.69	7337.69	No	63.51	Si
SLU 78	fin.	-728.83	-1054	-0.0001506	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10.08	Si
SLU 83	ini.	-61.67	-311	-0.000012	0.0001872	0.0035	1.4264		7337.69	7337.69	No	118.97	Si
SLU 83	fin.	-694.31	-974	-0.000143	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10.59	Si
SLU 84	ini.	-58.79	-317	-0.0000115	0.0001872	0.0035	1.4264		7337.69	7337.69	No	124.82	Si
SLU 84	fin.	-687.91	-977	-0.0001416	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10.68	Si
SLU 79	ini.	-126.5	-431	-0.0000248	0.0001872	0.0035	1.4264		7337.69	7337.69	No	58.01	Si
SLU 79	fin.	-736.95	-1067	-0.0001524	0.0001872	0.0035	1.4256		7350.11	7350.11	No	9.97	Si
SLU 72	ini.	-173.86	-499	-0.0000342	0.0001872	0.0035	1.4264		7337.69	7337.69	No	42.2	Si
SLU 72	fin.	-691.43	-1036	-0.0001423	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10.63	Si
SLU 77	ini.	-118.42	-408	-0.0000232	0.0001872	0.0035	1.4264		7337.69	7337.69	No	61.96	Si
SLU 77	fin.	-735.23	-1052	-0.000152	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10	Si
SLU 80	ini.	-123.61	-437	-0.0000242	0.0001872	0.0035	1.4264		7337.69	7337.69	No	59.36	Si
SLU 80	fin.	-730.55	-1070	-0.000151	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10.06	Si
SLU 69	ini.	-168.67	-470	-0.0000332	0.0001872	0.0035	1.4264		7337.69	7337.69	No	43.5	Si
SLU 69	fin.	-696.11	-1018	-0.0001434	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10.56	Si
SLU 70	ini.	-165.78	-476	-0.0000326	0.0001872	0.0035	1.4264		7337.69	7337.69	No	44.26	Si
SLU 70	fin.	-689.71	-1020	-0.000142	0.0001872	0.0035	1.4256		7350.11	7350.11	No	10.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-115.53	44	1.4264	0	2972	7930	6407	3637	10044	No	227.45	Si
SLU 78	fin.	-728.83	-2100	1.4256	0	2970	7930	6403	3635	10038	No	4.78	Si
SLU 71	ini.	-176.75	228	1.4264	0	2972	7930	6407	3637	10044	No	43.99	Si
SLU 71	fin.	-697.83	-1963	1.4256	0	2970	7930	6403	3635	10038	No	5.11	Si
SLU 79	ini.	-126.5	75	1.4264	0	2972	7930	6407	3637	10044	No	133.56	Si
SLU 79	fin.	-736.95	-2119	1.4256	0	2970	7930	6403	3635	10038	No	4.74	Si
SLU 77	ini.	-118.42	38	1.4264	0	2972	7930	6407	3637	10044	No	265.91	Si
SLU 77	fin.	-735.23	-2105	1.4256	0	2970	7930	6403	3635	10038	No	4.77	Si
SLU 69	ini.	-168.67	191	1.4264	0	2972	7930	6407	3637	10044	No	52.62	Si
SLU 69	fin.	-696.11	-1950	1.4256	0	2970	7930	6403	3635	10038	No	5.15	Si
SLU 72	ini.	-173.86	235	1.4264	0	2972	7930	6407	3637	10044	No	42.79	Si
SLU 72	fin.	-691.43	-1958	1.4256	0	2970	7930	6403	3635	10038	No	5.13	Si
SLU 80	ini.	-123.61	82	1.4264	0	2972	7930	6407	3637	10044	No	123.11	Si
SLU 80	fin.	-730.55	-2114	1.4256	0	2970	7930	6403	3635	10038	No	4.75	Si
SLU 83	ini.	-61.67	-122	1.4264	0	2972	7930	6407	3637	10044	No	82.59	Si
SLU 83	fin.	-694.31	-2009	1.4256	0	2970	7930	6403	3635	10038	No	5	Si
SLU 84	ini.	-58.79	-115	1.4264	0	2972	7930	6407	3637	10044	No	87.16	Si
SLU 84	fin.	-687.91	-2004	1.4256	0	2970	7930	6403	3635	10038	No	5.01	Si
SLU 70	ini.	-165.78	197	1.4264	0	2972	7930	6407	3637	10044	No	50.91	Si
SLU 70	fin.	-689.71	-1945	1.4256	0	2970	7930	6403	3635	10038	No	5.16	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1447.81	-1706	-0.0003098	0.0002807	0.0035	1.4264		7375.92	7375.92		5.09	Si
SLV 2	fin.	1099.92	898	-0.0002294	0.0002807	0.0035	1.4256		7329.66	7329.66		6.66	Si
SLV 3	ini.	-1326.1	-1553	-0.0002809	0.0002807	0.0035	1.4264		7375.92	7375.92		5.56	Si
SLV 3	fin.	717.27	564	-0.0001457	0.0002807	0.0035	1.4256		7329.66	7329.66		10.22	Si
SLD 16	ini.	699.64	592	-0.0001418	0.0002807	0.0035	1.4264		7366.22	7366.22		10.53	Si
SLD 16	fin.	-1291.72	-1467	-0.0002731	0.0002807	0.0035	1.4256		7339.37	7339.37		5.68	Si
SLV 4	ini.	-1527.35	-1761	-0.000329	0.0002807	0.0035	1.4264		7375.92	7375.92		4.83	Si
SLV 4	fin.	923.54	759	-0.0001902	0.0002807	0.0035	1.4256		7329.66	7329.66		7.94	Si
SLV 15	ini.	1328.62	1260	-0.0002819	0.0002807	0.0035	1.4264		7366.22	7366.22		5.54	Si
SLV 15	fin.	-1981.37	-2142	-0.0004449	0.0002807	0.0035	1.4256		7339.37	7339.37		3.7	Si
SLV 13	ini.	1408.16	1316	-0.0003007	0.0002807	0.0035	1.4264		7366.22	7366.22		5.23	Si
SLV 13	fin.	-1804.99	-2004	-0.0003988	0.0002807	0.0035	1.4256		7339.37	7339.37		4.07	Si
SLV 14	ini.	1206.91	1108	-0.0002536	0.0002807	0.0035	1.4264		7366.22	7366.22		6.1	Si
SLV 14	fin.	-1598.73	-1808	-0.0003468	0.0002807	0.0035	1.4256		7339.37	7339.37		4.59	Si
SLD 13	ini.	877.02	760	-0.0001799	0.0002807	0.0035	1.4264		7366.22	7366.22		8.4	Si
SLD 13	fin.	-1313.66	-1506	-0.0002782	0.0002807	0.0035	1.4256		7339.37	7339.37		5.59	Si
SLV 16	ini.	1127.37	1052	-0.0002355	0.0002807	0.0035	1.4264		7366.22	7366.22		6.53	Si
SLV 16	fin.	-1775.11	-1946	-0.0003912	0.0002807	0.0035	1.4256		7339.37	7339.37		4.13	Si
SLD 15	ini.	828.22	725	-0.0001693	0.0002807	0.0035	1.4264		7366.22	7366.22		8.89	Si
SLD 15	fin.	-1423.51	-1592	-0.0003042	0.0002807	0.0035	1.4256		7339.37	7339.37		5.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1127.37	-4231	1.4264	0	4457	7930	9610	3637	12387		2.93	Si
SLV 16	fin.	-1775.11	-5357	1.4256	0	4455	7930	9605	3635	12384		2.31	Si
SLD 15	ini.	828.22	-3154	1.4264	0	4457	7930	9610	3637	12387		3.93	Si
SLD 15	fin.	-1423.51	-4303	1.4256	0	4455	7930	9605	3635	12384		2.88	Si
SLV 3	ini.	-1326.1	3913	1.4264	0	4457	7930	9610	3637	12387		3.17	Si
SLV 3	fin.	717.27	2784	1.4256	0	4455	7930	9605	3635	12384		4.45	Si
SLV 15	ini.	1328.62	-4912	1.4264	0	4457	7930	9610	3637	12387		2.52	Si
SLV 15	fin.	-1981.37	-6038	1.4256	0	4455	7930	9605	3635	12384		2.05	Si
SLV 4	ini.	-1527.35	4594	1.4264	0	4457	7930	9610	3637	12387		2.7	Si
SLV 4	fin.	923.54	3464	1.4256	0	4455	7930	9605	3635	12384		3.58	Si
SLV 13	ini.	1408.16	-4689	1.4264	0	4457	7930	9610	3637	12387		2.64	Si
SLV 13	fin.	-1804.99	-5935	1.4256	0	4455	7930	9605	3635	12384		2.09	Si
SLV 14	ini.	1206.91	-4009	1.4264	0	4457	7930	9610	3637	12387		3.09	Si

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	fin.	-1598.73	-5255	1.4256	0	4455	7930	9605	3635	12384		2.36	Si
SLV 2	ini.	-1447.81	4816	1.4264	0	4457	7930	9610	3637	12387		2.57	Si
SLV 2	fin.	1099.92	3566	1.4256	0	4455	7930	9605	3635	12384		3.47	Si
SLV 1	ini.	-1246.56	4135	1.4264	0	4457	7930	9610	3637	12387		3	Si
SLV 1	fin.	893.65	2886	1.4256	0	4455	7930	9605	3635	12384		4.29	Si
SLD 13	ini.	877.02	-3014	1.4264	0	4457	7930	9610	3637	12387		4.11	Si
SLD 13	fin.	-1313.66	-4238	1.4256	0	4455	7930	9605	3635	12384		2.92	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.704	SLV 15	Si
V_SLV	2.051	SLV 15	Si
PF_SLU	9.974	SLU 79	Si
V_SLU	4.738	SLU 79	Si